

**PLAINTIFF'S
EXHIBIT**

ETCO-98

ETC 21858

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Clinic Clippings April
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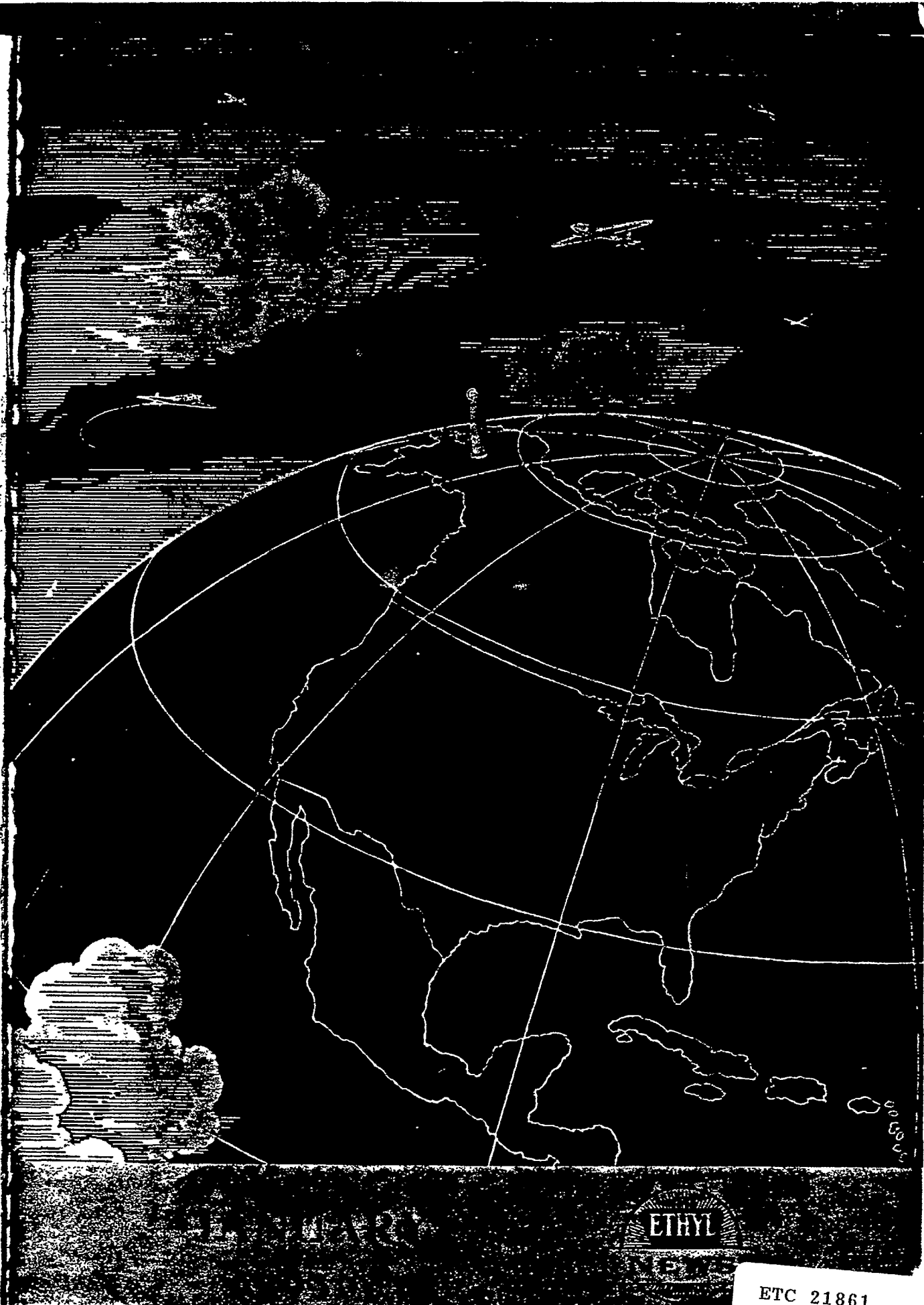
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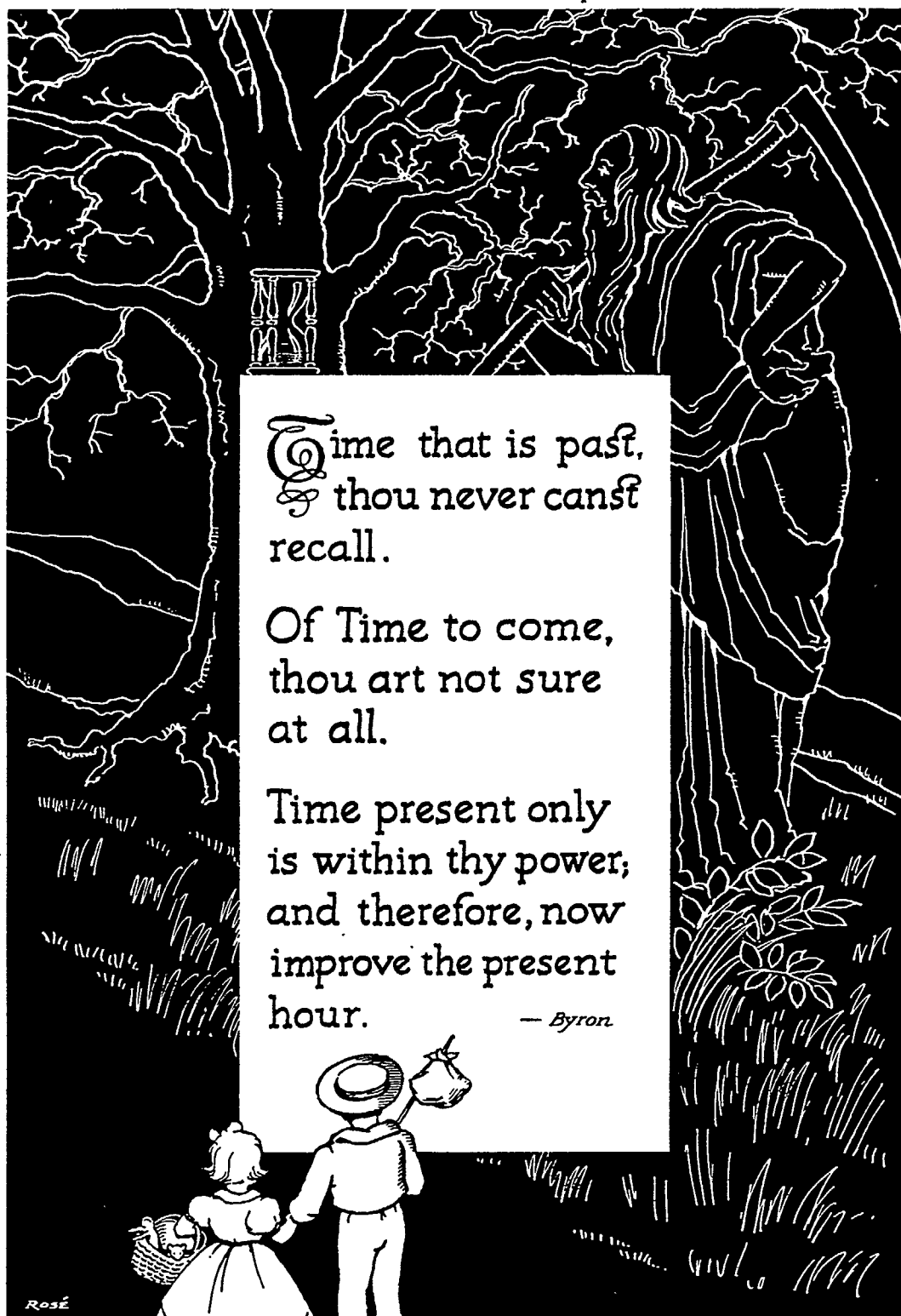
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ETHYL

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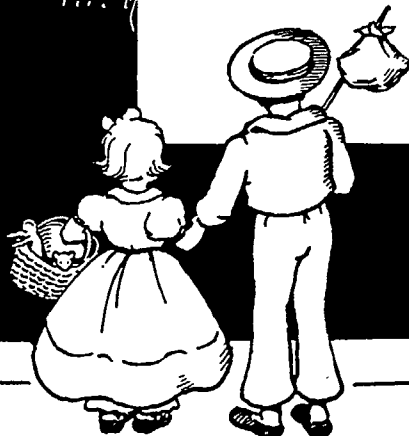


Time that is past,
thou never canst
recall.

Of Time to come,
thou art not sure
at all.

Time present only
is within thy power;
and therefore, now
improve the present
hour.

— Byron



ROSE



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CHRYSLER BUILDING
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VOL. 5, No. 1

America, a Country competition Built

By ALFRED T. FALK in the "Detroitter"

WE all have our stake in Business. There may be a hermit, living in a cave somewhere, who gets along without a knife, or cooking pot, or matches, or any other products of civilization. But aside from him, there is scarcely anyone in this country whose welfare does not depend directly upon the processes of business. No matter where you get your income, every dollar of it was produced by some form of industry.

Economic prosperity exists when business functions smoothly and efficiently. Through all its ups and downs of the past 150 years, the American industrial system has achieved marvelous results. Each generation sees greater progress than the last. The living conditions of American workers are now far higher than anywhere else in the world, and are ascending more rapidly than ever before. In many ways, the average farmer or factory worker is better off today than were the aristocrats of only a century ago. His wages will buy twice the comforts his parents enjoyed, and his working hours are shorter.

Yet, if a visitor from Mars had listened to some of our recent political debates, he might have concluded that our economic system has failed, and that business as now conducted is an obstacle to social progress. That is the tenor of many arguments we hear nowadays. It is time that the people give careful thought to these matters and critically examine every proposal that would restrain business initiative and possibly cripple the forces of industrial progress.

Every substantial advance that was ever made in industry came through individual initiative and the desire for personal achievement. All the material riches of the world and all the inventive brains of mankind would have failed to bring the material progress of the past century in America, were it not for the driving spirit of private enterprise. Such progress is possible only in a free country where the poorest boy can rise to fame and riches by building an industry to benefit millions besides himself.

This is a land of competition. American industry was virtually built by competitive effort. When competition is stifled, progress is dead. One of the cardinal principles of our industrial system is private competition. Better products, higher wages, and lower prices are all fruits of healthy business competition.

Never before, in all the history of the world, have the benefits of scientific discovery and invention been given to the public as fast as now. Under the pressure of unhampered competition, every industry strives to give more and better products to its customers. Through the medium of advertising, business keeps the public informed of industry's progress and stimulates wider distribution of its products.

Thus are created economic prosperity and wider spread of wealth. Live—
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BUILT

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SLOGAN

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MIN FRANKLIN

TRUCK FLEETS SEE ECONOMY IN
ETHYL

TRUCKERS URGE REPEAL OF FEDERAL
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ETHYL ON TOP OF THE WORLD

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HARTFORD AUTO DEALER'S OWN
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HOUSTON CHAMBER OF COMMERCE
PUMP MAKERS PROCLAIM GRADE

KALEY ANNOUNCEMENT

MEET MR. TULLY

NOVEL DEVICE ON LOUISIANA FARM
SERVICE AWARDS

HERE AND THERE
NEWSBRIEFS

STANDARD OIL of NEW JERSEY'S *display at* NATIONAL MOTOR TRUCK SHOW

ONE of the outstanding exhibits at the recent National Motor Truck Show, held in Newark, N. J., was the display put on by the Standard Oil Company of New Jersey. Truck and bus manufacturers had exhibits along with engine builders and accessory companies. The show was attended by fleet operators representing a great many millions of gallons of gasoline which makes it particularly important.

Through the cooperation of Mr. E. T. Lemmon, Division Manager; C. R. Younts, Assistant Division Manager and other members of Standard Oil's New Jersey division, the Ethyl demonstrating engine was included in their exhibit. Mr. Fred Nixon, northern New Jersey representative of the Ethyl Gasoline Corporation and Mr. Edward Gille,



who is now junior engineer of the New York Division Clinic, attended the show continuously during the week's period. The fleet operators' comments clearly proved they were more interested than ever in using high anti-knock fuels.

One of the interesting sidelights

of the exhibit was the 1908 Renault car shown in the photograph. This was the first car to win the famous Vanderbilt race. A photographer was stationed at the booth to take tintypes of anyone wishing to climb behind the wheel, an opportunity of which many availed themselves.

THE *GILMORE* QUINCUBLETS

THE Gilmore Oil Co. are always on the alert in devising some novel way of advertising their product. The attraction they put on recently at the Los Angeles Automobile Show was not only clever but had so much human appeal that it

be expected baby Ethyl did her stuff and in their romps proved the swiftest of the youngsters. The Quincublet booth was constructed to represent a nursery with wall paper and linoleum decorated to carry out the idea. Each cub had his

individual crib with name painted upon it. Three pretty nurses were in charge of the cublets and answered innumerable questions concerning them.

At the time the accompanying photograph was taken the nurse at the "mike" is describing the antics of "Ethyl" who is rollicking on the floor and hidden by the crowd of amused onlookers.



drew an unusually large crowd to their exhibit at every session. The display was prompted by the lion trade mark of the company and consisted of five lion cubs, each named after a Gilmore product. As might



ETHYL GASOLINE

By FRANK PALMER, *Special Representative*, GLOBE OIL & REFINING CO.
in "Dixie Lookout"

BY now the 1938 cars have been shown at motor shows throughout the land and the new models are really wonderful values. They come in all the colors and shades of the rainbow. Many improvements for the driver's convenience will be found on them, with the tendency this year, to remove the gear shifting lever from the floor up to the side of the steering wheel post or a small lever extending out from the instrument panel. Scientific ventilation has also made its appearance this season.

Along with other improvements the new motors for 1938 have had the compression ratio increased in many instances. Buick, for example, has jumped the compression ratio on the series 40 model from 5.70 to 6.15. On series 60, 80 and 90—from 5.75 to 6.35. By doing this, they have shown an increase in horse power on these new motors of about 8% without changing anything else on the motor.

The average compression ratio

on all new cars this year is 6.32 to 1 against 6.25 to 1 for 1937. There will be only four cars for 1938 which will have a compression ratio under 6.00. They are Hupmobile 6 and 8, Willys 4 and Lafayette.

To drive a motor with a compression ratio with 6.25, 6.50 or 6.75 to 1, or even higher, and still expect the motor to function as it is intended to, will certainly call for a gasoline with an octane rating up in the class of Ethyl. The indications at this time point out quite clearly that Ethyl Gasoline is due to be the popular motor fuel in the future. Of course this will not come over night as there are still numbers of cars on the highways with much lower compression ratios than the new 1938 and cars of the future will have; but, as time goes on and these old cars are replaced, Ethyl Gasoline will come into its own. Even the tractors of the future will have high compression engines and will be needing Ethyl Gasoline for their satisfactory operation.

Ethyl Gasoline will be advertised quite extensively in the future and the motorist will be told the advantages of using Ethyl in an impressive way. Therefore, it seems that the wise jobber should start to place himself in a position to get this business. This new Ethyl business, as you well know, from both a jobber's or service station standpoint is far more profitable than selling Third Grade or even Regular Grade Gasoline. You can have the assurance once a motorist starts to buy Ethyl Gasoline you are not going to have any comebacks about his high compression motor knocking under certain conditions.

I believe that the future motor fuel will be Ethyl Gasoline and I also believe that every jobber who is not selling Ethyl Gasoline at the present time, should start doing so not later than the coming spring, as the indications point quite clearly that there is going to be a definite demand in the future for Ethyl Gasoline just as sure as you are born.

MODERN MERCHANDISING *their* SLOGAN

THE Rhoads Bros., who operate this station in St. Louis, Mo., enjoy a reputation of having one of the most modern and efficient service stations in the middle west. Their policy of quality selling has gained for them marked success. Not only has the volume of merchandise sold been steadily on the increase, but the profits have risen in proportion which is sufficient evidence that this type of selling pays.

The Super Shell Ethyl sales at Rhoads Bros. are now eight times greater than they were for the corresponding months a year ago. However, their efforts are not confined to featuring their premium fuel but the same practice is carried out in their other lines of merchandise. As an example, only first line nationally advertised quality tires are available there. But not

withstanding the progress they have made, the proprietors say that this splendid record during 1937, is "only the beginning."

In line with this progressive policy they have availed themselves to the full extent of the aid offered by the Kansas City Division of the Ethyl

Gasoline Corporation and the local representative of Shell Petroleum Corporation to develop their merchandising ideas. This, combined with quick intelligent service, rendered all who come onto the driveway, spells their successful accomplishment.

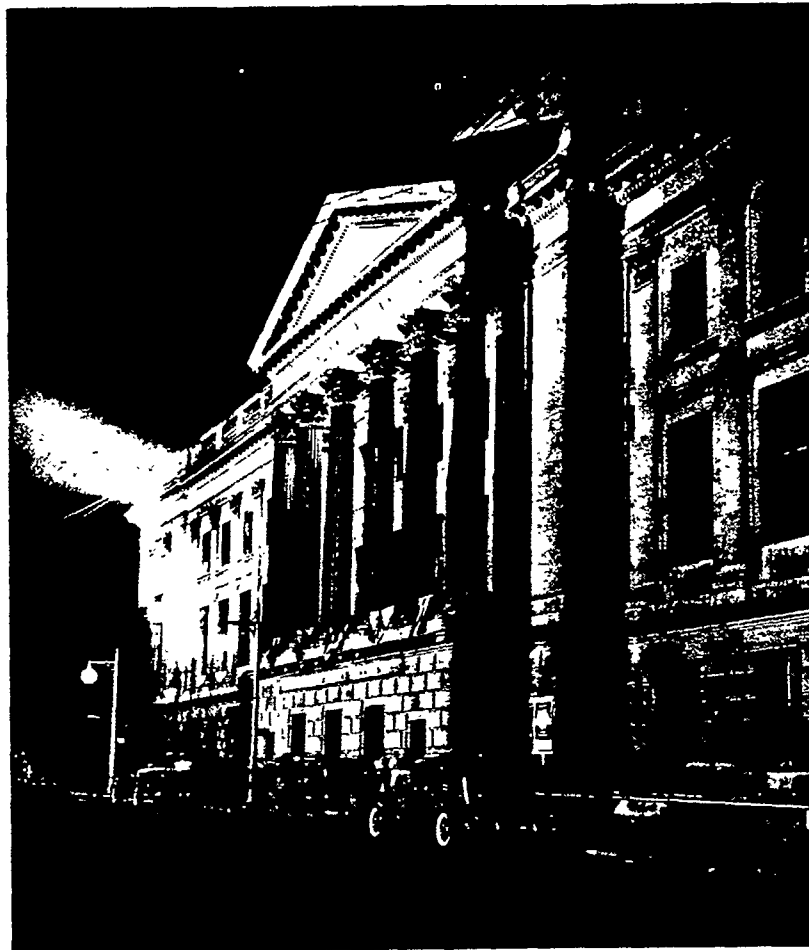


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Philadelphia's Shrine to Benjamin Franklin *and* Advancement of Science



A night view of the beautiful facade of Franklin Institute showing entrance to the Fels Planetarium.

THIS magnificent building on Philadelphia's picturesque Parkway which houses the Franklin Institute and Fels Planetarium, was erected in 1934, to the memory of Benjamin Franklin by public spirited citizens. The Institute was established one hundred and twenty-four years ago as an educational institution where one might study science and kindred subjects at minimum cost, thus realizing the ideals of that great American whose name it bears. Beginning first with a few classes the school was developed until it finally formed the model upon which Philadelphia's

high schools were founded. When the city's schools were able to assume their required burden the Institute discontinued its classes and became an association for the development and standardization of the country's rapidly growing industries. Today its approval is eagerly sought by manufacturers and a committee nominates individuals in the industrial world who are to receive the various medals awarded each year. The Franklin medal is the outstanding award for scientists and has been bestowed on such distinguished men as Edison, Wilbur Wright, Marconi, Einstein and C.

F. Kettering.

As far back as 1825, the Institute inaugurated industrial exhibits. Today this is one of its chief activities and many familiar articles and devices were first presented to the world through these exhibitions. The Institute has a library which is recognized as one of the finest scientific collections in the country and its "Journal" has appeared uninterruptedly since 1826. It was here that the first electrical unit was decided and the first boiler tests made. The two famous laboratories, the Bartol Research Foundation of Physics and the Bio-chem-

NOW SHOWING

✦
**"The Story
 of Ethyl Gasoline"**

Frequent Motor Demonstrations

✦
"The Long Road"

From Rolling Log to Modern Motors

A 22-minute Sound Motion Picture

EVERY AFTERNOON AT FOUR

ical Research Foundation are also maintained by the Institute.

Most famous of its current activities, however, is the Museum which is a veritable "wonderland of science" unrivaled in the land. The visitor, upon entering the doorway is greeted by a "mechanical welcomer". This gentleman—so placed that you interrupt a beam of light as you approach—raises his hand and greets you: "How do you do, I am very glad to see you. I hope you enjoy your visit." The life-size

Robot has been christened Egbert and has a world-wide reputation.

On November 26th last, a new exhibit made its appearance among the many other attractions to be found at the Institute's Museum. This sign, conspicuously placed, proclaims Ethyl's contribution to the Hall of Chemistry. Early last spring, Dr. N. H. Smith, who is director of this branch of the Institution's activity, learned of Ethyl's film, "The Long Road" and expressed a desire to see it. Accordingly, Mr. Meredith Littlefield, who is now in charge of the Corporation's New York Division Clinic, arranged for the showing. Dr. Smith was so impressed not only with the picture but with the demonstrating engine, that he made plans for a regular Ethyl exhibit for the Museum. The present presentation covers a somewhat wider scope than was originally conceived. At one end of the Hall the demonstrating engine has been set up with a motion picture screen mounted above it. A pleasing background is formed by a group of sketches and graphs attractively framed which are hung on the wall. Flanking both sides of the room is a collection of automobiles, dating from an Autocar of the vintage of



Egbert the Robot who bids you welcome.



The Ethyl exhibit occupies a prominent place in the Hall of Chemistry surrounded by various types of vehicles of yesterday and today. Note Ethyl charts which decorate the wall.

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1897 to a 1937 cut-away chassis. This display graphically portrays the rapid advance of the automobile industry and illustrates the change from the crude low compression car of yester-year to the modern high compression motor of today. And in connection with the Ethyl exhibit it fittingly ties in with the progress made in the development of fuel which has made the modern car possible. Daily at 4 p.m., except Mondays and Tuesdays, "The Long Road" is shown followed by the engine demonstration and frequent demonstrations are given at other times during the day. These are conducted by members of the Institute staff who have been trained to operate both the projector and the engine.

As a feature in connection with the opening of the exhibit in November, an Ethyl representative was asked to participate in the 127th weekly broadcast of the Franklin Institute in their series "Scientific Wonders". The broadcast went out over station WCAU Philadelphia, a unit of the Columbia Broadcasting System. The fifteen minute program, devoted entirely to a discussion of Ethyl Gasoline, consisted of an interview with Mr. Ellis K. Locher,



Close-up of the Ethyl demonstrator especially prepared for the Institute exhibit.

by the Institute's Major Thomas Coulson, a member of the British Intelligence Service during the war and author of the book *Mati Hari*. Major Coulson questioned Mr. Locher who, beginning with a description of what Ethyl fluid was, how it came into being and its purpose, told the story in simple language, easily understood by the radio audience. The present Ethyl exhibit

will continue in the museum until April when it is planned to install in its place a more permanent one.

Aviation is represented by various ships that have made history from the Wright brothers' little biplane of 1911 to the Lockheed Vega which carried Amelia Earhart on her transatlantic solo flight. The locomotive exhibit is of particular interest, comprising a number of examples of the early type of "Iron Horse", one built in 1837, and by way of comparison, a giant heavy duty Baldwin locomotive which moves back and forth on its tracks when the controls are worked from the cab.

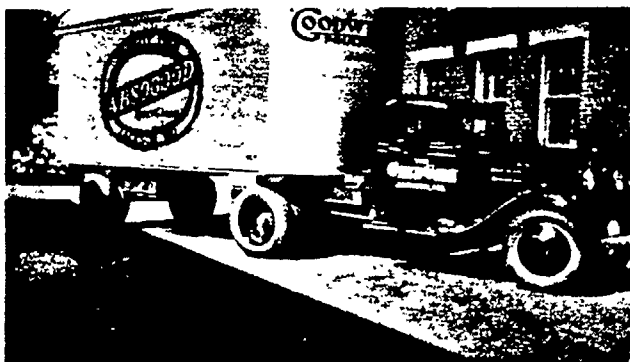
A highly popular feature of the current activities are the demonstrations in the Fels Planetarium. The very instructive talks given there are changed each month and much pageantry enters into the presentation of the Christmas and Easter celebrations.

The Franklin Institute is insuring its future by sponsoring activities which appeal to groups of young people interested in scientific pursuits. Amateur telescope makers, ship model builders and the Junior Aero Club meet there and follow their chosen hobbies through the aid of related exhibits.



Young people interested in science have frequent opportunities to hear this Museum attendant explain the merits of Ethyl Gasoline.

TRUCK FLEETS *see* ECONOMY *in* ETHYL



Mr. Roy Goodwin of the Goodwin Co., Jackson, Missouri, one of the largest dressed poultry dealers in the middlewest, called on our Ethyl representative to correct some trouble he was having with his personal car. This was satisfactorily adjusted and the results were such that Mr. Goodwin had his entire fleet of trucks switched to Ethyl Gasoline. He says "mileage has increased, performance improved and the drivers are happy."

Pulling a 2500 gallon transport is no easy job but progressive operators have found that a "tune-up with Ethyl" speeds up schedules and reduces maintenance costs. This growing demand for Ethyl has prompted the Globe Oil & Refining Co. to install this pump at the loading rack at McPherson, Kansas. Although the pump was put in only a short time ago they report close to 10% of the transports are using premium fuel.



The Dave Steel Co. of Ashville, N. C., use Purol Ethyl exclusively in their fleet. Mr. John Huntsman, who is Superintendent, is shown standing beside one of his trucks. Convinced of the superior performance Ethyl would give him he had the entire fleet changed over to premium fuel and that without having any adjustment made to the equipment. He is very decided in his statement that Ethyl Gasoline more than pays for itself in giving greater efficiency and lessening repair bills.

Truckers *urge* Repeal of Federal Gasoline Tax

ASSERTING that the annual \$200,000,000 burden of federal gasoline taxes falls in a large measure upon the operators of motor trucks, thereby increasing the costs of transportation of commodities, the American Trucking Association, in a resolution adopted at its annual convention, urges the repeal of the tax adopted by Congress in 1932, as a "temporary" emergency measure. The association

also asks for the repeal of the federal taxes on lubricating oils, motor vehicles, tires and accessories.

All states prior to 1932 "levied taxes on the sale of gasoline and all the states have continued these taxes since," the association asserts, adding that the federal taxes on gasoline, lubricating oil, motor vehicles and parts "add greatly to the cost of owning and operating motor ve-

hicles, especially vehicles engaged in moving freight commodities, thereby increasing the cost of truck transportation to shippers, raising the tax burden on the motor industry to a disproportionate rate compared with taxes on other modes of transportation and placing motor carriers at a competitive disadvantage in the general field of transportation."

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THE ever widening circle of Ethyl distribution crossed a new boundary with the establishment of an Ethyl pump just 115 miles from the Arctic Circle at Fairbanks, Alaska. Through the efforts of Mr. C. J. McFarlane, Calgary representative of the Corporation, the first polar Ethyl pump has been installed and supplies of treated gasoline have been arranged for at strategic points bordering the Arctic.

While in Fairbanks during his second trip to Alaska, in connection with the attempted rescue of the missing Russian flyers, Mr. McFarlane gave a talk before forty aviation and automotive experts including Hugh Brewster, Inspector for the Bureau of Air Commerce in

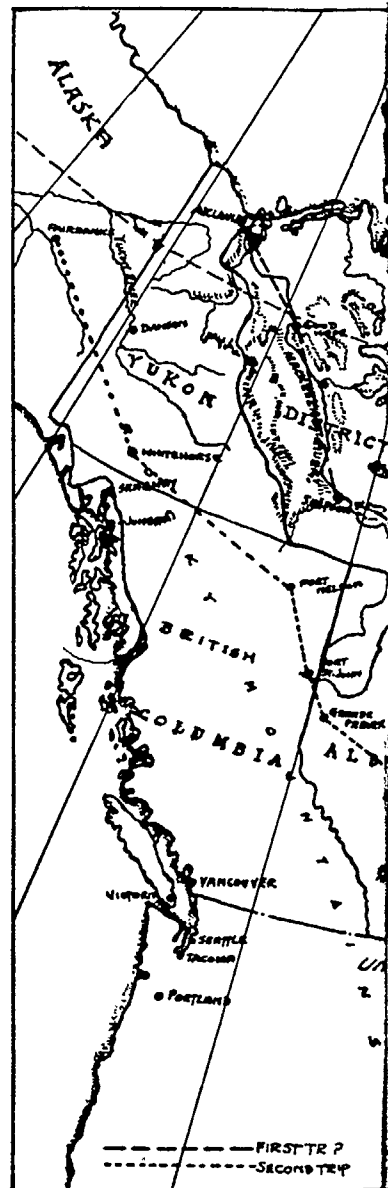
Alaska. The meeting was held in the offices of the Pacific-Alaska Airways and a great deal of interest was shown in the possibilities of high anti-knock fuels and modern motors. Mr. McFarlane's talk covered the development of Ethyl fluid and the many tests which makes Ethyl Gasoline a high quality fuel. The various characteristics of gasoline and their effect on engine performance were fully explained. After the discussion, questions were asked regarding the subject of fuels, particularly those containing lead. As a result of this meeting two air trans-

ETHYL ON TOP

As a result of a meeting which Mr. McFarlane held in Fairbanks, Alaska, early in September, this Ethyl pump was installed on the 22nd of that month. This is the nearest Ethyl outlet to the Pole, being 115 miles from the Arctic Circle. Fairbanks boasts of over 500 motor cars and trucks and an air fleet of 25 planes. In 1936 Alaskan imports of gasoline fuel and lubricating oils amounted to \$2,931,700.

Mr. McFarlane (with dark hat) dining with Eskimo friends at Aklavik. In the center of the group was a pot of boiled caribou meat. His hostess picked out a large joint and handed it to him, from which, in accordance with native custom, he broke off what he wanted and passed it along. The owner of the boat, whose only name is Simon, sits at Mr. McFarlane's left. He speaks fairly good English.

Mr. McFarlane mixing Ethyl on the bank of the Mackenzie River at Fort Norman. The gasoline was picked up the next day by the S. S. Distributor and taken to Aklavik.

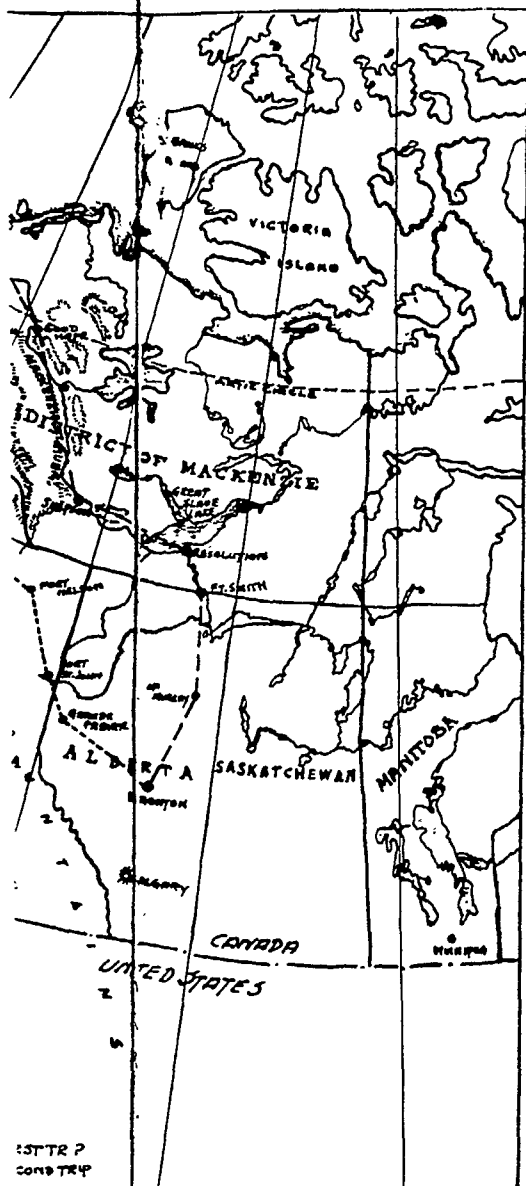


Map showing routes taken by Mr. McFarlane. Dotted line indicates first trip.

port companies are now using Ethyl Aviation Gasoline—80 octane number—and also the Service Motor Company has installed a pump for Ethyl—the first in Fairbanks.

The earlier trip undertaken by Mr. McFarlane was to Aklavik, in August, and was for the purpose of treating the gasoline to be used by Sir Hubert Wilkins in his res-

OP OF THE WORLD



by Mr. McFarlane on his two trips to the far north.
line indicates the flight to Fairbanks.

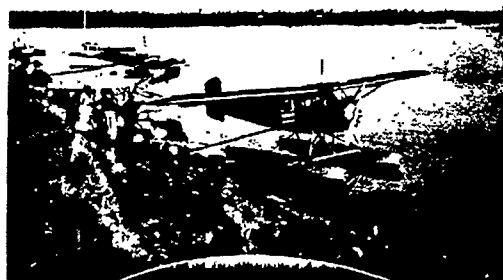
cue work. Due to the necessity for prompt action, the only possible means of transporting Mr. McFarlane, his supplies and equipment, was by plane. The start was made from Cooking Lake air base at Winnipeg, with Pilot Herb Hobson of the Mackenzie Air Service, in a Fairchild 7. Due to the heavy load in the ship it was impossible to

raise it from the water and the start was delayed for a day while the load was being lightened. Finally, however, by rearrangement of the remaining equipment, plus Mr. McFarlane crawling on top of the baggage in the front of the plane, the take-off was effected and although extremely rough air was encountered, the trip to Fort McMurray was completed. From Fort McMurray to Fort Smith, the next destination, fog and continued bad weather necessitated flying about 30 feet over the river. After an over-night stay at Fort Smith, the trip was

continued with comparatively good weather. At Great Slave Lake, in order that the heavily laden plane might more easily get off the rough water, Mr. McFarlane transferred to another plane and in this ship completed his journey to Aklavik.

"As a matter of interest in connection with the position of Aklavik on the map", writes Mr. McFarlane, "I was surprised to find that it is located several hundred miles west of Vancouver. The town is located on what is known as the delta of the Mackenzie River which is approximately 30 miles wide at this point. It has about 50 to 75 white people and between 200 and 300 natives at this time of year. These natives, who are Eskimos, are very intelligent, many of them

Unloading at Aklavik at the end of a 1700 mile flight. Note drums of fuel on the shore.



Mr. McFarlane (with overcoat) and Air Engineer Georg standing between Pilots Hobson and Randall during stay at Aklavik.



There are no shops or hangars where a plane can be overhauled in the north country. Here the mechanic changes his engine in the great outdoors.



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owning excellent power boats and their earnings from various activities are quite high in a good year. The forts along the Mackenzie, each with its settlement, are very similar and are approximately a day's run apart by steamer.

The Mackenzie River varies from 1½ to 4 miles wide except at its delta and follows quite closely the Rocky Mountain Range. These mountains, including snow-capped peaks, can be seen from the plane for several hundred miles."

An amusing occurrence which befell Mr. McFarlane on his arrival at his "hotel" in Aklavik may bear repeating as it is probably unique in the experiences of Ethyl representatives. Upon registering he discovered that his "room" consisted of sufficient space to unroll his blankets on the floor of the community sleeping quarters. However, as the rates were only one dollar for the night, one could not expect all the comforts of a metropolitan hostelry.

The gasoline at Aklavik had been freighted in by air at a cost of \$4 to \$6 a gallon. Two of the drums had been tampered with and the gasoline removed but, unfortunately, had been refilled with water. Rather expensive and well traveled water!

Soon after Captain Wilkins arrived with his flying boat, the plane which had brought in the supplies left for the south and shortly thereafter the remaining plane was recalled. Mr. McFarlane returned in this, since it represented possibly his last means of getting back to civilization before winter set in.

The second trip, this time to Fairbanks, started from Edmonton, Alberta, in a United Air Transport plane with Mr. Alvin P. Adams, President of Western Air Express Corporation, as the only other passenger. The route was directly northwest, crossing Grande Prairie and Dawson Creek, making the first stop at Fort St. John. An overnight stay was made at Whitehorse, in the Yukon territory, and at this point Mr. McFarlane transferred to a Lockheed Electra, operated by the Pacific-Alaska Airways, and flew directly to Fairbanks, a distance of 540 miles in approximately three hours.

In Fairbanks it was necessary to train two men in the blending of Ethyl fluid with gasoline. One of these was a pilot and the other an operator of an aircraft engine re-

pair shop who holds the Order of Lenin for his work with a Russian Relief Expedition some years ago.

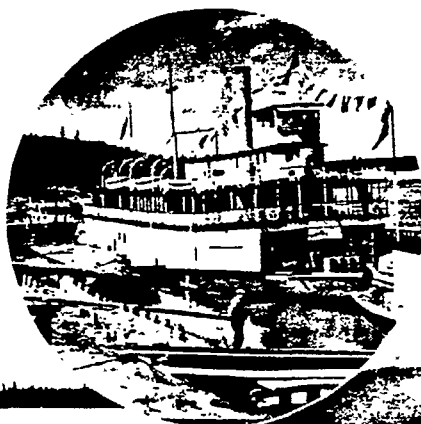
Mr. McFarlane was a guest at a Chamber of Commerce luncheon in Fairbanks and considers that Alaskan hospitality is beyond comparison. "At the luncheon I met practically all of the business men in the city and after that some one of them made it his concern to see that I was properly entertained during my stay."

The return trip to Calgary was made by way of Vancouver. This was due to the fact that there was no hook-up from west to east with the Edmonton plane without a delay of a week. "I therefore flew from Fairbanks to Whitehorse where we were grounded because of fog and was forced to take the White Bass and Yukon Railway from Whitehorse to Skagway. I took the boat on Saturday night at Skagway and arrived in Vancouver Wednesday."

The fact that the northwest route through Canada to the Orient is 4,000 miles shorter than the present one from Oakland, California, and over land a great part of the way, leads Mr. McFarlane in his report, to predict "a great deal of activity in the north country in the near future."

(Below) Eskimo schooners moored at Aklavik. Boat in foreground is one on which Mr. McFarlane was entertained. Compare size with 16 ft. canoe lashed to side.

(Below right) A view of the country around Aklavik from 6,000 feet up. The floats which the planes carry in summer permit them to come down on the many lakes and lagoons.



(Left) The S. S. Distributor at Fort Smith on her way down the Mackenzie for Aklavik. A few days later she picked up the fuel which Mr. McFarlane had prepared at Fort Norman. Drums of Ethyl Aviation gasoline may be seen on the deck of barge which was pushed down the river. S. S. Distributor makes two trips during the short summer.



MASSEY-HARRIS *offers* TWIN POWER

IN ITS 1938 Challenger and Pace-maker tractors, Massey - Harris introduces Twin Power as a new development in tractor engineering. This might be briefly defined as two engine powers, one for the drawbar and the other for the belt only, either of which is available by the simple movement of a lever on the gearshift bracket.

Thus Twin Power is accomplished—virtually a three-plow tractor for field work, and a 4-plow tractor for belt work.

In increasing the engine power output full advantage has been taken of the higher compression possible in the use of 68-70 octane, or regular, gasoline. This has been accomplished through improved mani-

folding, carburetion and piston design.

The result of these changes has been to increase compression from 85 to 110 lbs. per square inch. With the engine turning at 1400 r.p.m. the power of the 1938 tractor engine has been increased approximately 45 per cent as compared with that delivered by the 1937 power plants, and this has been accomplished without dimensional changes in the engine.

Massey - Harris engineers have not been unmindful of appearance in the new models. An attractive radiator grille has been provided which contributes materially to a streamlined effect and at the same time provides a better distribution of weight over the front wheels. Gracefully arched side hood covers have been provided. An attractive shade of red is used which accords the tractors a distinctive and pleasing appearance.

Flick the Twin Power lever back to "low"—you now have a 3-plow tractor delivering the maximum drawbar power in keeping with the weight and size of your tractor.



For drawbar work the power has been restricted to the maximum permitted by proper proportioning to tractor weight. This is accomplished by a variable speed governor, controlled by a lever on the gearshift bracket, which reduces the engine operation to 1200 r.p.m. yet enables the engine to develop considerably more power than formerly.

For stationary belt work where relation to weight is not a factor, the full power of the high compression engine at 1400 r.p.m. is available. The lever controlling the governor is switched allowing the engine to "rev" up, and at the same time the transmission is locked to make impossible the use of the greater power in any gear at the drawbar.

The new Massey - Harris Twin Power rowcrop "doing its stuff."



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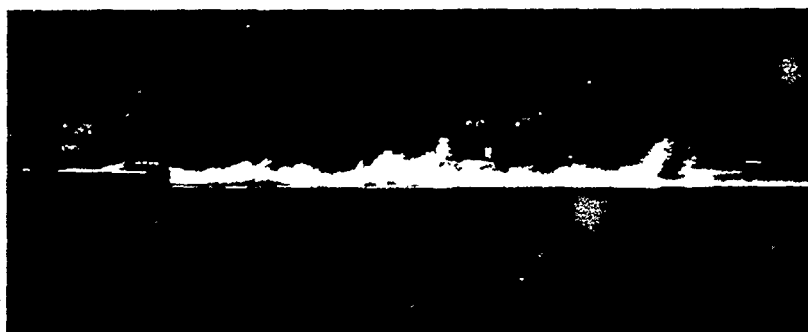
Sir Malcolm Campbell *shatters* Speed Boat record

SOME few months ago the news was flashed here from Switzerland that Sir Malcolm Campbell had once again added to his long list of achievements by hanging up another world's speed record—this time on the water. With his Blue Bird speedboat he sped over the sur-

face of beautiful Lake Maggiore at the almost unbelievable rate of 129.5 miles per hour. This shattered the existing world's record made by Gar Wood, of 124.8 miles per hour. Sir Malcolm's boat was powered by special Rolls Royce engine of the same type which he had in his Blue Bird

car when he set up a land record of over 301 m.p.h. in September, 1935, on the Salt Beds in Utah, which remained unbeaten until last fall*.

In a letter which was received from Sir Malcolm, he says that Ethyl played a most important part in his record-breaking run and he felt sure that without it he could never have obtained anything like the power from his engine which actually was developed. Moreover, Britain's speed king states that he has "always used Ethyl on all recent record-breaking exploits." In the accompanying photograph Blue Bird speedboat is shown on its record-making dash.



*Captain Eyston made an unofficial record of 311 m.p.h.

HARTFORD *auto* DEALER has own SHOW

EVERY year the Chamberlain-Simon Co., Chrysler distributors in Hartford, Conn., put on their own private show in competition with the regular Hartford Automobile Show. Each car is displayed on an oriental rug worth \$5,000, and as an added attraction the Chrysler "House of Wonders" was presented. At this a representative of the Chrysler Research Laboratories demonstrated the marvels of the stroboscope—how eggs are cooked on a cold stove—and many other scientific phenomena.

This year, through the efforts of Ethyl's local representative, Mr. R. W. Richardson, and with the cooperation of the Socony Vacuum Company, an Ethyl demonstrator was included as one of the attractions of the show. The demonstrations were conducted by Mr. Crane who acted in a similar capacity at the Ethyl exhibit at the Great Lakes Exposition at Cleveland last summer and prior to that with the General Motors Parade of Progress.

Both Mr. Chamberlain and Mr. Simon were enthusiastic about the

demonstrator and they, as well as the salesmen, called it to the attention of prospective buyers of Chrysler and Plymouth cars.

Further evidence that the demonstrations were well received was contained in a report of Socony Vacuum's District Sales Manager, Mr. Joseph Christoph. He expressed his personal appreciation and that of the men in his district, for the services rendered by the two Ethyl representatives and stated that the demonstrations were the "hit of the show."



New type Plane Developed for the Novice

THIS new type plane, which has recently made its appearance on the west coast, has demonstrated that anyone who can drive an automobile can pilot it with safety. The ship shown in the

picture is owned by the Gilmore Oil Co., and operates on their Ethyl Gasoline.

It is a Stearman-Hammond pusher type two place, all metal, low wing cabin monoplane with dual

control, nose wheel landing gear, hydraulic brakes, glide control and electric starter. Weight is 2250 pounds, wing span 40 feet, overall length 26 feet, 10¾ inches, overall height 7 feet, 7 inches. The motor is a Menasco C-48, 150 H.P., giving cruising speed of 120 MPH, top speed of 130 MPH, and a cruising range of 550 miles.

On the demonstration tour, novices are invited to fly the ship, in company with the pilot; and scores have done so without any difficulty in taking off, flying and landing the craft without the pilot touching the controls. A minute or two of instructions before the take-off, and possibly some reminders when coming to land, is all the pilot finds necessary to have the "first timer" make a successful flight.



Vice President Midgley addresses Houston Texas Chamber of Commerce

SPEAKING before the Houston Chamber of Commerce on December 9th, Ethyl's Vice President, Thomas Midgley, gave one of his typically humorous presentations of a serious subject by comparing the current recession to a "Bawling cow sliding down an icy hill". But he told his audience that he had sufficient faith in our country to believe that like the old cow she'll crawl back again one day to the top. Mr. Midgley's announced subject was "The Progress of Chemical Industry in Texas and the Southwest". He was introduced by Dr. Edgar Odell Lovett, the President of Rice Institute, who said: "The record of Thomas Midgley reveals many striking facets. In his 20's he was already a legend in his University, in his 30's he had received in medals alone enough gold — at present prices — to carry him well around the globe, and in

his 40's his star is still in the ascendancy." In the field of transportation and refrigeration, by his development of Ethyl Fluid and non-toxic refrigerants, Dr. Lovett pointed out, he has made every motorist and householder his debtor.

In that portion of his speech in which he touched on economic conditions, Mr. Midgley said: "I'm a scientist, not a business man and the only thing I can say to you as to my opinion on the economic situation is that I don't know. That proves just two things: that I don't come from Washington or Wall Street. Everybody in those two places seems to know just what is happening to business, but unfortunately they have different ideas about it." Notwithstanding his confession of inability to interpret the business situation he proceeded to draw this scientists' picture of American industry:

"It reminds me of a cow sliding down an ice-sheathed hill through which numerous stumps are protruding", he said. "All in the world that cow knows to do about it is to brace her front feet and moo-o-o-o for help. Presently she snags a steak on the corporate surplus tax stump and she just moo-o-o-os a little louder. Then she strikes an undistributed profits tax stump and lets out another helpless moo-o-o. Finally she lands at the bottom and lies there wondering 'what kind of hooks they are going to throw into me now to get me back up to the top of the hill'".

Earlier in his speech he vigorously denied the charge which is sometimes made that science is engaged in an endless search for new weapons to make war more horrible. But he did admit that science was getting ahead of the world's ability to control forces which it released.

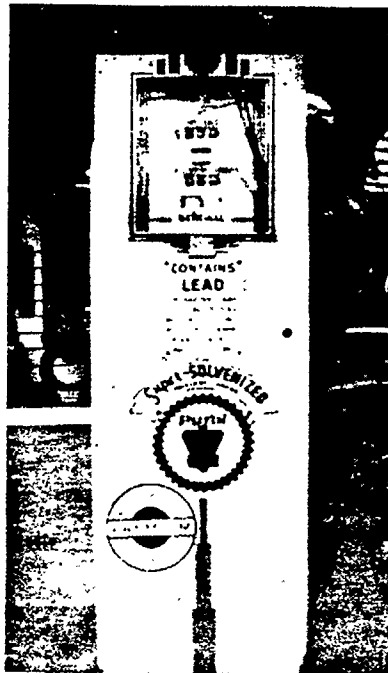
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Pump Markers *proclaim* Grade as Consumption *makes* Record

THE State of North Carolina has passed a new law for the protection of the motorist. In the future all gasoline pumps must carry a decal indicating the grade of fuel which it dispenses—premium, regular, or third grade. The Ethyl and regular markers are shown on the accompanying illustrations of Purol pumps and the 3rd grade decal is the same design except the



word MOTOR appears in place of premium or regular. Each of the three grade markers are of a different color. This new law goes into effect coincident with the release of State gasoline consumption figures for the first ten months which indicate an all-time record and material increase over last year.

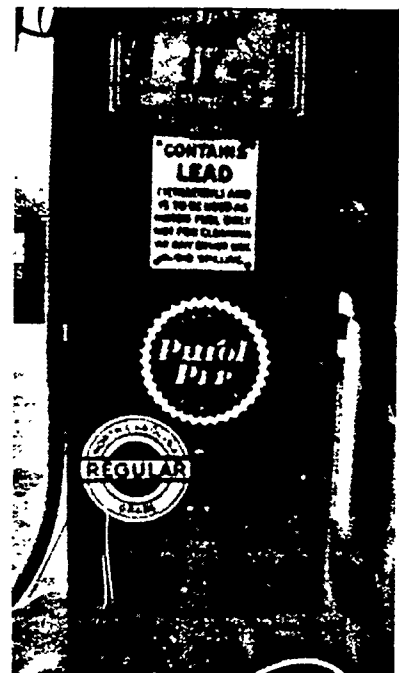
Not only has more gasoline been consumed during this period than ever before in a corresponding period, but the October figures, latest month for which consumption has been accurately calculated, show a higher total, 34,616,543 gallons, than in any other one month. In October, 1936, consumption was 33,192,865.

For the first ten months, 1937, total consumption was 318,153,925, against 282,987,727, in 1936, through September. Total consumption for 1937 will exceed 375,000,000, it is estimated, which would be an increase of 34,000,000 gallons over 1936.

Comparison of the increase in gasoline consumption in North Carolina with that in the entire United States is slightly in favor of the state with a gain of 10.83 per cent, compared with a national gain of 9.9 per cent, as reported by the National Petroleum Institute.

Study of the annual gasoline consumption in North Carolina, for

the past eight years, shows that these figures have accurately reflected general business and economic conditions. Before the depression, the largest single year's consumption was 270,000,000 (1929). During the "hard" years there was a drop in consumption practically parallel with the slump in general business. Since 1933, consumption has steadily increased each year.



THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE
AS OF JANUARY 1, 1938

TEN YEARS

C. M. GANBRILL.....*Detroit Research*
F. EDITH SEVIER.....*New York General Sales*
ARTHUR P. STOVER.....*Manufacturing Department*

FIVE YEARS

LILLIAN R. JOHNSON.....*Administration*
CARRIE MACMILLAN.....*Detroit Engineering*

America, a Country *competition* Built

(Continued from page 1)

ing standards and social welfare depend directly upon the success of business and industry in attaining their objectives.

The American system of private enterprise is responsible for what we have accomplished in the past, and that past is but a threshold to what lies ahead.

Meet MR. TULLY



ALAN CARR TULLY was born in Levenshulme, England, on June 29th, 1904. He began his education at Alma Park, Levenshulme, but at the age of nine his family moved to the United States and settled in Riverside, Chicago, Ill. Mr. Tully attended the Riverside Brookfield High School, Lake Forest University and finally the Armour Institute of Technology from which he graduated with a degree in Civil Engineering.

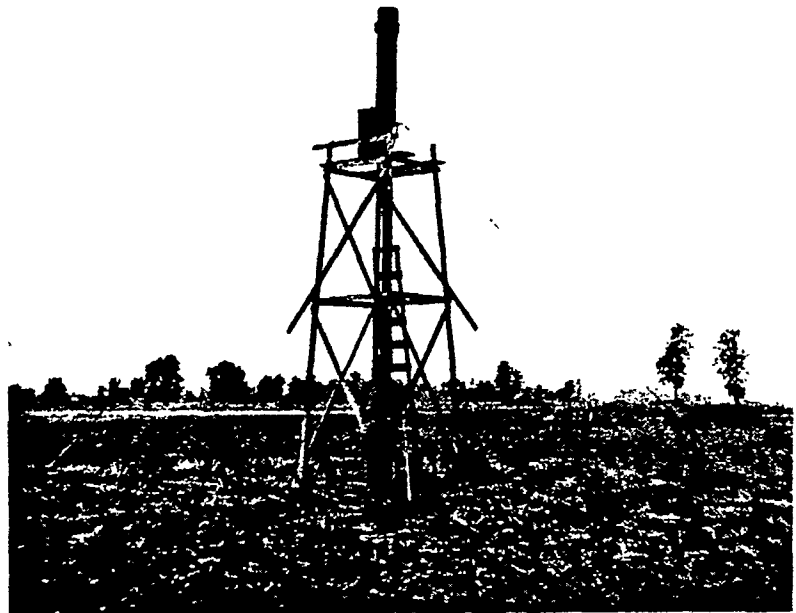
He started his business career with the Ryerson Steel Corporation of Chicago and later became associated with Kelker DeLeuw and Company, Consulting Engineers. In 1929 he joined the Ethyl Gasoline Corporation and served as Michigan representative attached to the Chicago Division. Two years later he was appointed Assistant Manager of the Division and continued in that capacity until 1934. At that time Ethyl was being introduced into Australasia and Mr. Tully was transferred to the Ethyl Export Corporation and took up his headquarters in Melbourne. The following year after Ethyl had become fully established in Australia and New Zealand he was appointed manager of the new "Kangaroo" Division, which position he still occupies.

Word has just reached us of Mr. Tully's marriage early in December, at Melbourne, to Lady Kingsford-Smith, widow of the famous Australian flier who was lost several years ago.

Novel Device on Louisiana Farm

AT first glance this might appear to be a picture of a make-shift oil rig but in reality it is a very clever device for plowing a cotton field which is in operation on a farm near Lake Providence, La. The inventor is Mr. George T. Hider (shown in the picture), who is a graduate engineer from Cornell and has been in the ginning business for over twelve years. In the center of the field is a 24-foot tower surmounted by a drum about one foot in diameter. Attached to this drum is a very strong especially made cable similar to piano wire the other end of which is fastened to a tractor. When the tractor is started up at the outer edge of the

field the cable winds around the drum, thus guiding it so that it plows a 40-inch row in a concentric circle until the center of the field is reached. The tractor is then turned around and started in the opposite direction gradually unwinding the cable. Mr. Hider makes no claims for his device but is glad to let one see it in operation. At least it is doing the job satisfactorily for him. The field is a 40-acre square and it is estimated that the row which the tractor makes is 80 miles long. At present the inventor is considering the possibility of using electric power for his tractor by feeding the juice through the central Tower.



Harry W. Kaley, for eleven years a member of the Sales Department of the Ethyl Gasoline Corporation, has been appointed General Sales Manager, according to an announcement made by Mr. Earle W. Webb, President of the company. In recent years Mr. Kaley has held positions as Advertising Manager and Assistant Sales Manager. His new appointment became effective January 1, 1938.

HERE *and* THERE

CHICAGO DIVISION

Our new Division Correspondent, *Mr. George Gallagher*, relates the following amusing experience:

"Last week I attended a meeting of a Lions Club in one of our small suburbs and showed the film, 'The Long Road'. This meeting was held in the evening, in a club room beneath the post office. The film had just started to 'roll' and the voice of Alois Havrilla was saying, '... fire, the most destructive force known to man, was harnessed to the the wheel', when someone came in and whispered something to one of the men and my entire audience of thirty-seven grabbed their coats and left in a rush. For a minute I didn't know whether to take time to shut off the film before I ran, too, or whether my audience was merely showing their disapproval. It developed, however, that there was a fire in the village and all of the members of the club were a part of the volunteer fire corps. Later they returned and sat in their smoky clothes to watch the rest of the film."

An airplane in the service of the United States Weather Bureau, which had been flying over the Northwestern-Notre Dame game at Dyche Stadium in Evanston, towing an advertising banner, was forced into an unexpected landing when the pilot, Warren Malvick, discovered he was out of gas. Malvick spotted a vacant lot beside a Standard Service station and glided into it. To John Donnebauer, the operator, it came as a complete surprise. He said, "I was putting air in a customer's tires and I heard a whistling noise. I looks up and there's an airplane in the vacant lot and I thinks, where 'n H—— did that come from. Everybody was running so I ran over, too. The pilot asked me for 15 gallons of Ethyl Gasoline. It so happened that a Standard Oil Company tank wagon was in the station at the time so we took three five-gallon buckets and loaded them on the side of the tank wagon and drove right up beside the plane with them. We dumped it in

and while we were doing so people were yelling, 'check his oil, Johnny, clean his windshield, give him a road map.' The driver, or I mean the pilot, paid me, turned his plane around and climbed right straight in the air."

DAYTON DIVISION

Mr. H. B. Greenup was recently asked to appear as the guest of the Cincinnati Club of Printing House Craftsmen at one of their regular educational meetings and present the Ethyl story and the "Long Road."

When *Division Manager H. A. Mack* attended a recent meeting of the United States representatives of Echlin and Echlin in Cleveland with *Mr. A. D. Martin* who was the principal speaker, he was gratified to hear the strong endorsement Mr. Echlin gave Ethyl Gasoline as an aid to proper motor tune-up. As Mr. Mack later expressed it, "An Ethyl man could not have done better". As a result of this contact two large dealer meetings are to be held in Toledo on January 14th and 28th when all Echlin and Echlin dealers within a radius of 100 miles will attend the Dayton Clinic.

That the Lima Clinic is off to a good start is evidenced by numerous letters received from officials of various oil companies and others who have witnessed it. Particularly gratifying were the comments of a Gulf Oil Company executive in making a report on a meeting which he attended. He says:

"The Clinic is one of the most outstanding of scientific demonstrations one will have the privilege to see anywhere. The equipment these people carry with them is complete in every detail, and the men in charge of these meetings are so well informed on their subject that they simply hold their audiences spellbound. The presentation is so simplified that even the most uninstructed layman could understand every detail and enjoy it with an interest bordering on entertainment."

KANSAS CITY DIVISION

The 17th annual convention of the Nebraska Petroleum Marketers, Inc., was held at the Fontenelle Hotel, Omaha, Nebraska, December 7th, 8th and 9th. The delegates were greeted by the Honorable Dan Butler, Mayor of Omaha. Included in the list of speakers were: Mr. Cullen T. Wright, who outlined "A Customer's View of the Oil Industry", Honorable R. L. Cochran, Governor of Nebraska, who gave an interesting address and an important message to this assembly; Mr. Walter Kinderman, of the Phillips Petroleum Company, gave a dramatic address on "Sales Opportunities"; *Mr. Carl Berry*, Ethyl's Kansas City correspondent, addressed the convention on "The Gasoline of Tomorrow". The topic of "Public Relations" was very diplomatically handled by Mr. Carl Barker, Chairman of the Missouri Petroleum Industries Committee. The meeting was well attended by independent jobbers and representatives from refiners doing business in the State.

Mr. Howard Lappe recently learned of the case of a Skelly dealer near Manila, Iowa, who, having facilities for handling only one grade of gasoline stocked Aromax Ethyl. A large part of this station's patronage is confined to heavily loaded trucks hauling freight. Since changing to Aromax Ethyl exclusively the operator reports that he not only has retained all his old customers, but has secured a justifiable amount of new business.

Our representative, *Mr. Alexander Hamilton*, held a meeting in Great Bend, Kansas, a short while ago which was attended by a certain service station operator who did not carry Ethyl. After learning of the extra profit possibilities, however, he put in an Ethyl pump. A month later, when our representative contacted him, he was informed that the station's gallonage had materially increased and that 16% of the total sales were Ethyl.

Mr. L. F. Campbell, who operates a service station in Denver,

Colorado, tells us of a somewhat unusual mileage record which was made by one of his customers in a 1936 Terraplane sedan. This gentleman drove into the station and had his tank filled to the top with No-Nox Ethyl Gasoline. He then drove

with two passengers to a neighboring town and returned to the station, his speedometer showing exactly 40 miles for the run. Again ordering his tank filled, it would only take one and between three and four-tenths gallons. He thereby fig-

ured his mileage at 28.7 miles per gallons, which is certainly exceptional, especially as it was done at an altitude of one mile above sea level. This statement was made to our local representative, Mr. George Thomas.

NEWSBRIEFS



Mr. and Mrs. Alan Tully

who was pronounced officially dead after his disappearance in his plane several years ago.

The marriage took place in Toorak, Victoria, on December 2nd. Mr. Tully, a former Chicagoan, is the son of Mr. and Mrs. Thomas Tully of 112 Scottswood Drive, Riverside, Ill. At present the bride and groom are making their home at 38 Grange Road, Toorak.



Robert S. Asbury

Another addition to our group is Mr. Robert S. Asbury. Mr. Asbury was born in Portland, Maine, August 20th, 1904. He graduated from Brown University in 1928 with a B.S. in Chemistry and procured an M.S. in 1930 from the Massachusetts Institute of Technology. He was Research Assistant from 1928 to 1930 and Divisional Director in 1931 at the Research Laboratory of Applied Chemistry at M.I.T., Reactions of hydrocarbons under high pressure. From 1931 to 1937 Mr. Asbury was Research Chemist for the Coal Research Laboratory, Carnegie Institute of Technology—pressure studies on bituminous coal. In 1937 Mr. Asbury joined the Ethyl Gasoline Corporation. He is married and is a member of the Sigma Xi and American Chemical Society.



Dennie Warren

From here Mr. Warren went to Naperville, Ill., where he was offered a position at Edward's Sanitarium. This makes his history up to the time he has joined Ethyl.

May we present Mr. Dennie Warren, our property man in the Chicago Clinic. Dennie, who is 24 years old, was born in Huntland, Tennessee. He stayed at home on his father's farm until he was 21 when he joined the Civilian Conservation Corps. Here he was chief assistant to the camp doctor, or first aid orderly.



Roy S. Godbey

Mr. Roy S. Godbey has joined the Dayton Clinic as tune-up engineer, previously having served in various capacities in the automotive field for many years. After operating his own repair establishment, Mr. Godbey was associated with United Motors Service in Dayton from where he came to us. He is a graduate of the Carter Carburetor School which the "News" featured in its July-August issue.

"Chuck" Colvin, our Safety Engineer, came in the other day with buttons on his vest popping. It was a girl, Jane Mayfield Colvin, born December 11th at the Illinois Central Hospital. "Chickie", Jane's brother, suggested that when babies are ordered in the future that an order be placed for a boy rather than a girl.



Augustine O. Allen

From our Chemical Laboratory comes the announcement of the following births in November—a daughter, Ruth Ann, on November 24th, 1937, to Mr. and Mrs. Helmer A. Abramson. The little newcomer weighed 6 pounds 13 ounces.

To Mr. and Mrs. Edward Johnson a son born on November 2nd, 1937. This young gentleman weighed 5 pounds 13½ ounces.

Here we are introducing Augustine O. Allen, who was born in California in 1910. Mr. Allen is a graduate of the University of California, Class of 1930. After a year as chemist in the Bell Laboratories, New York, he went to Harvard as a teaching fellow. There he carried out some research on gas reaction kinetics. In 1935, after he received a Harvard Traveling Fellowship, he went to the University of Manchester, England, where he studied the reactions of free radicals with Professor Polanyi. Mr. Allen entered Ethyl Gasoline Corporation as Research Chemist November 1st, 1937.

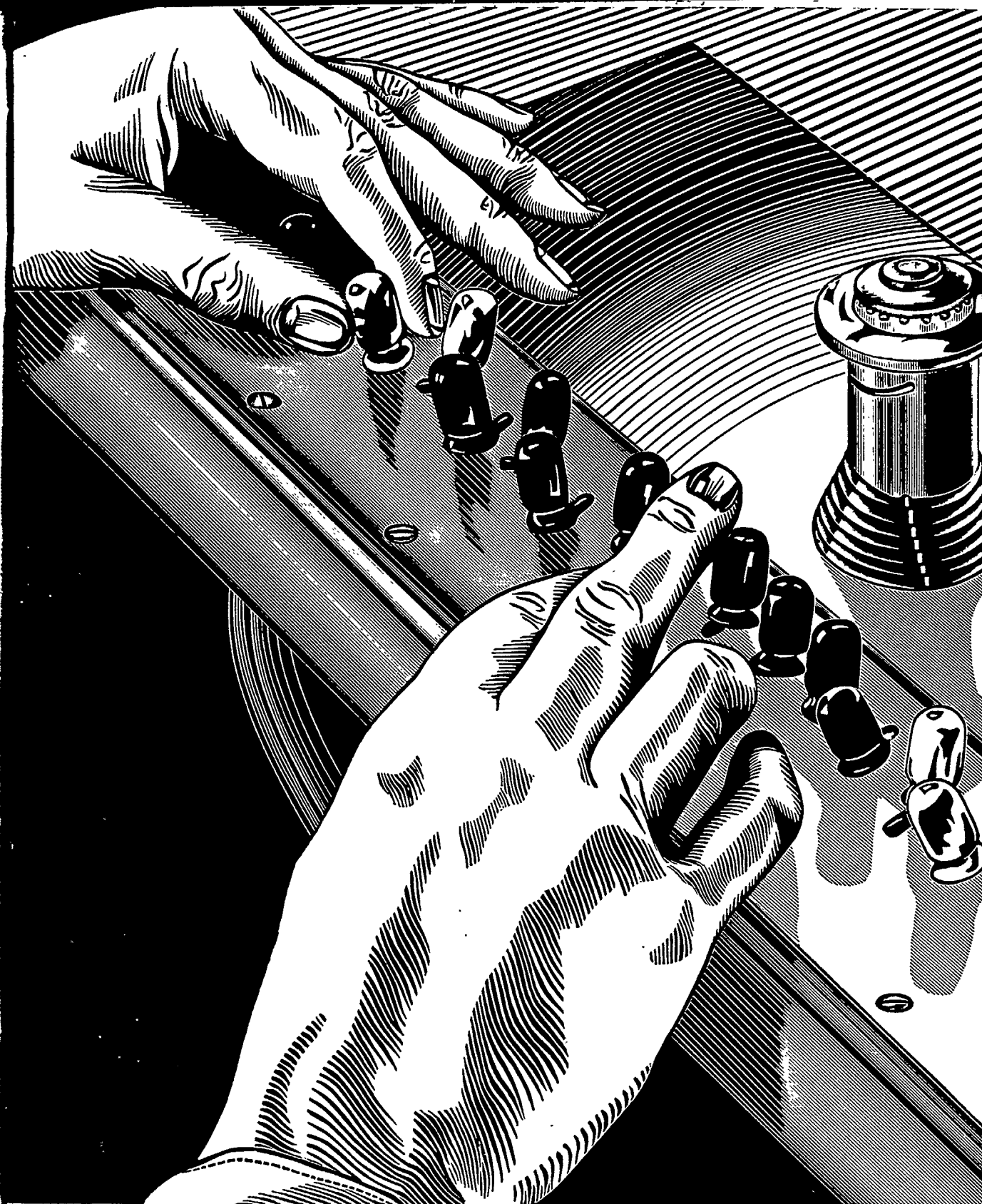
Mr. and Mrs. Oscar B. Lewis and their son and daughter have moved from Stuart Avenue, Marmaroneck, to 35 Avon Road, Larchmont, where they have bought a lovely Southern colonial house. Mr. Lewis is the head of the Safety Division of the Ethyl Gasoline Corporation.

From the Boston Division comes the announcement of the marriage of Miss Kay Ford of that city to Mr. Lawrence L. Myatt. The wedding took place December the twentieth, in Albany, New York.

The motorist paid

approximately one billion dollars in federal and state gasoline taxes last year, a sum equivalent to about seven per cent of the wages of all industrial workers in the manufacturing plants of the country.





FEBRUARY

1938



ETC 21881

"HORSE SENSE"

It may save many a needless accident on the highway or elsewhere. But what is it?

It's making use of the powers of reasoning with which God has endowed us.

It's putting two and two together and getting four as the answer.

It's thinking about what might happen, and deciding what to do if it does happen.

It's avoiding trouble and not trying to cure it.

It's playing safe and not tempting Providence.

It's following advice when the advice is worth following.

In short, it's just "HORSE SENSE."



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VOL. 5, No. 2

American Industry leads in Research—1937 bill 100 Million

WITH an expenditure of \$100,000,000 during 1937, the United States is in the forefront of industrial research according to a world survey reported to the American Chemical Society by Dr. William A. Hamor, Assistant Director of the Mellon Institute.

In many countries novel synthetics have opened a new era for solvents, plastics, paints, pharmaceuticals and perfumes, and in Europe designs have been prepared for underground bomb-proof power plants for chemical industries. Hundreds of scientific investigations are underway in Canada and Great Britain, in practically all the countries of Europe and in India, Australia and Japan. Among the chief fields of study are metals, textiles and air conditioning.

Among the new developments in our own country Dr. Hamor finds that spodumene, most plentiful of the lithium-bearing ores, has been put to work to produce lithium chloride for the conditioning and drying of air. Experiments in Texas show that carbon black added to concrete gives the highway a dark luster thus reducing glare. Vitamin A is being produced from fish-liver oils by molecular distillation and much progress is being made in food preservation. Electrolytic reduction of sugars to corresponding alcohols has been accomplished on a commercial basis.

Silver bearings are now employed in high-power aviation engines and higher octane anti-knock gasolines promise increased fuel efficiency for airplanes. Especially treated lubricants enable much higher bearing pressures and heat-treated cast irons are used for gears and other parts which were previously made of steel. The manufacture of carbon dioxide-filled incandescent lamps has also been perfected.

Other recent creations of American research include cellulose sponges; Vitamin C prepared from sorbitol which in turn is made from corn sugar; new adhesives from synthetic resins; plastic wood; electrolytically colored metals; new pigment dyes; new compounds for use as wetting agents, and emulsifying agents; an organic base said to be as strong as sodium hydroxide; new plasticizers for rubber and tetrasphosphoric acid.

The survey discloses that research is progressing in the small countries as well as the large. Switzerland holds the European leadership in pharmaceutical research and in Palestine demand for insecticides for fruit trees has revived the sulphur industry there.

During the past year Italy has done much work in the explosives, coal hydrogenation and heavy chemical industries. Research in France relates mainly to dyestuffs, heavy chemicals, naval stores, essential oils and fertilizers. She has also made considerable advances in synthesis as connected with gasoline and is enlarging her cellulose industry.

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"MAKE TOLEDO AN ETHYL CITY"

ETHYL TO THE RESCUE WHEN HARBOR POLICE STAGE RODEO

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HERE & THERE

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Modern Motors *and* Anti-knock Fuel Reduce Fire Loss *in* Canadian Forests

A HOT, dry day—low humidity—high wind—a perfect combination for a forest fire and the watcher in his tower is on the alert.

Far in the distance over the top of a hill a small puff of smoke appears and is soon picked up by the section tower. Those on guard first take the time, and then get their bearing. For the purpose of determining this, each station contains a map of the surrounding country—the tower marking the central point—the circumference of the map being divided into three hundred and

information to the warehouse where the fire fighting equipment is stationed.

When the crew arrives at the fire the pump is set up and hose run out to as near the point as possible. A Siamese is put on the main hose-line so that two lines may be used. The modern gasoline pump can develop enough pressure to throw an effective stream from both nozzles at once, each nozzle capable of pouring from forty to fifty gallons per minute with a pressure up to seventy pounds at the nozzle tip from two thousand feet of hose laid over rough, hilly country.

In midsummer when there is little rain and everything gets very dry,

Chief Colin McInnis of the Ontario Forest Fire Branch of the Department. His modern truck is always ready for an emergency.



Where forest fire takes its toll—opposite page (lower right) same spot after the conflagration.



From these 80 foot steel towers the watcher scans the surrounding country for the first puff of smoke.

There, a fireboat is always in readiness with the gasoline tank full. Here also are gasoline pumps and powerful trucks for transportation of hose, shovels, axes and all the necessary paraphernalia to combat the fire. A list of available men is kept on hand and in the event that extra help is needed they can be summoned at short notice. Supplies of food, blankets, tents, etc., are taken along. As soon as one outfit has gone another is immediately assembled to be ready for the next call.

sixty degrees. In the center is placed an alidade. When the reckoning has been made the information is telephoned to headquarters. Here a general map of the whole territory is located with the position of all towers indicated upon it. With the bearing which has been reported the dispatcher, or chief, with the aid of a protractor, is at once able to locate the exact position of the fire. The Chief then forwards the

ground fires that burn deep into the roots of trees and turf are prevalent. These are difficult to extinguish and require a tremendous amount of water and hours of pumping. If it is a large fire the men are only able to kill the outside back into the burn for several hundred feet and let the inside burn itself out, which may take a day or two. Should the fire reach down to a peat bog it may burn for months or until a

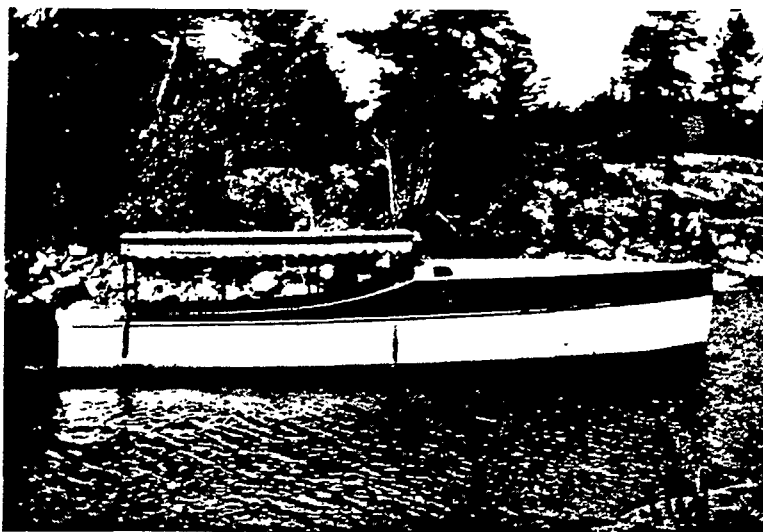
heavy rain comes or snow falls cover it.

Thirty or more years ago, before gasoline pumps were in use, steam pumps operated from steam boilers were employed with the result that forest fires spread over larger areas and caused much greater loss than they do today. Now, with gasoline and high compression light weight motors and trucks available, which can more easily be taken to the scene of action, the damage is being greatly reduced. But this type of motor needs a high anti-knock fuel for efficient performance with the result that Ethyl Gasoline has been chosen for the job.

Start of a forest fire. Note hose in foreground as the fighters get on the job.



Patrol boat in the Georgian Bay district.



Where the forest fire takes its toll—after the conflagration.

American Industry leads in Research—1937 bill 100 Million

(Continued from page one)

In Germany study was particularly energetic in the fields of alloys and synthetic resins, rubber and tanning materials. Calcium chloride and sodium silicate are being used for reinforcing shifting sands and other loose formation under building foundations.

The growth of plastics in Great Britain has revived the manufacture

of synthetic phenol which has been dormant since the World War and plans have been made for the establishment of a calcium carbide industry.

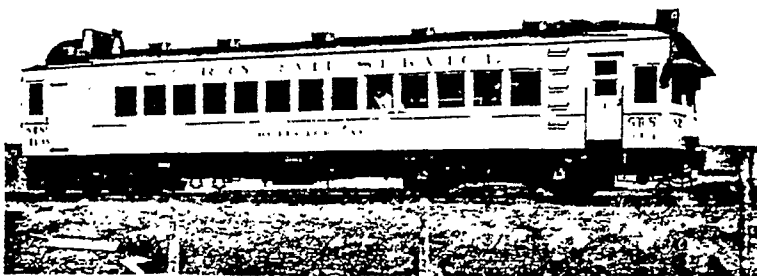
Hungary is giving much attention to the utilization of agricultural waste as a practical source of motor fuel as that country produces no gasoline.

Much scientific research was carried on in Canada last year in such fields as: petroleum, precious metal recovery, aluminum, cobalt, selenium and tellurium. The 1937 production of radium salt in the Dominion was 50 grams.

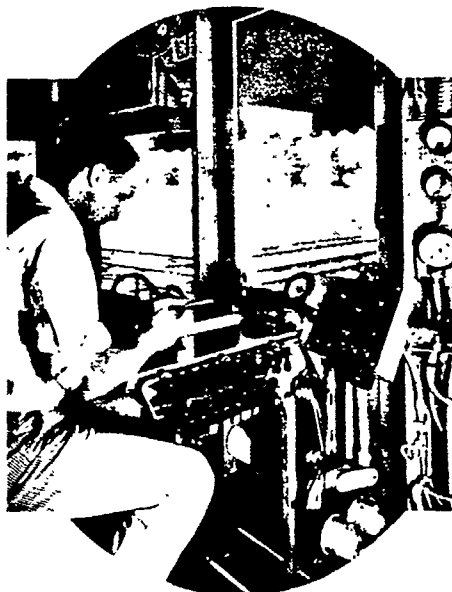
South America also has made her contributions to scientific study as much work has been done in Brazil, Chile, Honduras and Guatemala.

FEBRUARY, 1938

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Sperry Detector Car is self-propelled by Gas-electric drive using 70 octane leaded fuel. It moves over the track when testing at a speed of from five to nine miles an hour.



The recording operator watches the track from rear of the moving car. On the table before him is a record tape which moves at a speed proportional to that of the car and on which is marked in ink a continuous record of the conditions of both rails. The extent and location of defects are thus clearly indicated.

Comfortable living quarters are provided for the crew. Here the bunks are equipped with reading lights with lounge and dining compartment adjoining.



Page four

A G-MAN OF

FIGURES for the past decade show that, on the average, railroad passengers in the United States are carried more than 2,500,000,000 miles for each one killed. Small wonder that the rider on modern American trains concerns himself little or not at all with the possibility of accident. He has come to expect complete safety and, to all intents and purposes, he gets it. Whirling along in comfort, he probably notices gangs of workmen standing beside the track—as evidence of the constant watch over the rails and roadbed which enables his train to travel swiftly and smoothly without mishap. But he has no real idea of the thorough means employed to insure safe going for the rushing expresses, bullet-speed streamliners, and heavy, fast freights of today. Least of all is he conscious of the fact that not content with constant external examinations of apparatus, railroads inspect their rails *internally*, probing deeply with electrical fingers into the heart of the solid metal and detecting with astounding certainty flaws invisible to the human eye!

Based on principles conceived by the late Dr. Elmer A. Sperry, who contributed to navigation and air safety the gyroscopic compass, Sperry Detector Cars course the steel thoroughfares of the country and ferret out defective rails with the accuracy of pointer dogs finding birds. During the past decade, thousands of such defects have been located by this apparatus and their immediate removal, without doubt, has averted many a serious accident. Taken in time, a defective rail is as harmless as a powder puff but left to lie, it may become as dangerous as dynamite.

Internal flaws occurring in rails, technically known as "fissures" gen-

ETHYL NEWS

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erally follow one of two procedures—both of which are bad. They either grow fast, after once obtaining a start in life, and soon reach sizes sufficiently large to completely rupture a rail; or they occur suddenly, in the manner of fully fledged gangsters, capable of snuffing out the safety properties of a piece of track at short notice.

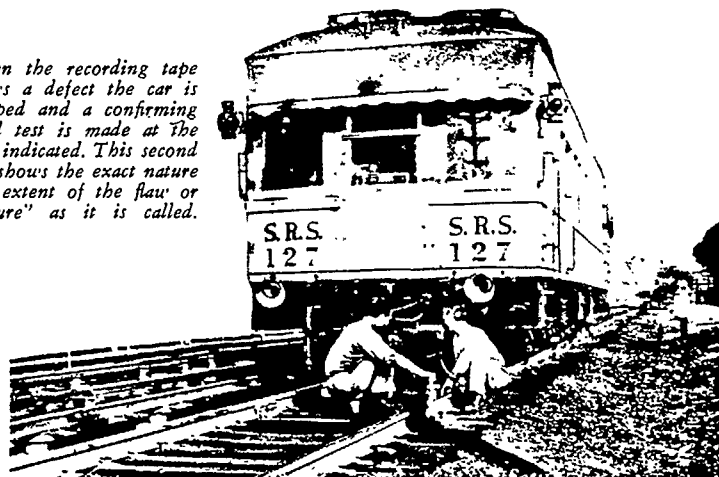
To deal with the menace of internal fissures, one of nature's own weapons is enlisted against herself; electricity, the master spy, tells all about what is happening in the secret darkness within the rails, before the enemy is able to become strong enough to kill. 3,000 amperes of electric current at two volts is driven into rails by generators aboard the Sperry cars, and a magnetic field is built up. Any variation in this field is immediately sensed by specially located coils which, working through a relay system, operate pens moving over a record tape. Thus the condition of every inch of track over which the Sperry car moves is charted.

Whenever a flaw is indicated, the recording pens vary from their usually straight track over the record tape, and at the same moment an automatic paint gun fires a spot of paint from beneath the car onto the rail at the exact point of defect.

The car is then stopped, and the operator makes a "Hand-Test" of the rail with a delicate meter which registers the size of the fissures inside the rail. Promptly the railroad's representative, accompanying the Sperry car, orders disposal of the condemned rail and another potential source of danger is removed.

At the present time there are about seventeen of these cars operating on railroads throughout this country and Canada. They are all fueled with 70 octane leaded gasoline.

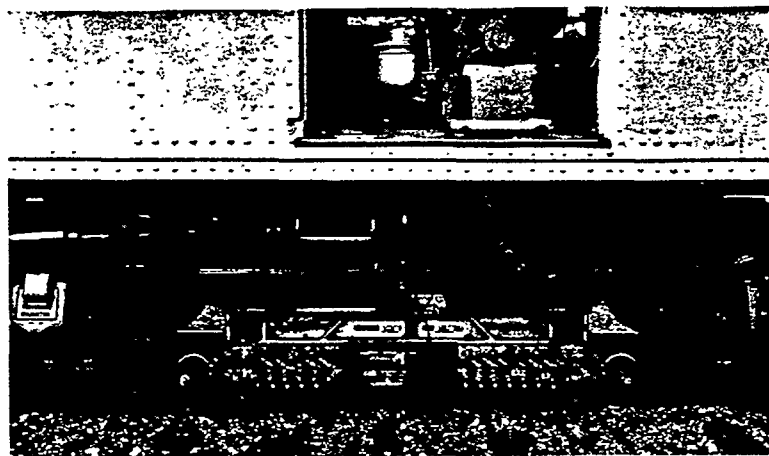
When the recording tape shows a defect the car is stopped and a confirming hand test is made at the spot indicated. This second test shows the exact nature and extent of the flaw or "fissure" as it is called.



An example of the hidden danger that may be lurking within the rail. Over twelve thousand of such defects were located last year and the rail replaced.



The searching unit is the heart of the Detector Car. With its pick-up coils it detects a defective rail and flashes the news to the record tape in the observation car.



Ethyl in New Paramount Production of 1938

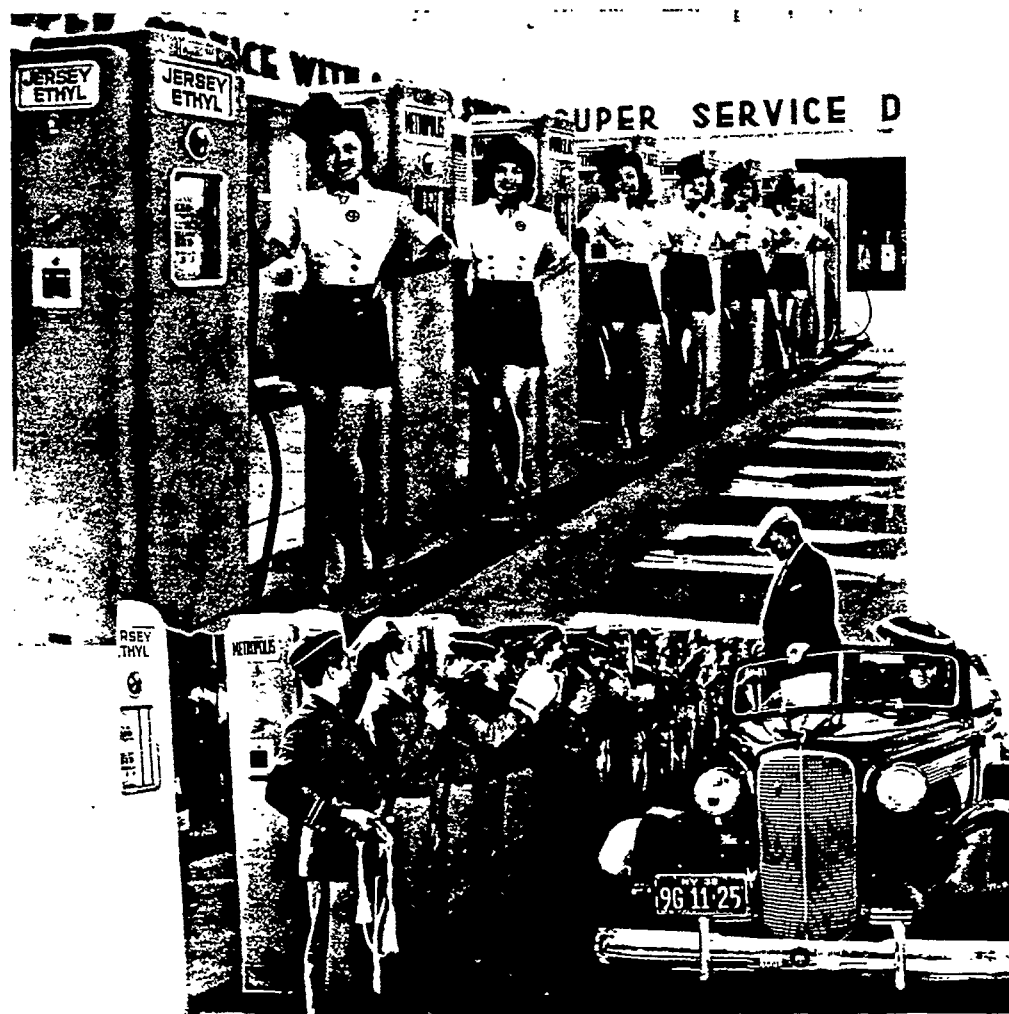
ETHYL is in the van in Paramount's new picture "The Big Broadcast of 1938" about to be released. Much of the action takes place in this Super Super Service Station known as the "Happy Gastorium" where the Ethyl pump holds the spotlight. In the scene from which the accompanying illustrations are taken, W. C. Fields drives into the station on his way to the golf club. As his car approaches the driveway a uniformed attendant sounds a blast on a bugle at which a number of assistants in natty uniforms line up with military precision. When the car comes to a

halt they swarm over it, rendering every possible form of free service. Then the bugler steps up and says: "Shall I fill it up?" probably with Ethyl — and Fields replies, "Yes, clear to the brim", at the same time handing him his pocket lighter.

The cost of filling the lighter is registered on the pump at 1¢ with 7¢ tax which leads to a very humorous dialogue. In another scene the eight modernistic Wayne pumps on one of the station's five islands are attended by a group of 1938 model streamlined beauties who provide the musical background and

the "Super Super Smile" for the film. Who wouldn't patronize such a station!

The petroleum industry will get a real laugh out of this new picture, when it makes its appearance. Notwithstanding, it touches upon many intimate problems of the business and takes a number of sly digs at the so-called Super Service which is offered the public. But this is accomplished in such an entirely harmless way and carried to so ridiculous an extreme that it is sure to amuse rather than offend the most sensitive station operator.



"MAKE TOLEDO *an* ETHYL CITY"

MAYOR ROY C. START

THE Dayton Division Clinic had its first showing in Toledo, Ohio, on December 20th, before a distinguished gathering which included Mayor Roy C. Start and at least one executive from every oil and automotive company represented in the city. Altogether there was a total of 149 in attendance. Mayor Start (left) was introduced by General Harry Mack, Ethyl's Dayton Division Manager, who called attention to the fact that with its five refineries and many automo-

tive manufacturing plants, Toledo was really the hub of those industries in the State of Ohio. The Mayor expressed his appreciation of the fact that the Company had seen fit to select Toledo for its premier showing in a large community in Ohio and closed his remarks by presenting General Mack with the Keys of the City. At the end of the meeting, which was conducted by Mr. W. S. Mayes, all the organizations who were represented indicated their intention of securing a date for a

special showing for their own personnel. Following are the names of a few of the executives who were noted in the audience:

Messrs. Robert Mullin, Ohio, Division Sales Manager for Gulf; R. G. Tracy, Division Manager Standard Oil Company of Ohio; George Funk, Vice President Hicock Oil Co.; Edward Ryan, Purchasing Agent for Lucas County; Frank Mullay and Fred Grossman, National Refining Company's Cleveland Manager and Northwestern Ohio Branch Manager; La Mount Daniels, Manager of International Harvester Co.; Howard Dupree, Assist. Manager Cities Service; P. Cramer of Cramer Oil, representing Socony-Vacuum; D. A. Walters, Service Manager and Director of Willys-Overland; and A. Kirby, Chief of Transportation, Ohio Fuel Gas Company.



Mayor Start of Toledo congratulates Manager Harry Mack at close of Clinic showing.

Ethyl *to the* Rescue When Harbor Police *stage* Rodeo

MEMBERS of Police Departments are called upon to act in many emergencies and frequently in a very unusual capacity. Such was the case when members of the Toronto Harbor Life Saving and Police staged a rodeo in Toronto Harbor recently. A three-year-old buck had evidently wandered into the city during the night and becoming bewildered, grew frantic and plunged into the water. The terrified animal was unable to climb out again, due to the high embankments and was in a fair way to perish when it was discovered by the Life Savers. They secured the services of the keeper of the High Park Zoo and set out in one of their speedy police boats. After considerable maneuvering, the buck was finally roped some distance from shore and trussed up to the side of the launch, brought back

to dry land little the worse for its adventure. The animal is now safe in its new home in the city zoo. This incident is probably the first time on record that Ethyl has been called upon to play a part in a rodeo act. About three years ago the Toronto Harbor police boats were operating on regular gasoline but considerable

difficulty was experienced due to overheating and lack of necessary speed. After certain changes were made in spark plugs and timing under the direction of an Ethyl representative, the launches were put on Ethyl Gasoline and have been using it ever since with satisfactory results.

