

PLAINTIFF'S
EXHIBIT

ETCO-112

ETHYL
NEWS

1952

ETC 32538

ROY N. CLOTHIER

ETC 32539

INDEX "ETHYL NEWS" 1952

AUTOMOTIVE

AAAid for the Motorist (50th anniversary of AAA)	March
Anything, Anytime, Anywhere (use of trucks)	April
Passports of the Highway (license plates)	July-August
Signs of the Times (highway markers)	January-February
Watchdogs of Safety (ATA animal show)	October
Wheels on Stamps (automotive vehicles on postage stamps)	July-August

AVIATION

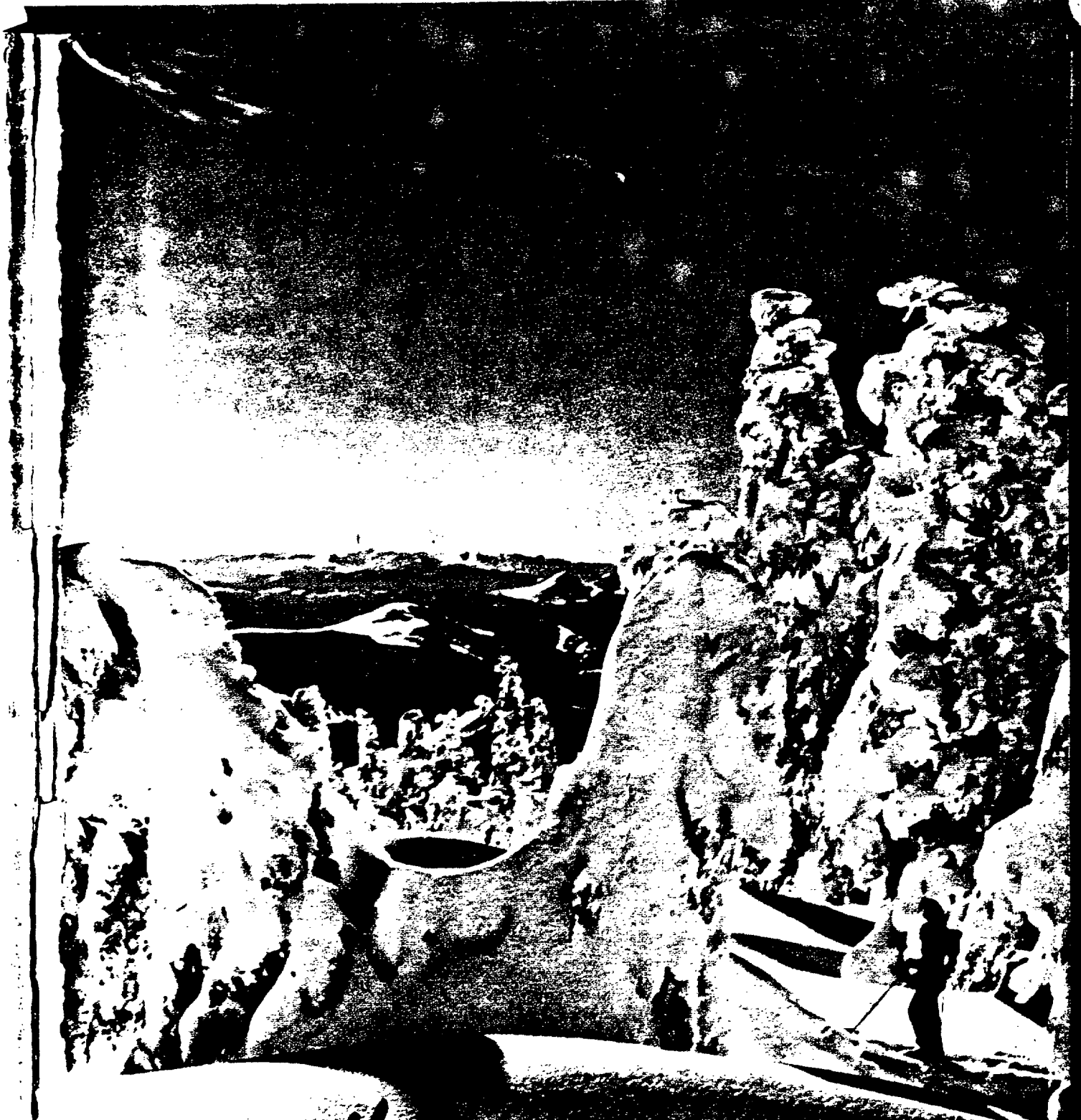
Signs to Fly By (air markers)	April
Twenty-five Years of Trans-Atlantic Flying (third cover)	June

CORPORATION ACTIVITIES and PERSONNEL ITEMS

Ask Me Another (Ethyl TV program)	September
At Your Service (Ethyl service program)	May
Bergin, James J., superintendent of operations at Houston	June
Changes in Ethyl Sales Organization (box)	September
Dateline: Seattle and Chicago (Ethyl engineer activities)	September
Desmond, Edwin A., named head of new diesel fuel section	September
Ethyl's New Attack on Insects (better insecticides)	June
Ethyl's New Plant Ready to Serve Oil Industry	May
Ethyl's Texas Plant Takes Shape	January-February
Flight Book (new Ethyl publication)	March
Fluid Action (third cover)	July-August
Forbes, Stuart, named Central Region assistant manager	March
Fuller, Jack D., named manager of Fuel Technology	April
Going to Extremes ("Ethyl" fluid shipments)	September
Ignition Improver for Diesel Fuel	April
Knock Study: Progress Report (combustion study film)	April
Moody, Robert J. (holder of badge No. 1 at Houston plant)	May
Moseley, Herbert C., named account representative	October
Murdock, Malcolm P., named general sales manager	January-February
New Members of Ethyl's Board of Directors	January-February
On a Sunday Afternoon (Two Equals Three show in California)	May
Pruitt, S. T., named Central Region manager	January-February
Push-Button Weather for Knockrating	January-February
Symbols of Progress (third cover)	May

FARM

Autobiography of a Tractor	January-February
Hoosier Mint Farm	September



ETHYL NEWS

JANUARY - FEBRUARY ★ 1952

ETC 32541



Malcolm P. Murdock has been promoted to general sales manager of Ethyl Corporation. In his new position he will coordinate and direct

the sale of "Ethyl" antiknock compounds and a growing list of special-purpose chemicals.

Mr. Murdock has held a number of responsible positions in the Sales department since he joined Ethyl in 1933 as a field representative. He has served as manager of the Tune-Up Clinic, assistant division manager of the company's sales offices in Los Angeles and Chicago, and on special assignment in New York. He was appointed assistant general sales manager in 1947, and in September 1950 became manager of the Central Region, the position he held at the time of his new appointment.

A native of Massachusetts, Mr. Murdock was reared in Olean, N. Y. He was graduated from Cornell University in 1928 with a bachelor of arts degree in economics.

S. T. Pruitt, heretofore assistant manager of the Central Region, has been promoted to manager, succeeding Mr. Murdock. Mr. Pruitt joined



Ethyl in 1930 as a field representative in Atlanta. He was named assistant manager of the Dayton division in 1941, and assistant manager of the Central Region in 1950.

Mr. Pruitt is a native of Alabama. He was graduated from Georgia Institute of Technology in 1929 with a degree in civil engineering.

IN THE

ETHYL NEWS

JANUARY-FEBRUARY 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wehanka, Art Director

THE MAN BEHIND THE HAND 3

They used to be "filling stations," but no more. Today, they're service stations in every sense of the word.

SIGNS OF THE TIMES 6

Highway markers of every shape, size and description guide the motorist on a safe and direct journey.

ETHYL'S TEXAS PLANT TAKES SHAPE 10

Construction of the company's new manufacturing facilities along the Houston Ship Channel is proceeding on schedule.

AUTOBIOGRAPHY OF A TRACTOR 13

The first production model high compression gasoline tractor is still going strong. Here is its story.

OIL GOES TO SCHOOL 17

To explain the full significance of oil to American youth is the aim of a new industry educational program.

PUSH-BUTTON WEATHER FOR KNOCKRATING 21

Ethyl's new all-weather chassis dynamometer rooms allow faster, more convenient fuel tests.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

THE MAN BEHIND THE HAND

You'll find him — a willing friend of the motorist
— at any of our 200,000-plus service stations



Opening up for the day — and a job already waiting. Notes requesting "first thing" service are common

WHEN AMERICA went motoring a generation ago, it bought its gasoline and oil at a *filling* station. Today, they're called *service* stations — and rightly so.

No makeshift facility as in days gone by, the typical modern station is a clean, attractive place of business, and the staff which mans it is alert, courteous, and diligent.

One has only to spend even a few hours at a station to understand the significance of the word "service." From the time he opens up early in the morning until the last satisfied

customer wheels out of the brightly-lighted drive late at night, the dealer performs services for his customers that go far beyond the basic business of supplying the best in petroleum and automotive products and accessories.

As a homespun article in a recent issue of *This Week* magazine so aptly put it, service station customers want "a drink of water, a fan belt, a map, a trip to the rest room, exactly thirty-one pounds of free air in the left rear. They want to borrow your pliers an' can they

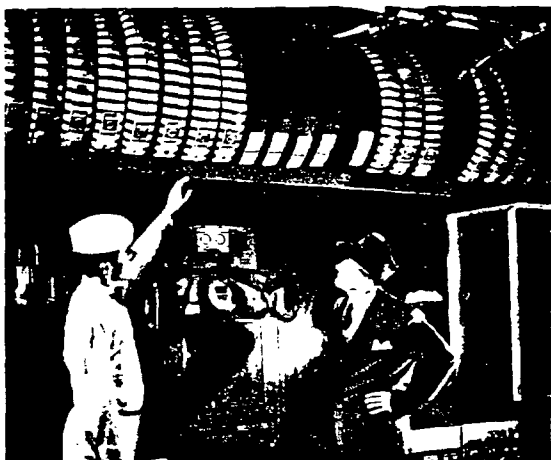
Service stations and cleanliness have long been synonymous. A good part of every working day is spent maintaining this high standard



Fixing disabled vehicles at off-station locations is one of the "emergency" extras performed by many service station operators

Below, beyond actually dispensing gasoline and oil, the man at the pump is relied upon by customers for reliable information about various petroleum products





In his role as "consultant" to the motorist, the service station man offers valuable assistance in the selection of proper automobile items



Service in action: One attendant inflates a tire, while another checks a spark plug. By inspecting plugs, oil filters and other engine parts regularly, the service station helps to keep its customers' cars in tip-top running condition



Above, as a solid member of his community's business and social life, the service station man supports worthy charitable causes and is active in major civic matters



charge candy bars on their credit cards. How far is it to Crystal City, and is there any detours between San Diego and Appalachicola?"