Life-savers perform another unusual task when they rescue a three-year-old buck from Toronto Harbor.
Courtesy
Evening Telegram



THE CLINIC GIVES

**How Much Did They Understand?
How Much Did They Believe?
How Much Will They Remember?**

THE answers to these three questions measure the success of every lecture and demonstration which Ethyl representatives give. The listener who is not already an Ethyl "addict" is "from Missouri". It is suggested he spend more money per gallon for gasoline—quite naturally he asks, "What do I get for my money?"

This is a personal problem with each listener. They are not particularly interested in the answer given by a one-cylinder laboratory engine,

gasoline (without lead) was from 60 to 65 Octane, and compression ratios were relatively low, so few people used Ethyl. The average motorist did not see any reason why he should use it. Add to this the fact that so many "promotions" had been launched on the West Coast

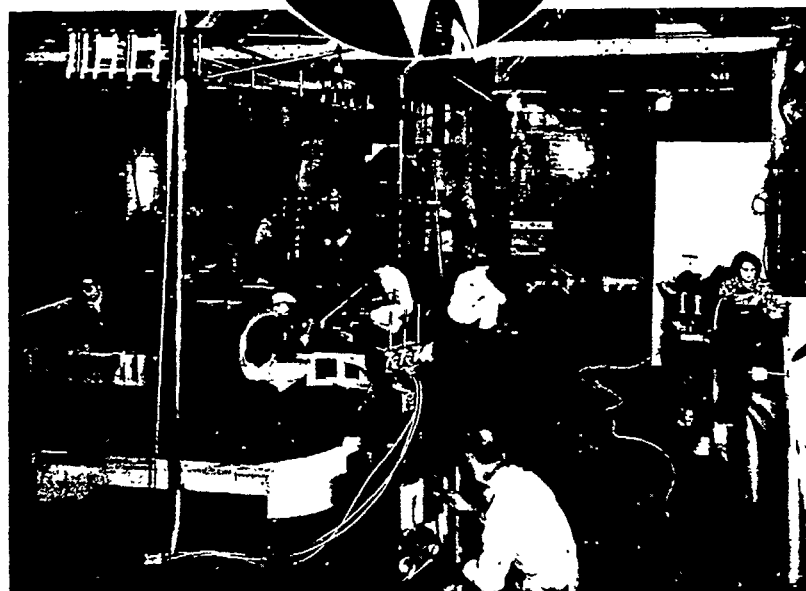
out, so that the enthusiasm of oil companies would be aroused and the support of the automobile industry enlisted. He assigned his assistant, Mr. Jack Martin, to head up this activity. The plan back of the whole program was to develop a method of showing people the Ethyl facts more convincingly. Gradually one feature after another was added to increase the "eye appeal."

At about this time the Associated Oil Co., following an intensified sales program, had found that Ethyl Gasoline could be sold in large quantities on the basis of results in the average car, if the car was prop-

Ethyl's Los Angeles Division Manager, S. M. Wagner, under whose guidance the Motor Clinic pro-



gram was developed on the Pacific Coast.



At the "Clinic Factory" in Los Angeles, Unit No. 5 takes shape under the eyes of production manager Charles White. Twelve tons of equipment is being assembled for shipment into the Dayton Division.

but in the answer they will get in their own car.

In every part of the country there was the same problem but on the Pacific Coast it was intensified by a number of factors, and the sales obstacles which they imposed led to the birth of the Ethyl Clinic. In the days when Ethyl was about 74 (1931), the refinery run of regular

the state of the public mind was skeptical.

Division Manager Wagner had instituted a series of fact-finding tests of commercial fleets to secure undeniable proof of the economy of Ethyl Gasoline. In 1934 he inaugurated a "crew program" ("Ethyl News" May, 1935) to dramatize the application of what he had found

erly tuned up. So they went after the business on a large scale with considerable success. It became evident, however, that if Ethyl Gasoline was to receive the whole-hearted support of the oil companies in general, it was up to the Ethyl Corporation to promote its sale themselves.

The chassis dynamometers which

GIVES THE ANSWERS

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Associated was using in their motor check stations in Los Angeles and San Francisco proved to be not only the ideal means of tuning engines for full efficiency, but also the most convincing display for showing the advantages of Ethyl which had been seen up to that time. The same kind of gain which showed up in the demonstrating engine was registered on the horsepower dial of the dynamometer as it was turned by an automobile. Here was a demonstration that did not require any stretch of the imagination on the part of the onlooker—it was a counterpart of what would happen in his own automobile.

ence. Meters which could be placed in stereopticons, so that large audiences could see the readings, were added and the staging and technique of the show was improved from time to time. Knowledge of how to get and how to handle audiences gradually developed.

Many of the mechanical details of

steady growth in Ethyl sales and was by far the most effective means that had ever been developed for showing the advantages of anti-knock fuel. It was then decided to make the clinic a major activity of the company and the production of six additional shows was ordered. Mr. J. G. Martin, who was transferred to New York headquarters, and Mr. A. D. Martin, were appointed to organize the Clinics in other divisions and train the necessary crews. Meanwhile Mr. White was given the assignment of designing and producing the equipment which activity has been carried on in Los Angeles. The dynamometers

Charles O. White has been associated with the Clinic since its birth. When the program was extended to other parts of the



country he was charged with the construction and assembly of the equipment for the various units.



Before leaving the shop, each piece of apparatus is carefully marked and crated so that it may be assembled with least possible delay upon reaching its destination.

Mr. Wagner secured the loan of a similar but smaller dynamometer, and installed it in a rented garage at Glendale, Cal., in March, 1936, and under his guidance the Ethyl Clinic of today commenced to take form ("Ethyl News" May, 1937). Methods of making the show more dramatic and convincing were gradually perfected as the result of experi-

the show were worked out by Mr. Charles White of the Los Angeles Division, who was born in the show business, his father having been for many years the superintendent of equipment for the Ringling Brothers Circus. Following a year and a half of development and experience, the Dynamometer Clinic proved to be the backlog of a consistent and

were built by the Wilson-Kesemann Engineering Co., of Ventura, Cal. Practically everything else except the projector was designed and built in the Los Angeles shop.

And now with six Clinics touring various sections of the country Ethyl has as convincing a sales argument as any industry has ever put before the American public.

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EWS

FEBRUARY, 1938

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ETC 21891

New Jersey's Governor Hoffman *visits* Ethyl Clinic *in the East*

THE first Ethyl Gasoline Corporation Clinic on the eastern seaboard opened its doors to the public on December 9th at 9 West Lafayette Street, Trenton, N. J. It is under the direction of Mr. Meredith Littlefield who is assisted by Mr. Guy Donohue. Others on the New York Division's Clinic staff are Messrs. Edward Gille, Robert Kimpton and John Kellock. On January 15th the Clinic moved to New York City where it is located at 37-43 West 65th Street for a stay of about two months.

The pre-showing in Trenton attracted much attention from officials of oil and automotive companies who have headquarters in the vicinity of Philadelphia and Trenton. A number of distinguished personages not connected with the industry also visited the exhibit and evinced an unusual amount of interest.

Such was the case when the Hon. Harold G. Hoffman, Governor of



New Jersey, dropped into see what a chassis dynamometer looked like. He was pressed for time and announced that he could stop for only a few minutes. However, the Governor became so intrigued with the equipment that he lingered for about 30 minutes and Mr. Littlefield gave

him a personal demonstration. His keen interest in the cut-away model of the Miller racing engine will be noted in the accompanying illustration. Mr. Littlefield (left) stands by ready to answer any questions which New Jersey's chief executive may ask.

Service Station *has* Novel Feature

RECENTLY our Mr. R. G. Loser, who is the Ethyl representative located in San Diego, inaugurated a contest in which Ethyl customers who market tires through their service station set-up, were invited. Most of them cooperated to

consisting of the sale of two tires and tubes. This contest was rather unique in that none of the station operators were told of the contest until after it was over.

Mr. F. I. Dewey, Associated Service Station located at India and

gain.

It is needless to state that Mr. Dewey was very much surprised and pleased at being informed that he had won the contest. He said it was his intention to make a continued effort to push Ethyl Gasoline



the full extent.

During a given period of time, sales figures were taken from the stations and the one showing the largest percentage gain in Ethyl sales was declared the winner of a prize

Hawthorne Streets, San Diego, won the prize by increasing his sales 146.89%. Union Oil Company Service Station at Utah and University Avenues, San Diego ran a close second with an increase of 142.24%

sales.

The accompanying pictures show Mr. Dewey and his assistant servicing a customer's car and standing beside the pump which brought them their success.



Personnel of the Manufacturing Department, Ethyl Gasoline Corp. Deepwater Plant, December, 1937—Standing, back row, from right to left: A. P. Stover, L. Barnum, C. A. Wilmot, M. T. Byrnes, J. D. Chalfant, D. M. Featherer, W. L. Guest, J. R. Greenwood, H. C. Hastings. Second Row, reading right to left: E. A. Herbert, E. W. Holton, R. A. Williams, D. H. Fowser, C. H. Johnson, A. H. Wiggand, M. H. Jackson, D. E. Brown, L. O. Schaefer, G. S. Waldron, J. L. Ebell, L. C. Sparks, E. Clough, L. A. Wilmot, A. I. Brasure, G. E. Denham, P. R. Walton, F. R. Brown. Front Row, reading right to left: C. Wasserman, E. M. Dougherty, L. W. Armstrong, I. G. Brasure, M. P. Martin, M. A. Ware, E. C. Miller, V. C. Ebell, C. D. Remsburg, M. E. Bailey, E. J. Darragh, N. C. Fowser, O. Eskridge, E. L. Muldoon, W. S. Eskridge, J. H. Schaefer.

Ethyl's personnel director, Mr. Robert L. Jordan, snapped by the Illinois State Journal's news photographer as he alighted from the company plane at the Springfield (Ill.) Municipal Airport to be greeted by Mr. F. E. VanWinkle of that city. The trip was made early in December from Chicago in just one hour's time. On the right is Mr. A. B. Wyrick, Ethyl's Assistant Division Manager in Chicago, who accompanied Mr. Jordan.



The Sunset Oil Co. has recently completed a fine new bulk plant in Los Angeles, serving most of the city and a good deal of the contiguous farming area. It is significant that there is only one pump available for the servicing of the company equipment, and it dispenses Sunset Ethyl Gasoline.



He is probably the most photographed man in the Ethyl organization. In this instance, so many photographers were trying to get a shot at Director of Clinics, Mr. Jack Martin, that they got in each other's way and the result was this rather unusual picture. Notwithstanding, Mr. Martin continued to broadcast his story of Ethyl at one of the opening meetings of the New York Division Clinic which recently closed a run at Trenton, N. J., before coming to New York City.

This progressive Gulf Service Station salesman, LeRoy Lee of Toledo, did not let the recent icy weather retard his premium gasoline sales. How he not only overcame the difficulty but made the weather work for him is illustrated by this photo, which was snapped by Ethyl's Toledo representative, Mr. W. J. Distler. By use of skates the salesman were able to get around quickly and efficiently.



AS the new year gets under way Ethyl's advertising program for 1938 is the subject of much thought and discussion. Again this year color photography will play a prominent part and preparations for taking the pictures have already begun. The work of the photographer is beset with many

SOME ETHYL "ADS"



Photographer Paul Hesse attends personally to the make-up of "Falling Cloud" on the set of the Pueblo village at San Diego.

The Pueblo village "ad" as it finally appeared in national magazines during 1937.



Perched on the brink of a 200 foot cliff and supported by members of the troupe, the camera man focuses his machine for a shot of the "lighthouse" scene.



Vermont Maple Syrup set as it appeared when artist Hesse gave the word to shoot.

difficulties and requires that he not only have the technical skill necessary but a vast amount of ingenuity to overcome the many problems which may arise.

Last year this art work was secured in California and as the shots are about to be made for the 1938 showing, it might be of interest to learn some of the obstacles which had to be overcome in '37. Many similar ones may be encountered again before the finished ads finally appear.

To this end then let us climb into the automobile of artist Paul Hesse as he starts for the field with his assistants, equipment and models. As we drive along we ask our friend to tell us something about the other Ethyl pictures which he has made. We hear about the time he went down to San Diego with a whole troupe of models, including an Indian Chief by the name of Falling Cloud. The Chief, it may be recalled, was one of the characters in the picture with the cowboy and the girl standing by a roadster with a Pueblo village in the background. It was originally planned to make this shot in New Mexico but circumstances prevented which serves as an example of one of the many eleventh hour changes which have to be reckoned with. In the first place New Mexico is a two-days' journey from Hollywood and although the artists will go to no end of trouble to secure the setting they want there was in this instance the difficulty of persuading the Indians to pose, due to their superstition. Both Strassar and Hesse had had experience with them previously. So after a considerable amount of search through photographic files in motion picture studios a suitable setting for a background was found and the trip to San Diego resulted. Everything was fine, weather perfect, and all in the best of spirits. The party was just coming into Laguna, about half a mile from San

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Diego, when it began to rain. But, since no one can foretell the duration of a rain storm in California it was decided to continue on and hope for the best.

As the shot had to be made fairly early in the morning to get the sun on the Pueblo buildings, Hesse was up and by the window at the crack of dawn, but his doleful countenance told the story. Hoping that Providence would be kind it was decided to wait one more day and by way of placating the Heavens, "Falling Cloud" was re-christened "Sunshine". Evidently the old chief's forebears had incurred the displeasure of the Gods and it was to no avail, so on the second day the whole troupe returned to Hollywood. Not until the next week did the weather man smile upon them and the job was successfully accomplished on a second trip.

Another picture in the taking of which some complications arose, was that of the cowboy and girl with part of a herd of three thousand cattle in the background. Motion picture companies pay on the average of a dollar a head for every animal rounded up for a picture. This is for the reason that running the cattle takes off the beef and since they bring so much a pound on the hoof, many ranches will not allow them to be rounded up for such a purpose. However, after visiting a number of ranches, by sheer luck, one was located where, through the help of a good natured foreman, a perfect shot was secured at a very low cost. The group was finally taken elsewhere and stripped in with the cattle in the background.

In taking the picture which featured the old lighthouse keeper, a few anxious moments were endured by the photographer as well as some of his assistants. It was taken at Laguna on the edge of a very narrow road and it was necessary to build a platform over a sheer drop of 200 feet to support the camera.



Preparing to shoot the set in the Vermont Maple Syrup picture.

Part of a herd of three thousand cattle which form a background for the studio group. Note how figures in foreground have been stripped-in.



Members of the troupe borrow a fence from the county to use in the "lighthouse" set.

When the "lighthouse" picture was finally taken everybody was comfortably posed but the camera-man.



With the help of half a dozen to hold the tripod and ladder, to say nothing of the artist, a satisfactory result was finally secured.

Of course all picture taking is not complicated by such difficulties as have been mentioned here, though some entail much greater ones, but the above will illustrate that the task cannot always be estimated on the layout board. The photographer and his assistants must be prepared for all sorts of emergencies which are not apparent when viewing the finished job.

Meet Mr. Fricker



FRANKLIN FRICKER was born in Baltimore, Maryland, on September 14th, 1901. He received his early education in the local schools of the city and later attended Davidson College from which he graduated in 1921. He continued his studies, however, at the Massachusetts Institute of Technology and four years later he was graduated from that institution with a degree of Bachelor of Science.

Upon leaving college Mr. Fricker joined the Portland Cement Association in the capacity of field engineer in which position he remained until February, 1927, when he came with Ethyl. His first assignment with the company was in the Sales Department, being located in the southeast. During the later part of 1929 he was transferred to Atlantic City to take charge of the Ethyl Exhibit which was opened at that time.

The following year he moved to Detroit and was attached to the Engineering Laboratory to direct the production of the series 30 knock-testing engine. In addition to his other duties, Mr. Fricker has had charge of the design and construction of the various Ethyl displays at Expositions. With the gradual expansion of the activities in Detroit he has for some time past held the position of business manager of the Research Laboratories.

Mr. Fricker is married and has two sons and two daughters. He makes his home in Birmingham, Michigan.

HERE and THERE

BALTIMORE

The Blue and Gray Sightseeing Bus Co. of Washington D. C. has recently signed a contract to use Gulf No-Nox Ethyl Gasoline in all of their equipment during the year 1938. This account, involving about 100,000 gallons per year, is one which was formerly using an unleaded fuel.

A recent special fleet survey of the Civilian Conservation Corps shows that this activity operates approximately 40,000 vehicles. In fact the equipment represents almost half of the approximately 106,000 government owned vehicles operated throughout the United States. It has been impossible to obtain any reliable estimate as to the amount of gasoline required for the CCC equipment. However, it is conservatively estimated that 85% of the fuel used is leaded regular grade.

During recent weeks our North Carolina representative *Mr. Fritz Mercer* has been engaged in conducting a demonstration program for the Pure Oil Co. of the Carolinas. It evidently had the desired effect for Pure Oil's sales manager expressed his satisfaction and said he considered it the best program they had

ever had. The December issue of the Pure Globe also spoke favorably in its column of the success of the Purol-Ethyl campaign.

DAYTON

The largest grocery company operating in West Virginia, has been high compressing their equipment. In order to aid them in this work they have secured the services of *Assistant Division Manager Faller* who has been cooperating with them. When their first unit was ready for the road Mr. Faller was asked to go with it on its initial run. He reports that when under full load the truck attained a new high in performance and power.

TORONTO

The Strobbridge Motors of Brantford, Ontario have had what we consider a very remarkable increase in their Ethyl sales. Strobbridge Motors are marketing under the jobber brand, *Silent Chief Ethyl* and in September, 1936, their sales of Ethyl Gasoline to their total were 20% while in September, 1937, their Ethyl sales showed a ratio of 84½% of the total and they stated that this was an average month. They anticipate maintaining this splendid showing.

Several organization changes have recently been announced which should be of interest to members of the Ethyl family.

In the New York office Mr. Russell B. Weston ("Ethyl News," June, 1937) becomes Assistant Advertising Manager although he will continue to direct the activities of the Jobber Department and will remain on the "News" staff.

Mr. J. H. Schaefer has been transferred to the New York office where, in addition to new duties, he will remain in charge of all manufacture, transportation, and technical operation development.

Mr. A. P. Stover will be in charge of the Deepwater operations of the Corporation and will assume many of the duties heretofore performed by Mr. Schaefer.

Mr. C. Wasserman has been appointed as Mr. Stover's assistant.

Mr. Elwood R. Anderson ("Ethyl News," Oct., 1937) who for two years has been Manager of the Gasoline Testing Department with headquarters in Yonkers, N. Y., has been transferred to the Manufacturing Department. He will be located for the present at Wilmington, Del.

Mr. John C. Pope, who has been assisting Dr. Calingaert for the past five years at the Detroit Research Laboratories, will become the new Manager of the Gasoline Testing Department. His headquarters will be at the Yonkers Laboratory.

Mr. H. C. Dees, who for the past two years has held the position of Assistant Manager in the Chicago Division, is now with the Tulsa Division as Assistant Manager.

Mr. C. E. Colvin, field representative in the Chicago Division, has been transferred from the Sales to the Manufacturing Department and will make his headquarters at Wilmington, Del.

Mr. Arnold Webb, who has been attached to the Manufacturing Department at the Deepwater Plant, is now in New York and engaged in special work in connection with the Administration Department.

THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE AS OF FEBRUARY 1, 1938

TEN YEARS

HUGH HUGHES, JR.	Detroit Engineering
WILLIAM B. RANSIER	Detroit Engineering
LESTER B. ROBERTS	Ethyl Export, South America
AUGUST ROEMER	Detroit Engineering

FIVE YEARS

CHARLOTTE A. BURBA	Administration
HUBERT FOSSETT	Ethyl Export, London

On December 21st in The Bungalow atop the Morrison Hotel, seventeen members of the Chicago Division gathered at a farewell dinner for Claire Dees and "Chuck" Colvin.

Claire has been transferred to the Tulsa Division. His position, Assistant Division Manager, will not be new to him inasmuch as he has acted in that capacity for almost two years in Chicago.

"Chuck," who is Safety Engineer, is leaving shortly to take over new duties in the Manufacturing Department in Wilmington. Success was wished them both; Claire in his new location and "Chuck" in his new work.

Dinner was served at 7:30. There followed a night of fun. Claire and "Chuck" were given cigars as large as logs to smoke and were served with glasses that dripped their contents on them as they drank. They were rival kings for the night.

The highlight of the evening came when Jim Boudreau presented them with gifts in commemoration of their service in the Chicago Division.



Raymond Whitney

Raymond Whitney joined the Dayton Clinic as property manager while it was operating in Lima, Ohio. He is a native of that section and was graduated from the Lima Central High School. After working in various business pursuits,

Raymond joined our organization, to which we welcome him. The accompanying photograph was taken while he was on the job.

A recent addition to the Ethyl family is Miss Martha Warren who hails from Virginia, but now makes her home in New York City. Miss Warren attended Florida State College. Her last position was as secretary in the Northane-Warren Corporation. She is now secretary to Mr. Ralph Champlin, Vice President of Ethyl Export Corporation.

Miss Florence E. Mistretto is another addition to the Administration Department. She is the niece of Mrs. Elizabeth Carr and will serve as telephone operator in the Department's new offices in the Graybar Building.

Members of our organization who visit the Laboratory from time to time will miss Art Sortman's smiling countenance. Art left Detroit on December 3rd to drive to the West Coast where he will spend some time recuperating from his recent severe illness. We understand that he will lend Bill Schulze his assistance during the construction of the San Bernardino laboratory. We trust Art enjoys his sojourn in the far west.

A recent addition to the staff of the Manufacturing Department is Judson T.

NEWSBRIEFS

Biehle. He graduated from M.I.T. with B.S. in 1927 and M.S. in 1928. Since graduation he has been employed variously in the Research Department of the American Tar Products Corporation on the teaching staff of Robert College, Istanbul, Turkey, on the staff of M.I.T. and as Supervisor of Methods and later as New England Industrial Sales representative for Revere Copper and Brass, Inc.



Three of Ethyl's "Kangaroos" strolling through the streets of Melbourne. They are, from left to right, "Doug" Jeppe, "Beery" Noble and Jack Batchelor. Jack is a newer member of the organization and is our representative in New Zealand.



Paul B. Monohan

Paul B. Monohan joined the Ethyl family in October, 1937, and is attached to the Administration Department. A native of Toronto, Canada, he came to Detroit to complete his education at the University there and later was engaged in the Public Accounting business. In 1929 he became associated with General Motors as a traveling auditor and until coming to Ethyl much of his time was spent in foreign lands.

Mr. and Mrs. James V. Carlisle are being congratulated on the birth of a daughter, Carol Ann, born on January the tenth, 1938. The small Miss weighed seven pounds. James is on the staff of the Detroit Research Laboratory.

Editor's Note: Our first 1938 baby.

The following transfers have been made as of January 1st, 1938. Paul Kaniut, from New York General Sales, to Detroit Sales. Charles P. Speaker, from

THIS MONTH'S COVER

The pulse of the Clinic. These hands on the keyboard of the control tower regulate those powerful spotlights, the auditorium and exhibit lighting, two projector machines and motion picture apparatus.

New York General Sales, to New York Sales, and Fred J. Schroeter, from Chemical Research to Detroit Gasoline Testing Laboratory.

The fourth annual Christmas party of the Manufacturing Department was held on December 17th at the Concord Country Club, Wilmington, Del. It was voted a great success and the committee on arrangements is to be complimented on the results and particularly on the very attractive decorations which carried out the spirit of the season.

At the close of the dinner Mr. Schaefer conveyed a message of Christmas greetings from President Earle Webb which had been received by telephone. He then made an announcement of Mr. Stover's completion of ten years with the company and presented him with his service award.

Among the guests attending were Messrs. Shank and Warren, Manager and Assistant Manager respectively of the Baltimore Division, and Mr. Lew Barnum in charge of operations at the Baton Rouge Plant. Mr. Shank made a few remarks on the close association between the Sales and Manufacturing Departments and Mr. Barnum brought the greetings and good wishes from those former members of the Deepwater staff who are now located at Baton Rouge and were unable to be present.

Following the speeches, Mr. Shank and Mr. Warren gave a showing of the various Ethyl sound films after which dancing was enjoyed until the "wee sma'" hours.



Lewis Hess

Lewis Hess, who recently joined the staff of the Chemical Research Laboratory in Detroit, is a graduate of the Massachusetts Institute of Technology. Before coming to Ethyl he held successively the positions of guest of the Department of Chemistry of the University of New Hampshire, Research Assistant at M.I.T. and Chemist with the A. C. Horn Company.

The Baltimore Division is looking forward with particular interest to the time during the fall of 1938 when the General Motors Parade of Progress is scheduled to return to that city for another showing. Inasmuch as two members of the Division spent a year each with the Caravan, Mr. Cronin in 1936 and Mr. Andrews during 1937, there will be many old friendships to be renewed.

Miss Rita Dennen, a newcomer in this organization, will act as secretary to Arnold Webb whose office is in the Graybar Building with Administration Department. Miss Dennen is a graduate of St. Joseph's College and has a degree of B.A. in English. Prior to coming with us she was with the Fulton Savings Bank in Brooklyn.

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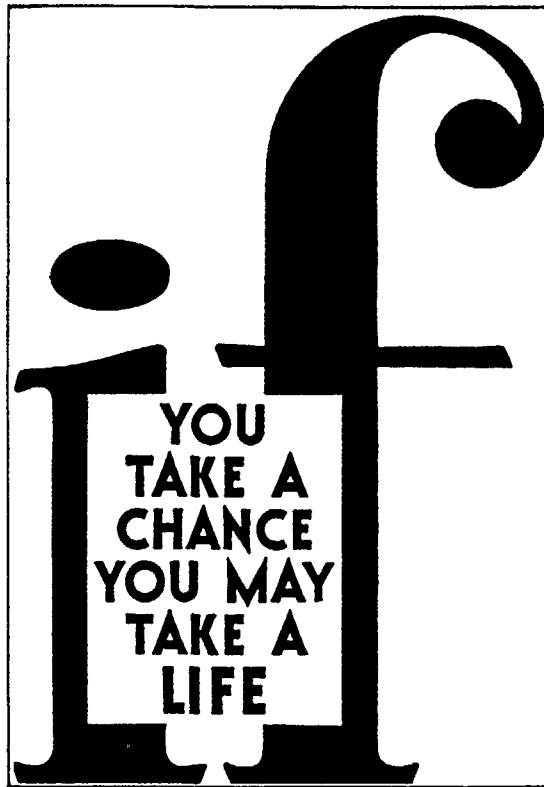
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NATIONAL SAFETY COUNCIL



MARCH 1938

ETC 21901

What is a Friend?

I WILL TELL YOU. He is a person with whom **you dare to be yourself**. Your soul can go naked with him. He seems to ask you to put on nothing, only to be what you are. He does not want you to be better or worse. When you are with him you feel as a prisoner feels who has been declared innocent. You do not have to be on your guard. You can say what you think, express what you feel. He is shocked at nothing, offended at nothing, so long as it is genuinely you. He understands those contradictions in your nature that lead others to misjudge you. With him you breathe freely. You can take off your coat and loosen your collar. You can avow your little vanities and envies, hates and vicious sparks, your meanness and absurdities, and in opening them up to him they are lost, dissolved in the white ocean of his loyalty. He understands. You do not have to be careful. You can abuse him, neglect him, berate him. Best of all you can keep still with him; it doesn't matter. He likes you. He is like fire, that purifies all you do. Through and underneath it all he sees, knows and loves you.

A friend, I repeat, is one with whom **you dare to be yourself**.



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NEW YORK CITY

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VOL. 5, No. 3

Declares Wealth Now Widely Diffused

SINCE the advent of the so-called New Deal in National politics the claim has been made by "advanced thinkers" that corporations have been getting bigger and bigger, that this bigness means more and more economic and political power in fewer and fewer hands, and that concentration of power is increasing in business. This argument is ostensibly to prove the need for further business regulation.

Prof. James E. Boyle, of Cornell University, is out to debunk this idea. "Present-day 'big' corporations are political and economic pikers compared with those of earlier times", he says in an article, "Let's Find Out About Big Business."

The fact is, Professor Boyle explains, that the relative power of the "big corporations" has been waning for 400 years.

He mentions such gigantic corporations of that day as the French East India Company, the English East India Company, the South Sea Company, the Hudson Bay Company (still going strong), and many large "Merchant Adventurers."

Even in those days, Prof. Boyle says, monopoly privileges alone did not assure the success of a business enterprise. He refers to 55 large companies for foreign trade which failed through mismanagement in spite of the fact that they had monopolistic advantages.

Going back still farther to the fourteenth century, he points to the huge fortune of the Fugger family of South Germany which wielded an economic and political power not matched since its day. This corporation, he states, continued for more than 200 years and did a large-scale business in real estate, mining and smelting, transportation, foreign and domestic commerce and most important, banking. Their operations extended throughout all western European countries. He writes that it was a small matter for the Fuggers to set up and pull down earls, dukes and princes.

The Medici family of Florence, Prof. Boyle recalls, is another group which enjoyed a long financial reign from 1350 to 1550 and had power not unlike that of the Fuggers. They were manufacturers of silk and wool, sea traders and bankers. As their power waned, rival companies grew up in Florence, Siena, Lucca and Cremona.

Prof. Boyle goes on to say that "the farther back into history we look, the less laissez faire do we find and the more concentration of power in few hands. If we go back to the time of the Hammurabi (800 years before the birth of Moses) we find the wealth of a whole kingdom concentrated

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Traffic Safety Becomes a Science

By HAROLD E. GREEN
Asst. Dir. N. U. Traffic Safety Inst.

"YES, automobile accidents can be prevented!" The speaker, a tall athletic, clear-eyed young man of thirty-five, is Lieutenant Franklin M. Kreml — America's No. 1 Traffic Safety Policeman.

He is director of the Northwestern University Traffic Safety Institute and the Safety Division of the International Association of Chiefs of Police, Evanston, Ill. In this capacity he has been responsible for the training of over 1,000 traffic police in accident prevention during the past two years. Furthermore, the traffic safety methods which he taught them are based on a formula developed by himself.

"The toll of death and injury from automobile accidents is rising in this country because few policemen know how to prevent such accidents," he says. "They do not know how to find out the causes of accidents, and consequently are not equipped to prevent accidents through an intelligent use of enforcement, education and engineering."

"Most motor vehicle laws, it must be remembered, were enacted in the interest of traffic safety."

The son of a packer, Lieutenant Kreml received an unusually early

training in traffic problems. After graduating from a Chicago high school he attended the University of Wisconsin for one year. Lack of funds forced him to drop out of college temporarily. To earn enough



Lieutenant F. M. Kreml, Director of the Northwestern University Traffic Safety Institute and Safety Division of the International Association of Chiefs of Police

money to continue his education, he got a job with the United States Bureau of Public Roads. Later he

transferred to Northwestern University.

While at Northwestern, his savings ran out again. He joined the Evanston police force, meanwhile working his way through the University and then through John Marshall Law School in Chicago.

It was as a motorcycle policeman on the Evanston police force less than ten years ago, that he got the start which brought him to the top in the traffic safety phase of police work.

One day, while on duty at a picnic given by the Evanston Safety Council for youngsters who served in the city's schoolboy patrols, he remarked to a bystander that neither the Evanston Safety Council nor the city's police department were attacking the traffic safety problem correctly.

In fact, he declared that:

The Evanston Safety Council did little more than hold picnics and make speeches, activities which, valuable enough in themselves, were not enough.

There was no such thing as traffic safety in Evanston because the traffic laws were not enforced intelligently.

When tickets were given to drivers, too many of them simply called someone up and had the tickets "fixed."



Students of the Highway Patrol Officers' Training School, November 9 to 21, 1936, Evanston, Ill., study the stopping distance of an automobile under the direction of Harold Hammond, traffic engineer of the National Bureau of Casualty and Surety Underwriters, New York. Left to right are Corp. J. H. Westphalen of the New Jersey state police; Capt. Joe Burman of the Kentucky Military Department; Hammond; Supt. J. D. Moffatt of the Texas Department of Public Safety; and Sgt. C. J. Campbell of the New Jersey state police. The car in the picture was presented to the Safety Division of the International Association of Chiefs of Police by the General Motors Corporation as a model traffic squad car.

Signs and signals were installed in haphazard manner.

Hit-and-run drivers were never sought unless they killed or seriously injured someone, and then seldom caught.

Traffic officers were assigned to patrol certain areas by guess work, not because it was known that they were needed there.

automobile accidents are caused by law violations and that if violators who caused accidents were apprehended and convicted, accidents would be reduced. He also believed that all accident prevention work should be based on facts.

To prove his beliefs, he set up the following formula:

First: he required that complete

Second: he carefully analyzed the accident reports to determine the causes of accidents. Reports were filed by location so that dangerous intersections, streets and areas could be studied. Thus, he developed the principle of selective enforcement, which means that the traffic police are concentrated at high accident locations during the times when accidents occur most frequently. A spot location map of Evanston, with colored pins indicating the place and kind of accident, was kept as a visual picture to show where enforcement was needed.

Third: after finding out the causes of these accidents, Kreml sought to prevent their recurrence through use of engineering and educational programs.

The immediate result of this program was a reduction in the death rate from 19.7 for the first eight months of 1929 to 9.8 for the remaining four months—the death rate had averaged 16.7 for the preceding three years.

From 1930-34, inclusive, the average death rate dropped to 10.3, and from 1935-1938 this figure has averaged 5.9.

In 1932, Evanston tied with Pittsburgh for the Grand Prize in the traffic safety contest conducted by the National Safety Council—the first year the contest was held.

At this juncture, Kreml recog-

Very little effort was made to get complete reports on accidents.

"Evanston's motorists could be protected from death and injury," he said, "if a proper system of traffic control and accident prevention was set up."

The bystander who listened to this tirade had merely remarked that the Evanston Safety Council was doing a fine job by promoting safety activities.

The day following the picnic Kreml was called before Police Chief William O. Freeman. In the chief's office, also, was the unknown bystander of the day before—Herman S. Spoerer, president of the Evanston Safety Council.

Kreml's ideas on what Evanston's safety program should be were praised and he was told to go ahead and see if he could work out a method to reduce the death and injury toll from automobile accidents. This he did, forming an accident prevention bureau in the traffic division which began functioning on September 1, 1929.

It was Kreml's belief that most

reports be made of every automobile accident. To make sure that he would get the information and facts, he trained the traffic police assigned to him. He made them experts at interviewing drivers and witnesses, in the collection of evidence at the scene of an accident, and in the presentation of cases in court.

Students inspecting the bumper of a hit-and-run car at the Northwestern University Scientific Crime Detection Laboratory.



Students inspecting headlight glass at the scene of a hit-and-run accident.



Students inspecting tire marks in dirt at the scene of a hit-and-run accident.

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nized the need for traffic police trained in accident investigation and sought the means and facilities to teach them. With the cooperation of Northwestern University he conducted the first traffic officers training school in 1933. This course has been repeated annually since then.

Evanston again won the Grand Prize in the National Safety Council's Traffic Safety Contest in 1933, and repeated in 1934. This record attracted so much attention that many cities requested Kreml to install an accident prevention bureau in their police departments patterned after the one he had created for the traffic division of the Evanston Police Department. Included in this request, of course, was that he train their officers to apply his accident investigation methods to their traffic safety problems.

He went to Syracuse, N. Y., in 1934 and installed an accident prevention bureau similar to that in the Evanston police department. The following year that city won the bronze plaque for the first place in its population group in the traffic safety contest.

In 1935, he installed an accident prevention bureau in the Louisville, Ky., police department. This city has just completed its third successive year of automobile fatality reductions.

Realizing that he could not hope to fill all the requests for accident prevention bureau installations, Kreml conceived the idea of establishing a permanent organization composed of traffic safety experts in the police field to help him install these bureaus and to train traffic police. Gaining the financial aid of the Automotive Safety Foundation, the Safety Division of the International Association of Chiefs of Police and the Northwestern University Traffic Safety Institute were organized in the Spring of 1936. Both were housed in the same building on the University campus.

The Northwestern University Traffic Safety Institute has for its purpose the training of traffic policemen in modern methods of traffic control and accident investigation. Six two-week short courses are con-

ducted annually, drawing their attendance from all parts of the country.

A special training course is conducted at the Institute for policemen who enroll at the Institute for a full academic year.

The Institute is financed by funds granted by the Automotive Safety Foundation, Northwestern University, and the Kemper Foundation for Traffic Police Training. Only recently, Mr. Alfred P. Sloan of General Motors, donated \$15,000 to the Institute to carry on this excellent work.

The Safety Division of the International Association of Chiefs of Police, financed by the Automotive Safety Foundation, has for its purpose the organization of accident prevention bureaus in the traffic divisions of police departments in cities throughout the country and the training of officers to man them. It also sponsors and directs regional state and short courses in traffic police training at other major universities modeled after the original school started by Kreml.

The subjects taught at the Institute and Safety Division, IACP, schools include drunken driver control, accident investigation, reports and records, pedestrian control,

school safety education, traffic engineering, traffic legislation.

At the present time, 17 accident prevention bureaus are operating in municipal police departments, the great majority of them showing substantial fatality reductions or holding their own despite a large increase in traffic fatalities throughout the country the past two years.

In 1936, the C.I.T. Safety Foundation awarded Lieutenant Kreml \$5,000, in recognition of his outstanding contribution to the cause of traffic safety.

He was recently named one of the ten outstanding young men of America for 1937 in "America's Young Men", an annual book of biographical sketches similar to "Who's Who". Lieutenant Kreml has been listed in the volume since its first issue. Only men under forty are eligible.

It might be well to sum up Kreml's achievements in his own words: "What has been accomplished these past few years is but a start in the right direction. We have proved that automobile accidents can be prevented. But, until every police department has men trained to do this job effectively, our work remains undone."



Students inspecting street corners to determine if a physical hazard exists conducive to causing automobile accidents.

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Carter Carburetor School Expands

PROMPTED by the desire to have more Carter trained men in the field, the Carter Carburetor Corporation, St. Louis, Mo., ("Ethyl News" July-Aug. 1937) has completed the erection of a new building to be exclusively devoted to their training courses.

In the past year this company has graduated over 320 mechanics, each of whom has received individual instruction involving practical and theoretical carburetion in motor tune-up. Sixteen successful schools were held during this last year. The graduates include a representative coverage of the United States as well as many foreign countries.

Mr. Dean, who is in charge of the instruction course which covers



thoroughly the theory on adjustment of carburetors insists that each individual put this theory in actual practice.

Mr. Louie Wilson of the Ethyl Gasoline Corporation, Kansas City Division, has made arrangements to conduct an evening meeting at

each school, proving the desirability of using Ethyl with advanced timing. The demonstrating engine is always of considerable interest to the men attending the school and sound films offer a forceful type of presentation on the merits of Ethyl Gasoline.

Another Ethyl Booster

THE other day an Ethyl representative drew up to a Standard (Indiana) Service Station on Green Bay Road in Wilmette, Ill. Hardly had the wheels of his car stopped turning before the door opened and an attendant hurried forward. It proved to be Mr. Stephen Shimonek, who operates the station, which is a very imposing stone building situated at one of the most desirable corner locations in the town. On learning that his customer was connected with the Ethyl Gasoline Corporation Mr. Shimonek

asked him to step in for a few moments and talk "shop". Before the conversation was well under way, however, a bell rang which was a signal that a car had come on the driveway.

"Excuse me a minute," said the proprietor to his caller, but on second thought added, "or better still, come on out and listen to me sell Ethyl." As this subject happened to be our representative's hobby he followed him out, arriving at the rear of the car just as the service station man approached the driver

and was a witness to the following:

Greeting the motorist with a smile, he looked at the gasoline gauge and said, "Good morning, sir, what will your tank hold this morning?" The driver glanced down at his gauge and ordered seven or eight gallons. "Shall I fill it with Solite with Ethyl?" asked the attendant. The answer came back, "Yes."

At this point the Ethylman strolled back into the station and was joined shortly by Mr. Shimonek who had attended to the needs of his customer.

"That's how we do it," he said, "I simply suggest Ethyl and even you would be surprised at how many times they say 'yes.' Yes, sir, we'll sell more Ethyl this year than last and right now we're doing a 30% Ethyl business."

After a little further discussion on the subject of business in general and gasoline in particular, our representative took his leave and "chalked up" one more Ethyl booster.



With Sir Hubert Wilkins in the Arctic

These pictures were taken by Mr. Gerald Brown of the Consolidated Aircraft Co., San Diego, California, who flew with Mr. McFarlane to Fairbanks, Alaska, on the latter's second trip to the far north ("Ethyl News", Dec.,

1937). Mr. Brown, and others shown in the photographs, rendered valuable assistance to Sir Hubert Wilkins in his quest for the missing Russian flyers. Pictures reproduced by special permission.



Mr. Brown and his companions with some of their equipment for operations above the arctic circle. From left, Messrs. H. Kenyon, Pilot; Al Cheeseman, Co-Pilot; G. Booth, Radio Operator and Gerald Brown.

Natives stage a rodeo for their guests. This is not merely entertainment, however, as the reindeer will help to replenish the supply of fresh meat.



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Sir Hubert Wilkins standing in the after cockpit of his flying boat takes some pictures of the dreary expanse of the Arctic Ocean.

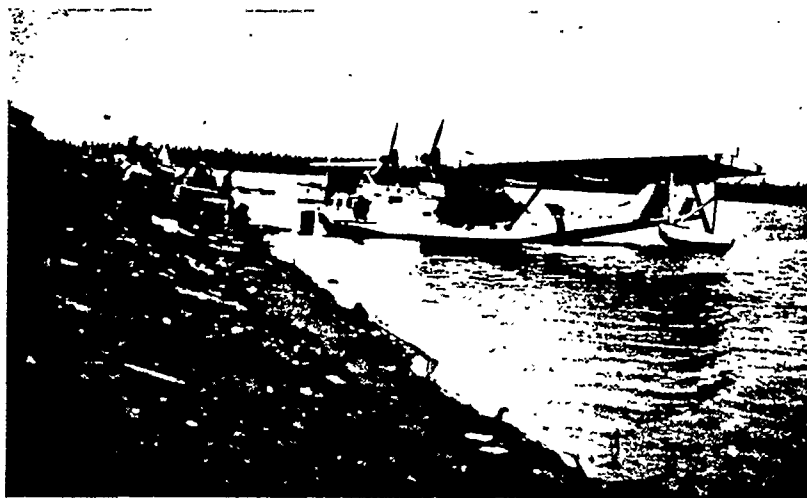
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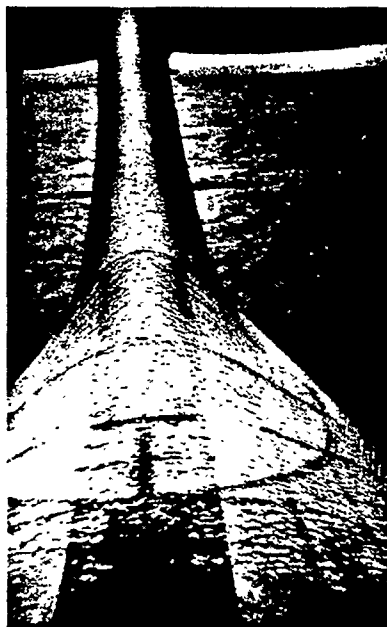
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At Aklavik at the mouth of the Mackenzie River contact was made with Sir Hubert Wilkins. His great flying boat which consumes many gallons of Ethyl Aviation gasoline is shown here re-fueling for another flight over the barren waste of the arctic.



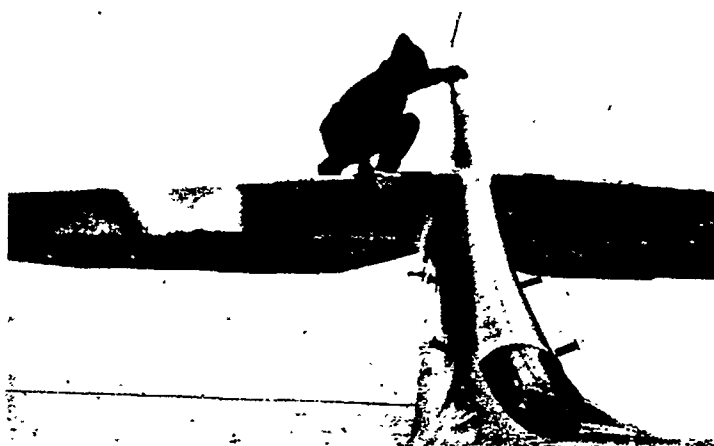
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Co-Pilot;
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Mr. McFarlane about to leave Aklavik on return trip in Pilot Bob Randall's Fairchild 82. From left on shore, Gerald Brown, Bob Randall, C. J. McFarlane and Sir Hubert Wilkins. Randall's mechanic on pontoon.



Perhaps the greatest hazard which air men have to face while operating in the far north is the formation of ice on body and wings of the plane. Here a coating of snow and ice is plainly visible on the tail of Sir Hubert's flying boat.

This picture was taken just prior to the take-off of a flight from Barter Island. Snow and ice must be cleared from the stabilizer before the flying boat can take the air.



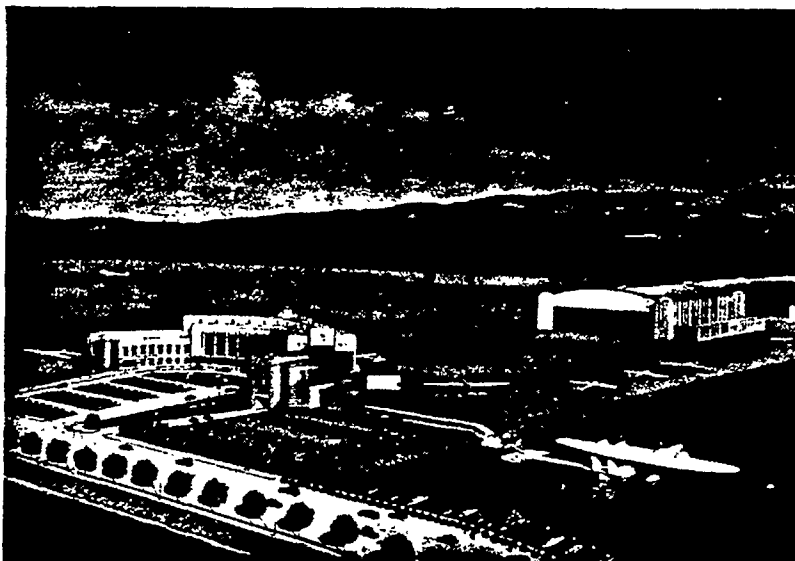
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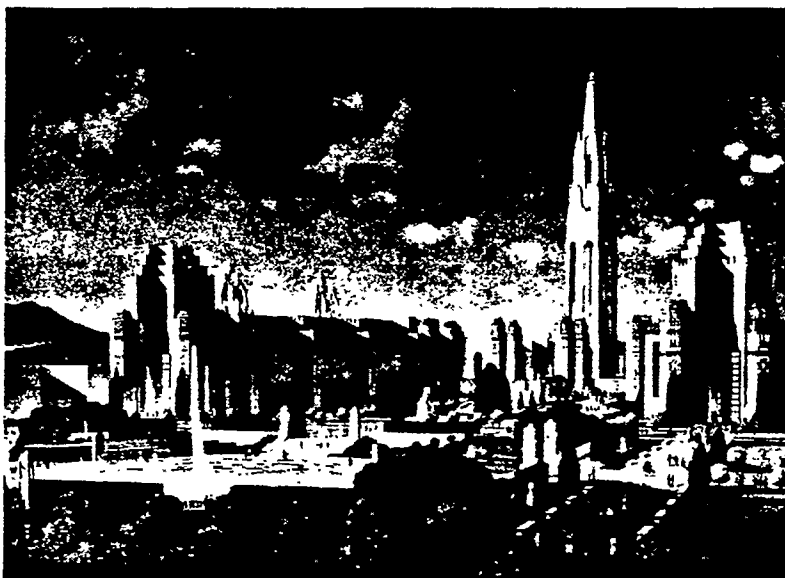
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View of San Francisco's great new municipal airport, to be opened in 1940 at the Yerba Buena Shoal in the center of San Francisco Bay, largest land-locked harbor in the world. The 400-acre site reclaimed by the United States Corps of Engineers, will be the scene of the Golden Gate International Exposition. Part of the Exposition program is the construction of the three permanent structures shown here—the Administration Building, embodying the most modern design and equipment of aeronautical engineering, and the two bangars. These three buildings will be used during the Exposition as an Administration Building and exhibit palaces. The view is from the San Francisco-Oakland Bay Bridge, looking northeast with the Berkeley hills in the background.

Architectural splendor of the Exposition will be enhanced by the half-million dollar landscaping program which will provide tree-lined promenades and sunken gardens such as this, serving as an approach to the mile-long esplanade of the Fair. Here millions of visitors will find rest and recreation among the trees, plants and flowers of California and the Western States. Rising 400 feet is the imposing World's Fair tower, dominant structure of \$50,000,000 project.



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Millions Highways

"FILL her up!" may become a national slogan in 1939 as millions of automobiles form an endless caravan, rolling East and West to the two great Fairs on opposite seaboard—the New York Worlds' Fair and the Golden Gate International Exposition. The latter will be the first to greet the public as its gates will be opened on February 18th of next year.

Tourist travel agencies expect the Exposition will bring the greatest westward travel movement in history. Approximately 45% of these visitors will come from the eleven Western states. The Central Midwest, or Missouri Valley will be represented by about 16 per cent, the Midwest—Ohio, Illinois and vicinity by 13 per cent and the South by 10 per cent. Around 12 per cent, it is estimated, will journey to the coast from the Eastern states.

This 1939 caravan will sweep upon the West by the latest transportation methods, combining speed with all the comforts of home in contrast to the creaking wagon trains of the pioneers. They will journey by rail, steamship, bus, air and automobile with highway travelers forming the majority and consuming millions of gallons of Ethyl.

This Exposition will be a "Pageant of the Pacific," a magic city, built on a 400-acre island, the largest ever made by man. Although the Fair is to be world-wide in scope

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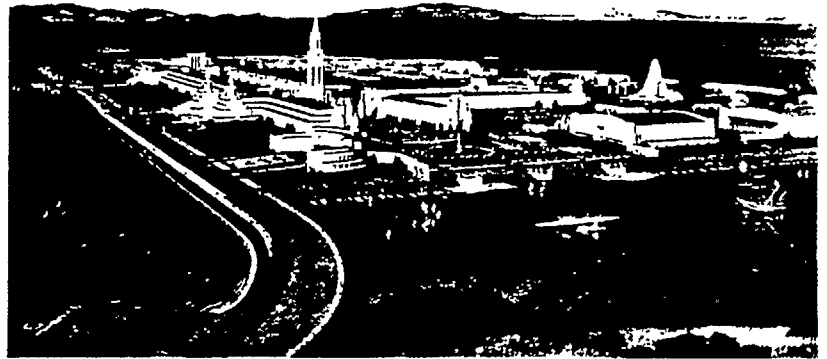
as Will Travel ays to 1939 Fairs

where many foreign nations tell their individual stories through dramatic exhibits, it will stress the islands and distant Continents that make up the trade and travel of the Western Hemisphere. Likewise, most of the states in the Union will participate.

When the Exposition opens its gates, visitors who pass through them will find themselves in an ancient walled city, with broad courts and great exhibit halls radiating from the 400 foot "Spire of the Sun". Architecturally, "Treasure Island" will be a glimpse into things to come on the Pacific Coast—a blending of lines developed by ancient Oriental civilizations with the simplicity of the modern.

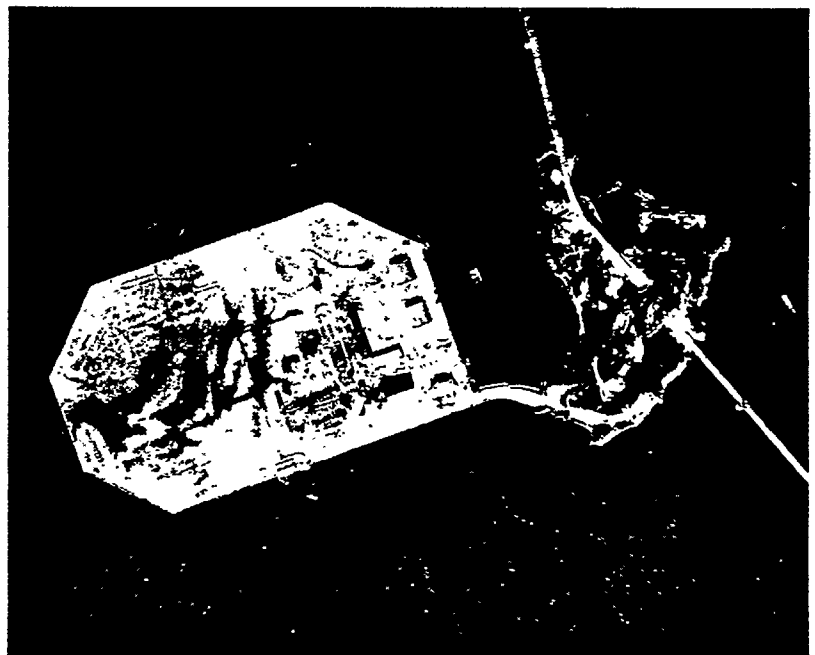
The Golden Gate International will have a theme, novel in the long line of world Fairs. It will glorify the automobile as a machine, but emphasize its effect on man's life—his use of it for leisure and vacations.

This will be the theme of the spectacular Vacation Hall. Here the scenic and recreational assets, the natural beauties of America and especially the Western states, will be dramatized in novel displays. Under one roof the hordes of Exposition guests will see a panorama of living waterfalls, green forests, blue lakes and snow-capped mountains—an inventory of the investment of leisure times and travel attractions.



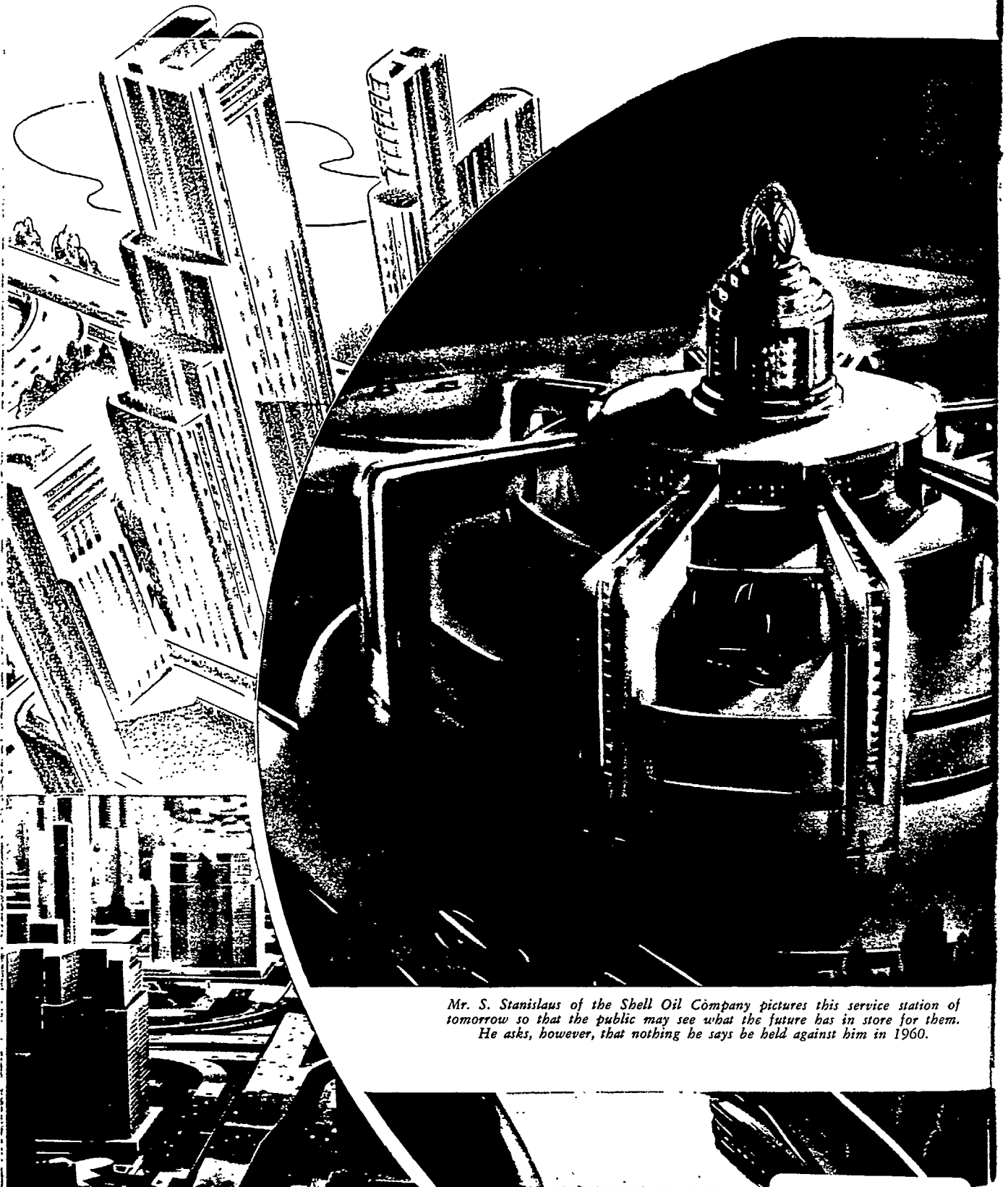
A General View of the Golden Gate International Exposition Island, as it will appear in 1939 from the shore of Yerba Buena Island, looking north. In the immediate left foreground is a 110-foot causeway, serving as a boulevard approach from the San Francisco-Oakland Bay Bridge. At the right is Exposition Harbor, 1500 feet wide and 3400 feet long, which will be used for marine regattas. The Exposition Administration building which will serve as a future Airport Terminal, is the first building to the right of the roadway. The main entrance to the Exposition is half-way up the boulevard, with the Exposition ferry terminal beyond. To the extreme right are the two airport hangars which will serve as exhibit palaces, and behind the hangars is the Lake of All Nations. Central unit of the two major axes of the Exposition exhibit palaces is the 400-foot Exposition tower.

Treasure Island, San Francisco Bay, taken from an elevation of nearly 3 miles.



A Servistation for.

By S. STANISLAUS



Mr. S. Stanislaus of the Shell Oil Company pictures this service station of tomorrow so that the public may see what the future has in store for them. He asks, however, that nothing he says be held against him in 1960.

ETC 21912

for City of Tomorrow

NISLAUS

Shell Oil Company

"HOW long will it take to drive from San Diego to Vancouver, B. C.?"

"Why, that's only 1,500 miles. You can do that in less than fifteen hours—easily."

In what? In a 1960 Speedocar, a super-streamlined sedan capable of doing 150 miles an hour and of cruising comfortably between 100 and 135 miles an hour. It's powered by a motor mounted in the rear . . . driven from a front, center seat which gives the driver clear vision in all directions . . . steered with the help of a rear rudder that makes it instantly responsive to the lightest touch on the wheel . . . completely air conditioned . . . and luxuriously equipped with a two-way radio telephone, television set, safety glass that diffuses oncoming lights, book and magazine racks, and collapsible tables for games—all practical because the Speedocar rides like an airplane over the glass-smooth, high-speed highways of 1960.

Amazing, isn't it? But no more amazing than the developments in service which have taken place to keep pace with it.

Here you are at the Grand Plaza. There, under the Express Hiway at the intersection of North and West Thruways, stands a big Metropolitan Servistation. As you drive off the great Express Hiway and approach the huge circular structure, you press a button in the control room of your Speedocar and speak your order into a microphone. Instantly the car is guided into one of the fifty Servistalls which radiate from the central tower like the spokes of a giant wheel.

In each Servistall is a turntable, and, as your Speedocar rolls into place, it starts a slow, clockwise movement. But first a smartly uniformed Servisalesman greets you and quickly connects your car with the Dispensometer on which the order you gave has already been

recorded. This marvel of mechanical ingenuity then automatically fuels your car, adds the necessary amount of motor oil, and inflates the eight high-speed, blow-out and puncture-proof rubber tires while an illuminated dial on your instrument panel records the product delivery and amount of the purchase. When delivery has been completed—usually less than two minutes—a light flashes, warning the Servisalesman to disconnect the Dispensometer and by this time your car has been completely turned around by the turntable so that you are now facing the Plaza from which you entered.

Don't think for a minute, however, that the Servisalesman has nothing to do but press buttons. With speeds as high as they are, it's vitally important to check frequently on the efficiency of your Speedocar. For this purpose the Potentiometer has been developed on the principle of the X-ray. Like the Dispensometer, Potentiometer is located in the central control kiosk and is connected to each Servistall where it can be instantly attached to your car. Nothing, however, will



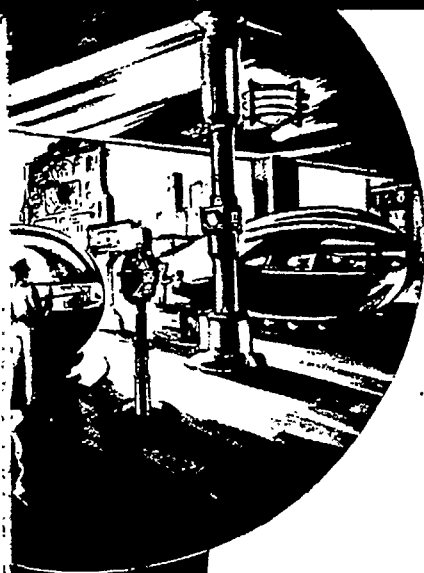
This operator, seated high in the control tower at the top of the Servistation guides incoming and outgoing traffic. Customers radio him from their cars while still several hundred yards from the station and he then directs them into the proper service stall by radio beam. Thus, by 1960, motorists will never have to honk impatiently for service and salesmen won't be rushed with six cars to care for at once.

Illustrations courtesy "Shell Progress"

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register on the Visio-Chart until you release the mechanism by means of a small switch on your dashboard. The salesman's big job is to sell you on turning the switch and accepting a Potentiometer report. This done, the Visio-Chart shows you graphically what your car needs. For example, it records condition of crankcase oil, transmission and differential lubricants in terms of temperatures, viscosities, and product condition. It goes into the battery and tells what shape it's in. It records percentage of wear left in all tires, condition of braking system, air conditioning and need for lubrication.

Obviously, with such high speeds lubrication is a most vital service, necessary every 2,000 miles. It's nothing at all to drive a car 50,000 miles in a year. That means at least 25 lubrication jobs every 12 months.

Suppose the Potentiometer proves that you need a lubrication service. You simply step out of the car into the spacious and luxurious Servisalesroom which is located beneath the control tower.

Your car is pulled by magnetic force, along a ramp onto one of the many lubrication platforms located in the center of the circular building. The Lubomag, a super magnet capable of moving hundreds of tons, lifts, turns or lowers your car, serving much the same purpose as the old time hoist, only with greater

speed and efficiency. The Servisalesman controls the movement of the car as the Lubrometer which is attached at one central chassis point, does the work of providing, automatically, the right kind and amount of lubricants to each friction point on your Speedocar. The complete job is done, the inside of your car cleaned and dusted, the outside cleaned and polished, and the car lowered or raised into an outside Servistall in a few minutes.

During those few minutes you'll find many entertaining ways to pass the time. One whole floor of the Servistation has been devoted to a luxurious lounge where you'll find spacious rest rooms with shower and tub bathing facilities, a modern television room, and revolving platforms which display the oil company's products with dramatic lighting and background effects.

Now, if you are ready to drive on, after paying your neatly itemized bill, the Servisalesman prepares to close the hermetically sealed door of your driver's compartment. "Goodbye, Mr. Jones," he smiles. "Drive in again, soon."

And probably you will. Human beings don't change much, though their inventions do. The Servisalesman's warm and friendly tone brings customers back as certainly in 1960 as in 1937.

Here's the Speedocar of 1960. It's capable of traveling 150 miles an hour, is air conditioned, and rides so smoothly that passengers can read or play bridge as it skims swiftly over the broad, smooth thruways.



The driver of a Speedocar can, if he chooses, close himself into a control room which is sound-proofed against all noise inside the car, including back-seat drivers! Note the Servistation ahead.

Oklahoma Jobber Features Modern Merchandising

MR. CLAIRE ROBBINS of Claire Robbins Tires, Inc., features tires together with a modern electrical and motor tune-up department at his One-Stop-Service at Wewoka, Okla. The absence of inferior merchandise is



Station of Claire Robbins Tires, Inc., Wewoka, Oklahoma.



Mr. Claire Robbins, Claire Robbins Tires, Inc., Tydol jobber, Wewoka, Oklahoma.

showed a 6 per cent ratio.

He employs a well-paid personnel who are trained in correct selling methods by means of weekly sales meetings. During 1937, three meetings devoted entirely to Ethyl were conducted by Mr. J. E. Hendrick,



Transport truck operated on Tydol Ethyl Gasoline by Claire Robbins Tires, Inc., Wewoka, Oklahoma.

first noticed on the station driveway where only Tydol Ethyl, Tydol and Red Crown regular gasolines are sold. This station has not handled third grade gasoline for more than two years.

"Modern high compression motors require modern fuels," declares Mr. Robbins. As evidence that the

motorist also is rapidly becoming aware of this fact he points out that during the past year his Ethyl sales have steadily increased each month. In December, last, the ratio of Ethyl to total gallonage at his station stood at 22.5 per cent, whereas in December, 1936, his sales only

Tulsa representative of the Ethyl Gasoline Corporation. Part of this campaign consisted of an "Ethyl Day", featuring motor demonstrations on the driveway for the benefit of customers. Mr. Robbins demonstrates the economy of Ethyl Gasoline by using it exclusively in all company equipment.



Ethyl meeting held for the Government Training School at Randolph Field, San Antonio, Texas. The students are giving close attention to the speaker, Mr. Carl Meurer, representing the Tulsa Division of the Ethyl Gasoline Corporation. The inset shows the young aviators gathered around Mr. Meurer to catch a glimpse of a reflection of the combustion through the quartz window in the cylinder head. These pictures are reproduced by special permission of Photographic Department, Randolph Field.

Declares Wealth Now Widely Diffused

(Continued from page 1)
in one man's hands.

"The testimony of history is against the 'concentration' theory, yet there still remains the naive assumption that the 'big corporation' has fewer risks, more 'control' and hence more uniform prosperity than has the small corporation or the individual farmer.

"But no matter how big the corporation or how big its control over supply, it has little or no control over demand and hence little control over its final selling price.

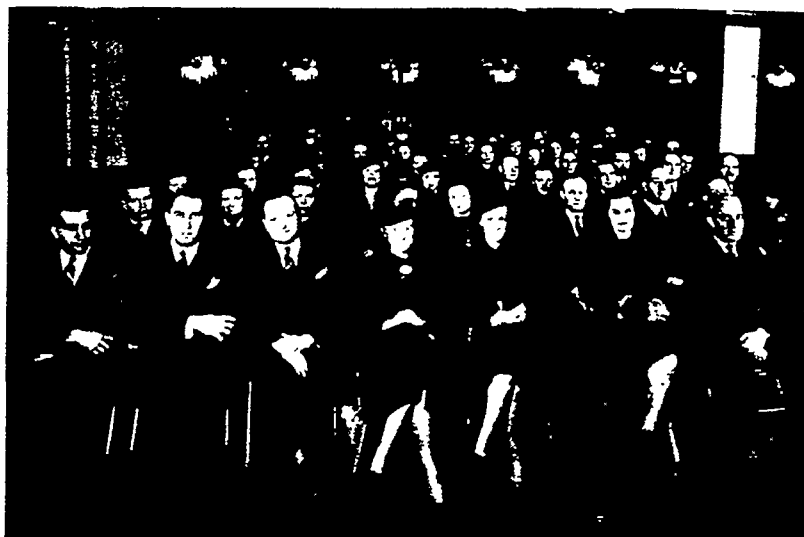
"Never before was wealth and power so widely diffused."

The Fleetwood Craftsman

MARCH, 1938

Page thirteen

On February 15th a special showing of the New York Ethyl Motor Clinic was held for members of the organization in the general offices, most of whom had never seen the Clinic. The offices in the Chrysler Building and Graybar Building were closed at 3:30 so that those who wished to attend would have ample time to reach the Clinic at 37 West 65th Street by four o'clock. The meeting was well attended as will be noted from the picture of the audience. Mr. Martin personally conducted the showing and at the close all expressed themselves as enthusiastic about this latest sales promotion activity.



Richmond Clinic Scores in First Round

ON the evening of February 8th, the Baltimore Division Motor Clinic of the Ethyl Gasoline Corporation had their preview in Richmond, Va., which was attended by many executives of major oil and automotive companies in the vicinity. The following morning the first of a series of fleet meetings was held and tests were made on equipment of the Richmond Delivery Service. An interested member of the audience on this occasion was Mr. F. M. Tyson, who is owner of the Delivery Service. So enthused was this gentleman about what he saw that he was heard to

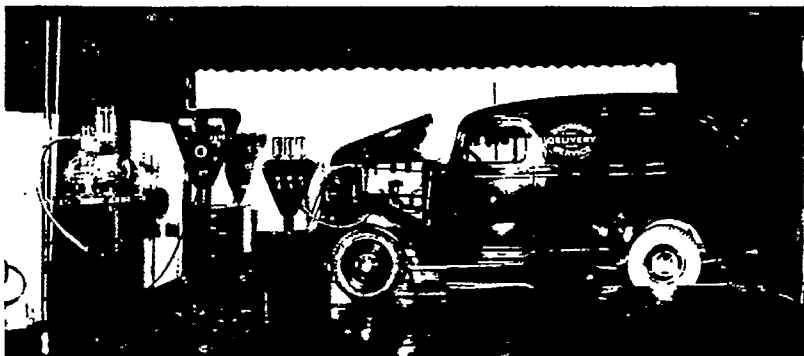
remark, "That demonstration proves to me conclusively that my fleet is not getting its maximum performance. My trucks are going to be tuned up and run entirely on Ethyl in the future."

Mr. Tyson is a man of action and he immediately made arrangements to have his equipment adjusted for Ethyl on which it is now operating one hundred per cent. Most fleets have similar problems to contend with and progressive owners will feel as Mr. Tyson does when he says, "I have to keep my costs down and anything that can be done to help this along will be greatly

appreciated." However, Ethyl's fleet program does not stop with merely selling the idea to the proprietor. The fleet mechanics are invited to the Clinic in order to receive instructions from the tune-up engineers so as to insure the owners of getting top performance.

The Richmond Delivery Service consumes thousands of gallons of gasoline during the year. Their trucks are continually seen in and about Richmond and are recognized as being one of the best equipped and up-to-date fleets in the city.

Richmond Delivery Service Truck on dynamometer at first fleet meeting of the Baltimore Division Motor Clinic. A few days later all this equipment was on Ethyl.



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This Month's Cover

View of San Francisco Bay from 10,000 feet elevation. Yerba Buena Island at far end of suspension bridge connected by causeway to Treasure Island site of 1939 Exposition and largest man-made island in the world. Oakland, Berkeley and Emeryville are across the Bay. Mount Diablo on the horizon is 20 miles distant.

ETHYL NEWS

ETC 21916

Meet Mr. Costello



JOSEPH A. COSTELLO was born in Scranton, Pa., on the twenty-seventh of December, 1900. He attended the local schools and upon completion of his studies there, entered Pennsylvania State College from which institution he graduated in 1925. The next year was spent with the New York Edison Co. in New York City where he was engaged as Test Engineer. He then became associated with the Hudson Coal Co. in Scranton, occupying the position of Junior Electrical Engineer.

In September, 1928, Mr. Costello joined the Ethyl Gasoline Corporation, his first assignment being as field representative for the company throughout the state of Pennsylvania. Following this, at the time of the opening of the Ethyl Exhibit on the Steel Pier at Atlantic City he was put in charge of that activity. While engaged in this work he developed the automatic operation of the knock testing engine which proved so successful that it was later used in the Ethyl Exhibit at the Century of Progress at Chicago.

Upon completion of his assignment at Atlantic City he was transferred to New York and was appointed automotive man for the Division serving in that capacity until July 1st, 1935. At about this time Mr. Louis Shank became Manager of the Baltimore Division and Mr. Costello moved to Baltimore to serve as Assistant Manager there. In May, 1937, he was again transferred and was appointed Manager of the Atlanta Division office, which position he now occupies.

Mr. Costello is married and has a son. He resides in Atlanta.

Safety Topics

THE life of a Safety Engineer is not always a "bed of roses" even to the point where he may have to take his shirt off his back and give it to his fellow man. Such an instance occurred in the Baltimore Division recently.

Our representative was called upon to supervise a tank cleaning job some 250 miles from his headquarters, a crew being sent from the oil company refinery to do the actual work. Upon arriving at the scene of operations our Safety Engineer checked over the clothes and equipment of the refinery men who were to undertake the job. He found that the overalls were several sizes too small and the underwear sup-

plied consisted of cotton shirts and shorts. The location was miles out in the country, the temperature well below freezing and to secure proper clothing from headquarters would cause a delay of several days. In order to meet the situation our Engineer decided to equip the two men with his own clothing which was finally done. The workmen then unpacked their trunk containing the airline mask only to find that although it contained a blower and 50 feet of hose, there was no face piece. Again coming to the rescue the Ethylman loaned his own airline equipment and eventually the work was completed under all the proper regulations.



Dwight F. Andrews



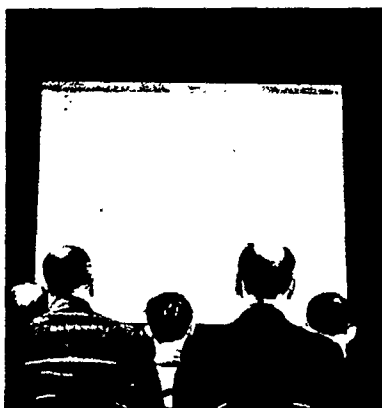
Frank S. Cronin



Fritz Y. Mercer

FOR the third consecutive year a member of the Baltimore Division of Ethyl Gasoline Corporation has been chosen to take charge of the Ethyl Exhibit on the General Motors Parade of Progress. In 1936, when the Caravan was started, Mr. Frank S. Cronin, who at this time was Virginia Representative, was placed in charge of this activity and ran it for a year. In 1937, Mr.

Dwight F. Andrews, South Carolina Representative, was selected to replace Mr. Cronin, who returned to Richmond and who has recently been transferred to Baltimore. Mr. Andrews' place in South Carolina was taken by Mr. Fritz Y. Mercer. Now Mr. Mercer has been selected to replace Mr. Andrews, who will take over the job as North Carolina Representative for Ethyl.



BEFORE



AFTER

Before and After Taking

Can you recognize these two Ethylmen with backs nearest to the camera? The picture (on right) is one appearing in the new portfolio "A Preview of the Ethyl Motor Clinic". The photographer has them all dressed up for the occasion and that gentleman appears to be no mean hairdresser. The disguise is almost perfect. They are Louis Shank (left) and Roy Goltz.

Here and There

ATLANTA

Our Atlanta correspondent recently made an announcement that he would expect at least one contribution for the "News" each month from every man in the Division. Here is a "wail" which he received from our Tennessee representative. Notwithstanding the fact that this fieldman felt that he had failed in his duty to the "News" we believe him entitled to this space in the publication.

"Dear Joe:

"I have been staring at this sheet of paper, looking at the ceiling and thumbing through the last issue of the "Ethyl News" for the past thirty minutes, and still no contribution is forthcoming.

"Evidently I have lost any possible past ability to pick a news item out of the air. I try not to wait until the deadline, and go so far as to have a file for any ideas on the subject, but I fear I am doing no good.

"Looking at the December 'News' I feel that I don't know what is wanted now that they no longer print it solely for our own personnel. I have no statistical service to furnish me information on how much gasoline the average car uses; we opened no new lead plants in Tennessee and I gave talks at no aviation schools. We had no clinics, and the Division Managements did not meet up here.

"So if I take my cue from what the 'News' prints, I should send you some pictures of stations having neon and 10%

ratios and one of my new demonstrator rig with a gal in pants wondering what makes the fuel do that.

"In the old days we could have crashed 'Here & There' by saying we had a flock of meetings for Standard, or for Pan-Am, or that we gave part of the show at a dinner for a bunch of large commercial consumers, or that we had given talks at various schools and clubs. We could have come through with an announcement that we got the State of Tennessee to specify 'Q'. I am of the opinion that Bill Maddux of Standard and I nearly set a record with our 14 or so meetings in one week of five days. However, this doesn't seem to register now. As to 'Newsbriefs', the only way to get in print there is to have a baby, get married or start to work for the company. I came as close as I could on that—by becoming a godfather after all the boys had failed me, and I agree with the editors that this news would scarcely be of prime interest to Elk or Hickock or some of our other customers.

"There is no point to this letter except to let you know I am at least thinking about my contribution. Should you feel inclined to remind me I waste a lot of time writing this, I will point out that it is midnight or so. The latter being true, I wish you and Cary a Happy and successful New Year in your editorial sallies."

Sincerely yours,

Jack

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CHICAGO

Mr. George Gallagher, Chicago representative and "News" correspondent, has arranged with the national program secretary of Kiwanis International, to have letters descriptive of The Long Road sent out to forty-four Kiwanis Clubs in the vicinity of Chicago offering the film for luncheon programs. At the same time, a list of all Ethyl field representatives was given to him. The secretary will write to every club in the country telling them of the availability of The Long Road and giving the local secretary the name of Ethyl's nearest representative.

KANSAS CITY

The Eldorado Refining Company, located at Eldorado, Kansas, inform us that Elreco Ethyl sales have increased to such an extent it is necessary to enlarge their arrangements for blending. The output at this refinery is sold exclusively through jobbers and Mr. Clarence Rice, General Sales Manager, states that the jobbers' interest in Elreco Ethyl is two-fold; first, that a greater demand has been created by the newer motor cars, and second that the jobbers realize the additional incentive in selling Elreco Ethyl materially improves their profit statement.

Ethyl Gasoline Corporation has recently signed a refining license for Terry Carpenter of Scottsbluff, Nebraska. Mr. Carpenter's operations are in Western Nebraska, Eastern Wyoming and Northeastern Colorado. Senator Carpenter is a former United States representative and an important marketer in the oil industry in the territory in which he operates. Senator Ethyl and Senator Gasoline (leaded regular) have been selected as brand names for his products.

Hats off to Mr. Montgomery, operator of a Sinclair Service Station at Superior, Nebraska, a town of 3,000 population, who until recently had not stocked Sinclair Ethyl Gasoline. Mr. Howard Lappe of Ethyl's Kansas City Division convinced him, however, that he was missing a very profitable market. Now Mr. Montgomery reports that the station is selling over 40% Ethyl Gasoline compared to total gallonage.

LOS ANGELES

Mr. Edwin L. Cline, who is now in charge of the first Ethyl Gasoline Corporation Clinic, reports that during the stay of the Clinic in Tacoma, Washington, the attendance at the meetings was equal to nearly 10% of the entire population of the city. Included in these meetings were the wholesale and retail staffs of all Ethyl customers operating in that territory, and almost complete coverage of the automobile agency service departments in and around Tacoma. There were also a considerable number of visitors from the outlying towns, including the entire motor maintenance staff of Fort Lewis and the adjacent CCC camp. In addition, a number of meetings were held for mechanics interested primarily in motor tune-up work.

ETHYL NEWS

ETC 21918

NEWSBRIEFS



Charles Kingsford-Smith, Jr.

Charles Kingsford-Smith, Jr., at the controls of the famous "Southern Cross" in which his father, the late Air Commodore Sir Charles Kingsford-Smith, flew around the world. The plane has been purchased by the Australian Government for its National War Museum. Junior's mother is now the wife of Alan Tully, Ethyl's representative in Australia.

It gives us pleasure to report the acquisition of another "Kangaroo" by Ethyl Export in the person of Mark Anthony Pryke, who joined the organization in October. He was born in Sidney, Australia, twenty-six years ago and received his B.E. degree in Civil Engineering from Sidney University in 1933. While in college he gained quite a reputation as a football player. Before coming to Ethyl he spent some years engaged in design and construction work with the Department of Main Roads in Sidney.



Mark Anthony Pryke

One of the newcomers in the New York office is Donald Forsdick who joined the organization the middle of January as an assistant in the Administration Department. Before coming to Ethyl he was for a time on the staff of the Hazelett laboratory where he engaged in experiments in connection with molten metal. Donald has made quite a reputation for himself as an amateur sailor and has been a member of several championship crews on Long Island Sound. He spent the summer of 1936 on Mr. R. B. Metcalf's 186-foot, three-mastered schooner yacht "Sachem".

Bill Trelease, Central Illinois representative, is known in radio circles as a "HAM"; in other words an amateur radio operator. One night early in December he was "D-xing" and brought in Australia. While talking with a chap in Melbourne, Bill mentioned that he was with the Ethyl Gasoline Corporation, whereupon the man in Australia said that he had just read in his local paper that an Ethyl man down there had just been married. Bill almost had the news as soon as the organ music died out when Alan Tully made Lady Kingsford-Smith his bride on December 2nd.

The new property man for the Baltimore Division Clinic, Edgar W. Wheat, Jr., is a native of that city. Before joining the Ethyl family he was associated with J. Manns & Co. who operate a local seed store. After a year in their employ he accepted a position with the National Distiller's Products Corp., also located in Baltimore. He comes to our organization from this latter concern.



Edgar W. Wheat, Jr.

Mrs. Lowry B. Furst joined the Ethyl family on November 29th as receptionist. Mrs. Furst, who lives in Mamaroneck, is a graduate of the Roland Park Country School, Baltimore, Md. She was society editor of the Baltimore Sun for three years and since moving to this city has been connected with the Circulation Department of the New Yorker.

Jack Maynard has been transferred from Tractor Activity to Senior Engineer on the Baltimore Clinic. He replaces J. R. (Mighty Mite) St. Germain who has been appointed Automotive Engineer for the Division. Joe's years of experience with Hall Scott and others in the heavy engine field admirably fit him for this position.

From the Kansas City Testing Laboratory comes news of the birth of a son to Mr. and Mrs. Merritt E. Collins on January 22nd, 1938. The young man tipped the scales at 8 pounds 2 ozs., and is to be named Robert Cromwell. We send our congratulations to the happy parents.

We wish to welcome the newest addition to the Pacific Coast Division, Joanne Dahlas Eppley, born October 28th, 1937, to Mr. and Mrs. Jack Eppley. Weight, five pounds. (The Editor regrets that news of this did not reach him before so that we might have reported the happy event earlier.)

Howard E. Stuart has recently joined the Ethyl family. His home is in Sarnia, Ontario. After receiving a B. A. from the University of Western Ontario, Mr. Stuart was for seven years in the Analytical Chemical Laboratory of the Imperial Oil Co. in Sarnia. He is now attending evening school at the Lawrence Institute of Technology. Howard is with the Detroit Chemical Research Laboratory.



Howard E. Stuart

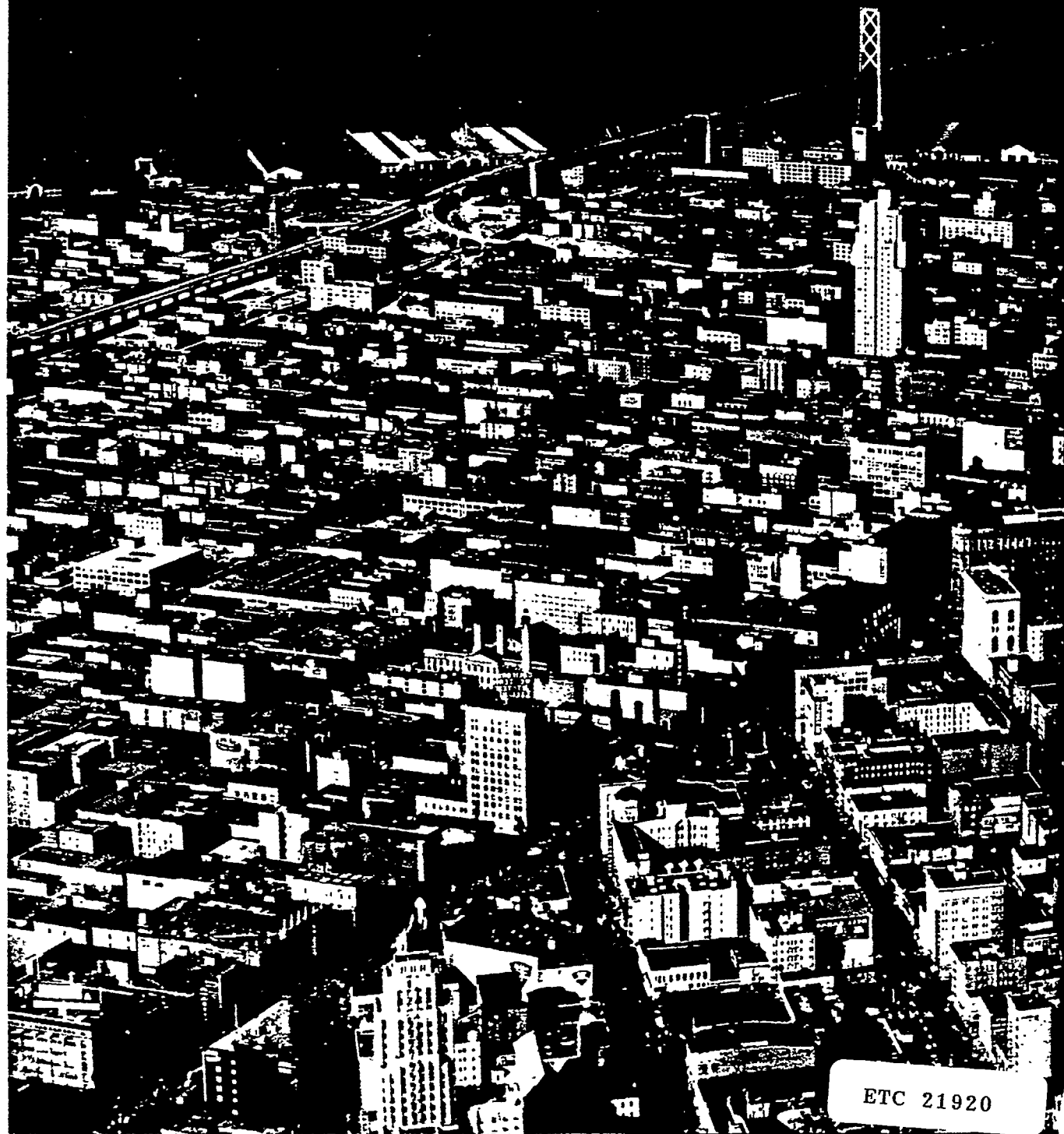
THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE

AS OF MARCH 1, 1938

TEN YEARS

T. R. A. BEVAN.....*Ethyl Export, London*

ELTON H. IRELAND.....*Detroit Engineering*



ETC 21920



***Ya Can Sock a
Baseball Three Ways—***

ya can hit a "foul"...



or make

a "hit"...



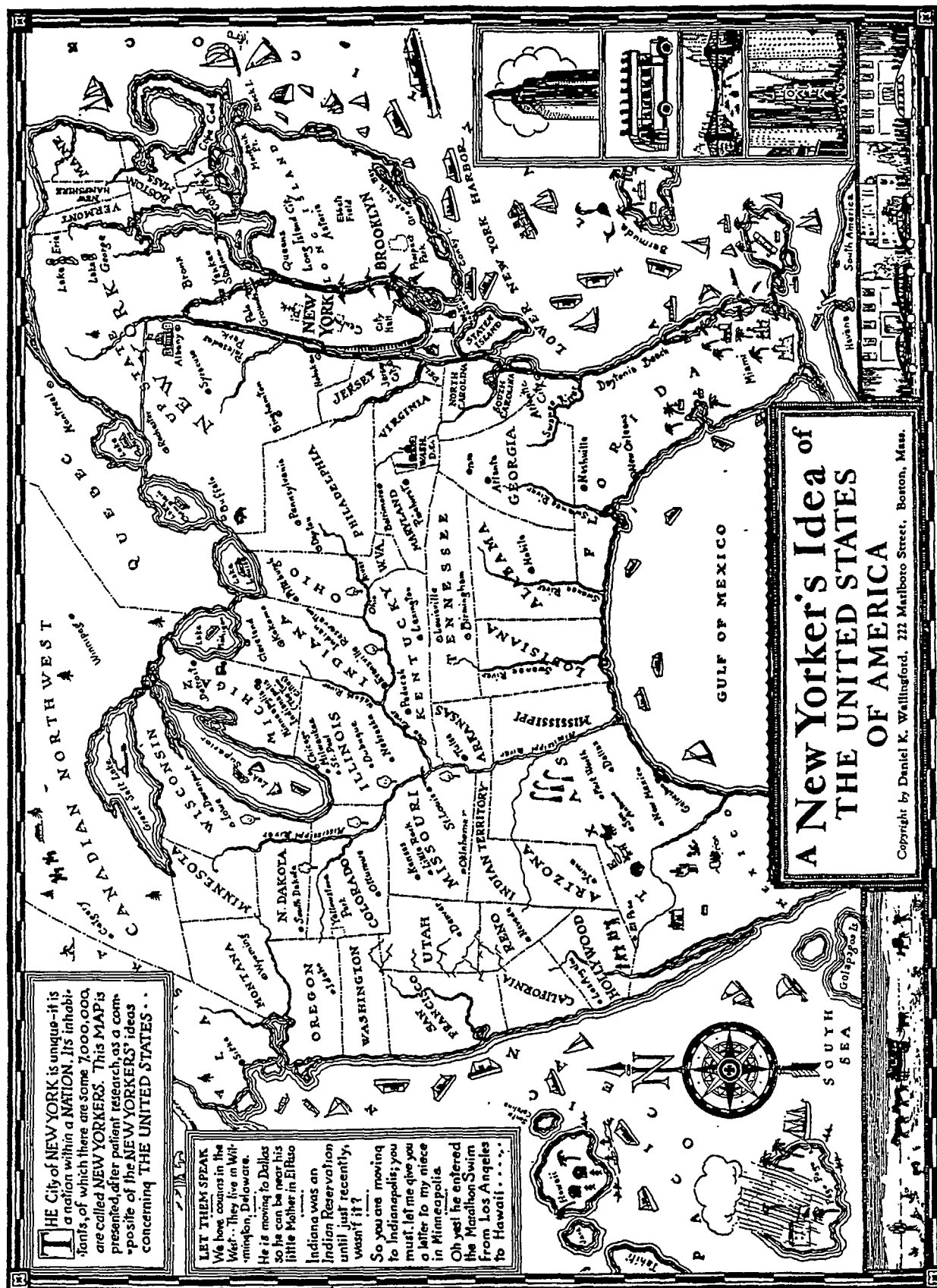
or slam a "homer"!