To remind America's motoring millions of the many extra services that service station men render, Ethyl Corporation, as an Oil Progress Week contribution last fall, sponsored an advertisement that appeared in national magazines, trade journals, and oil company publications. Headed "You've probably never shaken this hand . . . but you should!", the ad featured the photograph of a service station man's hand which is reproduced along

One of the most valued extras offered by service stations is the clean rest room. Plenty of "elbow grease" keeps them that way



A business credo of the service station operator is "it's the little things that count." Two of these "little things" are brushing out the interior of a customer car (left) and directing drivers who are "lost"





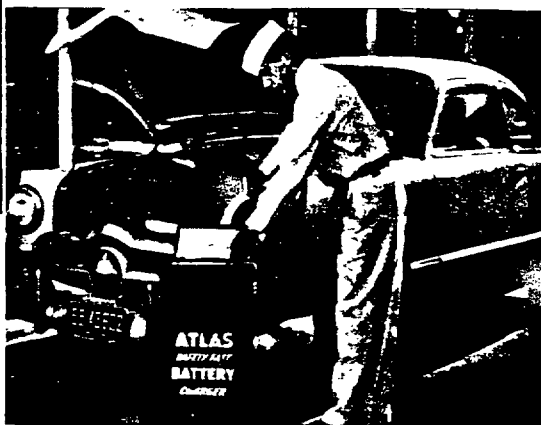
Left, by noticing and fixing such as loose license plate bolts, service station personnel help speed the motorist on a safe and uninterrupted journey



As busy as he is, the service station operator always has time to help a young driver in distress. A squirt of oil, and this young lady's fire engine will run like new again

with the title on the first page of this article. Countless Chambers of Commerce have used the ad as the basis for publicly recognizing the service station man's contributions to the business life of his community. Newspaper stories and radio programs also have saluted him in this respect.

To provide a closer look at "the man behind the hand," here recorded, photographically, are some of the many services that the average service station normally renders in the course of a day's operation. While the pictures were taken at stations of one specific oil company, the services they depict are typical of those performed every day at the more than 200,000 service stations to be found in America.

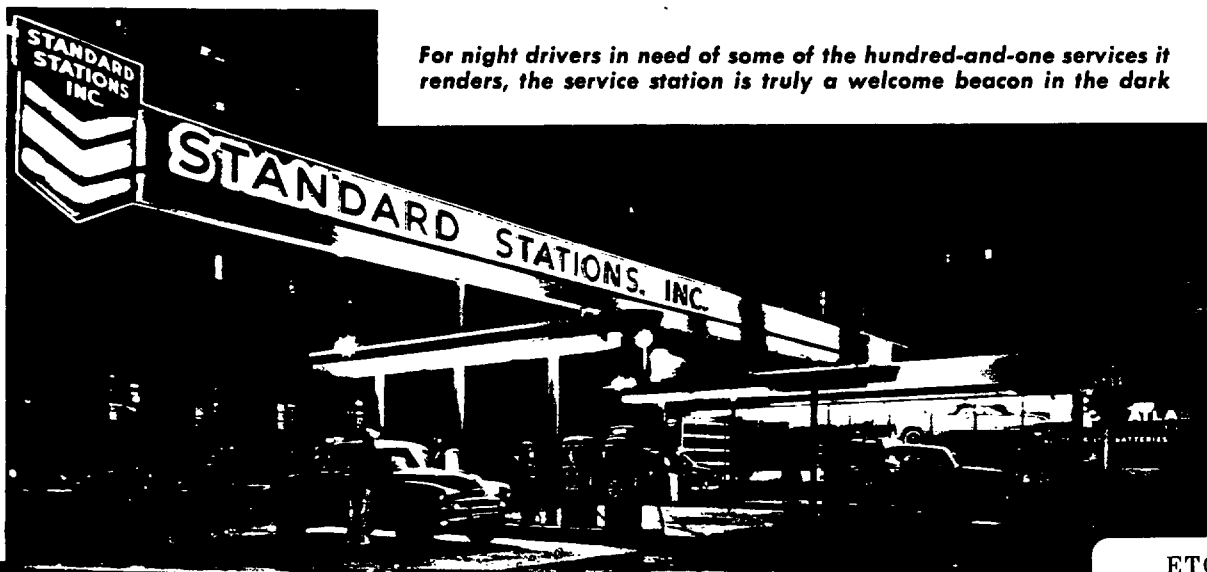


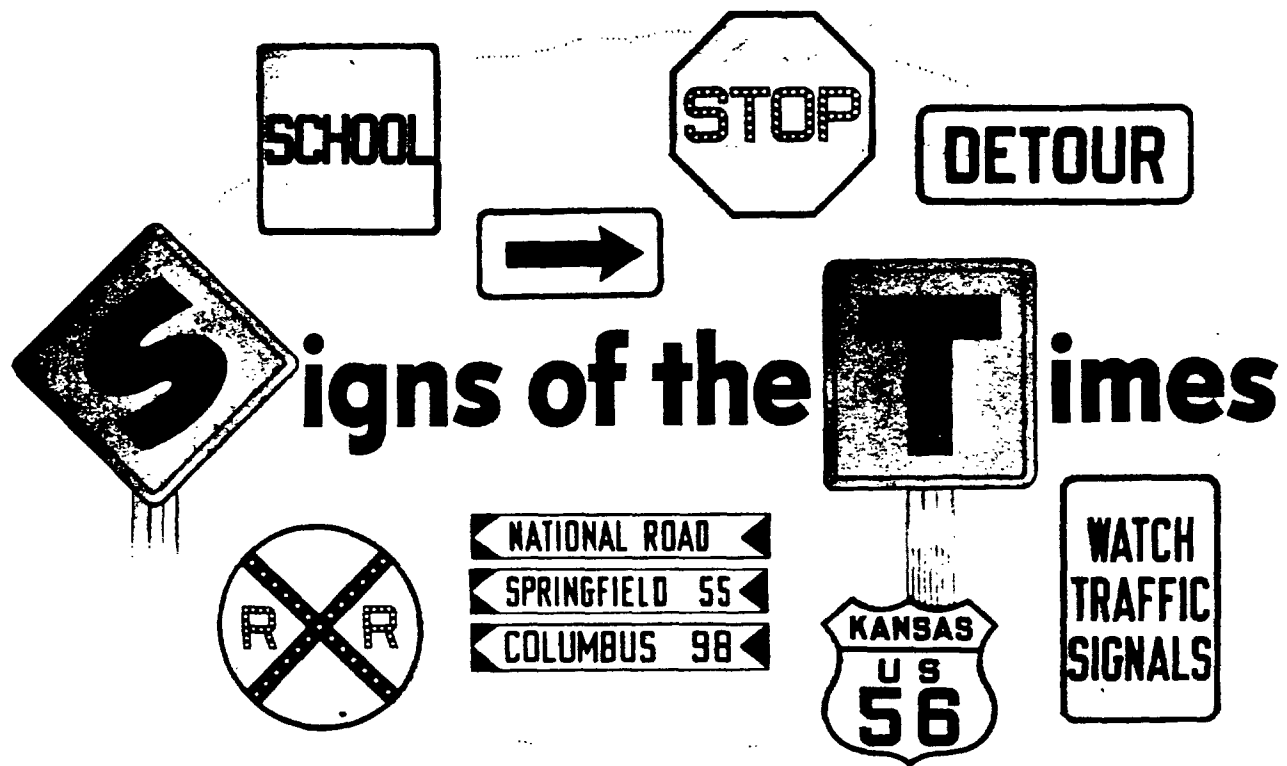
Above, whether it is for charging a battery or greasing a chassis, the modern service station has all the equipment necessary to do the job quickly and efficiently

Right, one of the conveniences offered by service stations is the use of credit cards for charging purchases



For night drivers in need of some of the hundred-and-one services it renders, the service station is truly a welcome beacon in the dark





Take the high road or take the low, you'll find all kinds of highway markers to make your journey a safe and direct one

By Frank L. Remington

AT THE SIDE of a Massachusetts highway, a Back Bay dowager came upon a moss-covered milestone bearing the legend "1 M. FROM BOSTON."

"What a perfect epitaph!," the lady exclaimed, reading the inscription and mistaking the marker for a gravestone. "I'M FROM BOSTON. It's so simple and yet so sufficient."

Her mistake was excusable, for few milestones exist today, most having been replaced by modern road signs and markers. But in the old days, they lined stagecoach routes and gave comfort to passengers and horseback riders by indicating the distance traveled and the miles yet to go.

Most motorists take the present warning signs and route and directional markers that dot America's roads for granted, little appreciating their long history or the problems

faced by highway departments in placing and maintaining them.

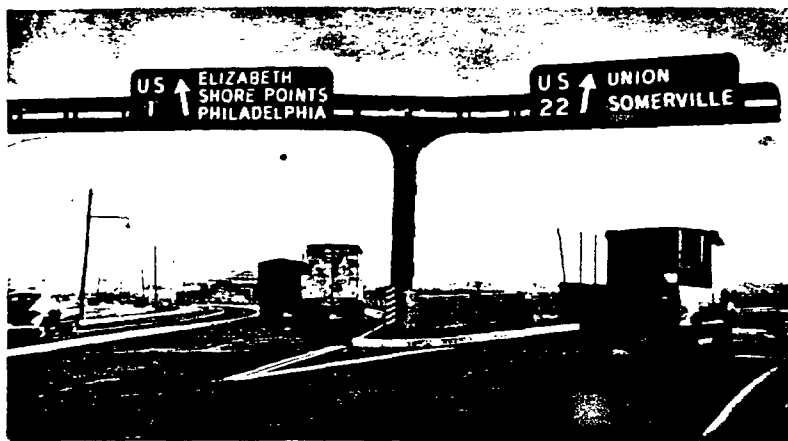
Going back into history, one finds that traffic signs are as old as man's urge to travel. No doubt they originated in prehistoric times when the caveman first roamed the jungle and threw together a pile of stones for a trail marker. When the wheel was invented, travel increased and traffic problems really began to plague mankind. Ancient Rome certainly had her traffic headaches, as chariots, bumping over the narrow congested streets, collided or ran into pedestrians. Finally, for the protection of all, the Caesars erected civilization's first "One Way" signs.

In America, before the coming of the white man, there were only two kinds of thoroughfares — the Indian

paths and animal trails. The Indians seldom marked their trails; they followed the sun and stars, and told direction by the bend of the trees and the growth of moss. However, early settlers, in pushing through the wilderness, did mark their trails, by nicking trees with axes or by bending saplings over and fastening them in position with a tough vine or piece of cowhide. As far back as 1704, Maryland passed a regulation for the marking of roads. Along some of the state's highways today, notches hacked out centuries ago can still be seen on many of the older trees.

In the days before roadside signs became common, this "monument" in Iowa helped travelers of the Lincoln Highway keep their bearings





Overhead signs, such as this one in New Jersey, show routes clearly and are easily read from a distance

To accommodate their wagons and carriages, the nation's pioneers cleared and widened many of the wilderness trails and erected road signs for the convenience of those who followed. Distances shown on these signs were seldom accurate, since the common method of computing mileage then was to multiply the circumference of a wagon wheel by the number of times it revolved.

In the pre-automobile days, there was little need for signposts. Local craftsmen created those in use and so the signs varied greatly in pattern. Painted boards served at one crossing, while at another, a carved plaque with ornamental arrows pointed in the direction of the places named.

By 1895, however, there were some 300 "horseless carriages" in operation in the United States, and it wasn't long before motorists began to organize into clubs and associations to promote their mutual welfare. The Automobile Club of Southern California pioneered in the road-marking movement soon after the turn of the century by posting 120 miles of road with concrete mileposts. These indicated the distance from Los Angeles to important outlying towns.

The Southern California club also erected the famous mission bells along *El Camino Real*, the oldest highway in the United States, along which the Spanish padres built a chain of missions. Later, the club mapped and posted the Lincoln Highway and its southern branches, the Midland and Arrowhead Trails, from various points in the country to Southern California. Travel over these roads, the club found, increased 1,000% within two years after they had been marked.

"Take the Rut . . ."

When there were few road signs, no road maps, and only a few miles of macadam highway, motorists found their way on a trial-and-error basis. One tourist out of Albuquerque received these instructions for getting to Los Angeles: "Follow this mountain range 80 miles south to a stick in the fork of a road, with a paper tied to the top. Take the rut that leads off to the right."

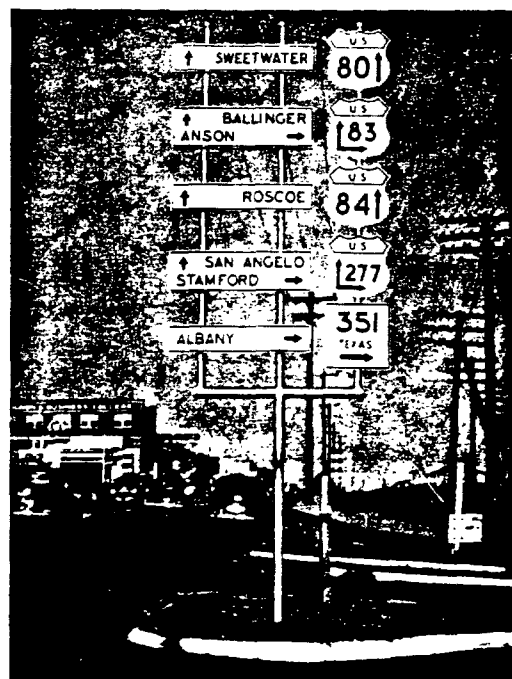
In those early days most of the through routes had no numbers and were known only by name, such as Lincoln Highway and Boston Post Road. The Lincoln Highway was

Right, a well-marked Texas intersection. Odd-numbered highways generally run north and south; those bearing even numbers, east and west

marked originally merely by red, white, and blue bands painted on poles, rocks, culverts, and other convenient objects. Later the Lincoln Highway Association furnished stencils of an official insignia along with instructions for its color scheme. Local automobile clubs and other interested groups painted these markers along the road in their own areas.

As automobile travel increased, the states became seriously interested in signposting their roads. Wisconsin is generally recognized as the first state to number its state highways. It was back in 1908 when the Wisconsin Highway Commission marked the state's trunk highways with route signs of standard design and supplemented these with directional signs on which distances were marked.

At first the various state route numbers were painted conveniently on barns, telephone poles, bridge railings and other places along the road. Eventually, highway engineers



designed a metallic marker that could be mass produced and easily erected along the road.

The numbered system of United States highways was adopted in 1925 upon the recommendation of a joint board composed of representatives of the various state highway departments and the Bureau of Public Roads. The state highway departments selected roads within their respective borders which could be integrated into a coordinated system of routes conveniently connecting at all state lines. The roads now known and marked as U.S. highways are the principal interstate and transcontinental routes of the country. They form a network of about 158,000 miles.

The numbers assigned to the U.S. routes have a significance which, when understood, adds to their general usefulness in traveling. Even numbers, such as Route 66, always designate roads of general east-west direction. The more important east-west highways — those extending largely or completely across the continent, such as Route 30 and Route 40 — are designated by multiples of 10, from 10 to 90.

Odd numbers, like Route 99, indicate roads running generally north and south. The north-south roads of



Through the information they impart, modern highway signs contribute to safer driving. This California sign gives advance notice of a major cut-off road. The use of reflector buttons helps cut down on highway glare

greatest importance — Route 25, for instance — carry two-digit numbers ending in 1 or 5. Route 101, with three digits and extending the length of the Pacific Coast, is the only exception.

Excepting Route 101, three-digit route numbers designate short routes tributary, or alternate, to main routes. For example, Route 211 is a feeder road for Route 11. The digit 2 indicates that Route 211 is the second feeder road for Route 11. Similarly, Route 330 is the third feeder road for Route 30.

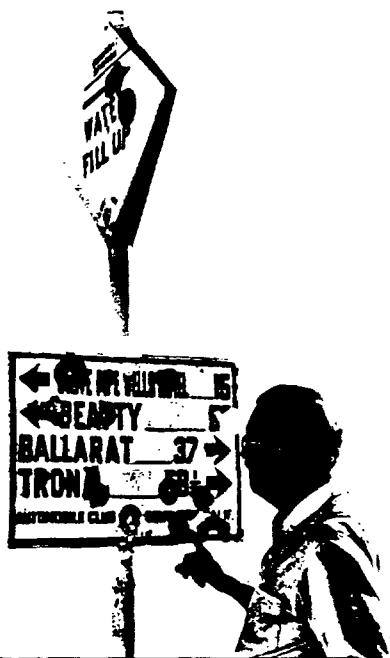
When different U.S. routes follow the same roads, the shield markers of each route are displayed together, and points of divergence are clearly indicated. Similarly, some sections of road carry both U.S. and state route numbers. In this case, the U.S. number is easily distinguished by the standard shield marker, while the state number is shown on a marker of special design peculiar to the state. The Indian

head of North Dakota, the state outline of Ohio, and the keystone of Pennsylvania are a few examples.

In addition to the route number system, the Joint Board on Interstate Highways also developed the standard system of warning, regulatory, and informational signs erected on all U.S. highways. Under this system, warning signs are diamond-shaped, while regulatory and informational signs are rectangular. On regulatory signs, the longer dimension is usually vertical; on informational signs, horizontal. As exceptions, the regulatory "Stop" sign is octagonal, the advance warning sign for a railroad crossing is circular, and the warning sign immediately adjacent to the railroad tracks is a crossbuck.

To protect the night driver, many signs have glass buttons which catch approaching headlights and flash a warning to the driver.

Increased highway speeds now necessitate bigger signs with larger letters than those of years past. The first signs often contained letters only one or two inches in height. The minimum height of lettering



Maliciously mutilated signs are a big headache to highway departments. The annual replacement bill runs close to a million and half dollars

today is usually four inches, but some are as high as twelve inches. The sign area has been proportionately increased — in several instances to almost billboard size.

Highway signs today are a mammoth operation, requiring thousands of workers in each state. Many states operate their own sign manufacturing shops and perform their own construction and erection services. Other states purchase their signs from manufacturers.

The cost of maintaining highway signs and marking devices is surprisingly high. Recently, the Texas Highway Department appropriated \$600,000 for the single purpose of center-line markings and striping, or what is known as horizontal control. And this sum provided for only 9,000 miles of a total of approxi-

mately 38,000 miles of roads under the Texas department's jurisdiction.

One of the biggest headaches in maintaining highway signs is the vandal who maliciously mutilates them. In 1950, an estimated 350,000 signs thus damaged had to be replaced — at an expenditure of \$1.4 million and 250,000 man-hours of labor. The signs are shot at by hunters, defaced by teen-agers, and deliberately bent and crushed by people with perverted senses of humor.

Who Knows Why?

Sometimes the mutilation takes a form that defies explanation. Who can understand, for instance, why a Minnesota couple spent an entire night driving along a 20-mile stretch of highway, removing all the warning signs and stacking them behind a

schoolhouse? New Mexico has found it necessary to discontinue the use of reflector buttons on its warning signs. They disappeared almost as quickly as they could be replaced. Investigation showed that the glass buttons turned up as decorations on Indian belts, saddles, bracelets and the like.

In spite of these numerous difficulties, the United States has the best marked highway network in the world. With 50 years of notable achievement behind them in providing milestones for the millions, traffic engineers, highway departments, and other interested groups fully intend to continue their progress in this field. That assures motorists that highway signs of the future will add even more to their convenience, comfort, and safety on the road.

NEW MEMBERS OF ETHYL'S BOARD OF DIRECTORS



Joseph A. Costello



B. Bynum Turner



Sanford M. Wagner

Three vice presidents of Ethyl — Joseph A. Costello, B. Bynum Turner, and Sanford M. Wagner — have been elected to the Board of Directors of the Corporation.

All three men are in charge of operating functions within the company. Mr. Costello is responsible for the coordination and planning of the Corporation's activities. Mr. Turner heads Research and Engineering. Mr. Wagner is vice president in charge of Sales.

Mr. Costello has been associated with Ethyl since 1928. He served in various management capacities in both the Sales and Manufacturing departments for most of this period, and was elected a vice president of Ethyl in December 1949. A native of Pennsylvania, Mr. Costello was graduated from Pennsylvania State College in 1925 with a B. S. degree in engineering. During World War II, he served with the Petroleum Administration for War.

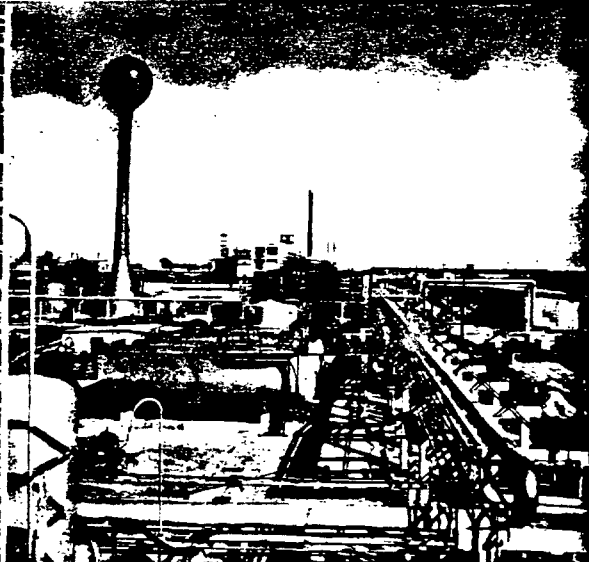
Mr. Turner joined Ethyl Corporation in 1946. He has held several key positions in the manufacturing depart-

ment, including an assignment as coordinator of the expansion of Ethyl's manufacturing facilities. That expansion program today exceeds \$100 million. Mr. Turner was named general manager of Manufacturing in 1950, and was elected a vice president last year. During World War II, he served with the Rubber Reserve Co. as head of its butadiene-from-petroleum section. He is a native of Angleton, Texas, and was graduated from Rice Institute in 1933 with a B. S. degree in chemistry.

Mr. Wagner joined the Corporation in 1926. His early assignments were in the East and Canada, where he assisted oil companies in the installation of their first blending plants for "Ethyl" fluid. He was also largely responsible for the introduction of "Ethyl" gasoline on the West Coast, where he had his headquarters for many years. He came to New York in 1950 upon his election as a vice president. Mr. Wagner is a native of Pennsylvania and a graduate of Rensselaer Polytechnic Institute.