APRIL 1938



ETC 21921



THE City of NEW YORK is unique—it is a nation within a NATION. Its inhabitants, of which there are some 7,000,000, are called NEW YORKERS. This MAP is presented after patient research as a composite of the NEW YORKERS' ideas concerning THE UNITED STATES...

LET THEM SPEAK
 We have cousins in the West... They live in Wilmington, Delaware. He is moving to Dallas so he can be near his little Mother in El Paso. Indiana was an Indian Reservation until just recently, wasn't it? So you are moving to Indianapolis; you must let me give you a letter to my niece in Minneapolis. Oh yes! he entered the Marathon Swim from Los Angeles to Hawaii....

A New Yorker's Idea of THE UNITED STATES OF AMERICA

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VOL. 5, No. 4

America's 11 Million "Used-Car Families" are Economic Factor

THE used car appears to have become an American institution so rapidly that popular opinion has failed to grasp the fact and continues to regard car owners as belonging to the top income layer of the population. However, the depression, numerous automotive taxes, and a log jam in the river of commerce have tended to reveal the fact that America's 11,000,000 "used-car families" constitute a new economic factor which necessitates consideration.

Recent efforts to improve this condition by encouraging the sale of used cars and continuing studies by various research organizations have acted to focus attention upon the fact that the ownership of a motor vehicle no longer can be construed as an indication of wealth. These studies have disclosed that a majority of the car owners in the United States have incomes of only \$20 to \$30 or less per week and that some 11,000,000 families must depend upon used cars for transportation.

The American Petroleum Industries Committee reports that while automotive taxes have been levied on the theory that if 10,000,000 families can afford to buy new cars they can afford to pay taxes even if excessive, more than one-third of the families in this country have been purchasing and operating used cars and have been paying the bulk of the automotive tax bill.

Automotive taxes in 1923, when motor vehicles largely were owned by the well-to-do, aggregated about \$400,000,000. Increasing tax rates and rapidly multiplying new levies brought the automotive tax bill in 1937 to an estimated total above \$1,500,000,000, with the greater and growing burden of cost falling more heavily upon the lower-income groups, now predominant among motorists.

Motor vehicle registrations have doubled since 1923, but tax costs have quadrupled. Chief reason for the increased tax cost per vehicle, now about \$50 a year, the Committee points out, has been mounting taxation of motor fuel. In 1923, the car owner's annual gasoline tax bill was only about \$5. Today, it exceeds \$30. For millions of motorists this one levy represents a week's wages or more. The money which paid the average motorist's total gasoline tax bill in 1923 now is barely sufficient to pay the federal gasoline tax alone.

Naturally, these taxes have the most pronounced economic effect in the used-car market. Here the \$50 annual automotive tax bill represents a real barrier to sales because it constitutes an unavoidable expense which

(Continued on page 14)

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Strange Vehicle for Lincoln Tunnel Service

D-X Ethyl Balloon Makes 1300 Mile Flight

The Ethyl Road of 1938

Plan Mexico Alaska Highway for 1944 An All-Ethyl Station

This Snow Plow Outfit Conquers Minnesota Drifts

Unusual Haulage Problem Aided by Ethyl

New Premium Fuel for Canfield Oil Meet Mr. Martin

Lead Pipe Dreams Service Award

An Ethyl Heroine Newsbriefs

Clinic Clippings

A Bostonian's Idea of The United States of America

Ethyl Takes G-M Caravan



President Lázaro Cárdenas of Mexico inaugurates ten-day showing of the Parade of Progress at Mexico City where over 457,000 visited the exhibits.

By DWIGHT ANDREWS

ON January 4th, 1938, the General Motors "Parade of Progress" crossed the Mexican border at Laredo, Texas, and began its long trek to Mexico City, 768 miles away. Although it was decided that the Ethyl unit would not accompany the Caravan on the expedition the two Ethyl representatives, Messrs. Andrews and Musick went along to note conditions in respect to leaded fuels in the Mexican Republic. The Caravan was made up of 23 trucks and 20 passenger cars. About seventy-five people accompanied it including the wives and children of the Caravan personnel. The journey down required three days of hard and at times, hazardous driving due to the size of the giant trucks and the fact that they must climb mountains of about 8500 feet elevation. Here is Mr. Andrews' own account of the trip giving some of his impressions of the country and the interest the Caravan aroused among the Mexican population.

"As we approached the city limits we were met by many of the city and state officials and received a



Mexico's Minister of Education, Gonzalo Vazquez Vela (center) visits the Caravan at the capitol city accompanied by Mr. Ellis of General Motors de Mexico (on his right) and Director Jerpe of the Caravan.

formal greeting from the governor. Escorted by fifty of the crack Mexico City motorcycle police patrol, the entire Caravan drove from one end of the city to the other without a single stop, all cross traffic being held up so that we might pass through.

"Two days after arrival the show was officially opened, on a Sunday morning, and by ten o'clock that night 77,000 people had entered the gates. This was four times as many as we had in Houston, Texas, in an entire week. The show continued with similar success for eleven days until we had shown to 450,000 people.

"Due to the tremendous crowds, every member of the Caravan was needed to control the visitors despite the help of 40 policemen.

"Probably of chief interest to all of us were the Mexican people themselves. They were the most patient and easy-going of mortals imaginable. At the show, they were lined up for miles waiting hours at a time in order to gain admittance. On each of the Sundays that the show was open we were forced to close the gates to the grounds, letting in just a handful at a time. We also went so far as to send out the sound car telling the people all over Mexico City that the crowds were

These exhibits at GM's Parade of Progress contrast an old-fashioned blacksmith shop with the modern automobile service station.



Page two

ETHYL NEWS

ETC 21924

ravan Over Mexico's Mountains

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so great it would be best if they came some other day. Perhaps the first time on record a sound truck asked people to stay away from a show. However, in spite of all this tedious waiting we never heard any complaint, in fact, most of them wore smiles on their faces—they were in no hurry and time meant nothing. Mexico is truly the "Land of Manana." On our way back to the States we stopped in Monterrey for about a week where the show was equally as successful, 118,000 people visiting it.

"It might be said that the worst thing in Mexico was the gasoline, the best available being 57 octane, most of which contained lead. The gasoline without lead ran about 43 octane number. The Caravan, in view of this fact, imported Ethyl Gasoline from the States and consequently encountered no trouble crossing the mountains. Were it not for this it is doubtful if the heavy trucks could have made the trip successfully. However, quite often Ethyl was not available for the passenger cars and 57 octane gasoline had to be used in our 1938 models. In such cases, the manner in which these cars performed may be left to the imagination. Another point of interest, was the eager and almost frenzied manner with which the Mexican motorcycle police begged for some of our supply of Ethyl. All the way from Laredo to Mexico



The Caravan stops at the Fountain of Chapultepec erected in honor of King Fernando VI of Spain. Once connected with the Colonial aqueduct of old Mexico City was later moved to the entrance to Park and Castle of Chapultepec.



Charm is world-wide as this photograph bears witness. These little Mexican girls greet the Caravan with their coyest smiles at a gas station en route to Mexico City.

City we were escorted by two motorcycle policemen. When they tried their first tank of Ethyl Gasoline they were almost overcome with delight, running their machines up and down the highway at wide open throttle, doing stunts and acting like a couple of school boys on their first day of vacation. After the Caravan had been in Mexico City for a day or two the news had spread and seemingly every motorcycle 'cop' in Mexico came to us begging for some Ethyl Gasoline even if it were only a gallon.

"The average Mexican who owns a car, has never experienced the use of a decent grade of fuel, and consequently blames the 'knock' or 'ping' on the car itself.

"In conclusion it should be pointed out that the entire trip of over 1500 miles was accomplished without a single mishap, the Caravan personnel had the time of their lives, the Mexican people went crazy over the show, all of which was made possible because we used a gasoline that was good enough to climb those mountains."



EWS

APRIL, 1938

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ETC 21925

Dominion's Oldest Express Company Boasts Latest Type Garage

THE Dominion Express Company (now the Canadian Pacific Express Company) was incorporated in 1873 and commenced operations in the summer of 1882 on the Canadian Pacific Lines in the West from Rat Portage, Ontario (now Kenora) to Oak

spicuous start, the Canadian Pacific Express Company has grown into a world-wide organization operating over 17,607 miles of steam railway, 83 miles of electric railway, 955 miles of inland steamship lines, 423 miles of stage lines and maintaining services on 16,666 miles of ocean

of the most modern and largest garages in Canada. This garage will house some 200 trucks which comprise the Toronto fleet. The building, which is a two-story structure has 88,500 square feet of floor space. It is of most modern fire-proof construction with a frontage of 156 feet and depth of 276 feet. A concrete ramp with a grade of approximately 10%, connects the two floors, allowing the trucks easy and well regulated operation as traffic lights are located at the top and bottom to assure greatest safety. These lights are actuated by a vehicle passing over floor pads, thus giving ample warning of its approach. There is a greasing pit large enough to accommodate two trucks at a time and all lighting and ventilating is of the most modern type. The pump house is conveniently located directly opposite the garage on a Canadian Pacific sid-



Ground floor of Canadian Pacific Express Company's new garage in Toronto with modern greasing pit in foreground. 200 of the Company's trucks are serviced here.

Some of Canadian Pacific Express Company's great fleet of 600 modern trucks which consume thousands of gallons of leaded gasoline each month.



Lake, Manitoba, a distance of 291 miles, with its head office in Winnipeg. Half a dozen employees, one horse and a second-hand wagon enabled the Company at that time to serve the Canadian Public at seven small agencies. From this incon-

steamship routes. The head office of the Company is now located at Toronto, Ontario.

The Company maintains in Canada a fleet of over 600 pick-up and delivery vehicles and have just recently opened at Toronto, Ont., one

ing. The gasoline is unloaded mechanically from tank cars into underground tanks located near pump house and from there pumped to gasoline dispensers. Operation of all gasoline supply is electrically controlled.

Ethyl Motor Clinic at Columbus Attracts State-Wide Attention

THE Ethyl Motor Clinic attached to the Company's Dayton Division and under the direction of Mr. W. A. Newman, assisted by Mr. W. S. Mayes, has for the past few weeks been located in Columbus, Ohio. While there it has been showing to enthusiastic audiences from both the petroleum and automotive industries with the result that the Clinic's message is being carried away daily by those most interested in good fuel and proper motor tune-up. During the annual convention of the Ohio Petroleum Marketers Association, which was held recently in Columbus, an entire morning was allotted to the Clinic at which time the jobbers, en masse, attended a special session that was put on for their exclusive benefit. By virtue of this, news of the Clinic and the story which it tells will eventually be carried to all corners of the state.

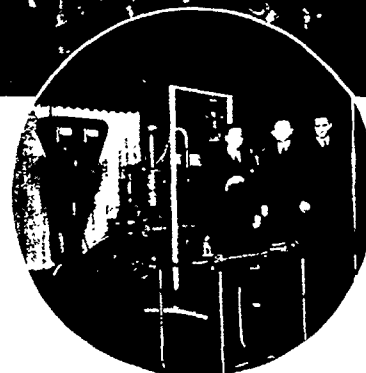
Another important meeting held shortly afterwards was an evening session which was arranged for the Ohio Farm Bureau Cooperative Association. It was especially noteworthy in that it was one of the largest audiences ever to attend a Clinic showing. There were present

175 members, representing every county association in the state. The regular lecture and car demonstration was conducted by Mr. Newman, following which a special feature was put on which had particular appeal to the Farm Bureau audience. Ethyl's tractor engineer, Mr.

H. F. Dedo, gave a talk which was climaxed by chassis dynamometer tests of high compression and low compression tractors. The comparison illustrated convincingly the advantages of the former when run on leaded gasoline as against the low compression job.



(Above) Some of the 175 members of the Ohio Farm Bureau Cooperative Association attending Ethyl's Motor Clinic in Columbus.



(Right) At close of Ohio Farm Bureau's meeting in Columbus Ethyl Clinic Manager Newman, Tractor Engineer Dedo and Mr. Hugh Boyd of the Farm Bureau receive the acclamation of the audience. Note tractor on chassis dynamometer.

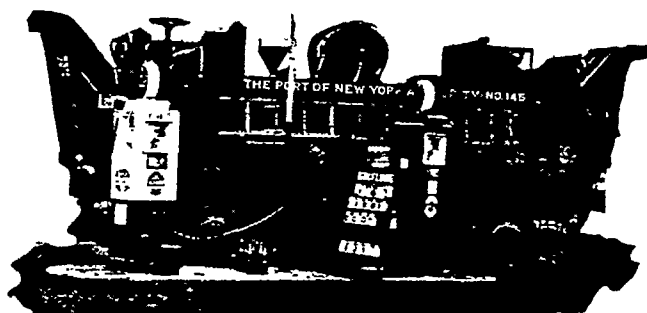
Strange Vehicle for Lincoln Tunnel Service

ONE of the most unique motor vehicles to make its appearance in many a day went into service at the time of the opening of the Lincoln Tunnel under the Hudson River, connecting

New York City with New Jersey. It is an emergency "wrecker", designed by Mr. Otis Prosbrey of the Otis Proving Stand, Inc., and was built at the shops of the Henry Lohse Auto Body Co., Inc., of

Newark. The cost of this unusual piece of equipment was \$45,000.

The "wrecker", powered with two Lincoln Zephyr motors may be operated either forward or in reverse at equal speed. It has a drawbar pull of 10,000 pounds which is usually far more than would be required for servicing cars or trucks. It has hospital equipment for "cradling" broken wheels on heavy trucks and also combines the function of a fire fighter. Torches are carried for use when it is necessary to cut apart



(Continued on page 14)

Page five

D-X Ethyl Balloon Makes 1300 Mile Flight

TWENTY hours and ten minutes from Sapulpa, Okla. (via Tulsa) to Southampton, Long Island, N. Y., by air may not be much of a record for Col. Roscoe Turner, Frank Hawks or others of the stratosphere flyers, but it was a mighty quick trip for a D-X Ethyl gas-filled balloon.

At least, that's the opinion of Marshall Hardy and Ralph Myers, Mid-Continent Petroleum Corpora-



This D-X Ethyl balloon was released by Don Judd (center) for its 1300 mile flight to the Atlantic coast. Ralph Myers (left) of Mid-Continent Petroleum Corporation and C. D. McConnell of Ethyl's Tulsa Division.

tion Tulsa city salesmen who were "in" on the stunt with one of their Sapulpa D-X dealers.

Mid-Continent service stations and dealers throughout the central states were displaying giant yellow balloons on all their D-X Ethyl Lubricating Motor Fuel pumps during February in connection with a motor fuel sales campaign and the balloons attracted considerable attention from motorists and station customers. The balloons were inflated to three feet or more in diameter and bore the company's advertising imprint.

On Saturday, February 5th, at three o'clock in the afternoon, Don H. Judd, operator of the Firestone Service store at Main and Lee

Streets in Sapulpa, released one of the balloons filled with the best Oklahoma Natural gas. The balloon got away from the driveway so quickly that Judd and a gang of small boy helpers had to run to the corner of the street to get a view of it disappearing into the clouds.

A week later, Judd received a letter from Jesse P. Lutz, 98 Burnett Street, Southampton, L. I., stating that he and a party of friends picked the balloon out of the Atlantic Ocean near their beach at 12:10 p.m. Sunday, February 6th, the day after its release in Sapulpa.

Judd had attached a letter in a cellophane envelope to the balloon offering a free Diamond Guaranteed Lubrication and wash job to the person finding and returning the balloon—figuring that one of his Creek county neighbors would be the finder.

Southampton, which is on Long Island, 38 miles east of the most eastern point of New York is easily 1,300 miles from Sapulpa and there is no way to estimate the number

of extra miles the balloon might have traveled, due to air and wind currents.

Mr. Judd is going to send the letter he received from Mr. Lutz and the balloon, when it is returned to him, to Robert L. Ripley for one of his Believe It or Not features.

Long Island to Sapulpa, Okla., is a long way to expect a motorist to travel for a car lubrication and wash job, but Don Judd stands ready to fulfill his order should Mr. Lutz drive in.

(The D-X Ethyl balloon has received nation-wide publicity because of its cross-country hop. In addition to stories in the Sapulpa Herald, the Tulsa Daily World and the Tulsa Tribune, the Brooklyn Daily Eagle, the Southampton Times and the Sag Harbor, N. Y., Express News and Corrector, carried feature stories about the happening. News commentators over WOR, the Mutual network and WJZ, the NBC outlet recognized the flight as extremely newsworthy.)

Facsimile of message attached to balloon in cellophane envelope and picked out of the ocean.

Letter received by Mr. Judd from Mr. Jesse P. Lutz who rescued the balloon after its 1300 mile flight.



Firestone Service Stores
Sapulpa, Oklahoma
Gentlemen:

Found, 1 Yellow balloon marked DX Ethyl Gasoline with a copy of the following note attached:

Sapulpa, Okla., Feb. 5, 1938. Time 3 P.M. The finder who returns this note to the above will be entitled to a free wash or grease job.

Firestone Serv. Stores
Sapulpa, Okla.

This balloon, with note attached, was picked up Sunday, Feb. 6, 1938, at 12:10 noon, at South Hampton, Long Island, N. Y., when it landed in the ocean. South Hampton is 38 miles from the most eastern point of New York State.

If you wish the note and balloon, will forward both to you.

Yours truly,

(signed) Jesse P. Lutz

ETHYL NEWS

The Ethyl Road of 1938

More than 5700 Miles—of Advertising

THIS year Ethyl advertising tells car owners about the three different grades of performance that are obtainable from a motor car. Four different types of copy—each series telling the fundamental story—are being used in the national campaign. These vary from automobile service managers' testimonials to the use of Percy Crosby's famous little character, Skippy—the object being to interest as many types of people as possible by varying the appeal and appearance of copy. The copy is so scheduled that no one advertisement will appear in more than one major publication during any one month. The maga-

zines which will be used to carry the story to the general public will be the Saturday Evening Post, Colliers, Time, Life, American Magazine, Sunset, Popular Science Monthly, Popular Mechanics and Scientific American. The total circulation of these periodicals per issue is 10,744,019. Ethyl ads in four colors will appear 81,308,448 times. Some idea of the amount of space represented by general advertising may be gained by the fact that the ads would pave a roadway 37 feet wide and 5,761 miles long—a real Ethyl road.

During the Spring, Summer and Fall motoring seasons, billboards

featuring Skippy aimed specifically to increase sales will be displayed on more than 25,000 boards. These posters will be along the same general lines as last year but advance proofs indicate they will be even more outstanding because of a change in composition. At the very moment when the public are most interested in gasoline—when they are on the road—Skippy will be there to tell them to stop and fill up with Ethyl.

Running right along with this consumer advertising a double-barrelled trade campaign is being levelled at the oil and automotive trades to bring home the "Three

Ethyl's Advertising Committee in conference with Agency representatives in the Company's general offices in the Chrysler Building. From left, around the table, Messrs. Chiquoine, Agency; J. C. Taylor, Vice Pres. and McElroy, Adv. Mgr. E.G.C.; Canada and Hufnagle of Agency; Weston, Ass't. Adv. Mgr. E.G.C.; Strasser and Bliss, Agency; Downs, Ass't. Adv. Mgr. and Kaley, Sales Mgr., E.G.C.; and Costa, Agency.



APRIL, 1938

Page seven

ETC 21929

'USES 10 GALLONS LESS GASOLINE A DAY TRAVELS ¼ MILE AN HOUR FASTER'



GETS 2½ MILES MORE every 10-hour day out of his high compression tractor. Because of side-by-side tests in the same field, Florian Polcyn, Gorham, Kansas, found out just how much better a high compression tractor is.

IN THE SAME KANSAS WHEATFIELD, PULLING THE SAME LOAD, FLORIAN POLCYN'S HIGH COMPRESSION TRACTOR BEATS TWO LOW COMPRESSION TRACTORS

BECAUSE the Polcyn Brothers of Gorham, Kansas, use three tractors to work 1300 acres, they have had a unique opportunity to test the merits of high compression and low compression tractors in the same field. Says Florian "Mike" Polcyn:

"We burn regular-grade gasoline in all of them. Our new high compression Minneapolis-Moline tractor uses 10 gallons less a day than either of the other two tractors, and it will gain a quarter of a mile in an hour, plowing in the same field. In the course of a 10-hour day, the new high compression tractor actually goes ¼ mile farther."

"This saving in gasoline and gain in additional distance holds good whether we are plowing with a nine-foot one-way plow, or plowing with a five-bottom moldboard plow."

To get added power from your tractor, ask your dealer or write your manufacturer today about getting high compression "altitude" pistons or cylinder head to change it over to high compression. Easier yet, see that your next tractor has high compression pistons or cylinder head, which most manufacturers offer at no additional cost.

SEND FOR FREE 24-PAGE BOOKLET

Write today for FREE illustrated 24-page booklet "How To Get More Tractor Power." It tells you: How To Reduce Tractor Costs, Why Some Farms Produce More Power, How High Compression Works, How To Do More Work In The Same Time. Send a penny postcard now to Dept. T-1, Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y., manufacturers of antiknock fluids for premium and regular-grade gasolines.

It pays to buy **GOOD GASOLINE**
FOR CARS, TRUCKS AND TRACTORS

Grades of Performance" story. An interesting tie-up between this campaign and the "Ethyl Motor Clinic" is that the illustrations for the ads are taken from the Clinics. In addition, the readers will be invited to attend the Clinic when it appears in their city. If you are still interested in statistics these ads to the trade would, if put in one book, form a volume 86 feet thick.

The farm paper campaign will continue to stress the benefits of high compression engines in tractors plus good gasoline. This will be directed to agricultural engineers, tractor manufacturers, tractor dealers and farmers. An imposing list of 35 farm papers will carry the message to the farmer alone. More statistics?—Well, it would take one farmer reading one ad a minute, 24 hours a day—108 years to complete his readings.

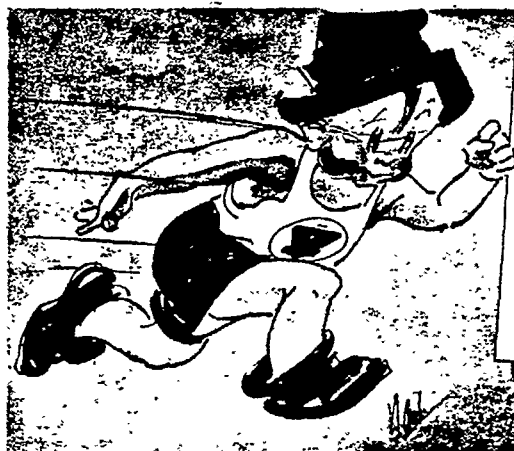
The campaign to the aviation industry will be a series depicting the records of the "horse

and buggy" days of airplanes. Compared with the present day performance it graphically shows the rapid strides in this branch of transportation.

In addition, there will be an Engineering campaign for technical publications and from time to time special advertisements tying in with various activities in which the product plays a part. Special copy will appear in a miscellaneous list of publications such as the programs of racing events, etc.

The purpose of Ethyl advertising in all fields is to be more than a glorified form of product-plugging. It performs a real service to the consumer, by giving facts that will help him obtain more value from each gallon of fuel. It endeavors to enlighten those in the oil and automotive industries by giving definite information about the relationship between their product and gasolines containing lead.

On these two pages are typical Ethyl advertisements appearing this year. Above, at left, is type of advertisement to tractor users in farm publications. Below: the first poster for 1938. Opposite page at top; the "Early Bird" is the initial ad in farm trade magazines. Below, at left, is shown the "Triplets" which is to run in both black and white and color in general publications. At the right is advertisement directed to the automotive trade and with slight changes in copy to the oil trade. On the cover is illustration of a current ad to general motoring public which carries copy similar to the "Triplets". Fourth cover is one of a series for aviation publications.



A BETTER RUN
FOR YA MONEY
ETHYL

[CONTAINS MORE TETRAETHYL LEAD]



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- ORDER HIGH COMPRESSION TRACTORS FROM THE START
- SELL WITH THE FASTEST GROWING TRACTOR TREND TODAY
- MAKE 1938 YOUR RECORD YEAR

MANY TRACTOR DEALERS set all-time records in 1937.

EVERY TRACTOR DEALER CAN SET A NEW ALL-TIME RECORD IN 1938!

Start right now to sell with the fastest growing trend in tractors today—high compression.

Many farmers were disappointed last year because they and their dealers had to wait to get high compression tractors. That's no wonder when you look at the way the idea of high compression has grown.

The first standard high compression tractor was announced to the trade late in 1935. Now—only twenty-eight months later—nine manufacturers make high compression tractors and two more offer high compression equipment optionally. In the last few months of 1937, three new high compression tractors were announced. More are on the way for 1938.

So, the first step to a record 1938 is to specify and demand high compression tractors on your Spring orders right now. Then they will

come through from the factory equipped with high compression motors at no extra cost. Get all the booklets, manuals and information your manufacturer has on this development. Then talk, demonstrate, and sell high compression right through 1938.

HOW TO MOVE USED TRACTORS

Some customers can't buy a new tractor just now. However, many will be in the market for a good used tractor. Sell them a better used tractor by changing it over to high compression. You can move your stock of used tractors a lot faster if you high compress them and demonstrate the extra power resulting from high compression. Practically all tractor companies supply high compression "altitude," piston or cylinder heads to convert older models to high compression.

For a record 1938, ride the trend to high compression! Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y., manufacturers of anti-knock fluids used by oil companies to improve gasoline.

Triplets

in the showroom BUT...



3 DIFFERENT GRADES OF PERFORMANCE ON THE ROAD

There's no such thing as a free lunch. But there is a free lunch in the form of a car. The car that gives you the most power and the most economy.

The car that gives you the most power and the most economy. The car that gives you the most power and the most economy. The car that gives you the most power and the most economy.

The car that gives you the most power and the most economy. The car that gives you the most power and the most economy. The car that gives you the most power and the most economy.

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ETHYL GASOLINE CORPORATION, manufacturer of anti-knock fluids used by oil companies to improve gasoline

THIS ENGINE TALKS...



IT TELLS WHY MODERN CARS HAVE 3 GRADES OF PERFORMANCE

Promising a car owner top-grade performance on low-grade gasoline is just another way of saying, "Impossible." There's a way out of this predicament. It's called "Ethyl." It's the only way to get the most out of your car.

There's a way out of this predicament. It's called "Ethyl." It's the only way to get the most out of your car. There's a way out of this predicament. It's called "Ethyl." It's the only way to get the most out of your car.

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ETHYL GASOLINE CORPORATION, manufacturer of anti-knock fluids used by oil companies to improve gasoline

APRIL, 1938

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ETC 21931

Plan Mexico Highway



View from completed portion of highway south of Prince George.



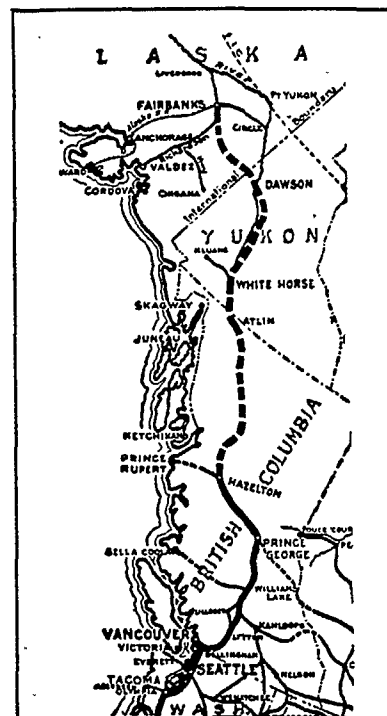
Juneau, Alaska, south of Skagway.

At numerous points on the Coast, glaciers at last find their way to the sea. This is Taku Glacier far up in Alaska.



THERE is every indication that the construction of the proposed new road from Hazelton, B. C., through to Fairbanks, Alaska, will be undertaken before the end of the year.

A resolution has been forwarded to Washington, urging its construction. Support of state and Federal congressmen and House representatives has also been enlisted in a drive to effect completion of the northern highway to be opened in time for the great Pacific Northwest Exposition of 1944.



Proposed British Columbia-Yukon-Alaska highway, in which new interest has been aroused in north Pacific states.

The solid black line indicates sections already completed. The dotted line shows the proposed route from Hazelton north to Fairbanks. Uncompleted section of the road approximates 1335 miles.

Lexico-Alaska way for 1944

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This would give Canada the greatest highway in all America and would provide a vast Pacific Slope motor road from Mexico City to the "Land of the Midnight Sun."

Initial steps were taken in 1929 to survey the possibilities of a motor highway to Alaska when the late Hon. S. F. Tolmie was premier of British Columbia. Later, President Roosevelt authorized engineers to make a comprehensive survey of the project. The United States commission entrusted with this task published a complete report on their labors in which the whole project was found entirely feasible. Construction costs were estimated and declared to be not out of line with ordinary highway costs, while the desirability of the scheme was said to be threefold:

1. To provide a continuous motor highway from the Mexican capital to Fairbanks, Alaska, affording a scenic road of unequalled grandeur.

2. To provide an essential coastal road for defense purposes that would make it possible to move war material at all times of the year in a region largely free from fogs.

3. To open the north to miners, prospectors and big game hunters.

The main obstacle is the fact that the Canadian section of this proposed highway would cost about \$12,000,000 and the United States would have to put up about \$2,000,000 for its section.

The accompanying map and illustrations give some idea of the magnificent views afforded the tourist as well as the tremendous distances which can be covered on one continuous highway under ideal motoring conditions. Of no small interest is the greatly increased gallonage which would accrue in a section where at present there is comparatively little demand for fuel.



Whitehorse in the Yukon district which is the starting point for river boats. About halfway to Fairbanks on proposed new route.



Skagway and White Pass as seen from Lower Dewey near proposed highway.

At Fort Yukon in the land of the midnight sun. Picture taken about 12:15 A.M. June 22nd.



An All-Ethyl Station

Michigan Dealer Handles Only Ethyl—Shows Increase

THE J. S. Farmer Gas and Oil Company, jobbers of Pontiac, Mich. are owners of one of the largest gallonage stations in that city. Beginning the first of January this year they discontinued stocking any gasoline but Ethyl, making it a one grade station.

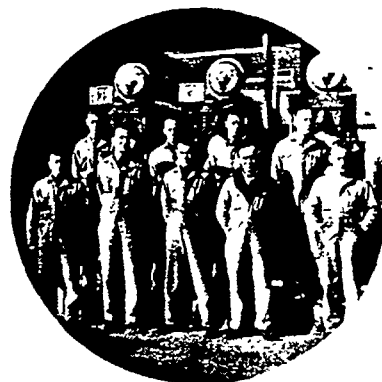
Mr. J. S. Farmer, who is both manager and owner, admits it was an experiment but after two months' trial, he is greatly pleased with the

result. He says that he goes on the theory that his customers deserve the best grade of gasoline and if only a premium fuel is available at his station he assures himself of a satisfied clientele provided they are motorists desirous of getting the best and most economical performance out of their cars. He believes that his patrons are thoroughly motor conscious. It is evident that he is a good judge of human nature

for his attendants testify that not only have they not lost a customer but that there has been an appreciable increase in gallonage. They have out-sold January and February last year and they attribute the new customers who have come to them and the extra business they have done, to this new policy.



Only one grade of gasoline is available at this Service Station in Pontiac, Michigan.



This crew at J. S. Farmers' all-Ethyl station have increased gallonage and built up patronage since it became a one grade outlet.

This Snow Plow Outfit Conquers Minnesota Drifts

DURING the past winter a new snow plow outfit has made its appearance. It was put out by the Farmers Union Central Exchange, Inc., St. Paul, Minn., and in its first season met with a distinct amount of success.

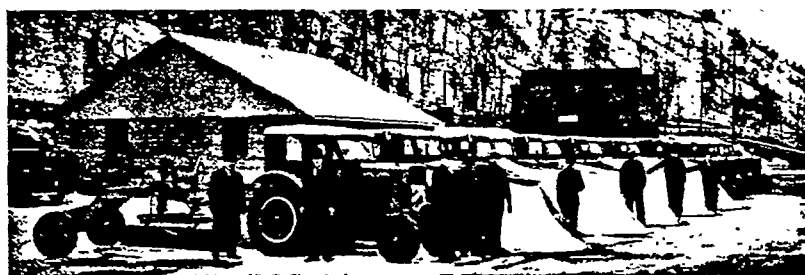
The plow itself, which embodies a number of new features that make for added efficiency is mounted on a Farmers Union Model No. 2 Tractor which is a high compressioned job operating on regular leaded gasoline. Because of its power, speed and proven economy of operation coupled with its lower first cost, it is claimed by the manufacturers that these new outfits enable highway officials to better meet their snow removal problems and at the same time effect large savings for the tax payers. The speed of the new tractor permits throwing the snow clear of the road under light

plowing conditions especially if plowed soon after a snow fall but the additional power available allows roads to be opened under very severe conditions. Even when the snow is wet and packed, with layers frozen, the new equipment does the job efficiently. This is due to the fact that the new plow, correctly shaped and very sturdily built to withstand abuse, when coupled with this Model 2 tractor,

gives results heretofore unattainable.

When plowing, large replaceable runners carry the plow load and when traveling to the drifts the plow is carried on an easily operated hydraulic hoist which transfers the load directly to the front axle. Every convenience is provided for easy operation and the enclosed body offers adequate protection to the driver.

This fleet of tractors successfully battle the drifts near St. Paul.

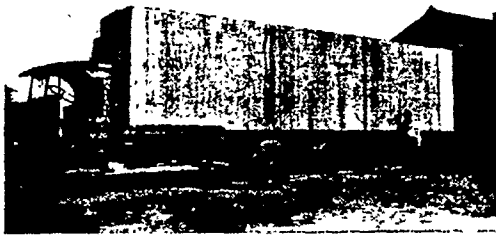


Unusual Haulage Problem Aided By Ethyl

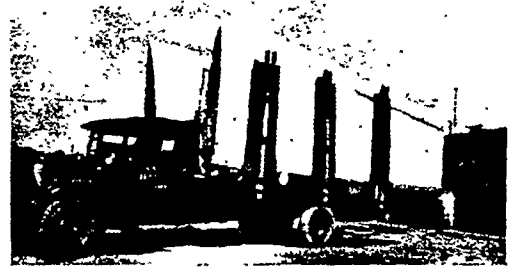
ONE of the first of the many representative companies using Ethyl in the New York area was the Queens Haulage Company of Long Island City N. Y. Although the company has been engaged in the general haulage business for a number of years their specialty is the transportation of automobile parts and aeroplanes which have been dismantled for export shipment. This type of trans-

portation makes it necessary that their equipment is not only capable of handling very heavy loads at short notice but the service must be such that it can meet the rigid sailing schedules at the steamship piers. This, of course, requires unusual engine power and speed. The accompanying photographs will give some idea of the bulk and weight which the company's trucks are called upon to handle.

It is very gratifying to have Mr. Joseph J. Kleinhenz, who is President of the Company, express himself as he does on the subject of Ethyl. He considers its use in their equipment as an important factor contributing to their ability to meet power requirements. Moreover he does not overlook the matter of economy which involves the saving of costly overtime charges.



Planes which have been dismantled and crated for shipment are rushed at short notice to steamship piers. Trucks must be fast and powerful.

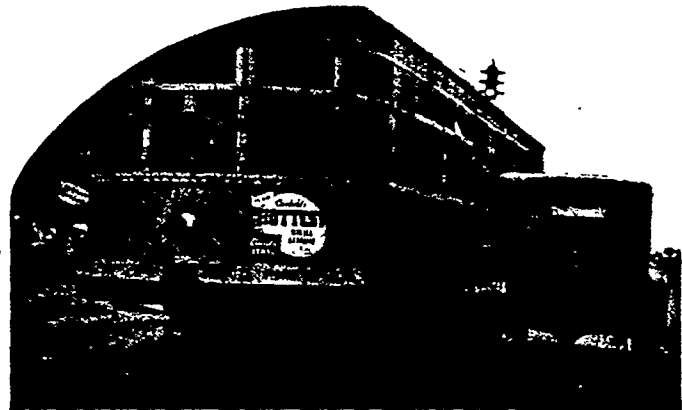


New Premium Fuel For Canfield Oil

DURING the past winter the Canfield Oil Company of Cleveland, Ohio, replaced its long established premium benzol gasoline with a new motor fuel which they are marketing under the trade name of Canzol Ethyl Gasoline. For some time Ethyl's Dayton Division Manager, Harry Mack and Mr. A. H. Bingham, also of the Division office, have been co-operating with the Canfield Oil Company in their plan to offer this new product to the public. Coincident with its appearance, a very aggressive advertising campaign was launched which included newspaper advertisements and spot announcements over a Cleveland broadcasting station. These announcements carried a personal message from President Jackson of the Canfield Oil Company which read: "In combining the famous Premium

Canzol Gasoline, with the famous Ethyl fluid, I can state unqualifiedly that 'Canzol Ethyl' is absolutely the finest premium quality gasoline the Canfield Oil Co. has ever sold." All service stations were decorated with appropriate posters but perhaps the most unusual feature of the campaign was the fact that trolley

cars carried large announcement cards on front and rear as shown in the accompanying illustration. The campaign has been especially gratifying to Canfield since they have shown a substantial increase in their new premium fuel as well as increases in the sales of their leaded gasoline.



Meet Mr. Martin

JOHN G. MARTIN was born in Norfolk, Virginia, on April 12th, 1906. His early schooling was received in Suffolk, Virginia and Florence, South Carolina. Following this he attended Furman University at Greenville, South Carolina and the University of Richmond, Virginia.

His first employment was with the Engineering Department of the State of Virginia but shortly after, on March 15th of 1927, he terminated his connection with the Commonwealth and joined the Ethyl Gasoline Corporation. For the first year and a half of his association with the Company Mr. Martin was covering the territory of Maryland, District of Columbia, Virginia, North and South Carolina, reporting directly to New York, since at this stage of the Company's history divisions had not been formed. He was next transferred to Dallas, Texas, opening one of the Company's first branch offices and supervising activities in Texas, Arkansas, Louisiana and Oklahoma. Headquarters were later transferred to Tulsa, Oklahoma, and offices established there.



In 1932 he was brought to New York for some specialized sales work which occupied about a year. His next assignment was with the Los Angeles Division where four years were spent working on sales promotional activities. Mr. Martin returned to the New York office in June of last year to expand and supervise the Clinic program which he had been instrumental in establishing on the West Coast.

He is married and makes his home in Rockville Centre, Long Island, N. Y.

Lead Pipe Dreams

Alloy hoppers hopped up and down;
Little trucks trucked, 'round and 'round,
With a hi de hi and a hey de hey
They Susie Q'd to building "A"
Up elevators to number five,
Where autoclaves did loop and dive
With Ethyl Chloride the bubbling bride.
They put on the pressure and let her ride
Down to the stills where Mr. Steam
Made everything a misty dream.
They settled down and slept quite late,
And then 'twas time to separate.
Not as pure as she ought to be;
But who can blame her? What a spree!
Repenting of her debauchery,
To the wash house her sins to free.
Finally cleansed with much ado
Upon her way she starts anew.
And now recovered from her bender
She goes demurely to the blender,
Lewis Pump with a graceful bow
Sends her up to Mr. Howe
Who weighs her up and lets her be
To trickle down to number three.
Her journey, though, must be ill fated
For body and soul she's agitated.
Now she mixes, has some fun
And so we "tank-Q" Yellow I.

—Harry Hinnershitz,
BATON ROUGE PLANT

America's 11 Million "Used-Car Families" are Economic Factor

(Continued from page 1)

is equivalent to a large part of the value of the used car itself. A \$50 tax bill to the intending purchaser of a \$250 car obviously is a sizeable sum.

Disclosure of the fact that the average car which shares with clothing the third place in the traditional list of economic wants headed by food and shelter, is taxed five times as much as the home, is tending to suppress legislative propensities to load heavier tax burdens upon motor vehicles. In some sections of the country more consideration is being given to the car-owner's ability to pay taxes, and also to the uses to which automotive tax load and the dedication of automotive revenue to highway financing, it is believed, will serve to encourage the growth of motor vehicle ownership and use.

Strange Vehicle for Lincoln Tunnel Service

(Continued from page 5)

cars that are jammed together. In fact, with the equipment, it carries and by virtue of its great strength, size and power, it can efficiently handle any conceivable type of accident that might occur in the tunnel.

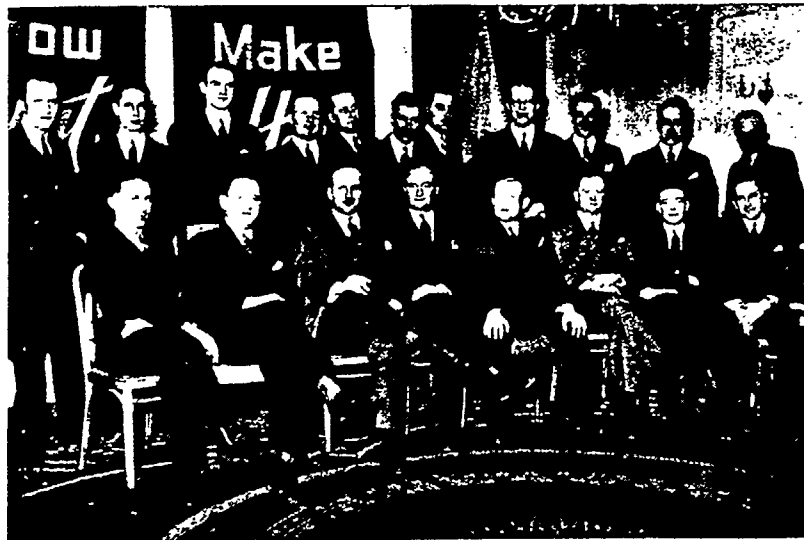
The accompanying picture was

taken at the pump of Minute Men's Service Station, Inc., in Jersey City and shows the proprietor, Mr. Ray Keale, refueling the car with No-Nox Ethyl Gasoline. Ethyl has been recommended by the designers and is used exclusively.

THE FOLLOWING SERVICE AWARD HAS BEEN MADE
AS OF APRIL 1, 1938

FIVE YEARS

MRS. FRANCES R. BRODT.....Chicago Div.



Early in March the Chicago office held their Division Meeting which was attended by Mr. R. L. Jordan of the New York General office. Due to illness, Messrs. C. E. Smith and John Morris were not present. Those attending are shown in the accompanying picture.

Front row, left to right: R. H. Ormsby, B. R. Jones, J. E. Boudreau, Div. Mgr., R. L. Jordan, Dir. of Personnel, A. B. Wyrick, Ass't. Div. Mgr., L. A. Dollahan, C. E. Colvin, N. B. Hedden.

Back row: M. A. Kinley, W. B. Heck, Jr., B. D. Harrison, A. J. Steelman, B. G. Crane, G. A. Gallagher, C. F. Naylor, Wm. Trelease, M. L. Olson, I. E. Flaa, G. A. Vaughn, Tune-up Engineer.

An Ethyl Heroine

It all happened after Allie Grady's husband, Charles, took their three and a half year-old-son, Arthur, to Weehauken, N. J., on Monday afternoon, March 21st. They crossed the Hudson River in their small motorboat and had returned to the West 157th Street Pier at about 7 p. m. where Allie was waiting for them. Mr. Grady tied his boat to a barge lying alongside. There was a plank between the barge and the pier and Arthur scampered up it to greet his mother. But the plank slipped and he tumbled into the water, disappearing instantly.

Allie was nearest to Arthur and jumped in after him, followed by her husband. The fact that she is not much of a swimmer didn't stop her for a moment. She kept calling to her son but no answer came. It was pitch black under those piers and the water was icy cold. Finally Grady heard her scream "I've found him!!" and swam to them and helped them ashore.

To quote Allie's own words when interviewed by reporters the next morning: "The first thing I thought of was that I've got to get him out of the water. I don't even remember



jumping in. I can't remember how cold it was. They tell me I was calling for him but I don't remember that, either. Suddenly I felt him. Oh, it felt so good. He was crying but he was alive and that was all that counted. When a kid cries you know he's all right."

Arthur, who's head was swathed in hospital bandages on account of cuts on his forehead from floating timber, said "I wasn't scared much. I heard Mummie calling and I knew she was coming. I grabbed a stick and tried to hold on. I'm

not going into the water again 'til I learn to swim."

Allie, who has been with the Corporation for seven years, is in charge of the stock room for office supplies. Her brother, Bruce Crane is a member of the Boston Division.

All the New York papers carried news of Allie's heroism and it was also commented on over the radio. The late afternoon and evening papers ran a large photograph (above) on the front page, of the supremely happy family united after the near-tragedy.

NEWSBRIEFS

Last September we ran an item from the Atlanta Division appropos of the shortage of "Blessed Event" notices from them. At the same time they made a very suspicious remark which has made us reserve space each month for an Atlanta notice but as yet we haven't heard anything further on the subject.

How about it, Atlanta, was that remark just a bluff or did you really have something on your mind?



Helene McNally is the latest addition to the Tulsa Division office staff. Helene is a graduate of the University of Oklahoma and has been teaching school for the past two years. Before joining the Ethyl Gasoline Corporation as secretary to Mr. H. Claire

Dees, she was employed as secretary to a prominent Tulsa attorney.



Ed Gille is now well established as our junior engineer at the New York Division Clinic. He is a graduate in mechanical engineering from New York University. Most of his past experience has been in moving picture development work as

sound engineer for the Fototone Studio in New York. Ed is single and lives with his parents in Jersey City, New Jersey.

Miss Barbara Yeullenne has joined the Payroll Section of the Accounting Department in the Graybar Building. Miss Yeullenne lives in New York City. She has had two years at New York University and comes to us from the Universal Corporation where she was employed as Secretary from 1936 until January, 1938, when she left them to join the Ethyl family.



James Cox joined the staff of the Tulsa Clinic as property manager when it opened in Little Rock, Arkansas, December 29, 1937. He was graduated from the Sapulpa High School at Sapulpa, Oklahoma. Prior to his coming with the Ethyl Gasoline

Corporation, he was for three years with the Chalmers Electric Service Company of Tulsa.

An announcement was recently made by the State Department in Washington that Vice President Thomas Midgley, Jr., who is also Chairman of the Board of the American Chemical Society, has been appointed a delegate to the International Chemical Congress. Mr. Midgley will sail for Europe in the near future. The Congress is scheduled to meet in Rome from May 16th to 21st.

Clinic Clippings

We welcome to the Ethyl family Miss Bernice Hemmingsen who has joined the ranks as Bob Jordan's secretary. Bernice was born in Chicago and went to school in South Bend, Indiana. When she moved to New York she attended Hunter College. After three years with the Columbia Alkalai Corporation, a subsidiary of Pittsburgh Plate Glass Company, where she was secretary to the Director of Sales, she was employed by the Standard Oil Company of New Jersey in the Legal Department where she remained until coming to us in March.

The Baltimore Division held its annual Division Meeting at the John Marshall Hotel, Richmond, Va., on March 1st and 2nd. Mr. R. L. Jordan represented the New York office and Mr. J. A. Costello came up from Atlanta. From every angle the sessions were a complete success. The meeting was officially closed with a reception and banquet on the evening of March 2nd, at which the wives and friends of those attending were present.

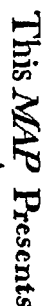
Stories of Clinic locations in odd places are beginning to circulate. In Chicago the Clinic is actually one mile out in Lake Michigan, with 87 feet of water under it. However, one doesn't reach it by rowboat. It is at the end of the mile long Navy Pier.

* * *

Here's one for Bob Ripley: The Motor Clinic in Chicago has a man with it that has driven a car thousands of miles with the speedometer registering at 50 and 60 miles an hour yet has never been on a highway or, stranger yet, moved an inch. He is Dennie Warren, property man at the Clinic, who operates the cars on the chassis dynamometer for the tune-up engineer. He has never driven a car at any other time.

It gives us great pleasure to introduce Miss Beatrice E. Cook who joined the Ethyl ranks as Ray Hill's secretary on March 15th. Beatrice was born and brought up in Oneonta (near Cooperstown), New York. Before coming to Ethyl she was secretary, for four years, to Mr. John W. Stokes, C.P.A., auditor of Motors Holding Dealers, an investment corporation of General Motors. She makes her home in Nutley, New Jersey.

We extend to the family and many friends of Herbert Gerland, our most sincere sympathy in his death on Sunday, February 27th, 1938, at Baton Rouge. Herbert had been a member of the Ethyl Gasoline Corporation since June, 1928, and had been associated with the Kansas City Gasoline Testing Laboratory, the Detroit Research Laboratory and at the time of his death was with the Baton Rouge Manufacturing Department.



**A
BOSTONIAN'S
IDEA of
THE UNITED STATES
OF AMERICA**

Copysight by Daniel K. Wallingford - 222 Marlboro St, Boston

Universities. *
HARVARD
WILLIAM AND MARY
YALE
PRINCETON
COLUMBIA

There are, also, several excellent schools located in the Wye

A person born in the city of Boston and residing in Boston may not be a Bostonian yet a person born in Hingham, residing in Newton (clitony domicile; Magnolia, frequent crossings to England and the Continent) is likely to be a Bostonian. The lack of a definite text-book definition for A BOSTONIAN has added to the many difficulties encountered by the Publishers of this map... The ideas held by many Bostonians concerning the UNITED STATES have been gathered, evaluated, weighted, and combined. This map, a composite of those ideas, is the result.

The ideas held by many BOSTONIANS concerning the UNITED STATES have been gathered, evaluated, weighted, and combined. This map, a composite of these ideas, is the result. * * *

Leif Ericsson (Iceland, Norse explorer, put the wild grapes on North American shore in the year 1000 A.D.)

Ship lanes to the
Seven Seas and to
the four corners
of the earth.

Warning

BOSTON
AND ENVIRONS
*Important cities and towns not shown
general map for lack of space are includ-
ed in this inset • • • • •*

*The West
Western cities are re-
puted to be modern
and progressive.
The Pacific Coast
seaports have ad-
vanced rapidly—
especially since the
opening of the
PANAMA CANAL*

MERIDIAN'S

ACCIDENTS

ORDENS

Reproduced by permission of copyright owner

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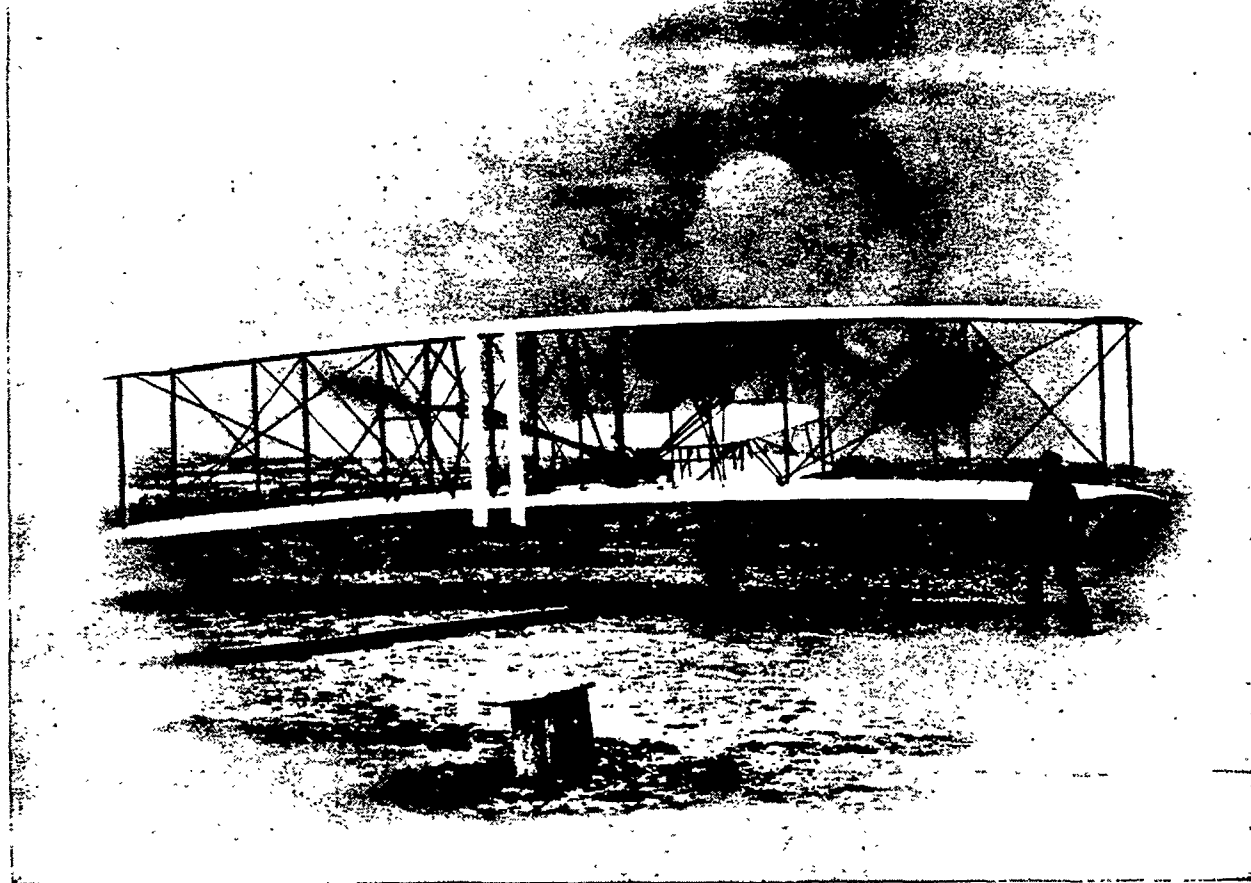
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THEY FLEW THROUGH THE AIR AT 7 M.P.H. *and set a World Record!*



BREAKING air records has been almost a daily occurrence since two American brothers in 1903 set the first record of all by actually flying 120 feet in 12 seconds.

Their 12-horsepower engine wouldn't even turn over the "prop" on a big airliner of today. Yet in that tiny motor was the secret of the first successful powered flight, and the secret of

similar records since — *gasoline!*

Gasoline gave aviation its first practical power-weight ratio—a ratio that lifted a heavier-than-air craft off the ground and sustained it in flight.

In the 35 years since Kitty Hawk, hundreds of air records for speed, endurance, altitude and distance have been made and broken. Every new record has faithfully reflected the continu-

ous advance in fuels and engines.

The end is not yet. Today, advancement in aviation still depends on the inseparably linked fuel and engine. To make the next 35 years as significant as the past 35, Ethyl engineers are cooperating with aviation engineers in a continuous program for the improvement of fuels and engines. Ethyl Gasoline Corporation, Chrysler Bldg., New York, N. Y.



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MAY 1938



ETC 21941

TRADE

As we pay others, we are paid;
Life gives us back just what we give.
And so we do not live to trade,
But trade that we may truly live.

Sales may be made in money, yes,
But they are always made to men;
And so goodwill controls success,
Bringing folks back to buy again.

He profits most whose every sale
Creates a friend, whose kindly thought
Serves to perpetuate the tale
Of what and where and why he bought.

As we pay others, we are paid;
Life gives us back just what we give.
And so we do not live to trade,
But trade that we may truly live.

Chas. H. Mackintosh



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NEW YORK CITY

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VOL. 5, No. 5

The American Way

TO you personally, nothing is more important than your own life, your happiness and your family, your future and theirs. The facts here presented, deal with these things. They explain the fundamentals of our American way of living as conceived by the framers of the Constitution, a century and a half ago. They are from a pamphlet issued by the National Association of Manufacturers and printed by special permission.

The "News" plans to print other similar articles which should be of interest to our readers.

Man cannot live alone. He must deal with other men and needs a central authority to protect him in those dealings. Even in the Dark Ages there were such things as chiefs and councils empowered to defend the tribe and regulate some of its affairs. That was modern government in the beginning.

Since then, two kinds of government have developed—one in which the citizen is supreme and the government obeys his will; the other in which the state is supreme and controls the citizen. The first is individualistic, the second collectivistic. In the first, man creates machinery to look after him as a separate, individual entity, and retains the power to run the machinery. In the second, man is but a small cog in the machinery; his desires and will are sacrificed to the state.

The American system is individualistic. All powers of government are granted, voluntarily, by the citizen. The citizen is supreme. He merely agrees to set up a central state for purposes of convenience and protection. He reserves the right to withdraw government powers if he sees fit, or to grant more.

This is a simple way to determine whether a particular kind of government is successful. See what material benefits each individual may obtain under it; what he eats, wears, enjoys. See how the whole group of individuals fares materially. Then see whether the individual and the group may win and retain mental, spiritual contentment—individual liberties—for man cannot live by bread alone.

Before looking into those things, it is essential to understand clearly the basic structural framework of the American form of government.

The American system is one under which the individual remains a director of his government rather than its slave. It has, therefore, preserved, subject to essential regulations only:

1. The right of the individual to seek the kind of gainful employment he chooses;

2. The free exchange of goods and services, including the right of the individual to sell the products of his services or any of his possessions to

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An Iron Horse of the Plains

MAYBE you will mistake this for the immortal Casey Jones' iron horse but don't laugh—it's a tractor actually doing duty on a Texas farm. Recently, when two Ethyl representatives from New York were engaged in making a survey of the tractor fields in the Lone Star state, they unexpectedly came upon this behemoth. Inquiry brought forth the information that it was designed and built by Reeves and Company of Columbus, Indiana, a few years after the turn of the century. It weighs something over forty thousand pounds and is powered by steam. According to the present owners, Messrs. C. W. and Homer Hudson of Conway, Texas, this pioneer of the prairies will develop 36 horsepower at the drawbar and 100 horsepower on the belt.

Originally it was intended for the purpose of plowing under the prairie grass on virgin land. In the early days this was a very tough job due to the dense root formation a few inches under the surface of the soil and in many instances horses were

C. W. and Homer Hudson with one of their assistants standing by the old "Iron Horse" for which they have a real affection.



not equal to the task. On the other hand, with the immense areas to be plowed, working with oxen was too slow. However, it was found to be impractical for ordinary plowing and field work as its tremendous weight packed the earth so hard that nothing would grow.

The manufacturer designed the equipment to burn straw which was the cheapest and easiest obtainable fuel in that part of the west. Stoking was therefore quite an art as the straw had to be braided into a con-

tinuous strand of rope and fed gradually to the fire box in order to secure an even steam pressure and required that a man keep his eye constantly on the steam gauge. However, wood was later substituted for straw and believe it or not, this tractor is still in operation although its use is now confined to belt work.

Today, of course, most of the work on the Hudson farm is accomplished with modern tractors but the brothers are extremely loyal to this relic of a bygone day.

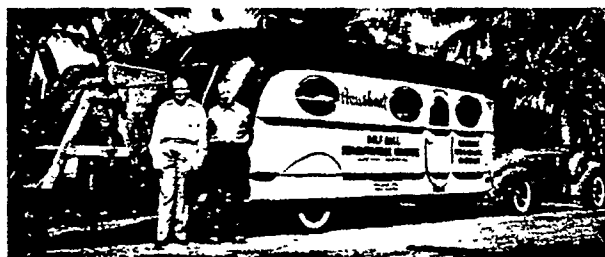
Novel Exhibit Tours with Ethyl

THE Acushnet Process Co. of New Bedford, Mass., manufacturers of precision made golf balls have produced a driving machine which has been touring the south and west coast cities in a nationwide sales promotion program. More than five tons of equipment is housed in the DeLuxe pullman trailer which Ethyl Gasoline has taken from coast to coast, over the snow-covered Rockies and the blistering desert. In fact, Mr. Claude

Hastings, Sales Manager of the Acushnet Company, says that without Ethyl they could not have negotiated the mountain roads over which they were obliged to tow their heavy equipment. Altogether the first tour of this novel exhibit covered approximately 75,000 miles.

At every stop crowds were attracted by the unique driving machine which, under ideal conditions, has driven a golf ball over 600 yards on the fly. Operating at

top speed the robot can hit 60 balls a minute. Using a face corresponding to a number seven iron it will hit a ball 250 yards and can place a dozen within a six foot circle. They are virtually knocked out of sight and sixteen balls are in the air at the same time. Power is furnished by a motorcycle engine which lifts the heavy club head but the counter-balancing and flywheel do most of the work of hitting the ball. In addition to the driving robot there is included in the exhibit an X-ray machine which demonstrates how accurately the Acushnet golf balls are centered. There is also a guillotine-like device which illustrates the toughness of the cover; a pressure machine to show the ball's ability to take punishment and a fluoroscope which enables one to observe the condition of the ball's inner composition.



Acushnet Trailer and Ball Driving Equipment. Sales manager Claude Hastings who conducts the demonstrations is shown with Mr. Fred Bommer, also of the Acushnet Co.

Eleven-Year-Old South African Champion to Race at Akron in August

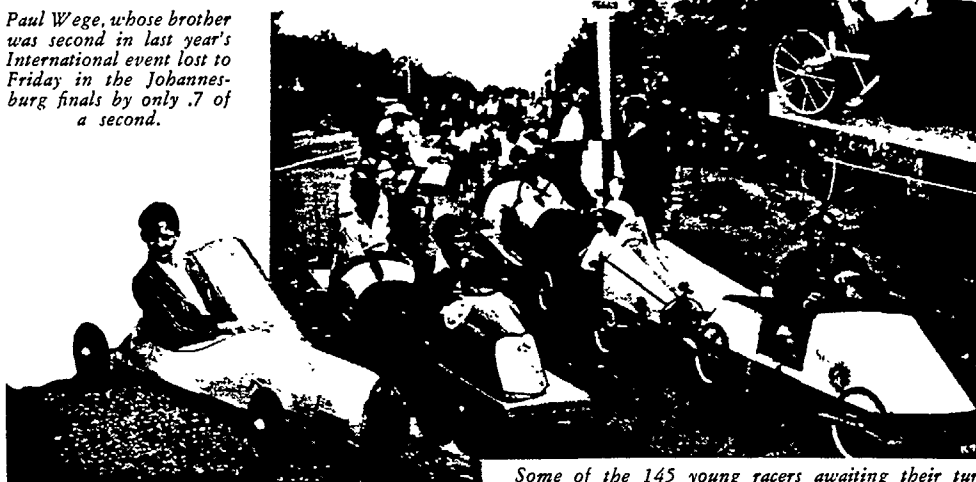
THE All-American Soap Box Derby now in its fifth year is a race for boys aged nine to fifteen inclusive. Its sponsors are the Chevrolet Division of General Motors and leading newspapers throughout the United States. The racing is done in home-made gravity-powered racers built according to rules established by a committee and each entrant must build and pilot his own car. In the preliminary events the winners become their

the field offers, promote those qualities of courage, perseverance, self-reliance and fair play which are essential to success in after life.

In our own country preliminaries to select local champions take place during the early summer but in South Africa it is necessary to hold them far in advance. Therefore, amid the roaring cheers of over 2,000 spectators an 11-year-old boy rode to victory in Johannesburg on January 22nd. He was Leslie Fri-

starting post and, as they raced down the road, the crowd broke through the ropes to follow them. Half-way down, it was still either boy's race but young Friday drew away and won by a comfortable margin. The Johannesburg lads, though disappointed that their own representative failed to win, lifted

Paul Wege, whose brother was second in last year's International event lost to Friday in the Johannesburg finals by only .7 of a second.



Some of the 145 young racers awaiting their turn at the start of the Rand Soap Box Derby Trials. Finals were held at Johannesburg, January 22nd.

The eleven-year-old champion of South Africa, Leslie Friday, who will represent his country at the Akron, (Ohio) Derby next August.

own City Champion and go to Akron, Ohio, in mid-August to compete in the National Finals. Last year, 120 cities in the United States were represented and there were entrants from Hawaii, Canada and South Africa who thrilled over 100,000 spectators.

However, the Soap Box Derby means a great deal more than this. Its major importance lies in the fact that it fosters a fine spirit of sportsmanship, thereby carrying on one of the finest of American traditions. It further helps to develop the latent ingenuity which will permit the boys of today to take their proper place of leadership in the world of tomorrow. The young contestants, by pitting their individual ability and ambitions against the best that

day of East London and today holds the proud title of South African Champion. Living in a whirl of boyish excitement over his prospective trip to America for the Akron race in August, he told reporters he has determined to be a race driver later on.

The result of the big race was a surprise to everyone. The Johannesburg finals, which took place just before the national event had made Paul Wege, brother of Danie (last year's champion), the hot favorite. In his first heat, he had set up the best time of the day—55 seconds for the 400 yard run. Leslie Friday's time was slightly over that mark.

There was great excitement when he and young Wege lined up at the

Leslie to their shoulders and shouted enthusiastically for him.

The sun usually smiles on Soap Box Derbies in South Africa, but this year a heavy shower fell soon after the event had got under way. However, after a fifteen minute suspension, the racing went on. The wet track made the runs a little more dangerous and was responsible for a few of the crashes, but no more serious accident was reported than one sprained ankle.

Of the original 143 South African Derby contestants this year, three were girls. Two of them dropped out before their local races; the third might have won the race, it is reported, had she not turned half-way down the course to wave at a friend.

More Power for Ethyl's Baton Rouge Plant

IN the December, 1937, issue of the "News" there was a short description of Ethyl Gasoline Corporation's new manufacturing plant at Baton Rouge, Louisiana. The steam and electric power supply for this plant, and additions to it which have since been authorized, are obtained from the Louisiana Steam Generating Corporation — which was formed in 1929 as a subsidiary of Engineers Public Service Company. Its original function was to supply steam and electricity to

which are now under way to permit serving the increased requirements of the Oil Refinery and of Ethyl Gasoline Corporation will include two condensing turbines, so that the electric output of the station will not depend exclusively on the sale of steam to customers.

The power station property lies between the Yazoo and Mississippi Valley Railroad and the river. To the south is the office and wharf property of the Standard Oil Company of Louisiana, to the east the

to produce steam at 625 lbs. per square inch gauge pressure and 725° F. total temperature. These boilers are of 13,817 square foot area each, fitted with water cooled furnace walls, feed water economizers and air preheaters. They are arranged to burn natural gas, fuel oil, several different kinds of oil refinery liquid waste, going by the general name of sludge, and pulverized petroleum coke. In 1931, a fifth boiler was installed. Each boiler is equipped with one forced and



View of Louisiana Steam Generating Plant at Baton Rouge, taken from top of east tower of Mississippi River crossing. In background a portion of Standard Oil Refinery. Ethyl plant is off picture at left adjoining Standard Oil property.

the refinery of the Standard Oil Company of Louisiana and to deliver any excess energy to the Baton Rouge Electric Company. The oil refinery was the sole steam customer until 1935, at which time The Solvay Process Company finished construction of an alkali plant on adjacent property and entered into a contract for its requirements for steam and electricity.

The plant of the Generating Corporation is known as Louisiana Station and first served Standard Oil Company of Louisiana in May, 1930. Up to the present time the station has been exclusively of the non-condensing type, but additions

refinery proper, to the north the plant of the Solvay Process Company, and to the northeast Ethyl Gasoline's new manufacturing plant. A 200 ft. wide right-of-way owned by Louisiana Steam extends about one mile eastward to the Bayou Sara Road between the properties of the Standard Oil Company and the Ethyl Gasoline Corporation. On this right-of-way are constructed the road which provides access to the several plants, and the transmission lines of the Baton Rouge Electric Company.

As originally constructed, the station included four straight tube Babcock & Wilcox boilers designed

two induced draft fans, driven by steam turbines.

The first installation of turbine generators comprised three units supplied by Westinghouse Electric & Manufacturing Company. These units each have a nominal rating of 15,000 kw. at .8 power factor, but can produce nearly 20,000 kw. under favorable circumstances. Steam is supplied at about 610 lb. pressure and is exhausted at about 135 lbs. pressure and 80° superheat, in which condition it is delivered to customers. All of the steam exhausted from the main turbine generators is not sold, approximately 25% being retained in the station

for driving auxiliary apparatus and for heating boiler feed water. Practically all of the important auxiliary apparatus presently in the station is driven by turbines which take steam from the 135 lb. header. Steam is delivered to customers through five 24" mains, three being used for supplying the Oil Company and one each for Solvay and Ethyl.

The only condensate returned to Louisiana Station by the steam customers is a small amount from Solvay Process Company. Accordingly, a very high percentage of make-up

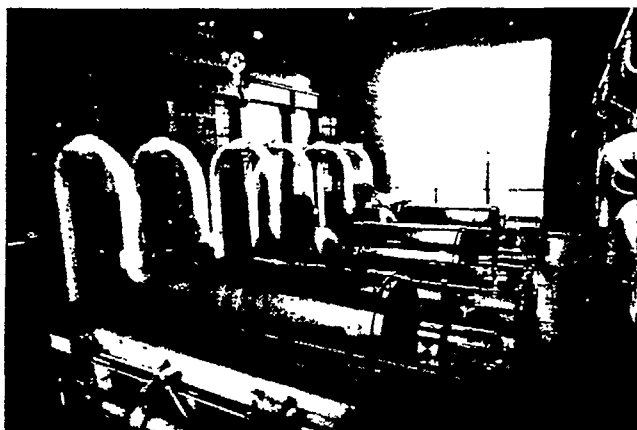
which amounts to about 12% of the water fed.

Electricity as generated is 3 phase, 60 cycle alternating current at 13,800 volts and is distributed to the oil Company, Solvay and Ethyl Corporation at bus potential. There are also two feeders to the Baton Rouge Electric Company at this voltage.

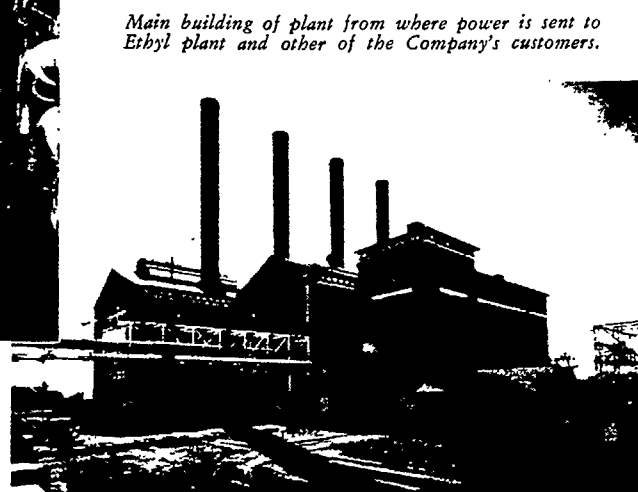
The construction program which is now under way calls for the installation of two 500,000 lb. per hour boilers to operate at the same general conditions as the older boilers but using only natural gas

towers for cooling the condensing water for these two new units. Make-up water for the cooling towers will be taken from a deep well. Circulating pumps and tower draft fans will be motor driven.

It is expected that the station addition will be completed early in 1939. At that time contracts for the sale of steam and electricity aggregating 1,331,000 lb. per hour and 68,001 kw. (including 15,000 kw. to Baton Rouge Electric Company) will be in effect and the station will be equipped to supply these loads with one of its largest boilers and one of its largest generators out of service. The annual output to cus-



These great turbines supplying power to nearby industrial plants. The contemplated expansion of the equipment will entail installation of additional units.



Main building of plant from where power is sent to Ethyl plant and other of the Company's customers.

water is required for boiler feed purposes, somewhat more in fact than the total amount of steam sold. Water for make-up purposes is taken from the Mississippi River and is treated in a very extensive water conditioning plant. On entering the power station after softening, this water is first used to cool the ventilating air of the main generators and the turbine lubricating oil. It is then heated in two stages, by exhaust from the auxiliary turbines, followed by a third stage of heating with main exhaust steam at 135 lb. pressure. Drips from the closed heaters are collected and introduced into the main stream of feed water at intervals and heat exchangers are placed in the water flow line to recover heat that would otherwise be lost from the continuous blow-down from the boilers,

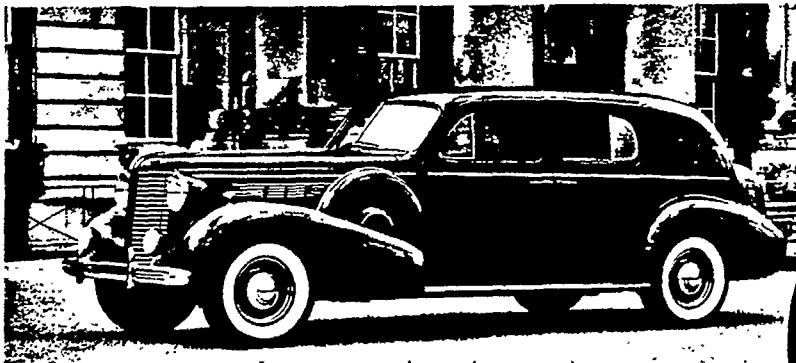
or, in emergencies, oil for fuel. They are to be bent-tube boilers of Babcock & Wilcox manufacture. There will also be two Westinghouse condensing extraction turbine generators of 25,000 kva. capacity each. Under proper conditions of steam flow through throttle, and extraction for process use, the full kva. rating of the generators can be produced at unity power factor. Although the site of Louisiana Station adjoins the Mississippi River, the station itself is actually about 1/3 mile from the true river bank, with much floodable ground between. The expense of providing circulating water facilities suitable for taking water from the river throughout its entire annual change of level of about 45 ft. is great and it has been decided to use forced draft cooling

towers for cooling the condensing water for these two new units. Make-up water for the cooling towers will be taken from a deep well. Circulating pumps and tower draft fans will be motor driven. It is expected that the station addition will be completed early in 1939. At that time contracts for the sale of steam and electricity aggregating 1,331,000 lb. per hour and 68,001 kw. (including 15,000 kw. to Baton Rouge Electric Company) will be in effect and the station will be equipped to supply these loads with one of its largest boilers and one of its largest generators out of service. The annual output to cus-

tomers of Louisiana Station is expected then to be about ten and one-third billion pounds of steam and 450 million kilowatt hours of electric energy. It is estimated that about 175 million kilowatt hours will be used by Ethyl Gasoline Corporation, about three times as much as will be required by the entire local consumption of Baton Rouge Electric Company.

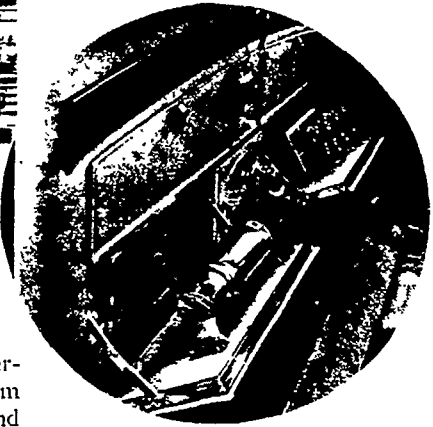
The design and construction of Louisiana Station was executed by Stone & Webster Engineering Corporation. There are a great many millions of dollars invested in the several manufacturing plants served by Louisiana Steam Generating Corporation but the latter's investment for providing these essential services amounts to over eleven million dollars.

English Royalty Select American Cars



This 1938 custom-built Buick has just been delivered to H.R.H. the Duke of Windsor. It is very similar to the one used by the former King last year.

Special equipment built into the Duke of Windsor's new car which offers adequate accommodation for touring.

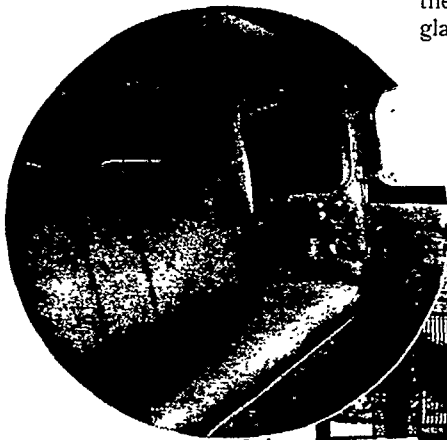


THEIR Royal Highnesses, the Duke of Windsor and the Duke of Kent, youngest brother of the King of England, have just taken delivery of their second Buicks. Both cars were built on special order at the Canadian plant of General Motors at Oshawa and sold to the Dukes by Messrs. Lendrum & Hartman of London. Windsor's car is a model 91 and is very similar to the car which he purchased two years ago, although the rear

view windows have been considerably reduced in size. The custom built interior has special fittings and hardware. Under a concealed mirror, which takes the place of the rear quarter window, is a new Delco radio which receives on American and European wave-band lengths. It will be noted that provision for touring is taken care of by the ample compartments behind the chauffeur's seat.

The Duke of Kent ordered his first Buick last year and his new car is of the same type, being a 90-L. The only radical change is the installation of special "one-way" glass in the back and rear quarter

windows. This glass makes the passengers invisible from the outside while affording a clear view from the interior. However, the special glass is made in two sections and hinged so that on formal occasions it can be rolled down into a recess permitting an unobstructed view of the occupants of the rear seat. Among other special features are concealed reading lamps, arm swings, two batteries with a change-over switch and a sound-proof partition behind the chauffeur's seat.



Interior view of H.R.H. the Duke of Kent's car showing the one-way glass in rear windows.

The King of England's youngest brother, the Duke of Kent, has just purchased his second Buick. It was built at the General Motors plant at Oshawa, Canada, and delivered by Lendrum and Hartman of London.



THE AMERICAN WAY

(Continued from page 1)

any one at any time;

3. The right of the individual to use the proceeds of such a sale as he may see fit—to invest, to save, to spend, or to give away, in accordance with the law and his own conscience;

4. The right of the individual to own private property and to enjoy its use so long as such use does not interfere with the rights of another to a like use of his own property.

Socially, this system preserves freedom of opportunity for the individual to strive, to accumulate and to enjoy the fruits of his accomplishments. Politically, it results in what we call a "democracy" but what really is a rule of limited powers granted by individuals, through written constitution, to state and federal governments.

Many material advantages have come to individuals under this system. But fundamental in the American system are the human rights which the individual retains while his material advantages are being improved. Only under a system of individualism can such human rights exist. Under any form of collectivism, whether Communism, Socialism or Fascism, coercion is substituted for individual enterprise, force for voluntary cooperation.

The principal democratic countries today are the United States, Great Britain, France, Holland, Switzerland, Sweden, Norway and Czechoslovakia. In them individualism to a varying degree continues to flourish.

In the individualist lands, the human rights are usually protected by definite constitutional provisions. In others, constitutionalism is either weak or non-existent. In the individualist countries, the individual protects himself against administrative whimsicalities by judicial procedure. In the others, administrative prerogatives are supreme, and the government becomes one of men rather than one of law, for the men in power can change the laws to suit their needs or desires.

What rights does a United States

citizen enjoy under individualism? Besides the four essential rights already stated, he has:

The right to grant or to withhold from government specific powers as stated in the Constitution and to alter that Constitution by a peaceful process agreed upon in the original document;

The right to choose and get rid of the personnel of government by orderly elections in accordance with the law of the land;

The right to a voice through his ballot in the making of the laws. Then he enjoys the following personal protections which are elsewhere withheld from men or granted as mere privileges, not as rights:

The right to have his accusers face him in open court, which prevents unlawful, whimsical and vindictive punishment;

The right to trial by jury, which is a protection against personal and political injustices;

Protection against retroactive criminal laws, which would let him be punished for acts legal at the time he performed them but later declared illegal;

Limits upon the definition of treason, so that it cannot be held treasonable to criticize his political servants;

Freedom of religion;

Freedom of speech;

Freedom of assembly;

The right of petition, which is the right freely to present opinions to the executive and legislative branches of the government;

The right to be secure in his person, papers and effects against unreasonable searches and seizures;

The right to an indictment in the case of serious offenses, so that he may know what charges, if any, have brought him into conflict with the law;

Protection against plural jeopardy that is, against subsequent arrest or conviction for the same offense under various legal guises;

Protection from being forced to testify against himself, that is, protection against torture;

Protection from being deprived of life, liberty, or property, without due process of law;

Protection against confiscation of property;

The right to a speedy trial, so that he cannot be held to languish in jail for crimes of which he may later be acquitted;

Protection against excessive bail;

Protection in the rights of citizenship which cannot be denied because of race, religion or economic or political affiliations, or previous status;

The right, by his own agencies; to improve his social and economic condition without governmental impediments;

The right to protect himself against exploitation, by seeking and obtaining the protection of the law and courts;

The right to protect himself from oppression either by a majority or an organized minority.

These basic human rights and others which flow from them and which our system protects, represent the maximum that man has gained in his struggle for individual freedom.

Nowhere should the individual man be more secure in his personal liberty than in the United States for the American system functions with the greatest liberty for all the people. Nowhere else are so many human beings included in the realm of human rights. We recognize no titles of nobility.

It is only under a system of economic individualism that the political supremacy of the individual is possible. It is only under such a system that the powers delegated to the state by individuals can be limited and the remaining rights and privileges retained by the individuals. It is this alone which can be defined as human liberty—as the human liberty of the individual man.

To suggest that the American system is perfect would be to expect of it something that other systems may offer but never achieve. It is a growing, changing system with imperfections which correct themselves by evolutionary processes.

But as this evolving, growing, constantly changing system moves

(Continued on page 12)

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EW S

MAY, 1938

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ETC 21949

THE manufacture of glass is one of Man's oldest accomplishments, having been discovered long before the birth of Christ and although today it is one of our most commonplace products, its history is steeped in centuries of romance.

Popular tradition dates the discovery back to a time five thousand years ago when a band of Phoenician sailors landed on a sandy beach on the shores of the Medi-

skill of the Venetians on the tiny island of Murano, was the envy of the outside world and so jealously were their trade secrets guarded that the workshops became veritable prisons for those employed in the industry. In spite of all precautions, however, the secret formulas found their way to France, thence to Germany and finally throughout Europe, although they were still handed down from one glass-blowing family to another.



Molten glass pours into the ladle which in turn is shoved into the furnace to empty its contents into great clay pots. It requires six months to make the pots and due to the terrific heat they last but fifteen days.

terranean for the purpose of preparing their noonday meal. There being no rocks available for construction of a fire place, cakes of nitre were brought from the ship for the purpose. After the embers of the fire had died down a strange new transparent material was observed glittering on the sand—a crude form of glass formed by the fusing of the nitre and the sand.

From this accidental discovery by the Phoenicians, glass making gradually spread among the Mediterranean peoples and to this day some of the most beautiful objects found in our museums are examples of the ancient Egyptian glass-blowers skill.

In the early days and for many centuries following, the art of glass making was conducted only by master craftsmen who worked behind locked doors, protected by guilds whose members were punished by death for any attempt to divulge the secrets of the process. It reached its height in the middle ages when the

White-hot glass is being drawn from the refining chamber upward over a bending roller to the flattening table. Speed of the draw determines the thickness of the glass.



At the beginning of the 17th Century, eight German glass makers came to the Virginia colony, set up a crude furnace and though the business ultimately failed, it was probably the first industrial enterprise on American soil. But notwithstanding its early start, glass was the last of all industries to become modernized. In 1900, its manufacture was essentially the same as it was in 1600. Not until 1903, when a young Irishman from Virginia invented the first automatic bottle making machine did glass making join the great procession of industrial progress which had been launched in the late 90's. During the next fifteen years, the art pro-

Five Thousand Years

gressed more than it had since the little group of Phoenicians made their discovery.

The formation in 1930 of the Libbey-Owens-Ford Glass Company consolidated the enterprise of three pioneers in the field, Edward Libbey, Michael J. Owens, and Edward Ford, all of Toledo, Ohio. For more than a quarter of a century these three had managed their own plants and had helped make the glass business one of the country's great industries.

At the world's largest window glass factory in Charleston, West Virginia, where the glass emerges from the Libbey-Owens-Ford furnaces in a seemingly endless glowing carpet, it is difficult to realize that only a few years ago all glass was blown into spherical or cylindrical shapes, then to be reheated and refashioned into panes. Today, the raw materials, essentially the same as those used hundreds of years back, are mixed in great vats, passed to the furnaces on conveyors and melted together under a heat of 2,700° fahrenheit. The molten mass flows into a great tank five feet deep and over one hundred feet long. This huge reservoir is being constantly filled at one end while from the other flows an endless sheet of white-hot liquid which passes over rollers and gradually

A single pane of glass withstands three tons of elephant where test was made at the Walbridge Park Zoo in Toledo, Ohio.



1 Years of Glass Making

cooled, a process similar to that employed in paper mills. When sufficiently cool, the sheets are machine cut in desired lengths.

The chemical content and physical form of window glass and plate glass may be identical, the difference is that plate must have further processing to produce the characteristics which give it superior market value. Moving on huge conveyors, it passes under rotating grinders and polishers, which give it the beautiful finish which distinguish it from common glass. The surface, rather than the content, is the determining factor.

When the automobile manufacturers began building closed cars, they opened an immense new market for the glass makers. From the start the automobile trade demanded plate glass and the glass industry was faced with a challenge and an opportunity greater than it had ever known. But the use of even the best plate in a moving vehicle subject to collision brought a new risk to

the motorist. The search for an answer to this problem led to the large-scale production of laminated or "safety-glass". The earlier type, consisting of two layers of glass with a layer of some plastic material cemented sandwich-wise between them, while safe, was subject to discoloration and weakened with age. Not until chemists found greatly improved plastics at reasonable cost could safety glass come into universal use and the trade reach its present proportion. Today,

killed lest the marvelous new glass become more valuable than gold or silver, thereby imperiling his own vast fortune. Now, 2,000 years later, technicians are perfecting a counterpart of that ancient Caesarian glass. A pane of Tuf-Flex placed over a cake of ice is unharmed when molten lead is poured upon it. A two-pound steel ball dropped from a height of six feet will bounce off a 1/4" pane leaving it undamaged. In another test a three-ton elephant stood on a pane 3/4" thick, support-

The most dramatic moment in glass manufacture is "the pour." The white-hot glass cascades down (at left) between iron rollers and continues along the incline like a great orange carpet twelve feet across.



Polishing line in a great Libbey-Owens-Ford Plant moves like a train of flat cars as the glass is carried under rotating grinders.

thin sheets of plate glass cut to shape, are coated with an invisible cement and welded into a complete transparent sandwich. The edges are scraped and weather proofed and it is ready for the body builder.

One of the recent accomplishments of Libbey-Owens-Ford is their product known as Tuf-Flex, or tempered plate glass. Here again the romance of the industry is emphasized and the past and present strangely interwoven—a story of lost treasure rediscovered. Malleable glass that could be hammered like metal was invented by a master craftsman in the days of Caesar. The inventor was brought before his master and demonstrated its remarkable qualities. The glass was flung on the marble floor and hammer blows rained upon it without effect. Here was one of the discoveries of the ages—known only to one man—yet the Emperor had him

ed at only two ends one foot above the ground. The glass bent under the terrific load but did not break.

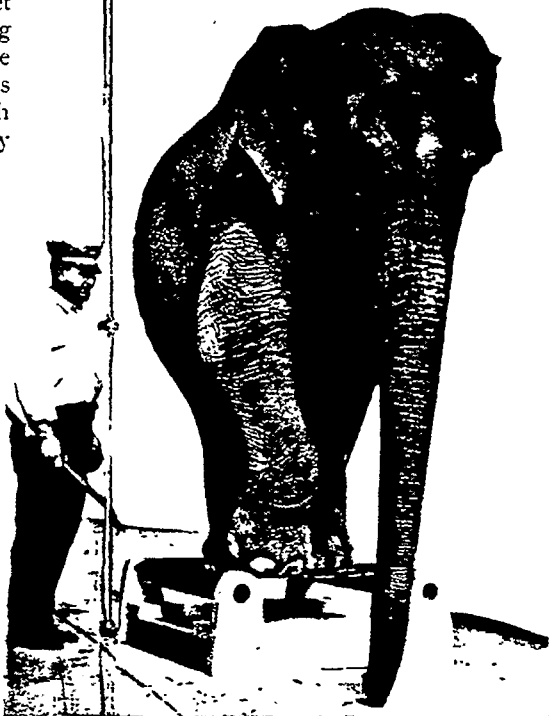
Other types of glass are being developed by these engineers which will bring new uses for the product and will add to human comfort and pleasure through its use in architecture and interior decoration.

The many tons of glass and glass products which move in a steady stream from Libbey-Owens-Ford's great plants for shipment to many ports must be transported with dispatch and safety for which large modern trucks are employed. To carry these over the highways thousands of gallons of Ethyl and leaded gasoline are consumed. At the great Shreveport plant alone 24,000 gallons of Ethyl are taken each month for the plant and its employees. Thus, one of Man's most recent discoveries is linked with the oldest industry on earth.

All photos courtesy Libbey-Owens-Ford

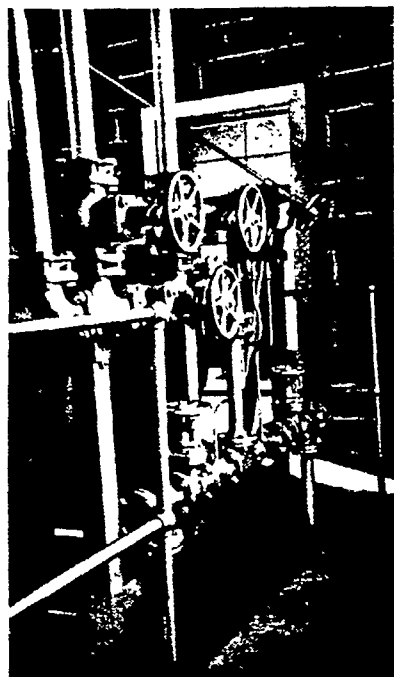
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ETC 21951



Putting the Camera to Work at Blending Plants

THE problem of taking pictures of Ethyl mixing plants calls for a somewhat different technique than the usual run of amateur photographs. In the average snapshot one can pose the subjects or



Angle shot made necessary because of no room for head-on view. Settings for depth of focus must be carefully considered here.

move the camera about until he gets the best light on the subject and the correct distance to show as much or as little as is desired. But the mixing plant is surprisingly immovable and there may be none too much room in which to set up the camera. Then, too, windows are placed to give maximum light for operating the plant which is not always the best lighting arrangement for a good picture. However, surprising results can be obtained with a minimum of the simplest equipment if a little time and care be taken.