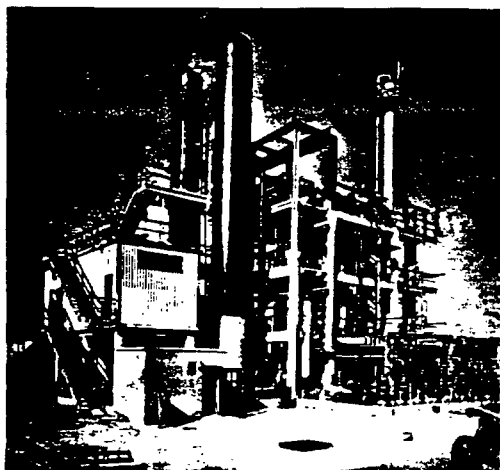
BEFORE: Less than a year ago, when this aerial photo was taken, the vast plant site was punctuated only by contractors' sheds and stacks of building supplies



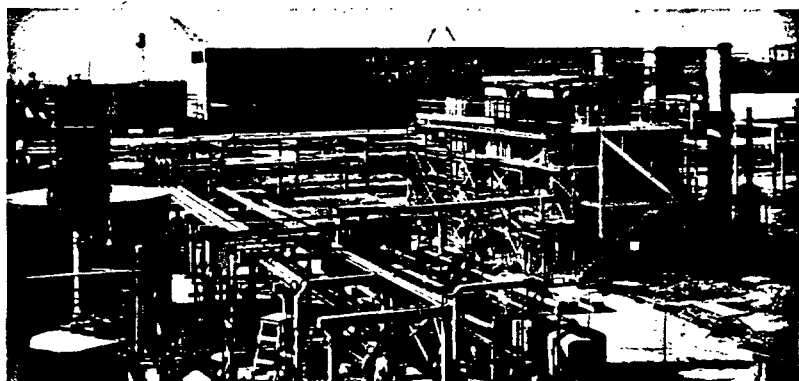
AFTER: A unique water tower which is fast becoming symbolic of Ethyl in the Gulf Coast area towers over the nearly-completed plant

ETHYL'S

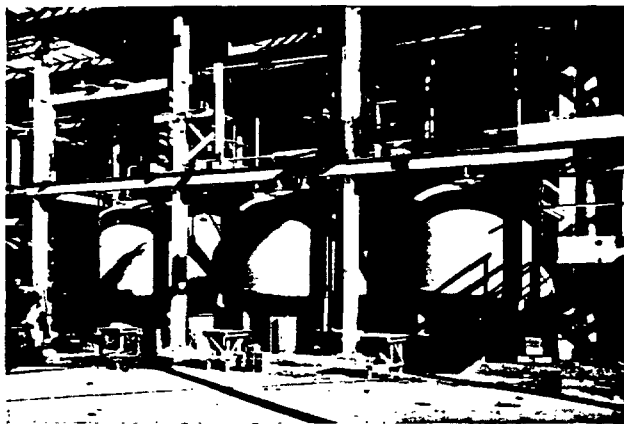
Texas Plant



The steel framework and towers of the ethyl chloride plant are reminiscent of the similarly lofty equipment of neighboring oil refineries



Already the world's largest producer of sodium, Ethyl will produce even more of the metallic element in the long building nearing completion beyond the plant's steam boilers



10

Three of the blenders in which ingredients of "Ethyl" antiknock compounds will be mixed

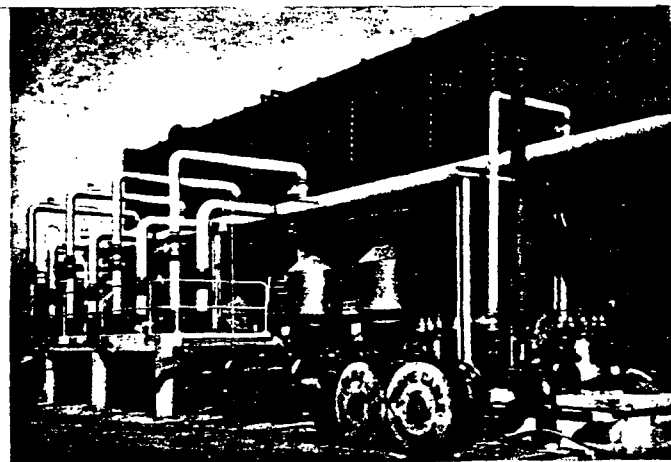
Below, in these cylindrical burners, hydrogen and chlorine will be combined to form hydrogen chloride, used in ethyl chloride manufacture



ETC 32550



Largest of the many structures that go to make up the plant is the newly re-engineered building in which tetraethyl lead will be manufactured. One wing of it is shown here



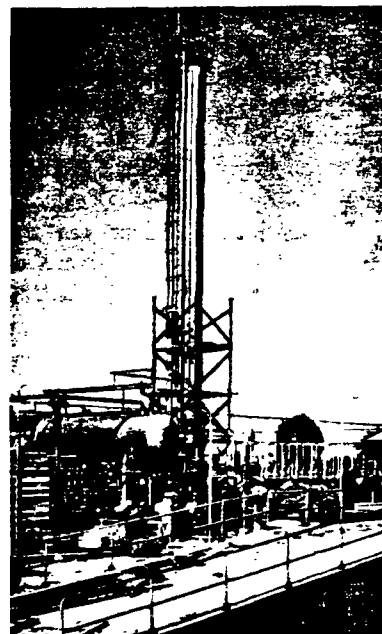
Among the auxiliary installations required is this modern tower with the capacity to cool thousands of gallons of water per minute

nt Takes Shape

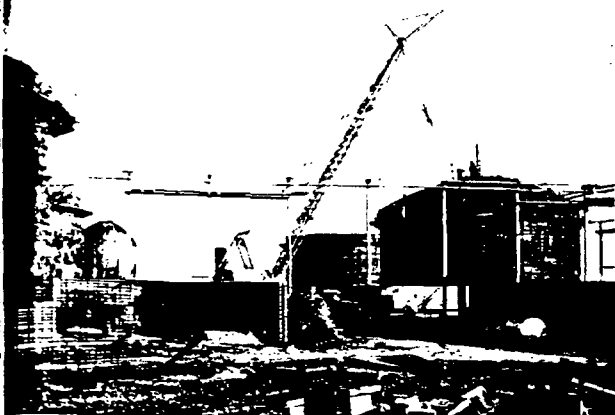
CREW MEMBERS of freighters and tankers steaming in and out the Houston Ship Channel are witnessing one of the greatest industrial expansions in the history of the country. The banks of the fabulous inland waterway, as well as the whole area throughout the Gulf Coast around Houston, are throbbing with activity as existing plants are enlarged and new ones rise from the low-lying coastal plain. Particularly outstanding in this booming atmosphere is the continuing growth of petroleum and petro-chemical manufacturing and processing facilities.

So concentrated is this activity along one stretch of the Ship Channel, in fact, that the area is often referred to locally as "refinery row."

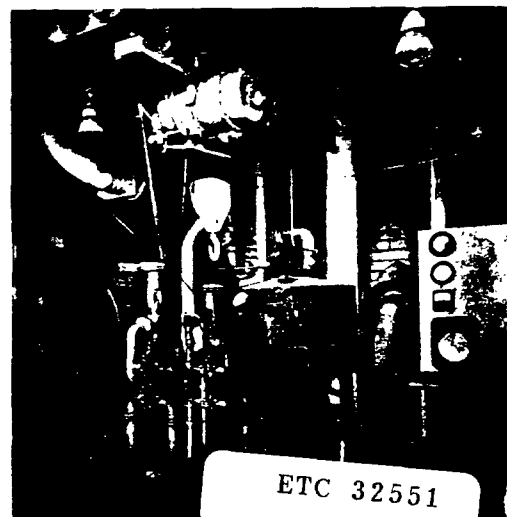
It is in this general area, in the town of Pasadena, Texas, just outside the Houston city limits, that Ethyl Corporation's new manufacturing plant is rapidly taking shape. A newcomer to the Houston region, except for a sales office in that city, Ethyl is moving into an industrial neighborhood where it will be no stranger. Representatives of the oil and chemical industries in the general vicinity of the Ethyl lo-



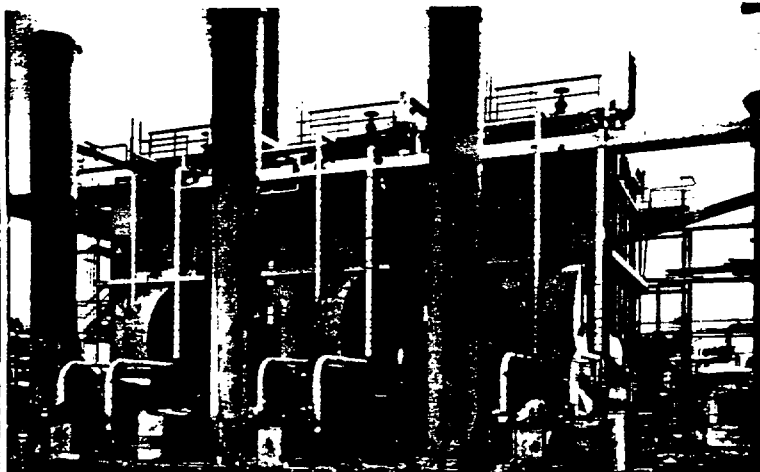
Above, its base still enclosed in a builder's scaffolding, this ethyl chloride recovery column rises high above its neighboring structures



Left, going up behind reinforced concrete safety walls are these tanks for tetraethyl lead and ethyl chloride storage... Right, this TEL building interior shows a hopper in which lead-sodium alloy will be handled before it is reacted with ethyl chloride to form raw tetraethyl lead



ETC 32551



The steam that is required in the various Ethyl manufacturing processes will be supplied by these boilers. This view is of the burner side of the installation



Above, some of the tanks that will be used for the storage of caustic, hydropolymer, and sulphuric acid

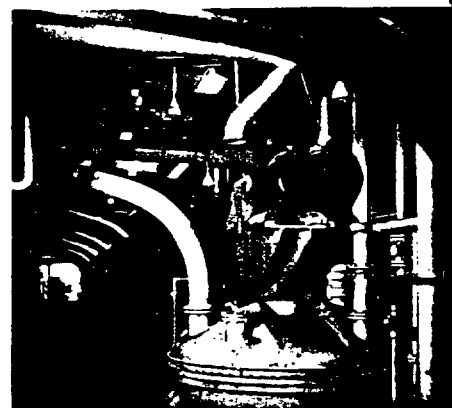
cation include such companies as Shell Oil and Shell Chemical, Sinclair Refining, Crown Central Petroleum, Diamond Alkali, Phillips Chemical, and Southern Acid & Sulphur.

Ethyl's 400-acre plant site was nothing but a broad expanse of scrub-covered flatlands in December, 1950, when construction crews moved in. Since that time, construction men and machines have transformed the area into what is fast becoming a modern chemicals manufacturing plant. The seemingly endless stream of materials and equipment that pour into the area by truck, rail, and ship are as-

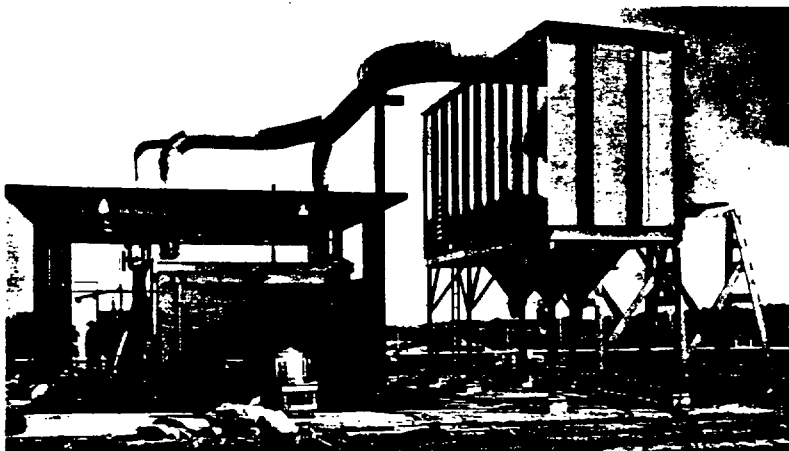
suming recognizable proportions. Looming up and spreading out over the acreage are a number of buildings, storage tanks, steel towers, and supply pipelines.

Under present construction schedules, the plant, now about 85% completed, is due to go on stream late in the spring of this year. From these buildings will come the sodium, chlorine, ethyl chloride, ethylene dichloride, tetraethyl lead, and other ingredients needed for the manufacture of "Ethyl" antiknock compounds.

The pictures on these pages give an idea of the plant's state of completion at the start of this year.

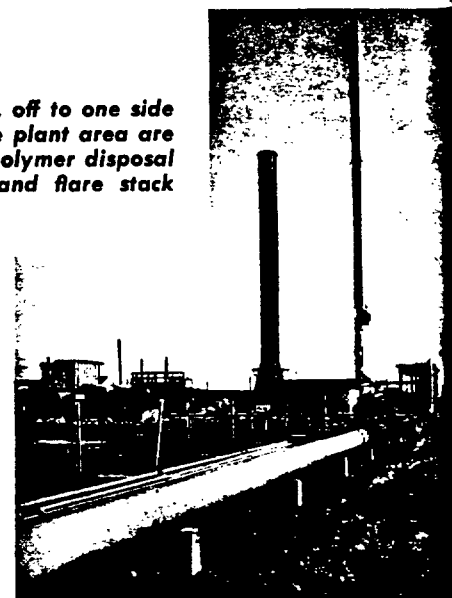


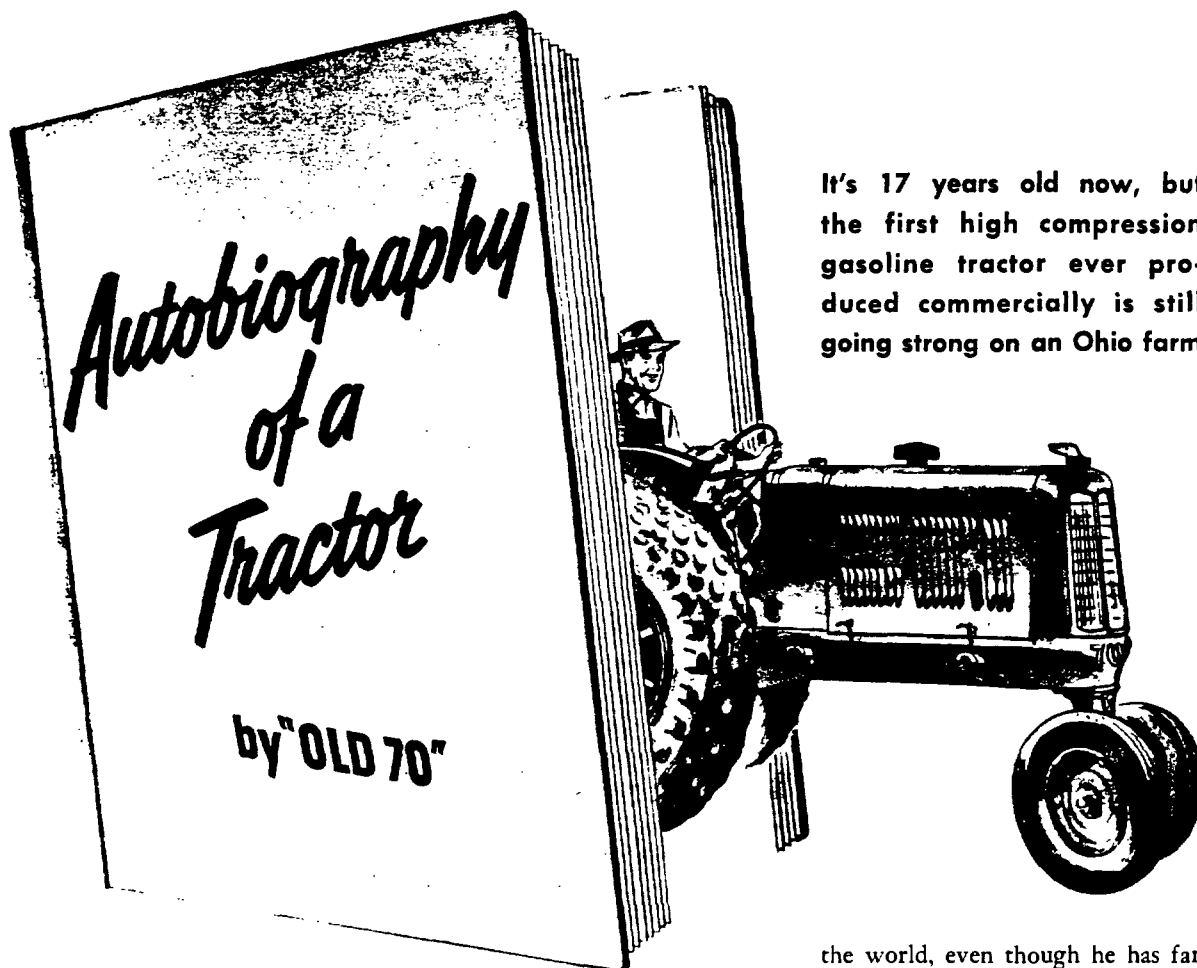
Above, something of the complexity of the Ethyl chemical plant is pictured in this photograph, taken along a line of tetraethyl lead stills



Among the many maintenance "tools" that will help keep equipment at the new plant in top operating condition is this large sandblaster with attached dust collector

Right, off to one side of the plant area are this polymer disposal unit and flare stack





It's 17 years old now, but the first high compression gasoline tractor ever produced commercially is still going strong on an Ohio farm

(Ed. note — Seventeen years ago, in January of 1935, an Ohio farmer named Elmer Niebel made agriculture history when he purchased the world's first production model high compression gasoline tractor. In the comparatively brief time since then, the swing from low compression spark-ignition tractors burning kerosene, distillates and other heavy fuel oils to those powered by the modern team of gasoline and the high compression engine has become almost complete. More than 80% of the four million-odd tractors now in use on America's farms are gasoline-powered.)

Farmer Niebel's historic tractor has enjoyed a full and useful life. Here, in what might be the tractor's own words, along with certain parenthetical comments, is the story of that life to date.)

AS TRACTORS GO, I'm getting old now. Even so, I still turn in an honest day's work, and, if I say so myself, I've been pretty much of an indispensable item to those who have owned me through the years.

We gasoline tractors — the older ones like myself and the shiny new ones that keep pouring off the assembly lines year after year — have done our part in both peace and war. You all know how economical we are to operate and maintain, how much easier we start and handle, and how much more power we produce than our "old fashioned" brothers. Well, that's why we've been patted resoundingly on our metal backs for the tremendous part we played in World War II's record production of food, and why we're now receiving new plaudits for enabling the American farmer to feed

the world, even though he has far fewer hired hands than ever before.

(Working with hand tools and a team of oxen or horses, the farmer of three generations ago was lucky to produce sufficient food for himself and three other persons. Today, farmers grow enough for themselves and 13 other people — and they do it easier and in lots less time. As the number of high compression tractors on American farms increases, so does food production rise. Right now, for instance, production is 40% higher than it was ten years ago.)

Well, getting back to myself. I'm what the Oliver Corporation farm equipment manufacturing people called their Model 70. I was dubbed the "70" because I was specially designed to operate on 70-octane gasoline, which, you'll recall, was pretty good fuel in the mid-30's.

The man who bought me was a

kindly farmer named Elmer Niebel. He had a place just outside Napoleon, in northwestern Ohio. It was only coincidence, I guess, but Napoleon is in Henry county, which was (and still is) Ohio's top-ranking agricultural county. Mr. Niebel had purchased me sight-unseen. I was just a blueprint. In fact, I hadn't even gotten off the drawing boards yet when he put his money down in January of 1935. He was pretty sure I would serve him well, I guess, because Mr. Niebel and his younger son, Merrill, had run a series of tests for the Oliver people during the previous summer. With Oliver and Ethyl Corporation engineers as interested observers, the Niebels worked over a 400-acre tract, using an Oliver model that had an experimental high compression power plant. What a difference that peppier, more powerful engine made! It left no doubt that gasoline tractors could do a far better job than my low compression predecessors.

(Ethyl Corporation pioneered and sparked the development of the high compression gasoline tractor.

On permanent display at the University of Illinois Museum is a high compression tractor which Ethyl engineers converted from low compression and publicly demonstrated in the summer of 1934. This event, plus the Oliver tests, were the final demonstrations needed to convince most farm machinery manufacturers of the extra benefits of high compression farming.)

Something Special

From the time I left the Oliver plant in Charles City, Iowa, I knew I was something special. I had heard men in the plant talking about me while I was being built. "First tractor really designed for gasoline — bet it revolutionizes farming," and other things like that.

With such complimentary remarks still ringing in my ears, I was expecting quite a reception when the railroad flat car on which I was transported pulled into Napoleon. I wasn't disappointed. There were many excited people on hand to greet me. That was rather flattering because this was November

(1935), and November gets pretty cold in northern Ohio. As soon as I arrived at the Von Deylen-Wiemken agency showroom, George Von Deylen telephoned my new owner. Elmer Niebel was in for his first look almost before Mr. Von Deylen hung up.

I didn't go right home with Mr. Niebel. He and Mr. Von Deylen had an arrangement for me to stay in town as a demonstrator during the winter months. How they showed me off! Farmers from all over came in to give me a look-see.

(Seventeen years ago, this was the only production model gasoline high compression tractor to be found in all of the United States. Now the nation's farm tractor population is in excess of four million, about four times what it was when Elmer Niebel made agriculture history. Eight of every ten tractors



Left, George Von Deylen, who sold the historic first tractor, with Paul Niebel...Below, Earl Knipp, second owner...Right, Lawrence Sherman, present owner, at the wheel of the tractor



in use are gasoline-powered, and they help provide the American farmer with 178 million horsepower in mechanical energy — the world's greatest power plant.)

Spring arrived at last, and, on a bright April morning in 1936, a very proud Elmer Niebel and I started out to prepare his fields for corn, oat, and wheat plantings. My red wheels glistened, and it was a wonderful feeling to dig my steel toes into that rich, black sandy loam. All tractors were factory-equipped with steel wheels in those days, but it wasn't long before they began outfitting us in comfortable, serviceable tires to help us perform that much better.

It was a busy summer for me, because I had to work 103 acres on Mr. Niebel's farm and about the same acreage for a neighbor. I took care of all the plowing, cultivating,

ting back to work by having to wait for it to warm up.

When the summer chores were through, I spent the fall months pulling a combine around doing "custom work" in the area after the wheat was in.

(The combine — both the towed and self-propelled models — is but one example of the many labor-saving improvements in farm machinery that have been encouraged and made practical by the development of the high compression gasoline tractor. There are almost 600,000 grain combines in use now, against less than 200,000 in 1940. With a new tractor-drawn combine cutting a six-foot swath, the farmer can cut and thresh two acres of wheat, yielding 40 bushels, in less than an hour. Today's farmer thus harvests wheat almost 50 times faster than his prototype of 1850.)

You can imagine my dismay one morning early in 1941 when Mr. Niebel came out of the barn intently reading an advertising folder he must have picked up in town. There were pictures of shiny new tractor models, and they were the last word in modernity, what with their rubber tires and improved engines. That was the beginning of the end of my association with the Niebel family. I heard Mr. Niebel tell his sons that as much as he hated to part with me, he just couldn't resist those 1941 models. So it was that I was sent back, as a trade-in, to the Von Deylen-Wiemken agency, to await some new owner.