The camera need not be an expensive one and in fact since most of us are "rank amateurs" a cheap camera will give as good results as an expensive one. The camera should

be one which the operator focuses rather than the fixed focus type and fitted with an F 6.3 lense or better and a shutter with speeds up to 1/100 second. Shutters with much faster speeds and far better lenses can of course be had but are not needed for such work. A great many of the pictures have to be time exposures so the shutter should have cable release which eliminates a large part of the jarring of the camera in opening and closing the shutter. The size of the camera is more or less of a personal choice although with too small a one the pictures will have to be enlarged while a large camera is bulky to carry around. Probably the most convenient size is one using a 616 film which takes a picture $2\frac{1}{2}$ " x $4\frac{1}{4}$."

So much for the camera and now a brief discussion of the accessories may be helpful. A tripod is very necessary as one can never be sure of a place to set the camera just where he wants it and a stand set up out of boxes, etc., is inclined to be unsteady and may tip over just as the shutter is opened which will probably ruin the exposure. In addition to the tripod there should be a gadget similar to an "Optipod" as frequently it may be necessary to clamp

the camera to a window frame or some part of the building supports. This Optipod also permits the taking of pictures with the camera tilted in almost any direction which at times is quite convenient.

An exposure meter will help greatly in getting the highest percentage of good "takes," thereby avoiding the necessity of having to do the job all over again not to mention the chances of difficulty in getting permission to take another lot. The "Leudi" exposure meter costing about \$2.25 is entirely satisfactory if the instructions for its use are followed. There are other meters also that are probably as good and the more expensive ones may be better but are not necessary.

Any good standard film of the high speed type such as Eastman's Super Sensitive Panchromatic is satisfactory but one must know the speed and the scale used in rating the film in order to use an exposure meter to the best advantage. This information can be obtained from the dealer or from the tables which come with most meters.

Included with the camera, if it is an Eastman and probably with other makes, is a book of instructions containing a table called "Depth of Focus." All instructions should be

Plenty of room for straight view but notice windows facing camera.



read but the table is particularly important and will be used for most of the inside pictures of Ethyl plants. This table gives the range of objects that will be in focus for any "distance" setting of the camera for each size shutter opening.

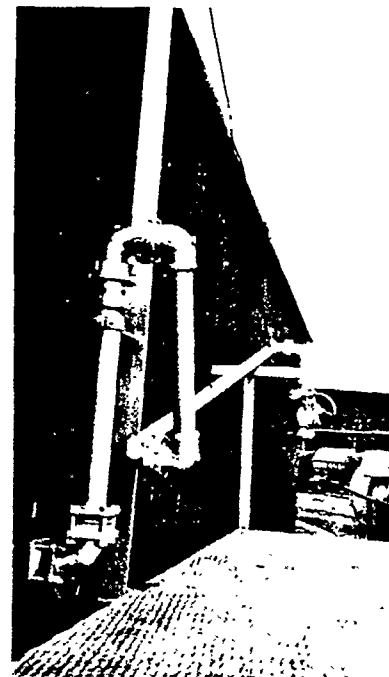
Now everything is in readiness to set up the camera and take the picture. Suppose the view wanted is somewhat similar to Fig. 1 where the wall of the building is so close that the camera can not be placed in front of the objects but at an angle. In such event the tripod legs will be closed down until the camera is about level with the center of the group of objects to be photographed and they all can be seen in the view finder. The vertical lines in the picture should be as nearly as possible parallel with the sides of the view finder or the picture will not be placed correctly when printed. Estimate rather carefully the distance of the lens from the nearest and farthest objects to be seen. The "Depth of Focus" table referred to above will give the shutter opening and the distance setting of the camera to bring all objects in this range into proper focus. As an example suppose that when taking Fig. 1 this table gave a shutter opening of f_{32} and a distance setting of 8'. Set these values correctly on the camera and then with exposure meter find the time necessary to hold the shut-

ter open at an f_{32} opening to give correct exposure. In the above example with the light conditions which prevailed it took an exposure of 35 seconds. Sometimes it will be found necessary to juggle these three values around to get a workable combination. That is the "Depth of Focus" table will call for a shutter opening so small that the time will run up into several minutes. By sacrificing a little on the depth of the focus with a larger opening the time will be cut down and one will still get a satisfactory picture.

Figs. 2 and 3 show that passable pictures can be obtained under rather difficult conditions, either with extremely poor light or with the camera facing the light. A picture sometimes must be shot facing a window and when this condition exists readings should be taken on the exposure meter for the darkest and brightest points that will be in the picture and then set the time between the two indicated. Fig. 4 is an outside picture of a new type unloading line taken at a sharp angle which makes it necessary to consider depth of focus. The shutter opening was set at f_{32} and the time of exposure was 5 sec. Note that this was taken when the sun was behind the building so there are no confusing shadows cast by the building or pipe.

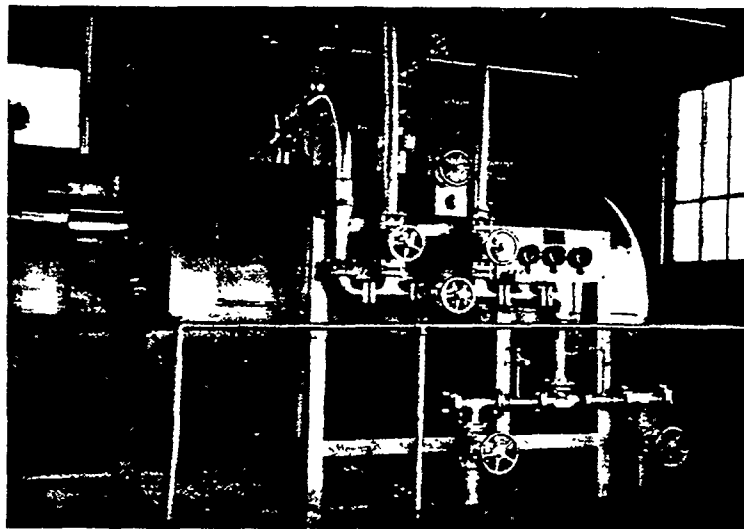
Assuming that all of these in-

structions have been carefully followed, the picture may still be ruined in the developing and printing. It should be remembered that the average commercial developer and printer does not commonly receive pictures of this nature and not knowing what one is trying to show may spoil it in developing. It will be found that it pays to stick to one source for this work and spend a



An outdoor angle shot made in the shade. Note absence of confusing shadows.

Combination of an angle shot and windows facing camera. A small shutter opening is used to give depth of focus and cut down intensity of light.



little time explaining what the pictures are and what objects should be featured. If possible show him a sample picture. A good developer and printer can frequently make an excellent picture out of a poorly exposed film, provided it was properly focused and the camera was not moved, if he knows what it is all about.

A record of exposure listing time, shutter opening and distance settings for each picture on several rolls of film when studied and compared with the final results will be a help in increasing the percentage of really excellent negatives.

ALVIN J. BALDWIN
New York Safety Division

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MAY, 1938

ETC 21953

Engineering-Architecture Day, Clemson's Annual Show Makes Record

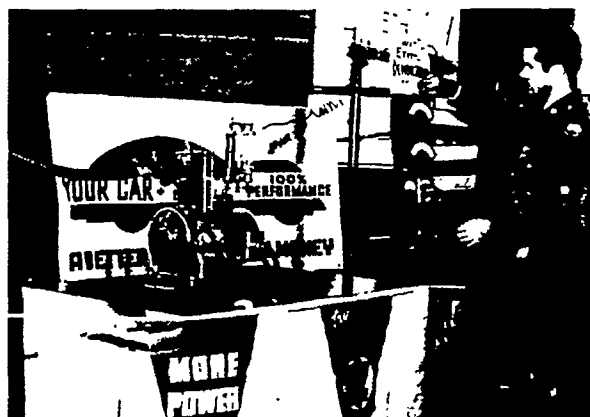
IN 1932 there was inaugurated among the students of the Engineering School of Clemson College, Clemson, S. C., a custom that has now become a tradition. It was the opening of the first Engineering-Architecture Day. This initial show which was under the direction of Prof. Earle of the faculty, was successful beyond expectation, receiving such response from the general public that it more than repaid the students for their untiring efforts

to produce the best possible. The following year the event was repeated with even better results and again under the leadership of Prof. Earle and with the additional assistance of Prof. Curtis a much enlarged and improved exhibition was given with an estimated attendance of over three thousand. However, the next few years the activity was discontinued but in 1936 it was resumed and this time for a period of several days. There were over sev-

enty exhibits and the show was complemented with a record attendance.

The purpose of the celebration is to present to the people of South Carolina a composite picture of the advancements being made in the engineering field and particularly of what Clemson is doing along these lines. Considering the interest shown in the past, the students had every right to expect that this year's showing would meet with even greater success in which they were not disappointed.

The 1938 showing was held March 18th to 20th inclusive and the report comes from Ethyl representative Mr. I. O. Wolf who was in attendance, that about ten thousand spectators attended during the three days. In the accompanying picture the Ethyl exhibit is shown with Cadet Jordan who helped run the demonstrator and he makes the statement that it created considerable interest and was responsible for several of the professors changing to Ethyl for use in their own cars.



Cadet Jordan of Clemson College ran the Ethyl demonstrator during Engineering-Architecture Day.

THE AMERICAN WAY

(Continued from page 7)

within its limits, it justifies itself by comparison with other systems. It alone recognizes that the essence of real civilization is the retention and growth of the liberties of the individual. In that it is unique.

Under the American system, the state cannot be the master of its citizens. Until recently, there has been little, if any, desire on the part of government to assume and perform the actual managerial functions of individual citizens engaged in private enterprise. The present tendency in that direction has become so marked as seriously to raise the question of whether and to what extent government shall regulate or actually manage the business of the

nation—the employees, whose co-operation is the basis of private enterprise.

The best government is not necessarily the one which spreads itself most broadly over the activities and interests of the governed. Rather, it is the one which develops, in the governed, the greatest character and capacity to live and to progress.

When the government steps out of its normal role of umpire and intervenes in the ordinary processes of production and distribution, it either reduces individual incentive, individual ingenuity, and freedom of opportunity to a minimum, or it places brakes upon human freedom. Often it does both.

It is essential, in a free system, that there should be no bureaucratic control of the citizens; that

the law be impartially applied, and that all uncertainty as to what the law is, be eliminated.

In the United States, bureaucracies have grown in number and importance, so that it has become increasingly difficult to know what the government chooses to do. The American system of private enterprise cannot operate effectively in this realm of uncertainty, so there has been a notable retardation in recovery. Free individuals will inevitably cease to invest their own money, and desist from expansion, when they fear that their liberties are imperiled by unlimited growth in the powers of government.

It is essential that the government in an individualist country represent the total population and not any

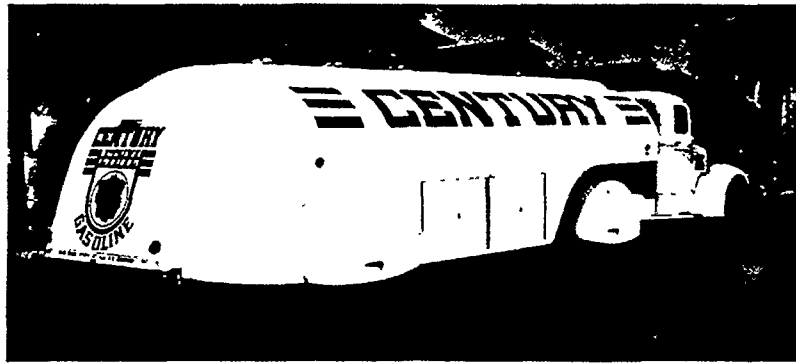
(Continued on page 16)

New Equipment for Their New Product

THE Bachmann Petroleum Corporation who operates on the Pacific Coast have recently signed a contract with the Ethyl Gasoline Corporation thereby becoming Ethyl's newest licensee customer in that territory. Their new product will be marketed under the

trade name of Century Ethyl and Century which latter is their regular grade leaded gasoline. In order to properly introduce the new gasoline they have assembled a super streamlined fleet of semi-trailer delivery trucks which is as distinctive and attractive equipment as will be

found anywhere. An enlarged portrait of the Ethyl decal has been painted on the rear with Century in huge lettering on the sides. By enlisting the cooperation of the engineers in the Los Angeles office of the Ethyl Gasoline Corporation the entire Bachmann fleet has been tuned up to properly operate on Ethyl. Likewise all the personal cars of the executives and many of the cars of the employees at the general office of the company as well as the refinery, have been put on the same diet. The report comes to us that those members of the organization who have been using Ethyl are so pleased with the result which they have obtained in their own cars that it has increased their determination to push the new premium fuel.



North Carolina State Chemistry Students Exhibit Working Model of Ethyl-Dow Plant

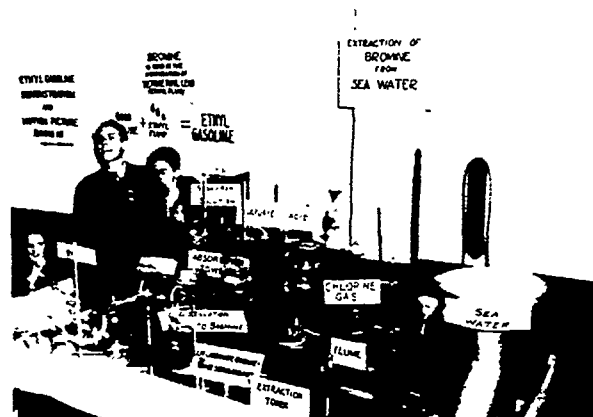
ON April 9th interest was at high pitch in the Chemistry Building of North Carolina State College. The occasion was the twelfth annual Engineers Fair which is presented to the public by the Engineering Department of the College. In Room 113 was the only "outside" exhibit, which consisted of Ethyl Gasoline motor demonstrations and a showing of the "Long Road" one of the Ethyl sound films. All of the other displays were home-made, being built and exhibited by the engineering students of North Carolina State. From two o'clock in the afternoon until half past eleven at night the people of Raleigh and vicinity who were scientifically inclined made their way from one exhibit to another. Upon reaching room 113 they found seats and in the majority of cases settled themselves for a half hour of entertainment. The Ethyl show was run as a continuous performance and it was noted that many who arrived while it was in progress waited

when the lights were put on so that they might see that portion of the program they had missed, during the next showing.

Outstanding among the many exhibits which were designed by the students was a very unique working model of the process employed for extracting bromine from sea water at the Ethyl-Dow plant near Wilmington, N.C. It had the distinction of being awarded the first prize at

the Fair. This model showed very clearly every step used in the process so that the most non-technical minded might get a good idea of what takes place at the plant. On the wall forming a background for the exhibit were a number of placards explaining that bromine was used with tetraethyl lead and chlorine in the manufacture of Ethyl fluid.

Working model of Ethyl-Dow Bromine Extraction plant at Kure Beach, N. C., as set up by Chemistry students of the State University.



MAY, 1938

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ETC 21955

Meet Mr. Pope



JOHN CLIFFORD POPE was born in Bristol, England, on August 13th, 1900. He received his early education in his native city and later attended the University of Bristol from which Institution he was graduated in 1920 with the degree of Bachelor of Science. The following year he received his Masters Degree and was awarded an "1851 Exhibition" Scholarship for study abroad.

He then went to the University of Upsala in Sweden where he was engaged in conducting an investigation in colloid chemistry under the direction of Professor Svedberg. Upon completion of his work at Upsala, Mr. Pope came to the Massachusetts Institute of Technology in Boston for further study in his chosen profession. At M. I. T. he became Research Assistant in Applied Chemistry and was later appointed Research Associate.

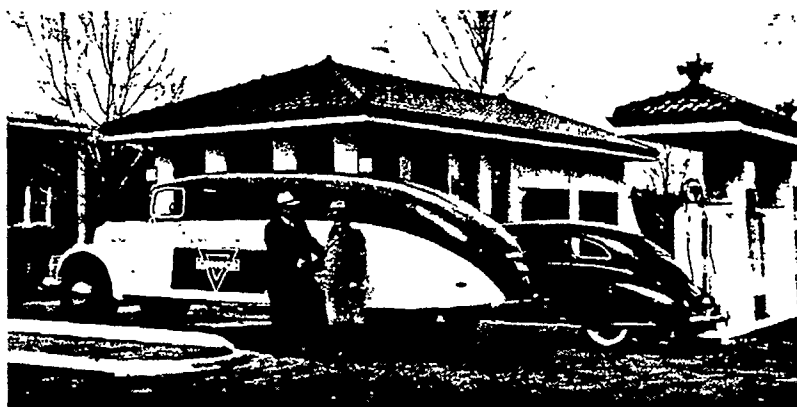
In July 1926 he joined the Ethyl Gasoline Corporation and was at first located at the Yonkers Laboratory as Research Chemist. He remained there until 1932 when the Chemical Research Laboratory was moved to Detroit at which time Mr. Pope transferred there where he acted as Assistant to Dr. Calingaert.

Early this year he again returned to the Yonkers Laboratory upon his appointment as Manager of the Gasoline Testing Department of the Corporation.

Mr. Pope is now an American citizen, is married and resides in Yonkers, N. Y.

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Continental Oil Co's New Streamliner



This ultra modern truck built expressly for the Continental Oil Co. by the Columbian Steel Tank Co. of Kansas City, was designed by Count Alexis de Saknoffsky, noted authority on streamlining. J. C. Curtis (left) Continental's Division Manager, is shown taking delivery from A. A. Kramer, President of Columbia Steel Tank Co.

THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE

AS OF MAY 1ST, 1938

TEN YEARS

FRED O. LEWIS.....*Detroit Engineering*
SAMUEL T. STAFFORD.....*Yonkers Laboratory*

FIVE YEARS

HELEN T. MCGOWAN.....*Administration*

Clinic Clippings

The Baltimore Division Motor Clinic gave its first showing on February 8th; Richmond, Va., being selected for its initial appearance. From that date until the twelve tons of equipment were packed up for the move to Baltimore at the end of March, thirty-five regular meetings were held with a total attendance of about 2,000. In addition there were special morning showings for fleet operators and their personnel.

* * *

The opening meeting of the Motor Clinic in Baltimore on April 7th was a special showing arranged for the local section of the Society of Automotive Engineers and was on the occasion of their regular monthly meeting. The Society issued invitations to its membership which resulted in an unusually large attendance. After the meeting a buffet

supper was served during the course of which the Clinic staff had an opportunity of hearing a number of favorable comments on the show from the many prominent engineers in the automotive industry who were present.

* * *

Some three years ago the Baltimore Division inaugurated a policy of holding demonstrations for employees of refineries and terminals, where blending was done, for the purpose of acquainting the men engaged in this important work with just what took place when Ethyl fluid was blended with white gasoline. This program has been in the hands of the Division Safety Department headed by Mr. Jack Cole. When the Tune-up Clinic moved to Baltimore, Mr. Cole made arrangements for the blenders at the various refineries to be present at the Clinic nights arranged for the Sales Departments of their respective oil companies.

ETHYL NEWS

ETC 21956

Ethyl Gasoline Corporation Holds First Fleet School

FROM March 21st to 30th the Corporation held a Fleet School at Detroit. There were approximately fifty people in attendance and among them were thirty-seven fleet engineers from our customer companies.

Mr. Frey and Mr. Gay of the Ethyl Gasoline Corporation's Detroit Laboratory staff handled the school, and they were instrumental in bringing in some very fine speakers from the various companies around Detroit. Carburetion and exhaust gas analysis, valve design, material and maintenance, ignition systems and spark plugs were studied. There were discussions on methods of engine testing and tune-up, gasoline and oil for fleet use, fume prevention—in fact, everything pertaining to good fleet operation. It

was the consensus of opinion that this was one of the finest schools that Ethyl has ever held in the Motor City.

On Wednesday evening, March 30th, a dinner was given at which there were fifty-five present. Mr. R. L. Jordan, Director of Field Personnel, acted as toastmaster. Refinery company representatives have requested that we give consideration to making the holding of this school an annual feature hereafter.

In addition to the Ethyl representatives, those attending the school included:

Messrs. Brush, Prosperi and Stetser of the Atlantic Refining Co.; Mr. T. S. Blair, Petroleum Advisers, Inc.; Mr. W. L. Barth, Continental Oil Co.; Mr. Frank E. Dennen, Gulf Refining Co.; Messrs.

Fielding, Hankins, Johns and McCullough of Gulf Oil Corp.; Messrs. Stonehouse and Tilston of Imperial Oil Ltd.; Mr. R. R. Couch, Phillips Petroleum Co.; Messrs. Ericson, Hendrickson and Russell of Pure Oil Co.; Mr. C. C. Bidwell, Sinclair Refining Co.; Messrs. Anderson and Hallock of Socony Vacuum Oil Co.; Messrs. Catalano and Fohl of Standard Oil Co. (Ohio); Messrs. Hafner and Lewers of Standard Oil Co. (Kentucky); Messrs. Scharff and Van Cleve of Standard Oil Co. (Indiana); Messrs. Murr and Uhl of Standard of N.J.; Messrs. Murray and Smith of Texas Company; Messrs. Pilger and Frankenfield of Tide Water Oil Co. and Mr. H. M. Rugg of Pennsylvania Grade Crude Oil Association.



THE AMERICAN WAY

(Continued from page 12)

one group in it. Such a state cannot recognize the dictatorship of a group.

When the government acts as umpire, it recognizes that the population is a composite of individuals of varying economic and political interests and it does not vary its judgments according to the interests represented but according to the facts and the law. When the government seeks to control, it chooses its allies and acts accordingly. Individuals are favored; groups are favored. It expresses its emotional antagonism by oppressing particular individuals or groups. It substitutes tyranny for freedom.

In the American system, society is classless. When the government seeks to divide the population into classes, it breaks down the free opportunity of individuals to earn and save, and designates, instead, certain favored groups. The existence of these favored social or economic classes sets off a part of the population as not worthy of enjoying equality of opportunity. It puts a dead hand upon the lives of some.

The American economic system depends upon inventiveness, ingenuity, ability and hard work, for its successful operation. It has, therefore, become characteristic of the American way that men should strive to obtain and keep equality of opportunity. The right of the individual to engage in any trade, in the production of any commodity, had to be recognized, if the system of production and distribution was to remain vital under an individualistic system which preserved the liberties of free men.

In the United States, the pressure of men accepting their opportunities constantly and continually revitalizes all economic activities; keeps the system from getting old and useless. The automobile may replace the cart and carriage; gasoline may replace the horse; wire nails may replace wooden pegs; package foods may replace home-grown and home-made products. Thousands of commodities replace thousands of others as a constantly evolving system continually improves old products and creates new ones.

This process of change gives the inventive and ingenious an oppor-

tunity to rise. It improves the standard of living of the many and gives vitality to the entire economic order. It averts a stagnant society. It is a stimulus to men to push up by their own intellectual ability.

In the past sixty-seven years, fifteen new industries have sprung up, giving direct and indirect new employment to an estimated fifteen million persons. It is the pressure of such new industries that makes for continued competition, which is the essence of anti-monopolism.

The tendency toward monopoly in the United States was never so acute as when the federal government has tried to interfere with the process of freedom of opportunity by creating a static industrial system.

It is an axiom that governments operate through bureaucracies and that bureaucracies tend to maintain a status quo. Individualism involves constant change, growth, improvement, development. Bureaucracies insist upon maintaining things as they are. When government bureaucracy takes over the control of the individualist economic processes, individualism disappears and collectivism takes its place.

NEWSBRIEFS

One of the most recent additions to the Boston Division staff is Francis C. Huyler who comes from Medford, Mass. He brings to our organization a thorough background in tune-up work and will take over the duties of tune-up engineer with the Boston Division Motor Clinic. Formerly associated with the Medford Auto Company his experience should be of value to the Clinic personnel.



Harriette Moore has joined the Ethyl family as a Comptometer operator for the Administration Dept. in the Graybar Building. She studied at Washington Irving High School and at Muriel Ransom's Comptometer School. Harriette previously was with Bourjois Sales, Inc., New York.

Robert C. Bloodwell, who recently joined the Manufacturing Department at Deepwater, N. J., was with the DuPont Company for thirteen years. The last ten years of which he was in charge of accounting for the Tetraethyl Lead Area and in close contact with us. He will be engaged in special accounting work for our company and we are glad to welcome him into the family.



Tom Keenan who came with us in January 1937, has been transferred from the Mail Room to the Accounting Department. Bob Burns is now with the Accounting Dept. in the Graybar Building taking over Tom's activities.

Word reaches us from the Baton Rouge Plant that Mr. and Mrs. Roy J. Monohan are receiving congratulations on the arrival of a daughter on April 5th. The little girl, who tipped the scales at 6 pounds 13 ounces will be named Mary. Roy is tank car inspector at the plant. We extend to the happy parents our best wishes.

Mrs. Isabelle Gerland, widow of the late Herbert Gerland, who had been with the Company for some nine years, joined the Stenographic Department at the Baton Rouge Plant on April 1st. She was born and received her education in Weeping Water, Nebraska. Friends of Herbert will be glad to learn that Mrs. Gerland is to remain a member of the Ethyl family.



Herbert C. Moseley, who joined the Boston Division the middle of March, was educated at Bowdoin College, Brunswick, Maine. He began his business career with the New England Oil Refining Company of Boston where for three years he was engaged in various activities including maintenance, bulk plant operation and retail and wholesale sales in Metropolitan Boston. He then became associated with the Texas Company as their Wholesale Representative in Providence, R. I. Herbert's last connection, before joining our organization, was with the Firestone Tire & Rubber Company where he served as assistant to the District Manager for the Massachusetts and Rhode Island areas.



John K. Morris of the Chicago Division died at the Ryford Hospital in Ottawa, Ill. on Monday, April 4th, 1938 after an illness of four months. To members of the Division the announcement of John's death came as a shock. He had qualities of character and personality that tied his friends closely to him. In his short span of life—he was born only 31 years ago in Lake County, Ill.—he had a colorful career. John was educated at the Universities of Iowa and Purdue where he was a member of Phi Delta Theta and Tau Kappa Alpha debating fraternity and was active in the student broadcasting station at the latter school.



After graduating from Purdue, he was with Pontiac Motors for three years, travelling over the country with Chief Pontiac of World's Fair fame and later had charge of the Pontiac exhibit at Dallas, Texas.

He joined the Ethyl Gasoline Corporation in November 1936 and for a while represented the company in northern Wisconsin. At the time of his illness he was associated with the Chicago Division Motor Clinic. Many of his friends with the company will remember him at the Clinic School and the school he attended at the Detroit Laboratory in November 1936.

Surviving are his wife, Elizabeth Goni-gam and his year old son, David Allen.

Northrop Clarey, Jr., who has just joined our organization is a graduate of Phillips Exeter Academy and Harvard University. Although but a few years out of college he has had unusual opportunities to study the oil business through his travels in seventeen foreign countries and visits to a number of well-known oil ports such as Tampico, Corpus Christi and Cartagena. On his last trip he covered the great oil fields in the Maracaibo basin of Venezuela and the Aruba refineries. His first business connection in New York was with Blackman Advertising, Inc. and later with J. Stirling Getchell where he was on the Socony-Vacuum account. Northrop is attached to the General Sales Department and his duties will be in connection with advertising, sales promotion and publicity. He is married and makes his home in New York City.



We welcome to the Ethyl family Arthur P. Deverill who comes to us from the Chevrolet Motor Company, Tarrytown, N. Y. where he was employed as an accountant for the past eleven years.



Arthur studied at the Yonkers Extension of New York University and also at La Salle University. He will take up the duties of an accountant in our offices in the Graybar Building.

Patricia Watson who came with us on April 1st as secretary to Jack Martin, was born and brought up in Alabama, and is a graduate of the Alabama Polytechnic Institute. Before joining Ethyl, Patricia was with the General Foods Corporation as secretary to the General Traffic Manager. Her hobby is dramatics and for a year she travelled with a producing company as stage manager. They staged a Biblical production with over 100 in the cast.

The many friends of Dwight Andrews in our own organization and in the General Motors Parade of Progress to which he was attached as our representative until recently, will be interested to learn of his marriage on Saturday, May 7th to Miss Nina Geddes Nelson. The ceremony took place in Trinity Episcopal Church, Columbia, S. C. We extend our heartiest congratulations to the young couple and welcome the new Mrs. Andrews to the Ethyl family.

The new Tennessee Field Representative for the Atlanta Division, Stonewall Jackson Warner, Jr., is a native of Atlanta. He received his B.S. in Civil Engineering from the Georgia School of Technology and while at college, was quite active in athletics. He then spent one year in the Graduate School of Yale University taking Business Administration and Sales Psychology. Before coming with the Ethyl Gasoline Corporation, he engaged in the Local Insurance Agency business in Atlanta for two years and was then connected with the Railway Audit and Inspection Company as Sales Manager in the Southern Division for RCA Police Radio Equipment. For the past two years he has been with the General Exchange Insurance Corporation as Claim Examiner and Field Branch Agent of their Montgomery office and comes to Ethyl from that unit of General Motors.



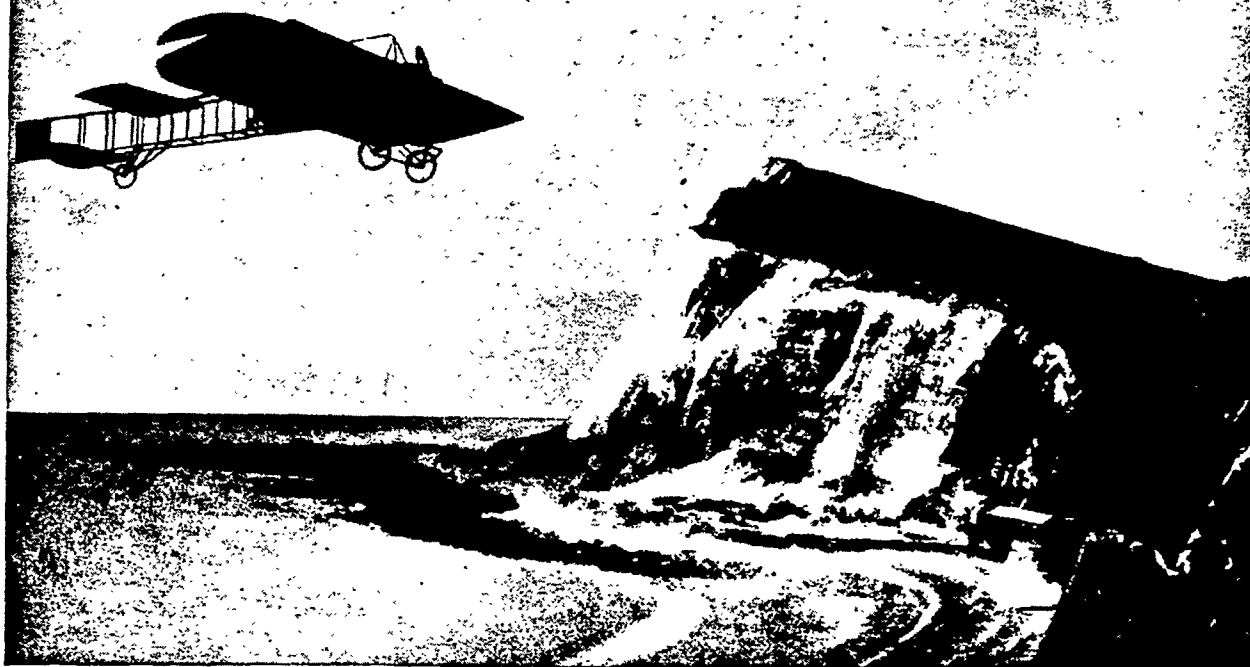
"Jack" is married and has one daughter.



To those in our organization who may be equestrian minded it will be of interest to learn that we can boast of a blue ribbon winner. She is Sun-Tan owned by E. R. Chellborg, our Purchasing Agent. Elmer, who has been a lover of horses for some years, purchased his new hunter quite recently and entered her in the American Horse Show Association's First Spring Show which was held March 26th. Sun-Tan's record at this initial appearance was most gratifying to her new owner as she captured the first leg on the Delaney Trophy, thereby winning the blue ribbon and a cup. She also secured five other ribbons in hunting and jumping classes. In the Second Spring Show on April 2nd she won a blue ribbon in the Junior Jumpers Class. In this latter event she was ridden by Miss Eileen Egan, her former owner.

FLYING THE ENGLISH CHANNEL

*rated a monument
in 1909*



ALL England was stirred, 29 years ago, when M. Bleriot flew the 25 miles from Calais to Dover Downs. Later a monument was erected on the spot where he landed. Now *daily* channel flights are news only in airline time-tables.

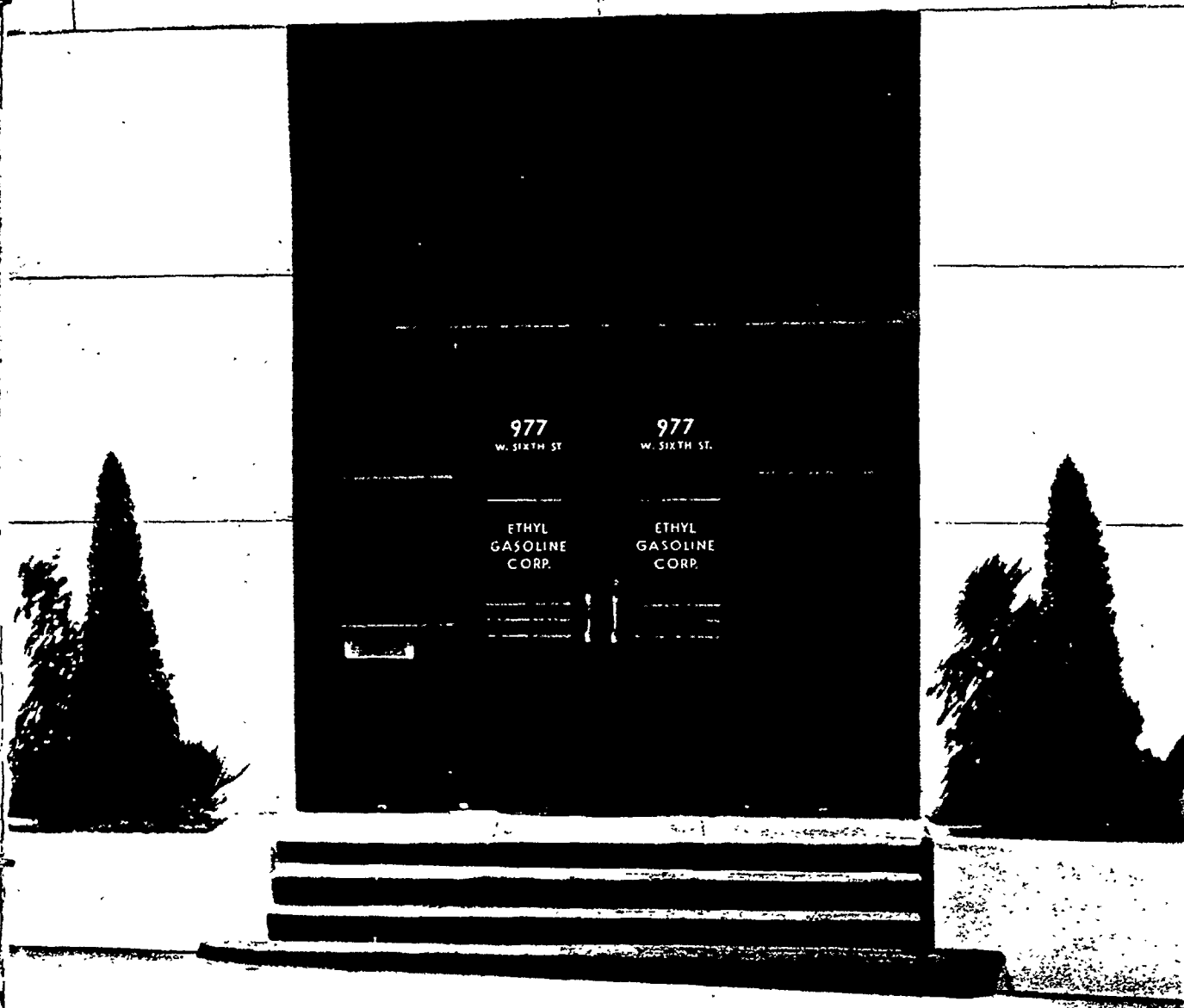
Even the most spectacular transatlantic and trans-pacific hops are front-page

news only for a day. Refinements in fuels and engines have made yesterday's records today's routine operation.

But what about the next 29 years? Where will still further improvements come from? The answer is the same as in Bleriot's day—from improvements in fuel and engine.

Ethyl engineers are cooper-

ating continuously with aviation engineers in the never-ending task of developing better gasolines and engines. Only through constant research can the transports of 1967 make those of today seem as old-fashioned as Bleriot's monoplane now does to us. Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y.



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W. SIXTH ST.

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ETHYL
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CALIFORNIA - LAND OF BEAUTY, SUNSHINE, WEALTH, ETC - AND SOME OF THE ENVIRONS - INCLUDING THE BALANCE OF THE UNITED STATES, PARTS OF MEXICO AND CANADA. "This conception has some few inaccuracies, technically only."

ALIFORNIA - LAND OF BEAUTY, SUNSHINE, WEALTH, ETC - AND SOME OF THE ENVIRONS - INCLUDING THE BALANCE OF THE UNITED STATES, PARTS OF MEXICO AND CANADA. "This conception has some few inaccuracies, technically only."

EASTERN STATES ARE
REPUTED TO BE BIGGER, IN
SOME CASES, THAN THE
SUBURBS OF SACRAMENTO
- AND TO HAVE WINTER
SEASONS RESEMBLING
THOSE OF ALASKA, DUE
TO LACK OF SUNSHINE.

THE EAST, THOUGH AFFECTED BY MANY SEASONAL INCLINENCIES, HAS AN IMPORTANT BACKGROUND WHICH RENDERS IT TODAY, A PLACE DEAR TO THE HEARTS OF ALL LOYAL SONS OF CALIFORNIA, FOR IT WAS FROM THIS SECTION OF THE U. S. THAT THE COVERED WAGON STARTED ON ITS EPIC JOURNEY TO THE GOLDEN STATE - THE LAND OF OPPORTUNITY AND FAIR WEATHER - THE LAND AROUNDING ITSELF IN RICH SOIL, NATURAL BEAUTY, AND INTELLIGENT PEOPLE - FINE AUTO ROADS AND PROSPEROUS CITIES - HOME OF EVERY HIGH ENDEAVOR, GRACIOUSLY FRAUGHT WITH SUCCESS - THE LAND OF EVERYTHING GOOD, ETC. -

CARTOGRAPHY by W. MARTIN of ILLUSTRATOR INC.

• Pacific Coast Division Issue •



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VOL. 5, No. 6

American Opportunity Contributes to High Living Standard

THERE are two ways of interpreting the fact that throughout the world some people have more than others. The one prevalent in certain foreign countries is that *because* some people have more, others have less. In such instances the effort is to take from the one and give to the other.

The net result of this process and philosophy is a general downward level of living standards.

Then there is the second interpretation which has been for years accepted in this and other progressive countries. It is, that the fact that someone else has a better home or a better car indicates that others have an opportunity to achieve the same position. Success by *some* means that success is possible for *others*. In this country we call that "opportunity" and it is one of our most cherished possessions.

The pressure of men striving—not to tear down what someone else has achieved—but to get ahead himself, to achieve and produce, has been a mainspring of American progress.

It is always instructive to glance at the records of men who have risen from humble beginnings to commanding positions in American industry.

To remember that Benjamin Fairless, head of United States Steel, began his career as an office boy, or that William S. Knudsen, President of General Motors, came here from Denmark at the age of twenty and began work in a shipyard, is to remember that this is still the land of opportunity, just as it always has been.

But there is a much greater lesson to be learned in considering the lives of men who have risen to the heights. It is this:

There are thousands and thousands of businesses in this country, hundreds and hundreds of major industries. In these myriad enterprises are hundreds of thousands of men in key jobs, men who have risen, less spectacularly perhaps, to positions of importance and responsibility.

The fact that they have risen, and will continue to rise, coupled with the fact that new industries will mean additional new opportunities for many more men, suggests that new places at the top are always open.

But this thing called "opportunity" has a direct influence on the way all of us live in that it is largely responsible for our high American living standards.

(Continued on page 7)

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NATIONAL MEETING OF CLINIC MANAGERS
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SERVICE AWARDS

Ethyl's Pacific Coast Division Open New Home



The Ethyl Gasoline Corporation's Pacific Coast Division moved into offices in the new building on Sixth Street, Los Angeles, early in May.

ANOTHER "California First" was inaugurated early in May with the dedication of the beautiful new home of Ethyl Gasoline Corporation's Pacific Coast Division on West Sixth Street in Los Angeles. The new building

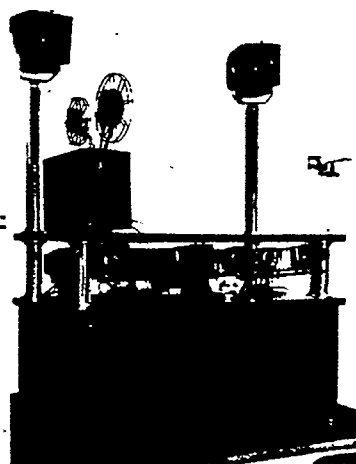
This Ethyl emblem meets the eye of the visitor as he enters the lobby of the Pacific Coast Division's new office.



will house the division offices and a permanent Ethyl Clinic, the first of its kind in this country.

The opening ceremonies, held on May 4th, were attended by the principal executives of Ethyl's Pacific Coast licensees who had been invited to be present. The Corporation was represented by President Earle W. Webb and Vice Presi-

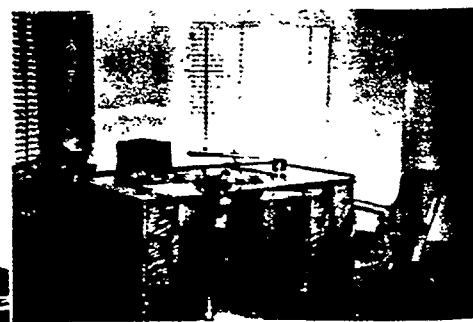
The projection stand in rear of new Ethyl permanent Clinic. From these instruments dial readings are projected on the screens at the front of the hall so as to be easily read by the audience.



dent J. Coard Taylor, also Messrs. Kaley and Martin, General Sales Manager and Director of Clinics, respectively, all of whom had made a special trip by plane from New York to be present at the festivities. A special showing of the Clinic put on for the guests was conducted by Mr. Jack Martin and they were later entertained at a dinner at the Ambassador Hotel.

The building is situated on a slight hill overlooking the downtown section of the city. It is also conveniently located in relation to the offices of a number of Ethyl's

A corner of Division Manager Wagner's office in Ethyl's new home on Sixth Street, Los Angeles





Ethyl's President, Earle W. Webb, greets Division Manager Wagner upon his arrival by plane from New York to attend the opening of the Pacific Coast Division's new offices while Vice President Taylor and Sales Manager Kaley stand by.



President Earle W. Webb, discusses the new Pacific Coast Clinic with L. P. St. Clair, President of the Union Oil Co.



J. H. MacGaregill, of Standard Oil Co. of California, snapped at opening of the new Clinic.



A. L. Weil, General Petroleum Corporation's President, was among the guests at the opening of the Los Angeles permanent Clinic.

licensees and is adjacent to Figueroa Street which is the Automobile Row of Los Angeles.

The feature of the building most worthy of attention, perhaps, is the auditorium which is on the street floor and which is devoted to the permanent Clinic. The room is 32 by 60 feet and provides space for the dynamometer, special exhibits and light tower. It will seat 150 people comfortably. Beautifully lighted for both day and night meetings, it has a forced draft ventilating system and is equipped with suction exhaust connection for both the demonstrating engine and the car on the dynamometer.

The Division offices occupy the second floor while quarters for the local field staff are located just off the lobby on the main floor. In the basement there is ample storage space and room for a small shop. At a later date when the Ethyl tune-up school gets under way, provision will be made for a well-equipped class room.

The new Ethyl Clinic is an outgrowth of the Ethyl Portable Clinic, ten of which are now operating in various cities throughout the country and which also had its be-

charts and automobile units, just what goes on in the engine of a motor car on the level highway or a hill when different grades of fuel

Permanent Clinic in Ethyl's new building in Los Angeles which was opened with a special entertainment attended by executives of the Corporation and representatives from oil companies on the west coast.



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San Francisco Manufacturer Tests Clinic's Appeal

THE ECHLIN MANUFACTURING COMPANY of San Francisco have been conducting a Motor Check Clinic at one of the large service stations in Oakland, Cal. Their chief purpose in opening the Clinic was to test the merchandising effectiveness of a new sales promotion plan they are contemplating putting into opera-

tion for the benefit of purchasers of their tune-up equipment.

In order to secure the best results they were very careful in choosing the location in which to carry on their operations. They finally decided upon the Boulevard Auto Service which is a super-service unit run in connection with a garage and parts business, which

particular set-up seemed to best meet their requirements. As far as gasoline is concerned the outlet is a 100% Associated account which was already cooperating with the Associated Motor Check program.

In addition to their tune-up equipment Echlin secured the use of a demonstrating outfit supplied by the Ethyl Gasoline Corporation through Mr. Eppey of the Company's Los Angeles office staff. The program was further supplemented by thorough and systematic local advertising. The results were gratifying as between four and five hundred people visited the Clinic during the week. In all, 178 cars were tuned-up during that period of which 117 were adjusted for Ethyl and of this number 49 were new Ethyl converts. The Clinic proved so popular that the demand was far beyond its capacity with the result that over 100 cars had to be turned away and these jobs were done later.

The program was of considerable benefit to the station also as their Ethyl sales have held at an average increase of 300% compared with their previous record.



Echlin Manufacturing Company's equipment at Boulevard Auto Service in Oakland where new merchandising plan was tested out.

First Mobile Clinic for Independent Service Station

THE SUNSET OIL COMPANY is one of the larger independent oil companies on the west coast. In order to increase the sale of their top quality products and at the same time better consolidate their marketing activities, they came to the conclusion that a motor clinic service would materially help the situation. They accordingly sought the advice of engineers at the Los Angeles office of the Ethyl Gasoline Corporation's Pacific Coast Division. It so happened that Mr. J. D. Arden, Motor Technician of Los Angeles, was in possession of a good set of tune-up

equipment and had the experience necessary to carry on such an activity successfully. The two parties were brought together with the result that a year's contract was entered into whereby Arden was to supply the tune-up service for the oil company.

On May first, Sunset Oil Company's Ethyl Motor Clinic Unit Number One was placed in operation under the new arrangement. The equipment, neatly painted in the company colors, is to follow an itinerary which will cover a group of the better independent service stations handling Sunset products

in the Los Angeles area. It is planned to bring this mobile tune-up clinic back over the same route at about 90 day intervals and to put in additional units if the results continue to show up as favorably as they have at the first group of stations where the service has been offered. It is reported to be the first time a motor tune-up service has been used as part of a marketing program of an oil company selling exclusively through independent service stations. It goes without saying the results are being followed with a great deal of interest.

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ETHYL NEWS

ETC 21966



Vern Alm (left) observes motor technician J. D. Arden while he tunes up a car at Sunset's first mobile motor clinic.

Sunset Oil Company's Motor Clinic opened their first unit early in May. Here Vice President Barshfield of Sunset greets Ethyl representative, Carl Abell, while Sunset's Sales Manager, K. R. Krove, looks on.



A Million Miles on Ethyl—Still Going Strong

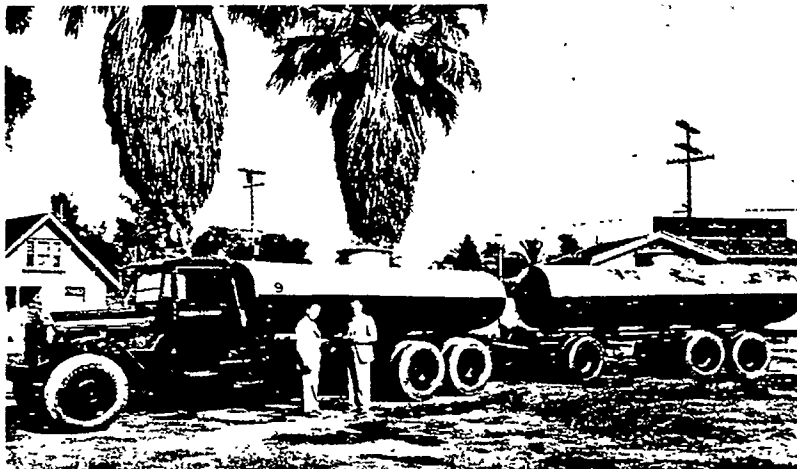
IN traditional Chamber of Commerce style the Los Angeles office of Ethyl Gasoline's Pacific Coast Division claims credit for the first truck to complete one million miles—on Ethyl. This truck, which is owned and operated by Paulsen and March was brought to Ethylman Frank Elliott in April 1930, in order to see if there was some way in which its efficiency might be improved. At that time the high compressioning of commercial jobs

was in its infancy but "Doctor" Elliott nevertheless undertook the task. He accordingly had the youngster's head shaved and put him on an Ethyl diet. Now this truck is the "Granddaddy" of the family for the operation and prescription recommended proved so successful that fourteen more were given the same treatment.

Today the fleet of fifteen units are still rolling up the miles and are 100% Ethyl users — and

boosters. During the eight years since they first tried what was then somewhat of an experiment, the whole fifteen average 800,000 miles each and are still going strong. In all that time even with the improved gasolines available, they have not considered changing.

Again, getting back to the Chamber of Commerce method of reckoning, it may be of interest to note that during this period these fifteen trucks have burned enough Ethyl Gasoline to lift the Empire State Building in New York one mile and a half in the air.



Stanley D. March (left) and Fred Paulsen with their first million-mile truck which has been on an Ethyl diet since April, 1930.

In one of his more lucid moments the Bard of the Pacific Coast Division commented on the fact that Ethyl Gasoline sales had increased so little during the past year:

**Recession's shadow clouds
the land;
Stark fear is at the door.
Millions of cars are pinging
now,
That never pung before.**

Their Aim is Service Equal to Their Product

ALTHOUGH a leader in their field, the Harley-Davidson Motor Co. of Milwaukee, Wis., is not content with their efforts to make their product second

low to advantage. With this policy in mind Harley-Davidson has set up schools for the purpose of bringing a factory-trained personnel within the reach of motorcycle

to attend the series of schools which are held under the guidance of experienced instructors. Lectures and bench work, where new methods and tools are explained, combine theory with actual practice. Experts in kindred fields are called upon to discuss subjects in which they are specialists. In connection with this program an Ethyl representative has been called upon each year to address the classes in the Service Schools on carburetion and kindred subjects. Upon completion of one of these courses every man attending is qualified to render expert Harley-Davidson service.

Since the program was first inaugurated almost two thousand men have been intensively trained as specialists in this line. During the past winter, five such schools were held with students coming from 26 states and Canada. This educational policy has resulted in the placing of factory-trained experts all over the world, where they are giving Harley-Davidson owners efficient and intelligent service. Thus the great army of owners of the company's motorcycles, sidecars, package trucks and Servi-Cars are receiving the most up-to-date service on their equipment which represents so many thousands of dollars investment.



A group of students attending Harley-Davidson Motor Co. School at the Company's Milwaukee Plant.

to none but believe that their customer service should be of the same high standard. "SERVICE THAT CONTINUES OWNER SATISFACTION THROUGH THE YEARS" is a slogan that every manufacturer might fol-

low to advantage.

Ever since the World War when thousands of men in the army were given Harley-Davidson training, dealers and mechanics have come annually each winter to Milwaukee

Ponca City Man Pioneers New Service in Oklahoma



View of dynamometer at Auto Electric Co. in Ponca City. Note fan installed to aid in cooling motor.

L. L. Fawcett, who installed the first stationary chassis dynamometer in Oklahoma.



WHILE the Ethyl Gasoline Corporation's Tulsa Division Motor Clinic was showing in Ponca City, Oklahoma, Mr. L. L. Fawcett was one of the many who witnessed the performance. In fact, Mr. Fawcett, who is the owner of the Auto Electric Company of Ponca City, was so impressed with what he saw that he visited the Clinic several times, not only while it was in his own city but after it had moved on to Oklahoma City.

Finally, he determined to install a dynamometer in his own estab-

lishment. Accordingly, the necessary arrangements were made and in a surprisingly short time everything was in readiness for him to offer a full tune-up service to his customers. This forward move on his part gives him the distinction of being the first to install a stationary chassis dynamometer in the

State of Oklahoma. Early in May he began to hold a series of meetings. Included on the program was Ethyl's sound film, "The Long Road" as well as an Ethyl demonstrator. The accompanying picture shows a general view of the dynamometer installation ready for operating. Note that a large fan has

been installed to aid in cooling the engine, thereby avoiding the necessity of the water hook-up which is frequently employed. It may be of interest that for the first two weeks after Mr. Fawcett opened the Clinic the total attendance at the various meetings was upwards of 300.

Oklahoma Highway Patrol Helps Open Motor Clinic

THE Ethyl Motor Clinic attached to the company's Tulsa Division and under the direction of Mr. H. E. Cottrell, assisted by Mr. W. B. Barnes, made its appearance in Oklahoma City, Oklahoma, on March 16th. At the Preview Meeting which was attended by 125 people representing both the Petroleum and Automotive Industries along with the officials from the State, County and City, considerable interest even to the point of enthusiasm was in evidence. As a result of the interest aroused at this meeting the Clinic was accorded the fullest cooperation from members of both the Petroleum and Automotive Industries during the remainder of its stay in the City.

Through the courtesy of Mr. J. M. Gentry, Commissioner of the Oklahoma Department of Public



Personnel of Ethyl's Tulsa Division Clinic. From left, Clinic Manager H. E. Cottrell; Rollin Barnes, Automotive Engineer; J. B. Cox, Property Man; R. M. Hammond, Tune-up Engineer and Dale Miller, Junior Engineer.

Safety and Mr. Jolly, Superintendent of Transportation of the State Highway Patrol, one of the Patrol Cars was made available and presented a very attractive appearance on the dynamometer.

The Oklahoma Highway Patrol, which was organized on July 15th,

1937, recently received a trophy awarded by the National Safety Council at Washington, D. C., for leading 12 southern states in a 1937 traffic safety contest. This organization is made up of 125 members and operates a fleet of 57 units throughout the State.

AMERICAN OPPORTUNITY CONTRIBUTES TO HIGH LIVING STANDARD

(Continued from page 1)

Probably the most accurate way to compare the living standards of people here and abroad is to study the length of time it takes each of them to earn the same product. Mr. Gerard Swope, returning from a visit to Europe, brought back with him some interesting figures on this subject, which were printed in a recent issue of Atlantic Monthly.

These figures show, for instance,

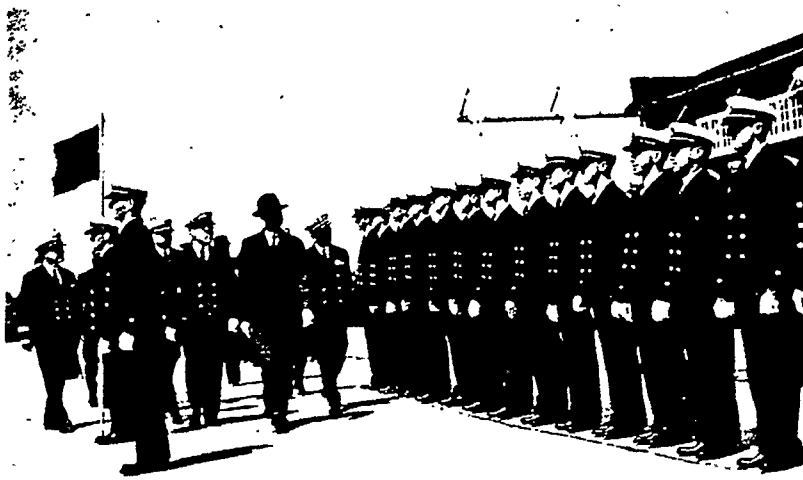
that in this country it takes 1.7 hours' work to purchase a certain quantity of food, while in the next best country it requires 4.25 hours. In the United States the average workman can purchase an automobile with 4.5 months' earnings; in the nearest European country a man must work 8.5 months for it, and in one country the purchase of a car would require all a man earns in two years. As Mr. Swope remarks, "These figures themselves show how impossible it would be for a workman in those countries to buy a car even on a time installment plan, as it would be worn out

before he could pay for it."

While these individual examples are striking in themselves, when we go through the list—rent, electric refrigerators, radio sets, and light bulbs—and find how much easier it is to get any of these things here than abroad, we realize that we have another graphic example of America's high standard of living.

American opportunity and living standards are not just idle phrases. They stand for tangible benefits that we have, and that men and women in other nations do not enjoy to so great a degree.

Junior Birdmen of the



Inspection of cadets by Admiral King, U.S.N., at Pensacola Naval Air Station.

All Illustrations Official U. S. Navy Photos



A group of cadets receive morning assignment. Soon these planes will be soaring overhead like huge yellow birds.



UNCLE SAM'S "eaglets" attending the U. S. Naval Air Station in Pensacola, Florida, were recently made acquainted with the Ethyl story. Mr. Tennent of Ethyl Gasoline Corporation's Atlanta Division received an invitation from Commander M. M. Witherspoon to present the Ethyl sound film and deliver an address to two groups of officers, cadets and other personnel of the station. Nine hundred strong, they listened attentively. Later Commander Witherspoon wrote: "The men were intensely interested in your lecture and film; you have something there." To which we might reply: "Same to you, Commander; Uncle Sam has something there, too—in Pensacola."

Here is the largest naval flying school in the world. A huge modern plant sprawled over thousands of acres of land including ancient Fort Barrancas. This old fortification which commands the entrance of Pensacola Bay has, during more than two centuries, withstood attacks from ships flying the flags of five different countries. Soon after the Spaniards founded Pensacola in 1696 the fort was built to protect the new colony. Today it stands as one of the three perfect types of old Spanish fortifications remain-

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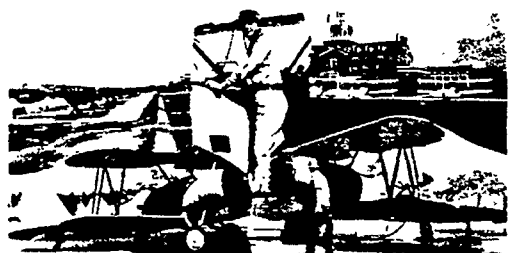
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ing in the country. Through the years many fierce battles have been fought for Pensacola, "the city of sorrows". Alternately in possession of Spain, England and France, Florida became United States territory in 1821. The new owner, as had the others in the past, established a naval station there. Old Glory has flown over it ever since, save for a few years under the Confederate flag during the war between the states.

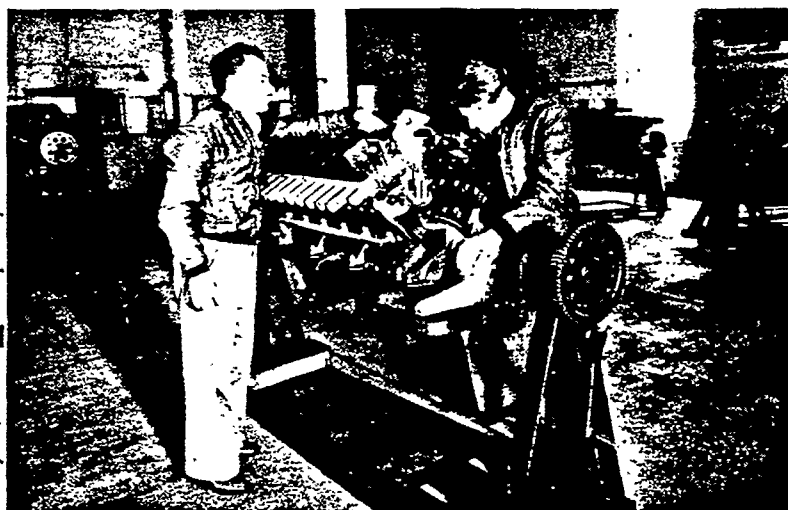
As one enters Pensacola he gets the impression of passing under a huge flock of yellow-winged birds—wheeling, soaring, dipping in every direction. United States Naval training planes are all over the landscape, putting a picked group of wonderfully fit young Americans through strenuous paces. The Navy picks them young, between the ages of 20 and 28 years with two or preferably four years of college training. Both the mental and physical requirements are severe and a further rigid training period follows. There is a constant selectivity which entails the dropping of an average of one student daily from the school. But what a training for these young cadets and what a brilliant, active and reserve flying corps is in the making. Uncle Sam may indeed be proud of his "birdmen".



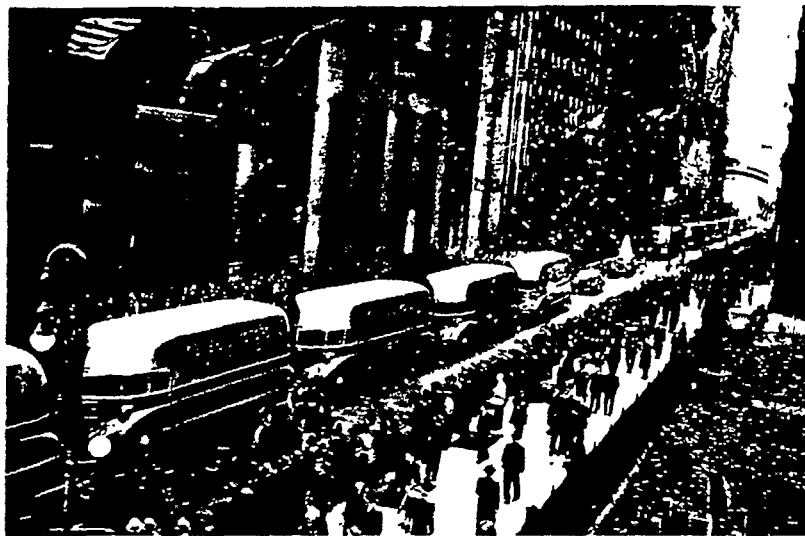
Officers at Naval Air Station, Pensacola, Fla., who are making Uncle Sam's birdmen second to none.



Students at the Naval Air School spend many hours receiving instructions in the ground school.



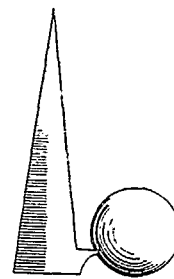
G. M. Parade of Progress Featurec



Silver streamlined trucks of General Motors "Parade of Progress" moving through the canyon of lower Broadway in the World's Fair Motorcade marking the Preview of the 1939 Fair on April 30th. In the picture the spectacle is passing Trinity Church Yard at Broadway and Wall Street.



All previous attendance records were broken when over 100 thousand persons visited the "Parade of Progress" on Sunday, May 1st. The traveling circus of science and research occupied the site of the General Motors exhibit at the 1939 World's Fair. In the background is the Administration Building where the General Motors luncheon was held on May 2nd.



AS the largest entry of any World's Fair exhibitor, the Parade of Progress formed an impressive section of the Motorcade through Manhattan to the World's Fair site in Flushing, L. I. It was viewed by spectators estimated at more than a million people. The Motorcade was staged preliminary to the World's Fair Preview on April 30th.

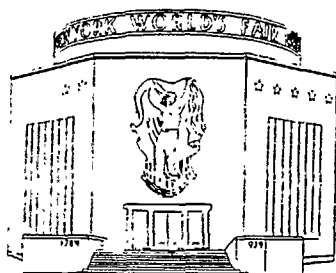
Vaughn Collett, costumed as a sportsman-motorist of 1902 with Miss Allie Angell, "stole the show." They rode the route of 16 miles in "Old Scout", curved-dash Oldsmobile and the first car to cross the continent in 1905. "Old Scout" now is a featured attraction of the Parade of Progress. In the Motorcade the tiny "horseless carriage", rolling in the midst of the giant streamliners, riveted the attention of newspaper columnists, radio commentators and newsreel photographers, and won laughs and applause from spectators in every block.

More than 130,000 persons visited the international "circus of science" on April 30th and May 1st when it was set up on the six-acre site of the General Motors exhibit as an attraction of the Preview of the New York World's Fair of 1939. The Ethyl exhibit was prominently placed directly opposite the main entrance. This attendance figure topped by nearly 20,000 people the previous high record attained last January during the first two days in Mexico City.

The 4,000,000th visitor to the

ETHYL NEWS

ured-in New York World's Fair Preview



General Motors show was welcomed at the World's Fair on May 3rd during the final performances of the engagement. Following the New York show, the scientific equipment was stowed away in the 24 huge streamliners for transportation to Trenton, N. J., where the educational entertainment, conceived by Charles F. Kettering, was presented on the grounds of the New Jersey State capitol.

A feature of the New York showing of the Parade of Progress Exposition was a luncheon on May 2nd given by the General Motors Club of New York, an organization made up of field executives of Divisions of the Corporation. Guests included General Motors and World's Fair executives and members of the New York press. The Ethyl Gasoline Corporation was represented by Messrs. Murphy, Littlefield and Harris.

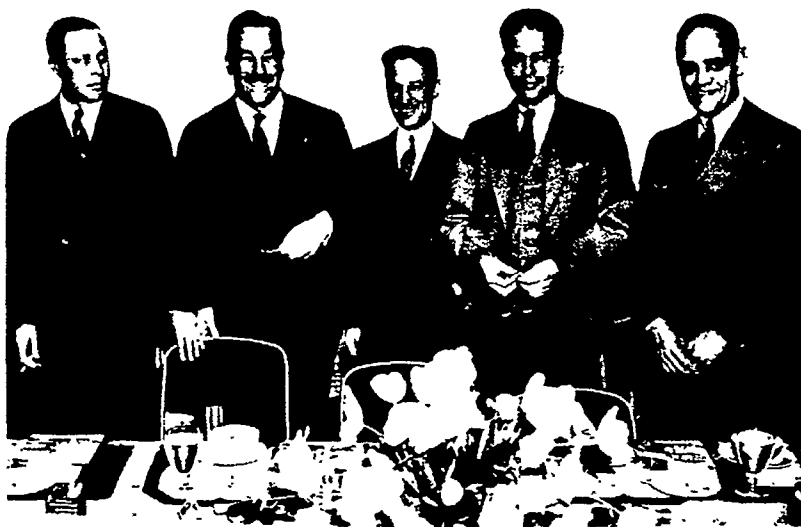
The luncheon, with an attendance of 74, was held in the Directors' room of the Administration Building at the World's Fair and was the first entertainment of the kind to be held in the new building.

Grover A. Whalen, World's Fair President and guest of honor at the luncheon, complimented General Motors both on the Parade of Progress Exposition and its lead in participating in the coming World's Fair. He predicted the Fair would bring approximately a billion dollars into New York and would prove a stimulus to business, better world understanding and international peace.

JUNE, 1938



Ethyl's "Parade of Progress" representative, Fritz Merter, telling the Ethyl story to an interested crowd in Trenton, N. J. After leaving New York the Caravan proceeded to the New Jersey State Capitol for a three-days' stand.



The speakers at the General Motors Club Luncheon in the beautiful Directors' room of the Administration Building. From left, J. M. Dineen, Director of General Motors Sales; Grover A. Whalen, World's Fair President; Arthur DeLoach, General Motors Club President; C. A. Lewis, Assistant Director of Public Relations; and John M. Jerpe, "Parade of Progress" Publicity Director.

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Sales Down—Profits Up

THE above may sound absurd but there is one Ethyl representative in the Chicago Division who will vouch for the truth of the paradox.

Not long since, he stopped at the Noyes Garage in Evanston, Ill., to offer his services, if they were desired, in building up sales through demonstrations or in any other way that might be helpful. After stating his errand the proprietor, Mr. Eichenseer, replied:

"Perhaps you can increase my Ethyl sales but I doubt it."

This sounded like a grand opportunity for our Ethylman to get in some good work but before he could open up with both barrels, Mr.

Eichenseer continued: "Now just wait a minute and let me finish before you tell me you can."

So saying, he took out a ledger, ran off some figures on an adding machine and coming over to his visitor he laid the paper before him. "Here are my sales since the first of the year," he said. "What percentage of Ethyl do these gallonage figures show? I figure that I am selling 70% Ethyl. Can you build that any higher?" Sure enough there they were, a good 70% ratio. However, Mr. Eichenseer was glad to have our Ethylman run his demonstration motor for his employees and when the show was over he remarked: "That gives me a clear

picture of why I should sell Ethyl to people who want the best performance but it doesn't tell why I make more money on it. That's really the reason I'm selling it. Why, do you know that due to business conditions my gallonage is under that of a year or two years ago by several thousand gallons. But due to my extra profit on Ethyl I am still making more money."

If this Evanston station owner can do this, others can accomplish the same. A pretty good way to make up for a drop in gallonage during hard times when people can be made to realize that quality in the end spells economy.

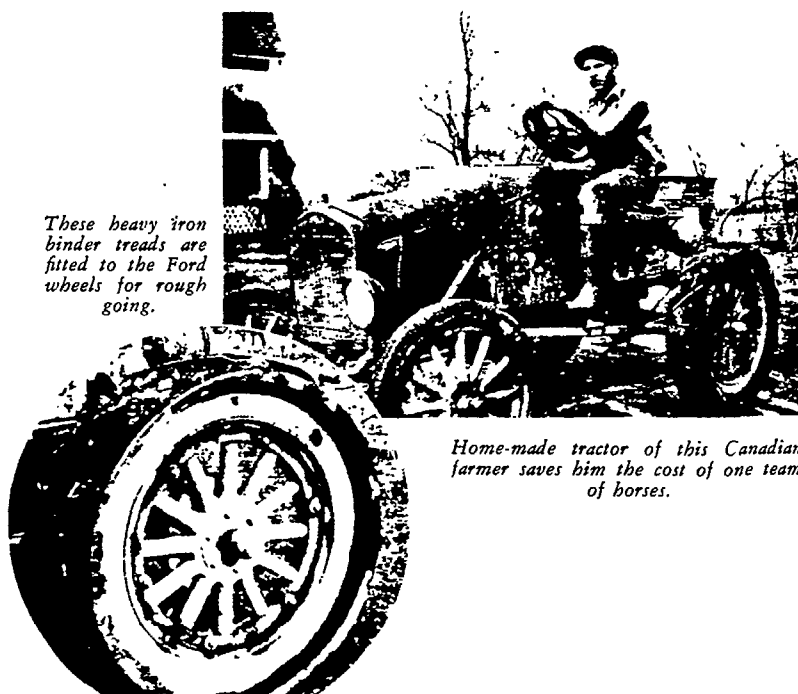
\$25 Tractor Saves One Team

PERHAPS nowhere is the well-worn platitude "Necessity is the mother of invention" better exemplified than on the farm. Truly the farmer must be a jack of all trades and withall, somewhat of an inventive genius.

A fair example is the contrivance described and pictured here, built and operated by Ross Sadler of Walton Grove, Ontario, Canada. It was made with parts purchased from wreckers at a total cost of \$25. The power plant consists of a 1922 Ford engine hitched to a 4-90 Chevrolet transmission and a Ford one ton truck rear end. Binder wheels with the spokes cut off are wedged over the rear tires for use in muddy going but are removed in good weather. The change is accomplished by the simple process of deflating the tires. This home-made tractor will pull two 11" plows in Ford high and Chevrolet low and will cover from three to four miles an hour depending on the going. It uses a gallon of gasoline an hour and can plow about five acres a day. Because the transmission and rear axle get pretty hot Mr. Sadler has added a

water pump to help cool the motor. He is, therefore, able to use it in hot weather when he would have to ease up on his horses. In fact, he states that had it not been for this piece of mechanism he would

have been obliged to purchase at least two more horses. Furthermore, during the winter he has used it over icy roads when he would have been afraid to have taken his team out.



These heavy iron binder treads are fitted to the Ford wheels for rough going.

Home-made tractor of this Canadian farmer saves him the cost of one team of horses.

Ethyl Clinic at Akron Gets Official Welcome

THE Dayton Division Motor Clinic of the Ethyl Gasoline Corporation opened in Akron about the middle of April before a good sized audience which included many representatives of the petroleum, automotive and rubber industries. As a special courtesy to Mr. A. H. Bingham, who headed the Dayton Division Clinic unit on the occasion, due to the unavoidable absence of Clinic Manager Newman, Mr. Ed Scheck, as personal representative of the Mayor of the City, welcomed the Clinic



personnel and their guests to Akron and gave official well-wishes for its continued success.

Mr. R. P. Everett, District Manager for the Bendix Corporation, expressed the felicitations of himself and of his company and presented a handsome floral decoration which was prominently displayed during the evening. The photograph shows Mr. Scheck (right) congratulating Mr. Bingham at the close of the evening's performance.

Standard Oil Co. (Kentucky) Sales Campaign

DURING the past six months the Standard Oil Company of Kentucky have been working very closely with Ethyl's Atlanta Division for the purpose of

increasing their sales volume.

This program consisted of a series of meetings which covered the state at strategic points.

The meetings were open to

Standard of Kentucky's employees, agents, dealers and consumers.

The products which were emphasized included Crown Ethyl Gasoline, Esso Uniflo Motor Oil and Atlas Tires. Ethyl's sound films "The Long Road" and "All the Answers" were shown to more than one thousand individuals during the entire series.

The accompanying picture illustrates the use that was made of one of Ethyl's sales ideas, "Sell Them Up and Make More Money" which appears on the banner held by the Standard Oil officials who were charged with promoting the campaign.

From left they are E. L. Batty, W. W. Sweeney (E. G. C.), W. S. Sutherland, D. P. Murphy and J. R. Hill.



High Compression Tractor Saves \$50.40 in Oil

THE Massey-Harris Co. has recently released an interesting set of figures showing the oil cost in 900 hours of operation for a low compression tractor compared with their high compression Twin Power equipment.

According to instructions in service manuals, the low compression distillate burning tractor requires an oil change for every 30 hours of op-

eration whereas the high compression model using a good regular gasoline needs an oil change only every 100 hours. In 900 hours of operation the low compression job used 90 gallons of oil at a cost of 80¢ per gallon, totaling \$72.00 while the high compression Twin Power Tractor required only 9 oil changes of 3 gallons each, a total of only 27 gallons at a cost of \$21.60.

The saving in oil alone for one year of the high compression over the low compression model amounted to \$50.40.

Low compression distillate burning tractors boast of lower costs per gallon of fuel—the \$50.40 saving in oil alone on the high compression tractor will pay for a "4¢ a gallon price differential" on 1,260 gallons of good regular gasoline.

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Meet Mr. Krieger



GEORGE KRIEGER was born on April 3rd, 1905 in Norfolk, Va. where he received his early education. He later attended the Virginia Polytechnic Institute at Blacksburg, graduating in 1926 with a degree of Bachelor of Science. In view of Mr. Krieger's recent activities, it is interesting to note that while attending the Institute he majored in subjects which later became V.P.I.'s Agricultural Engineering course, although such courses were not available at that time. So far as is known he is one of the first men to graduate from a course of study which was later to become known as Agricultural Engineering.

On leaving college, Mr. Krieger was employed by the Standard Oil Company of New Jersey in their Construction Department and later was transferred to the Research Laboratories of the Standard Oil

Development Company. In 1929 he joined the Ethyl Gasoline Corporation, serving as a field representative in the New York Division. Later, when the Baltimore Division was formed, he was assigned to it. In 1931 he started a preliminary investigation of the potentialities of the farm market with the result that in 1932 he moved his headquarters to Detroit, carrying on his activities in the farm field under the late A. E. Mittnacht and subsequently under the late E. M. Walter. When the Detroit Technical Sales Department was formed he became associated with it, being responsible for the farm activities of this Department which position he now occupies.

Mr. Krieger is unmarried and while he officially makes his home at the Dearborn Inn near Detroit, in his own words "His home is wherever he can hang his hat."

Shell Ethyl Campaign in Northern New England

A VERY successful campaign to promote the sale of Super Shell Ethyl Gasoline throughout northern New England was recently conducted by Ethyl's Boston Division in cooperation with the Northern Division of the Shell Union Oil Corporation. The arrangements for the campaign covering Maine, New Hampshire and Vermont were in the hands of Mr. P. M. Perry, Portland representative for Ethyl.

The program opened with a meeting at Portland for all Shell officials, salesmen, commission agents, and area managers in the Northern Division. Those present viewed all of the Ethyl sound films, saw an engine demonstration and the plans

for the entire campaign were outlined. Following this meeting, each salesman forwarded a list of his better service stations, automobile agencies and fleet accounts to be covered by demonstrations and schedules were made for the Ethyl representatives working on the drive, namely Messrs. Perry, Crane, Moseley and Myatt. In addition to Portland, group meetings were also held in Burlington, Vermont; Manchester, New Hampshire and Bangor, Maine.

The Ethyl men covered all the more important Shell outlets in the three states accompanied by the Shell salesman in each area. In most instances, nearby dealers were invited to attend the demonstra-

tions. During the period, 149 meetings were held with a total attendance of 1,270 Shell employees, dealers and customers. Among these were included five bulk plants, 23 automobile agencies, 21 independent garages and eight commercial fleets. The demonstrations were held for accounts representing an annual consumption of 21,750,000 gallons of gasoline. It is as yet too early to gauge the effectiveness of the campaign but first reports indicate the drive was successful in increasing sales of Super Shell Ethyl in the three states covered. A similar program has been started in the Lowell, Lawrence and Haverhill sections of Massachusetts.

Clinic Clippings

THE Baltimore Clinic is approaching the half-way mark in its three months' stay in that city. During the past six weeks our customer companies and jobbers have gotten behind the Clinic and

the attendance turn-out has been very much in line with their distribution in the area. All of these agreed to take a second night so that the service station shift, which was unable to attend the first meeting, will be permitted to see the show. One of the more unusual meetings was a fleet night which was spon-

sored by the Standard Oil Company of New Jersey. Forty-six people were present and the gallonage involved from all of their fleets combined represents over fifteen million annually. This meeting was so successful that a larger and second night is being planned for the near future.

National Meeting of Clinic Managers

Baltimore, Maryland, May 16th-20th, 1938



THE rapid growth of the Motor Clinic program into a position of major importance in the sales' development field, has, as is inevitably the case when a new activity is undertaken, brought with it various operating problems. It became apparent also, that the experience gained from the operation of the first Clinics furnished the basis for standardization of national Clinic procedure.

The Managers of the eleven Clinics now in operation, or to be opened shortly, gathered in Baltimore on May 16th and spent the entire week in a general discussion of such problems as have arisen and the improvement of meeting technique.

The meeting was conducted by Mr. J. G. Martin, Director of Clinics, who opened the program Monday morning with an outline of the purposes of the meeting and a general review of the scope of the Clinic program.

The various factors governing Clinic work, such as advance activities, personnel, equipment, initial work, meetings, tune-up, special activities, literature and follow-up work were covered in papers prepared by each of the Managers, as well as in general discussion.

During the week some sessions

of the meeting were attended by: Messrs. A. D. Chiquoine and James Wright of Batten, Barton, Durstine & Osborn, who assisted with the development of the technique of holding meetings; Mr. Robert Carley, also of B. B. D. & O., who addressed the group on the value and methods of securing publicity; Mr. H. W. Kaley, General Sales Manager, whose topic was the "Relationship of Company Policies to the Clinic Program"; Mr. R. L. Jordan, Director of Personnel, who talked on "Relationship of the Clinic Program to General Field Activities"; Mr. Paul McElroy, Advertising Manager, who gave an outline of "Advertising's Relationship to Clinic Work" and Mr. L. W. Shank, Baltimore Division Manager, who presented "A Division Manager's Opinion of the Clinic Program". Mr. Northrop Clarey, Jr., of the Advertising Department, was also present during the period to familiarize himself with details of the Clinic program.

The meeting closed Friday evening, May 20th, with a dinner which was held at the Belvedere Hotel. During the evening, Mr. E. L. Cline, Manager of Clinic No. 1 (Pacific Coast Div.), acted as spokesman for those attending the meeting in presenting Mr. Martin

with a miniature camera. Mr. Cline said that he was presenting it as an expression of their personal regard and in appreciation of his help and cooperation in making this new activity an outstanding success which should prove of great value in promoting the sales of our product.

Attending the dinner, reading from the left around the table: S. T. Pruitt, Manager Clinic No. 11 (Atlanta Div.); Meredith Littlefield, Manager Clinic No. 7 (New York Div.); B. R. Jones, Manager Clinic No. 2 (Chicago Div.); F. R. Cronin, Ass't. Div. Mgr., Baltimore; L. W. Shank, Div. Mgr., Baltimore; C. F. Naylor, Manager Clinic No. 9 (Chicago Div.); H. E. Cottrell, Manager Clinic No. 5 (Tulsa Div.); Northrop Clarey, Jr., N. Y. Office; M. P. Murdock, Manager Clinic No. 4 (New York Div.); R. L. Jordan, New York office; J. G. Martin, New York office; Lowell Mason, Manager Clinic No. 6 (Baltimore Div.); William Newman, Manager Clinic No. 3 (Dayton Div.); Richard Coveney, Manager Clinic No. 8 (Boston Div.); C. M. Berry, Manager Clinic No. 10 (Kansas City Div.); Paul McElroy, New York office; E. L. Cline, Manager Clinic No. 1 (Pacific Coast Div.).

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NEWSBRIEFS



We welcome to the Chicago Division, Benn F. Penrose who joined the Ethyl family on April 1st, 1938. Since graduating from the University of Minnesota in 1932 Benn has been connected with the Standard Oil Company (Indiana), the Canadian Brown Steel Tank Company, Ltd. of Manitoba and the Commercial Gas Company.



A newcomer to the Chemical Research Department in Detroit is Arnold F. Larges. He is a native of Greenfield, Michigan, and a graduate of the Milford High School. From 1935 to 1937 Arnold was employed at the Packard and General Motors Proving Grounds.



The Boston Division welcomes into its ranks C. Chester Bailey, a native of Pittsburgh and a graduate of Cornell, Class of 1921. He has spent a great deal of time in the steel industry, having been actively engaged in the metallurgy of automotive steels. Chester attended the recent fleet school in Detroit and has been assigned to cover western Massachusetts and Vermont. He is unmarried and makes his home in Springfield, Mass. His chief hobby is the cultivation of rare flowers and he is the proud owner of two blue ribbons awarded for his production of rare sweet peas.



Another newcomer to the Chicago office is Miss Emma Lou Coval who joined the ranks in April as Jim Boudreau's secretary. She is a native of Louisville, Kentucky. Before coming with Ethyl she was secretary to the president of the Pioneer Publishing Company in Oak Park, Ill.



Gelston Howell, our new western Pennsylvania representative, is a native New Yorker, having been born in the Big City. After graduating from Pratt Institute, he had considerable direct selling and sales territory management experience, traveling from coast to coast. Gel is still single and is now making his headquarters in Pittsburgh.



A recent addition to the Baton Rouge Manufacturing Department is Daniel C. Walsh, who joined the Ethyl family in May as Chemist in the Control Laboratory. Daniel was born in New Orleans, La., and now calls Bogalusa, La., home. He received his degree in chemistry from Spring Hill College in Mobile, Alabama in 1937.



Montes B. Illingworth has joined the Dayton Division as fleet contact engineer after extensive and varied experience in fleet operation and maintenance. Although born in Rock Island, Ill., Monte was reared in St. Louis, graduating from the McKinley High School, after which he studied engineering at Washington University. His first major post was with the southern division of the Pierce Oil Company where he was engaged as service superintendent of motor transport. Following this he spent five years as service manager for the St. Louis branch of the White Motor Company. For the past eleven years, prior to his association with Ethyl, he acted as Motor Transport Superintendent for the central division of the Pure Oil Company.



The New York Division's new junior engineer for the Pittsburgh Clinic is Redgnald Bushell of Patchogue, Long Island. Redge went to Rensselaer Polytechnic Institute and the University of Michigan. He has been following engineering in his work with the architectural firm of Gibbs and Hill of New York.



Torbin F. Yates joined the Ethyl family in April as Junior Engineer on the second Chicago Clinic. He was born in London, Ontario, and has spent most of his life in Chicago. He attended the University of Illinois and was graduated with the Class of 1932. After leaving school Torbin was associated with the Shafer Roller Bearing Corporation as a Junior Engineer.

Benjamin C. Loder, who has been associated with the Ethyl Gasoline Corporation since 1929 as Consultant Attorney, joined the Administration Department May 1st, 1938. Mr. Loder will act as a Counsel for the Corporation with an office on the 36th Floor of the Chrysler Building.

It is rumored from Olean, N. Y., that this tablet has been erected to mark the birthplace of the now famous American. We understand the inscription reads:



SURPRISE — SURPRISE

On Thursday morning, May 5th, 1938, Bob Jordan arrived bright and early with a special glint in his eye—stepped off the elevator and said: "Did you hear the news? Dick Murphy has twins! A boy and then a girl, born last evening."

Later in the day Ted Littlefield, with an air of great responsibility, came in with more details. How Mary Murphy had hurried from the doctor's office to the New Rochelle hospital where the suspected duplication of cherubs became a wonderful reality.

First Richard Landis, weighing 5 pounds six ounces arrived and then his sister, Meredith Warren made her appearance, a scant 2 ounces less than her brother.

By Friday, Dick apparently felt strong enough to face the music and when he arrived, complete with white carnation and a more than satisfied expression, the Chrysler Building seemed to rock. Especially were there cheers from the 36th floor in the southwest corner where the New York Division lives. These are reported to be the first twins in the Ethyl family.

During the day this wire was received from the boys in the Pittsburgh Clinic: "Your accomplishment definitely proves value of clinic program. By tuning up for maximum power you obtained full efficiency and a bonus of extra performance. Congratulations."

Phillis K. Southwell, a newcomer to the Detroit Engineering Laboratory, previously worked for the Goodyear Tire & Rubber Company, Inc., as secretary to the Sales Manager of the Grand Rapids District. Phillis is a graduate of Portland High School and Ferris Institute, both of Big Rapids, Michigan. Her diversions are tennis and swimming.

Barbara Fritchey has joined the ranks of the Detroit Engineering Laboratory as Receptionist. She is a graduate of the

Northwestern High School, Detroit, and attended Wayne University. Before coming to Ethyl she was with Campbell-Ewald. Her hobby is cats and she claims to have had over fifty of them since she was five years old.

Congratulations to Mr. and Mrs. Howard Pearsall. Howard is in the Detroit Chemical Laboratory and on May 15th was presented with a baby girl, Marjorie, weighing 7 lbs. 14 ozs. This is their second daughter.

Announcement has been made of the marriage of Miss Roberta Clark to Robert R. Mead on April 18th, 1938. Bob is with our Pacific Coast Division and has been a member of the Ethyl family for the past two years. The organization joins in extending best wishes to the bride and groom.

We extend our heartiest congratulations to Mr. and Mrs. Paul F. Johnson of Kansas City on the arrival of a son, Glen Arthur, on April 7th, 1938. Master Johnson weighed 5 pounds 5 ounces and rumor hath it that at present he sounds as if he would be one of the foremost cheer leaders in the country. It seems that for the past four months Paul has been taking all bets, even up, that his child would be a son. Inasmuch as the defeated contestants are located in remote corners of the country, Paul advises that the bets are not coming in as he expected. How about it—you delinquent contestants?

The election of Mat Taylor, Boston Division Manager, as Vice Chairman of the New England Section of the Society of Automotive Engineers for the coming

year was announced at the meeting of the Section on May 17th, 1938. Complete slate elected is as follows:

Chairman—Mr. John W. Lane, Socony-Vacuum Oil Co.

Vice Chairman—Mr. M. A. Taylor, Ethyl Gasoline Corp.

Treasurer—Mr. Albert Lodge, Goodrich Oil Corp.

Secretary—Mr. Seth B. Robinson, Keney Mfg. Co.

Congratulations to Helen (Mrs. Harold) Berg of Kansas City. A hole in one on No. 4 at the Blue Hills Club qualified this achievement. A practice match was played with Hazel (Mrs. Carl) Berry and it was the first hole in one to be recorded this year in Kansas City. We are advised that a No. 5 iron was used on this one hundred and forty-five yard hole. The compensation for this accomplishment, which was properly certified, was election to the national Hole in One Club.

Kay Tisza Traulsen of the Administration Department, and her husband Harry, probably owe their lives to the skillful work of Pilot Quentin Cudney who made a miraculous landing on the Glen Rock golf range in New Rochelle recently. The cabin monoplane is owned by the Traulsens and they both are licensed pilots so that when the engine failed while they were flying 800 feet above New Rochelle, N. Y., they fully understood their plight. It was about seven o'clock in the evening during a heavy storm. Cudney skillfully clearing some electric wires, several trees, a shed and billboards, glided in to the narrow golf range, a bumpy field some 200 yards long. Neither the plane nor its occupants were injured.

To quote Kay and Harry during their newspaper interview "Not one in a hundred other pilots could have landed the plane without a crack-up."

THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE AS OF JUNE 1, 1938 TEN YEARS

ELWOOD R. ANDERSON.....	Manufacturing, Baton Rouge
MERRITT E. COLLINS.....	Gasoline Testing, Kansas City
PERCY R. DONNELLY.....	Detroit Engineering
PAUL F. JOHNSON.....	Kansas City Sales

FIVE YEARS

PATRICIA S. APPERT.....	New York General Sales
J. DAVID CHALFANT.....	Manufacturing, Deepwater
EDNA MULDOON.....	Manufacturing, Deepwater
GIRAUD E. TOWNSEND.....	Administration
CHARLES A. WILMOT.....	Manufacturing, Deepwater



AFTER DARING DANGEROUS AIR CURRENTS OVER BALTIMORE *...he won \$5,000⁰⁰!*



IN 1910, flying over a city in an airplane came under the heading of "Hazardous." It was believed that heated air currents from the streets might cause disaster.

But Robert Latham, a Frenchman, quelled all doubts by soaring over the city of Baltimore, Md., for almost an hour on November 7, 1910, and captured the prize of \$5,000

offered by the Baltimore Sun.

Thus was disproved the "city hot air" theory, and today air-mail and passenger planes fly over every city in the country.

From the time the Wright brothers, with a small gasoline engine, furnished an effective power-weight ratio, engineers concentrated on improving engines and fuels so that aviation could continue to do the

"things that couldn't be done."

But the job is not finished. It may never be, because research admits no limits. Ethyl engineers are working continuously with aviation engineers in the development of fuels and engines that will play a major part in establishing new world records that are to come. Ethyl Gasoline Corporation, Chrysler Building, New York, New York.

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JULY-AUGUST 1938



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A MIND MISLAID

By Henry Collins Brown

Shakespeare's brilliant contribution to the world's line of "hooley" is this:

There is a tide in the affairs of men,
Which, taken at the flood, leads on to
fortune;
Omitted, all the voyage of the life
Is bound in shallows and in miseries.

"If I wanted to keep a lot of depressed men forever depressed," he said, "I would have them recite that beautiful thought daily, along with morning prayers; but if I wanted to talk sympathetically to get them well, I would prove by unimpeachable evidence that this statement is absolutely wrong. I could cite them innumerable instances where men had triumphed again and again over a first mistake. I would also turn to another gifted genius who may not be so widely known as Shakespeare, but in this instance, had much better sense than the great Bard of Avon. This comparatively unknown poet, Walter Malone, handles the same idea in a lovely and heart-warming fashion":

"They do me wrong who say I come no more
When once I knock and fail to find you in;
For every day I stand outside your door
And bid you wake, and rise to fight and
win.

Wail not for precious chances passed away!
Weep not for golden ages on the wane!
Each night I burn the records of the day—
At sunrise every soul is born again!"



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VOL. 5, Nos. 7, 8

Petroleum "Brain Trust" Saves U. S. Motorists \$600,000,000 Annually

PERHAPS it is not generally known that the petroleum industry has a "brain trust" whose recent achievements are saving the motorists of the nation approximately \$600,000,000 a year—an average of \$20 per motorist. As a matter of fact, many men engaged in the oil business, although cognizant of the great technological strides that have been made during the past two decades in the manufacture of gasoline have probably given little thought of this coterie of scientific and technical men responsible for that progress.

This little group have made no radio addresses nor have they written daily columns for the newspapers. But they have given billions of dollars of additional purchasing power to the nation's motorists by bringing lower-cost gasoline to the public. They have played a major role in creating the remarkable expansion of automobile ownership in the United States to the point where two out of every three families enjoy the benefits of the automobile, despite the fact that the income of a majority of such car-owning families is less than \$30 a week.

Probably no other "brain trust" in history has contributed so much to the sum of human happiness as have these men in the petroleum industry which has fostered the technological progress in the making of gasoline and lubricating oils. Their practical contributions to better living are measured in millions of hours of recreation and diversion to millions of families.

During the past 15 years petroleum technologists have been able to reduce by 3 cents the cost of manufacturing a gallon of gasoline from crude oil. Automobile owners use about twenty billion gallons of gasoline annually, so that the savings from those recent manufacturing refinements alone amount to \$600,000,000 a year. These savings have been passed along to the consumer together with other substantial economies so that today the price of gasoline, exclusive of taxes, is approximately half of what it was two decades ago. Added to these savings chemical and automotive research engineers have found means of increasing power output of fuels by stepping up the octane rating of gasolines, thereby permitting the raising of compression and air fuel ratios. Thus, by increasing the engine efficiency of the cars, the motorist gets more miles per gallon and a consequent saving in cost of operation.

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New Guinea

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Attend Special Clinic Showing
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Good Results
Day of Diesels in Passenger Cars Far
Off Says Expert
Service Awards
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Ethyl Host to Army Transport Men
Nature Puts On Annual Flower Show
Ethyl Clinic Holds "Fight" Party in
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Louisiana State Police
Annual Ethyl Agency Golf Match
Newsbriefs

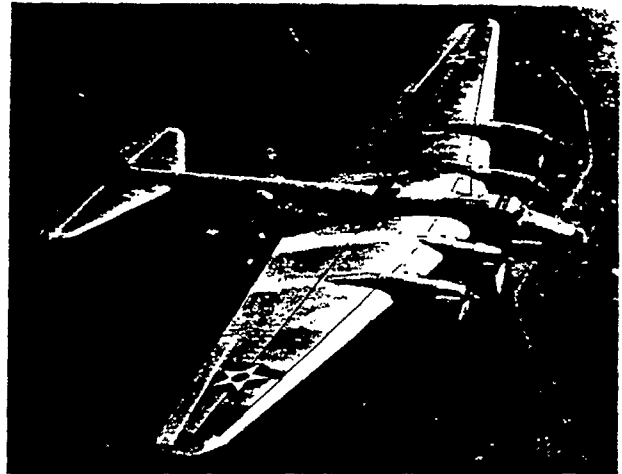
Activity of Materiel Division.

Army Air Corps' Testing Laboratory

IN February, 1936, the "News" published a story on Wright Field at Dayton, Ohio, which is the outgrowth of old McCook Field. Wright Field has become the headquarters of the Army Air Corps' research and experimentation, known today as the Materiel Division. Since 1927, when the new field was dedicated, great strides have been made in our air force, most of which work has been carried on there.

At present, the fuel testing unit of the power plant branch at Wright Field is working on supercharged gasoline testing engines. It is hoped that the supercharged engine will give more accurate results with fuels of over 100 octane number than would be achieved by raising the compression ratio alone. The present method of test will not rate relatively the anti-knock value of fuels in excess of 100 octane number. The fuel being used now for practically all tactical service operation has an octane rating of 100 and is made from straight run gasoline and iso-octane plus approximately 3 cc. of tetraethyl lead per gallon. Higher octane number fuels will be used as efficient testing equipment becomes available.

The Air Corps is continually testing and proving new designs and improvements in military airplanes. One of their latest studies has been on the XFM-1 which is designed with the idea that there is great need for a fighter capable of coping with the giant bombers of the so-called "Flying Fortress" type. It is expected that this plane will have sufficient speed to overhaul these large, fast bombers and the gun power to cope with them successfully when engaged.



A B-15 type Boeing bomber commonly spoken of as the Flying Fortress.

The plane contains some radical departures from conventional military design. To begin with, it is a pusher type — propellers behind the wings. This is a revolutionary change in modern airplane construction and engineers believe that it will give increased propeller efficiency. The arrangement permits the wing gunners, one on either wing, to have a free field of fire and observation to the front, uninterrupted by engine or propeller. This change in design also frees the gunners from having to work in the propeller blast which has always been a handicap.

The belief is that the XFM will develop sufficient speed to overhaul any air targets and with its six guns and light bombs it has a more powerful armament than ever before carried on a fighter. There is accommodation for a crew of five — pilot, co-pilot-navigator, radio operator-gunner, and two outboard wing gunners. It is powered by two engines recently developed by the Allison Engineering Corporation in conjunction with Air Corps engineers. All gasoline is carried in compartments in its giant wings which materially reduces the fire hazard.

The new monoplane embodies all the latest devices to increase speed and air-worthiness. The landing gear and tail wheel are electrically retractable and it carries flaps to reduce landing speed. There are heated compartments for all mem-

bers of the crew, which will be needed at its fighting ceiling of over thirty thousand feet.

This latest war plane embodies some new features which may have far-reaching significance for the civil air industry as well as the military. Among these are its power plant location and its pusher propellers, and the auxiliary power plant for retracting landing gear, lights, radio and starters. The auxiliary plant drives nine electric motors, taking this load off the two engines which drive the propellers. It can also transmit radio messages after forced landing when its main power plants are dead.

A further innovation is the ease with which the crew may change their posts. The wing gunners can travel between their stations and the main fuselage while in flight; the co-pilot can change places with the pilot, the radio operator can man the guns and all stations have telephone intercommunication. The advantageous location of the wing gunners forward of the engines permits them to see the pilot and makes visual signals practicable between all members of the crew.

Another study not essentially military centers around the Air Corps' new high altitude flying laboratory. In order to make a practical study of the many problems connected with the operation of airplanes at high altitudes equipped with super-charged cabins, a plane has been constructed especially for

the purpose. It is known as the U. S. Army Air Corps Substratosphere Airplane and is fitted with an especially constructed pressure cabin and supercharged engines.

The pressure cabin is equipped to maintain atmospheric pressures corresponding to fairly low altitudes while the plane is cruising at very high altitudes. At 25,000 feet the atmosphere in the cabin would be supercharged to correspond to an altitude of 12,000 feet at which the average passenger or pilot

One of the new XFM-1 pusher type multi-seater fighting planes which has been developed by the Materiel Division of the Army Air Corps.



The Army Air Corps XC-35 substratosphere plane.

would experience no discomfort, whereas in the ordinary plane at 25,000 feet the use of oxygen would be required and even then many individuals would suffer not only discomfort but physical harm.

The structure of the substratosphere airplane is of semimonocoque type, the fuselage being circular in cross section. The fuselage wall is of conventional aluminum alloy construction but of somewhat greater thickness than that of the standard Lockheed airplane and designed to withstand a proof test of 15 pounds per square inch pressure differential.

The entire fuselage is designed as a pressure compartment except the portion immediately forward of the tail surfaces. Allowance in the flexibility of the structure has been provided for temperature expansion and contraction as in the cruising ranges the airplane will encounter external temperature differences between 54 degrees below zero and 100 degrees above zero Fahrenheit.

Provision is made for a crew of six, consisting of one pilot, one co-pilot, one radio and pressure compartment operator, and three pressure compartment observers. The

pilot and co-pilot are seated side by side and the operator's station will be immediately to the rear of the pilots, centrally located. Beside him is the operating table which contains within arm's reach all the controls for regulating and conditioning the cabin atmosphere. There are the hot and cold air supply—it is not intended that the interior of the fuselage be allowed to get colder than 50° or warmer than 70° Fahrenheit — humidity control, cabin pressure regulator valve, oxygen supply with manually and automatically regulated valves; automatic

pressure safety valves; emergency relief valves; super charged air supply control; and indicating instruments showing cabin pressures in feet-altitude, cabin temperatures, outside temperatures, altitudes, humidity, differential pressure in pounds per square inch, and a cabin air supply flow meter.

A discharge pressure valve provides that the change in cabin pressure shall not be more than 5 per cent of the barometric pressure at altitudes greater than 15,000 feet. There is provision for ventilation at any operating altitude.

Oxygen arrangements are for emergency conditions only as the supercharging and ventilating systems insure the normal supply under ordinary operating conditions.

Five rectangular windows with 5 by 12 inch openings are placed on each side of the fuselage. Advantageous vision for the pilots has been considered essential.

There are two doors, one on the left side of the fuselage, the other in the top, the latter to be used as an emergency exit.

General view of Wright Field at Dayton, Ohio.



C. D. Borchme, Dayton Div. Official Photos U. S. Army Air Corps

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One of the many beautiful panoramas unfolded before the tourist who visits the land of the Great "Smokies".

In the Little River Gorge, section of the Great Smoky Mountain National Park near Ashville, N. C.

Ethyl Brings Beauty of the Great "Smokies" to the Tourist

THE great Smoky Mountains National Park located some thirty miles from Ashville, N. C., is the largest of our National Parks east of the Rockies comprising an area of over 625 square miles. This newest "playground" has been steadily increasing in popularity and last year ranked favorably in number of visitors with Yellowstone and other vacation lands. Here, it is said, one may find the greatest variety of shrubs, flowers and trees of any known spot on earth of similar area. Beginning in April the mountains are ablaze with dogwood and red bud intermingled with numerous early varieties of rare flowers, while a little later one of the real spectacles of nature is in full bloom, the great Silver Bell or Bellwood tree. This rare tree is practically extinct except in this particular area where there are thousands blooming in early May. Summer brings the rhododendron and azalea which are found in such profusion that one may have the thrill of seeing an entire mountain in bloom. The spectacle has become internationally famous. But perhaps the most glorious sight of all begins in September and continues through to mid-November when the mountains, as far as the eye will reach, are a riot of color with more than 150 varieties of trees each turning to its own particular hue. A sight that the visitor will never forget.

In the "Smokies" there are 94 mountain peaks over 5,000 feet high and of these 27 have an alti-

tude of 6,000 feet or more. The highest is Clingman's Dome which is 6,642 feet. It is a land of towering heights that pierce the clouds, breath-taking vistas of valleys and gorges, tumbling mountain streams and crystal cascades—the last great wilderness of the eastern United States. Many visitors who have come to this area have pronounced it one of the outstanding trips in the world and Park Service officials maintain that eventually it will attract more visitors than all other natural parks combined due to its accessibility to over seventy-five million people.

In order to carry on this program and to give visitors the best that nature affords of scenic beauty in the "Land of the Sky" the Smoky Mountain Tours Company have equipped themselves with powerful new modern sight-seeing buses which offer the utmost in comfort and safety for passengers. These buses which have been especially designed by Mr. W. F. Bridgers, Manager of the Tours Co., were built by Cruse-Crawford of Birmingham, Ala., and are unique in

several respects. Although built to standard car width in order that they may travel all kinds of roads the larger units will accommodate seventeen passengers and their luggage. They are equipped with a loud speaker system so that the guides may be easily heard by everyone. Powered by a Packard 12 cylinder Liberty motor they develop 240 horsepower. The large buses have an overall length of 29½ feet and a wheel base of 168 inches but a turning radius of a car of only 150 inch wheelbase. This is accomplished by an arrangement whereby the extreme rear wheels turn with the front wheels. Their design permits these buses to travel over Fire Roads and the like not open to the ordinary vehicle and enable the passengers to view points of special interest and beauty which otherwise they would miss seeing.

All this equipment is powered by Ethyl Gasoline and Mr. Bridgers makes the statement that he finds they run "from 20% to 30% cooler on Ethyl" and says he depends on it always to give him peak performance.

These great modern buses offer the tourist the utmost in comfort and safety even over narrow, winding mountain roads where many of the rarest views are to be found.



Associated's Motor Check Service in Los Angeles

HANDLING the Associated Motor Check Service in Los Angeles area presents a rather difficult problem due to the topography of the community. It is perhaps the most widely scattered city in the world—a collection of villages grown together. Whereas one location would be reasonably convenient for the entire city of San Francisco, Seattle, or Portland, several are necessary for satisfactory service in this "metropolis of Southern California." While the original Los Angeles Motor Check Station attracted some customers as far as fifty or sixty miles away the average motorist would not take advantage of its facilities if he had to drive any such distance.

In order to effectively overcome this problem, the Associated Oil Co. opened up ten new neighborhood check stations in the principal trading areas of Los Angeles County. They are housed under portable metal canopies of special design, so made that they may be moved with little trouble or expense if it becomes desirable to shift the station to another location. These semi-permanent installations are augmented by three portable tune-up clinics mounted in panel delivery cars. (See "Ethyl News" Oct. 1936). With the original dynamometer equipped Motor Check Unit on South Vermont Street, there are now a total of fourteen company operated stations serving Associat-

ed Aviation Ethyl customers.

After this program had been set up it became apparent that some means of regulating the flow of work at the stations was necessary so a central bureau was established, through which all motor check appointments are made. Thus, if it is not possible to meet the customer's convenience at the station nearest to him, there is always an opportunity of getting service at another Motor Check station not far away.

In order to illustrate the effectiveness of the arrangement the following telephone conversation might be heard any day at one of the Motor Check stations:

"Yes, this is Associated Motor Check Service."

"Yes Madame, we have a check station only a few blocks from you in Hollywood. The first appointment there is at three-thirty tomorrow afternoon. Would it be convenient for you to take your car there at that time?"

"We wouldn't want to interfere with your bridge party—we have a number of other Motor Check Stations not so far away, where we should be able to find an open space at an hour that would be quite convenient to you. Are you coming down town in the next day or two? We have a station at Figueroa and Wilshire where you could leave your car while you do your shopping."

"No, you would not want to drive all the way down town just to have your engine checked. Let's try Glendale—he would be able to start your job at 11:30 this morning. That would be only a few blocks further from your home than the Hollywood station."

"Thank you, Mrs. Morgenstern, Mr. Smith will be expecting you at 11:30, at our company station at Los Feliz and San Fernando Road."

"No, surely not, I will notify him right away and that time will

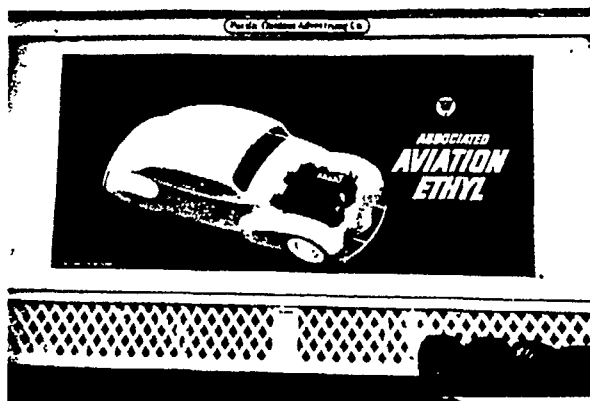


The goal of every actress is a "perfect performance." Pretty Carol Parker appearing in Paramount's "Professor, Beware" rushed to an Associated Motor Check Station to have her car tuned to insure the perfect performance she demanded.

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Large 24-sheet panels such as this have been well posted throughout Los Angeles county.



This electric sign and billboard is typical of the advertising display at the larger stations in the area.

be held exclusively for you. He has an hour and a half to finish each car, which is generally more than enough. We do not want to keep any of our customers waiting after their appointment time, so we schedule this work, and do not accept any more appointments than we can fulfill."

And another Associated Aviation Ethyl customer is dated up to have her car take on new life with a smooth running motor perfectly adjusted for power and economy.

To support the Motor Check program, Associated is carrying on an extensive campaign of advertising and publicity, using newspapers, billboards, service station "A" boards, window posters and leaflets which are handed to customers at the pumps. The service station personnel has been prepared for the campaign by visits to the Ethyl Clinic in Los Angeles, and by intensive sales training. Interest was further kept at its height by the awarding of bonuses to station attendants who, following one feature of the program suggested to the customer that they fill his tank with Associated Aviation Ethyl and then give a good sales talk on the Motor Check Service. The so-called "treasure cars" whose identity were unknown, cruised the stations, reporting on the approach of the attendants, upon which basis the bonus awards were made.



This Sales Manager of Associated Oil, Mr. W. A. Reanier (left) personally superintends the opening of a new motor check unit at Glendale, Cal. At right, Mr. A. D. Martin of Ethyl's Pacific Coast Division.



These portable motor check units bring the service outside the metropolitan areas.



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EWS



Formal opening of the Exposition. As the gates were thrown open the American Legion Band followed by a troop of Boy Scouts carrying flags of 53 nations, entered the grounds.

The International Petroleum Exposition

WELCOME OIL MEN! Thousands of these banners intermingled with colorful flags of all nations, lined the streets of Tulsa in greeting to the many thousands of visitors to the Tenth International Petroleum Exposition.

In 1923 the first Exposition, headed by L. B. Jackson as President, was held on two roped off blocks of downtown Tulsa and had twenty-seven exhibitors showing \$10,000.00 worth of equipment to a total attendance of about 14,000.

The original officials who were selected from the outstanding leaders in the oil industry, conceived, created, and developed the International Petroleum Exposition as a non-profit institution to be used primarily for educational purposes and to scientifically advance oil field methods by showing developments in the industry.

The Exposition was formally opened May 14th, 1938, at 2:00 p.m. by the firing of aerial bombs. The gates were opened and the American Legion Band, followed by a troop of Boy Scouts carrying flags of fifty-three nations, marched into the grounds. At the conclusion of the colorful display a huge United States flag, sixty by eighty feet, was hoisted between two derricks.

This year's oil show was headed by W. G. Skelly, President of the Skelly Oil Company, as President and W. B. Way as General Manager. Mr. Skelly has been President of the Exposition since 1926 and Mr. Way General Manager since 1929.

The eight-day pageant, which closed on May 21st, had five hundred and seventy-six exhibitors, two hundred and eight of whom catered to the marketing end of the



Worm's eye view of oil derrick at International Petroleum Exposition.

This exhibition drilling outfit actually struck oil while giving a demonstration.

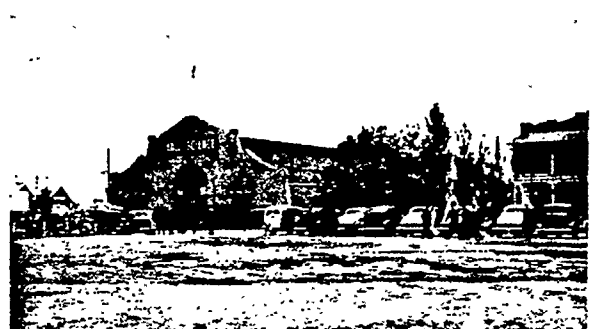
industry. The displays included scientific equipment used in the oil industry and valued at \$15,000,000. The closing day showed 226,427 paid admissions.

To care for this vast show of machinery there were twenty acres converted to the various exhibits and to travel down each lane necessitated a walk of eight miles. On this acreage permanent buildings have been constructed that house some of the displays which were brought in by the various exhibitors for each show. Three thousand people were required to show and demonstrate the exhibits.

Not only did the Exposition attract the oil leaders from all parts of the United States, but fifty delegates from sixteen foreign countries, traveled thousands of miles to Tulsa to view this greatest industrial exhibit that had ever been assembled in one city. Mainly



One of the most interesting displays from an historical standpoint was this replica of Drake's Well.



The Hall of Science in which were housed various exhibits representing an outlay of many thousands of dollars.

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through this one enterprise has Tulsa become known, both nationally and internationally as the OIL CAPITOL OF THE WORLD.

Upon approaching the huge show-ground one is immediately impressed with the seemingly realistic activity of the many pieces of oil field equipment. Derricks, their pinacles reaching into the sky one hundred and twenty feet, portable drilling machines in full action and over all the hum of actual oil field excitement. So realistically were these operations carried on that one of the portable drilling units actually struck oil for an estimated potential of fifteen barrels per day at approximately five hundred feet. These outstanding features and many others line the miles of midway. The major oil field equipment and supply companies have their own buildings in which are shown their machinery, much the same as if they were in actual operation in the field. The main display build-

ings are filled with hundreds of individual exhibits of numerous pieces of oil field and marketing equipment.

In the Hall of Science a \$350,000 exhibit alone was on view. Here were shown complete miniature models of a Natural Gasoline Absorption Plant, a refinery in operation, tank farms, ocean terminals, and in fact every phase of the oil industry from geology to the filling station pump. These models were the most expensive and accurate ever assembled for any public showing.

A survey was made among the exhibitors at the close, to estimate the actual transactions made during the eight day period. This showed that sales by the various firms had exceeded \$5,000,000. Many were enthusiastic over the outlook for the coming summer months, based on the contacts made during the Exposition. After all, in this way, is the success of the undertaking meas-

ured for the exhibitors must get a return on their investment and pay all of the costs of the Exposition. Since 1923 everyone who has shown at this spectacle has returned each year if he still remained in the oil business.

Showing the importance of the International Petroleum Exposition to the country in general, thirty-two visiting newspaper and trade publications had reporters covering the show daily. It is estimated that in all 800,000 words were written in various publications and in addition, newsreel and still life pictures were made by camera men from several press services and magazines.

Before the close on May 21st, plans were already under way for the 1940 Exposition, which will have approximately twenty-five per cent more space for exhibits, as a sufficient number of industries has already requested this amount of additional space.

Special Motor Clinic Meetings for Baltimore's High School Students

AS soon as was practical after the Baltimore Division Clinic had completed its showing in Richmond, Va., and established itself in the City of Baltimore for a two-months' stay, Superintendent of Schools Taylor was contacted by an Ethyl representative. As an outcome of this interview Mr. Taylor notified the principals of all high schools having technical courses that he had given his permission for the technical students to attend Clinic meetings in groups.

Altogether eight different schools availed themselves of this opportunity and there were in all, a total of 625 students at the various meetings arranged for them. In the case of the meeting held for the senior class of the Baltimore Polytechnic Institute there were 325 students desirous of attending but as the auditorium was not sufficiently large to accommodate that number, they

had to be divided into two groups. Both sessions were arranged for a Monday the early part of June.

Of particular interest was the reaction of Principal Joseph C. Briscoe of the Colored Vocational School as expressed in a letter to Manager Louis Shank of the Baltimore division. Mr. Briscoe wrote:

"We wish to thank you for the opportunity given the boys in the Automobile Mechanics course of this school to visit a demonstration of your product on a recent date.

"It would be difficult to estimate the true value of the visit to our boys; judging their reactions and discussions it is most conservative to say that a very deep impression was made upon them by what they saw and heard. We wish it was possible to expose more of our student body to such educational demonstrations."



Students from Senior Class of the Baltimore Polytechnic Institute, the group numbering over 100, attended a special meeting of Ethyl's Baltimore Motor Clinic. Picture taken while car was in operation on the dynamometer. Note the close attention shown by the boys.

Memphis Carnival Features Streamlined Parade

NEW ORLEANS has its famous Mardi Gras, and the City of Memphis its Cotton Carnival—a younger but exceedingly lusty and colorful rival. Every year the Memphis carnival grows bigger and more fascinating in its pageantry. As always, the culmi-

A few weeks before the carnival, plans were afoot to modernize the 1938 pageant by making each official float a dazzling electrical display. Jeweled lights by the thousands—drawing power from trolley wires—were to replace the traditional flares. At this point Oliver

Farm Equipment Company's Memphis Branch came forward with a helpful suggestion. It was proposed that the heavy floats be pulled with streamlined, quiet running Oliver tractors instead of employing the traditional mule power.

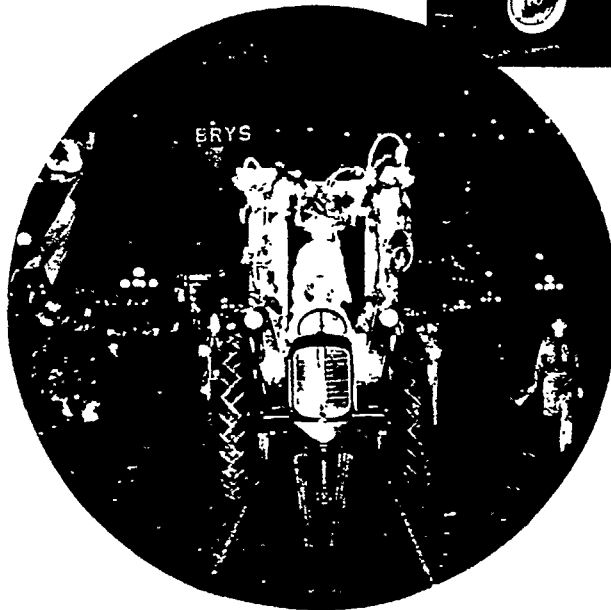
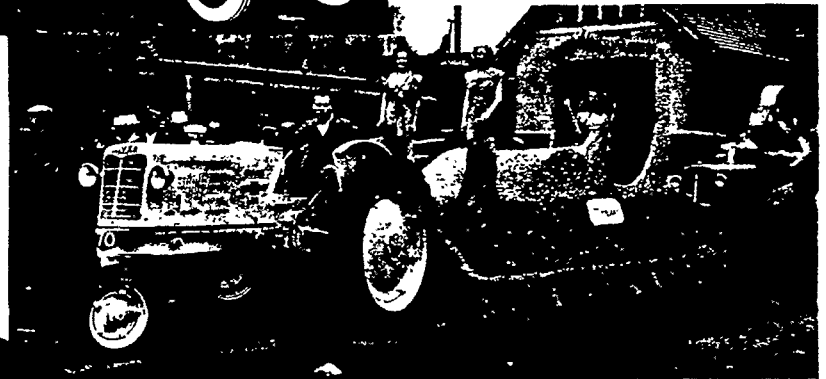
Carnival officials enthusiastically accepted the idea for thus streamlining their parade. It was pointed out that the Oliver machines would maintain a more uniformly spaced formation along the line of march besides fitting into the ultra modern theme of the pageant.

Twenty-three Oliver "70" tractors on Firestone rubber tires were loaned by the manufacturer for the great occasion. The powerful six-cylinder, high compression motors were equipped with mufflers so that



Memphis Cotton Carnival went modern this year. Here the float bearing the King and Queen is drawn by a 1938 Oliver tractor instead of by the time-honored team of mules.

nating event was the brilliant grand parade, held this year on the evening of May 14th.



One of the many floats with its cargo of pretty girls who dazzled the spectators during the 1938 Cotton Carnival which the City of Memphis has staged annually for many years.

Down the historic southern city's "Great White Way" moves the colorful pageant amid the applause of the thousands, many of whom came miles to witness the festivities.

they produced no more noise than a parade of automobiles. Each Oliver driver was decked out in a white uniform and helmet. Leading the parade was a gleaming white-painted Standard "70" pulling the "throne" float of "King Cotton" and his "Queen". Then came twenty elaborate, symbolic floats depicting the romantic story of cotton and its usefulness — each loaded with lovely southern girls — and each glittering with lights and cellophane.

An estimated two hundred thousand people witnessed the spectacle, and observers pronounced it the most impressive event in the long history of the Cotton Carnival.

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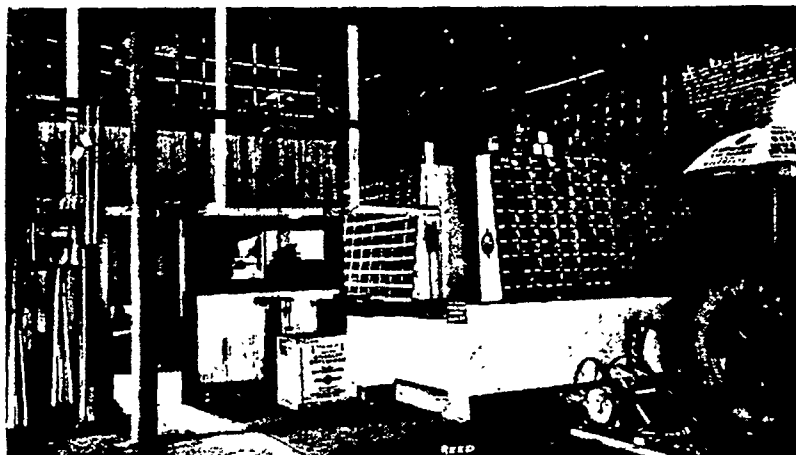
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Illinois Man Steps Up Power of 287 Tractors

If you are in the vicinity of Hinckley, Ill., and happen to see a medium-sized tractor pulling three instead of two plows through the rich, black soil, you can be fairly certain that Edward H. Freundt, local implement dealer, had something to do with it.

with a dead motor, and the converted tractor will walk away with this load with ease. Next I try pulling with the bigger tractor in second gear and again it usually is easily towed.

"The news of changeovers which I made four years ago spread like



A place for everything and everything in its place is the rule in Mr. Freundt's shop.

Mr. Freundt has already stepped up the power of 287 tractors during the past four years—a record which has won him the title of "Change-over King" of Illinois. He offers a money back guarantee that all tractors after he overhauls them, will pull one additional plow on the same amount of gasoline. In other words, "an extra plow for nothing."

"There is no secret," he explains, "about stepping up the power of a tractor in this way, a procedure which any intelligent mechanic may follow with profit. It is accomplished by the simple process of installing altitude pistons, cold manifold, cold type spark plugs and the use of regular grade gasoline. In fact, it is so simple that when I started, I could hardly believe that $\frac{1}{8}$ of an inch added to the height of a piston would increase its power.

"To test a tractor, I hitch it to another larger tractor in third gear,

magic and soon farmers were coming from miles around to ask me to step up the power in their tractors during winter or spring overhaul time. Articles in farm journals also spread the news of high compression. Later, I advertised in our local newspaper in the late Fall and have been doing this since as it keeps up repair work in the winter

Clarence Dauberman (left) and Edward Freundt, pose beside the first high compression tractor in Illinois. It is owned by Mr. Dauberman of Kaneville, was high compressioned by Freundt in 1934 and although 11 years old, is in good condition. After the changeover, it pulled three plows instead of two as formerly in the same amount of fuel thereby meeting the guarantee "an extra plow for nothing".



months.

"My first winter in business (Oct., 1934 to April, 1935) I changed over 32 tractors, next year 75; the third year 100; and so far this year, 80.

"The second year I was in this work, rubber tires came in strong and with rubber tires, plus high compression, on a regular two-bottom tractor, I actually pulled five 14-inch bottoms in high gear!

"Quick service has built up my business more than any other one thing. If a farmer telephones me about his tractor—wants it repaired or changed over—I make a point of getting to him as fast as I can reach his farm, whether it's day or night.

"This means traveling and speedy work. I have three assistants (one is my son, Edward, Jr.), two trailer pick-ups with tilting platforms which permit the tractor to drive up on them, a three-quarter service truck with all necessary equipment for repairs and an industrial tractor which has a maximum speed of 16 miles per hour. This equipment enables me to bring the tractor to my shop without loss of time."

Freundt's shop equipment includes valve refacing and electric welding equipment, a power drill and a complete line of factory repair tools. It is a marvel of tidiness that invariably marks the successful mechanic. His own severest taskmaster he requires his men to devote thirty minutes every night before quitting work to cleaning tools and putting them away in readiness for the next day.

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Group of combat cars in the field. Such an outfit can cover more ground in a day than horse cavalry were able to do in a week and carry far more striking power.

Mobility of Army's Mechanized Brigade Astonishes Observers

"ETHYL men who served in the Army during the last war or who have attended Reserve Officers' Training Camps and have studied reconnaissance tactics, would have had their eyes opened recently had they accompanied the manoeuvres of the Seventh Cavalry Brigade (Mechanized) stationed at Fort Knox, Kentucky."

This is the opinion of Mr. Louis Slack, Ethyl field representative of the Dayton Division, who has visited that Post a number of times. He is particularly well qualified to make the statement due to his previous army service in the field artillery. Enlisting from college, he was ordered to the officers' training camp at Camp Devan, Mass. From there he went overseas and received further instruction at the American Artillery School in Saumur in France and upon completion of which he was commissioned a second lieutenant. Assigned to the 78th F. A., Sixth Division, he spent the next fourteen months at the front.

In the old days the Cavalry served as a scouting group, a raiding force, or as a screen for the main body of troops. It could travel forty or fifty miles in one day, as compared to the twenty miles that the Infantry could cover. But on a sustained

march thirty miles a day was about the limit.

Today the Cavalry, which is not only Mechanized but equipped with two-way radio and with aerial liaison moves its 150 or 200 miles a day, day in and day out, and carries terrific striking power, constantly ready for action.

The Seventh Brigade, only one of its kind in the Army, provide fast moving tanks armed with machine guns, Light Field Artillery, rifles and mortars, Trench Mortars and motorized machine gun vehicles whose crews fire from positions on the ground.

In the recent manoeuvres, the most ambitious attempted so far, the Brigade moved from Fort Knox and in two days marched to Fort Oglethorpe, Georgia, some 200 odd miles away. Going south the tactical problem was to meet and drive back a theoretical enemy that had landed forces on the southern Atlantic coast. The column was divided into two parts with scouting units covering the intervening country. All the way the entire Brigade was in touch with its commander, Brigadier General Van Vorhis, who directed operations from a scout plane overhead.

On the return trip the problem

was reversed. The Brigade became a force attempting a raid on the Government's Gold Vault at Fort Knox. Moving up from Fort Oglethorpe to Nashville in a single body they made a night march of 160 miles attacking at dawn the Infantry and Artillery forces defending Fort Knox. At the same time they scouted the Ohio River over a 200-mile front.

The entire five-day manoeuvres were made without the loss of a single vehicle, everyone of the 540 units returning under its own power.

Another recent attack demonstration gave a further instance of the mobility of this force. The manoeuvre problem was set up in rough, rolling country on the Fort Knox Reservation. A column of motorized enemy troops was assumed to be approaching, having crossed the Ohio River at Cincinnati the night before. Scouting planes had spotted the force and the Mechanized Cavalry had moved out of Nashville at 9:00 P.M., establishing contact with the enemy at about 10:00 A.M. the following morning.

The whole affair as witnessed from the observer's knoll showed the tanks (called combat cars) moving up, the leading units locating the enemy's hastily established

trenches and machine gun posts. Meanwhile observation planes overhead took photographs and dropped them on the ground near developing trucks, whence the finished photographs were rushed to the Commanding Officer within fifteen minutes.

With the information thus obtained the Cavalry Commander made his dispositions. The Artillery brought up and from concealed positions fired on the enemy, laying down a barrage that would keep enemy machine gunners' heads down. The machine gun troops, traveling in half-track vehicles, came up under cover and brought their fire to bear.

By this time the enemy was sufficiently engaged so that he could not readily retreat. The combat cars of one Regiment moved off to the right flank behind a small hill, while those of the other Regiment went off to the left flank to attack from another direction. When they were in position the trench mortars went into action laying a smoke screen across the enemy's front which very effectively screened the advancing tanks until they were too close to be stopped by artillery. When they had reached their ob-

jective the artillery limbered up, the machine gun troops piled their machines back in the vehicles and the whole Brigade was again prepared for rapid advance to follow up the advantage gained by its theoretical victory. The whole exercise, covering a front of two or three miles and a depth of four or five, was completed in less than an hour. To do the same job Infantry or Horse Cavalry would have needed four or five hours.

The Mechanized Cavalry is still largely in the experimental stage and is constantly learning new things about its own strength and possibilities of locomotion. Such speed is astonishing to anyone recalling World War manoeuvres.

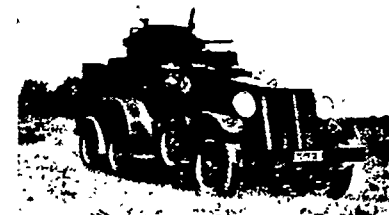
In the Seventh Cavalry Brigade, where performance counts, Ethyl Gasoline is used exclusively except in some units requiring aviation gasoline. The Dayton Division of the Ethyl Gasoline Corp. has worked closely with this unit of the Army for more than three years (see "News" Feb. 1935), cooperating not only in fuel tests and the solution of fuel problems but in lectures on fuels and other related subjects in the Officers' and Enlisted Men's Motor Schools.



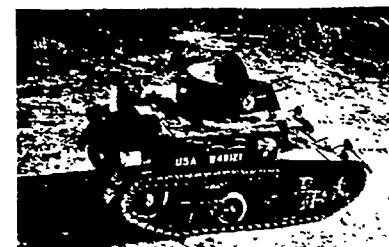
A combat car "taking off." They can run fast and turn on a dime.



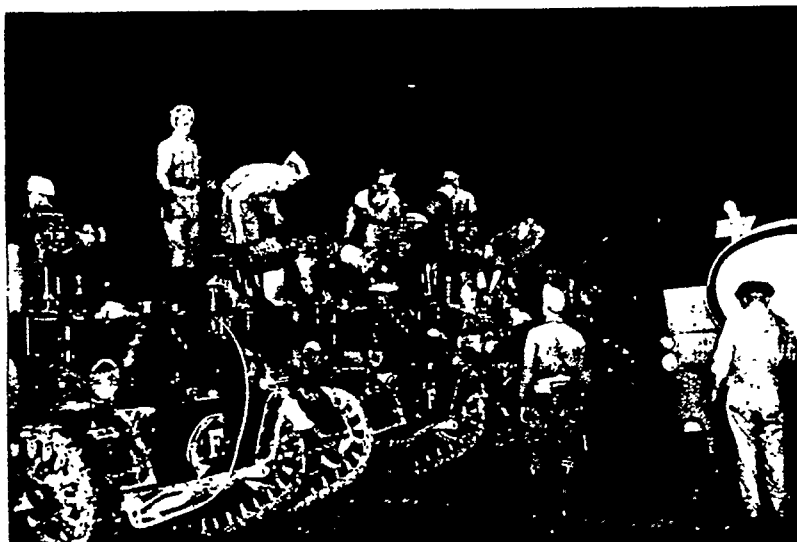
Machine gun troop "Half Track". These cars carry three machine gun crews. The crews fight from the ground piling out of the vehicle and setting up their equipment with amazing speed.



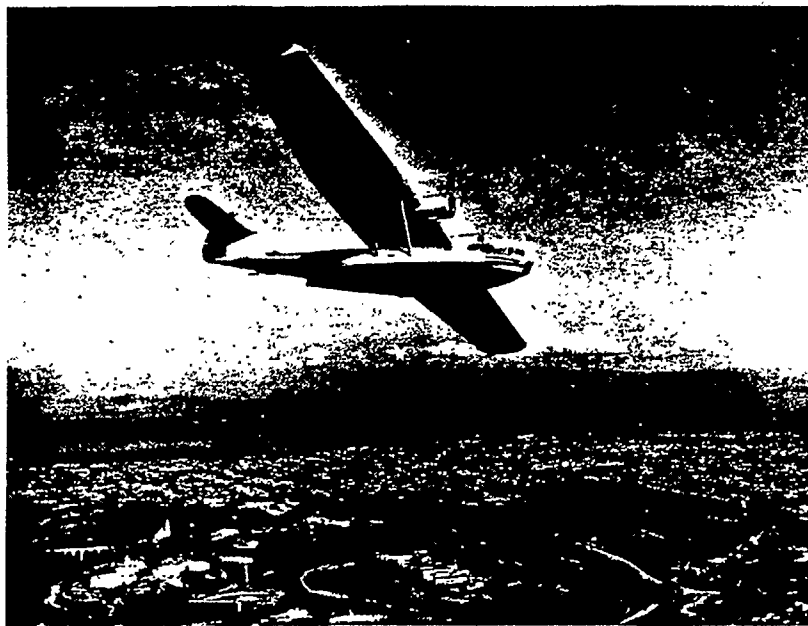
An armored car ready for action. They are fast and powerful and can get over rough country very well. Note fish pole aerial with which the car keeps in constant communication with other units.



A close-up of combat car. The engine is in the rear and turret carries one 50 and one 30 calibre machine gun. The car is also equipped with an anti-aircraft machine gun. The assistant driver also has a machine gun which will be noted near the siren.



Combat cars "gassing up" during the march to Fort Ogelthorpe, Ga. Note helmets worn by drivers of the equipment.



Capt. Archbold's "Guba" trying its wings high over a Pacific Coast city in preparation for flight to New Guinea.

Man's Latest Creation Visits Stone-Age New Guinea

ON June 2nd, 1938, Captain Richard Archbold, well-known explorer and scion of the Archbolds who made Standard Oil history, took off from San Diego, California, with five companions in his \$250,000 "flying laboratory" to collect specimens in New Guinea for the American Museum of Natural History.

Captain Archbold, who is thirty years old, made the flight by way of Honolulu and Wake Island to his final destination, Hollandia on the northeast coast of New Guinea in less than fifty hours' flying time. The 2267 miles from San Diego to Honolulu were covered in about 17 hours and the second hop of 2300 miles to Wake Island took but 16 hours and 45 minutes. In the final leg of the 7,000-mile journey, he traversed an area over which no plane had ever flown in 14 hours and 41 minutes.

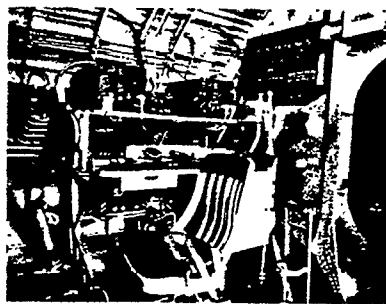
The plane structurally is identical to the Navy PBY flying boats and is the most completely equipped flying laboratory in the world—particularly for all-weather flights over land or sea. It was furnished especially for the expedition and its installation of instruments, radio and navigational devices are the latest known to science.

Built by the Consolidated Aircraft Corporation the ship is powered with Pratt & Whitney (Model SBG) Twin Row Wasp Engines of 14 cylinders developing 900 HP each. The cubic inch displacement is 1535 and the engine has a bore and stroke of 5.1875 x 5.1875" with a compression ratio of 6.75 to 1.0. The supercharger is geared at 12:10. The horsepower required for normal take off is 825 and for normal and maximum climb rate 750.

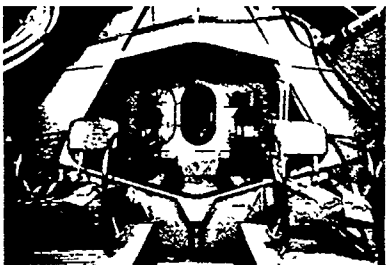
The interior equipment of the

ship is the result of months of study and experience gained on Captain Archbold's former expedition to New Guinea in 1936. In the bow compartment are an airspeed indicator, an altimeter and an aperiodic compass—the turret is graduated in degrees and shadow bars are provided for taking azimuth and for operation of a sun compass. In the pilot's compartment there are two complete sets of blind flying instruments and a Sperry Gyropilot. A right and left indicator for a tele-magnetic compass, an indirectly lighted compass and an aperiodic compass. The radio operator in the same compartment as the navigator has two transmitters, two all-wave receivers and two remotely controlled radio direction finders. One transmitter and receiver are remotely controlled from the pilot's cockpit by a dial system.

There are four sturdy platforms to support five tons of cargo and ten chairs for passengers. The "Guba", which in Papuan dialect means "Sudden Storm", will be re-



The radio equipment installation on the flying boat "Guba" is the last word in science of the air-waves.

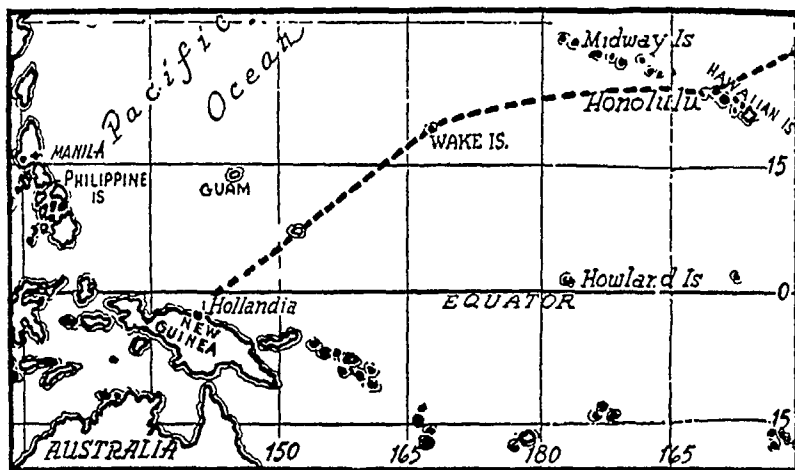


One of the spacious compartments especially designed for the comfort of the expedition members. View from bulkhead No. 4 looking aft.

quired to carry almost daily, supplies and personnel from the sea-coast base at Hollandia to the advance party of the expedition stationed on Lake Habbema, near the summit of Mt. Wilhelmina, altitude 12,500'. This is some 300 miles inland and a three months' journey on foot whereas the "Guba" will make the flight in two hours.

The Expedition will spend 1½ years in New Guinea collecting zoological data on birds, mammals and plants to further complete the valuable contributions to science which Captain Archbold brought from the almost unknown region two years ago. The base station will be equipped with a 500 watt radio transmitter and the lake base with a portable set thus permitting constant communication between the bases and the plane.

To make a complete zoological record of the area survey trips of three and four weeks duration will be made from the Lake—slow and tedious journeys of but a few miles a day under conditions making it impossible to carry supplies. In order to overcome the difficulty the same method will be employed which was practiced successfully on the former expedition, namely the dropping of food supplies by para-



Richard Archbold, heading a group of scientists seeking specimens for the American Museum of Natural History, made this 7,000-mile flight from California to Hollandia, Dutch New Guinea. Stops were made at Honolulu and Wake Island.

chute for it was due to the loss of their plane that the first expedition was obliged to return. For the purpose the "Guba" has installed a special cargo dropping chute in the tunnel hatch. Thus one of the greatest problems of exploration has been solved by placing this burden on the wings of a flying boat.

Accompanying Captain Archbold is Russell Rogers who acted as pilot on the 1936 New Guinea expedition; Lewis Yancey, forty-one-year old veteran navigator of the first New York-to-Rome flight in 1929; Gerald Brown, flight engi-

neer, who flew Ethyl Gasoline Corporation's C. J. MacFarlane to Fairbanks, Alaska, last summer (see Jan. "News") and there joined Sir Hubert Wilkins in his search for the Russian flyers; Raymond Booth, radio operator, also a veteran of the Wilkins expedition and Stephen Barinka, assistant engineer.

For this material and photographs we are indebted to: American Museum of Natural History, Mr. F. A. Learman of Consolidated Aircraft Corporation and Mr. Gerald Brown.



Flying boat "Guba" at U. S. Coast Guard Base, San Diego, just before take-off for Honolulu at 2:45 P. M. June 2nd. 1,750 gallons of Stanavo Aviation Ethyl with an 87 octane rating were put aboard. 17 hours later she came down safely at her first port of call.



The "Guba's" intrepid crew shortly before the start of their trail-blazing flight.



Mr. R. J. Coveney, who heads the Boston Division Clinic, points out to officers of the 156th Field Artillery what happens when different grades of gasoline are pumped into the carburetor of the regiment's reconnaissance car. From left: Captains E. A. Steuding and C. H. Behrens and First Lieutenant F. L. Coombs.



Station operated by F. & G. Auto Supply Co., New Rochelle, N. Y.

100 New York Guardsmen at Motor Clinic Review

THE Ethyl Motor Clinic of the Boston Division opened its run in Kingston, N. Y., at the State Armory on June 29th, 1938.

More than one hundred officers and men of the Headquarters Battery and Battery A of the 156th Field Artillery of the New York National Guard commanded by Lieut. Col. Alfred Huddleston, witnessed the preview especially arranged for them. This was the first of a series of meetings which were continued through the month of July and attended by oil and automotive men from every section of Ulster and neighboring Counties including the towns of Kingston, Poughkeepsie, Middletown, Catskill, Newburgh and Hudson.

The guardsmen, most of them for the first time, witnessed a graphic demonstration of the rise of the petroleum and automotive industries. Moreover, they got a clear perception of the relation of peak motor efficiency and fuels of higher anti-knock value so necessary for the perfect operation of their equipment.

The meeting was conducted by Mr. R. J. Coveney who is in charge of the Boston Division's Clinic unit. Using a reconnaissance car of Battery A of the 156th Field Artillery, Mr. Coveney showed the guardsmen and their officers how the car ran on the three grades of gasoline—

third grade, regular and Ethyl.

The guardsmen attending the preview under the command of Lieut. Col. Huddleston, Captains C. N. Behrens and E. A. Steuding; First Lieutenants F. L. Coombs and H. V. Clayton and Second Lieutenants W. R. Reindel, A. W. Mitchel and T. L. Flynn. This was the first occasion in which an Ethyl Clinic has been housed in a state armory and the guardsmen have made an effort to show the Clinic personnel every courtesy.

Cooperation Sells Ethyl

ABOUT two years ago the F. & G. Auto Supply Company of New Rochelle, N. Y., headed by Messrs. Harry and Benny Goldman, decided to take advantage of the growing demand for Ethyl Gasoline by working in cooperation with Salesman Walter O. Schmidt of the Pure Oil Co. The station was attractively painted in blue and white. Purol Ethyl signs were installed at advantageous points and the most favorable pump locations were assigned to their premium product.

It was their firm conviction that a customer buying Ethyl would never be lost on a quality basis to

another station. Consequently, each service man was trained to solicit Ethyl and to explain its advantages, in a properly tuned-up motor, to every regular and transient customer.

Mr. Schmidt, of Pure Oil Co., was quick to take advantage of the Ethyl field program in the New York Division. Demonstrations of Ethyl Gasoline were held and an Ethyl representative cooperated in every way possible.

Recently, additional aid has been given the servicemen by a visit to the Ethyl Motor Clinic while it was in New York. This helped them to better understand the story of the close relationship between the motor tune-up and proper fuels.

Most important, of course, are the results of the campaign. A year ago the Ethyl ratio of the station stood at about 29% while today it is over 63%.



The Goldman brothers, Benny (left) and Harry with salesman Walter Schmidt.

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Atlantic Refining Company Executives Attend Special Clinic Showing



DURING the appearance in Philadelphia of Ethyl's New York Division unit of the Motor Clinic, Vice President J. Coard Taylor issued an invitation to officials of the Atlantic Refining Co. to attend a banquet at the Penn Athletic Club. This is to be followed by a special showing of the Clinic.

Executives of Atlantic who attended included Messrs. Robert H. Colley, President; W. C. Yeager, V. President Domestic Sales; W. M. O'Connor, V. President & Secretary; E. J. Henry, V. President Refinery; R. C. Tuttle, V. President Transportation; A. A. Garra-brant, V. President Foreign Sales; Paul Shuman, Treasurer and Dr. T. G. Delbridge, Manager Research Department and Laboratory.

Also Messrs. J. D. Gill, Director Economics Dept.; Horace G. Hill, Jr., Director of Budget; G. W. Laurie, Director Automotive Transportation; L. M. Goldsmith, Chief Engineer; D. B. Spanogle, Mgr. Motor Oil Sales; W. E. Bricker, Manager National Accounts; H. G. Schad, Manager Railroad Division; J. J. Mulvey, Manager Furnace Oil Sales; E. R. Cox, Jr., Manager Sales Promotion; D. C. Thompson, Manager Wholesale Tank-car; J. C. Frank, Manager Eastern Pennsylvania Sales; F. M. Neall, Manager Philadelphia and South Jersey Sales; H. B. Stone, Manager New York Sales; H. M. Nichols, Manager Philadelphia Refinery; R. S. Zinn, Assistant Manager Eastern Pennsylvania Sales; H. Craig, Assistant Manager Philadelphia & South Jersey; C. H. Leathem, Assistant Manager Phila-

delphia Sales; H. F. Huf, Assistant Chief Engineer; W. F. Stroud, Jr., Assistant Manager Philadelphia Refinery; F. W. Miller, National Accounts and H. T. Feree and K. G. Krech of the Refining Department.

A special feature, which decorated the head of the table was a sugar cast miniature of Atlantic Refining's famous Three Little Men with Ethyl's Skippy clasping the hand of one—the handiwork of the

Athletic Club's well-known chef.

Assisting Mr. Taylor in doing the honors of host for the Ethyl Gasoline Corporation were Messrs. H. W. Kaley, General Sales Manager; R. C. Murphy, and R. L. Goltz, Manager and Assistant Manager New York Division and Ellis Locher of the Division.

The presentation of the Clinic following the dinner was given by Clinic Manager Meredith Littlefield.

Unusual Truck Job Gives Designer Good Results

SOME time ago, Mr. John Kramer, who is the San Diego agent for the Gilmore Oil Co., received a letter from a gentleman who conducts a trucking business in Calexico, Cal., which is situated on the Mexican border. It appears that he had been having trouble with some of his equipment and

wrote to enquire if their Ethyl Gasoline "would prevent his losing head gaskets in a 1938 truck." Mr. Kramer at once contacted Mr. Loser, Ethyl's representative in San Diego, and asked if he could call on their client on his next trip to Imperial Valley where Calexico is located.



Dual engine in 1935 Chevrolet truck assembled by Walter Carston of Calexico, Cal. View looking down from top of radiator.

View of twin motor job looking forward from underneath the truck. Note dual transmission and drive lines.





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At the first opportunity, Mr. Loser dropped in on the gentleman in question and thereby came upon a most unusual piece of equipment. After our Ethylman had finished the business on which he had come, the owner of the truck, who evidently was a very ingenious fellow, showed him a special Chevrolet job which was being assembled in his shop. As he was desirous of getting more power he had had two Chevrolet engines mounted parallel to each other in the frame of the truck. Although it was purely an experimental undertaking it seemed to be working out satisfactorily. One of the interesting features was that one engine, transmission and drive line went to the forward four drive wheels while the transmission and drive line from the other engine connected with the rear set of wheels. Thus by operating eight drive wheels, wheel slippage is cut down and tire life prolonged. The job is so constructed that either engine may be used separately or they may be used together. With this set-up, twenty-four tons can be carried on the truck and trailer divided as follows: 9 tons on the truck with 15 on the trailer which is the maximum load allowable for the number of axles. At present, the twin motor job is running on a mixture of half leaded regular gasoline and half Ethyl and apparently is giving a good account of itself.



Front view of Mr. Carston's Chevrolet truck.

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Day of Diesels in Passenger Cars Far Off Says Expert

CONTRARY to popular belief, it will be a long time before the Diesel engine is developed sufficiently to make it practical for general use either in passenger automobiles or in airplanes. Dr. D. P. Barnard, chief of the engine laboratory of the Standard Oil Company of Indiana declared recently.

Among the present disadvantages for passenger car use as compared with modern automobile engines are costs of the Diesel engine and its lesser degree of flexibility, Dr. Barnard said. Disadvantages for airplane use, he said, are liability to mechanical failure, weight and vibration.

Dr. Barnard said the Diesel engine — compression ignition engine — can be used successfully only where its advantages justify greatly increased investment and various important concessions.

"Present fuel injection systems for Diesels of small size cost about as much as a complete gasoline engine of the same capacity," he said. "And to date a cheaper and more successful type of fuel injection system is not available. For this and similar reasons a small Diesel costs inevitably two to three times as much as a comparable gasoline engine."

"The Diesel's most logical place on the highway is under conditions of continuous use and substantially constant scheduled speeds. Obvious-

ly, it does not fit the requirements for the great bulk of passenger traffic.

"It should be noted that the small Diesel, which has received considerable publicity recently, is not comparable to an average or even a large gasoline automobile engine. It is being developed to fill a place for which there is at present no other engine so logical. Although there is every indication that such engines eventually will be used in large numbers in commercial vehicles, their net effect will probably be to increase the total demand for petroleum fuels rather than to shift demand from gasoline to heavy fuel."

Barnard said that small comparatively high output Diesels are in embryonic state as far as their performance is concerned. Much experimenting will be necessary before the exactly proper method of fueling them will be known, he continued. He said that this type of engine is much more finicky about its fuel diet than the spark ignition engine. Large and heavy Diesels, he said, are less finicky and will burn heavy black oils.

"Diesels are very far indeed from supplanting gasoline, spark ignition engines," he continued. "This is nowhere more the case than in the air. They are at least ten years behind the gasoline engine in development."

From Chicago Tribune

THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE FOR JULY AND AUGUST

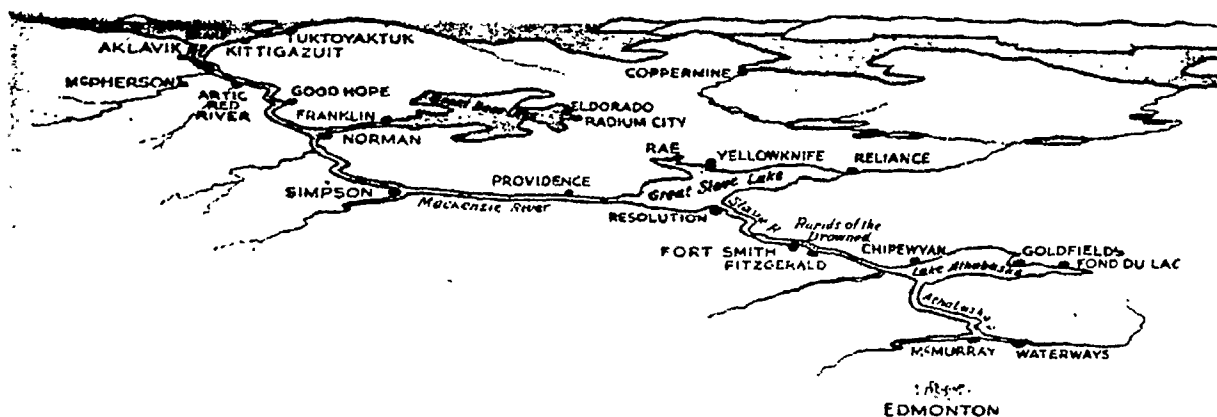
TEN YEARS
JULY
LAWRENCE A. HUNT.....Yonkers Lab.

FIVE YEARS
BLANCHE ASH.....Kansas City Sales
IRENE G. BRASURE.....Mfg. Dept.
MARIE CARRIGAN.....Chicago Sales
FRANCIS S. CRONIN.....Baltimore Sales
OAKLEY FSKRIDGE.....Mfg. Dept.
EDWARD A. HERBERT.....Mfg. Dept.
EDGAR W. HOLTON.....Mfg. Dept.
GILBERT S. WALDRON.....Mfg. Dept.

TEN YEARS
AUGUST
HELMER A. ABRAMSON.....Detroit Research
EDWARD E. ROSSMAN.....Detroit Eng.

FIVE YEARS
JOHN S. COLE.....Baltimore Sales
RAYMOND H. HILL.....Administration
MARTHA A. HOLAHAN.....Administration
CHARLES E. SMITH.....Chicago Sales
LIDA C. SPARKS.....Mfg. Dept.

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The World's Most Precious Element Builds Eight-Mile Highway

ON the rim of the Arctic, where the midnight sun shines for twenty - four hours a day during the brief intense summer, lies the eight-mile long stretch of highway which is an important and vital link of the vast transportation service that brings Canadian radium to the outside world. And it is another phase in this unique industry in which Ethyl plays a leading role.

Just as Ethyl Gasoline is used by the Silver-Radium Express, giant freight plane which bears fresh food all year 'round to the 125 miners isolated at Eldorado (see Oct. 1937 "News"), so is it the fuel for the two trucks which constitute the only traffic on this northern road. And

again it is the fuel for the new high-speed tug, Radium-Express, put into service this Spring as an auxiliary to the Bear River tugs and barges which take in supplies and machinery and bring out radium ore.

Eldorado radium mine lies on the South shore of Great Bear Lake, 1,140 air miles from Edmonton, Canada, and nearly 2,300 miles by water. The ore is carried out to Waterways, Alberta, by water; then by railway to the company's refinery, 1,500 miles still further away at Port Hope, Ontario. This water route is treacherous, having dangerous rapids and shoals and is only open to navigation about three months during the Summer.

The worst rapids are in the Bear River which are called the St. Charles and boats can only operate



ARCTIC PILOT—A. Massey "Maur" Berry is Canada's best-known airplane pilot, holder (1937) of Trans-Canada trophy for "greatest contribution to Canadian aviation . . ." now retired from the air to become managing director of Northern Transportation, operator of 24 tugs and barges, several trucks, on world's longest waterways system, the Mackenzie. As a man who has flown a half-million miles over barren lands of North West Territories, effected thrilling rescues a dozen times of priests, trappers and prospectors trapped by ice, he is Ethyl enthusiast. All Arctic flying is on Ethyl fuels.



ARCTIC HIGHWAY—Caribou, bear and giant moose are regular travelers along this road which looks like any rural route in the older areas of America. Two trucks are its only traffic, operating during the Summer season under the midnight sun, 24 hours a day. It is the most northerly road in the Western Hemisphere, handles the incredibly rich ores of the Eldorado radium mine on Great Bear Lake.

above and below them. The eight miles of road which has been built around this dangerous point connects the upper and lower parts of the stream. The two trucks, one a Ford V8 and the other a White, often meet moose, caribou and bear on the road and so fascinate the Eskimos and Indians that they often come hundreds of miles to see them. The trucks operate day and night during the short season but require no headlights due to the 24 hours the sun is above the horizon at this time of year.

In addition to the tugs and trucks, another unit forms part of the system. It is the eight miles of two-inch pipe which also circumvents the St. Charles Rapids and through which is pumped the diesel fuel oil which runs the mine machinery. This oil comes from the wells of Imperial Oil, Ltd. at Fort Norman and 200,000 gallons are used at the mine. It is brought to the foot of the rapids by tankers where it is stored to be pumped to other tanks above the rapids as needed. From there it is shipped by other tankers and carried the 300 miles across the lake to the mine. These same wells of the Imperial Oil, Ltd. likewise serve all the mining operations further south at Yellowknife, Outpost Island, Slave Lake and Gordon Lake, where gold has been struck in rich quantities.

Photos courtesy Northern Transportation Co.,



CROSSING UP THE RAPIDS—Eight miles of white water, known as the St. Charles Rapids, cut the Bear River into two sections, render marine transportation almost impossible. So a road was built, eight miles long, and two trucks operate over it, linking the barges which function on the two sections of the river. Trucks use Ethyl gasoline. So universal is Ethyl's use in the Arctic that Indians and Eskimos believe all gasoline is red.



TRAIL'S END—This is what can happen to a road in Canada's North West Territories. Land in the delta areas of the vast river systems (Mackenzie, Athabasca, Peace, Slave) is boggy, weakened by terrific frost penetration during 60 below zero winters. This road is the portage route around the Rapids of the Drowned on the Slave River, between Fort Fitzgerald and Fort Smith.

Petroleum "Brain Trust" Saves U. S. Motorists \$600,000,000 Annually

(Continued from Page 1)

At close range, the work of the laboratory man, ever in search for more efficient processes and methods, seems prosaic and uninteresting. They may spend many months and many thousands of dollars in the study of corrosion of distilling equipment and engine parts or methods to remove certain undesirable substances from their product. Patiently and faithfully the scientists work on one detail at a time but when those details are viewed together in broad perspective, their

importance is understood. When their collective result, measured in billions of dollars in savings in costs to the public, is visualized, the work of the technologist takes on real significance.

Research engineers are discontented men. Not that they do not enjoy their work, but they are never satisfied with their accomplishments. They devise means to transform petroleum molecules into other molecules more suited to the needs of modern engines in improving mate-

rials of which the engine is made or changing engine design so that greater power may be obtained from a given amount of fuel. Having accomplished that, they still strive to improve their methods. They spend many millions a year in their experiments and the companies gladly foot the bill, knowing that such investment in research is money well spent.

Every dollar spent in research by the petroleum and automotive industries has added many dollars in purchasing power to the American public in lower prices and improved products.



Instructors of the U. S. Army Transport School examining display panels at Ethyl Motor Clinic in Baltimore. The panel at the left shows the distillation of crude oil and components of Ethyl Fluid—a special exhibit at the Clinic. Standing from left: Capt. Ricamore; W. J. Ryan of Clinic Staff; Major Atwell and non-commissioned officers.



Upon the arrival of the troops one entire block was reserved for the parking of their equipment. This privilege was extended through courtesy of the Baltimore Police Department.

Ethyl Host to Army Transport Men

EACH year the U. S. Army selects certain motor transport men from the various posts throughout the United States and sends them to Camp Holabird, Maryland, to take part in an extensive training program which includes the complete servicing of the motor truck and its use as a primary means of transportation. These groups are divided into three classes; the Officers Class, the National Guard Class and the Enlisted Personnel Class. In addition to these men, many foreign countries are represented by their own military attaches.

During the past three months, the school has been conducted exclusively for the enlisted personnel and as a fitting climax to their extensive studies the entire group travelled by convoy to Ethyl's Baltimore Division Clinic where a special meeting had been arranged for them. Major Atwell opened the program by speaking on the important part that the Ethyl Corporation was playing in the development of fuels for use by the United States Army. In plain words, the Major stated that the fine up-to-date equipment of the Army was made possible only through the cooperation of the Ethyl Gasoline Corporation in developing a superior fuel. Without

this fuel, he indicated that the Motor Transport Division of the Army would be forced to use machinery of a much lower standard. Incidentally Major Atwell has spent several months at the Ethyl Detroit Laboratories and therefore has first hand information on the subject.

At the conclusion of the meeting those attending remained for quite some time inspecting the equipment and in asking questions. Camp Holabird has in its possession a water brake dynamometer and consequently much interest was shown in the Clinic's electrical equipment. During this period, Colonel Carmody, commandant of the school, expressed the thanks of the Motor Transport school and of the U. S. Army for "such a fine program". The order was then given to board the trucks and the group was conveyed back to their headquarters.

The importance of the meeting is stressed in view of the fact that these men are now returning to their various home posts which are scattered throughout the United States and some to foreign service. By this means the story of the Motor Clinic will be carried to those places throughout the world where American Troops are stationed.

R. J. Coveney, Clinic Mgr., J. G. Martin, Mayor Heiselman, and M. A. Taylor Boston Div. Mgr.



Kingston, N. Y., Mayor Gives Ethyl Clinic Official Welcome

IN the old Hudson River town where stands the first capitol of the Empire State, Mayor Conrad J. Heiselman, Kingston Chief executive, welcomed the Ethyl Clinic at a dinner at the Hotel Governor Clinton on the evening of July 5th. The Mayor's official greetings were extended to Mr. J. G. Martin, Director of Ethyl's Clinic program and Boston Division Manager, M. A. Taylor, both of whom had made a special trip to Kingston for the occasion.

In the course of his remarks at the close of the banquet, Mayor Heiselman said: "We are happy to play host to the engineers who are making such a great contribution to automobile transportation. I derived considerable benefit from the lecture which Mr. Martin gave and although I am a banker and not an automotive engineer by profession, I learned a lot about motors, fuels, motor knocks and the other mysteries which are mysteries to me but not to you. I welcome the Ethyl Clinic and want you men to know that you are guests and we as hosts are at your service."



The lure of Spring calls motorist nomads to flower-spangled slopes. These travelers have deserted the highway which winds through the colorful Antelope Valley of California and have parked their car hub-deep in a field of golden poppies.

Nature Puts on Annual Flower Show San Joaquin Valley Riot of Color

EACH spring the colorful flower fields of Kern County, California, stretch out for miles in vivid blankets of orange, yellow, pink, blue and lavender under cloudless skies. Travelers coming down into the San Joaquin Valley over the famous Ridge Route from Los Angeles wind out of the Grapevine Canyon to the straightaway which leads down the slope of the valley floor to Bakersfield, 32 miles away. There they find no towns, nor smoke from factories, nor other evidence of the disturbing hand of man except for the tree shaded highway which leads out through rich pasture lands, where herds of white-faced cows graze knee deep in a riot of bloom. Truly, it is the greatest flower show on earth.

Each year hundreds of thousands of visitors swarm over the pass from Los Angeles, and up from the raisin and fruit areas in the heart of the valley. Many come from San Francisco and from places still further away — every highway and every side road carry an endless stream

of visitors. Even the fields are dotted with people who must have their impression of beauty and fragrance at first hand.

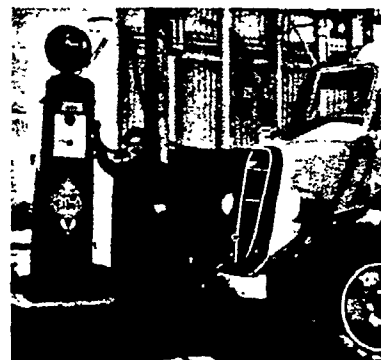
The local oil companies publish special wild flower books and maps, to familiarize their patrons with the different varieties, and guide them to the more choice locations. Every service station has its sign, "Wild flower information", and to keep stocks of gasoline available so station pumps will not run dry, the gasoline delivery fleets work from morning to night over the week-ends. On some Sundays, a quarter of a million cars come over the Ridge from Los Angeles, the trip generally covering between 300 and 400 miles and the gasoline consumption on these week-ends is enormous. The area covered includes a great many miles where there are neither towns nor bulk plants, yet the remote service stations located along these roads must be kept supplied. A forty mile delivery trip, climbing from 250 feet above sea level to an altitude of

4,000 feet, is a common occurrence. But it takes horsepower, and man power, to keep the wheels of the tank trucks turning and the pumps from going dry. Time cannot be wasted on the long hills, or the endless line of cars will be held up and the slow truck and its owners will incur the ill will of the motorist.

In increasing numbers the delivery trucks are switching to Ethyl Gasoline, to give them the utmost in power, so the work will speed up, and so traffic will be hindered less. The entire fleet of Martin and Monan, Signal distributors for all that area, has been converted to Ethyl, with a marked saving in time, reduction of low gear work, and increased all round efficiency. As a result of the experience in their own fleet, Martin and Monan have set to work to sell Ethyl Gasoline. With their enthusiasm for the product induced by facts uncovered in the operation of their equipment they are really "going to town" in their sales efforts. Many of their regular customers are now getting a "better run for their money".



A young member of the Ethyl family, Dana Abell, son of Pacific Coast Division "News" correspondent, sitting in a sea of wild flowers which stretch to the horizon.

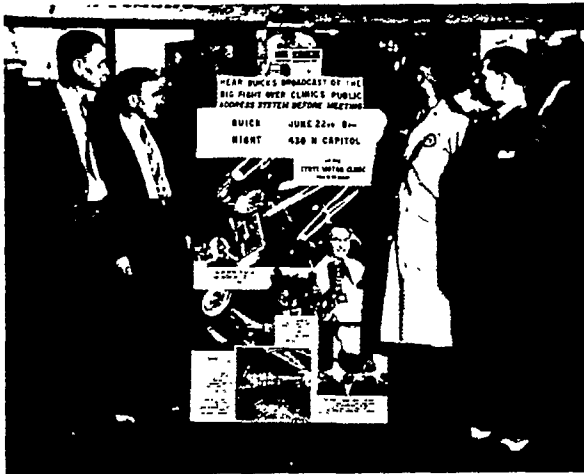


One of Martin and Moran's powerful trucks fueled with Ethyl about to start on a regular delivery route.

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Reading the announcement of the fight broadcast at the Ethyl Motor Clinic in Indianapolis are shown from left: R. B. Kincaid; Alden Dinsmore, Buick Service Representative, Indianapolis; W. R. Kraft, Pres. Monarch Motor Co. and K. E. Highly, Service Manager Monarch Motor Co.

Ethyl Clinic Holds "Fight" Party in Indianapolis

EARLY in June the Chicago Division set the date for a Buick Night at the Ethyl Motor Clinic, showing in Indianapolis, for the 22nd of the month. This turned out to be the evening when the Buick Company was sponsoring the broadcast of the world's heavy-weight bout between Joe Louis and Max Schmeling at the Yankee Stadium in New York. About a week before the meeting was to be held indications were that the attendance would probably be small, due to the unfortunate conflict of dates.

With the cooperation of Mr. R. B. Kincaid, Cincinnati Zone Service Manager for Buick, it was decided to try and capitalize on the situation. Mr. Kincaid supplied a list of dealers in the Indianapolis area and a telegram was sent to each one inviting him to hear the Buick Broadcast of the big fight over the Clinic's address system before the meeting. In addition, special billboards were prepared tying in the Clinic meeting with the fight broadcast.

As a result of this piece of opportunity an excellent audience was secured at a meeting which otherwise might very possibly have been a failure due to the circumstances. In attendance was a good representation from the two Indianapolis



Before entering his training camp the "Brown Bomber" evidently had his mind on "tune-up for extra power". Here he is shown at Scotty's Service Station in Pittsburgh on the occasion of an Ethyl demonstration there. On his right is Ethylman Gel Howell who, with Redge Bushell, conducted the demonstration.



Pennsylvania Farm Bureau fieldmen from the western part of the state inspect equipment on the stage of the Ethyl Motor Clinic in Pittsburgh. Shown sixth from left in foreground (dark trousers, arm resting on fuel pump) is H. S. Agster, Manager of the Pennsylvania Farm Bureau. M. P. Murdock, Clinic Manager, is standing at extreme left and next to him is A. B. Swearingen, manager of the Warren Blending Plant of United Cooperatives, Inc.

Buick agencies as well as from six other cities within a radius of seventy-five miles. In the accompanying illustration is shown one of the billboards which was employed to publicize the meeting and the fight broadcast. This particular board was at the Monarch Motor Co. of Indianapolis.

Service Manager Appreciates Clinic

May 26, 1938

Mr. Ray Fallor
Ethyl Gasoline Corporation
120 W. Second St.
Dayton, Ohio
Dear Sir:

Some time ago I was extended the privilege of attending one of the Ethyl Clinics in Columbus, Ohio. On this occasion my entire staff of mechanics attended with me. Since that time I have had a good opportunity to see if the tune-up procedure brought out at this meeting could successfully be used. I am well satisfied with the progress and the good that the mechanics have been accomplishing due to the actual demonstration which was given at the Clinic.

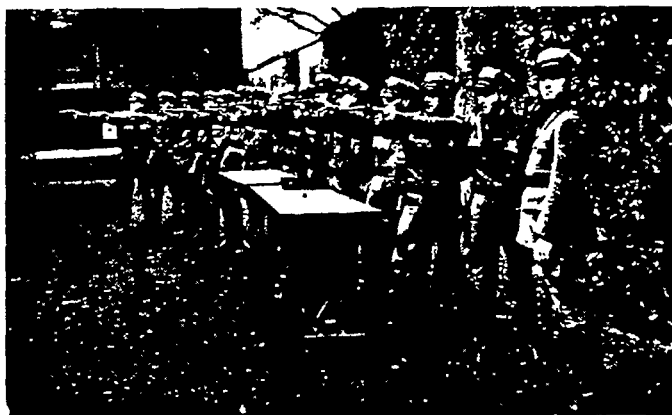
I thank you and the Ethyl Corporation for the interest and expense they have put forth in order to bring about peak performance and economy from our present day engines.

Very truly yours,
THE SMITH MOTOR SALES CO.
Gilbert Cheetham
Service Manager

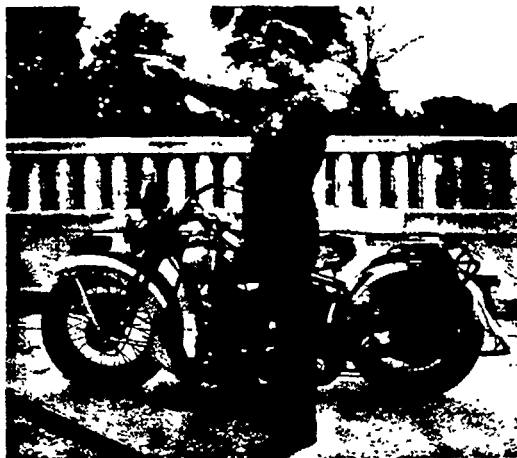
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Constant training in small arms practice make these Louisiana State officers expert marksmen.



Captain Green, Commander of District No. 1—Baton Rouge area.

Louisiana State Police

Courtesy . . . Loyalty . . . Service

THIS is the motto adopted by the men in blue who comprise Louisiana State Police Force. It is the slogan uppermost in the mind of General Louis F. Guerre, Superintendent of the Department and a watch word of the one hundred and twenty uniformed officers under his command.

The extensive program carried on during the past two years since the department was created has built up a highly efficient organization. This training included highway patrol, safety work, criminal investigation, finger printing, laboratory tests, gangster hunts, technical laboratory work and instruction of Louisiana peace officers.

Working out of eight district stations and four sub-stations, seventy-six motorcycle police patrol more than 9,500 miles of the State's Highways. The night patrol cars with two patrol men in each car work out of five of the main stations and patrol 3,500 miles of the State's highway nightly. More than \$425,000 was collected during the past year from violations, such as improper licenses, overloaded trucks, and penalties for cancelled plates, due to the activity of these highway patrol officers.



General Louis F. Guerre in command of the 125 uniformed officers which make up the State force.

A training division, under Captain Cave, is maintained, with a full course in instructions which must be passed by all men in the Department becoming police officers. It covers four courses of twelve weeks each. Special classes qualify men for the office of Lieutenants and a more advanced course for the eight permanent Captains.

During 1937, the Department

traveled over a million and a quarter miles in patrol cars and on motorcycles and consumed some sixty thousand gallons of Ethyl Gasoline.

Courtesy — Loyalty — Service is the slogan of the men and Ethyl, which is used exclusively, adds the fourth, Performance — for their equipment.



Major M. J. Roden, Assistant Superintendent.

WS

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Annual Ethyl-Agency Golf Match

ON the longest day of the year—June 21st—a group of Ethyl men spent the day at the Blind Brook Golf Club, as guests of Bruce Barton in the sixth annual Ethyl-BBD&O tournament. It was a fine, clear, sparkling day and every one had a lot of fun.

President Earle Webb, who was in Chicago, telegraphed his regrets at not being able to attend this year. Mr. E. M. Clark, of the Board, led the Ethyl delegation which included Coard Taylor, Julian Gonzalez, Ralph Champlin, Bob Jordan, Harry Kaley, Paul McElroy, Ben Loder,

Mr. Loder, of our Legal Department, won a beautiful golf bag for the low gross score of 83. Another bag went to Mr. Hufnagel, of the agency, for the low gross in Class "B". Low net prizes—folding occasional tables for tea or cocktails—went to Mr. Barton in Class "A"



The host—Bruce Barton.



Paul McElroy and "Lex" Chiquoine wish each other luck for the morning round.



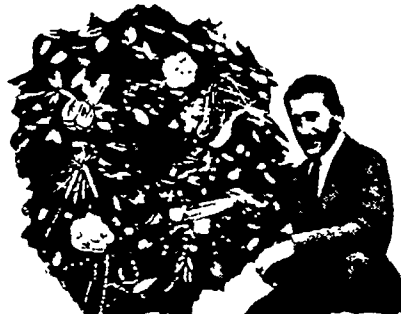
The Murphys, Dick and John. Across the table, reading clockwise, Messrs. Donohue, O'Donnell, Kaley, and Hufnagel.



E. M. Clark enjoys the evening breeze on the verandah after the match.



Coard Taylor watches a long one fly from the 10th.



Ed Downs wins the prize for endurance.



Bob Jordan "tears the cover off it" on the first.

Pick-up foursomes played a qualifying nine holes in the morning to determine the match foursomes for the afternoon's 18. The luncheon, and the dinner at the end of the day, were served on the open verandah overlooking the 18th hole.

At ten in the morning the first group teed off, with Class "C"—the novice foursome who had never played before—leaving in a cloud of divots an hour later. Working doggedly around the first nine just in time for luncheon, this group turned in some mighty scores.

Jack Martin, both Dick and John Murphy, Julian Frey, Lou Volz, Russ Weston, Russ Schell, Ed Downs and North Clarey. Bruce Barton captained a formidable team composed of the Messrs. Durstine, Chiquoine, Danforth, Gouge, Bushfield, Jones, Bliss, Scharps, Canda, Donohue, Hufnagel, Newman, Hayward, Velsey, O'Donnell, Pryor, Costa and Carley. Al Strasser, who came to scoff but remained to play with his camera, took several of the pictures used in this article.

(after he and Mr. Bushfield had flipped a coin over a tie score) and to Jack Martin in Class "B". The foursome prizes—hammered aluminum trays and leather cigarette boxes—were split between the Ethyl men and the agency men, as the tournament was a draw.

The outstanding prize of the day went to Ed Downs, who rolled up a fantastic total somewhere in the 200's: a huge and gorgeous horse-shoe made of vegetables.

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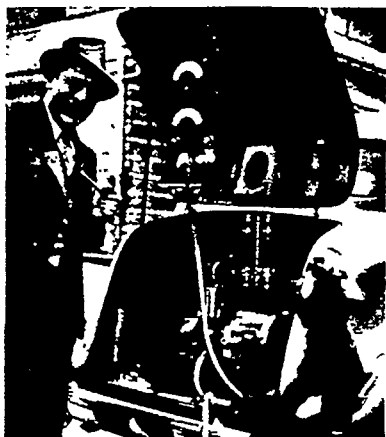


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After much discussion as to the identity of these two it has been determined that the pipe smoker on the left is Ethyl's Tennessee representative, Stonewall Jackson Warner. The other is just a chance acquaintance. The state laws of Tennessee, confirmed by the famous Dayton trial in which Bryan and Clarence Darrow participated, prohibit the suggestion that the two have anything in common other than a mutual interest in the Ethyl demonstrator.

We welcome to the Ethyl family Bernhard Weyhrauchs who recently joined the Accounting Department in the Graybar Building. Bernhard took the La Salle Accounting Course and also studied at Pace Institute. He has been connected with the automobile industry for approximately twenty years, having been with the Buick Motor Company from 1919 until 1933 when he became associated with the Pontiac Motor Company. He assumed the duties of Business Management Clerk at Pontiac until June of this year when he left them to join the Ethyl Gasoline Corporation. Bernhard is married and lives in Long Island City.

We take great pleasure in introducing our new Western New York State representative, Harold R. TenEyck. Harold can be added to our list of M.I.T. graduates, having received his engineering degree in 1923. Of particular interest is his fleet operating experience of seven and one-half years. Harold is single and will make his headquarters in Rochester, N. Y.



NEWSBRIEFS

The Chicago Division announces a new addition to their branch of the Ethyl family in the person of Frederick M. Ahrens who joined the organization on June 16th. Fred a native of Nebraska, has been connected with the automotive industry since 1929 when he became a student in the General Motors Institute of Technology at Flint. Since then he has served in various capacities with General Motors in both technical and sales divisions, being associated with Cadillac and later Oldsmobile. Most recently he was with the Service Department of Oldsmobile in Philadelphia. He has taken over the duties of a field representative for the Division.



Mr. and Mrs. Alan Tully photographed on December 2nd, 1937, immediately after their marriage. The reception was held in the garden of Mrs. Tully's mother in Victoria, Australia. Alan explains his rather grim expression in two ways—one was the bachelor dinner the night before and the other a recent eye operation.



Mrs. Alan Tully (formerly Lady Kingsford-Smith) and her sister, immediately following the ceremony. These are the first of Alan's wedding pictures to reach us and we certainly approve his choice.



Another proud father among our ranks! This time he is Gordon Conner, our Montreal representative. On June 11th, at the Royal Victoria Maternity Hospital in Montreal, Mrs. Conner, the former Marie Papineau, presented Gordon with a son—their first-born. The Toronto office can't resist making the remark that while Gordon is subject to the French influence he is evidently no "Papa Dionne." We send our most hearty congratulations to Mr. and Mrs. Conner.



We think this is a picture of pretty swell cooperation. Here you see a very attractive bride of a few months taking time out to pose with a Fire Chief Ethyl pump and, incidentally, her husband, Dwight Andrews. A very excellent way of presenting your wife to the Ethyl family, Dwight.

We welcome to the Ethyl family Frank M. Jobs who joined the staff of the Tulsa Division as Fleet Engineer. Frank received his education in the public schools of Escondido, California, at the University of Michigan, from which he was graduated in 1927 with a B.S. degree in Mechanical Engineering.



Following the completion of his technical education, he was employed for six years in experimental engineering work in the Chrysler Engineering Department. One year was spent in Diesel Aircraft engine development work with the Emsco Aero Engine Company of Bell, California, from 1929 to 1930. In 1934 he entered the fleet service work applying preventive maintenance, etc., to the fleet of The City Baking Company of Baltimore. Since 1936 he has been doing consulting work of this type.

A. P. Stover, Assistant Manager of the Manufacturing Dept., sailed on June 7th on the Ile de France for an extended trip abroad in connection with Ethyl's manufacturing activities on the Continent. Mr. Stover's itinerary includes visits to England, France and Germany.

Belated congratulations to Mr. and Mrs. Walter E. Reitz who were married on May 21st. Mrs. Reitz is the former Marian E. Hofstetter of the Baltimore Division. She has been with us since January, 1935, and will continue with the Ethyl family.

Word comes to us from the Detroit Gasoline Testing Laboratory that another confirmed bachelor has been converted to the idea of matrimonial bliss. On June 4th Donald Harper Pulleyblank and Elizabeth Agnes Anderson were married at Adrian, Michigan. Our congratulations and very best wishes.



HE WON \$10,000
with a non-stop flight of 143 miles!

THAT was "long distance" flying in 1910!

A \$10,000 prize offered by the *New York World* inspired Glenn Curtiss to make the first long distance flight in the Western Hemisphere—Albany to New York—143 miles! When the special train that accompanied him had difficulty in keeping up, aviation sounded a warning that all land

transportation must look to its laurels.

Last year, three Russians flew from Moscow to Portland, Oregon, to set the present all-time long distance record of 6,359 miles.

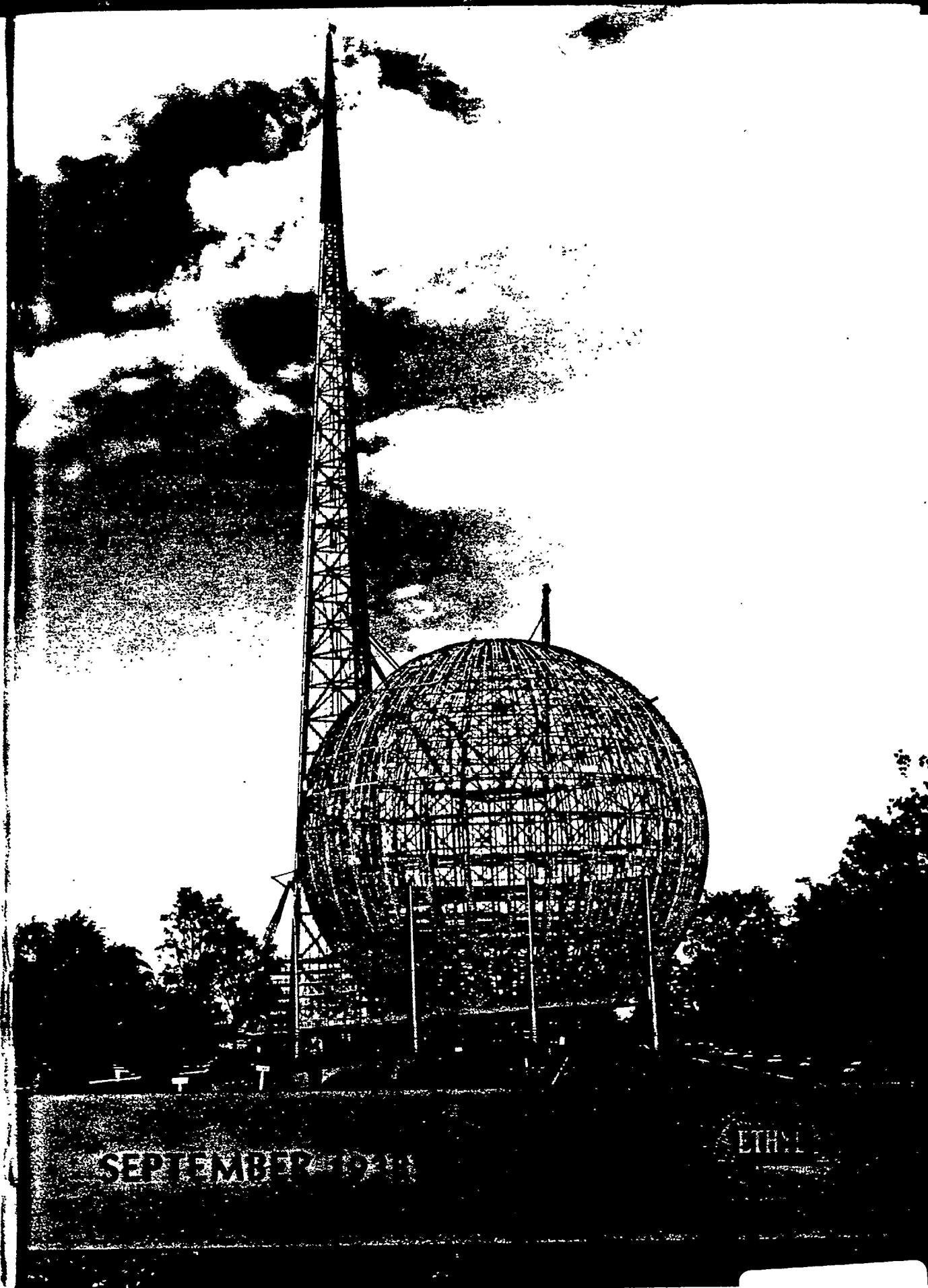
Between Curtiss' flight and that of the Russians lay 27 years of research and development to improve the inseparably linked fuel and engine. Between the Russians'

flight and the long distance record 27 years from now lies the same relentless program of research for the betterment of fuels and engines.