He turned out to be Earl Knipp, who farmed a nice place out on River Road about five miles west of Mr. Niebel's farm. The Von Deylen-Wiemken workmen had given me a new coat of green paint and cut down my heavy old steel wheels and put on a set of rubber tires, just like the newer tractors had. Then,

and harvesting — and "like it had never been done before," Paul Niebel, the elder son, said. One feature that particularly pleased the Niebels, I remember, was my easy starting ability. They had had to keep my low compression cousin running all through the dinner hour, so they wouldn't be delayed in get-



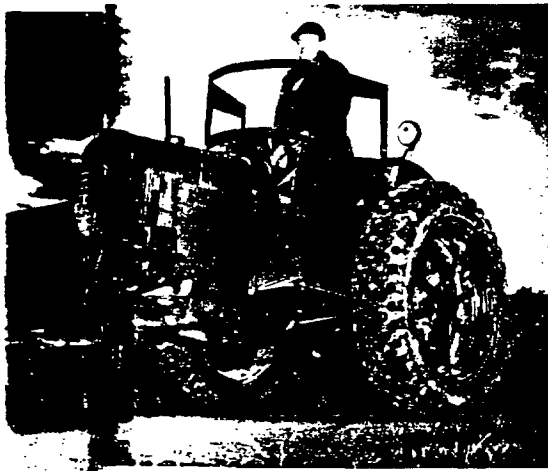
The Henry county courthouse in Napoleon (above), stands on a site which Elmer Niebel's grandfather cleared of trees with a team of oxen

Mr. Knipp, who once had been a mechanic at Von Deylen's agency, fixed me up with a set of high-speed transmission gears. This gave me six forward speeds.

Big War Job

I worked hard on the Knipp farm — used to make six rounds of a field while an older tractor was doing only five. Then came Pearl Harbor, and I remember Mr. Knipp saying "Well, this means we farmers will have to do an even bigger job now." How right he was! Starting with the 1941 harvest and right on through 1944, I pulled a combine through 600 acres of grain each year. And all the while Mr. Knipp and I were maintaining this pace on the home front, his two boys were serving their country in uniform.

(Year after year, during World War II and ever since then, the American farmer has met the peak production goals set for him. A return to the lower pre-Pearl Harbor production levels, which many thought would be the case at war's end, never materialized. Production has remained about one-third above that of the Thirties, and has in-



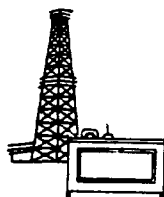
creased 40% in the past ten years alone. All this has the farmer been able to do, despite a sizeable reduction in the farm labor force. Many developments — such as better implements, modern methods of soil management, and improved seed, fertilizers and insecticides — have helped make this outstanding record of accomplishment possible. But the biggest single contributing factor has been farm mechanization.)

In 1944, Mr. Knipp decided that the big farm was too much for him to handle without his sons, even with me and the other tractor on hand to help. Along with the other farm equipment, I was disposed of at public sale. And who should claim me but George Von Deylen.

Third Owner

He took me out to his old family farm on the other side of Napoleon, where I continued my war production work and stayed until the summer of 1946. I was in the shop for a reconditioning when Lawrence Sherman, who had been working in Von Deylen's service department, took a fancy to me. He had just decided to return to full-time farming, and thought I still had enough in me to do a creditable job. So, I was loaded onto a truck and driven to the new 140-acre place Mr. Sherman had acquired near Liberty Center, a few miles from Napoleon.

It was in August of 1946 that I went to the Sherman farm, and that's where I've been ever since. If I do say so myself, I'm still going strong, doing all the jobs any farmer has a right to expect of a sturdy high compression gasoline tractor. Sure, I feel a little older than I did that morning in 1936 when Elmer Niebel and I first went to work together, but that's only natural what with 15,000 hours of service under my belt. Or, should I say "hood"?



Desk and Derrick Club

1427 Hibernia Building
New Orleans, Louisiana
December 14, 1951

The Editor
Ethyl News
100 Park Avenue
New York 17, New York

Dear Sir:

On December 1 and 2, the first meeting of the Board of Directors of the Association of Desk and Derrick Clubs of North America was held in New Orleans. At this meeting, which was attended by all national officers, plans were made for the Association and member clubs for the year 1952. At present there are twelve affiliated clubs, with more than that number completing plans for affiliation early in the New Year. Some of the highlights of this meeting included plans for a national bulletin, a Desk and Derrick emblem, and a convention in the Fall of 1952.

As you will recall, the feature article in the June-July issue of Ethyl News, entitled the "Queen of Clubs", told the story of Desk and Derrick and was the first release on the national Association. Since July 1 we have had more than fifty requests regarding Desk and Derrick, a large majority of which resulted from some woman in the oil industry having read this article. In telling women in the oil and affiliated companies about Desk and Derrick, we feel that Ethyl Corporation has done a great service not only to the women in the oil industry but to their employers as well. It has now become a foregone conclusion that members of Desk and Derrick are definitely better informed for having heard lectures by key oil men and having made field trips to drilling locations, refineries, and other phases of operation.

In behalf of the national officers, the approximately fifteen hundred women in affiliated clubs, and the hundreds of others to be affiliated early in 1952, I would like to express to Ethyl News our grateful appreciation for the wholehearted support given Desk and Derrick, and the splendid assistance given in helping us tell the men and women of the industry of the opportunities offered by our organization.

Sincerely yours,

Lee Wilson Hoover
Lee Wilson Hoover, President
Association of Desk and Derrick
Clubs of North America

Inflation, but of a pleasant variety and not the kind associated with economics, has come to the Association of Desk and Derrick Clubs of North America. Less than three years ago, Desk and Derrick existed only as an idea. Now, its membership has inflated to the point where Clubs are found in many of the major cities throughout the United States and Canada.

Ethyl Corporation, through publication of an article in ETHYL NEWS, is naturally proud to have played a part in this phenomenal growth of the Desk and Derrick organization, and to have performed, as Mrs. Hoover points out in her letter, "a great service not only to the women in the oil industry but to their employers as well."

The main purpose of the organization of women oil industry employees is contained in Mrs. Hoover's statement that "it has now become a foregone conclusion that members of Desk and Derrick are definitely better informed for having heard lectures by key oil men and having made field trips to drilling locations, refineries, and other phases of operation."

Demand for the June-July 1951 issue of ETHYL NEWS, which contained the article about Desk and Derrick, was so heavy that our supply long ago became exhausted. However, for those who wish to read or re-read it, reprints of the article are now available and may be had by writing The Editor, ETHYL NEWS, 100 Park Avenue, New York City 17.

A broader understanding of petroleum and its social significance is being gained by American youth as . . .

OIL GOES TO SCHOOL

IN MOST RESPECTS, if not geographically, the counties of Middlesex in Connecticut, Cheyenne in Nebraska, and Sacramento in California are poles apart. Middlesex, home of some 67,000 thrifty New Englanders, straddles the Connecticut River and nestles cozily in that stream's picturesque valley. Cheyenne sprawls across the wind-blown Cornhusker state's western plains and can claim no more than about 12,000 inhabitants. Sacramento county, in sharp contrast to the others, takes in some of the mountains of north-central California, and with that state's capital city as its heart, boasts some 277,000 citizens.

But, putting these factors aside, Middlesex, Cheyenne and Sacramento, along with 69 other "typical" counties spread across and up and down the United States, do have one very definite thing in common. All are serving as proving grounds for an intensive educational program designed to instill in America's young people a fuller appreciation of the vital role that oil — and the oil industry — play in making ours the greatest nation ever.

The vast undertaking, still in its experimental stages, is being sponsored in junior and senior high

schools throughout the 72 "pilot" counties by the Oil Industry Information Committee, public relations arm of the American Petroleum Institute. Or, more specifically, it is under the auspices of the OIIC's subcommittee on Youth and Education. If the program proves as successful finally as now indicated, it will be introduced, in time, to thousands of other schools.

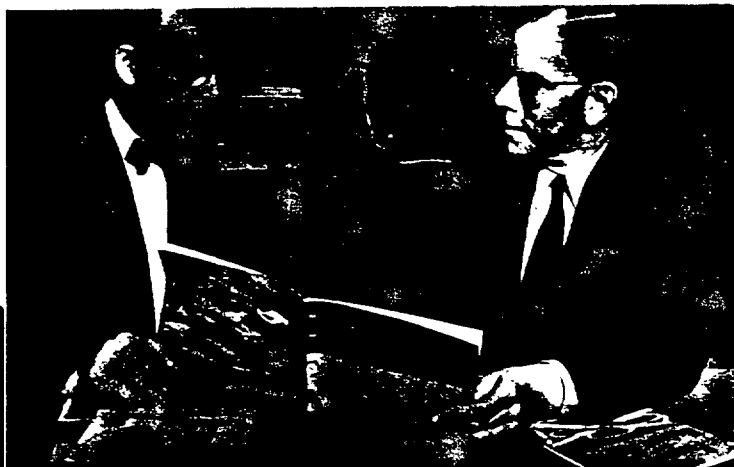
Twofold Purpose

Actually, the program works as a two-way street. It provides schools with a modern and novel approach to the old problem of how to get across to students the story of an American free enterprise in simple, direct fashion. And, because all contacts with the schools are conducted at the local oilman level, it brings those men closer to the problems of education, "with the expectation that they will be stimulated to take greater personal interest in education and more effectively lend their support and cooperation to the schools." That, then, is the twofold objective of this comparatively new industry-wide project.

The basic working tools of the school program are special booklets for student use, guidebooks and a handbook for teachers, wall charts, and film strips. All have been written or prepared to drive home the petroleum industry's message in highly-dramatic style. None of the industry's teaching aid materials, however, is intended to replace approved textbooks. Rather, the entire program is of a supplementary nature, designed to present the very latest information and to present it in a manner in keeping with the stepped-up tempo of the times.

Students at schools in each of the 72 OIIC test counties receive 16-page, easy-to-read booklets, all of them liberally illustrated with up-





The OIIC program is introduced to schools by local oilmen. Left, Earle M. King, of Gulf Oil (standing), discusses the program with Springfield, Mass., school leaders . . . Above, R. B. Baldwin, president of C. P. Smith Petroleum Corp., and a Burlington, Vt., high school principal review one of the industry's study booklets

to-date photographs and charts. Each of the booklets supplements the normal classroom instruction in one of six different subjects — general science, social science, economics, physics, chemistry, and conservation. Each pamphlet spells out — far more than can textbooks which must deal with not just one but many industries — a different phase of the industry. Together, they form a veritable biography of oil, from its formation under the earth's surface eons ago through a sound discussion of the socio-economic implications of petroleum in the Twentieth Century.

To guide the classroom instructor in helping students make best use of the booklets and receive the full advantage of them, a teacher's handbook is provided. Using this, teachers can carefully plan instruction about petroleum and the petroleum industry, and so make maximum use of the wall charts, film strips, and other teaching aids provided under the OIIC program.

Now in its second full school year, the petroleum industry educational project is no hit-or-miss affair. It was studiously conceived and planned, and is being carried out with the OIIC's finger on the pulse

of the test schools to keep abreast of any improvements that educators think can be incorporated to make the program even more acceptable than it already is.