That is why Ethyl engineers, along with aviation engineers, are working continuously on further fuel and engine development. Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y.

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"WE MUST KEEP UPPERMOST IN THE MINDS OF THE AMERICAN PEOPLE THAT FREEDOM OF PRESS, FREEDOM OF RELIGION, FREEDOM OF SPEECH AND FREEDOM OF ASSEMBLY ARE THE FOUR CORNERSTONES UPON WHICH LIBERTY RESTS. WE MUST MAKE IT PLAIN THAT IF ONE OF THESE CORNERSTONES IS DEMOLISHED, THE OTHERS WILL CRUMBLE. FREEDOM OF THE PRESS CANNOT BE DESTROYED IF WE WANT THE OTHER FREEDOMS TO EXIST. THE SAME IS TRUE WITH THE OTHER FREEDOMS—EACH DEPENDS UPON THE OTHER. LIBERTY IN THE UNITED STATES CAN ONLY STAND ON SOLID PILLARS.' —*Arthur Hays Sulzberger*

Sound Business Management America's Success

THIS country always has had unlimited basic wealth in its natural resources. Yet for hundreds, yes thousands of years, they laid unused by the peoples who dwelt here, which illustrates that, despite the fact that all wealth comes from the ground, it will always stay in the ground unless developed.

Likewise, capital in itself never created anything. A dollar in a safe deposit box is capital, but brings nothing to our common welfare for a buried dollar is actually less useful than the song of a bird.

Labor in itself is not creative. A man may dig in loose sand all day, yet his hard and consistent labor accomplishes nothing. China labors harder than any other nation, yet is one of the poorest.

If neither land, capital nor labor develops our welfare, what, then, is the thing that has made this country the most successful of all?

There can be but one answer and that is "MANAGEMENT", which takes land, which takes capital and which takes labor, combines it with ideas and action and makes wealth—health and happiness.

The reason that America leads the world is because it has been able to raise more efficient managers to the acre than any other country and in that fact lies our assurance of future national security.

* * * *

One of the main accomplishments of these same business managers has been to create surpluses in their organizations, thus putting them in a sound financial position and assuring a continuance of operation in less prosperous times.

But unfortunately whenever a period of business inactivity like the present repression sets in, business critics are wont to demand of industrial leaders that they dip into reserves to pay wages and keep workers employed.

On every hand there are efforts to convince people that Industry has large accumulations of cash and securities that could be turned into payrolls. This is not the case.

Let us suppose, however, that Industry decided to liquidate its reserves and surpluses and turn them into wages. According to the latest figures of the Bureau of Internal Revenue manufacturing industries now have surpluses aggregating \$14,000,000,000. Their annual payrolls aggregate \$13,500,000,000. In other words manufacturers would have to dispose of their entire surpluses lock, stock and barrel to carry payrolls for only one year. If they decided to use only their cash and Government Bonds for such a purpose, it would last about four months.

Many noted economists have long since predicted certain bankruptcy for American Industry if either course were followed. Who would want to see that happen? Certainly not the men, women and children with savings accounts, whose savings are re-invested in private enterprise, nor the holder of a few bonds or shares of stock in private industry, nor the millions of Americans whose life-insurance policies are backed by securities in private enterprise.

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Yellow Cab Company Entertains at Cleveland Motor Clinic

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VOL. 5, No. 9



For over seventy-five years elk have roamed at will beneath these beautiful trees on G. Elwood Bonnine's estate near Vandalia, Michigan. Many of them are descendants of the original herd.

A Hobby That Has Lived For Three Generations

IN the course of their various field activities Ethyl men frequently dig up an unusual story. Such was the case when Mr. Bond Hedden, Tractor Engineer of the Chicago Division recently visited a fifteen hundred acre farm just outside of Vandalia, Michigan, owned by Mr. G. Elwood Bonnine. He is of old Quaker stock originally from Pennsylvania and the estate has been in his family for the past eighty years.

During the Abolitionist days Mr. Bonnine's grandfather and some of his neighbors aided in the movement of smuggling slaves from the Ohio River, via the "Underground Railway", as it was termed, northward to Canada. Still standing on the farm is an old barn which served as one of the chain of "stations" on the "railroad" where the runaway slaves found shelter during the daytime, continuing their flight under cover of darkness.

Aside from running his farm, Mr. Bonnine operates a large tourist service station where DX Ethyl is sold and he is also the local agent for the Oliver Farm Equipment Sales Co. But perhaps of chief interest is a most unusual hobby which he inherited from his great-grandfather, one Isaac Bonnine, and which has been carried on by succeeding generations. More than 75 years ago old Isaac got the idea of starting an elk farm. He secured a buck elk and a doe and gradually increased

the herd by breeding and adding new stock. Many have been sold to private game fanciers and back in 1869 King Victor Emmanuel of Italy purchased a large buck and had it shipped from New York on an Italian warship for the royal park. Today the present Mr. Bonnine reserves the same 40 acres with its natural water hole and venerable old trees for his now sizeable herd.

During the winter the elk eat hay but in the summer are allowed to forage for themselves. Mr. Bonnine says that he once tried feeding them oats but "they refused to eat the

stuff. They are lively fellows", he says, "and will give photographers trying to get close-ups, a run for their money."

Only one sultan may rule in the elk harem and therefore from time to time the older buck must be shot as his supremacy is challenged by a younger animal. Otherwise it would mean duels to the death. On occasions bucks have been slain to provide banquets for the B. P. O. E. lodges in nearby cities and their heads and antlers are in great demand for the Elk's temples of Michigan. Some of the animals develop an antler spread of five feet. The present father of the herd is a magnificent specimen and was purchased two years ago from the famous Dryant ranch in Montana.

Of the over 1500 acres comprising the estate about one thousand are under cultivation. The crops include corn, wheat and alfalfa. Mr. Bonnine prides himself on the fact that his farm has long been known for the progressive methods employed and the use of power farming equipment. Their first tractor was put into use in 1919 and here also was operated the first combine in the territory. Today we find there modern tractors with rubber tires, high compression and powered with good gasoline.



Mr. Bonnine operates a large tourist service station and is also agent for Oliver Farm Equipment. He uses and recommends leaded gasoline for his high compression tractors.

During the abolitionist days many southern slaves found shelter in this old barn during their flight to Canada and the North.

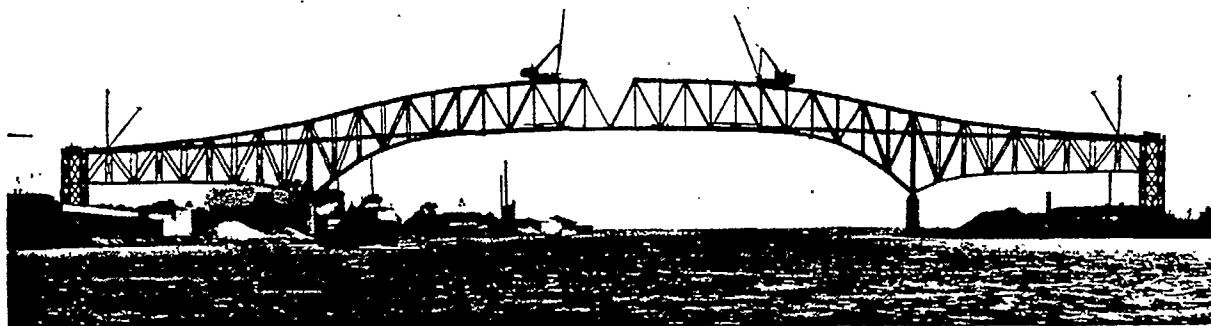


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The great bridge over the St. Clair River nears completion and forms one more link to bind the two English speaking nations of the North American Continent.

The Blue Water International Bridge Nears Completion

THE United States and Canada will forge another link in the friendly relations existing between these two great English-speaking nations early this fall when the Blue Water International Bridge is opened across St. Clair River, between Port Huron, Michigan, and Sarnia, Ontario.

Construction work on the Bridge began June 23rd, 1937, and the completion of American and Canadian approaches and the main span has been set for early September.

Erection of the bridge is under the supervision of the State Bridge Commission of Michigan and the Ontario and Michigan highway departments. It will be part of the diagonal highway from Chicago and middlewestern points to Toronto,

Montreal, Niagara Falls, Buffalo, Boston and other eastern points.

This route not only offers the tourist and business man the quickest and shortest way from east to middle west but also the most convenient. Traffic congestion in big cities will be avoided and as a result commercial traffic will turn to this route as a time and money saver.

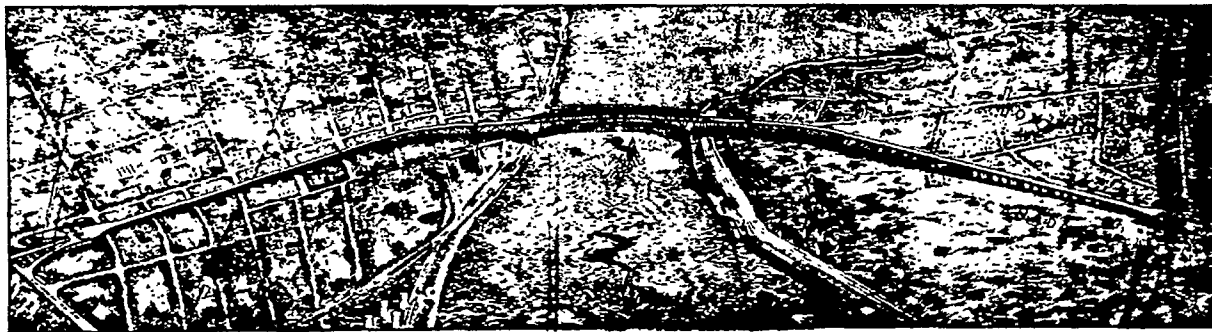
The cantilever main span of the Bridge is 1,576 feet long. Of this stretch of steel and concrete, 150 feet above river level, 871 feet are between the main piers at the American and Canadian edges of St. Clair River. The overall length including plazas is 8,020 feet.

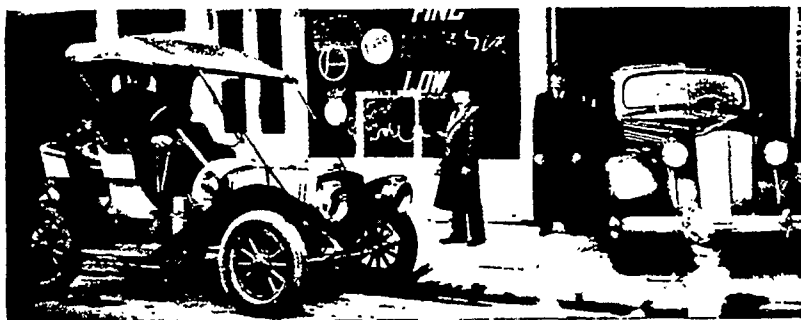
Anchor arms of the main span which balance the section above the

water extend 326 feet inland from the river edge on both sides of the stream to anchor towers, weighted by 500 tons of concrete. The weight of the anchor towers plus that of the concrete is sufficient to counteract the weight of the cantilever arms and the suspended span over the river.

The American approach is 2,301 feet long while that on the Canadian side extends 2,657 feet. Both are nearing final stages of construction. The main span built from both shores to the center of the river and joined on June 1st, 1938, will be completed before Labor Day. This span, as well as approaches, to be painted aluminum, will form a picturesque skyline against a background of blue water.

General view of the Blue Water International span showing both Canadian and U. S. approaches. It will be part of the diagonal highway from Chicago and middle western points to Toronto, Buffalo and other eastern cities.





One of the old Mitchell cars in front of the Parker Morelli establishment in Helena who took over the property where these old cars had been stored for many years. Note the one-man top, double rumble and prestolite tank on running board for headlights.

The Horseless-Carriage Makes Its Appearance Again in Helena, Montana

SOME 30 years ago Mr. A. D. Mitchell of Helena, Montana, had the local agency for the Mitchell automobile, the manufacture of which has long since been discontinued. Following his death a few months ago it was discovered that several of these ancient cars were stored in the rear of his shop, one of which dated back as far as 1908. In the settlement of the estate his widow disposed of them as best she could. Those that would run were bought by local people for advertising purposes and today may be seen on the streets of Helena. Mr. Lyold Dickey and Mr. S. M. Simmons, who each purchased one of the old models, have given us some interesting facts about their performance and what the manufacturer claimed for them at the time they were offered to the public. Mr. Dickey, when interviewed, said that he could get about nine miles to the gallon out of his car and that it would go at the amazing speed of 35 miles per hour. One of the accompanying illustrations shows Mr. Dickey fueling up with Ethyl and he stated that he was putting it in the tank so as to "improve the performance". The Mitchell sales manual for 1909 printed the following concerning the new models:

"The Mitchell for 1909 is 'right off the road'. It has come through the worst road conditions that exist anywhere. It has met these condi-

tions and left them behind. Hills, ruts, sand, mud or clay—it's all the same—the Mitchell goes straight ahead. When you drive the 'Show-me' car all roads take you to your journey's end.

"Claims for the hill-climbing, mud-defying, sand-defeating qualities of the Mitchell car are not based on shop theories, but on road performances.



Mr. Lloyd Dickey fuels his ancient Mitchell with modern Ethyl "to improve the performance". The car will make 35 miles an hour.

An up-to-date convertible of two decades ago parked in a Helena main street.



"Every ounce of Horse Power in a Mitchell is immediately available for the road in front of it, no matter what it may be. Don't hesitate—don't doubt, but go ahead. That's what the 'Show-me' car is for.

"It has the qualities you want in a motor car—comfort, speed and certainty of performance."

Ed. Note: *Safety* was a talking point in those days, but in a different manner.

"Heavy cars cause great tire expense and tire expense is important. These cars (other makes that are heavier) take more fuel and oil. All bearing surfaces wear out much quicker. All Mitchell cars go as fast as it is safe to drive. Why pay the extra cost of going faster—and run the risk of accident. Ride in a Mitchell. Go as fast as you ought to."

Specifications of the Mitchell 20 for 1909

Motor	—4x4 :20 H.P.
Transmission	—Selective
Wheels	—32" x 3½"
Wheel Base	—92"
Springs	—Special spring suspension making an ideal easy riding car.
Ignition	—Jump Spark (Magneto \$100 extra)
Color	—Mitchell Blue
Capacity	—Two Passengers
Steering Wheel	—Black Ebonite Finish instead of Stain



Governor of Mississippi, Hugh White, presents Major T. B. Birdsong, Director of Public Safety and head of the Highway Safety Patrol, with his commission, on the debut of the state's new police force.



A section of the new Mississippi State Highway Safety Patrol with the Capitol in the background.



A section of the Mississippi Highway Safety Patrol as it paraded through the streets of Jackson on its inaugural day.

Citizens of Jackson View Mississippi's New Highway Patrol

IMPRESSIVE ceremonies marked the official inauguration of Mississippi's Highway Safety Patrol. This new branch of the State's police force was established in connection with one of the largest highway construction programs under way in the country at the present time. During the past two years \$42,000,000 has been appropriated for highway development and improvement and an additional \$66,-

000,000 will be expended in the next two years for similar work. The new safety unit made its first public appearance in a parade through the streets of Jackson to the Capitol building and Governor Hugh White of Mississippi presented Major T. B. Birdsong with his commission as Commander of the newly instituted patrol. The fifty-three active patrolmen and twenty-three alternates are under the direct su-

pervision of Chief of Patrol Webb Burke. The preliminary examinations were taken by about 700 applicants and of this number 98 were selected to undergo special training for a period of 30 days under the tutelage of experts from Mississippi and neighboring states.

The equipment consists of motorcycles and squad cars, the former being operated entirely on Ethyl Gasoline.

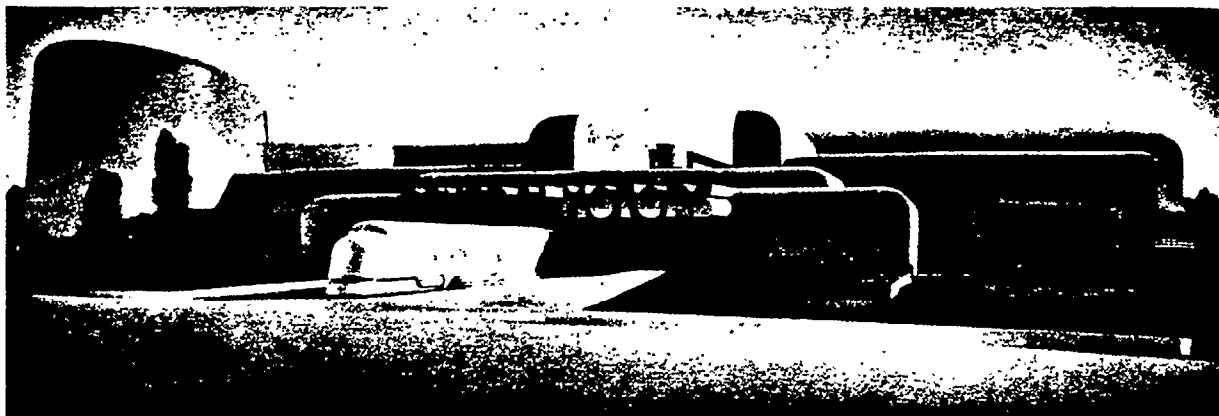
Garage Organization Starts Own Tune-Up Class

THE Motor Trades Association of Southern California, Inc., is one of the strongest independent garage organizations in the United States, basing a large part of its strength on the fact that it has carried on extensive educational work among its members. Its present training activity is a motor tune-up class, under the guidance of Mr. Frank A. Pim, for many years active in such work in the West and the father of the headlight laws which were passed by many of the states a few years back.

The present tune-up class of this association has held two sessions at the Los Angeles Clinic of the Ethyl Gasoline Corporation. The first of these was for the purpose of acquiring a basic knowledge of gasoline and the second to make more definite application of the knowledge previously gained to the specific problems of ignition, carburetion and performance. The class numbers 82 men and is the third successive tune-up group which Mr. Pim has trained for the Association.

This Month's Cover

Neatest trick in steel history is the erection of the 700 foot Trylon and the 200 foot Perisphere for the Theme Centre of the New York World's Fair 1939. The tip of the needle is sheathed in steel plates made an integral part of the framework. The remainder of the shaft and the sphere will be covered with stucco. Total cost of the Perisphere and Trylon when completed will be \$1,700,000. There are 250,027 rivets in the Perisphere alone and the two structures contain 7,125 pieces of steel.



New York World's Fair Mecca For 1939 Travel

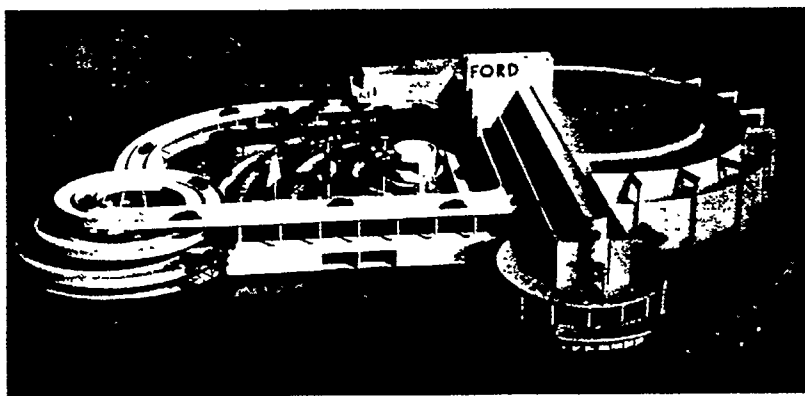
AMERICA may see in 1939 the greatest mass movement in history when an estimated sixty-million people will converge on New York to witness the most gigantic Exposition this earth has yet known. Add to this other millions who will form a great westbound Caravan moving toward the Golden Gate International Exposition in San Francisco Bay and we may expect unparalleled activity in all forms of trans-

portation.

The theme of this stupendous undertaking is "Building the World of Tomorrow" and its purpose is to commemorate the 150th Anniversary of Washington's inauguration as the first President of the United States on April 30th, 1789. But another and perhaps the more important object is to promote trade and industry throughout the world by stimulating international friendship

The General Motors building, where the Ethyl display is to be located, will be one of the largest and most unusual structures ever contracted for at an exposition. The plot on which the exhibit building will be erected is equal in area to two and one-half city blocks and occupies a commanding position in the Transportation Zone.

The feature exhibit, which it will house, will be known as "Highways and Horizons" and has been designed by Norman Bel Geddes. It will present a living panorama of what traffic control methods and automobile transportation on the super-highways of the future may be like. Visitors will begin their tour in a spectacular plaza just inside the main entrance. Seated in comfortable chairs, mounted on a continuous moving escalator, they will be transported over what will appear to be many miles of future express superhighways and feeder roads connecting these highways with present roads. The spectator will have the sensation of seeing things from an altitude of hundreds of feet above the earth while at other times he will view the sights at close proximity. The tour will be climaxed when the visitor emerges from his traveling chair onto a full-sized street intersection extending more than a city block in four directions. This will present a living picture of the architecture, motor traffic regulations and pedestrian facilities of the future.



A table model of the building to be constructed at the New York World's Fair 1939 by the Ford Motor Company. The theme of the Ford exhibit will be prophetic of the advances that the United States may expect in Transportation in future decades. The exhibit will be climaxed by "The Road of Tomorrow," an elevated highway more than half a mile long which will encircle the building. The structure itself will be 510 feet long, 420 feet wide and 88 feet high at its peak. It will be situated in a tract of 6.85 acres.

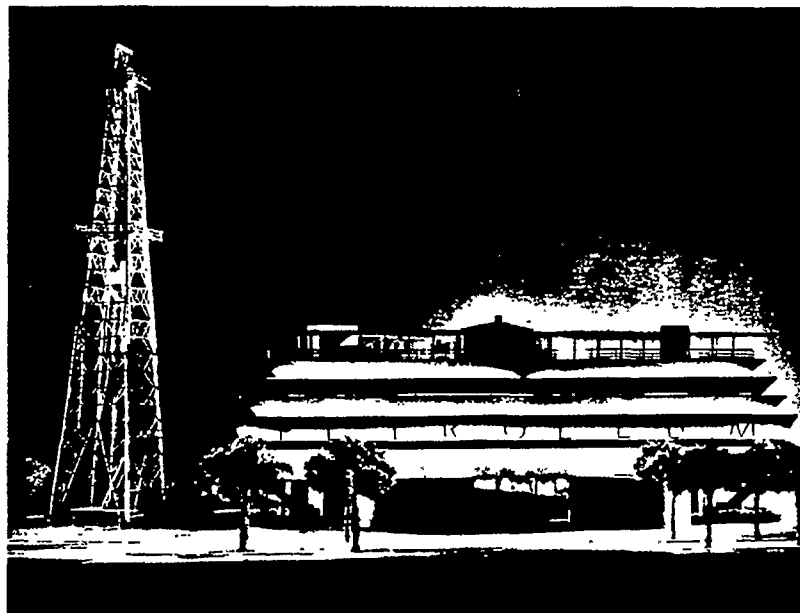
and the furtherance of understanding among peoples.

Facilities are being arranged for an average daily attendance of 250,000 persons and it is expected on peak days, that this number may reach the 800,000 mark. That the huge throng of visitors will not be disappointed is assured by the \$150,000,000 or more which is being expended for their entertainment. Of

this amount almost one-half will be supplied by foreign nations, the different states and private exhibitors. The 1,216 acre site, a large part of which is made land, will one day become a permanent city park. 10,000 trees have been planted, many of them fifty feet or more in height.

The wonders of the Exposition will be dominated by the two Theme Center structures, the "Perisphere" or 200 foot globe seemingly supported by fountain spray, and the "Trylon", a three-sided needle which reaches 700 feet from its base. Within the "Perisphere" is a vast circular theatre with a revolving walk from which the spectator may glimpse a display portraying the highroad and the City of Tomorrow.

Practically all the nationally and internationally known industries will either have their own exhibit building or elaborate displays in the numerous fair pavilions. New York City has its own \$1,200,000 "Glass House" almost ready for the placing of fascinating exhibits depicting modern municipal service to man. The Empire State is at work on a \$1,600,000 Marine Amphitheatre—an island in Meadow Lake—where will be featured operas, spectacles and aquatic events. The U. S. Government has erected a Federal Building and a Hall of Nations where foreign governments will exhibit in part — a project costing \$3,000,000. That it will be a "Nation's Fair" is assured by the active participation of at least 36 states and



The contributions of the petroleum industry to modern civilization will be dramatized by one of the most elaborate of the industrial displays at the New York World's Fair. The exhibit which will occupy an area of 65,000 square feet is sponsored by these thirteen companies: American Oil Company; Atlantic Refining Company; Cities Service Oil Company; Gulf Oil Corp.; Pure Oil Co.; Richfield Oil Corp.; Shell Union Oil Corp.; Socony-Vacuum Oil Co.; Standard Oil Co. of N. J.; Sun Oil Co.; The Texas Co.; and Tidewater Associated Oil Co.

Hundreds of exhibits housed in the Petroleum Building, the grounds surrounding

it and the garden under it will portray all phases of the growth of the industry and how it has made life more comfortable.

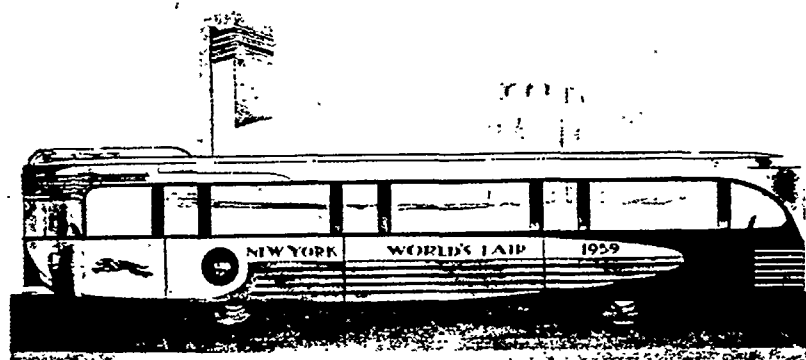
The building, to be located at the entrance of the Plaza of Light, will tower eighty feet in the air with its base an equilateral triangle over 200 feet on a side. Constructed of metal in three shades of blue it will catch the rays of the sun and the myriad lights at night making a brilliant spectacle.

A spectacular feature of the exhibit will be an actual oil derrick 136 feet high which will be manned by living workers who will demonstrate the process of oil drilling.

territories already listed as exhibitors and a solid front in the 11 acre

court of State Buildings is expected. Invitations have been accepted by 62 nations, 25 of which are laying cornerstones for their own buildings and by the time the gates open on April 30th, participation of the entire civilized world is predicted. The probable cost of foreign governmental exhibits is estimated at 25 million dollars.

Amusements will be concentrated in a 280 acre lagoon-front sector developed as an integral part of the exposition. Foreign villages, "Little Old New York" and a "Children's World" are examples of the educational type in the area. Rides and newly developed amusements will be grouped in another zone of the section. The Fair is instituting new



Type of buses to be used in grounds of the New York World's Fair 1939 under contract signed with Greyhound Bus Company.

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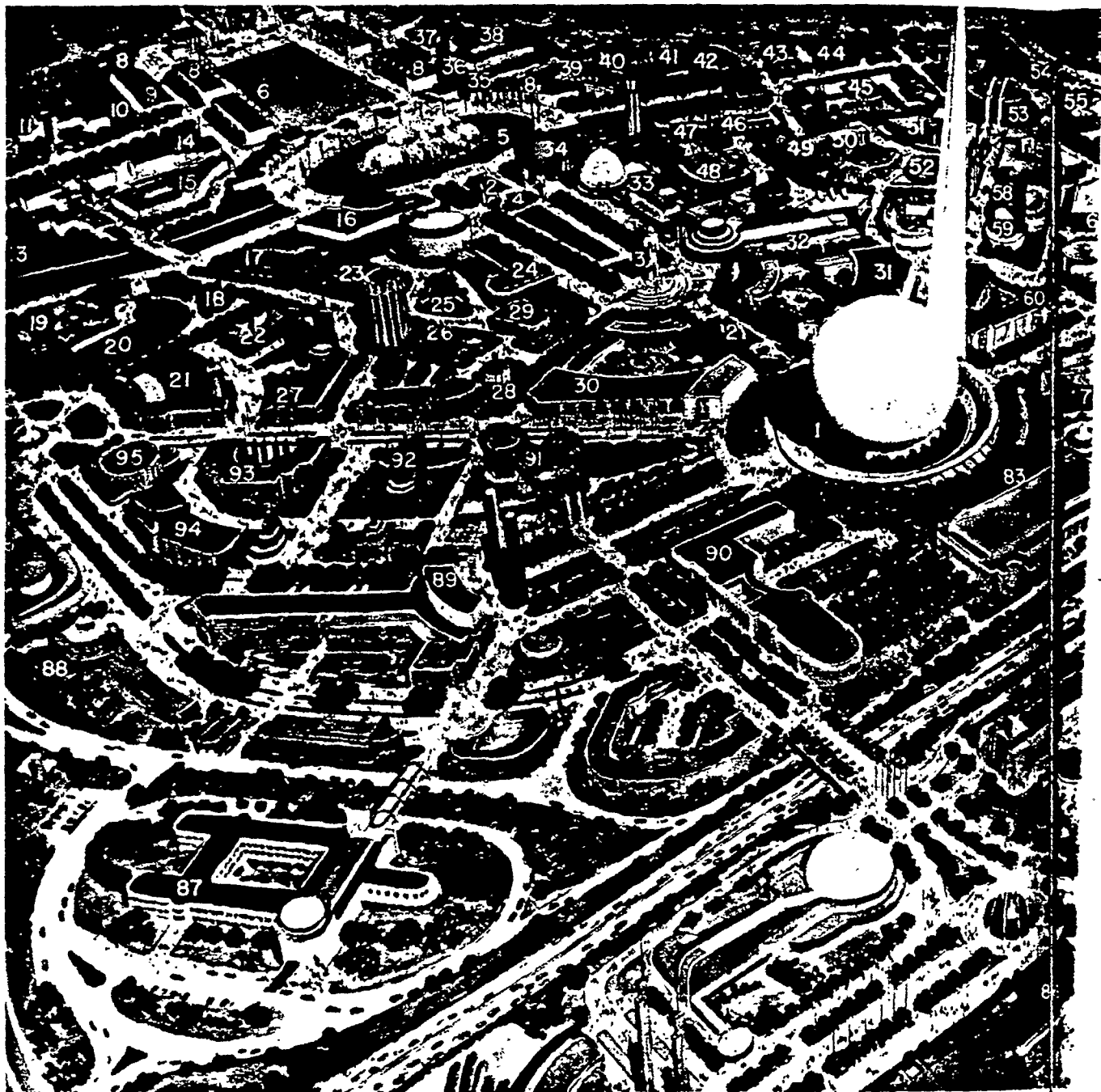
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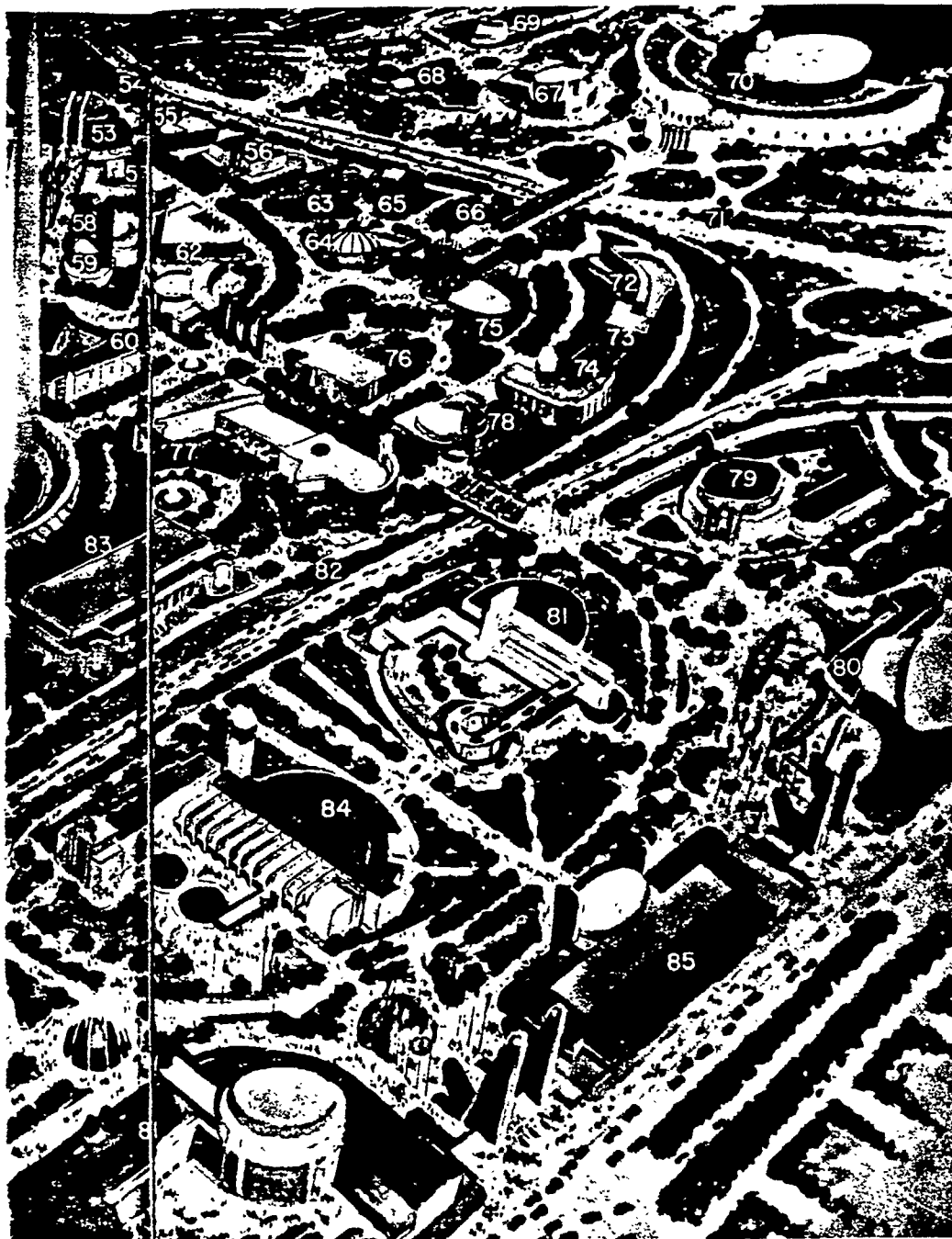
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1. Perisphere and Trylon
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|---------------------------|---|----------------------------------|-----------------------------------|
| 2. Central Mall | 14. Italy | 26. Temple of Religion | 39. Rumania |
| 3. Washington Statue | 15. Great Britain | 27. Gas Exhibits, Inc. | 40. Russia |
| 4. Four Freedom Statues | 16. France | 28. Christian Science Group | 41. Czechoslovakia |
| 5. Lagoon of Nations | 17. Brazil | 29. Y. M. C. A. of N. Y. | 42. Japan |
| 6. Parade Ground | 18. Devoe & Reynolds Co. | 30. Medicine and Health Building | 43. New England Group |
| 7. Federal Building | 19. Tomorrow Town | 31. Consumer Building | 44. Philippine Islands |
| 8. Hall of Nations | 20. Arts Building | 32. The Borden Co. | 45. Court of States |
| 9. Liberia | 21. Shelter Building | 33. Fisheries Building | 46. Missouri |
| 10. The Netherlands | 22. Libbey-Owens Ford Glass Co. | 34. Belgium | 47. Texas |
| 11. Poland | 23. Beech-Nut Packing Co. | 35. Norway | 48. Distilled Spirits Institute |
| 12. League of Nations | 24. Food Building | 36. Argentina | 49. Standard Brands |
| 13. Horticultural Gardens | 25. American Committee for the Jewish National Home | 37. Canada | 50. National Dairy Products Corp. |
| | | 38. Ireland | 51. Food Focal Building |
| | | | 52. Continental Baking Co. |



UPPER RIGHT

- 53. H. J. Heinz Co.
- 54. Eastman Kodak Co.
- 55. Men's Apparel Quality Guild
- 56. Chemicals & Plastics Building
- 57. Swift & Co.
- 58. American Tobacco Co.
- 59. Glass, Incorporated
- 60. Mines & Metallurgy Building
- 61. Consolidated Edison Co.
- 62. Petroleum Industry Exhibition, Inc.
- 63. E. I. duPont de Nemours & Co.
- 64. U. S. Steel Exhibit
- 65. Carrier Corp.
- 66. Elgin National Watch Co.
- 67. Music Building
- 68. Amusement Area
- 69. National Cash Register Co.
- 70. New York State Exhibit Building & Marine Amphitheatre
- 71. Horace Harding Boulevard
- 72. Sports Building
- 73. John Wanamaker
- 74. Westinghouse Electric & Mfg. Co.
- 75. General Electric Co.
- 76. Edison Electric Institute
- 77. Distribution Building
- 78. Electrical Production Building

LOWER RIGHT

- 79. Firestone Tire & Rubber Co.
- 80. Aviation Building
- 81. Ford Motor Company
- 82. Grand Central Parkway
- 83. New York City Building
- 84. General Motors Corporation
- 85. Motor Transportation Building
- 86. Railroad Exhibit
- 87. Administration Building

LOWER LEFT

- 88. Cosmetics Building
- 89. Communications Building
- 90. Business Administration Building
- 91. American Telephone & Telegraph Co.
- 92. Radio Corporation of America
- 93. American Radiator & Standard Sanitary Corp.
- 94. Apparel & Accessories Associates
- 95. Johns-Manville Corp.
- 96. Textile Building

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standards in music, sports, spectacles, drama, amusement devices and other entertainment for the purpose of more free attractions.

Located at the Fair's very door will be the finest sea and land terminal in the country when the North Beach Airport's rehabilitation is completed at a cost of \$15,000,000. Not only will domestic airlines feature this Fair-bound service but it is anticipated that trans-Atlantic service may be inaugurated.

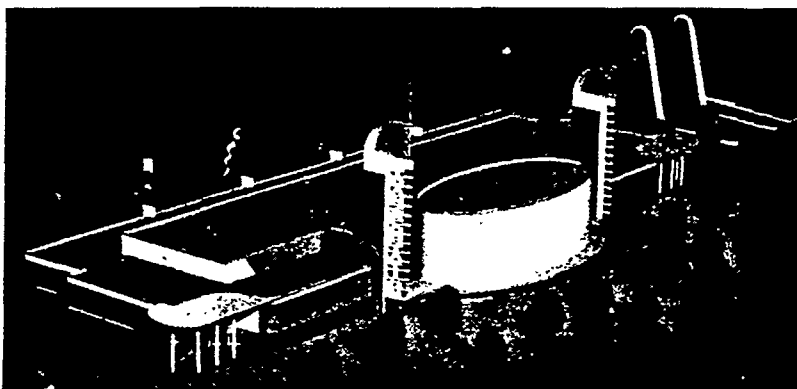
Within the Fair grounds the principal means of transportation will be by bus. Approximately ten miles of roads have been built and 100 buses will operate over them. They are scheduled to operate on half minute headway during rush periods and at no time will they run more than three minutes apart. The buses themselves are especially designed and of ultra modern streamline appearance.

One of the special features of the Fair will be to show the United States to its citizens and foreign guests at almost first hand without their having to make the large expenditure of time and money required for an actual trip around the country. At the fair grounds next summer visitors will be able to bask on Florida sands beneath the shade of palm trees; gaze at the scenic wonders of scores of states accurately reproduced in miniature; to partake of regional dishes and learn of the natural resources, recreational advantages and industrial and agricultural development of every section of the country. It will bring to many for the first time a realization of what America is, what she is doing and what she stands for. It will provide a desire for travel, whetting the visitor's appetite for knowledge of his country and at the same time enable him to make a more discriminating selection of what he wants to see. In short, the New York Fair of 1939 should go far in accomplishing its avowed purpose "to promote trade . . . and stimulate international friendship" by providing for the visitor a real Preview to America as well as other nations of the world.

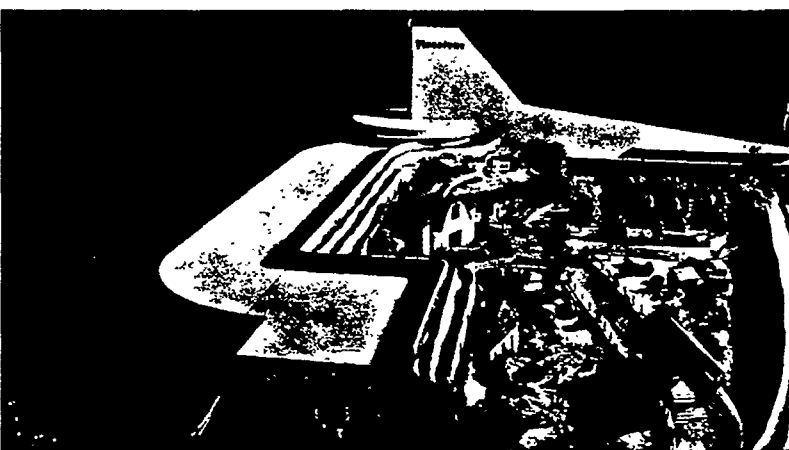
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Table model of the Aviation Building, designed to give visitors the impression of their arrival at a large and busy airport. In the central portion of the structure is to be an exhibit of latest types of planes, even to the plane of tomorrow. The dome-like rear portion holds an invisibly suspended transport plane with propellers moving as if in flight. The illusion of motion is to be created by projection of moving clouds and night effects against the curved background. At the floor level will be exhibits of agencies cooperating to increase the safety and speed of air travel.



The Transportation Building, which will house many automobile and accessory displays, together with the huge, free Fair-built focal exhibit on transportation. The oval structure in the center will contain the focal exhibit in which, by a series of activated displays, the story of transportation from the footpath to the rocket car will be unfolded. Uniquely illuminated pylons beside the oval structure, each bearing in large letters the word "Transportation," will identify the building.



Model of Firestone building. The exhibit will house a tire factory actually in operation and producing a finished tire every 4 minutes. The outdoor section will show how an American farm has become modernized.

ETHYL NEWS

ETC 22020

Allen Tune-Up School First Graduation



Dinner celebrating the graduation exercises of Allen Tune-up School at Kenmore Hotel in Boston. Mr. J. C. Martin who addressed the graduates is shown seated at speaker's table (in center under wall light) and second from him on his left is Prof. Shaefer. M. A. Taylor, Ethyl's Boston Division Manager, fourth from left at speaker's table.

ON Monday evening, July 25th, the first graduation exercises of the Allen Tune-up School were held in the Crystal Room of the Hotel Kenmore, Boston, Mass. The dinner and exercises were given under the auspices of the Eastern Auto Parts Company of Boston.

Of seventy-two men who enrolled on April 4th, fifty-nine completed the course with an average grade of 91%. The marks were based on a series of twelve examinations covering every phase of motor tune-up. These graduates, all of whom are employed in superservice gasoline stations, car dealers, garage and repair shops, attended a three months course given by oil company engi-

neers and factory service men under the auspices of the Allen Electric and Equipment Company. The course included complete instruction on automobile performance and service, with particular reference to the modern high combustion, high speed engines. It also covered the basic principles of each of the engine subdivisions, namely mechanical, electrical, carburetion and horsepower losses, the last stressing detonation.

In addition to the graduates, the dinner and exercises were attended by representatives of all of the oil companies, car manufacturers and employers of the graduates. Mr. J. C. Martin, Director of Clinics for the Ethyl Gasoline Corporation who addressed the graduates, spoke on

the necessity of proper tune-up, the great possibilities ahead for properly trained tune-up men, and the opportunity afforded for this by Ethyl's Clinic program. Other speakers included Professor Shaefer of Massachusetts Institute of Technology and Mr. Irving Richardson of the Socony Vacuum Oil Company.

The Allen Company is making this course available to their wholesale distributors throughout the United States for the education of service men and repair men. At present they have approximately two thousand men enrolled throughout the country and they expect that about five thousand will have taken the course during the year 1938.

Motorcycle Club Visits Des Moines Clinic

ON August 8th, Motor Clinic No. 5 which was then operating in Des Moines, Iowa, held a meeting for the Des Moines Dusters, a motorcycle club sponsored by Mr. J. L. Loomis, a local distributor for Harley-Davidson motorcycles. The meeting was attended by forty motorcyclists, most of whom were accompanied by friends. An unusual feature of the program was the use of a Harley-Davidson "61" for the dynamometer demonstration.

As may be seen by the accompanying picture it was impossible to use the Clinic's regular "filling

station" so a make-shift one was constructed by attaching a three-way valve to the motorcycle's fuel line and running hose from two glass jugs suspended near the machine.

The motorcycle gave a very impressive demonstration of the increased power obtainable from Ethyl Gasoline as compared to leaded regular. Running against a load of 50 on the dynamometer rheostat, a power output of 60 was noted with leaded regular and the engine knocked severely. When switched to Ethyl the knock ceased and the power increased to 80.

An improvised cooling system consisting of all the fans with which the Clinic is equipped was brought into play to take the place of the slip stream which usually cools the cycle.

When Des Moines Motorcycle Club met at the Ethyl Clinic this fair friend of one of the club members road the dynamometer on a Harley-Davidson.



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SEPTEMBER, 1938

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Some of the six hundred and fifty taxi drivers who attended the meetings sponsored by the Yellow Cab Co. at Ethyl's Dayton Clinic.



When the Yellow Cab Co. of Dayton put on a performance at the Ethyl Motor Clinic these men helped make the show a success. From left they are Messrs. Newman and Godbey of Ethyl's Clinic staff and Messrs. Conley, Elmer and Smith of Yellow Cab.

Yellow Cab Company Entertains at Cleveland Motor Clinic

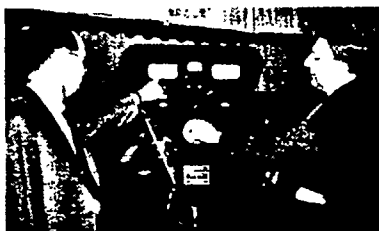
FRIDAY afternoon and evening, July 22nd, Ethyl's Dayton Division Motor Clinic in Cleveland, held meetings for some 650 Yellow and Zone Cab drivers. The program that was followed in these two meetings was rather unique in comparison to regular clinic presentations. One unusual feature was the Cab Trio made up of A. J. Carnazzi, Jack Kaninski and Frank Galappo who opened the program by singing three numbers, "Don't Give Up the Ship", "Dark Eyes" and "So Long, Oolong, Ride a Yellow Cab". The Yellow Cab Co., a division of the Parmelee System, furnished the piano and the trio sang over the public address system in the clinic. Following the music, Mr. J. T. Smith, the Manager of the Cab Company, gave a short talk on cab operation which was very much to the point and extremely interesting. During his talk he told the men that Yellow Cab was very fortunate in that the Ethyl Gasoline Corporation was cooperating with them in the hope of lowering their costs per mile in their taxi operation. Mr. Smith said that great strides had been made in showing a remarkable increase in economy of operation of the cabs with the better gasoline. Incidentally much of the success of this program was due to the wonderful cooperation of Mr. Paul Elmer, Maintenance Superintendent for Yellow Cab. After Mr. Smith had finished his talk Mr. Newman

of the Clinic Staff, conducted the presentation with particular emphasis on economical operation and the way it could be accomplished by sane, safe driving and by having the units tuned to give the performance that was expected. He pointed out what happened to the air-fuel ratios when the driver works the accelerator up and down to get

the "jump on" other drivers at traffic lights and stated that the most economical drivers coast in to stop lights rather than rush in to them with a wild squeal of the brakes.

The Yellow Cab Co. furnished the men with cigars and Coca-Cola (1800 bottles) and it might be well to say that the men thoroughly enjoyed the program to the extent that several have been back to the Clinic to find out just what to do to their own cars to get the maximum efficiency and performance.

Iowa's Governor Opens Ethyl Clinic in Des Moines



Iowa's Governor Nelson G. Kraschel operating rheostat at the official opening of the Des Moines Clinic—Mgr. Cottrell explains the dial readings to the governor.

ON the evening of Monday, July 25th, Governor Nelson G. Kraschel of Iowa took off enough time from his many duties to drive to the Ethyl Motor Clinic which had just come to Des Moines and officially welcome it to the Capitol city. Mr. Harry E. Cottrell, Clinic Manager, explained to him the purpose of the Clinic and the 12 tons of equipment to be found there. The Governor seemed much

impressed and finally threw the switch setting the rollers of the dynamometer in motion.

The preview then continued and Fire Chief Charles Slade drove his powerful red automobile as fast as she ever "made" a fire, up hill and down, and yet he never moved an inch. The No. 1 car of the city fire department with rear wheels on the dynamometer played the "guinea pig" for an interested audience. There were over 160 present who heard Mr. Cottrell explain that a car can only give the performance that the grade of fuel in the tank would permit and demonstrated his point with the three grades of gasoline available.

Included in the audience were representatives of the state highway commission and the highway patrol. A group from the Northwestern Bell Telephone Company and members of the City Council.



View of stage with #2 CO-OP tractor as it was operated on the dynamometer of the Ethyl Motor Clinic, at close of meeting for Indiana Farm Bureau at Indianapolis. From left, Messrs. Wilt, Vaughn and Hedden of the Ethyl Corporation; Mr. Claude Brown, Mgr. Tractor Dept. Indiana Farm Bureau; Mr. B. R. Jones, Clinic Mgr. and Mr. Jimmie Hull who operated the tractor.

Tractor Performance Dramatized For Indiana Farm Bureau

WHILE Ethyl Motor Clinic No. 2, one of the Chicago Division's Units, was showing in Indianapolis the agents, drivers and officials of the Indiana Farm Bureau arranged for a special performance to be given their own organization. It was their idea, in this way to obtain some real facts concerning ways of keeping the members of their various associations interested in the gasoline they were selling, and also render them an added service by informing them on how to keep their cars tuned for best performance. Accordingly they gathered in the Clinic auditorium 253 strong to be given a complete program by Clinic Manager B. R. Jones.

Following Mr. Jones' talk, the gathering was addressed by Mr. A. F. Wilt from Ethyl's Detroit Sales Department. While he further emphasized the advantages of good gasoline the Clinic curtains were parted and the audience witnessed a CO-OP tractor operating on the Clinic dynamometer with Mr. Jimmie Hull, son of the United Co-Op President, in the saddle.

As the show proceeded, keen interest was shown by the entire audience at the difference in results obtained between the various grades of fuels universally used in tractors. The advantages of the leaded regular gasoline sold by the Co-Op Com-

panies were definitely substantiated through the dynamometer readings. At the close of the tractor demonstration the majority of those present came forward to renew their acquaintances with the members of the Ethyl Corporation who were in attendance and to ask questions concerning the operation of the Clinic equipment.

Before the gathering broke up, Mr. Bond Hedden, one of the Corporation's Chicago tractor engineers, made a few remarks in which he said that another chapter in the history of tractor development had been dramatically presented and that for the first time in the state of Indiana, members of the Farm Bureau had been given the opportunity of actually seeing the performance of their own gasoline not only in equipment loaned by officials of the Farm Bureau, but also in their own Co-Op Tractors.



Unique Exhibit at Michigan Petroleum Exposition

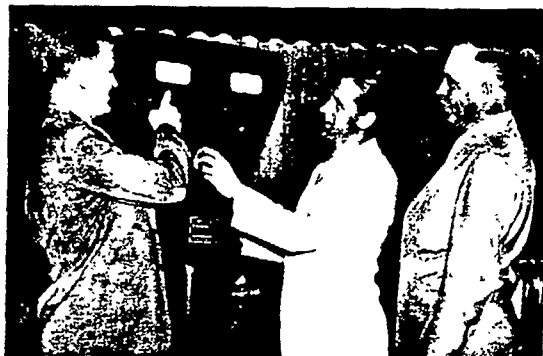
THE Roosevelt Oil Company's display at the annual Michigan Petroleum Exposition at Mount Pleasant represented the untiring efforts of three men over a period of two months.

The display was in the form of a miniature scale model of their complete refinery which included the surrounding countryside. Mr. G. A. McCreery, Display Artist of Lansing, Michigan, deserves credit for its detailed design.

One gross of sponges and several pounds of steel wool were used for landscaping. Six dozen model automobiles were placed on the roads and parking spaces and a miniature train and truck operating continually added greatly to the model's appeal to the 50,000 spectators during the week of the Exposition.

The display represented the crude oil coming from the Michigan Oil Fields, passing through the Michigan Toledo Pipe Line and Simrall Corporation; going through the refinery and the distribution of the finished products. The measurement gave a length of 40 feet by 12 feet in width with a 4 foot height in front extending to 7 feet at the back. A map hung at the back of the model, showed the various points of distribution of the Company's products.

Ethyl's part in the Exposition consisted of approximately sixty-five demonstration meetings shown to a total of about ten thousand people. In all probability the exhibit will be shown at the Michigan State Fair this coming fall.



Clinic Manager Lowell Mason (left) explains the dynamometer dial readings to President James of Wilmington City Council on the occasion of the preview of the Clinic in the Delaware City while Div. Mgr. Shank looks on.

Ethyl's Baltimore Division Clinic Has Preview

THE Baltimore Clinic received the official sanction of the City of Wilmington, Del., through Mr. Albert W. James, President of the City Council, when it opened its headquarters at 2005 Pennsylvania Avenue. This welcome took place at the preview held on July 11th, 1938, at which time Mr. James stated that "this city is delighted to play host to the engineers who have done so much to advance motor transportation in the United States."

The opening followed a most successful run in the City of Baltimore. With the possibility of showing on fifty-nine nights it succeeded in bringing its story to seventy-one different groups the largest of which was a special performance for the Society of Automotive Engineers.

Attending the preview with the President of the City Council were representatives of the City of Wilmington, also groups from the following industries located in Wilmington: The DuPont Company, Atlantic Refining, Keil Motors, Packard Motors, American Petroleum Institute, Standard Oil Company of New Jersey, Sinclair Refining Company, Gulf Oil Company, Socony Vacuum, Tidewater Oil Company, Pure Oil Company, Ford Motor Company, Cities Service Oil Company, Chevrolet Motor Company and the Ethyl Lead Plant. These gentlemen were welcomed by Mr. L. W. Shank, Manager of

Ethyl's Baltimore Division and E. Lowell Mason, Jr., Clinic Manager. Following this, the group inspected the various displays and then settled down to hear the presentation as delivered by Mr. Mason.

Assistant Clinic Manager Hogan, who had been doing most of the advance work for the Clinic, introduced the speaker. At the conclusion of the program Mr. Shank spoke briefly on the work that the Clinic wished to accomplish in the city which included scheduled meetings for all the oil and automotive groups in the Wilmington area. Following this, refreshments were served.

Activities at Pacific Coast Division's Motor Clinic

EVERYONE has heard of "entertaining the visiting firemen". It happened at Ethyl's Pacific Coast Division Clinic in Los Angeles this summer when seven fire chiefs, five master mechanics and representatives of the Board of Underwriters, gathered to hear from Mr. Frank Elliott how the operation of fire engines could be improved, and the pumping capacity increased, by the use of Ethyl Gasoline. The high spot of the meeting was the demonstration of a Chevrolet truck with an independently driven supercharger, on the dynamometer. Two of the departments,

the one operated by Los Angeles City and the other by Los Angeles County, have fire fighting equipment powered with Seagrave 240 horsepower engines and yet the search for more power still goes on.

* * * *

Meetings of company operated service station systems have predominated at the Clinic for the past weeks. Six have been held for Union Service Stations, Inc., attended by 480 service station attendants. The program was particularly timely as the Union Oil Co. recently changed the specified greeting to customers from "May I fill it with 76" to "May I fill it with Ethyl or 76".

* * * *

Standard Stations, Inc., brought in 503 men in the course of seven meetings. The Ethyl program of "three kinds of performance" was dove-tailed in with Standard's policy of giving customers their choice of their three grades of gasoline, and the men left the meeting with enough information to qualify them to help their customers make up their minds intelligently.

* * * *

The Los Angeles Branch of the Mack International Truck Co., attended the Clinic in a body on July 14th. The large attendance attested to the great amount of interest which the Clinics are arousing. The Mack delegation included Mr. H. H. Harwood, Branch Manager, his assistant, Mr. C. E. Cole, Mr. George

(Continued on Page 15)

Frank Elliott expounds on supercharging to men who operate fire engines developing 240 H.P. "without blowers."





Thomas Midgley, Jr.

Robert L. Jordan

Harry A. Mack

N. D. Siebenthaler

C. P. Harding

President Earle W. Webb Presents Service Pins to Ethyl's 5 Veterans

FIFTEEN years ago last May the General Motors Chemical Corporation came into being and marked the first step towards the formation of the Ethyl Gasoline Corporation. In May, 1938, there were five members of that organization who were still associated with Ethyl and entitled to receive the first 15 Year Service Pins to be awarded. They were:

Thomas Midgley, Jr.
Robert L. Jordan
Harry A. Mack
Norman D. Siebenthaler
C. P. Harding

Due to the absence of Mr. Midgley who was in Europe, the presentation was delayed until his return to this country.

On July 28th, 1938, President

Earle Webb made the awards and addressed the following remarks to these gentlemen.

"Fifteen years spent in some companies is a relatively short time. We read almost daily about some fellow who is resigning his post after fifty years of service."

"Yet this does not detract from the deserved recognition of those who have spent fifteen years in the employ of this company and its predecessor, for the very good and obvious reason that such a period covers the up-to-date life of the business."

"Fifteen years ago the first Ethyl was sold to the public. You gentlemen are the only employees now with us who were on the Ethyl job at that time. You had worked un-

ceasingly together to make such an event possible and you were watching the results with the keenest interest. You know what has happened."

"I take great pleasure on behalf of the Company and myself in extending to each of you, our appreciation for your pioneering services and the loyalty and devotion each of you has displayed in the development of our business."

"We are delighted to present to you with our greetings and best wishes a 15-year service pin. Having in mind the fact that you and a few others constituted the entire force at the beginning, and its tremendous growth since then, I would feel it is a signal honor to possess one of these pins."

THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE AS OF SEPTEMBER 1, 1938

TEN YEARS

HAROLD R. BERG.....Kansas City

FIVE YEARS

LAWRENCE H. BLATCHFORD.....Boston

PAUL J. W. BOEHM.....Administration

BRUCE CRANE.....Boston

B. G. CRANE.....Chicago

H. F. DEDO.....Dayton

EUGENE F. GARNIER, JR.....Administration

W. B. HECK, JR.....Chicago

M. P. MURDOCK.....New York

JOHN M. ROLLINS.....Tulsa

JOHN P. WEEKS.....Administration

(Continued from Page 14)
Deusler, Pacific Coast Engineer. Mr. C. E. Brown, Branch Service Manager and Mr. Fred J. Kulda, Shop Foreman, besides most of the members of the sales and service departments. There were a number of fleet operators present as special guests, including fleet superintendents of the Burlington Trailways and the Santa Fe Trails Transportation Co. The group was particularly interested in the dynamometer demonstration of the independently supercharged truck.

North Carolina Representative Winner in Pure Oil Contest

A FEW weeks ago word was received from the Pure Oil Company (of the Carolinas) that Ethyl's North Carolina representative, Mr. Dwight Andrews, had won 4th prize in Pure Oil's Drive Safely Crusade limerick contest and thereby was the recipient of 25 bucks.

The company is conducting a Drive Safely Crusade throughout the Carolinas, Georgia and Tennessee to promote highway and state safety. They have entered into extensive advertising with a program consisting of two points: First a pledge to drive safely to which they have succeeded in signing up 135,000 motorists and secondly a safety emblem to be displayed on the

license plates of all signing. In the June limerick contest which was the month in which Mr. Andrews was successful, there were 18,000 entries, the first prize being \$500.

In the contest the first four lines of the limerick were supplied and the contestants were asked to fill in the last. Below is the limerick for which our Ethylman competed with his own contribution in italics:

Dizzy Dan liked to speed in the
rain
Said Dizzy, slow drivers give me
a pain.
But an ambulance gong
Soon announced something wrong
*And Death takes Her toll once
again.*

Ethyl Man Elected to Famous Club



A SIGNAL honor has been conferred upon C. J. McFarlane, Ethyl's representative at Calgary, Alberta, Canada, in recognition of his work in the far north during August and September, 1937 (January, 1938 "News").

According to word received here recently, Mr. McFarlane has been accepted as an active non-resident member of the exclusive Explorers Club. This distinction was accorded him in recognition of his services in treating the gasoline used by Sir Hubert Wilkins and by the Russian pilots in their search for the Soviet airplane which disappeared last year while in the course of a flight

over the North Pole en route to San Francisco. In the August, 1938 issue of the National Geographic Magazine, an article by Sir Hubert entitled "Our Search for the Lost Aviators" gives a most interesting description of the exploit. One of the 29 illustrations which accompanied the article shows Mr. McFarlane preparing a mix at the water's edge within the Arctic Circle. The caption reads: "A representative of the Ethyl Gasoline Corporation of New York traveled all the way to Aklavik to mix Ethyl Fluid with the search expedition fuel, to improve combustion and eliminate knocking..." And at the conclusion of his story he adds, "Neither could we have carried out our plans without the generous co-operation of the Canadian Airways, Ltd., the Mackenzie Air Service, Ltd., the Ethyl Gasoline Corporation and numerous private individuals."

Mr. McFarlane was nominated by Sir Hubert Wilkins and by the Russian Embassy at Washington.

The active membership of the

Club is not over 150 and among those whose names are inscribed on the rolls are Charles A. Lindbergh, Richard Byrd and Lincoln Ellsworth. It is said that the only other Canadians who have ever been awarded membership in the Club are Herbert Hollick-Kenyon and Al Cheeseman.

NEWSBRIEFS

News Flash August 3, 4 p.m.

"If you want a boy, call Western Union" is no longer the answer in Los Angeles. Out there you call the Ethyl Gasoline Corporation. The stork has just withdrawn, with the well-known smile of satisfaction, after leaving a fine 8 lb. 8½ oz. son for Mr. and Mrs. Anderson Hume Chenault. More details will follow in the next mail. In the meantime this matter of how the Pacific Coast Division arranges to have so many boys and so few girls is baffling science. The score at present stands 15 to 6. A thorough investigation has been promised.

Newer Flash, August 4, 8:30 a.m.

Becky knew it all the time. The boy's name was all picked out in advance—Christopher Scroggs Chenault. The scientific world is still baffled by the ratio of Ethyls to Jacks.

Newest Flash, August 10th

Mother and son still doing fine, almost ready to go back to the ranch and resume normal life. Committee of science presents interim report pending securing of additional evidence. While evidence on ratio of he and she and associated causative influences is not conclusive, the researchers investigating the problem seem to believe that available data point to the possibility that the prevalence of cool nights may in some way be an influencing factor.

Henry Worth Warren recently joined the Ethyl family as property man on Clinic No. 9 of the Chicago Division. His brother is the famous Denny Warren, property man on Clinic No. 2, who made our "Clinic Clippings" column in

April as the man who had driven a car 100,000 miles but had never driven a mile on the road. Worth was born in Huntland, Tennessee. Before coming with Ethyl he worked for the Buda Motor Co. of Harvey, Ill., and the International Harvester Co., Chattanooga, Tenn. He is married and has a five year old son.



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Miss Edah Rhodes, Secretary in the Toronto Office, was married to Mr. Ralph Mackenzie Hudson on July 2nd at the home of her parents, Mr. and Mrs. William Rhodes. Following the reception the bride and groom left for a motor trip to Muskoka. They will make their home in Toronto and Mrs. Hudson will continue her responsibilities in our Toronto office.

We welcome to the Tulsa Division of the Ethyl family, Miss Ruth Stegall. She is a native of Oklahoma and a graduate of Oklahoma Baptist University, Class of 1934. During her enrollment at the University, she was in the office of the Registrar as Secretary and upon graduation remained there for four years, handling the work of Assistant Registrar. Ruth came to us in July.

Miss Ruth Allen, who has been with the Tulsa Division for six years, was married on Sunday morning, August 21st to Mr. William M. Rice of Dallas, Texas, at the Methodist Church, Tulsa, Okla. Ruth is leaving us to take up her new duties as Mrs. Rice in Dallas, Texas. Congratulations and the best of luck to you both.

John W. Miller, who joined the Chicago Division August 1st, attended the Engineering School of Purdue University, graduating in 1936 with a B. S. Degree in Mechanical Engineering. During 1936 he was on active duty as a 2nd Lieutenant in the Field Artillery stationed at Fort Sill, Oklahoma. This was principally experimental work on gasoline and diesel tractors. The following year he was employed as mechanical engineer for God-



THE BARNUM INDUSTRIES, LTD.
introduces a new model
THE DANIEL BOONE

FIRST PUBLIC APPEARANCE
JULY 20, 1938

At the Display Room
in the factory
OUR LADY
OF THE LAKE SANITARIUM
Barnes Range, Leamington

SPECIFICATIONS

WEIGHT: 7 Pounds 1 Ounce
Eyes: Two; Blue
Hair: Tan. Blend. Sex: Male
Long Capacity: 100 cubic Standard
Water Cooled. (Overflow valve ad-
justed in operation at
irregular intervals.

PRODUCTION PERSONNEL

Lee Barnum, President and Chief
Engineer in Charge of Design
Mary W. Barnum, Vice President
and Production Superintendent
Dr. T. J. McHugh, Technical Advisor
Miss Alice Widdagham,
Administrative Secretary of
the Advisory Board
Stella Kane, Culinary Assistant

The new model will be housed at
the factory for two weeks and then
will be moved to the permanent ex-
hibit at 2005 Myrtle Avenue. On Sep-
tember 8 the Production Superinten-
dent and the representatives of the
Advisory Board will take the model
to Washington, D. C., for inspection
by the Advisory Board and others
interested.
The original model, the "Larva
Jr.", was commonly known as the
"Barnum". It will be taken on the same
tour of inspection. This model's
growth and health may be seen
line in February 1937, ready to the
carefulness of the products of Bar-
num Industries, Ltd.
NOTE: The Barnum Industries, Ltd.,
which is a closely safeguarded plant,
models and any future ones are pro-
duced strictly for the pleasure of the
President and Vice-President, who
will absolutely not consider mass
production for distribution, no mat-
ter how great the demand.

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Windsor, N. J.
Richard Widdagham,
Windsor, N. J.

Frederic L. Cabot's Carbon Black Company
at Pampa, Texas. Jack is Junior Engi-
neer on Chicago Clinic No. 2.

Robert Charles Burns of our Admin-
istration Department was married on
August 13th to Mary Catherine Naber, of
Rockville Center. The ceremony took
place at 10:30 A.M. at St. Agnes Roman
Catholic Church. The bride's sister, Miss
Dolly Olivia Naber, was maid of honor
and Bob's brother, Paul, acted as best
man. A reception for about 50 guests was
held at the home of the bride's parents.
The young couple will live in Rockville
Centre, Long Island. Our best wishes
and congratulations—Mr. and Mrs. Burns.

Francis Lee
Nolker succeeds
George Hughes
as Tune-up En-
gineer of the
Baltimore Divi-
sion Clinic. He
was born in Bal-
timore in July,
1912, and is a
graduate of the
Towson High
School. George
has spent eight
years in tune-up
work at his father's shop, the Govans
Battery Service, so he ought to feel pretty
much at home in his new job. Welcome
to the Ethyl family, Lee.

Harry F. Ed-
gar, a recent
newcomer at the
Detroit Engi-
neering Labora-
tory, received
his education in
the public
schools of Clark-
ston, and at the
Michigan Agri-
cultural College
at Lansing. Pre-
vious to the
World War
Harry was connected with the Scrips
Booth Automobile Company in Detroit
and during the War served with the Mo-
bile Repair Section of the 32nd Division.
Prior to joining our ranks he was em-
ployed as a city official of Ferndale,
Michigan, where he makes his home. He
is married and has four children. One



of his hobbies is the Boy Scout Move-
ment, being Chairman of one of the Fern-
dale troops.

We extend a
rather belated
welcome to Wil-
liam K. Lloyd
who joined the
Ethyl Export
Corporation in
Australia in
April. He re-
ceived his edu-
cation at Syd-
ney Church of
England Gram-
mar School, New
South Wales.
His business ex-
perience includes five years with the Shell
Company of Australia, a year as Factory
Manager of Pacific Colloidal Graphite
Oils, Ltd., a connection with the Inde-
pendent Oil Industries, Ltd., and the
British Oil Refineries, Limited. He will
assist Doug Jeppe at the Clinic which re-
opened in Brisbane a few months ago.

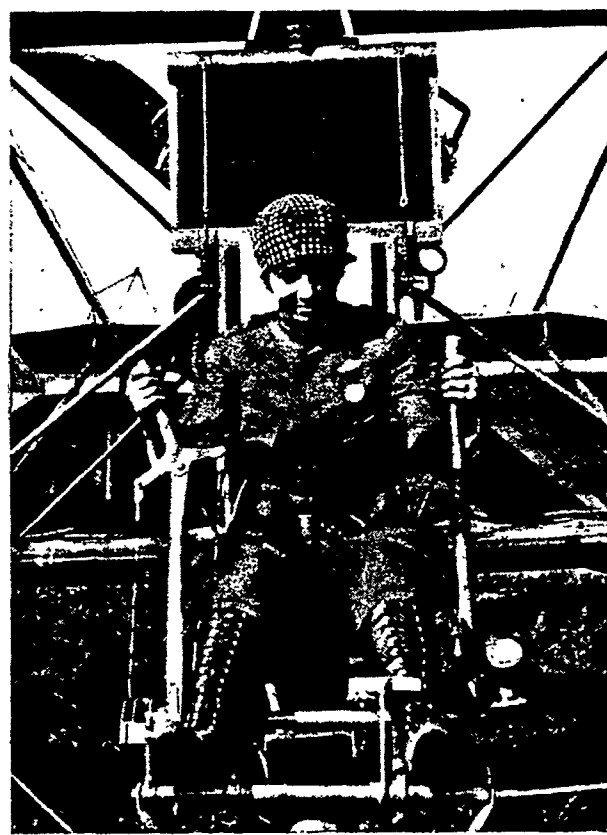


Not to be outdone by the famous Mur-
phy twins, Mr. and Mrs. Merritt Martin
of Wilmington, Del., are receiving con-
gratulations on the birth of twin daugh-
ters born July 28th. One weighed five
pounds seven ounces and the other five
pounds twelve ounces. This is the first
set of twins to be born under the Group
Hospitalization Plan according to a news-
paper report from the Wilmington News.
They entered this world at the Home-
opathic Hospital where Mrs. Martin is
a graduate nurse. Merritt is with our
Manufacturing Department in Deepwater
and has been with the Ethyl family for
two years.

On Saturday, July 23rd at eleven o'clock
in the morning at City Hall, Tommy
Keenan of our Administration Depart-
ment took unto himself Marie T. Lam-
bert to be his lawful, wedded wife. They
are making their home in the Bronx,
New York. Our sincerest congratulations
to you both, Mr. and Mrs. Thomas
J. Keenan.

Effective August 29th, George Gran-
ville Hughes, Tune-up Engineer on the
Baltimore Clinic, was promoted to Auto-
motive Engineer on the Dayton Clinic.
George's many friends in the Baltimore
Division gave a farewell party on August
10th and he and Mrs. Hughes were pre-
sented with a farewell present by the
Division.

She set a National Non-Stop Record flying from Chicago to Hornell, N.Y.!



IN 1912 Ruth Law, one of the first American women to hold a pilot's license, was forced down at Hornell, N.Y., in an attempted non-stop flight from Chicago to New York City. Though she didn't reach her goal until the following day, that 600-mile flight to Hornell set a national non-stop record!

Today transcontinental flights are made in *hours*—and the dis-

tance is many times greater than Ruth Law's record.

What is it that gives aviation this ability to keep moving forward? Isn't there a limit to speed, altitude, distance and endurance records? No—not unless it is possible to believe a limit can be reached in improvements of fuels and engines; and that, no engineer will admit. For it is through refine-

ments in engine and gasoline that aviation will progress—that new records will continue to be made.

Working daily for further fuel and engine development, Ethyl engineers are aiding aviation engineers in research. Their program is as ambitious and limitless as flying records themselves. Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y.



OCTOBER 1938



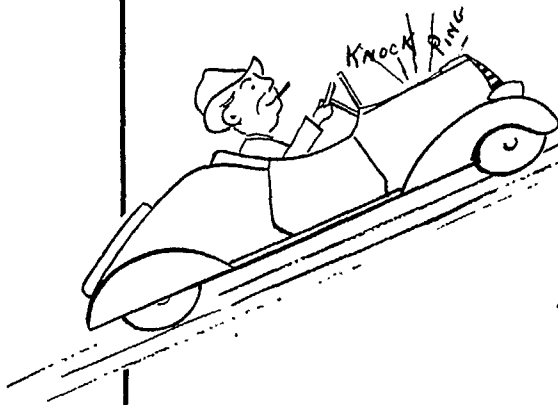
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THE MORE NOISE

A MAN OR A MOTOR MAKES



THE LESS POWER

THERE IS AVAILABLE

Taxation and Your Savings



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CHRYSLER BUILDING
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VOL. 5, No. 9

IF FREE industry is to survive, profits must be adequate to meet taxes, wages, bonded debt and return a fair income on the investments of shareholders. Of course taxes must be paid, for if the earnings of a company are not sufficient to pay them, the government can confiscate its assets, even to the extent of putting it out of business, throwing its workers out of jobs and wiping out the value of the securities held by investors.

The prosperity of a nation depends upon the purchasing power of its people and excessive taxation seriously reduces the purchasing power of millions of workers and investors who pay the bulk of the taxes. Although extravagant governmental spending may stimulate business temporarily, a depressing reaction is certain to follow, with a constantly mounting debt which must be paid by ever increasing taxation.

Through taxation the government can destroy all free industry, which would mean the virtual destruction of the thrifty middle class, the savers and investors of America. This would further increase the number of dependents and cut off their support by drying up the sources of taxation from which relief funds come. Thus the power to tax may become the power to destroy.

An analysis of the reports of 150 typical companies, in a survey conducted by the American Federation of Investors, shows that taxes paid in 1937 exceeded by 34% the dividends paid common shareholders. This survey further disclosed that the total assets of the 150 companies studied, amounting to nearly 42 billion dollars, are owned by 6½ million investors (including duplicates) and represent the invested savings of this vast number of our citizens. In addition, 64 million life insurance policy holders and 44 million savings bank depositors, mostly working people, are the owners of over 50 billion dollars invested largely in the securities of American industry.

Among other important facts brought out by the study are included the following:

(1) The capital of these 150 representative companies is not furnished by a few wealthy citizens as many suppose, for the average number of common shares held by each investor is 111. Moreover, three-fourths of these shareholders own less than 100 shares in which they have invested their savings.

(2) The total number of employees of these 150 companies in 1937 is

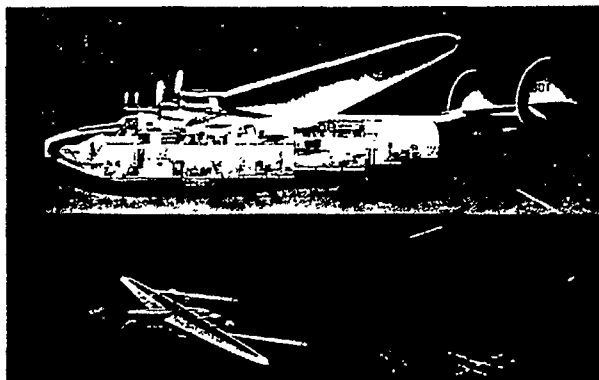
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TIE-UP AT TENNESSEE FESTIVAL
ETHYL ENGINEER INSTRUCTS CAPITAL
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THEY SAW FIVE SUNS IN 91 HOURS
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ETHYL
CANDID SHOTS AT KINGSTON, N. Y.

First of Pan Am's New Fleet Takes the Water



Artist's sketch of Pan American's great "314 Clipper" showing spacious interior with accommodations for 74 passengers.

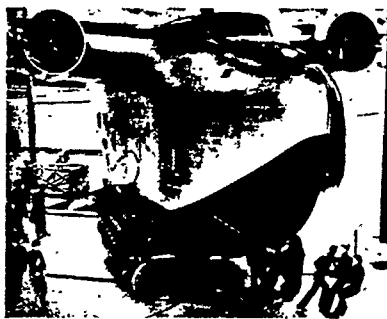
THE greatest airplane ever built in America for service over any of the ocean airways has just completed its preliminary tests on the Pacific Coast and is now undergoing some slight alterations. This new Clipper, built by the Boeing Aircraft Co. of Seattle, Washington, is the first of six identical flying boats which will be operated by the Pan American Airways. Later this year a second should be ready for delivery and these two are intended for operation on a trans-Atlantic passenger service which Pan American has been planning for several years. The other four, when completed, will be put on the Company's trans-Pacific routes.

Two years of design and construction work have gone into this 74-passenger "ocean liner." Any improvements made on the first plane during its testing period of about 70 days will be incorporated in the other ships.

This Leviathan of the skies weighs more than four tons which is nearly three and one-half times the weight of the largest land planes now in service in this country. Its dimensions are also astonishing: Wing span, 152 feet; length, 109 feet; height, 28½ feet. There are eighteen separate rooms within the hull, not counting the four engine rooms in the wings; accommodation for 74 passengers in the daytime and 40 at night, in addition to a crew of eight; cargo holds for more than

10,000 pounds of mail and air express; fuel tanks for 4,300 gallons of gasoline, giving the ship a range of 4,000 miles with 40 passengers aboard.

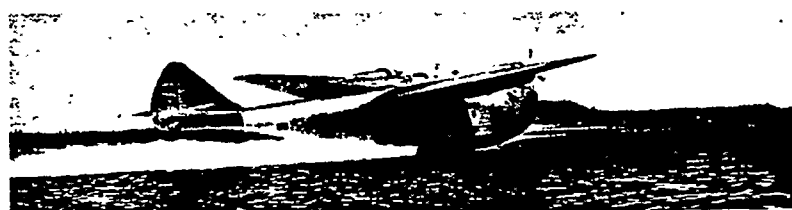
Four 1500-horsepower two-row Wright Cyclone engines, with 14 foot three-bladed hydromatic pro-



The giant hull of the Clipper resting on its movable "drydock" about to take the water prior to attachment of wings, hydro-stabilizers and engines.

pellors, will drive the huge craft at a top speed of approximately 200 miles an hour. Any two of them are sufficient to maintain flight.

The four engines are accessible, during flight, by catwalks through



Here the great ship takes her first test at Seattle. Following these trials the single tail was replaced by the double tail as shown in another illustration.

the wings. The control deck has a main control room 21 feet long and 12½ feet wide, with stations for the flight crew of six—pilot, co-pilot, navigator, radio operator, flight engineer and captain. In all airplanes prior to this one, the captain of the ship has been the first pilot; the master of the "314 Clipper," as she is designated, supervises the work of the other crew members and coordinates flight procedure. The control quarters, like the passenger spaces, are sound-proofed throughout, so that the crew can confer without the usual interphone system.

The new Clipper is also the first airplane with two full decks. The main deck, below the control deck and connected with it by a spiral staircase, has a large lounge and dining room, passenger compartments, galley, men's and women's dressing rooms. These spaces have square walls rather than walls diminishing in width toward the ceiling as in other transport planes, and are attractively furnished and comfortable.

So completely streamlined that it belies its size, the "314 Clipper" is a high-winged monoplane constructed chiefly of aluminum alloy. Because of its extreme size it was constructed by methods approaching shipbuilding technique. That is, the hull was assembled in a giant jig much like a shipbuilding cradle; for final construction work and attachment of wings, hydro-stabilizers and engines, it was put on a "dry-dock" equipped with wheels to roll it into the water.

For the test flights the Boeing people used, as is their regular practice, Stanavo Aviation Ethyl Gasoline of 100 octane number.

*Illustrations courtesy
Pan American Airways*

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EWS

GULF customers in New York City now have the benefit of an outstanding service for improving the efficiency of their automobiles and trucks. The Gulf Oil Corporation has installed at their Super Service Station, Central Park West at 110th Street, a complete chassis dynamometer tune-up service. Briefly, the test consists of measuring the pulling power, the rate of acceleration, amount of fuel consumed, the mechanical friction in the engine, transmission and differential, also brake testing, wheel alignment, adjusting lights and other services are included with a complete check.

The Otis Proving Stand is used as a chassis dynamometer. Large dials and other recording instruments are mounted on an attractive panel directly in view of the car owner. Indirect lighting is used to illuminate the instrument panel.



General view of No-Nox Motor Clinic interior. Note complete modern tune-up equipment and ample space available.

Gulf Automotive Engineers operating the Proving Stand not only demonstrate for the customer but give him a data sheet having all of the essential information pertaining to the operation of his car. Dynamometer tests are made at the equivalent of 10, 20 and 40 miles per hour road speed ranges using various throttle positions as encountered during normal operation. So that proper adjustments can be made, a complete stock of replacement carburetor and ignition parts is maintained for all late model cars.

The fuel system is arranged so all

Dynamometer Service Now Available to Manhattanites



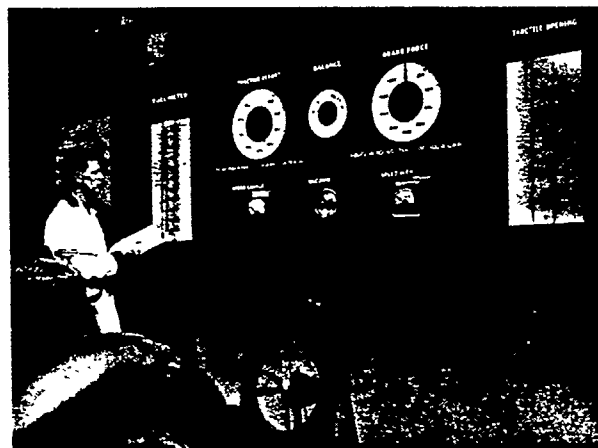
Gulf "Express Stop" service station in the center of uptown New York. Entrance to No-Nox Motor Clinic through white door on left.

tests can be made on both the fuel used in the car and Gulf No-Nox Ethyl. By tuning up to take full

advantage of the high anti-knock quality, the owner can observe to his own satisfaction the advantages gained by using No-Nox Ethyl compared to a lower anti-knock gasoline. Those who have been using No-Nox Ethyl regularly likewise will be better satisfied with the assurance their car has been adjusted to derive maximum benefits from this premium fuel.

The photographs showing views of the No-Nox Motor Clinic and Proving Stand clearly illustrate the merchandising effort behind this tune-up service. The layout and interior finish of the dynamometer room make it not only businesslike, but attractive as well.

Mr. W. T. Carson, Gulf engineer, recording Otis Proving Stand instrument readings. Dials are indirectly lighted which, with the finished black panel background, makes readings clearly visible to the carowner.



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ETC 22033



Goodyear Airship Volunteer ready to take off from its home port in southern California. The truck will transport the ground crew to the airship's next stopping place.

Portable Mooring Mast for Goodyear Blimps

A UNIQUE piece of equipment has been developed for the Goodyear Tire & Rubber Co. to aid in the more efficient handling of their fleet of Blimps. The history of what has come to be known as the Goodyear Fleet goes back to 1925 when the Pilgrim, first of the company's helium airships, was built. She was of 51,000 cubic feet capacity. In the spring of 1933 this pioneer of the skies was dismantled and took her place in the Smithsonian Institute at Washington to perpetrate her accomplishments in a new field. Her successors, of larger, faster and more sturdy construction, have since flown in practically all the states of the Union and in Canada, Cuba and Mexico. They have carried over 150,000 passengers without even a minor injury. The Puritan and Reliance are stationed at Chicago, the Volunteer at Los Angeles and the Resolute in New York, each contain 112,000 cubic feet of gas. They are 140 feet long, 54 feet high and powered with twin motors of 110 horsepower. The Defender, which is the flagship of the fleet, makes her headquarters at Akron, Ohio. She is 184 feet long

and 62 feet high and her Wright Whirlwind motors develop 165 horsepower.

Although docks and hangars are provided at many points to give greater flexibility of movement over the country, a portable mooring mast has been developed which can be mounted on a truck in a few minutes, providing anchorage in the open when cross-country flights are undertaken. Thus a motor truck becomes a nursemaid for a blimp. The application of this principle was worked out in connection with the use of the airship Volunteer in its southern California operations.

The truck, which is a Model D-30 International, was especially equipped for the task. Not only does it serve as a mooring mast at the

end of short trips but transports the ground crew. Moreover it is fitted with a two-way communicating system whereby conversation may be carried on by short wave radio at high travelling speeds when the blimp is 250 miles distant.

The truck also pulls a two-wheel trailer weighing 1800 pounds which contains a collapsible high mooring mast for use in longer stops or during heavy gales. This high mast attaches to the nose of the ship, similar to the method used in mooring the large rigid type, thus allowing the ship to swing and always head into the wind.

The smaller truck-mounted mast is used for the most part to pull the ship in and out of the hangar which permits the use of a smaller ground crew than was formerly the case. Furthermore it is claimed that by the aid of the truck as well as other devices recently developed, it is possible to operate the ship safely fifty per cent more days than heretofore. This largely applies to the ease with which she may be pulled in or out of the hangar without danger or injury.

When the airship leaves for a distant trip, the ground crew, after getting her started, boards the truck which is equipped with eleven comfortable seats and heads for the predetermined destination. An auxiliary automobile is also used for additional crew members. Of course the ground crew must be on hand before the ship can land and as she is capable of a 65-mile cruising speed it will be readily seen that the ground crew has to move right along. As might be expected, therefore, as is the case with most emergency equipment, Ethyl Gasoline has been selected to do the job.

THE FOLLOWING SERVICE AWARDS HAVE BEEN MADE AS OF OCTOBER 1, 1938 TEN YEARS

JOSEPH A. COSTELLO.....Atlanta
LOUIS J. VOLZ.....Administration

FIVE YEARS

JOHN E. HENDRICK.....Tulsa
ROBERT W. RICHARDSON.....Boston
CHARLES O. WHITE.....Los Angeles

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JEWS

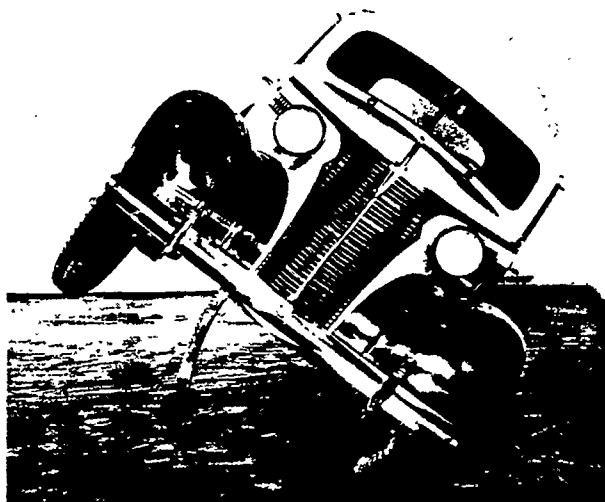
THE Humboldt Strawberry Festival is the second largest Carnival in West Tennessee, being surpassed only by the annual celebration in honor of King Cotton. This year the Ethyl Gasoline Corporation participated in the affair cooperating with the Pan-American Petroleum Corporation by giving a series of motor demonstrations at their booth. The chief attraction here was the Pan-American Talking Car which never failed to draw an interested audience while it was "doing its stuff" and made a most unusual background for the Ethyl program. During the two days of the Festival it was estimated that between seven and eight thousand people witnessed the performance.

This novel display is something entirely new in the way of an auto-



The Pan-Am Talking car holds an attentive audience at the 1938 Humboldt Strawberry Festival. Immediately following the five minute performance the Ethyl demonstration was given. The Ethyl demonstrator and operator may be seen at left ready to go into action.

Ethyl Demonstrates in Novel Tie-up at Tennessee Festival



The Talking Car rolls over to a 42 degree angle by the aid of this device which works automatically.

pointing out the various important points of lubrication, as the voice talks about each one. The car then lowers itself to proper position.