The project was originally launched by the OIIC Youth and Education subcommittee under the chairmanship of Franklyn Waltman, of Sun Oil. The present chairman is Upshur Evans, of Standard of Ohio. Other members are Ralph F. Carey, of Shell Oil; Clarel B. Mapes, of Mid-Continent Oil and Gas Association; Daniel Pierce, of Sinclair Oil; Richard Rollins, of Atlantic Refining; and Charles E. Simons, of Texas Mid-Continent Oil and Gas Association.

When the oil industry school program was first conceived, no one could question its real need. Public opinion surveys had shown that, although oil is one of the country's largest and most dynamic industries, the public was all too little aware of oil's significance in the modern world. Overlooked or taken for granted, the polls demonstrated, was the petroleum industry's role in developing America's high standard of living and in promoting the welfare and security of the nation. The public did not appreciate the

Below, one of the teaching aids is a wall chart which follows the flow of oil from the time it is produced until it reaches the consumer



highly competitive, progressive nature of the industry; did not know that the industry provided direct gainful employment for two million men and women in the United States; did not know of the industry's ceaseless effort to find new oil and to conserve and protect existing supplies; did not know a million and one other important facts.

In telling the rich, full story of petroleum to America, then, a logical starting place was with the teenagers of today, who will be the adult citizens of tomorrow. But to win a race, you have to do more than merely toe the starting line. So, to make certain that its proposed program would find acceptance among the junior and senior high schools, the OIIC conducted a survey of its own. It wanted to establish, first of all, that educators, teachers, and students alike would welcome business-sponsored teaching aids. Secondly, if so, what types of material would best serve the purpose? City and county school superintendents, teachers, and school principals were interviewed. Other key educators were consulted. Advice also was obtained from the National Education Association and the U. S. Office of Education.

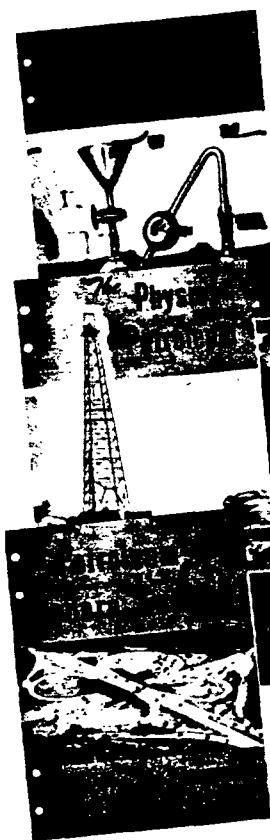
The answer rang clear: Education circles not only appreciate and use the right kind of business-sponsored teaching aids, but consider them absolutely essential to modern-day classroom instruction. In turn, American industry as a whole, another survey determined, considers that one of its most valuable contributions to education is in making classroom instruction more realistic, more vibrant, more interesting.

So it was, on such a firm foundation, that the OIIC project was built. Even though now only in its second year, the program has already tripled in size so far as num-

ber of cooperating schools is concerned. When originally introduced, it encompassed only 24 counties — two in each of the 12 OIIC districts throughout the nation. This year, 48 more counties have been added. Schools in hundreds of additional counties are anxious to join in, but 72 is the most the OIIC feels it can

hoped, more frank answers will be obtained than if the students knew they were going to be queried and thus perhaps pay closer attention to the petroleum material than they might ordinarily.

All the while students are becoming better acquainted with the petroleum industry through the use of the special material, the OIIC expects that local oilmen participating in the program will, in turn, become more familiar with the educational structure in their respective



One of the by-products of the school program is that many students take home the oil material, thus bringing the industry's message to the attention of parents as well. Some of the current junior and senior high school study booklets are shown here

properly service at the present time.

A series of unique surveys this school year will tell the OIIC how well its program on behalf of the petroleum industry is being received. One survey, for instance, will be made among students both before and after they have used the petroleum booklets and other classroom material. Another questionnaire will go to students only after use of the material. By skipping the "before" test with this group, it is

communities. For, to stimulate this greater interest in education on the part of oilmen is also a very definite objective of the industry program.

Just how does this work in the case of a local oilman? Joel E. Thames, Cities Service distributor in Macon, Georgia, is a typical example. When the oil industry school program got under way in the fall of 1950, he was serving as OIIC area chairman. Bibb county, in which Macon is situated, had been

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Wherever you live, you can enjoy a great variety of foods shipped from far away...



...largely because of gasoline and diesel engines, you can ride to school today instead of walking long distances...



All aircraft—military, commercial, and private—would be grounded if our petroleum supply were suddenly cut off.

Film strips are another type of teaching aid employed in the OIIC program. The scenes at left are from the film strip entitled "Petroleum in Today's Living"

ing hours of their time and ability to acquaint the people of their areas with the oil industry, it was music to Joel Thames' ears when Bibb was named as one of the two counties in the Southeastern OIIC district to participate in the school program. Here was an opportunity for him to help tell oil's story to a new group in his area, and at the same time, as a public-spirited individual citizen, to learn more of the problems facing local educators.

Special Course

To acquaint Mr. Thames and other area chairmen with the full concept and scope of the then-brand new school program, the OIIC conducted a two-day indoctrination course in Chicago. Like the others, Mr. Thames became wholeheartedly enthusiastic about the project. Back in his home county of Bibb, he lost no time in setting the wheels in motion.

Without pressuring or forcing the program in any way, Mr. Thames carefully explained it, first to county school superintendents, then to local educational administrators and finally to the teachers themselves. He told them why the petroleum industry had embarked upon the educational program, and what materials it could place at the disposal of students and teachers to instruct not only in the chemistry and physics of petroleum and petroleum refining, but also to show the position that petroleum occupies in the modern world and what careers in oil would be open to the boys and girls when they reached working age. The program, Mr. Thames pointed out, could be sup-

plemented by motion pictures, personal talks by oilmen, tours of oil installations in the area, essay contests on the subject of oil, and so on.

After studying the sample student booklets and teacher handbooks left with them, all educators contacted were ready to advise Mr. Thames, on his return visit, that they would enthusiastically participate in the program. In fact, one school in Macon had already scored a beat by building, on its own, an intricate table model of an oil field and a surrounding village—an unusual degree of interest in things petroleum considering that Georgia is not an oil-producing state. The exhibit was constructed by more than 150 boys of the general science classes at Lanier junior high school.

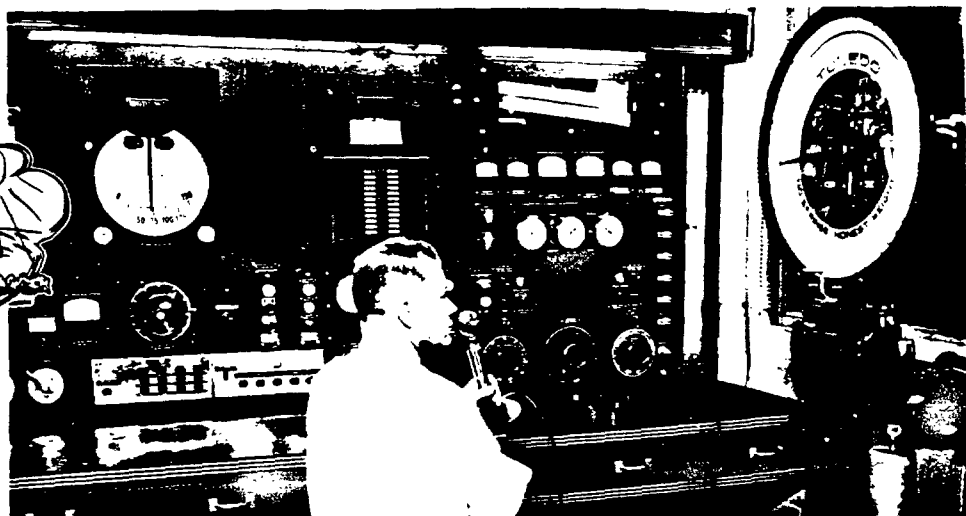
It is to keep alive and intensify such interest in petroleum, and to introduce the industry to students who may not be as acquainted with it as were the Lanier school boys, that the OIIC program was instituted. As it continues to accomplish that purpose, the result should be a more universal understanding on the part of the general public of the petroleum industry's immeasurable contributions to the well-being, security, and improved standards of living for all Americans.

selected as one of the original 24 "pilot" counties, and it was chosen because it is considered an "average" state subdivision. None of the OIIC experimental counties contain exceptionally large cities, but all do have both urban and rural sections and industrial and suburban families. Some of the counties can boast of refineries, pumping stations, or some other type of oil industry installation; others have none.

As one of the thousands of local oilmen who are voluntarily devot-

OUR COVER: A lone skier pauses to admire the beauty of a winter wonderland in the timberline section of Mount Hood, Oregon. Kodachrome by Ray Atkeson from A. Devaney, Inc. **OUR PICTURES:** Pages 6 (bottom) and 7 (top), Bureau of Public Roads; page 7 (bottom), Texas State Highway Department; page 8 (top), California State Highway Department, and (bottom), Automobile Club of Southern California; page 13, art work by Bill Nevinger; pages 14 and 15, photos by Jean Vincent; page 17, A. Devaney, Inc.; pages 18 and 19, courtesy New England District, Oil Industry Information Committee.

Push-Button Weather for Knockrating



New "indoor highway" facilities at the Ethyl Laboratories overcome the inconveniences of fuel-testing on the open road

IN ITS EFFORT to provide the very best in products at all times, the petroleum industry long ago learned that what is good gasoline today may be outdated by tomorrow.

Continuing progress in automotive engine development places before oil companies the constant need to "tailor" gasolines to meet ever-changing car requirements, if their particular fuels are to continue to find favor in the highly-competitive motorist marketplace. Refiners must regularly evaluate the antiknock quality of many combinations of gasoline stocks in order to select fuels which are the most satisfactory in car service and, at the same time, the most economical to produce. The really significant measurement of antiknock quality, then, is one obtained

under conditions typical of actual car use.

To help refiners make such evaluations with greater convenience and at a saving of time, the Ethyl Corporation Research Laboratories in Detroit have developed "all-weather" chassis dynamometer facilities which represent a new milestone in this particular field of fuel research.

Precise Control

The use of chassis dynamometers in knockrating work is not new, of course. But those at the Ethyl Laboratories are novel in that they permit the indoor operation of vehicles under precisely-controlled atmospheric and highway conditions which simulate those to be found wherever cars are driven in the United States.

The chassis dynamometer may not be familiar to everyone. It is a device which permits an automobile to develop power while remain-

The control panel for the all-weather rooms is shown above. The engineer at the panel and those conducting tests in the dynamometer rooms keep in touch via an inter-com system

ing stationary. The rear wheels of the car are placed on rollers which drive power-absorption equipment. The two chassis dynamometers at the Ethyl Laboratories truly are "indoor highways" that are ever free of traffic, adverse weather and all the other inconveniences of an antiknock evaluation program conducted on the open road.