The entire demonstration is carried out without anyone being in or near the car. The automobile was built by the Research Department of General Motors in Detroit, and was especially designed for Pan-Am. It is being demonstrated throughout Pan-Am territory, being driven from town to town under its own power. Intense interest has been shown by large crowds wherever the car has been seen.

mobile and its use in demonstrating a product. The car which is the only one of its kind in the world and has already become quite famous is entirely automatic.

A five-minute talk, transcribed on a hidden phonograph record, covers the important things a motorist should keep in mind in order to get the best results from his automobile.

There are three hidden loud speakers in the car—one in the back, one in the middle and one in the front. As the car talks about the

motor, the voice comes from the front loud speaker and then shifts to the others as various points are mentioned. The car starts its motor, accelerates it, opens its hood and displays a Pan-Am Motor Oil can, opens a side door and shows how to stop squeaks with Pan-Am Household Oil. Then comes the most thrilling part of the demonstration, when the car automatically starts to turn, and rolls over to a 42 degree angle, showing the entire underside. Green lights flash on

Error in September "News"

In the article on the New York World's Fair 1939 in the last issue of the "News" (page 7) we neglected to include the Sinclair Refining Company as one of the thirteen sponsors for the Petroleum Building. The Editors take this opportunity of expressing their regrets for this oversight.

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ETC 22035



A portion of Capital Transit's great fleet which operate throughout District of Columbia and nearby territory in the State of Maryland.

Ethyl Engineer Instructs Capital Transit Men

THE Capital Transit Co. is not only a very progressive organization but its activities are varied. Its fleet of 581 buses composed of Yellow Coaches, A. C. F.'s, Twin Coaches, Macks and Whites, cover not only the entire District of Columbia but much of the outlying territory, in the State of Maryland. In addition the company operates the street cars whose routes completely cover the District of Columbia. Their employees number over 3,600.

The organization which is the result of a consolidation five years ago of three local transportation companies—the Capital Traction Co., Washington Electric Railway Co. and the Washington Rapid Transit Co., has grown amazingly. This is due to the unusual expansion of the urban transportation business through the use of motor buses. The result has been that certain departments have found it a serious problem to keep pace with the increasingly heavy demands made upon them. The great amount of detail involved in the installation of new servicing and scientific equipment has had a retarding effect on the Maintenance Department in particular notwithstanding that the use of such equipment would eventually greatly expedite the routine work which the Department must turn out on schedule.

These circumstances provided the Ethyl Gasoline Corporation with an excellent opportunity to assist them by placing at their disposal the services of fleet engineers with years of experience with other large fleets in the country. Capital Transit readily accepted the offer, so late in April Ethyl began some experimental work on certain of the buses. The purpose of these preliminary activities was to improve economies, increase engine life and reduce the tendency toward "fuming" which has always been a much involved problem facing motor-bus operators.

The annual fuel requirement of this fleet naturally runs into the millions of gallons and up to that time about 90% was on non-leaded gasoline. However, by July 15 the operation was one hundred percent on leaded fuel of a minimum octane rating of 70. Furthermore, reports forthcoming from the company's various garages indicate less knocking and smoother running engines. An indication of how seriously Capital Transit is entering upon this new program is the fact that they have purchased a 150 H.P. General Electric block dynamometer of the latest design which will enable the Maintenance Department to test each rebuilt engine before it is reinstalled in its bus.

The experimental work had scarcely gotten under way before arrange-

ments were made for holding a school, the purpose of which was to instruct the men in the principles of carburetion and ignition, the maintenance of carburetors and ignition systems and the methods of tune-up. This instruction was given by Mr. J. R. St. Germain, one of Ethyl's engineers attached to the Baltimore Division. The men to attend the school were selected by the management. Thirteen foremen and thirty men enrolled in the course, the duration of which was seven weeks. The two-hour sessions were held each Thursday, one at 4 o'clock for the foremen and the other at 8 p. m. for the mechanics.

The school was referred to as the "Carburetor, Ignition and Tune-up School" and it started the third week in June and closed on the evening of July 28 at which time a banquet was held at the Continental Hotel in Washington. Present at this, aside from the men attending the school, were Mr. E. D. Merrill, President of the Capital Transit Co., Mr. R. D. Voshall, Superintendent of Equipment, Mr. A. F. MacDougald, Engineering Assistant to Mr. Voshall, Mr. R. H. Dalgleish, chief engineer, and others of the management.

It has been quite definitely established that the school did a lot of good as tangible results are already beginning to make themselves manifest. The course of instruction was divided into seven parts, the first of which consisted principally of educational films. The second was devoted chiefly to the explanation and definitions of certain fundamental terms in frequent use in automotive engineering. Two full sessions were required for this second part. Part three covered the principles of carburetion thoroughly and the operation and maintenance of carburetors. Part four covered ignition systems as found on various makes of buses. Part six considered exhaust gas analysis, the problems of "fuming" and the theory of the exhaust gas analyzer. Part seven was a brief review and oral examination. The latter was given following the banquet.

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Grover Whalen, President of the New York World's Fair, wishing Howard Hughes and his four companions, Godspeed just before the take-off of their epoch making flight around the globe in 91 hours. From left, standing: Flight engineer Ed Lund; Howard Hughes; Grover Whalen; Harry Connor, Navigator; Richard Stoddart, Radio Engineer and Lieut. Thomas Thurlow, Navigator.

They Saw Five Suns in 91 Hours

HOWARD HUGHES and his five globe-girdling companions witnessed a sight last July never before beheld by man for in less than four days they saw the sun rise five times.

Leaving Floyd Bennett Field at 7:20 p. m. on the afternoon of July 10, they flew into the east for a distance of 14,791 miles and in exactly 3 days 19 hours 14 minutes and 10 seconds, set their ship down on the same spot amid the tumultuous welcome of 20,000 people. And yet Hughes told the reporters who crowded around him "if any credit is due anyone it is to the men who designed and perfected, to its present remarkable state of efficiency, the modern American flying machine and equipment." Be that as it may, had it not been for the careful preparations made beforehand and the clock-like precision with which every detail was carried out, it never could have been done. This is the real lesson to be learned and in its successful accomplishment Ethyl was privileged in playing an important role through the cooperation the Company was able to give Mr. Hughes and his four companions.

One hundred octane gasoline powered the two 1100 h.p. Wright

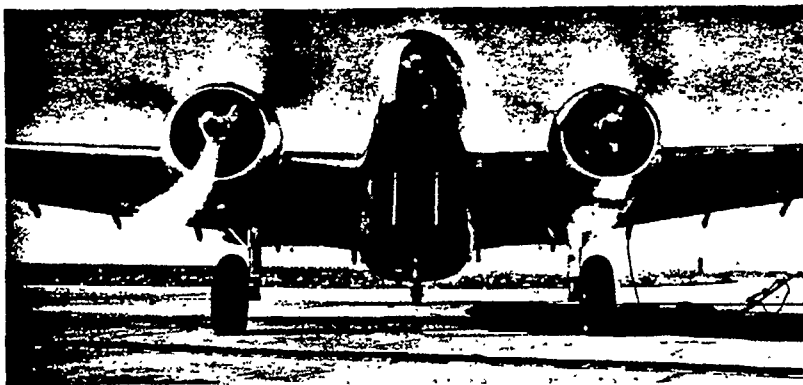
Cyclone G. Series 102 engines in the great Lockheed monoplane, although it could have operated on 90 octane fuel. This was the first extended over-water flight on 100 octane gasoline since its initial development for U. S. Army and Navy use. An outstanding feature of the flight was the tremendous load-lift from Floyd Bennett Field which was estimated to be 47 pounds per square foot of wing surface and was said by Howard Hughes to have been the greatest weight factor ever saddled on a heavier-than-air craft.

Synopsis of the flight log as reported in "Aero Digest" reveals that the plane left Floyd Bennett Field Sunday, July 10, at 7:20 p. m. and landed at LeBourget Monday, July 11, at 11:58 a. m. completing the first leg of the flight, 3,641 miles in 16 hours 38 minutes. Leaving Paris at 8:24 that evening, the next stop was Moscow, 1,640 miles away, where the second leg was completed at 4:15 a. m. Tuesday after 7 hours 51 minutes in the air. The third leg, 1,400 miles to Omsk, required 7 hours 27 minutes; the fourth leg, 2,158 miles to Yakutsk, 10 hours 31 minutes, bringing the flight into Wednesday, 5:08 a. m. Leaving Yakutsk at 8:01 the plane headed

for Fairbanks 2,457 miles away, where a landing was made that evening at 8:18 after 12 hours 17 minutes. Waiting only 1 hour and 20 minutes, the fliers took off for Minneapolis where they landed on Thursday, July 14, after a 2,441 mile flight which required 12 hours 2 minutes. The last leg of the trip was over a 1,054 mile stretch into New York which required 4 hours 26 minutes. Total flying time was 71 hours 6 minutes and total time on ground 20 hours 3 minutes; average speed in flight 206.1 m.p.h.

Most interesting aspect of the flight, aside from the functioning of the airplane, the engine, the new instruments and other equipment, was the continuous radio communications to and from the plane interrupted only when both trailing antennas were lost between Fairbanks and Minneapolis. In the brief period of less than four days, Hughes was heard over the radio networks five times and there also were frequent broadcasts by Stoddart, the latter being supplemented by a running account bulletined over the radio networks.

Shortly after the return of the flyers, Flight Engineer Ed Lund called at the office of the Ethyl Gasoline Corporation to pay a visit to Safety Director, O. B. Lewis, with whom he had had some contact during preparations for the flight. While there he very kindly consented to an informal interview. Asked as to the fuel used, amount carried on the various hops, etc., Mr. Lund stated that the carrying capacity of the ship was 1,750 gallons or a total of about 10,530 pounds. The gross load was 25,000 pounds maximum which was overloading it about 42% from normal. He said the take-off from Floyd Bennett Field was as expected, the ship lifting before it came to the end of the runway (it will fly at 110 miles and landing speed is about 80 miles). After taking off they flew at about 8,000 feet in broken clouds and were unable to see land or water until within sight of the Irish Coast. However, they were sure of their course as



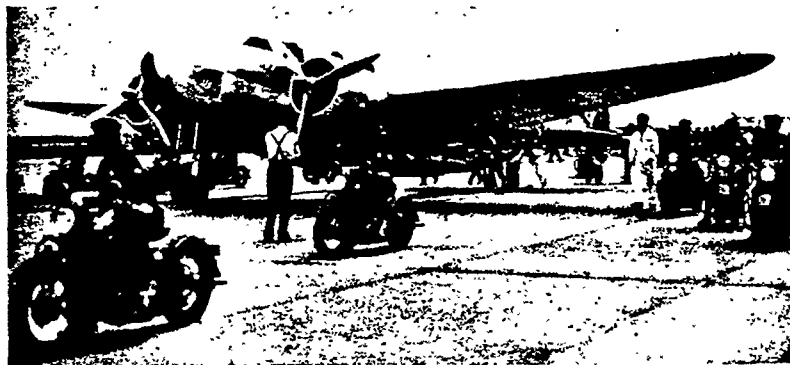
Howard Hughes' Lockheed 14 Monoplane, "The New York World's Fair 1939" warming up prior to take-off from Floyd Bennett Field on Long Island.

they were constantly checking with various ships during the crossing. Regarding the reported damage to the tail of the ship, which was discovered just before leaving Le Bourget, Mr. Lund said: "It was damaged in taking off from Floyd Bennett, we taxied off the pavement and ran into some concrete work surrounding a drainage outlet. After we gassed up in Paris I was giving the ship a general check-up, wheels, tires, etc., and happened to lift up the elevators. Through the opening I could see the damage, which we had not suspected." Mr. Lund made the repairs assisted by a Mr. Cooke, a U. S. army air corps mechanic assigned to Ambassador Bullitt. "We used angle dural which reinforced the fittings 20 times as strong as was necessary but we did not wish to take chances," he said.

Although their reception in Paris was very fine, there was a smaller crowd on hand than otherwise might have been as the ship arrived several hours earlier than expected. Among those to greet them were Ambassador Bullitt and Major E. E. Aldrin as well as representatives of the Wright Co., the Sperry Co. and the Hamilton Co. Asked as to amount of fuel in their tanks on landing at Le Bourget, Mr. Lund said there were approximately 200 gallons, enough for about 3 hours' flying.

For the next hop to Moscow, they took on 1500 gallons of 100 octane gasoline. 173 gallons of this was in a reserve tank to be used

only for take-offs as no more of this octane number would be available before reaching Edmonton, Winnipeg or Minneapolis. There was considerable delay in getting away from the field because of the great number of people who kept milling around the doors to the hangars so that the ship could not get out. However, the police finally moved the crowd back. In describing this take-off, Mr.



"The New York World's Fair 1939" arrives at Floyd Bennett Field and guarded by a cordon of motorcycle police is moved to the place of honor in front of the Administration Building.

Lund said: "The Superintendent of the Port drove out to the end of the runway ahead of us and instructed us which way to take-off. There were two big towers at the end of the field having red lights on the top of them. We did not know what they were but were told to fly between them. We took his word for it that there were no power lines; it was rather a dangerous take-off not knowing just what the

towers were. Incidentally there were no concrete runways and we retracted the landing gear when only a few feet off the ground, in order to get more speed and altitude and went up to 3500 feet."

Questioned as to the rumor heard over the radio at the time, that the gear was damaged, he said that due to this broadcasting, the Germans advised them to fly low so they might inspect it. However, the flyers were satisfied that everything was all right and so declined their offer of assistance.

The trip to Moscow was made at 17,000 feet due to rough weather, squalls and ice formation on the wings but they arrived without any mishap. This airport was very beautiful, having concrete runways wider than any he had seen in the United States, he said. The men helping were mostly Army Air Force men wearing blue uniforms. The Russians showed the flyers every hospitality even to insisting that Mr. Hughes and his companions have

something to eat before they would gas the ship. Reservations had been made for 1,750 gallons.

Unfortunately there was no opportunity for the taking of any pictures partly due to restrictions against cameras in the various countries. Neither did they have time to form much of an opinion of the places where they stopped. It takes about one hour to gas the ship and additional time was lost due to the

necessity of discussing many things with officials at the various airports so as not to cause any ill feeling. The Russians were very much interested in the ship though no one was allowed aboard, to avoid unnecessary delay.

From Moscow to Omsk, which was the next stop, was a distance of about 1600 miles and during this part of the flight they passed over very beautiful country. The land was flat and well cultivated and the villages, evidently government built, were occupied by the farmers who went out to work the fields each day in contrast to the scattered farms found in most countries.

No snow was encountered until they reached Siberia although there was some on the higher mountain peaks. This part of the flight was at about 12,000 feet. At Omsk, where they arrived during the night, it was raining which caused some apprehension lest they take in water while fueling. However, the Russians had made provisions against this. They used two funnels, one inverted over the other, which acted as a shed, the hose being put through the opening of the uppermost one. At this point there was a girl who acted as interpreter and had all the necessary instructions as to what had to be done. This was a fairly good airport, though without concrete runways. There were no regular flood lights but they had portable lights on a four wheel trailer which showed the flyers the direction in which they were to land. The ship itself was equipped with very powerful landing lights of about 1 million candle power with special batteries to supply the current. Here the gasoline was supplied in drums which were marked "89 OKT" representing the Russian version of octane.

Upon leaving Omsk about 7 hours' flying brought Hughes and his crew to Yakutsk which was their last Siberian stop. This airport was similar to that at Omsk. About 1,000 gallons were put on, being pumped from barrels. Taking to the air again they flew over mountains but an hour out of Yakutsk, hit solid over-

cast weather which remained so until the Siberian coast was reached. While flying over the Bering Straits they at times caught sight of icebergs floating south.

The safe arrival at Fairbanks, Alaska, was marked by great rejoicing as the flyers felt as if they were home again. They had radioed ahead and Joe Crosson, the well known Arctic flyer had 800 gallons of 90 octane fuel prepared for them so there would be no delay. However, the runway at Fairbanks was so short that they were obliged to unload about 1,000 pounds of equipment in order to make a safe take-off.

The next stop was Minneapolis where there was a fine new airport with concrete runways. Everything was in readiness and a huge new truck manned by five helpers gassed the plane with 100 octane fuel, the first obtainable since leaving Le Bourget.

After leaving Minneapolis Mr. Lund said they encountered "one of the worst thunder storms I have ever been in. We expected the windshield was going to break. In fact, the leading edge of the wing was dented from hail." This was the worst bit of weather they experienced. However, they set the plane down at Floyd Bennett Field without mishap in 4 hours and 26 minutes.

They had, of course, expected a crowd to greet them but were entirely unprepared for the thousands who were on hand. As they approached the field they said the automobiles seemed to be lined up on the roads as far as the eye could see.

There is no need further to describe the reception which was accorded Mr. Hughes and his crew as the welcome celebrations were made the topic of front page headlines throughout the country. Probably no scientific flying exploit has received a like universal acclaim and recognition since Lindbergh blazed the sky trail to Paris.

Some of Mr. Lund's observations are also of interest. It is amusing to think that five men can set out for a globe-girdling journey with less than \$100 in the crowd but even more so when they arrived home again without having spent one cent. Of course credit for supplies had been established beforehand. Needless to say very little sleep was indulged in by any of the party and Mr. Lund himself had about four hours' rest. He dropped eight pounds in the less than four days. All were amazed at the fine reception and cooperation they received from everyone during the entire route and it indicated that air line operation is practical in every part of the world if properly handled.

A few of the 20,000 people who were on hand to greet Howard Hughes and his now famous crew as they successfully completed their globe-girdling exploit. Picture was taken a few minutes after the ship came to rest on the spot from which she had begun her flight less than four days previously. The Administration Building is shown in the background.



Ethyl Takes Part in Humble Oil Sales Contest Meetings



Watch winners of the Corpus Christi District Sales contest. Standing from left: G. E. Beasley, Raymondville (repeat winner); S. Gonzalez, San Diego; A. G. Sparks, Supervisor and I. L. Garcia, San Diego. Seated: Jack Williams, Aransas Pass; R. C. McGrath, Aransas Pass; D. T. Monroe, Retail Sales Mgr., Humble Oil; John Rogers, Corpus Christi, and Claude Speer, Robstown.

DURING the period from June 29 to July 13, it was the pleasure of the Houston representative of the Ethyl Gasoline Corporation, Mr. John M. Rollins, to be present at five meetings where true merit was rewarded. For a number of years it has been the practice of Mr. D. T. Monroe, Retail Sales Manager of the Humble Oil and Refining Company, to sponsor contests between the individual contract

commission station agents and their salesmen and between districts to determine just who were the most capable.

This year, the contest ran for three months, from January through March and the meetings held in June and July were primarily for the purpose of awarding suitable trophies to the winners. These were in the form of gold pocket watches, similar to those given in the 1937

contest, featuring the Humble name, figures on the dial being replaced by the word "Humble," starting at the "12" position and going both ways down the face. The name of each winner and the date of the contest also being engraved on the dial.

The 1938 contest was conducted along similar lines to the 1937 competition, but more emphasis was placed on the sale of premium products, including Esso. The results proved that Esso can be sold in even greater volume than previously believed possible in this area, the percentage to total gasoline increasing from 11.94 during the same three months in 1937 to 13.09 during the contest period, or a gain of 9.63%.

At each of the meetings Ethyl's educational films were shown for the entertainment and instruction of the audiences. Representative of all of Humble's 275 service stations attended the five meetings, held in Houston, Jacksonville, Corpus Christi, San Antonio and Abilene. To these were added various people in their wholesale department, so that total attendance at all meetings was 453.

Army Engineers Include Ethyl Clinic in Their Training

FOR the third time in recent months the Ethyl Motor Clinic of the Baltimore Division has played host to Uncle Sam's engineers in the transportation division of the Army. The first unit to seek information tending to the most efficient operation of their equipment was a detachment from the Aberdeen proving grounds followed soon afterwards by a group from the Motor Transport school at Camp Holabird ("News" July-Aug. 1938). Late in July a third showing was especially arranged for at the request of the Service Company of the 1st U. S. Army Engineers stationed at Fort DuPont, Delaware, who came to Wilmington for the purpose.

The primary duty of the Service Company is to maintain and operate a means of transportation within the regiment. And in order to insure the proper functioning of the unit the Army maintains a group of highly trained specialists to keep the equipment running most efficiently. With this end in view, schools are held for the instruction of these men at the various posts.

It has been the endeavor of the Ethyl Gasoline Corporation to co-operate with the War Department in showing members of the Service and Transport Companies how they may operate their equipment at peak performance. The various meetings held by the Corporation for the different Army groups have helped to demonstrate the necessity of using a quality fuel if best results are desired.

Prior to this meeting at Wilmington a detailed explanation of the dynamometer was given for the commanding officers of the detachment and the sergeants after which the regular meeting was enjoyed by the entire group.



W. J. Ryan of the Clinic staff explains the operation of the chassis dynamometer to Lt. Gregg and others in command of the first U. S. Army Engineers from Fort Du Pont, Del. Clinic Manager Mason standing in center of group.

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NEWS



Cardinale Trucking Corporation fleet on review at Whippany, N. J. In foreground from left to right: Mr. T. Kursh, Brockway Motor Co., and Messrs. John Peluso, George A. Aubin, J. DePalma, Sr., J. Krugar, J. G. Cardinale, Frank Cardinale, Peter De Palma, Peter Cardinale, J. Corrado, and J. DePalma, Jr., all of the Cardinale Trucking Corp., and who's cooperation made the changeover possible.

New Jersey Trucking Concern Steps up Operating Economy

ANY fleet operator would be interested in using a better grade of gasoline if its additional cost can be justified. This is exactly what has happened in the case of the Cardinale Trucking Corporation of Whippany who operate one of the most representative fleets in Northern New Jersey. Their 65 Mack and Brockway trucks and tractors haul paper box board considerable distances throughout New England, New York, New Jersey and Pennsylvania. In addition, they operate light delivery trucks and passenger cars. An efficient maintenance and service department has enabled this fleet operator to fulfill delivery commitments on schedule.

A few months ago Messrs. Nixon and Williams of Ethyl's New York Division in cooperation with the Pure Oil Company's Newark, N. J.,

zone office and their local representative, Mr. J. W. Mahoney, were able to convince the Cardinale Trucking Corporation that maximum power tune-up with high compression would more than justify the use of Ethyl. Not only were miles per gallon increased, but a definite saving in time on the road was obtained.

One instance of the overall improvement in performance was the case of the units equipped with Model 22R Continental engines. The standard compression ratio of 4.5 to 1 was increased to 5.23 to 1 by means of the Model 21-RA 608 head. Spark advance and carburetors were adjusted. The former 13 tooth driving sprocket giving a speed of 32 m.p.h. was replaced with one having 15 teeth, making it possible to increase speeds to 39 m.p.h.

The net result of these changes was to increase gasoline mileage from 2.6 to 3.1 miles per gallon, or 19.2%. More important is the saving when the increased load is considered. With low compression this truck averaged 122.8 ton miles per gallon, and after high compression this same unit averaged 155.5 ton miles per gallon or an increase of 26.6%. It is obvious that the increased cost of Ethyl Gasoline has more than compensated. The Cardinale Trucking Corporation is now using this fuel exclusively and is completing the installation of high compression heads on all of their trucks and tractors.

This work would not have progressed to a satisfactory conclusion were it not for the interest and assistance of the members of the Cardinale Trucking Corporation.

Motor Clinic Welcomed at Hagerstown, Md.

MEMBERS of the Southern Engineering Society, City officials of Hagerstown, Md., and the Mayors of Funkstown, Md., and Fort Royal, Va., were among the large audience to attend the Ethyl Clinic preview at the Hagerstown Fairgrounds on the evening of September 9. Representatives of the oil and automotive industries from thirteen nearby cities were also in attendance which made it one of the largest previews that any of the Clinics have enjoyed.

Mr. P. A. Leichel, President of

the Engineering Society, opened the meeting and introduced Mayor W. Lee Elgin of Hagerstown, following which the Mayor made a brief address of welcome and extended the hospitality of the City to Clinic Manager Lowell Mason and his staff, during their stay.

One of the features which aroused the special interest of the audience was Mayor Elgin driving his own car on the dynamometer.

That the demonstration was convincing may be judged by Mayor Elgin's remark at the close of the meeting. He said: "A person just couldn't help using Ethyl Gasoline after seeing that demonstration."

The Clinic will hold meetings

at the Fairgrounds each day except Saturday and Sunday, until Oct. 7.



Mayor W. Lee Elgin of Hagerstown greets Clinic Manager Lowell Mason at preview in the Maryland City. From left: Mr. Louis Shank, Manager Ethyl's Baltimore Division; The Mayor, Mr. Mason and Mr. Leichel, chairman of the Southern Engineering Society.

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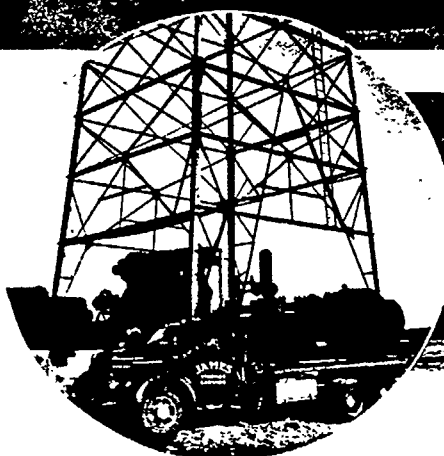
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Ethyl Doing its Stuff in Turner Valley, B. C., Oil Fields

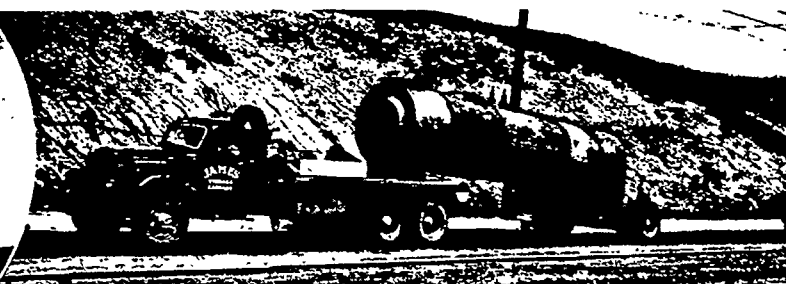
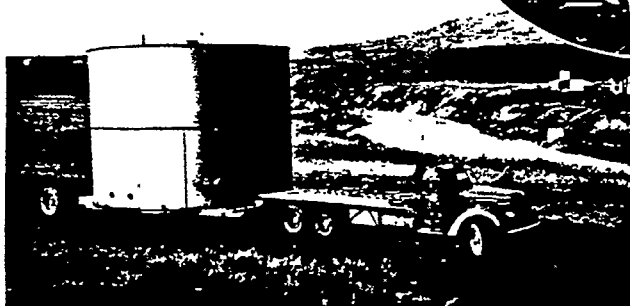


The latest addition to a fleet of eight buses operated by Felix Monden Transportation Co., of Calgary, Alberta. Mr. Monden operates between Calgary and Turner Valley and uses Ethyl in all his equipment. He says that it has proven the most economical fuel from every standpoint. The company's monthly gallonage is large. The bus is a White and was driven from the factory in the United States to Calgary.

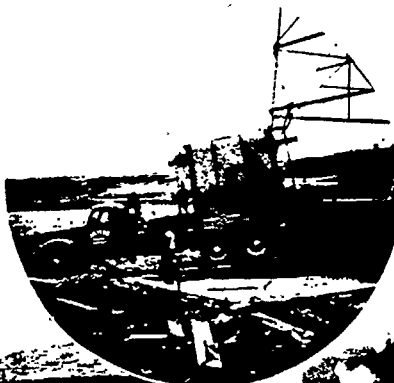


Power driven mud pumps are used with rotary well drills. One of these pumps (on the truck) weighs 43,600 pounds and this one is owned by the Anglo-Canadian Oil Co. The truck uses Ethyl.

When an oil well blows in, storage tanks must be moved in a hurry. 2700 barrels of crude oil are being shipped daily from Turner Valley in British Columbia and James Storage and Cartage are always busy with their trucks helping the drilling rigs. They use thousands of gallons of Ethyl each month.



A 46,000 pound boiler being carried to location in the Turner Oil fields on an I.H.C. truck burning Ethyl. James Storage and Cartage will move anything in the field and where going is tough Ethyl gives that extra margin of power.



Rotary draw works used for pulling rotary drill stems. The weight of this unit is 34,000 pounds and is being loaded on an International Harvester Co. truck owned by James Storage and Cartage Co., operating on Ethyl.

This truck is one of the 27 units owned by R. A. James. It is fully loaded and being ferried in the interior of British Columbia. Long, hard trips over rough roads show Ethyl at its best.



Even the Old Horse and Buggy Boost Ethyl!



The manufacturers of this horse and buggy little dreamed that their handiwork would one day promote the sale of the product which ruined their business.

THIS man bet on a horse and won — even though the horse couldn't run.

Sometime ago Mr. Day Ryan, Texaco dealer of Mattoon, Illinois, passed a harness shop which was going out of business and noticed that a white horse was for sale. That was where Mr. Ryan did his smart betting.

A horse in a harness shop, he

thought, nothing spectacular, but a horse outside a filling station is something to really make a person turn his head and have a look!

Some people might not have thought it good horse sense, but Mr. Ryan bought the steed, shipped it back to Mattoon by truck and stood it on the green turf outside his filling station. It had a somewhat unadorned look so he procured a harness and put it in place. Still something was lacking—a buggy! To as good a showman as Mr. Ryan is was obvious that this was the final necessary touch.

Now his filling station has come to be known as the "White Horse" Station. The publicity has proved most favorable in increasing his business and moreover, he has had chances to sell the horse for many times what he paid for it.

It just naturally follows at a station like Mr. Ryan's that the Ethyl sales are steadily increasing. He reports that his June Ethyl sales were 70% over June of 1937.

Request from Richmond for Clinic's Return

NOTWITHSTANDING the fact that the Ethyl Motor Clinic had a run of about six weeks in Richmond, Va., early last spring, it appears that a return engagement would be appreciated. At least if we may take the word of Manager F. H. Skehan of Standard Oil's Virginia Sales Division. As late as July 27 Mr. Skehan wrote to the Baltimore Division office as follows:

"We are interested in the possibility of the return of your Ethyl Clinic to Richmond and other cities in the State of Virginia.

"The Clinic was extremely well received in Richmond and although frankly I don't feel that we took full advantage of the excellent opportunity that it offered for sales assistance, we do recognize its extreme value and assure you complete cooperation if it is again shown in Richmond.

"As you know, a considerable amount of motor fuel business was converted to premium grade, and we are very agreeably surprised, even at this late date, to continue to hear frequent comments from employees and customers as to the impressiveness of your dynamometer demonstration of the actual difference in motor performance with the three grades of gasoline and the effect on efficiency of spark retarding to compensate for low octane fuels.

"The elaborate equipment, the richly descriptive pictures and charts, and the clear, concise manner in which Mr. Mason and his assistants conducted the demonstrations, were extremely entertaining and highly informative. We sincerely hope that it is your plan to continue this phase of your educational program and that we will again secure the benefits of the Clinic in Virginia."

Taxation and Your Savings

(Continued from page 1)

reported as 3 million 171 thousand, or about one-half the number of investors.

(3) The total taxes paid by these companies in 1937 was 1 billion 631 million dollars, more than twice the total amount paid in 1932.

(4) Taxes paid in 1937 were an average of \$2.62 on each share of common stock, whereas the total dividends paid to the 5½ million common shareholders amounted to an average \$1.95 for each share of common.

(5) The total taxes paid by the 150 companies in 1937 averaged \$291 per common shareholder or \$514 per employee.

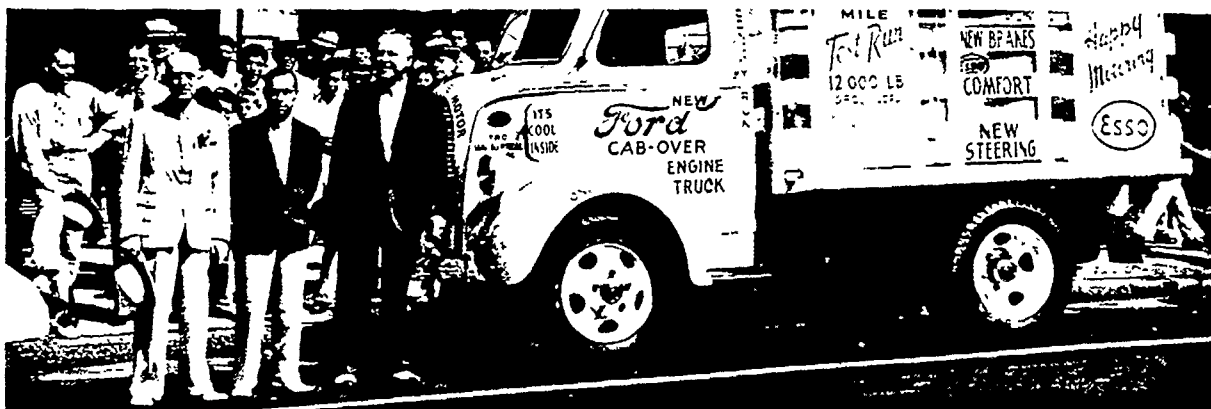
(6) The tax burden on American industry has more than doubled in the last five years. Of the 150 companies under survey 124 paid taxes in 1932 amounting to \$681,648,286, whereas in 1937 the same 124 companies were assessed \$1,422,670,853—an increase of 109 per cent.

These facts prove that millions of common people are vitally interested in the success of American industry, and that when industry suffers from burdensome taxation, the depressing results fall directly upon these same people. For the welfare of all, our nation must be maintained on a sound economic basis and the purchasing power of the dollar preserved.

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This Ford 1939 Model 1 1/2 ton truck is demonstrating the economy of Ethyl in a 5,000 mile road test over the highways of North and South Carolina. The test is being sponsored by the Ford Company, the Standard Oil Co., and the Charlotte Chamber of Commerce.

Three Sponsors Conduct Road Test

DURING the first week in August a truck test was gotten under way in Charlotte, S. C., which was unusual in that it was sponsored by a truck manufacturer, an oil company and the local Chamber of Commerce.

A brand new cab-over-engine 1939 Model Ford one and one-half ton truck took to the road for an economy run. It carried a pay load of 6,000 pounds. Up to the present writing it has traveled every day since its departure from Charlotte over all types of roads and through

both flat and mountainous country with Esso gasoline in its tank. Although the test is not quite complete it has already covered a total distance of over 4,000 of the 5,000 miles which was originally determined on. Only Ethyl has been used and for the first 4,213 miles it consumed exactly 383 gallons—giving an average of eleven miles per gallon.

The minimum average mileage for any one day's run was ten miles to the gallon while the maximum was thirteen miles. As stated before,

the truck has been operated over dirt and partly surfaced roads as well as state highways and in all sorts of country throughout western North and South Carolina. Driving through city traffic has also been included in the test runs.

The companies who are conducting this study are the Ford Motor Co., and the Charlotte division of the Standard Oil Company.

Of course the truck has been tuned-up for peak performance and economy, made possible through the use of Ethyl Gasoline.

New York Division Clinics Open Fall Season

ON SEPTEMBER 8 and 9 the two Ethyl Clinics of the New York Division had Preview Meetings at Buffalo, N. Y., and Newark, N. J., Messrs. M. P. Murdock and M. Littlefield, respective Clinic Managers, presented the programs which marked the opening of the fall showings. Mr. R. C. Murphy, New York Division Manager was present at both meetings.

The Clinics were unusually fortunate in having the Chief Executives in both of these important cities personally attend the opening and extend a welcome to the Clinic staffs during their stay.

Mayor Ellenstein of Newark was accompanied by U. S. Marshall McDermott and Messrs. Shapiro and Alden of his staff. Since one of

the City of Newark's own cars was used for the demonstration the Mayor had the unusual experience of driving it on the dynamometer and kindly consented to be photographed seated behind the wheel with Mr. Muller, Ethyl's metropolitan New York representative.

A very complete list of oil company and automotive executives and representatives attended both Preview Meetings. The growing popularity of the Clinics has stimulated the interest of these and kindred industries who are taking every advantage of this educational service.

(Circle) Newark's Mayor Ellenstein drives one of the municipal cars on the dynamometer at preview of the Ethyl Clinic in the city of which he is chief executive.



Mayor Holling of Buffalo gives close attention to Mr. William Ball of the Clinic staff as he explains how the advantages of proper tune-up are demonstrated

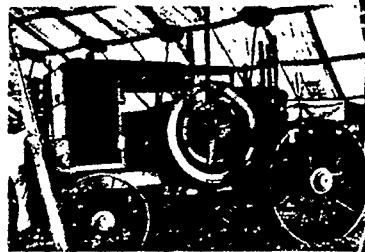
The Birth of a Name—"Tractor" is Born

THIRTY - EIGHT years ago Charles H. Parr, a young engineer, was associated with C. W. Hart in the first mechanical assemblage of what today is represented by the modern tractor. Mr. Parr now resides in Charles City, Iowa, and when recently an Ethyl representative called on him he very obligingly consented to an interview. Briefly he described some of the early models and their evolution to

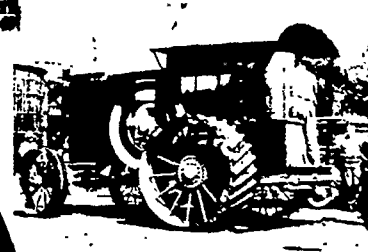
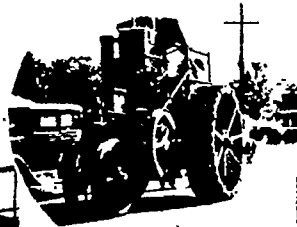
from the point of view of 1900, was a wonderful invention.

The Hart-Parr "35" as this tractor was termed, was a ponderous piece of equipment but already the principle of the row crop had been adopted.

Still not satisfied, however, Mr. Parr, some few years later, produced another model which was even more popular and was known as the "30-60 Hart-Parr" the figure representing the horsepower output. This new machine had a horizontal engine with 2 cylinders, a 10" bore and 15" stroke and weighed 20,000 pounds. It could easily out-perform its single cylinder predecessor.



One of the early jobs turned out by Hart-Parr.



Mr. C. H. Parr, co-founder of the Hart-Parr Co., as he looks today. His company are the pioneer manufacturers of equipment that is now known throughout the world as the "tractor".

Although still of great weight (20,000 lbs.) the "30-60" had many advantages over its predecessor — was powered with 2 cylinder engine and could do all or more than earlier models.

the high compressioned job which the farmer depends on today.

Perhaps one of the most interesting bits of information was how the name tractor came into being. Back in 1907 when the Hart-Parr Co. was in its infancy, Mr. W. H. Williams, then sales manager of the company, was puzzling over some copy for an advertisement. By chance he stumbled on the word "tractor" and it was written into the ad. Seized upon by other manufacturers the name is now familiar to almost everyone.

But let us turn back to the year 1900 when the present-day tractor was in embryo. The first piece of equipment was a four-wheeled contraption powered by gasoline and devised to pull plows through the ground. The fact that it was 4 wheeled had no significance other than that that was the orthodox and convenient way of constructing a vehicle. Later the 3 wheeled job was adopted merely so as to permit closer access to fence corners than the 4 wheeled model. The original machine weighed about 22,000 pounds and was known as the "22-45." It sold for around \$1600 and

During the succeeding years Mr. Parr had many "dreams" for the improvement of the current models, though many of his ideas he discovered were impracticable, but in 1909 he build a unit which appeared to fully satisfy demands. It was popularly called the "road King" or "steel King" and was made of steel castings. Its weight was 12,000 pounds. Powered with a one cylinder vertical engine it developed about 35 horsepower on the draw-bar.

It was a 3 wheeled unit—fore-runner of the row crop—But only for the purpose of providing greater maneuverability. This machine was a tremendous success.

Although the original machines were designed to burn gasoline it was not because it was cheapest but because it was the most efficient fuel known at that time. However, in 1909 gasoline could not be purchased at every corner—it was a "drugstore commodity" — and not accessible to many farmers. As demand for tractors became more widespread, kerosene which was available everywhere began to come into use as a fuel. Of course the engine would not work as efficiently on the low grade fuel but under the circumstances efficiency had to be sacrificed.

The early Hart-Parr machines described here served to break much of America's prairie sod for the first time and yet picture one of these pioneer models alongside the present-day Oliver 70 who's ancestor it was. Ask Mr. Parr if high compression and good fuels have had anything to do with this transition and he will answer you: "Lots, and it will have even more to come."

NEWSBRIEFS

J. R. "Rod" McKenna, new Tune-up Engineer on the Atlanta Division Clinic, joined the Company in August. Rod is a native of Westchester, Pa., and is an alumnus of Swarthmore. After some years of varied activities in the East, he moved South in 1932 to engage in the gold mining business. Since that time he has been in the Buick and Ford organizations. Prior to coming with the Ethyl family he operated his own tune-up shop.

Atlanta is Rod's adopted home. He is married and has one child. He has already established a reputation for himself because of the way he stalks across the stage during a meeting.



Another newcomer to the Atlanta Clinic is Stuart Forbes, who signed up as Junior Engineer in August. "Stu" is a native of Flint, Michigan, and a graduate of the University of Michigan, Mechanical Engineering School, Class of 1937. Prior to graduation he did summer and part-time work with the Buick Engineering Department and The Lyons Company. After graduation he entered the Chevrolet Training Course and was later with Buick as a Special Assignment Engineer. Stu has heard there are peaches in Georgia and wonders if they are susceptible to engineering design.



A newcomer to the Ethyl family is Gertrude S. Curtis, a native of Texas, but now living in Jackson Heights, New York. Gertrude comes to us from the American Radiator Co., where for a year she did accounting and secretarial work. She is a graduate of Colorado University Class of 1935. Both she and her husband are keenly interested in amateur photography. They have a Leica and do all their own developing and printing. Gertrude has joined the Statistical Department, which is under the direction of Walter Resler.



Some of our hard-working Baltimore Boys went fishing recently on Chesapeake Bay—took their wives along—and were forced to admit that their better halves caught the majority of the fish you see proudly displayed by Mesdames Hogan, Hughes and Shank. Mebbe that case of empty Cocoa-Cola bottles has something to do with the "not so hot" scores turned in by the male members of the fishing expedition.

From Chicago comes this picture of young Master Bruce Dollahan, aged 1 year, 6 months, busily engaged in the study of our new booklet "Sparks, Octanes and Performance." According to reports, Poppa Dollahan hasn't had time to read the booklet yet so any information desired on the subject must be supplied by young Bruce. "Dolly" says that Master Bruce is just a "chip off the old block" but as yet we haven't heard the young 'un telling any of those tall fish stories.



We welcome another new member of the Statistical Department to the Ethyl ranks. This time it's Katharine Lindenmann who is a graduate of Barnard College, Class of 1925. Before coming to Ethyl, she spent two years as Secretary to the Manager of the Herald Square Hotel in New York. Katharine lives in Lynbrook, Long Island.



The Boston Division welcomes to its Clinic Mr. William H. Perry, brother of Phil Perry, our Eastern New York State field representative. Bill graduated from Newton High School, Newton, Mass., in 1932 and studied at the Massachusetts Art School for a year. Following this, he entered the Cosmos Chemical Corporation where he became Sales Service Manager.

Bill is 25, single and elsewhere in this issue you see a sample of his pet hobby—cartooning.



A year ago Art Sortman, of the Detroit Engineering Laboratory, was in St. Mary's Hospital in a serious condition. From the photograph the value of the California sunshine, returning Art to his former good health, can easily be seen. We hope you will continue to find good luck in your fishing, Art, and permanent good health out there in San Bernardino.

Hubert Fossett, Engineer from our London office is spending a month on this side of the Atlantic. Considerable part of the time has been spent with members of the Safety Department in New York and he has also visited the Manufacturing Department, both at Deepwater and Baton Rouge. He also spent some time with our engineers at the Detroit Laboratory and with the Medical Department in Cincinnati. "Hugh" is the London correspondent for the "News".

We in the New York Division haven't any intention of being outdone by anyone in the company. Mr. and Mrs. Frank J. Stablein have a new lovely baby girl born Monday morning, September 12th. Her name is Nancy Ann and she weighed in at 8 lbs., 7 ozs. Frank, being our tractor engineer, has spent a good many hours out on the farm and in the wide open spaces. For a small fee he would be glad to tell anyone how they also can benefit from his observations.

The members of the Tulsa Division welcome Mr. Lynn M. Phillips, who joined our organization August 29th, 1938.

Lynn studied automotive engineering at the General Motors Institute of Technology, being employed by the Buick Motor Company of Flint, Mich. Upon the completion of his education at General Motors he entered the oil industry in the employ of concerns in Tulsa and Houston.

In 1933 he was recalled by General Motors and assigned to the experimental engineering department of the A C Spark Plug Division where he remained for three years as an assistant experimental engineer, working on the design of air cleaners and the bronze-lead motor bearings. In 1936, he re-entered the oil industry as assistant chief engineer of the Seismograph Service Corporation and Engineering Laboratories, designing both standard and special equipment for domestic and foreign drilling operations.

Lynn is thirty years of age, is married and has a four-year-old son. He will be assigned a territory in the state of Texas.



Yellowstone Native Suggests Ethyl

THE camera catches this Ethyl representative interviewing a native of Yellowstone regarding the use of Ethyl Gasoline by the tourist trade that pours through the Park every season. While his subject was apparently more interested in devouring a delectable bit of fruit he did pause long enough between bites to say that certainly any tourist who expected to climb the steep grades in and around Yellowstone should be using Ethyl Gasoline.

"Wally" which is the resident's name, further stated that "When cars come knocking and steaming, boiling and snorting over the hills they frighten me to the extent where even a good half pound of bacon will not interest me in making



friends with them; so put me on record as saying 'for better performance and a cooler run for your money, I am certainly for Ethyl.'"

Candid Shots at Kingston, N. Y.

By BILL PERRY

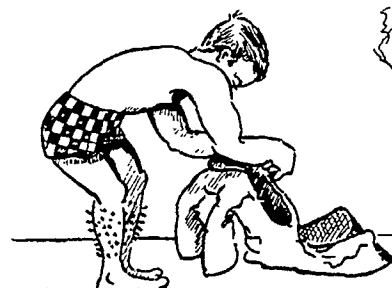
On Sunday, September 4th, 1938, at 3:20 A.M., Mr. and Mrs. Eugene F. Garnier, Jr., were presented with their first child—a daughter. This very important addition to the Garnier family will be named Barbara Anne. She tipped the scales at 7 lbs., 11 ozs. Gene, who is a member of our Accounting Department, received his Five Year Service Pin on September 1st of this year.

Congratulations are very much in order for Mr. and Mrs. Matthew A. Taylor of Boston who, on August 28th, added a third daughter to their collection. This newest member of the Taylor household will be named Patricia Ann.

Ed. Note: Pacific Coast Div. might go into a huddle with the Taylor's in an attempt to solve their over-production-in-males problem. (Sept. "News")

One John's loss is another John's gain. On Friday, September 2nd, 1938, Winifred V. Porter and John Alfred Sanders were married in Scarsdale, N. Y., thereby depriving John Schaefer of his charming and capable secretary. "Wyn" has been a member of the Ethyl family since 1934 and we're going to miss her a lot.

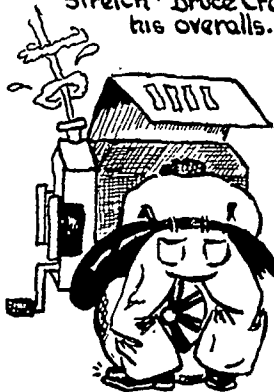
They will make their home in Gramercy Park, Manhattan, where they have taken an apartment. Our most sincere congratulations to you both — Mr. and Mrs. Sanders.



"Stretch" Bruce Crane dons his overalls.



Clinic Men Dick Covey Wears New Hat replacing \$10.00 panama stolen in a restaurant



"Tuneup" Frank Huyler can make anything run with Ethyl.



"Smiling" Bob Richardson Ace Conversationalist, has turned to amateur photography.

Bill Perry

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OCTOBER, 1938

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ETC 22047



*He flew
less than a mile*
**AND WON
50,000 FRANCS!**

SOUNDS like a lot of money for a maneuver that every pilot and plane makes regularly today—the “bank and turn.” Henri Farman pocketed this small fortune because he was first to prove it *could* be done. In 1908, he flew a measured French course of 500 meters, turned in air and flew back. He had accomplished the impossible!

Compare Farman’s historic flight with that of two Japanese who in May of this year flew a closed circuit course at Kisarazu Airport, covering 7,233 miles without stopping or refueling.

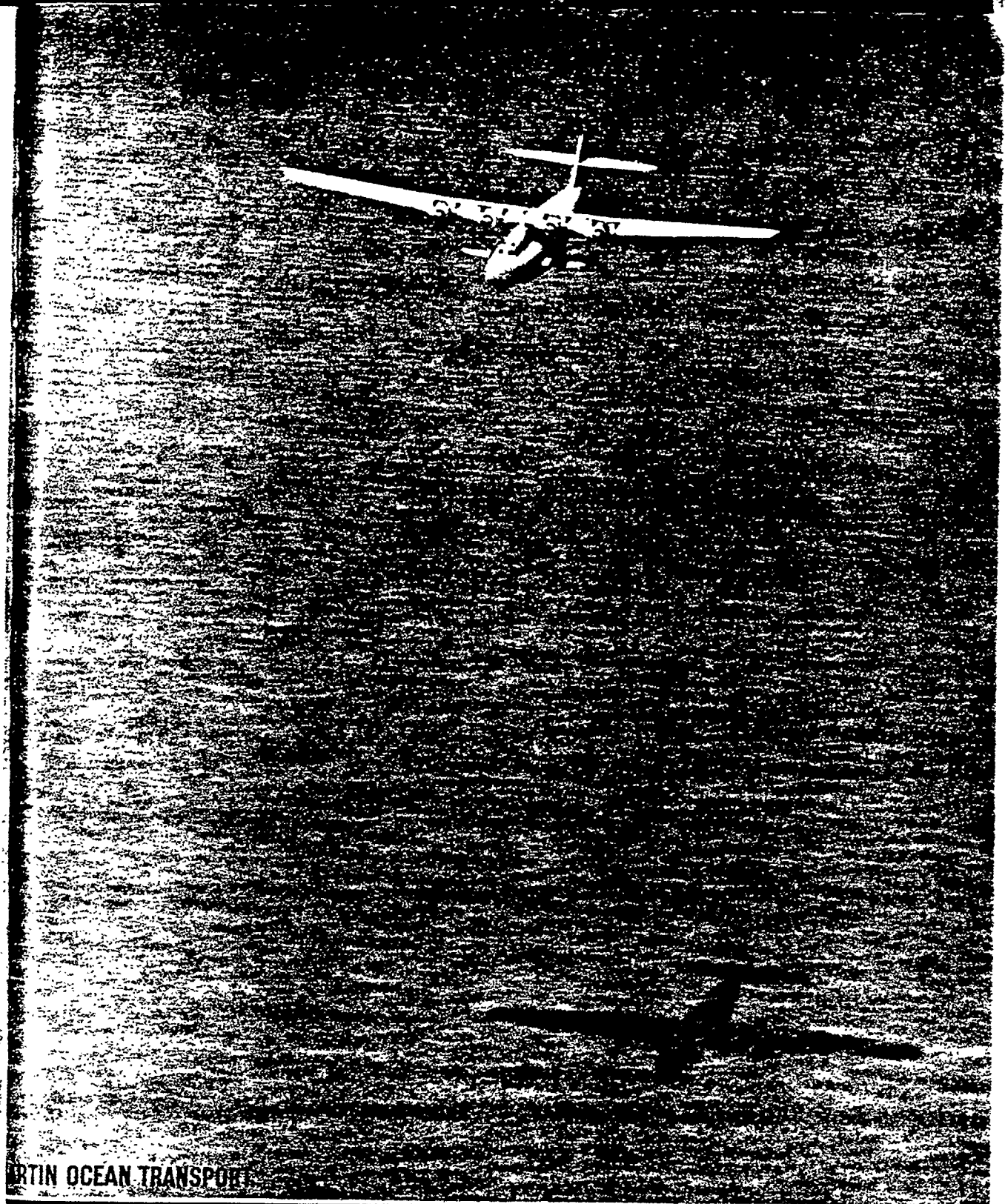
Through steady improvements of fuels and engines, aviation has conquered a hundred “impossibles” since 30 years ago.

What records will be broken in

the next 30 years cannot be predicted. But advances in aviation must continue to come from the steady improvement of fuel and engine. It is with this aim that Ethyl engineers are daily aiding in research so that aviation will always have available fuels that permit further progress. Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y.

Printed in U.S.A.

ETC 22048



MARTIN OCEAN TRANSPORT

GOVERNMENT
ETHYL

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fuels that
ess. Ethyl
, Chrysler
N. Y.

Printed in U.S.A.

IF EVERY ONE

If every one who drives a car could lie a month in bed,
With broken bones and stitched-up wounds, or fractures of the
head,
And there endure the agonies that many people do,
They'd never need preach safety any more to me or you.

If every one could stand beside the bed of some close friend,
And hear the doctor say "no hope" before that fatal end,
And see him there unconscious, never knowing what took place,
The laws and rules of traffic I am sure we'd soon embrace.

If every one could meet the wife and children left behind,
And step into the darkened home where once the sunlight
shined,
And look upon "The Vacant Chair" where Daddy used to sit,
I'm sure each reckless driver would be forced to think a bit.

If every one would realize pedestrians on the street,
Have just as much the right-of-way as those upon the seat,
And train their eyes for children who run recklessly at play,
This steady toll of human lives would drop from day to day.

If every one would check his car before he takes a trip,
For tires worn, loose steering wheels and brakes that fail to grip,
And pay attention to his lights while driving roads at night,
Another score for safety could be chalked up in the fight.

If every one who drives a car would heed the danger signs,
Placed by the highway engineers who also marked the lines,
To keep the traffic in the lane and give it proper space,
The accidents we read about could not have taken place.

And last, if he who takes the wheel would say a little prayer,
And keep in mind those in the car depending on his care,
And make a vow and pledge himself to never take a chance,
The great crusade for safety then would suddenly advance.

C. E. Weiser



ETHYL GASOLINE CORPORATION
CHRYSLER BUILDING
NEW YORK CITY

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VOL. 5, No. 10

Yearly Model Change Stabilizes Work in Automobile Plants

NEW models each year, improved to anticipate the public's developing desires, provide the greatest single factor contributing to the long-range upward trend of employment in automobile factories.

The policy of producing annually redesigned cars, for introduction at the National Automobile Show, results in giving more men more work per car today than a decade ago, despite the constant development and installation of new labor saving machinery by the automobile industry.

Had the industry attempted to stabilize production on any given models, manufacturing them year after year without material improvement or change, it would have brought about great displacement of labor. On a continuing standardized production, countless more machines of a highly automatic nature would be devised and no new operations would be created to absorb the displaced labor.

The resultant economy, however, might not greatly reduce the average cost of motor vehicles to the public despite the sacrifice of jobs.

As the greater proportion of automobile owners buy used cars, handed down by other purchasers, the true price of automobiles to the buying public is actually set in an active open market. This results in an average price level for good used cars far below any new car price the manufacturers would be likely to attain by long-range standardization.

When models possessing greater efficiency filter down to the secondary car market, the selling prices of the earlier models are reduced despite their continuing value for transportation. This tends to make available to the public a wide range of used automobiles of varying price.

What the annual model policy does in the factory may be explained simply: From the start of a year's production, each factory has engineers striving to cut costs by devising quicker, less difficult operations. Some of this work is elimination of lost motion, other involves substitution of improved machinery for that currently used or for hand operations.

Simultaneously other engineering groups under the same management are hurrying to perfect new devices, and superior factors of performance, comfort and durability for the following year's car. This second group, too, has its eye on costs, but its biggest task is to make sure that its product is not outbid in public favor by the styling and mechanical improvements which competitors, working—like themselves—behind a wall of secrecy, are also developing.

New equipment added each year to the models takes additional man-

(Continued on page 15)

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SERVICE AWARD



Ethyl Manufacturing Plant

BATON ROUGE, LA.

CONSTRUCTION work on the new Ethyl plant at Baton Rouge is still in progress and is scheduled to continue till March, 1939. Two tetraethyl lead buildings and an ethyl chloride plant have been completed and are in operation. Two additional tetraethyl lead buildings, an ethyl chloride plant, and a sodium plant are now being constructed.

This aerial photograph taken from the southwestern corner presents a panoramic view of the entire plant. The main entrance gate to the plant

is at the extreme right center, directly above the T-shaped building which contains office, laboratory and hospital facilities. Next below is the change house containing showers, locker-rooms, and laundry. The lines furnishing steam, gas and electricity are shown entering the plant at the lower right corner, just below the transformer substation.

To the left foreground below the road is the Blender building where the tetraethyl lead is mixed with other constituents and loaded to tank cars as Ethyl and "Q" Fluids.

The tank car loading spots are shown below the building, the exposed storage tanks for kerosene and ethylene dichloride to the right, and the enclosed ethylene dibromide storage tanks to the left.

Behind and to the right of the Blender the four parallel buildings are the tetraethyl lead units. The two in the foreground are in operation and the other two are still under construction. In the open space behind them a second ethyl chloride unit is being constructed. The buildings to the right of that space are temporary storerooms and shops used in construction and are eventually to be removed.

In the upper right hand corner is the ELA ethyl chloride plant, now in operation. The two "balls" at the very top of the picture are spherical tanks used for storage of ethyl chloride. They are about thirty feet in diameter.

At the extreme left center of the picture is the plant mechanical shop with the storeroom directly behind it and the garage, water tower and water cooling basin directly to its right. To the right and behind the water tower is the alloy building directly behind which is the row of tanks for the storage of metallic sodium.

At the top center in front of the woods is the sodium plant now being constructed. Finally in front of the woods at the extreme left are the enclosed tanks for storage of ethyl chloride.

A series of unfortunate circumstances have spelled hard luck for Colonel Roscoe Turner in his attempts at the National Air Races in Cleveland for the past two years. His perseverance was, however, finally rewarded last September when he lifted the coveted Thompson Trophy. After this successful accomplishment it was particularly gratifying to receive a telegram from the Colonel in which he said: "Ethyl Gasoline gave me the finest performance that I have ever experienced in the many years that I have been using your product. Motor ran exceptionally cool and delivered a very even flow of power enabling me to establish a new world's record."



Wood Esso Servicenter Tunes Up With Chassis Dynamometer



General view of Wood Esso Station.

MAY I fill your tank with Esso and tune your engine for this high quality fuel? The Wood Esso Station at Central and Munn Avenues, East Orange, N. J., can now give their customers this better performance and economy. A new Bendix-Feragen chassis dynamometer makes possible accurate engine adjustments under widely varied load conditions which is of vital interest to the motorist.

Mr. W. W. Wood, Manager since

July, 1936, is recognized as having one of the most modern service stations in the state. The Ethyl Tune-up Clinic activities and the assistance of Mr. W. F. Nixon, Ethyl's New Jersey representative, have enabled Mr. Wood to investigate the possibilities of giving his customers another important service. The result was this installation of a chassis dynamometer.

The Wood Esso Station's Automotive Engineer, Mr. L. DeLong,

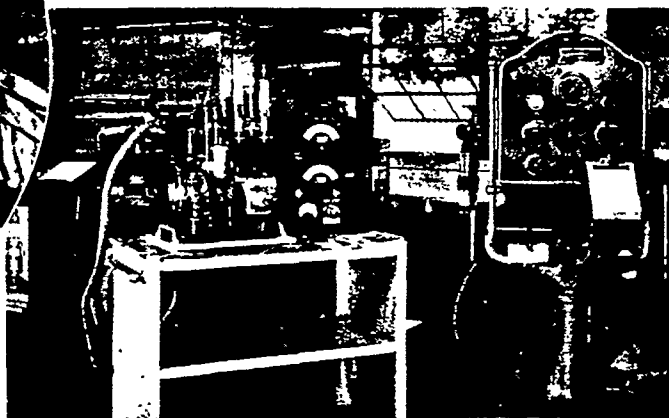
makes a complete engine analysis while the automobile is being operated on the dynamometer rollers under actual driving conditions. The owner can drive his own car and observe to his own satisfaction the improvement in performance and economy. Necessary ignition and carburetor parts changes can be made during the test.

The demand for Esso already has necessitated changes in the station pump facilities as the Esso ratio now exceeds all gasoline sales at the station. Standard Oil Company of New Jersey and Mr. Wood have recognized this fact by converting three more of the station's nine pumps to Esso, making six Esso pumps in all.



Mr. L. DeLong, Tune-up Engineer, checking performance of car on dynamometer.

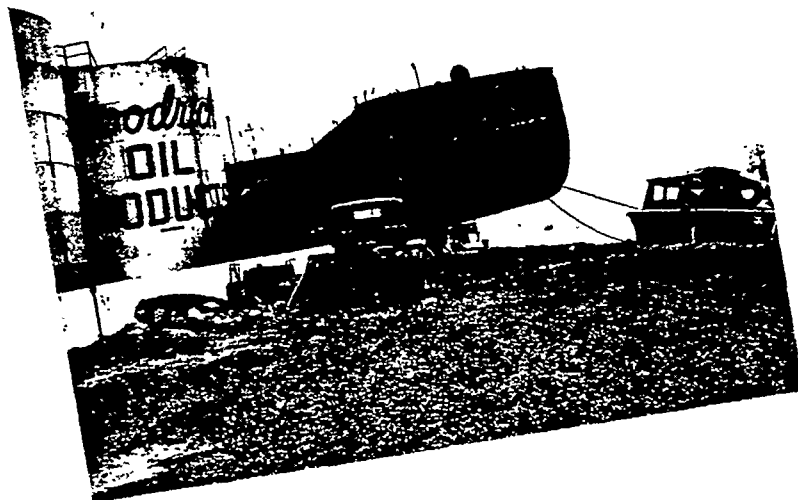
Ethyl demonstrating engine used to prove advantages of tuning up and disadvantages of tuning down. Dynamometer instrument panel recording automobile performance to the right.



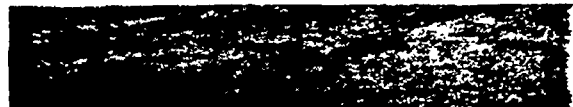


Flood conditions in Athol, Mass. The station in the picture is a Chevrolet dealer and a Socony account.

An idea of the damage caused by the river floods in Southbridge, Massachusetts. Scenes similar to this were common along the Connecticut River and in parts of Vermont, Western Massachusetts and Connecticut.



New England Swe



Point Street Bridge over the Providence River downtown Providence near the beginning of

On September 21st, 1938, New England suffered from the worst storm in its history—a combination hurricane, tidal wave and a series of floods. From southern Maine to southwestern Connecticut few communities escaped suffering heavy damage. Almost without warning, the forces of nature descended upon New England and spread disaster, leaving hundreds dead and injured, thousands homeless, completely destroyed or damaged countless buildings and caused millions of dollars in property damage.

Words can hardly describe the extent of the catastrophe. It is now estimated that over 600 lost their lives. Most of these deaths occurred along the southern shores of Massa-

This oil barge at her berth at the Goodrich Oil Company bulk plant on the Pawtucket River in Pawtucket, R. I., was tossed by the tidal wave onto the cement wall 24 feet above normal water level.



wept By Wind and Wave



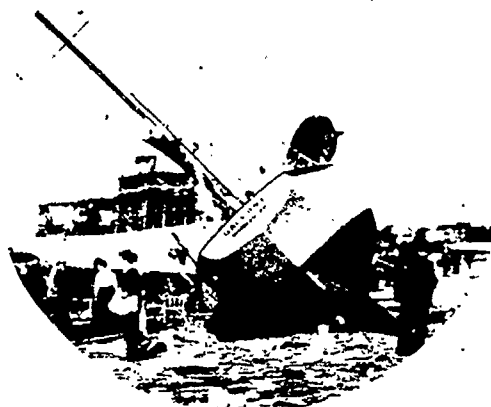
River in
of the

tidal wave. Most of the downtown area was
flooded with from 6 to 10 feet of water.

chusetts, Rhode Island and Connect-
icut, where the hurricane caused a
forty foot tidal wave. This huge
wall of water completely obliterated
many shore resorts and inundated
large sections of such cities as Prov-
idence, New London, Fall River
and New Bedford. Many people
died while attempting to reach safe-
ty and thousands were marooned in
office buildings. Hundreds of auto-
mobiles were caught in the rapidly
rising water. Practically all power
and lighting facilities were para-
lyzed along the coast as well as
inland.

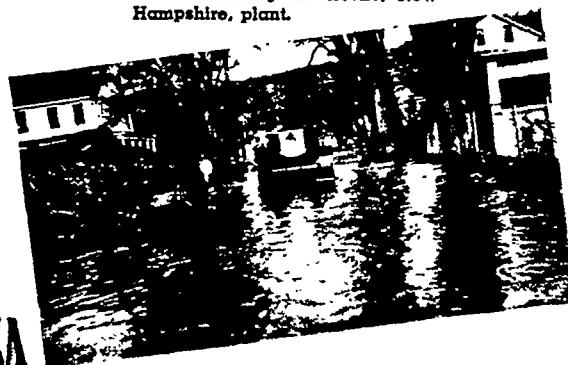
As the storm moved in from the
shore, its velocity was estimated at
around 100 miles per hour and at
the Harvard Observatory it was
measured at 186 miles per hour.

This tug operated by the Goodrich Oil Company, tried to
climb out of the Pawtucket River on the crest of the tidal
wave, nearly got clear of the water but fell back when
the tide receded. She was well above the dock at the
height of the storm.



Not only were many houses completely destroyed
by the tidal wave along the southern New England
Coast but hundreds of boats were washed ashore.
This picture taken at New Bedford, Mass.

In spite of high water and blocked highways, the
oil industry carried on to supply the gasoline and
petroleum products necessary for the rehabilita-
tion work. Tank truck leaving the Keene, New
Hampshire, plant.



Courtesy of "The Pawtucket Times"

NOVEMBER, 1938

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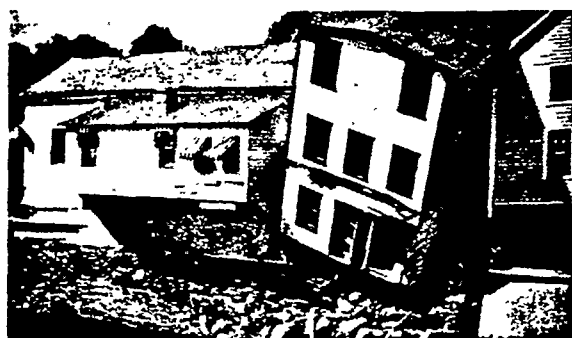
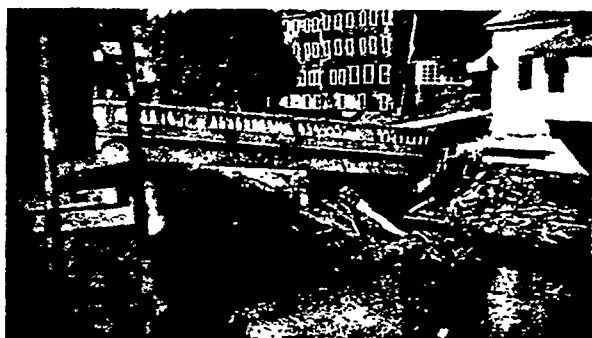


Street intersection in downtown Providence from the Journal Building, which is approximately a half mile from the water front. Almost the entire business section was caught in the tidal wave, motorists being drowned in their cars.

The wind alone did untold damage, flattening crops and orchards, snapping off or pulling up large trees by the roots, wrenching away miles of wires and demolishing signboards. It is reported that no less than 15,000,000 trees were felled throughout New England. As a result, approximately 300,000 telephones were out of service for a week or more and whole communities went without power or light for a similar period.

New England rivers, already swollen by three days of rain, were raised to flood heights washing out railroads and highways. Thousands were made homeless in Hartford and Springfield and many small towns were completely inundated.

Atlantic Station in Providence, after the tidal wave had receded, leaving two large coal barges on the station property. Three weeks later barges were still in the same position.

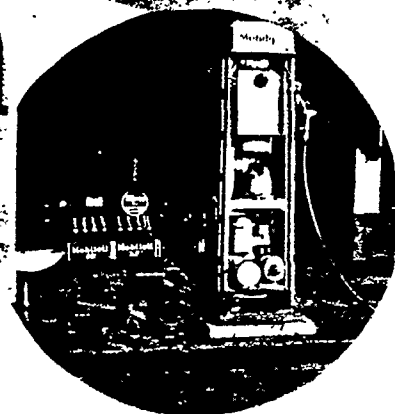


Damage was tremendous in many of the river sections of Vermont and Western Massachusetts. Bridge in Wilmington, Vt., after having been washed out; at right the damage done to an adjoining building.

The total damage from the storm is estimated at half a billion dollars.

Photographs showing the havoc created by the storm were at a premium. Especially "action" pictures in sections hit by the tidal wave. For that reason the accompanying illustrations picked up by the Ethyl representatives of the Boston Division do not begin to portray the full extent of the damage done.

The oil industry was naturally hard hit by the storm, blocked highways and crippled transportation facilities. The lack of power for electrically driven gasoline pumps resulted in many ingenious devices for pumping gasoline as will be seen by some of the illustrations shown here.



Cities and towns were without light and power for a week or more and many ingenious devices were employed to pump gasoline. Rear wheels of automobiles were jacked up, auxiliary motors were used and in some cases the rear wheel of a bicycle furnished the power, even the old pitcher pump was pressed into service.

Approximately 15,000,000 trees of all sizes were felled by the hurricane, many causing great damage

After



to adjacent houses as shown in this picture taken at Bradford, Vermont.

Before

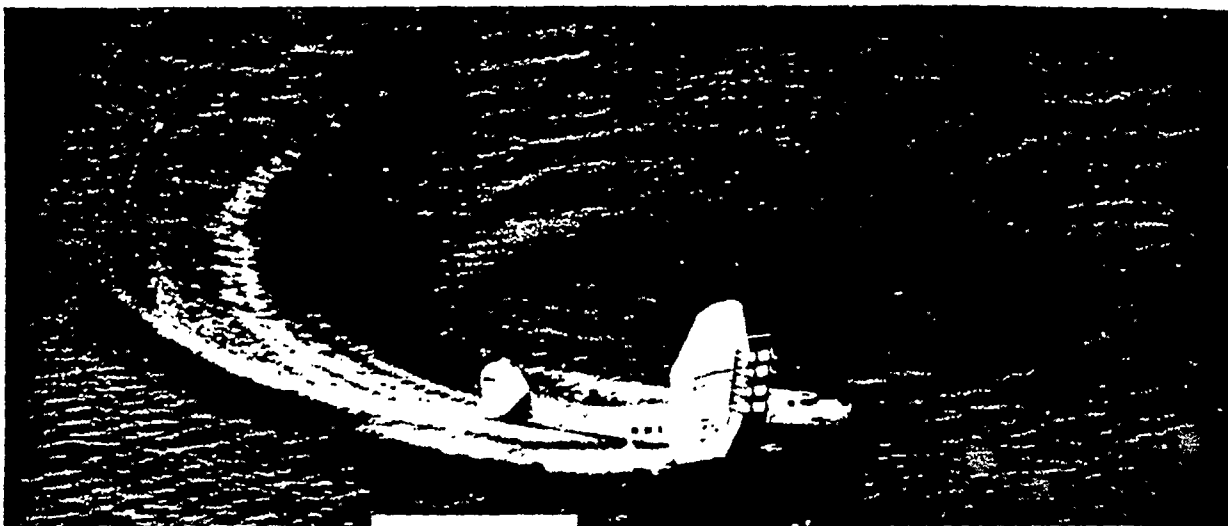


Before and after shots of the effect of the hurricane and tidal wave in Rhode Island. This Socony station, which was completely wiped out was located at Narragansett Pier. Note all that remains of pump island in center foreground.

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LANDSCAPE

Way back in 1912, when Glenn L. Martin made his epochal flight from Newport Beach, California, to Catalina Island, 31 miles out in the Pacific Ocean, setting a new distance record for over-water flying, it is hardly to be supposed that he envisioned the thrilling future that lay ahead of him.

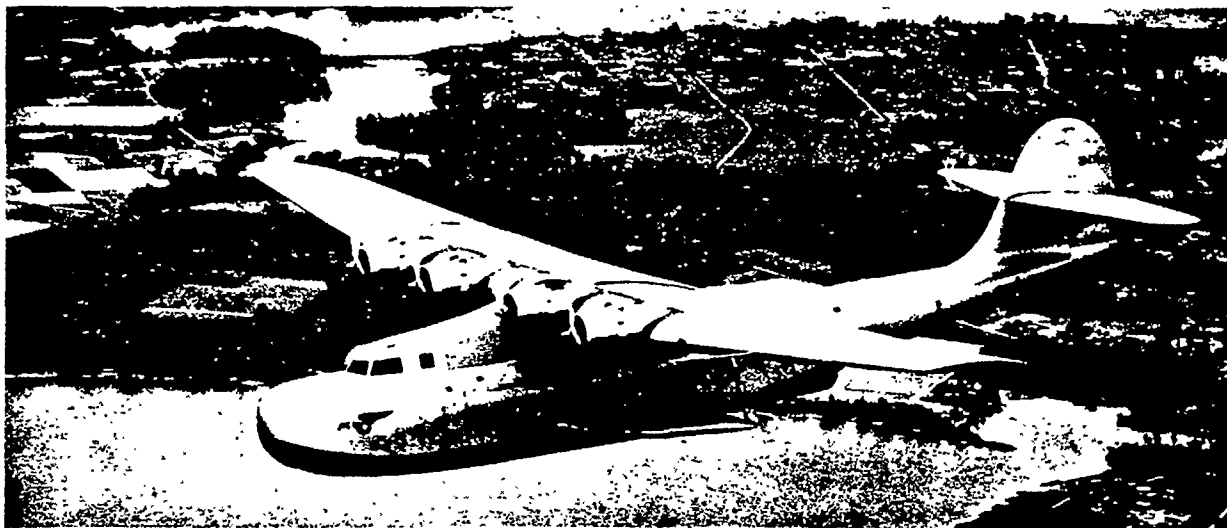
Even though he recalls that, twenty-six years ago, he believed that airplanes would some day fly across the Pacific and even though his present-day admirers assure their hearers that each step forward which he makes, is simply another chapter in a volume of accomplishment already in mind in those pio-

neering days, we laymen may excusably remain skeptical.

When we look at photographs of the Martin airplanes and The Glenn L. Martin Company's plant on the Eastern Shore, we are sure it will be agreed that the Facts of today far outstrip the Dreams of yesterday.

At Middle River, ten miles east of Baltimore, rises a group of buildings which, in impressive fitness to their needs, competent observers assert, have few rivals anywhere in the industrial world. The two illustrations at the foot of these pages will, we believe, support this claim. That at the left shows the lawn-fronted facade of the administration building; the one on the right a portion





and SKYSCAPE

of the main assembly hall. This latter structure is so large that three football fields could be laid out in it without a post or pier interfering. while the illustration at lower right shows a corner of the spacious engineering building. Artisans, engineers and executives, alike, can be expected to accomplish maximum results in such surroundings.

Above the plant-views, starting from the left side and proceeding clockwise around the pages, the photographs show successively — (1) Martin Ocean Transport Model 156, a flying boat of 157 foot wing-spread and 63,000 lbs. weight, loaded; (2) the Martin China Clipper "taxi-ing" on still water; (3) a close-up of the China Clipper in flight above Chesapeake Bay, near

the arm of the bay on which it was launched from the plant's own shoreline; and (4) Mr. Martin introducing "Wrong Way" Doug Corrigan to a mass-meeting of the Martin organization.

Those whose work is concerned with the less romantic subject of tetraethyl lead, can take thorough-going satisfaction in one fact connected with aeronautical progress. Without their chemical assistance, the accomplishments of modern aviation would be materially restricted. Competent estimates disclose that approximately 84% of all gasoline used for aviation fuel is ethyl-treated, graphic testimony to the reliance which both the designers and operators of aviation engines place in the product.



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Did You Know Some Cylinders In Your Car Are Under-Nourished?

WHEN it's dinnertime in an automobile engine, designers would prefer to have equal amounts of fuel fed to each cylinder. Actually, individual cylinders don't get equal portions under all operating conditions. Under certain conditions some cylinders receive more than the average, and under other conditions the same cylinders get less than their share.

One proof of unequal distribution is established by a new combination spark-plug and gas sampling valve, now in use in the laboratories of the Ethyl Gasoline Corporation. This device draws a sample of exhaust gas directly from an individual cylinder while the car is in operation. An analysis of this sample indicates the ratio of air to fuel in the charge which enters the cylinder.

In a typical eight-cylinder automobile engine tested by this method, the leanest cylinder had a ratio of 16.01 to 1. The richest had 11.56 to 1—a variation of 4.45 air-fuel ratios. Variations of this size may have a marked effect on the knocking tendencies of individual cylinders and on the overall knocking tendency of fuels in a given automobile engine. If all fuel were vaporized in the carburetor and manifold of an automobile engine, variations in air-fuel ratio would be nominal and have little significance.

The unequal fuel distribution is brought about in this manner: Air and fuel are metered by the carburetor and enter the manifold. The lighter fractions of the fuel are vaporized and distributed with air in substantially equal amounts to the cylinders. A part of the unvaporized heavy ends is entrained by the air and distributed fairly uniformly. The quantity of heavy ends so distributed becomes less as engine speed decreases and ap-

pears to be small at low engine speed where most knocking occurs. The remainder of the unvaporized heavy ends is distributed unequally to the cylinders. The quantity entering any given cylinder depends on the shape, cross-sectional area and inclination of the manifold, engine speed, surging of the mixture within the manifold and other factors.

Thus the effect of unequal distribution of fuel on knocking tendency is twofold: Different amounts of fuel reach the individual cylinders. The fuel entering the individual cylinders varies in composition and therefore in anti-knock value.

The laboratories of the Ethyl Gasoline Corporation have for years had this problem under active study and special instrumentation has been developed for the measurement of some of the variables. Extensive tests have been conducted both on the road and in the laboratory. Modifications of the laboratory knock testing engine have been made to simulate the effects introduced by differential distribution of heavy ends of fuels to the individual cylinders of the automobile engine.

This is how the new valve samples exhaust gases. The combination spark plug and gas sampling valve shown in the accompanying illustration is installed in the regular spark plug opening in the cylinder head. The small solenoid valve between the cylinder and the gas sampling tube has only a small movement and remains open for a very short period. Its operation is controlled by an auxiliary breaker mechanism mounted above the conventional distributor and driven by the distributor shaft. At the instant the points of the auxiliary breaker close, a condenser in the circuit discharges a relatively heavy current through the

solenoid coil and causes the valve to open momentarily. At all other times the valve is held in the closed position by the pressure of a coil spring.

The car is accelerated under the conditions prevailing in the road knock test and the valve allowed to operate only within the five miles an hour speed range of maximum knock intensity. From six to eight repetitions of the acceleration are required to fill the gas sampling tube to atmospheric pressure. The procedure is then repeated for the other cylinders.

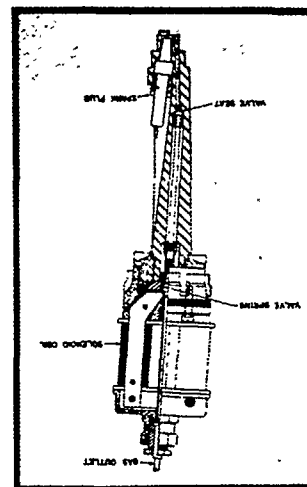


Fig. 3—This combination spark plug and gas sampling valve, which withdraws samples of exhaust gas directly from each cylinder, is used in studies of fuel distribution.

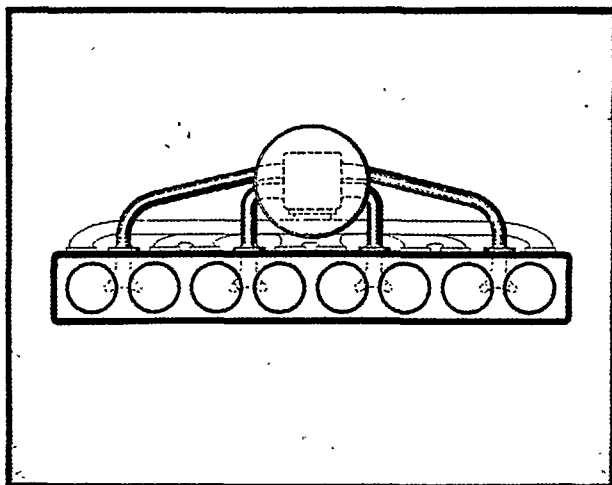


Fig. 1—Fuel distribution systems of modern automobile engines must be designed for best performance at high speeds and usually serve unequal amounts of gasoline to the cylinders at low speeds, where knocking most frequently occurs.

AIR-FUEL RATIOS OF THE MIXTURES IN THE CYLINDERS OF AN AUTOMOBILE ENGINE AT 10 TO 15 MILES PER HOUR

Atmospheric Temperature, 56° F.
Fuel of Winter Volatility. (Cylinder number shown above air-fuel ratio)

1	2	3	4
14.59	16.01	13.29	14.13
5	6	7	8
12.63	11.56	15.27	12.37

Average air-fuel ratio, all cylinders 13.6
Average for cylinders 1, 2, 7 and 8 14.4
Average for cylinders 3, 4, 5 and 6 12.8

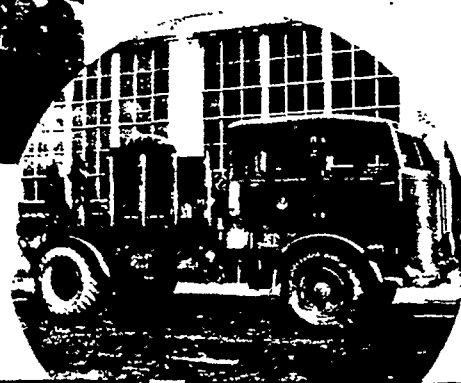
Fig. 2—This table shows how the cylinders of one engine were fed under conditions of low speed acceleration. Air-fuel ratios range from 16.01 at the leanest to 11.56 to 1 at the richest.



The National Refining Company's exhibit at the Washington County Fair, Marietta, Ohio, in September, made an attractive setting for the Ethyl demonstrations, which were conducted by Mr. H. B. Greenup of the Dayton Division. The En-Ar-Co Boy with a Slate on the left proclaims the Ethyl message while the one on the right reminds the public that "A Dollar Spent at Home Doesn't go Away." The paid attendance for the first two days was over thirteen thousand.



Mr. Stanford Siles (left) of Shoals, Indiana, flew his own plane to a meeting held by Ethyl's Chicago Division Motor Clinic. He operates a super service station on U. S. No. 50 in Shoals. The distance by road to the clinic in Terre Haute is about 100 miles but by air it is only 60. Mr. Siles started flying about 10 years ago and now holds a transport pilot license. He owns two planes and the one used on this trip made the flight in less than an hour and consumed only three and one-half gallons of fuel. Shown in the picture with Mr. Siles is Mr. Fred Ahrens of the Chicago Division of the Ethyl Corporation.



The Appalachian Electric Power Company of Charleston, West Virginia, is operating all equipment on Ethyl Gasoline. The trucks in particular are required to perform under most adverse load and road conditions. There are 123 units in the fleet. An eight-year record for no lost time or accidents won the National Safety News Award for this fine record.

A very successful meeting was recently held by Ethyl's Chicago Division Motor Clinic for the students of Rose Polytechnic Institute of Terre Haute, Indiana, one of the leading engineering schools in the Middle West. We understand that not only is this the first time an Ethyl Clinic has been host to the entire student body of a technical institute, but is the first time the student body of Rose has held an assembly outside of the college. Dr. Donald B. Prentice, the President, presided at the meeting, the demonstration being conducted by Clinic Manager B. R. Jones. Dr. Prentice is shown addressing the students from the stage.





Governor Cochran, of Nebraska, introduces Clinic Manager Cottrell to an Omaha audience on the Clinic's initial appearance in that city.

Nebraska's Governor Opens Ethyl Clinic in Omaha

CONTINUING its tour of the Kansas City Division, the Tulsa Clinic was introduced to the "White Spot of the Nation" by Governor Cochran of Lincoln, Nebraska, on the evening of Thursday, September 22nd, in Omaha. The Preview Showing was attended by 218 executives of the Oil and Automotive industries, together with officials of the State, County and City who heard Mr. Francis P. Matthews, President of the Chamber of Commerce, welcome the Clinic to Omaha and present the Governor of the State. Governor Cochran, an Engineer by profession, gave a very interesting talk on the advancements of modern transportation in Nebraska. He stated that he had seen the number of vehicles increase from fifty thousand to four hundred and fifty thousand and that any program which would result in increased efficiency for the motor operator would receive his indorse-

ment. Mr. H. E. Cottrell, Clinic Manager, was then introduced and conducted the meeting.

Through the courtesy of Chief J. J. Pscanowski, Omaha Police Department, Squad Car No. 9 was used for demonstration purposes on the chassis dynamometer. As the stage curtains were opened revealing the Cruiser Car on the dynamometer, the audience arose to its feet, indicating the keen interest that had been aroused by the introductory part of the program. At the close of the meeting, the Governor and the other assembled officials highly praised the program and offered their fullest cooperation during the stay in Omaha.

A few evenings prior to the Preview Showing, Mr. Cottrell had a rather unusual experience which may bear repeating: "The Man on the Street" radio program was in session as he, unaware of the fact, approached the crowded curb. The

street reporter inquired his name and handed him the microphone. On learning that his subject was from out-of-town, the reporter inquired as to what brought him to the "White Spot of the Nation". Seeing an opportunity to give the Ethyl Gasoline Corporation some good publicity, Manager Cottrell gave a short explanation of the purpose of the Clinic, its location, personnel and length of stay scheduled for Omaha.

One can imagine the surprise that Messrs. Rollin Barnes, Automotive Engineer, and Dale Miller, Junior Engineer, received when they heard the familiar voice on the air. Mr. Barnes was by chance contacting the Pontiac Dealer in Omaha while Mr. Miller was in Council Bluffs, Iowa, calling on the Hudson-Terraplane Dealer in regard to Preview of the Clinic and in both places the radio happened to be turned on.

From Strawberries to Oil

THE oil industry in Illinois cannot be called an "infant industry". Actually it started when oil was discovered in Clark County in 1865 but drilling difficulties were encountered and the wells were abandoned. Today the most important center of oil activity in the area is probably Centralia. Although oil was first reported there in 1908,

when it was found seeping through a fault in a coal mine, it was something quite apart from oil for which the community acquired fame. It was known as the "Strawberry City" of Illinois but when now an enthusiastic citizen tells you it is the "Tulsa of the future", he perhaps should not be accused of exaggeration.

The new Oil Boom in southern Illinois may lack some of the romance and color of the old wild catting days but there is plenty of excitement down that way. If anybody doubts it, let him try to get a hotel room in Centralia, Olney, Flora or Vandalia. It is a trailer center now, and if one can't bring his room with him, he gets hotel space 30 miles

away, for Illinois has jumped from 11th to 6th place in the production of oil—June found her second only to Texas in new locations.

Since the first well in the new oil basin came in, in January, 1937, 1,083 have been brought in and 75 thousand acres are under lease, in Randolph county alone, to major oil companies. Never before has there been such widespread drilling in the State. There are over 14,000 producing wells in the Illinois basin, the average producing 40 to 50 barrels a day; and a few as many as 500 barrels.

This puts plenty of gusto into the town life of the area. Back alley garage men are doing a humming business welding oil equipment. There is a plentiful scattering of Oklahoma and Texas auto licenses, which means active selling of drilling equipment and visiting outsiders have increased the population of Centralia 25%. This all creates plenty of optimism. While you're getting your hair cut the barber may tell you that his farmer parents have leased their land to an oil company and are enjoying an ease and income such as they haven't known in all their hard-working years. Lease conditions permit holders to hold leased territory for a maximum period of ten years.

Credit for pioneering in the development of these new oil fields goes to the Pure Oil Company. The geological department of that company thought there might be unmapped Illinois basins when oil was discovered in Michigan near Muskegon in 1937. In mapping a cross section of Illinois from Lawrence-



An airplane view of a section of the highly developed Centralia oil fields.

ville to St. Louis, disturbances in the Flora-Olney area were noted. A torsion balance survey was made in 1930. Nothing more was done until 1935-1936, however, in April, 1936, 280,000 acres were leased. Drilling was begun at Cisne, Wayne County, and at Clay City in Clay County in December following. Oil was discovered in both areas. Pure Oil then brought the first rotary rigs ever used in Illinois and began their operations.

Illinois history was made when the Bunny Travis well was put down at Clay City in May, 1937, with a production of over 2,600 barrels of oil in the first 24 hours. By the end of the year there were 112 producing wells over a strip 20 miles in length.

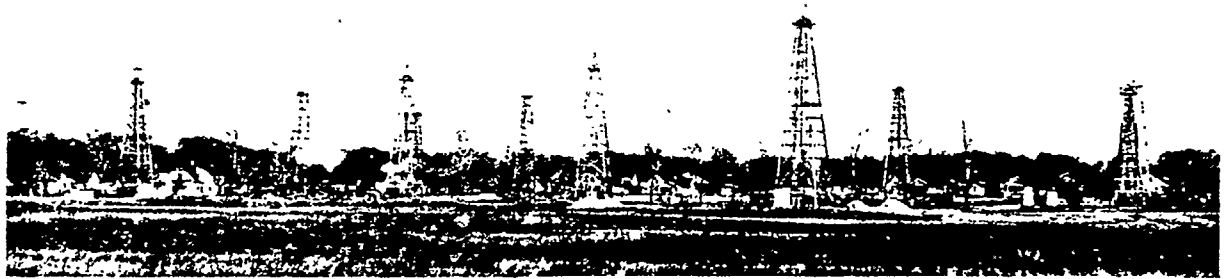
Romance as well as oil history is in the making. To one family, at least, whose eighty acres are being leased by a major oil company, it is an event which was prophesied

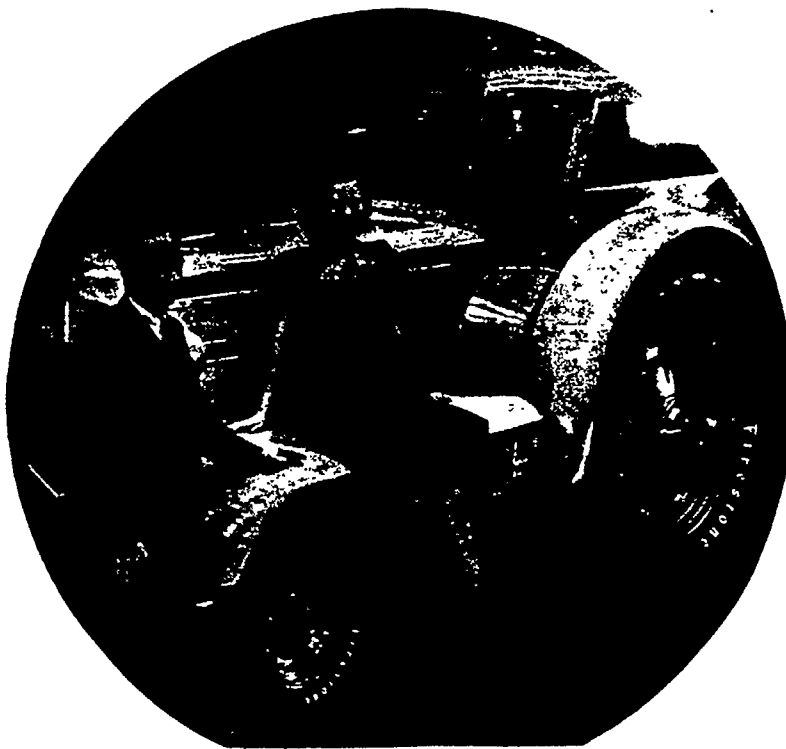
many years ago by a gypsy fortune teller. The old Romany told a member of this family that there was "treasure" under her house and that some day it would make her rich. Hopeful digging from time to time on the part of the children failed to reveal any hidden gold, but time has made the prophecy come true.



Inspecting shale at the first well of the Chicago Burlington and Quincy Railroad in the Centralia district.

Oil derricks dot the landscape of the Centralia oil fields. This is on one of the town lot sections.





type seats, speedometer and radio—if you wish. It is complete even to cigarette lighter, windshield wiper and hot water heater. The operator of this tractor, designed to handle four plows, has at his command five speeds, permitting it to crawl or speed away at 40 miles per hour on the road.

It very well may soon be a common sight to see a farmer and his wife driving into town for the motion pictures in this sporty vehicle. Its graceful appearance will also win the admiration of the more youthful members of rural America and, we will venture, you will soon see them parked along country roads in the moonlight.

The new Comfortractor seems to have as much appeal for Miss Minnie Moline as a new sport coupe. Beside her stands MM's Pres. MacFarlane.

Minneapolis-Moline 1939 Comfortractor Makes Its Debut

HERALDING a new era of tractor comfort for American farmers is Minneapolis-Moline's appropriately named Comfortractor. Even the modern farmer-ette is as proud of it as if it were a new sport model coupe for this stream-lined tractor is the last word in farm equipment. Resembling an automobile at first glance, particularly the cab arrangement, it boasts of many refinements heretofore found only in passenger cars. It has a self-starter, modern high compression engine designed to burn "70" octane gasoline, safety glass, Bendix brakes, headlights, utility spot light, tail-light, stop-light, imitation leather covered automobile

Regardless of its aristocratic appearance it willingly replaces the old plow horse.



THE Ethyl Motor Clinic of the Atlanta Division opened its doors for the first time at a preview in Knoxville, Tennessee, on the 14th of September, which was attended by 152 people prominent in the oil and automotive industries located in the eastern part of the state.

On behalf of the City of Knoxville, the Clinic was welcomed by Judge Harry T. Poore who is head of the Knoxville Automobile Trades Association and President of the East Tennessee Automobile Club. A short talk by Ethyl's Atlanta Division Manager, Joseph A. Costello, preceded the meeting, the balance of the program being taken over by Mr. J. G. Martin, Director of Ethyl's National Clinic program.

Mr. Martin also remained in Knoxville to conduct the first three meetings, which in addition to the preview, included showings for the Gulf Refining Company and the Chevrolet Motor Company.

At the Gulf meeting which was attended by 150 dealers, there were several who made a round-trip of more than 200 miles to be present on the occasion. Another Gulf distributor secured a bus and brought in a number on a trip which required about 150 miles of driving.



At the Knoxville Preview of Ethyl's Motor Clinic. From left: Mr. Pruitt, Atlanta Div. Clinic Manager; Judge Poore, Pres. Knoxville Auto. Trades Assn. and East Tenn. Automobile Club; and Mr. J. G. Martin, Director of Ethyl Motor Clinics.

Knoxville Gives Its Approval of Motor Clinic

The Chevrolet meeting was held the following night and one of the results of this was an order for an Ethyl pump to be placed in the garage of a Knoxville Chevrolet dealer. Another indication of the interest which the Atlanta Clinic aroused was the installation of an Ethyl pump in place of the former regular grade pump serving a large local oil company's trucks and passenger cars.

The Knoxville showing concluded on October 18th, during which time more than 34 meetings were scheduled. Following this engagement the Clinic moved to Shreveport, La., where it will be located at 300 Spring Street until approximately December 1st.

The Clinic staff includes Messrs. Jack Pruitt, John Murphey, Stuart Forbes, Roderick McKenna and Joseph Williams.

Ethyl Visits National Capital

WITH much of the same color and ceremony that attends a Congressional opening, the Baltimore Clinic made its debut before the Capital City on Friday, October 14th.

It would be a difficult thing for one to even hazard a guess as to the results accomplished by this meeting in view of the fact that the potential gallonage represented by those attending was well up into the millions. The Procurement Division of the U. S. Government who yearly handle some one hundred and fifty million gallons of gasoline was represented by the chief of the fuel division, Mr. G. S. Pope and his staff. In addition to these gentlemen, representatives of

the Army, Navy, Bureau of Aeronautics, Agriculture Department, Bureau of Standards, Lighthouse Department, Civilian Conservation Corps, Society of Automotive Engineers, District Managers of the various customer companies and Automotive groups were present. As an additional feature, Diplomatic Representatives of five foreign countries saw and heard the story of Ethyl Gasoline.

It was indeed an unusual sight to see gathered together such a group of important representatives of the Federal Government. Judging from the comments heard after the preview, the Clinic's stay in Washington should do much to carry the Ethyl program forward.

Yearly Model Change Stabilizes Work in Automobile Plants

(Continued from page 1)

hours to make, frequently displacing machinery previously used.

This constant conflict between forces working for economy and forces working for improvement has resulted in both winning almost continuously. With the exception of increases made necessary in late 1937 by the simultaneous skyrocketing of wage rates and material costs, the trend of prices to the consumer has been consistently downward, while quality advance has not faltered.

from "Automobile Facts."

NOVEMBER, 1938

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ETC 22065



On New York's Waterfront. Taken at Downtown Skyport by Gertrude L. Curtis (see Newsbriefs, Oct. 1938) with a Leica F 2. Pigeon feeding is a favorite New York pastime and the pigeons like it too. The buildings in the background are Brooklyn's skyline.

A Modern Fable

Author Unknown

ONCE upon a time there was a farmer who sold two chickens. With the proceeds he bought two shirts.

So the farmer had two shirts and a city man had two chickens.

Then came along a wise man who told the farmer he should get more money for his chickens by making them scarcer—he must not raise so many, and then he would get more income. He also told the workingman in the city that he must work

fewer hours and get more money for making fewer shirts. That, of course, made shirts cost more.

Then the farmer brought one chicken to market. He got as much money for it as he had previously gotten for two chickens. He felt fine. He went to buy some shirts, but he found that shirts had also doubled in price. So he got one shirt.

This, boys and girls, has been called "The More Abundant Life."

We often read of the trouble experienced by the large air transport companies in keeping their stewardess personnel intact. Recently the Kansas City



Division experienced a similar situation when its unthinking automotive engineer, Art Johnson, convinced Sue Gillum that there was a better future with him than if she stayed with the company.

The happy couple is now accompanying Clinic No. 10 of which Art is the automotive engineer. In spite of the fact that the routine of the office

NEWSBRIEFS

was sadly disrupted, we wish Art and Sue all of the happiness possible.

Mr. and Mrs. C. H. Johnson announce the birth of an heir, Paul Leroy Johnson, on September 10th, 1938. Specifications have not been reported as completely as for some of the competitive Ethyl arrivals, but we are advised that Paul Leroy weighed seven pounds nine and one-half ounces at birth. The announcement cards, like those for a new car, claimed full equipment for the model. Bud is one of the oldest employees in service with the Manufacturing Department, having been with Ethyl since July, 1926. We all offer our sincerest congratulations.

We might add that brother Paul (Kansas City Div.) may now have to do less

A Safety Engineer has many perplexing problems but Mr. N. D. Siebenthaler, who holds that position in Ethyl's Dayton Division, is still puzzling over a recent problem that he successfully solved. Upon examining the Ethyl tank car blending unit of one of the Company's customers who had reported a loss of vacuum and its accompanying difficulties, Mr. Siebenthaler finally traced the trouble to the air vent valve. This valve is situated within the blending house but connects to the outside atmosphere through a 20 foot length of two inch pipe extending vertically through the roof where it branches out like a letter T but with the ends of the arms turned down to avoid catching moisture. In dismantling the valve he found resting on the seat a bird's nest containing one small blue egg. Removing this solved the mechanical difficulty but what Mr. Siebenthaler cannot explain is how a robin could enter the two inch T, work its way down a 20 foot pipe, build a nest, lay an egg and get out again.

The Following Service Award Has Been Made as of November 1, 1938

FIVE YEARS

Fred L. Rossman
Detroit Engineering

crowling. The June issue of the "News" bore reference to the obligations of defeated contestants and to the disappointing manner in which Paul was receiving returns. We have a notion that brother Paul's profits are dwindling. Looks like Bud beat you by two pounds four ounces plus!"

On Friday, October 1st, 1938, Mr. and Mrs. Irvin O. Wolf of Richmond, Va., were presented with their second son. The only available details from our Baltimore Division, of which Irv is a member, is that young Master Wolf will be called Skippy. Our sincere congratulations to the proud parents.

ETHYL NEWS

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George G. Pearce, who has recently joined the Dayton Division, is a native of Terre Haute, Indiana. He is a graduate of Shortridge High School, Indianapolis, Class of 1928, attended DePauw University at Greencastle, Indiana, and is a member of Phi Delta Theta National fraternity. He graduated from Purdue University, School of Mechanical Engineering, with B.S.M.E. degree in June, 1932, and was elected to membership in Tau Beta Pi, honorary engineering fraternity. Since graduating from Purdue, George has been with the McCray Refrigerator Co. of Kendalville, Indiana, as Sales Engineer; General Electric Co. Air Conditioning distributor in Indianapolis as Sales Engineer and later as Chief Engineer; Iron Fireman Stoker Co. of Indianapolis as Sales Engineer; Carrier Engineering Corp. as dealer contact man in New York City and New England and Airtemp Construction Corp. in Detroit.

George married Miss Janis Dalrymple of Mount Gilread, Ohio, on January 1, 1938.



The Chicago Division announces that John W. Pauli, their tune-up engineer on Clinic No. 9, who joined the corporation in March of this year, had to become a candid camera fan before they could get a picture of him. When John reached the peak of his enthusiasm for candid camera work he took his own photograph which is shown herewith.

For the past twelve years John has been associated with numerous United Motors Service Stations in and around metropolitan New York before starting with the New York Clinic. Later he was transferred to the Chicago Clinic. John is married and has a daughter two years old. His pet peeve is the man who says: "I just got new 'needles in my carburetor'."



We welcome Gerald Meyer to the Administration Department in the Graybar Building. Gerald has had three years of high school, is eighteen years old and this is his first position. He lives in Great Kills, Staten Island, Tennessee is his favorite hobby.

We welcome to the Ethyl family Miss Wilma Hansa who has joined the Accounting Department as Stenographer and File Clerk. Wilma is a graduate of the Packard Business School and her last position was with B. T. Babbitt, Inc., as secretary to the Advertising Manager. Her home is in Great Kills, Staten Island, where her leisure time is spent indulging in her pet hobby which is gardening. The fresh flowers on her desk each day are convincing evidence that she has graduated from the novice class.

Another new member of the Administration Department is Howard J. Costello who has assumed the duties of Cost Accountant. Howard is a graduate of Pace and Pace and was formerly associated with P. J. Daley Co., and W. J. Maloney. He is married, has a nine-year-old son and makes his home in Fort Lee, N. J. His favorite form of diversion is golf.



For the past three months Fred Nixon has been calling his expected baby by a nickname. "Butch", as he was sure it would be a boy. Instead, Mrs. Nixon gave him a fine baby girl, Jane Malvia. 6 pounds 9 ounces, who arrived October 19th. It would be very unfortunate for the name "Butch" to pass into oblivion so the boys decided Fred's new name will be Butch Fred Nixon. Don't forget to call him by his new name.

We welcome to the Ethyl family, Joseph E. Williams, Property Man on the Atlantic Clinic, who joined the Sales Division on August 29th, 1938. Joe is a native of McDonough, Ga., and went to prep school at Monroe A & M, Monroe, Ga., where he was a star guard on the football team. Later he attended Emory University in Atlanta for two years, continuing his football and baseball and adding his tenor to the college glee club. He is a member of Phi Delta Theta Fraternity. Prior to his present position, Joe was in the Advertising Department of Wofford Oil Co., Pure Oil affiliate in the southeast. Up to the present moment he is unmarried.



Presenting Mr. and Mrs. John Edward Hendrick. Mrs. Hendrick is the former Miss Joan Wiewell of Edinburg, Texas, and she and Ed were married quietly on Monday, September 5th, at the home of Mr. and Mrs. Dan M. Guy in the presence of the Dan Guys and the Herschel Medlins, of Tulsa. The bride and groom will live at 5403 Ross Avenue, Dallas, Texas. We wish them the very best of luck and many years of happiness. Ed has been a member of the Tulsa Division for the past five years.



On October 6th, 1938, Mr. and Mrs. John P. Dooher celebrated the arrival of a six and one-half pound son, Pat, by passing around cigars. Jack, who has been with us since February, 1937, is a member of the Administration Department. Congratulations. Mr. and Mrs. Dooher.

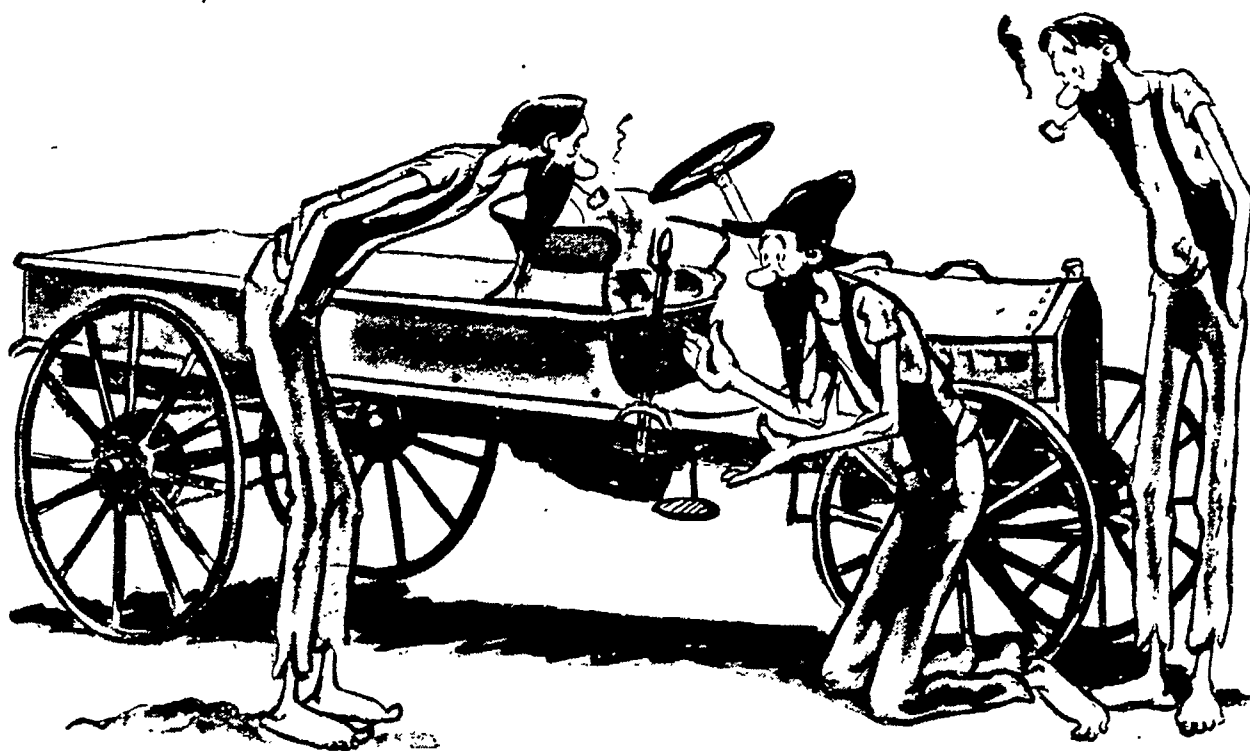
Bill Heck took this snapshot of Ethyl's Chicago Division Manager, Jim Boudreau, just after he received the report that Ethyl sales for the first six months of 1938 were 30.8% over those for 1937.



Grahame Denham of the Manufacturing Department was married on August 27th, 1938, to Miss Emma Murdock of Pitman, N. J. Grahame has been at the Deepwater plant since October, 1937. Our heartiest congratulations and best wishes are extended to the newlyweds who are making their home in Pitman.

We welcome to the Ethyl family Thomas J. Davis, who recently joined the Manufacturing-Traffic Department at Deepwater, N. J. Tom has been engaged in the traffic field for the past fifteen years principally on the railroad side of the fence, being connected with the Chesapeake and Ohio Railroad at Richmond, Virginia. More recently he was with the Trunk Line Association, a railroad clearing house in New York.





"S'pose she'd run on coal oil, Luke?"

SURE SHE WILL, Luke, if she can run at all. Fact is, most any automotive vehicle will run on most any petroleum fuel, if she'll start and if you don't care *how* she runs.

What's that? You want performance, economy, fast schedules from a modern high compression engine? That's different. Then *good gasoline* is the answer.

How do you know good gasoline? Ask about volatility—at what temperature vaporization begins, at what

temperature the gasoline is completely vaporized. Ask about vapor pressure—how many pounds per square inch. Unless the vapor pressure fits your operating conditions, you may get vapor lock and a stalled motor.

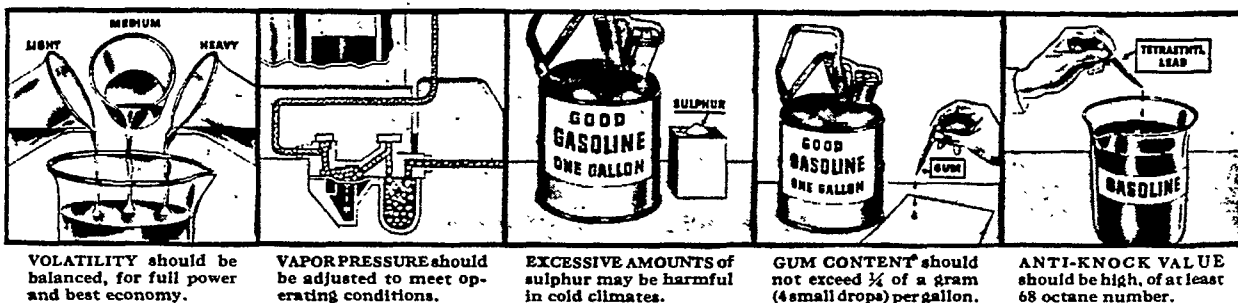
Ask about gum content and harmful sulphur content and make sure they're low. Ask about anti-knock value, and be sure that's high.

When you buy gasoline with "Ethyl" or regular gasoline contain-

ing tetraethyl lead, you're sure you are getting high anti-knock value. These fuels measure up on the other points and give you the power and economy the manufacturer of your vehicle intended you to receive.

If you have further questions, write or get in touch with the Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y., manufacturers of anti-knock fluids used by oil companies to improve gasolines.

5 RULES FOR GOOD GASOLINE



VOLATILITY should be balanced, for full power and best economy.

VAPOR PRESSURE should be adjusted to meet operating conditions.

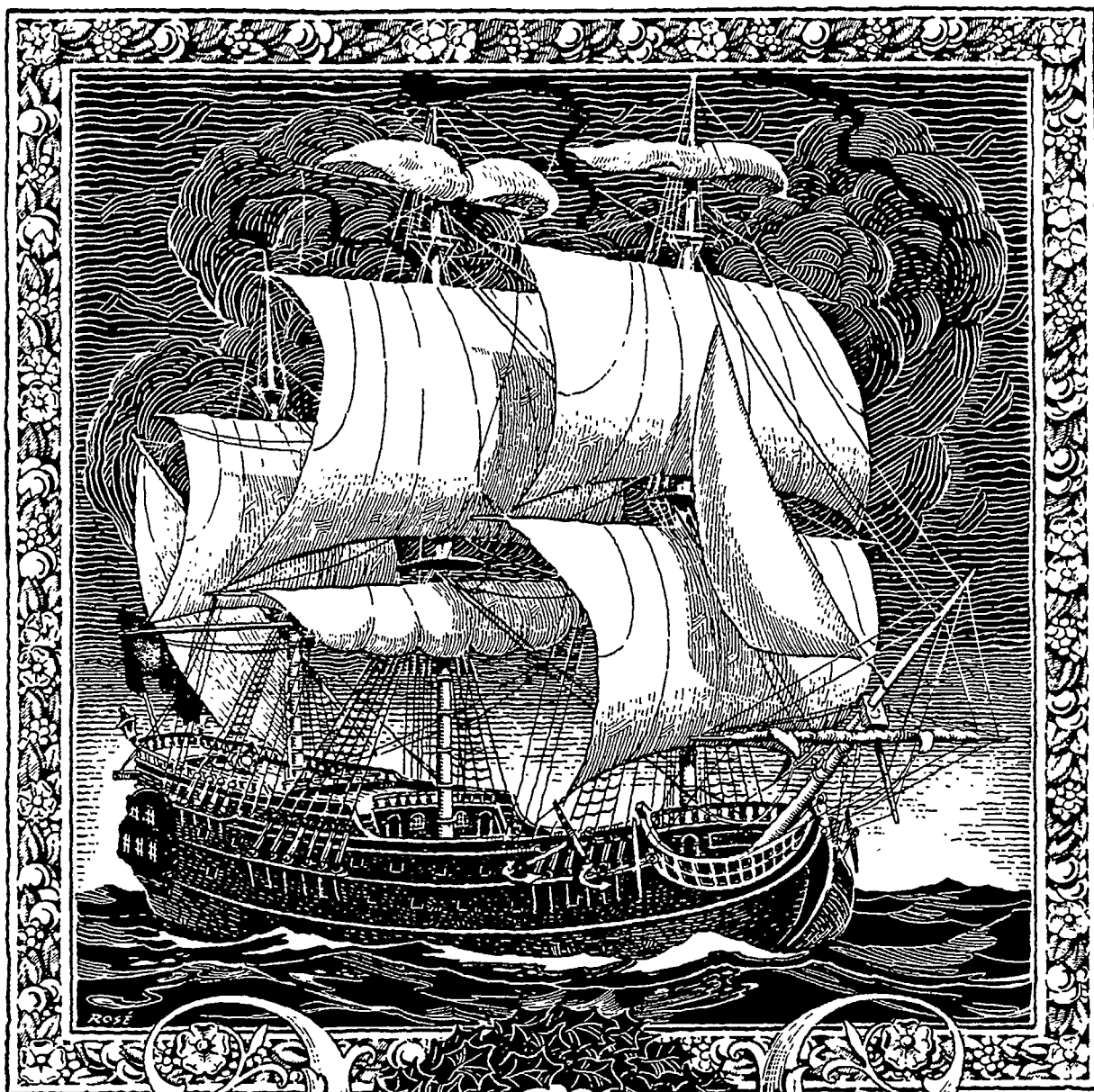
EXCESSIVE AMOUNTS of sulphur may be harmful in cold climates.

GUM CONTENT should not exceed $\frac{1}{4}$ of a gram (4 small drops) per gallon.

ANTI-KNOCK VALUE should be high, of at least 68 octane number.

THE BETTER THE GASOLINE THE BETTER THE PERFORMANCE

ETC 22068



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The Season's Greetings

To all members of the organization

I wish to avail myself of this opportunity to extend to the employees
of this Company an old but difficult to improve upon salutation:

A Merry Christmas and a Happy New Year

E. W. Webb



ETC 22070

Mr. Kettering Looks Ahead



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NEW YORK CITY

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VOL. 5, No. 12

"WE have a wonderful future ahead of us in any line of business today if we will just lift the lid and say we know so little about anything."

This was the keynote of an address by Charles F. Kettering, Vice President of General Motors Research and the man responsible for the discovery of Ethyl, at a luncheon in the Waldorf-Astoria given by Mr. Alfred P. Sloan, Jr. Mr. Kettering's talk centered on the theme of "The Motorcar in the World of Tomorrow" and his audience was made up of some 400 industrialists, bankers, leaders in the motorcar industry, editors, publishers and civic leaders.

"We are just learning about steel," stated Mr. Kettering. "We are just learning about rubber, we are just learning about oil; and the reason I have taken a little time on the subject of a growing plant is that that is the place where the sun contacts the earth, and some of its energies stay and we need to know how it is done. But it is all before us.

"We have got to open up a new field, and there are thousands of new fields standing waiting."

Stressing our lack of knowledge by pointing out that we do not know how the leaf of a plant obtains its energy from the sun, he said:

"The greatest receiving set is the leaf of a plant, and if it wasn't for that leaf you wouldn't be here, you wouldn't have automobiles or anything else, and yet today in this age in which we call ourselves scientific, we know just exactly nothing about how the leaf of a plant is able to pick up the radiant energy from the sun and convert it into new chemical compounds.

"You know we hear a great deal about technology unemployment and technological development. Because I have been in that business all my life I can speak freely without hurting my own feelings.

"We have today a very unusual condition in this country where we have an excess of materials, excess of money and excess of men. Now, all that can mean to a primitive mind like mine is that we haven't got any projects. Which means that we are technologically behind and not technologically ahead. If we could get the idea that we know very much about anything out of our minds, and that the whole thing is ahead of us, then I think we could have a shortage of labor in a short time. People right away would say, 'What are you going to do?'

"I don't know. Any place you pick up you could start, because we don't know very much about anything and I have come to the conclusion

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THREE OUT OF FOUR
ALBERTA GATHERS RICHEST CROP IN DECADE
YOSEMITE TRANSPORTATION COMPANY GIVES LUXURY RIDE
ETHYL BECOMES "DAUGHTER OF THE REGIMENT"
ONLY ONE FUEL LEAVES THE PUMP.
HOW MANY ENTER CYLINDERS OF YOUR CAR?

HIGHWAY LIGHTING IN ONTARIO
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SOCONY VACUUM'S "FLYING RED HORSE" SOUND CAR TUNED FOR ETHYL
NEWSBRIEFS

GOLDEN GATE EXPOSITION P

WHEN the doors of the Golden Gate International Exposition on Treasure Island in San Francisco Bay are thrown open February 18th, a magic man-made city will be revealed to the world.

Housed in the majestic buildings surrounding the great central "Tower of the Sun," 400 feet in height, are to be thousands of exhibits, gathered from this and scores of foreign lands. Outstanding among these will be the exhibit of the Golden Gate Exposition Petroleum Exhibitors, Inc. It will occupy an area of 40,000 square feet and promises to attract universal attention, not alone for its architectural beauty but from the fact that it represents the combined efforts of the leading oil companies in the West who have united to create an exhibit which will live in the minds of those who

see it. At a cost of over 300,000 dollars the Petroleum Exhibitors are presenting a display which portrays the magnitude and import of petroleum and its vital influence upon modern life.

It is to be located inside the main entrance to the Vacationland Building and will consist of a massive panorama of animated units. The two sides of the exhibit will show colorful dioramas depicting the history of petroleum from prehistoric times to the present day. There will be a spacious theatre for presentation of motion pictures, puppet shows and other entertaining features, and a model home emphasizing the myriad household uses for petroleum products.

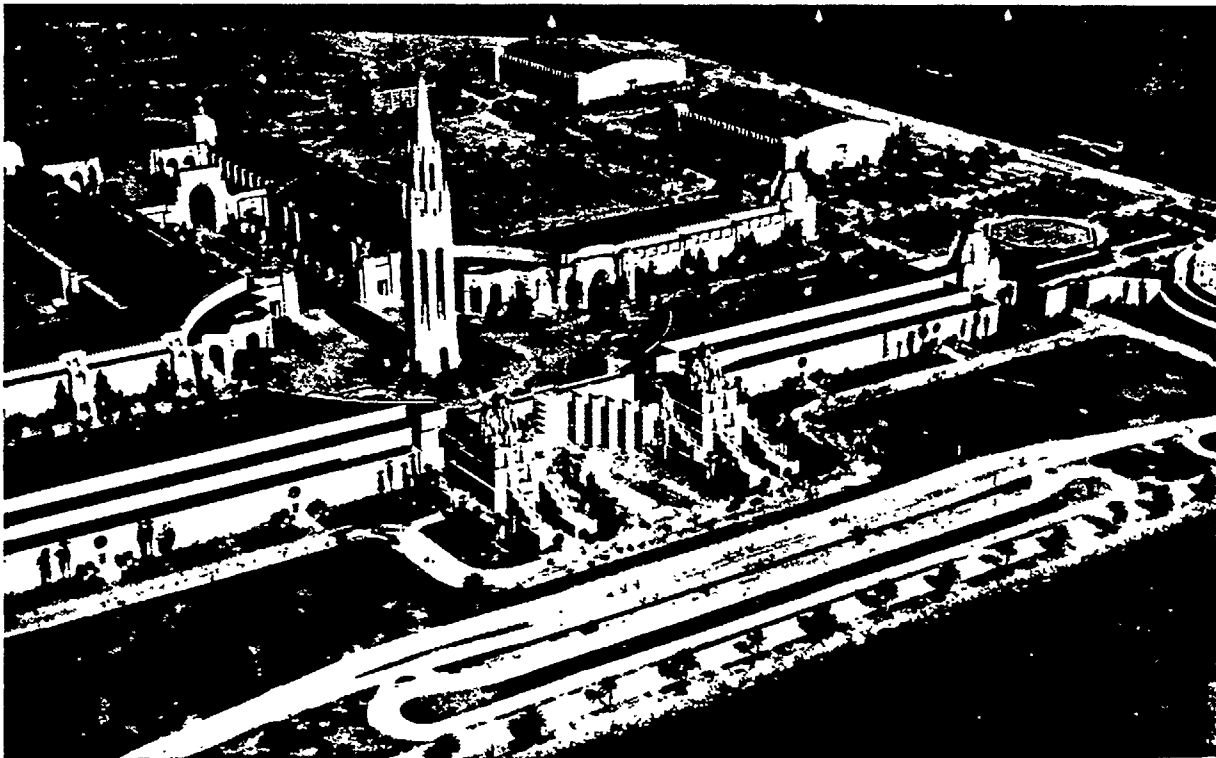
Surmounting the diorama, the theatre and home units, will be large murals, brilliant in color and design, with scenes typical of the operation

of the Industry throughout the West. Across the south wall two other huge murals, the one showing a modern city thriving with activity, the other life in the rural areas. Each will indicate the great influence exerted by petroleum in all human endeavor. The entire exhibit will be dominated by a central unit comprising a monumental base 14 feet high, faced with glass and "Lucite," upon which an aluminum and chrome oil derrick will rise. Cascades of flowing oil will fall into lighted pools, while tall "Lucite" columns, filled with oil, will be animated continuously by rising air bubbles. The 25 foot derrick, supporting a revolving drill, is to be indirectly lighted.

Special feature of the petroleum exhibit will be the scale model of a modern refinery, constructed of glass, "Lucite" and metal. Located

Air view of a portion of the Golden Gate International Exposition. The "Tower of the Sun" is directly east of the "portals of the Pacific," main entrance to the island (center foreground). The display of the Petroleum Exhibitors, Inc., will be located in the

Vacationland Building (directly left of the central tower). This huge combined exhibit of the leading western oil companies will occupy a commanding position and constitutes the largest single industrial exhibit.



ION PETROLEUM EXHIBITORS, INC.

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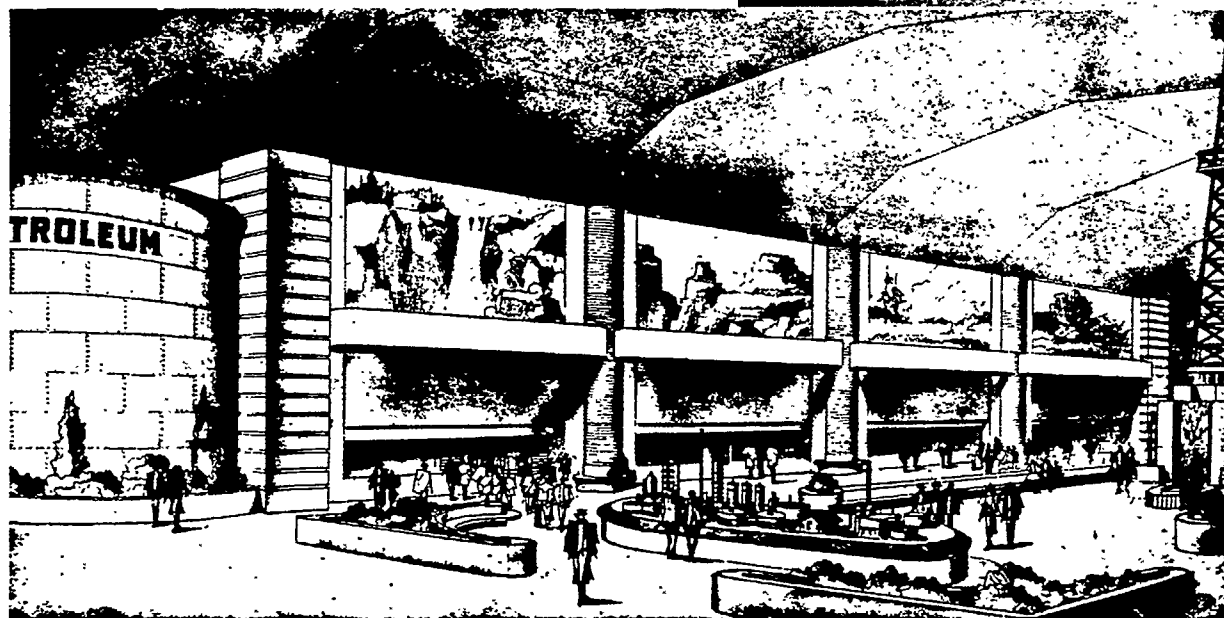
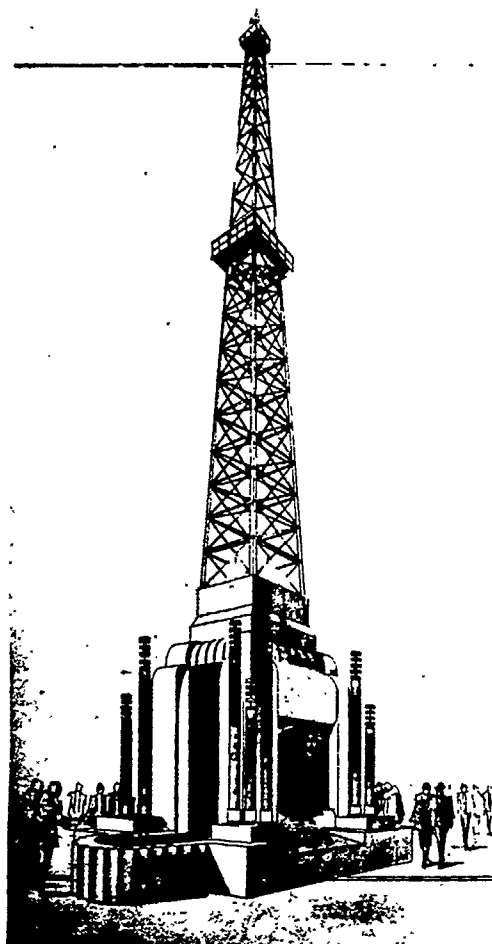
directly in front of the central derrick display this miniature plant will be completely animated, with all units constantly in operation. It will be built upon a scale of $\frac{1}{2}$ inch to the foot being 36 feet long and 16 feet wide. Here everyone may view the entire operation of a manufacturing plant, with every stage in the process clearly visible. Other features of the display will cover the comfort and entertainment phase, with ample seating accommodations located throughout the exhibit.

In planning the petroleum exhibit the industry desires to afford the public an opportunity to learn all pertinent facts about petroleum, that they might better appreciate its usefulness in its many forms, and thus adapt this usefulness to improvement in industry and home life. Motion is the keynote throughout, and every effort is being made to present the story of petroleum in an entertaining, as well as educational manner.

For the purposes of the Golden Gate International Exposition, the petroleum industry has eliminated any thought of commercial competition. No element of competitive merchandising or selling will be expressed.

(Right) This 25-foot aluminum and chromium derrick, on a 14-foot base will dominate the \$300,000 exhibit of the Petroleum Industry at the Golden Gate International Exposition. Ripples of oil will flow over glass sheets in the base, gorgeously lighted, and oil bubbles rising in the columns at the corners will reflect light.

(Below) Model oil refinery (foreground) will feature the Petroleum Industry's big display at the Golden Gate International Exposition in 1939. Every operation will be visible as forty small pumps circulate oil or vapor. It is built on exact scale of one-half inch to the foot.



DECEMBER, 1938

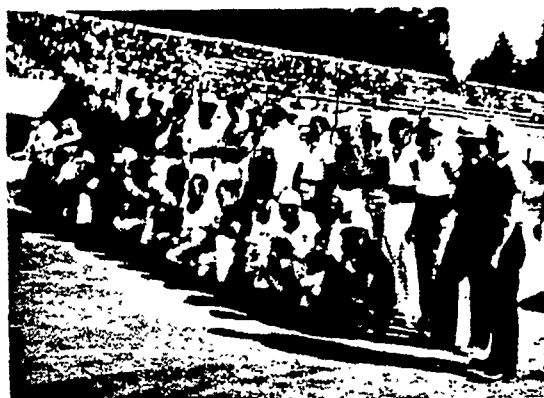
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ETC 22073

Ethyl Wins Pacific Coast Stock Car Championship

USING Signal Ethyl Gasoline exclusively, veteran racing pilot Art "Shorty" Scoville, recently won the Pacific Coast Championship Stock Car race at Seattle, Washington. Scoville drove a stock Ford V-8 car in the classic 250-lap event held on the Evergreen track at Seattle and established a new stock car racing mark of 2 hours and 29 minutes. The first five cars finishing in the money were powered exclusively with the same gasoline.

All of the drivers finishing in the money, and particularly Art Scoville, the 1st place winner, were strong in their praise of Signal Ethyl Gasoline. They commented on the fact that they were able to go the entire 250 laps without a pit stop for motor repairs and singled out the remarkable performance quality of the fuel, including the record mileage they attained under extreme driving conditions.



Drivers and mechanics lined up just before the start of the 250-lap Pacific Coast Stock Car Championship races at Seattle Speedway.

The winner! Art "Shorty" Scoville in his Ford V-8 stock car.



Transport—Ancient and Modern

THE accompanying views were taken by an Ethyl representative during a recent trip which he made through Palestine and Syria. His sojourn in the Near East was in connection with the campaign of the Socony-Vacuum Oil Company and the Societe du Napthe for the purpose of introducing leaded regular gasoline in that part of the world. Mr. Tegner, of Ethyl Export, who makes his headquarters in the company's London office,

writes that most of the transportation is effected by the use of donkeys and camels — some of the beasts being very ancient. This may account for the fact that one of them shown in the picture has "lost" his head and the native mounted on the donkey is looking at the strange phenomenon in evident amazement. However, Mr. Tegner observes that in spite of the general belief that the camera cannot lie, he did not see a headless camel in any caravan.

The Buick sedan shown in another picture is an unusual job recently built on order and imported into Palestine by Socony-Vacuum. The bullet proof windows are said to resist .45 cal. small arms and the body .303 rifle fire at fifteen yards. It will be noted that the Arab chauffeur also carries "artillery" but as Mr. Tegner points out, such precautions are useless against land mines, the use of which is quite common in the country.

F. M. S. Tegner, his Arabian chauffeur and the bullet-proof Buick near Palestine.



Most conventional means of travel in the Near East. Note native donkey rider puzzling over headless camel.





South's Tallest Highway Bridge Opens

ON September 8th the Port Arthur - Orange Bridge, tallest highway span in the South, was formally opened to traffic. Situated on Texas Highway 87, it crosses the Neches River one mile above its mouth, and affords Port Arthur and other Texas coastal cities direct connection with neighboring Louisiana. An imposing structure in its own right, the bridge is magnified by contrast with surroundings, rising as it does from flat and entirely unwooded prairie and marsh land to a height of 230 feet above the water.

It has an overall length of 7,770 feet, nearly one and one-half miles. The main span is 680 feet from center to center of piers, offering a vertical clearance of 176 feet and a horizontal clearance of 600 feet. Roadway width between curbs is 22 feet, six inches, with two emergency sidewalks, each 18 inches wide. The grade of the roadway approaches is five per cent, with the highest part of the roadway gradeline being 184 feet above the water.

Although the cost of the structure was \$2,750,000 it does not seem so high when the materials used are considered. Into the foundation and flooring went 50,000 barrels of cement, 23,000 cubic yards of sand and 42,000 cubic yards of gravel. Over 10,000 tons of steel, enough to build a battleship, and it is covered with 19,000 gallons of paint. Six lives were lost in the construction, which extended over two years.

Motorists traveling Highway 87, the Hug-the-Coast route, can now ride above the mast-tops of ocean going ships, many of which will carry cargoes of Ethyl and leaded gasoline for beneath the bridge pass all gasoline cargo shipments emanating from Magnolia Petroleum Company at Beaumont, Pure Oil Company at Smiths Bluff, Atlantic Refining Company at Atreco and the Texas Company Terminal at Port Neches.



Three Out of Four

AS the big baseball teams prepare for the World's Series, so tractor men point for the annual Rees and Wheatland Fuel Economy Contests. Every tractor manufacturer wants to see his tractors win these "big league" plowing matches in Illinois.

The idea of the economy test is to plow more ground than the other tractor on a strictly measured tank of fuel. With this thought in mind, Earl Myers of Springfield, Ill., borrowed a farmer-owned Oliver "70" high compression tractor and using a good leaded gasoline entered the Rees Economy Match in 1937. He won first prize. A few weeks later, the same Mr. Myers took a different "70", also high compressioned, and carved out another undisputed win at the 1937 Wheatland Meet, thus making two in a row.



Before twelve months had rolled around, the 1938 Rees Contest was run before a crowd of 5,000 farmers. And when an Oliver "70", with plowman Myers aboard, copped the third straight blue ribbon, Oliver men began to point at the record with pardonable pride. On the eve of Wheatland, 1938, big headlines in trade and farm magazines were telling the world about those "70" victories.

Then at Wheatland, in a field of thirteen, Earl Myers and his borrowed Oliver "70" missed first but took second easily and gracefully.

"The winning streak is interrupted," admit current Oliver ads, without embarrassment — and go on to say that three wins out of four — three firsts and one second — is a respectable showing for any man's money.

Yosemite Transportation Company Gives Luxury Ride

THIS year, nearly half a million people have viewed the scenic splendor of Yosemite Valley. Many of them, even though they entered the park in their own automobiles, have done their sightseeing in the special busses provided by the Yosemite Transportation Company, which roll in effortless luxury over the valley floor and in and out among the mountains. These sleek extended sedans are in marked contrast to their forebears of some years ago, which in effect were mobile grandstands perched precariously on narrow truck chassis.

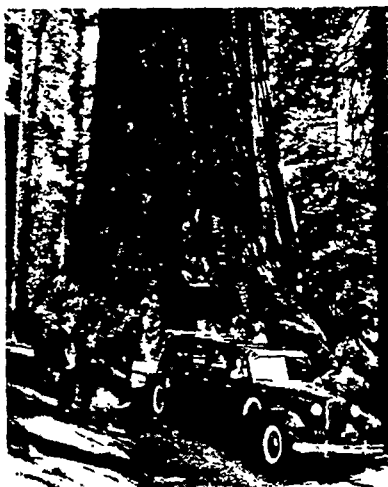
Coming into the valley on one of those early vehicles which were the best the market afforded in those times — was really an adventure. One got off the train at daybreak, climbed laboriously to the "hurricane deck," dug in his spurs and

prepared to "let 'er buck." The uniformed Gehu took the wheel, and with a roar of the exhaust and a clash of gears, jerked the vehicle out into the mountain dawn. Then it settled down to the long grind up the Merced River from El Portal. Around the mountain it proceeded in and out among the huge granite boulders, and up the steep pitch along the river, climbing higher and higher. All the way up the clamoring horsepower under the hood became less and less until it seemed that only the straining nerves of the passengers enabled the car to make any headway at all.

The history of the automobile is written in the vehicles of the Yosemite Transportation Company. From the open faced, under powered, rough riding busses of the earliest fleet to the rolling palaces of today, is a very considerable span of progress. The present fleet consists of special fifteen passenger sedans on Cadillac and Pierce Arrow chassis, equipped with every comfort and convenience which can be provided to attract the tourist and

give him a delightful ride. Much of the scenery consisting of beautiful mountains and waterfalls of almost unbelievable height, cannot be seen to advantage from a closed vehicle. Thus, these cleverly designed sedans have removable covers on the roofs, which can be slipped off and carried out of the way when the weather is clear, and replaced to make a completely weather-proof coach when it rains or snows. The cars all have "worlds of power" so that they are able to climb the mountains as rapidly and quietly as a private car. Big engines, with high compression, fueled with Ethyl Gasoline are kept always in the pink of condition.

Under the watchful eye of General Manager Huffman, every car comes out of the garage each morning ready to go and spotless in appearance. Breakdowns on the road are almost unknown, thanks to a continuous preventive maintenance policy with its slogan, "prepare, instead of repair." And every change in operating practice has to be proved before it is adopted. They had to know, through their own experience in their own fleet, that Ethyl Gasoline was worth the difference in price. When the test showed that the cost per mile was more than offset by the extra miles per gallon, a reduction in operating temperatures, freedom from vapor lock, and greatly improved performance, they went for it in a big way.



(Left) One of the Yosemite Transportation Cadillacs stops at the famous "Tunnel Tree" in the Wawona Grove.

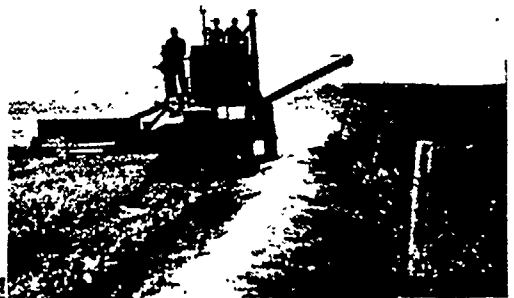
(Lower left) Fleet of Yosemite Transportation Company's Cadillac busses at "Inspiration Point" located at the end of the long Wawona tunnel through which the all year highway enters the valley. At right the Bridal Veil Falls drops from the south rim of the valley.

(Lower right) One of the Pierce Arrow Busses operated by the Yosemite Transportation Co.



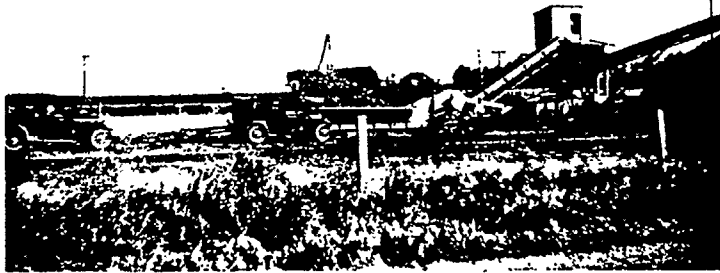
Alberta Gathers Richest Crop in Decade

Ethylman (in white shirt) trying hand at pitching bundles. Leaded gasoline furnished so much power, separator handled, without trouble, all he could feed to machine.



Starting Holt combine with pick-up attachment east of Calgary. Tractor is a Massey-Harris using Ethyl.

The best sugar beet crop in years being stacked at Taber, Alberta, September, 1938.



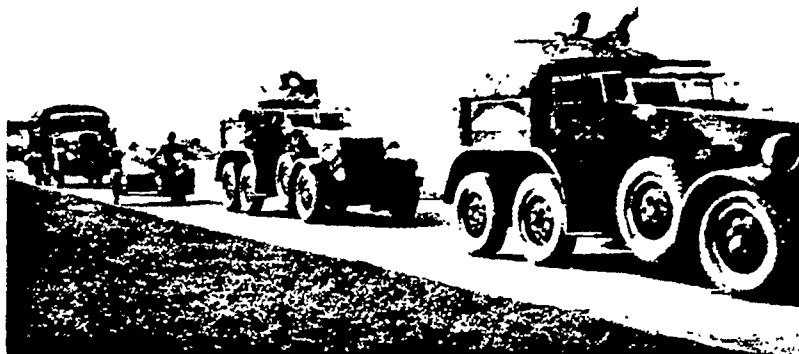
A typical village with grain elevators gathering in best Alberta crop for some years. There are thousands of these elevators in the Prairie Provinces. Population of this town is 75.

Hundreds of similar outfits to this may be seen in a day's drive in Southern Alberta. Yields from 35 bushels per acre up to 76 with thousands of acres averaging 45.



Afternoon lunch for threshing outfit, Granum, Alberta.





Rubber tired combat cars of the 7th Cavalry Brigade entering Scott Field.

THE man on the street had a chance to see a section of Uncle Sam's Army on the move when the mechanized Seventh Cavalry Brigade made a 731 mile trip from Fort Knox, Ky., to Fort Riley, Kansas, there to engage in maneuvers. The Brigade left Fort Knox October 3rd and arrived at Fort Riley October 8th.

Crowds thronged the sidewalks, children waved flags and cheered while National Guardsmen and Boy Scouts helped regulate traffic as the 20 mile column passed through the towns. It was an impressive parade

of 637 vehicles, 2,065 officers and men—the largest Army movement of this kind ever to take place in the U. S.

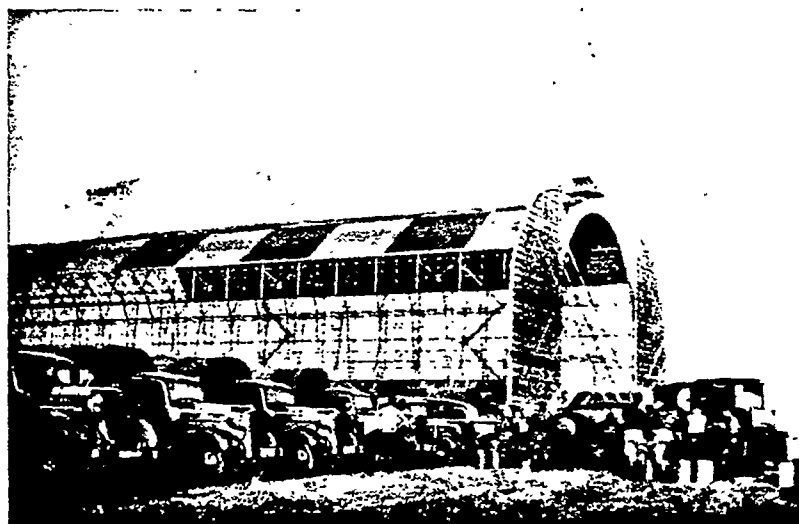
The populace stood on the curb for two hours watching the unusual spectacle. Probably the most amazing thing was the light tanks, equipped with rubber treads, travelling 30 miles per hour and turning a corner at a 20 mile an hour clip. Each tank carried a .30 and a .50 caliber machine gun in its revolving turret, a .30 caliber anti-aircraft machine gun in the rear and a .30 caliber machine gun in the

crawl. There is also a sub machine gun for close in fire.

Most of the units, including the "command" vehicle are equipped with a two way radio, making possible not only communication while on the march, but also when the force is scattered in the field. A further means of communication is through a corps of 75 motorcycle messengers, who serve as scouts during combat and as traffic patrolmen on the line of march. En route to Fort Riley, these motorcycle mes-

Rubber treaded combat cars capable

Supply cans being filled with Ethyl from tank trucks for refueling the equipment.



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ETHYL NEWS

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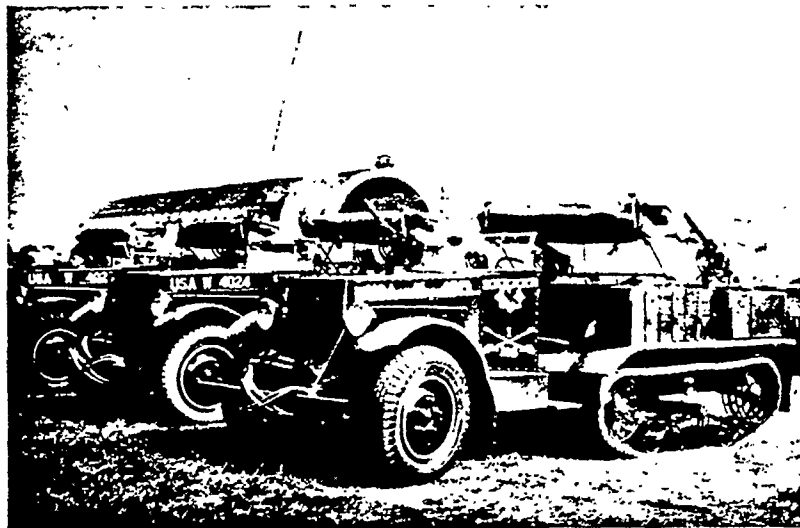
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sengers sped ahead of the column to patrol intersections and protect civilian motorists.

Leading the parade was the First Cavalry followed by the First Battalion with its sixteen 75 millimeter howitzers mounted on two wheel rubber tired trailers and pulled by half - wheeled, half - tractor trucks. Bringing up the rear was the Thirteenth Cavalry recently mechanized and the most modern unit with the Army's newest fighting vehicle—the armored scout car.

at cars capable of traveling 35 miles per hour.



High speed scout cars.

At Scott Field (Belleville, Ill.), the second of four overnight stops was made. The Cavalry, true to its tradition, that "mounts receive first care," the first duty of every man was the cleaning, inspecting and refueling of his vehicle. Then the tents went up while the cook kitchens began preparing the evening meal.

One of the most important divisions of the brigade is the ordnance company whose duty is the maintenance of all equipment. Its 44 trucks include 4 machine shop trucks, 1 welding truck, 3 wrecking trucks, an arms repair truck, several cargo

and spare parts trucks and light repair trucks. No matter how large or small the job, this unit can handle it.

It is significant that every gallon of the 115,000 used on this spectacular trip was Ethyl Gasoline. At Scott Field, 13,000 gallons of 78 octane Ethyl and 7,000 gallons of 92 octane aviation Ethyl were supplied. Ethyl Gasoline is "in the Army now" because the Army, like the thousands of civilian motorists, have found it to be the logical fuel to satisfy the requirements for power, speed and performance.

Refueling scout cars with Ethyl at Scott Field.



Only One Fuel Leaves the Pump. How Many Enter Cylinders of Your Car?

Ordinarily the motorist fills his gas tank with one kind of fuel which enters the carburetor, is mixed with air and starts on its journey toward the cylinders. But because of variations in the quantity of unvaporized heavy ends that enter individual cylinders, each one may actually receive a different fuel, with a different composition and anti-knock value.

Although most of the conditions within the cylinders of an automobile engine may be substantially equal, the air-fuel ratios at low speeds and wide-open throttle (under which conditions knocking usually takes place) are likely to vary considerably among the cylinders. This is because fuel induction systems of modern cars, which must be designed to give peak performance at high speeds, are not as efficient at low speeds in apportioning the fuel equally to the cylinders.

Fig. 1 illustrates diagrammatically the unequal distribution of fuel to the cylinders at low speed where the velocity of the mixture in the manifold is low. Three cylinders and pistons of a six cylinder engine are shown, also the carburetor and a portion of the intake manifold. All pistons are shown at the bottom dead center positions, with equal volumes in all the cylinders, to permit the illustration of fuel distribution. Vapor-air mixtures are indicated in Fig. 1 by the broken cross-hatch lines, the relative concentration of the vapor being indicated by the relative thickness of the cross-hatch lines. Unvaporized heavy ends of the gasoline are shown in the figure as drops which are ultimately vaporized in the cylinder.

In the operation of an automobile en-

gine the portion of the fuel vaporized in the carburetor and manifold is distributed in approximately equal quantities to all the cylinders with substantially uniform quantities of air. In the distribution of the heavier portions of the fuel, not vaporized in the carburetor or manifold, three typical conditions are met in a multicylinder engine as follows:

1) One or more A-type cylinders may receive only light ends vaporized in the carburetor and manifold and substantially no liquid heavy ends.

2) One or more B-type cylinders may receive vaporized light ends and liquid heavy ends in such proportions that the composition of the fuel and ratio of weight of air to weight of fuel are substantially the same as for the mixture leaving the carburetor.

3) One or more C-type cylinders may receive a normal charge of vaporized light ends and liquid heavy ends similar to that entering the B-type cylinder, and, in addition, the liquid heavy ends which under conditions of perfect distribution would have entered the A-type cylinders. Other cylinders may have air-fuel ratios between A and B or B and C. The different fractions of gasolines usually have different anti-knock value as illustrated in Fig. 2, which shows that the light ends of the typical commercial base gasoline have higher anti-knock value than the heavy ends. Consequently the fuel which enters cylinder A of Fig. 1 has higher intrinsic anti-knock value than that entering C. Nevertheless Fig. 3 shows that when vaporization is less than 100 per cent complete in the manifold the mixture in cylinder C permits the highest compression ratio without knocking whereas the mixture in cylinder A

containing the fuel of highest intrinsic anti-knock value, has the greatest knocking tendency when the carburetor air-fuel ratio is such that the air-fuel ratio in Cylinder A is approximately 13.8 to 1. Other full-throttle carburetor air-fuel ratios richer than that for maximum knock, which are those in the range of practical interest, cause the same general effects.

Other conditions remaining constant, the tendency of the fuel in a cylinder to knock depends chiefly on its intrinsic anti-knock value and the air-fuel ratio of the mixture. Fig. 3 shows that the effect of the low anti-knock value of the heavy ends in the cylinder C is more than offset by the knock-suppressing effect of the richer mixture. Obviously under these conditions the fuel in the lean cylinders, illustrated by cylinder A of Fig. 3, may knock considerably, yet no knock may occur in the remaining cylinders. If gasoline having all fractions of substantially constant anti-knock value (or heavy ends of higher anti-knock value than the light ends) were used, the knock trends of the different types of cylinders would be in the same direction but even greater in magnitude than those shown in Fig. 3.

The laboratories of the Ethyl Gasoline Corporation have for years had this problem under active study. Special instrumentation has been developed for the measurement of some of the variables. Extensive tests have been conducted both on the road and in the laboratory. Modifications of the laboratory knock testing engine have been made to simulate the effects introduced by differential distribution of heavy ends of fuels to the individual cylinders of the automobile engine.

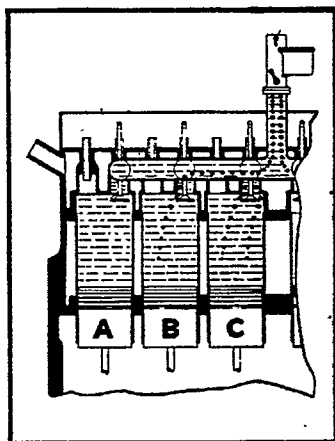


FIG. 1 Unequal distribution of unvaporized heavy ends of fuel, causing three characteristic types of air-fuel mixtures.

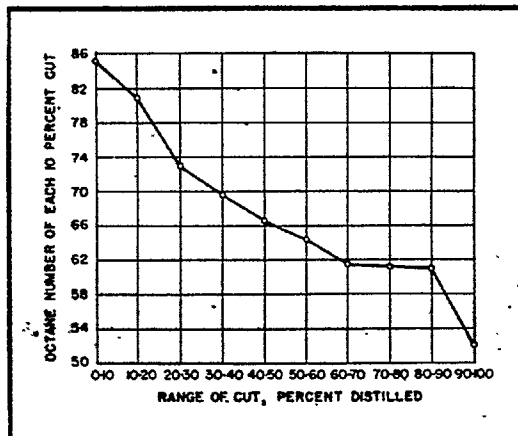


FIG. 2 The anti-knock value of ten equal cuts of a typical commercial base gasoline separated by simple distillation. Note that the octane value varies from 85 for the first 10%, or lightest fraction, to 52 for the last 10%, or heaviest fraction.

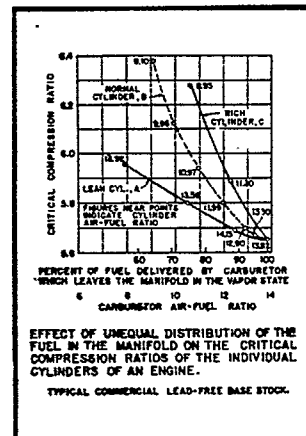


Fig. 3 Shows for a typical commercial base gasoline the effect of imperfect fuel distribution on the critical compression ratios of the individual cylinders shown in Fig. 1.

Highway Lighting in Ontario.

FOLLOWING the completion last year of the new Middle Road, Canada's super highway between Toronto and Hamilton, it was decided by the Ontario Department of Highways to illuminate the cloverleaves and bridges thereon. This lighting plan proved so satisfactory that it led the Department to consider the illumination of the entire highway and consequently early in 1938 a four mile stretch between Brown's Line and the Credit Cloverleaf was chosen as a proving-ground.

The work was completed in the spring and the motorist driving over this particular section of the highway at night travels under lighting conditions said to be unparalleled anywhere in the world. Poles supporting the lights are of Western Cedar painted green to harmonize with the roadside foliage and are installed 12 feet from the concrete, thus placing them far enough back from the roadway to be out of the way of vehicles on the parking strip

and yet near enough so that a 15-foot steel arm can be used to support the luminaire a short distance over the pavement. The lights are 25 feet above the concrete and spaced 200 feet apart on each side of the 40 foot pavement in a staggered arrangement.

Power is supplied at 115/230 volts, 25 cycles with overhead wires. Transformers are located each 3,200 feet and load is controlled by relays operated from a control wire, the latter being alive in the daytime.

Two distinct kinds of luminaires are employed. One consists of incandescent fixtures with 500 watt lamps enclosed in refractor globes which project the light along the road and at the same time eliminate glare, while the second type is sodium vapour lamps which emit a distinctive soft yellow light. The candle power of each type is approximately the same.

An experimental section of one half mile has been made on the west-bound lane of the same road

at Sheridan. At this point there is a standard 30 foot dividing boulevard and lights were installed along both sides of one lane and fitted with a convenient switching arrangement. Observations have been made of the relative effect of placing the lights on the right side of the road, on the left side and in a staggered arrangement.

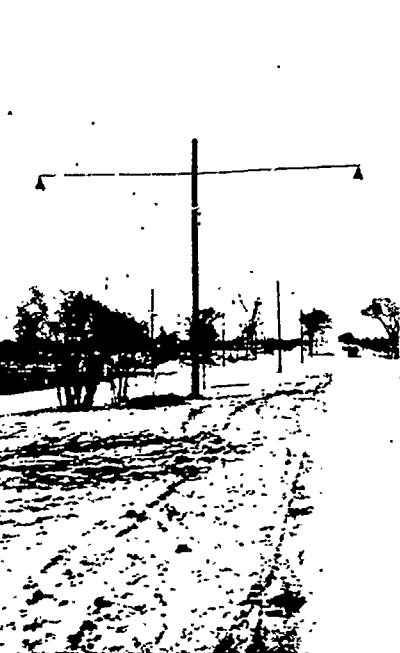
As a result of these tests it has been decided that in future, where there is a 30 foot centre strip, the poles with two 18 foot mastarms will be erected in the centre of this strip. Conductors will be underground. This will result in a minimum number of poles on the Highway and at the same time give the most pleasing and efficient lighting effect. Moreover, the use of underground conductors will not interfere with the trees now being planted along this road.

The installations have been made by the Hydro Electric Power Commission of Ontario for the Department of Highways.

Experimental installation with lighting on left side of lane.



Experimental installation of lights utilizing one pole for two luminaires for both highways.



Middle road, west of Browns Line, uses the staggered method of installation.



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Century-Old Brewing Concern Goes Modern



First delivery truck placed in service by John Labatt Limited in 1914.

CENTURIES before the birth of Christ, the ancient Egyptians transported their beer in earthenware jars carried on the backs of slaves. Today, this time-honored beverage is brought to countless of the thirsty in ultra-modern streamlined trucks.

Unique among transportation fleets of North America is that of John Labatt Limited of London, Canada, one of the oldest breweries in the country, having been established over 100 years ago. It's trucking facilities, however, came into the limelight first in 1936 when four White tractor and trailer units of a radically new design, styled by Count Alexis de Sakhnoffsky, were added to it. A triumph of design, the new model proved to be practical in every respect. An innovation in the transport industry, this combination

of streamlining and efficiency attracted much attention at expositions and truck shows where the model was exhibited.

In 1937, a further change was made to the cab-over-engine type that involved a still newer and more radical streamlining of the cab and body. At the present time there are eighteen of these tractor-trailer combinations in operation in the Labatt fleet and earlier models will continue to be replaced by the streamlined units. A number of Ontario companies have recently followed the Labatt lead and have adopted trucks patterned after these ultra modern streamliners, aptly termed "the world's most beautiful trucks."

The Labatt transport system was recently enhanced by the acquisition of a new wrecking truck which actually merits the adjective "beautiful." This truck has no capacity limit and is built with complete equipment to handle any vehicle on the road; withal its beauty of design makes it a worthy companion of the streamliners.

The Labatt fleet, which comprises some hundred and twenty-five vehicles, makes considerable use of tetraethyl lead gasoline throughout and, in the opinion of R. L. Morris, transportation superintendent, it gives performance greatly superior to ordinary gasoline.

Streamlining is not the only policy which gives distinction to this company's transport system. Every

Labatt driver is a member of the St. John Ambulance Association and is fully trained and equipped to render first aid on the highways. This fact is indicated on the rear of every vehicle which carries the notation "Drivers trained and equipped to render First Aid." Moreover, no Labatt truck ever passes a car in difficulties on the highway without offering assistance. Thousands of persons in distress have been aided by the company's drivers, who have earned for themselves the appellation of "the Good Samaritans of the Highway," and many hundreds of letters have been received by the company testifying to the services rendered. This policy has been, of course, a tremendous factor in building up good-will for the company and its products.

The comfort and welfare of the company's employees has been a matter of first importance with John Labatt Limited. In designing the streamlined cabs this was not forgotten for they are equipped with Dunlopillo cushioning, two windshield wipers, fog lights, eight day clocks, hot water heaters and defrosters. Special care has been taken to increase the safety factor to the maximum, each truck being equipped with Westinghouse air brakes and directional signals front and rear. All Labatt employees come under a group insurance plan covering accident, sickness, hospitalization and life and are also participants in a scheme of old age pension.

Streamlined truck of the John Labatt Limited of London, Canada



Note First Aid Sign which appears on all this new equipment.



Two Motorcycle Records in as Many Hours

TO almost everyone who follows sports, mention of the City of Indianapolis brings to mind the thought of speed. For years this mid-west city has been the mecca for those who not only defy death in their efforts to hang up new records on land, on the water and in the air, but are willing to be "guinea pigs" for man's unending search for greater speed and power. During the weeks that the Ethyl Motor Clinic was making its headquarters in the Indiana City, many distinguished personages in the racing world were its guests, one of the last of these being Mr. Roland R. Free, holder of the National Straightaway Motorcycle record.

Mr. Free, who is the Indian Motorcycle dealer in Indianapolis, accomplished the feat of setting two new marks in one afternoon at Daytona Beach last spring. The remarkable thing about his accomplishment was that he made no trial runs over the course, whereas ordinarily such records involve days of waiting for the most favorable weather conditions and testing of equipment. Offi-

cials were, therefore, amazed at a speedster who came, set his records under existing conditions and was on his way again.

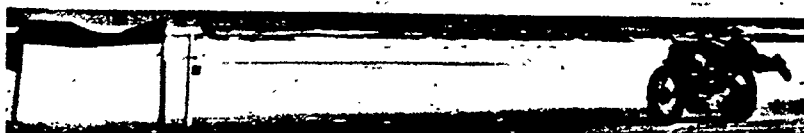
On the morning of March 15th, Mr. Free and his mechanic, Ray Stearns, loaded a Scout 45" and a Chief 74" into their trailer and took off for Daytona, arriving there early the next evening. The following morning it rained but cleared shortly after mid-day and about an hour later, the official timer, Mr. John LaTour, who clocked Sir Malcolm Campbell, had arrived, and the signal was given that the course was clear.

The first machine to be taken out was the 74", a stock job having full equipment including fenders and

headlight and on the first attempt, it averaged 108.18 m.p.h. for the measured mile. Free then made the run on the 45" which was stripped of all accessories and was timed for an average of 111.55, a new world's record. After this successful run, but still dissatisfied with the performance on the 74", one more ride was taken on this and he was clocked at 109.65 m.p.h. average, giving him a second record for the afternoon in the 74" class "C" Division. Both of these marks have been certified by the American Motorcycle Association.

A unique feature of Free's riding is that on record trips he rides in a horizontal position while holding to the handle bars, thus allowing his body and legs to streamline backwards. This is clearly shown in one of the accompanying pictures.

At the time of Mr. Free's visit to the Clinic he gave Mr. Trelease, Ethyl's Indiana representative, the details of his two record-breaking runs at Daytona Beach and he stated that both of them were made on Ethyl Gasoline.



Entering the measured mile Roland Free "streamlines" himself allowing his body to trail out behind the machine.
(Above) Receiving congratulations of officials. From left in foreground: Mr. Free; E. C. Smith, chairman competition Committee of A.M.A.; Ray Eberling, Dir. of Recreations, Daytona Beach.

Joplin (Mo.) Hotel Guests Show Interest in Clinic

WHILE at Joplin, Missouri, Manager Carl Berry of the Kansas City Division Clinic worked out a novel idea with Mr. G. A. Laws, General Manager of the Connor Hotel in that City. Mr. Laws attended the Ethyl Preview showing and was quick to realize that the information given at the Clinic meetings would be of interest and perhaps of real value to many of the guests of his Hotel.

With this in mind he had a Preview board placed near the main desk in the lobby of the Hotel. A letter was written daily to Manager Laws inviting guests at the Hotel

to attend each of the evening meetings. The Preview book was used by the desk clerk to briefly explain



Connor Hotel lobby, Joplin, Mo. with Ethyl Clinic board very much in evidence. This is an unposed picture.

that the demonstrations were of value to anyone who wished to secure the best operation from their motor cars. Complimentary tickets were given to those guests who expressed a desire to attend.

Many traveling salesmen commented to Mr. Laws that they were pleased with the information that they received, and thanked him for the opportunity he afforded them to attend the Clinic showing. The records indicated that about one-half of the attendance from this source were traveling salesmen and the balance associated with either the automotive or petroleum industry.

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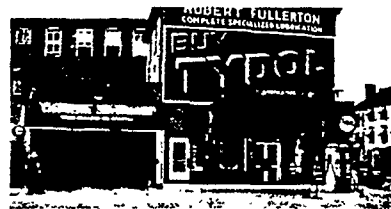
Newburgh Area Gets Another Ethyl Booster

MR. ROBERT FULLERTON of Newburgh, N. Y., was formerly handling only unleaded gasoline and hence was unable to properly take care of his customers with high compression motors. However, after attending a meeting at the Ethyl clinic while it was in Kingston, with the Tide Water salesman, he realized the advantages obtainable through its use.

At the conclusion of the meeting he requested that he be allowed to return and to compare his gasoline with the Tide Water Regular and Tide Water Ethyl, driving his car during the test on the dynamometer. He did so and the improvement in power and performance while using Ethyl was so pronounced that Mr.

Fullerton changed his source of supply. Moreover, he was so impressed that he has plans to install a complete set of tune-up equipment in his own shop.

Mr. Fullerton then went over his records and noticed that during the six months previous he had lost approximately twenty-one customers



Robert Fullerton's Service Station at Newburgh, N. Y., which showed a 35% Ethyl ratio after owner had visited the Kingston Clinic.

and upon checking with them as to the reason they no longer bought their gasoline from him, found that in every case it was due to the fact that he did not have Ethyl available. All of these customers had purchased new cars and had been instructed by their service managers to use Ethyl. This brought to him the fact that without a premium fuel he was losing business.

After the change from an unleaded gasoline over to 100% Tydol had been effected the figures showed that he was running 35% Ethyl ratio. As a result of this change-over, Mr. Fullerton has developed into one of the most enthusiastic dealers for Ethyl Gasoline in the Newburgh area.

Mr. Kettering Looks Ahead

(Continued from page 1)

that a scientific fellow is a fellow who doesn't know what he is working on and is afraid to admit it.

"A few summers ago some professors of physics visited our laboratories and spent some time with us. They said, 'We would like to have some projects to put into our research department.'

" 'Well,' I said, 'they are not hard to get—just take anything, I don't care what it is and start. Why don't you study the subject of friction?'

"They said, 'There is not very much to that.'

"I replied, 'Let's see how much we know about it. I rub my hands together and they get warm. Why is that?'

"They said, 'That is very, very simple. It is due to friction.'

"Well, what is friction?

"After a great deal of discussion, you come back and say friction is a thing that makes your hands warm when you rub them together and you don't know another thing about it.

"The other day, before a group of engineers who asked the question 'What are we going to do when our supply of fuel runs out?' I said:

"Well, I don't know. Maybe we

can run our cars by radio at that time. Maybe all you will have to do is to have some central power stations with big antennae and have a little antenna like you have now for a radio receiving set, and you can pick up the fuel power that way.

"Well, these were engineers, and engineers are very serious-minded people, and so with a paper and pad, they figured a little bit and said, 'But you can't do that,' and I knew they were going to say that, because that is what any group of engineers will say about any subject they are not familiar with.

" 'But,' I said, 'how do we want them run?'

" 'Well,' they said, 'we run them with gasoline.'

"I said, 'What is gasoline?'

"So we decided that it was distilled from petroleum and we said, 'What is petroleum?'

"Well, petroleum is something that is in the earth; it has been there for a long while.

"But where did it come from?

"It came from perhaps decaying vegetation, and so forth and so on.

"Where did that come from?

"It came from the growth of

plants.

"Well, how did the plants grow?

"From the rays of the sun."

"So we are running our automobiles now by radio, but all we need to do is to take out a few of the steps in there and run them direct.

"We have a wonderful future ahead of us in any line of business today if we will just lift the lid and say we know so little about anything. It was only a few years ago that we thought we had a great deal of knowledge about hydrogen gas. Hydrogen is the simplest of all the elements that compose the earth's crust and its atmosphere. It was the most elementary thing that anyone could think about.

"Then all of a sudden we found out that there was more than one kind of hydrogen—that there was a heavy hydrogen and then that there was heavy water and then that there was heavy this and heavy that—in fact, all the compounds of the world got multiplied by two on account of that."

Mr. Kettering paid tribute to the steel, rubber and petroleum industries as the 'three legs upon which the motorcar industry' is built.

Shreveport Sees the Clinic

WELCOMED by Mayor Samuel Caldwell and Chamber of Commerce, President O'Neil, The Atlanta Division Clinic opened at Shreveport on the night of October 27th before a preview audience of 104 civic leaders and Oil and Automobile executives of Western Louisiana.

Mayor Caldwell thanked the Ethyl Corporation for bringing "such a fine program" into Shreveport and expressed the hope that all of the local people would take advantage of the Clinic and the benefits that could be derived from it. It was interesting to note that the Mayor, apologizing for the fact that he would have to leave after he opened the meeting, was still occupying his front row seat when the program was concluded.

Among those at the showing were representatives of the several customer companies home offices located in Shreveport, Arkansas Fuel Oil, Atlas Pipe Line Corp., Crystal Oil Refining Corp., Hurricane Pe-

Atlanta Div. Mgr. J. A. Costello returning after successful opening of Shreveport Clinic.



State Police car used at opening of Shreveport Clinic. This fleet uses Ethyl 100%.

troleum Corp., Rodessa Oil and Refining Corp., Root Petroleum Corp., and state and local managers of other customer companies as well as automobile factory representatives and the heads of the local agencies. Captain McQuiston, head of the Western Division of the State

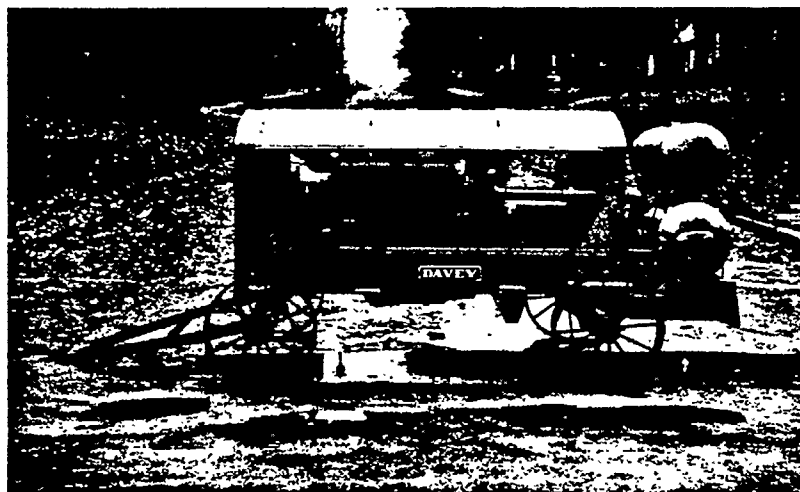
Road Patrol, was present and was kind enough to furnish the car for the meeting. Beside the regular Clinic Staff the Ethyl Corporation was represented by Tulsa Division Manager Ronan, Atlanta Division Manager Costello and Louisiana representative Mundinger.

Ethyl Raises Pressure on Davey Units

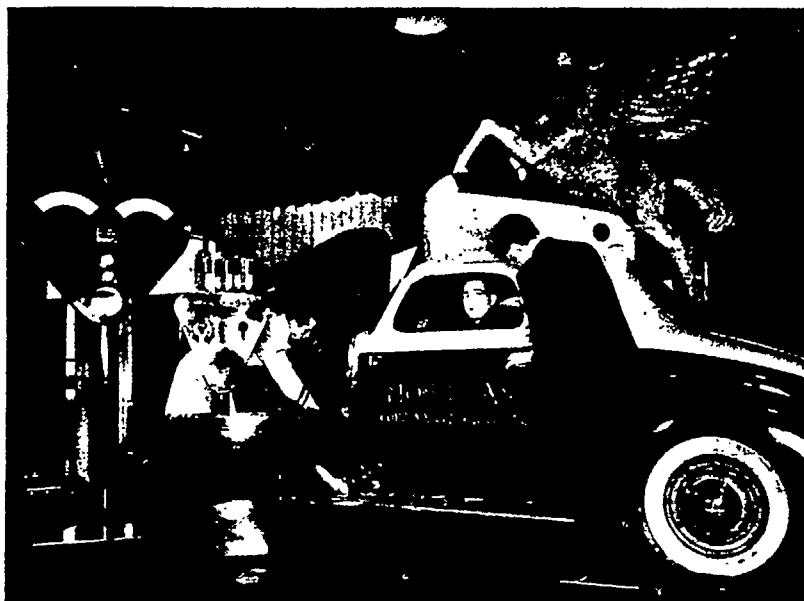
WHILE the Ethyl Gasoline Corporation's Dayton Division Motor Clinic was operating in Akron, Ohio, they received a request from the Davey Air Compressor Company of Kent to aid them in tuning up some of their equipment. It appears that the Davey Co. were preparing for some new government acceptance tests which are always very rigid. Quite naturally they were desirous of obtaining the maximum of power for their gasoline units. In this test a Hercules Motor drives a four-cylinder air compressor which is required to deliver 425 cubic feet of air per pound of fuel. Although these specifications were very exacting, through the cooperation of Mr. M. B. Illingworth of the Dayton Division, Ethyl engineers got on the job and tuned the engines up so that they would deliver peak performance. The result has been that since

then the motors on these units have successfully passed all tests. The immediate advantage with the use of Ethyl were decreased water, head, and crankcase temperatures with a corresponding increase in

power and air delivery. The accompanying photograph shows one of the Davey Compressors which in a normal day's operation will consume between 40 and 50 gallons of gasoline.



Socony Vacuums' "Flying Red Horse" Sound Car Tuned for Ethyl



This good looking sound car with "Pegasus—The Flying Red Horse" riding on top, the insignia of Socony-Vacuum's Mobilgas and Mobiloil, was tuned up for Mobilgas Ethyl at Clinic No. 9 now located at Minneapolis, Minnesota.

This specially built sound car, used by Socony-Vacuum for advertising purposes at fairs, in parades and at station openings, has proved quite an attraction. Following the car check-up a large group of Socony-Vacuum dealers and officials from the Minneapolis division attended the Clinic.

NEWSBRIEFS

Helen Stewart, successor to the former Miss Sue Gillum, is a most comely addition to the Kansas City Division. Helen, who was born in the "Show Me" state is still making it her home having received her schooling and business training there. Prior to joining Ethyl she was associated with the Oldsmobile Zone office in her native state.



On October 8th, 1938, Idan Flaa and Miss Ruby Hill were married at the Methodist Church in Indianapolis. Idan is automotive engineer on Chicago Motor Clinic No. 9. Mrs. Flaa is the daughter of Mr. and Mrs. John L. Hill of Indianapolis. Miss Patty Hill, sister of the bride, was the only attendant while "Casey" Jones of our Chicago Division, was best man. After the ceremony a reception was held at the home of the bride's parents. Mr. and Mrs. Jim Boudreau were among those present. The Flaas will make their home in Minneapolis.

We welcome to the Administration Department Mrs. Emily M. Whitfield whose native heath is Brooklyn, N. Y. Emily attended the Montauk Junior High School and the Pulcifer Business College, both in Brooklyn. She comes to us from the Johns-Manville Company, where she was mimeograph operator. She recently moved to Belle-rose, Long Island, where she lives with her three and one-half year old daughter, Frances Jeannette.



The members of the San Bernardino Division welcome Miss Ethel Mischnick to their midst. Ethel will be secretary to Merritt Collins, manager of the Gasoline Testing Laboratory. She hails from Lincoln, Nebraska, where she was employed for several years as secretary to a Judge of the Supreme Court at the state capitol building.



Another recent addition to the Kansas City Division is Harrison Johnson, a graduate in the Class of 1938 of the Iowa State College, where he received a B.S. degree in General Engineering. Harrison is a Junior Engineer in Clinic No. 10.

As we go to press it is with deep regret we learn of the death of Mr. Webb's father at Morehead City, North Carolina, on November 30th. We extend our sincere sympathy to him and to the members of his family.

The Dayton Division welcomes V. W. Kenerson to their Clinic Staff. He is a graduate of the John Adams High School in Cleveland as well as the Case School of Applied Science where he received his B.S. degree in Mechanical Engineering in June, 1937. After a year in the Laboratory of the Weatherhead Co. of Cleveland, where he was in charge of Mechanical Testing, he joined the Ethyl Gasoline Corporation as Junior Engineer. Between college semesters he gained additional experience with the White Motor Co. in their Experimental Road Test Department and also acted as a product demonstrator for Standard Oil Company at the Great Lakes Exposition.

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ETHYL NEWS

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Gertrude Loeffler Brown, secretary to Oscar Lewis, makes the second licensed aviatrix in our Ethyl family. Her enthusiasm for flying dates back to the time when Kay Tisza Traulsen (Accounting Dept.) took her for a "ride." On November 1st, Gertrude passed her test and is now a licensed private pilot and, with her husband, is the proud owner of an Aeronca K plane. Our congratulations, Gertrude, on your fine achievement.

July 12th, 1938, is a memorable date in the annals of the Kansas City Division as on that date Paul "Beefsteak" Kratzmaier was employed as Fleet Engineer. He is a graduate of the University of Kansas and has had special courses of study at the University of Chicago, John Carrear and Oxford. He also has worked with Professor Wolford of Princeton University. Paul's varied business experience includes mechanical engineering in designing, operating, testing, manufacturing and marketing, both with concerns and on his own account. He has been associated with the Phillips Petroleum Company and the Hays Corporation.



Flash — Flash — THE NAME OF DOLLAHAN IS NOW DOUBLY INSURED!! Yes, we are informed that another boy has arrived at the firm of Dollahan, Dollahan and Dollahan, making the firm, Dollahan, Inc. The Chicago Division claims that the reason they knew all about this right off the bat is that while looking over Dollie's expense account for the week ending November 5th an item appeared as follows: "Nipples & Bottles—45¢." Upon looking further into the matter it was discovered that the new son and heir (to the Dollahan fishing technique) came home from the hospital on November 5th and of course even a baby must have its bottle. However, the Chicago office are in a quandry as to whether they should okay the item. Incidentally Mrs. Dollahan and Craig Atwood, who arrived on October 26th, are doing nicely. 'Tis rumored that the beer consumption in Milwaukee has been gaining steadily and we wonder if Master Craig is trying to make his 1938 quota—or something.

By referring to the October "News" you will note a picture of Master Bruce Edward Dollahan busy doing poppa's homework. These Dollahans certainly know how to make the "News."

The Baltimore Division welcomes its new-comer, H. Lloyd Vanciel, to the Clinic Staff. Lloyd, who is taking Lee Noller's place as tune-up engineer comes to us from the Pacific Coast. After graduating from Oakdale Union High, he attended the National Automotive-Diesel School in Los Angeles and then went to work for the Associated Motor Check. After spending several months as a tune-up engineer for this concern, he joined the Ethyl Gasoline Corporation assisting in the construction of the clinics. Upon the completion of one year's work for Charlie White, Lloyd came east and assumed his duties with the Baltimore Division.



From Detroit comes rather belated word of three new members of the younger generation of the Ethyl family. On August 30th Mr. and Mrs. R. F. Broquet were presented with a daughter, Janice Gail who tipped the scales at 7 lbs. 14 ozs. The proud father of this young lady is a member of the Research Department.

Miss Elizabeth Gambrill made her official debut as the daughter of Mr. and Mrs. Charles M. Gambrill on September 20th, weighing in at 6 lbs. 14 ozs. Her young brother, John Charles, who is now three years old, is reported to be well pleased about the whole thing.

Mr. and Mrs. Ferd Gillig announce the arrival on October 1st of "just plain Jim" who boasts a birth weight of 8 lbs. 6 ozs. Ferd is a member of the Engineering Department. We offer our congratulations to the Broquets, Gambrills and Gilligs.

We welcome to the Administration Department Mrs. Gladys Y. Greensweight. A graduate of Girls' High School in Brooklyn and Collegiate Business School. She was connected with Standard Oil Company of New Jersey's Personnel Department for 9 years and for 3 years was in the Building Department at 26 Broadway. She was Vice President of Standard's Social Club, then called the "26 Broadway Club" but now known as the "Jersey Standard Club."

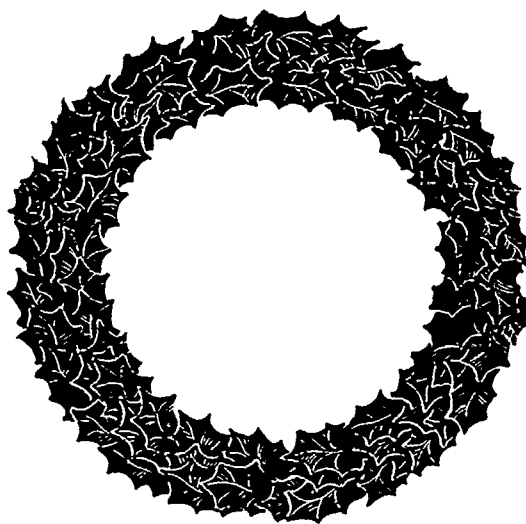
Gladys is married and lives in Valley Stream, New York. Her hobby is gardening.

Dorothy Watson, a new member of the Administration Department is a graduate of the Manual Training High School and Miss Dunbar's Secretarial School, both of Brooklyn. She has had two years of secretarial experience with the Commercial National Bank & Trust Company in Wall Street where she worked in the Transfer Department. Prior to joining the Administration Department Dorothy acted as substitute secretary for Jack Martin for two months. She is very much absorbed in a course she is taking at Columbia University in English Literature, and has also spent a great deal of time studying music.

Irene Oldendorff is a recent newcomer to the Administration Department in the Chrysler Building. She is a graduate of Evander Childs High School, and since that time has had an interesting and diversified business career. Ingersoll Rand, Standard Oil Company, Industrial Relations Counselors and U. S. Steel Corporation make up the list of concerns where Irene has acquired her business training. In her position as Secretary to one of U. S. Steel's Vice Presidents she was transferred to Pittsburgh when his duties took him there but she couldn't reconcile herself to life in the "Smoky City" and returned to Kew Gardens where she lives with her mother. She will be in charge of the newly organized Stenographic Dept.

Miss Helmi Burkleo, a recent addition to the Detroit Sales Department, is a native of Minnesota and a graduate of the Twin City Business University of Minneapolis. Helmi's rather diversified business career includes six years with the manufacturing concern of Bleeker-Foster in St. Paul where she was in charge of the Service Department; association with a real estate company, a contractor and a lawyer. Her favorite forms of amusement and recreation are swimming, ice and roller skating, golfing and bowling. Two nights a week she is busy with painting and drawing lessons.





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