Gasoline knockrating on the Ethyl indoor highways is offered in addition to, and not in place of, laboratory and road evaluations. Of the three methods of rating — in a laboratory test engine, on the highway, and on the chassis dynamometer — the last has been used the least, chiefly because, lacking proper control of simulated climatic and other variables, the results have not always matched those

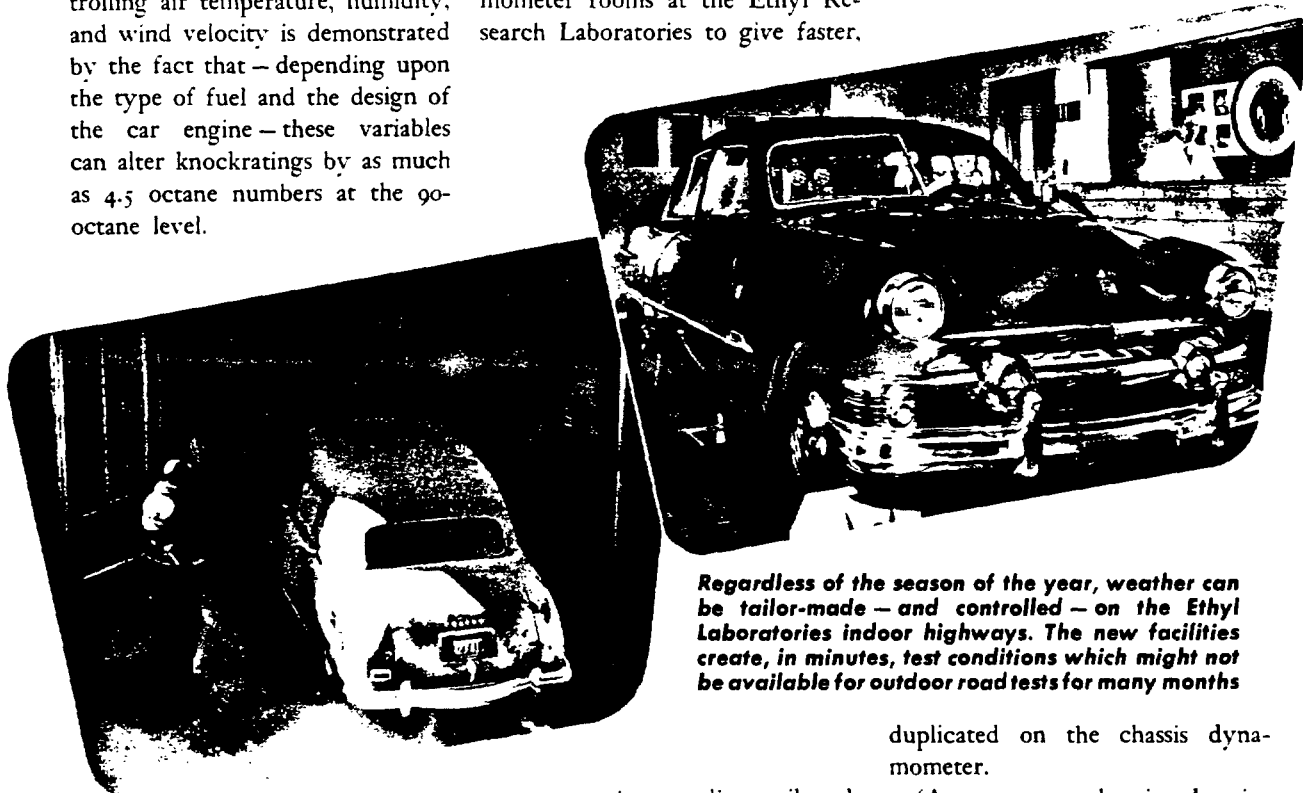
produced on the road or in the laboratory. Experience has proved that exact duplication on the chassis dynamometer of fuel knock-ratings obtained on the road requires extremely reliable reproduction of temperature, humidity, and wind velocity.

The necessity for carefully controlling air temperature, humidity, and wind velocity is demonstrated by the fact that—depending upon the type of fuel and the design of the car engine—these variables can alter knockratings by as much as 4.5 octane numbers at the 90-octane level.

wait of several months for the desired weather, or without a long trip to some other geographical region. This flexibility also makes it much easier to obtain new data under the same conditions months and years later, if necessary.

No detail has been overlooked in designing the two chassis dynamometer rooms at the Ethyl Research Laboratories to give faster,

the speed of the rear wheels of the car, cause underhood temperatures virtually equal to those which would exist if the car were being operated on the open road. In addition, the all-weather rooms are fitted out so that simulated road grades and acceleration of rear wheels on the road are accurately



Regardless of the season of the year, weather can be tailor-made — and controlled — on the Ethyl Laboratories indoor highways. The new facilities create, in minutes, test conditions which might not be available for outdoor road tests for many months

Of almost equal importance is the accurate reproduction of vehicle speed patterns employed during road fuel tests.

Now, with chassis dynamometers equipped to provide the necessary range and control of these weather and speed variables, the Ethyl Laboratories provide an opportunity for study of the behavior of gasolines in automobiles with excellent reproducibility assured. In a matter of minutes, test conditions can be created which are sometimes not available for outdoor road testing without a

more convenient gasoline antiknock quality evaluations.

Specially-designed refrigeration, heating and water spray units have been installed, and these are coordinated to cool, heat, humidify, or dehumidify as required to attain the desired atmospheric condition. Electrical brains actuate cooling air blowers which are powerful and flexible enough to generate winds ranging from a gentle breeze to a gale. Satisfactory correlation of road and chassis dynamometer knockratings would be impossible without these winds which, varied automatically in accordance with

duplicated on the chassis dynamometer.

(A more comprehensive description of the facilities is contained in a brochure entitled "Road Knock-rating Indoors with Ethyl's New All-Weather Rooms." Copies of the brochure may be obtained from the Ethyl Corporation regional offices in New York, Chicago, Tulsa, and Los Angeles.)

As one of the pioneers in developments concerned with the broad field of antiknock evaluation, Ethyl Corporation offers its new all-weather facilities as still another tool available to aid refiners in their ceaseless effort to provide the utmost in gasoline quality.



TO KEEP 'EM ROLLING

In weight, cost and almost every other consideration, tires represent a small part of any motor vehicle. But try running an automobile or a truck or a bus without them!

During World War II, and even more recently, the motoring public had a taste of what it means not to have sufficient rubber to shoe adequately the nation's 50 million passenger and commercial vehicles. That our entire system of automotive transportation did not collapse during World War II can be credited to an industry which was non-existent when the Japanese threw their Sunday punch at Pearl Harbor.

That industry, the synthetic rubber, is the child of three of the country's great industries — the petroleum, the rubber, and the chemical. As Nippon's hordes swept over those countries from which we imported most of our natural rubber, the call went out to those best equipped to do the job to establish a synthetic program. Nourished by the versatility and flexibility of American free enterprise, such an industry blossomed forth almost overnight. Progress was so rapid, in fact, that by late 1943 *Chemical Engineering* magazine could bestow jointly upon 67 petroleum, rubber, and chemical companies its coveted Achievement Award for their "meritorious contribution to the design, construction, and operation of the American synthetic rubber industry." (Ethyl Corporation, incidentally, was among those companies which shared the award.)

Now again, *Chemical Engineering* has seen fit to pay tribute to work done in the synthetic rubber field. This time, one company is singled out for honors. The Achievement Award for 1951 has gone to Phillips Petroleum for "its

valiant role in meeting the continuing challenge of the synthetic rubber industry." Specifically, the honor is twofold: for Phillips' development of high abrasion furnace black and for its other major contributions to the development of cold rubber. Just one result of these gains is that thousands of miles of safe and useful life now are added to the tread of an automobile tire.

Together, the accomplishments for which Phillips was honored have, as K. S. Adams (left in above photo), company board chairman, told guests at the Achievement Award dinner in New York City, "tipped the balance from natural to synthetic rubber for tire treads, thus making the United States more nearly self-sufficient in rubber, contributing to the nation's defense, and insuring low-cost transportation for our millions of motorists."

Presentation of the Award was by Alfred H. White (right in photo), professor emeritus of chemical engineering at the University of Michigan and chairman of the committee of 70 senior professors of chemical engineering which selected the Award recipient.

It was, Prof. White remarked in paying tribute to the entire petroleum industry, "noteworthy and cheering that the 1951 Award should go to a representative of an industry which has in a generation changed its mode of operation from rule-of-thumb distillation of various kinds of fuel oil from crude petroleum, to one which has assembled great scientific and technical staffs and which synthesizes large quantities of new chemicals to be converted into new products of great benefit to the whole human race."



The seed that grew a crop of new customers

It was the seed of an idea — an Ethyl idea that over the past sixteen years has helped sell millions of dollars' worth of petroleum products to farmers.

Like most good ideas, this idea was simple. In 1935 practically all farm tractors were designed for kerosene, distillate and other heavy tractor fuels. However, more and more farmers were using gasoline because of its convenience, cleanliness and ease of starting. Ethyl engineers had the idea that farmers should also get all the *extra power* gasoline could give.

So, in cooperation with tractor manufacturers, they experimented with and developed the high compression tractor. When manufacturers started producing this type of tractor, it made a hit with their dealers and farmers.

Today eight out of ten tractors made are high compression models.

These convenient, economical tractors have increased the use of power on the farm. More farms have tractors. Tractors work more hours. More work is done by engines, less by animal or manual power. And the natural result is an increase in the sale of petroleum products to farmers.

Today Ethyl engineers are still actively working with tractor manufacturers. Ethyl field men are out demonstrating how to get the best service from high compression engines and the improved gasolines offered by America's oil refiners. And day by day they are helping to produce a bigger crop of farm customers for the petroleum industry.

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IN THE

ETHYL NEWS

MARCH 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wohanka, Art Director

Stuart Forbes, a member of the Ethyl Corporation Sales department for the last 14 years, has been named assistant manager of the Central Region, with headquarters in Chicago.

Mr. Forbes joined Ethyl in 1938 as a junior engineer. He served successively as senior engineer and field representative in Georgia, Florida, and New York. In 1946, he was appointed assistant manager of the former Philadelphia division. From 1947 until his recent promotion, he was resident manager in charge of Ethyl's Philadelphia office.

Mr. Forbes was born in Flint, Michigan, and was graduated from the University of Michigan in 1937 with a bachelor of science degree in mechanical engineering. During World War II, he served as Navy Bureau of Aeronautics resident representative in charge of the Toledo office, with the rank of lieutenant.

Robert W. Richardson has been named Ethyl Corporation sales representative for the Philadelphia area, replacing Mr. Forbes. Mr. Richardson was born in Boston and was graduated from Massachusetts Institute of Technology with a bachelor of science degree in 1926. He joined Ethyl Corporation in 1933. His 19 years of service have been as a field engineer in various locations throughout New England and in Pennsylvania. From 1942 to 1945, he served in the Navy at various posts in the United States.

NEW ORLEANS: NEW OIL CAPITAL 3

More than a mecca for tourists, the Louisiana metropolis is also a booming industrial center. Petroleum is setting the pace.

TABLE-TOP REFINERY 9

For Frank McCurry the assembling and exhibiting of a miniature petroleum processing plant has been a lifelong hobby.

FILL 'ER UP 12

American motorists touring Western Europe will find gasoline available at a wide variety of service stations.

STANDARDS TO LIVE BY 14

The Bureau of Standards provides us with uniform measurement standards, better products, and advanced scientific data.

FLIGHT BOOK 18

An up-to-the-minute revision of Ethyl Corporation's World War II book on aviation fuels has been published.

AAAD FOR THE MOTORIST 20

Service, and more of it, is the credo of the American Automobile Association in its Golden Jubilee year.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

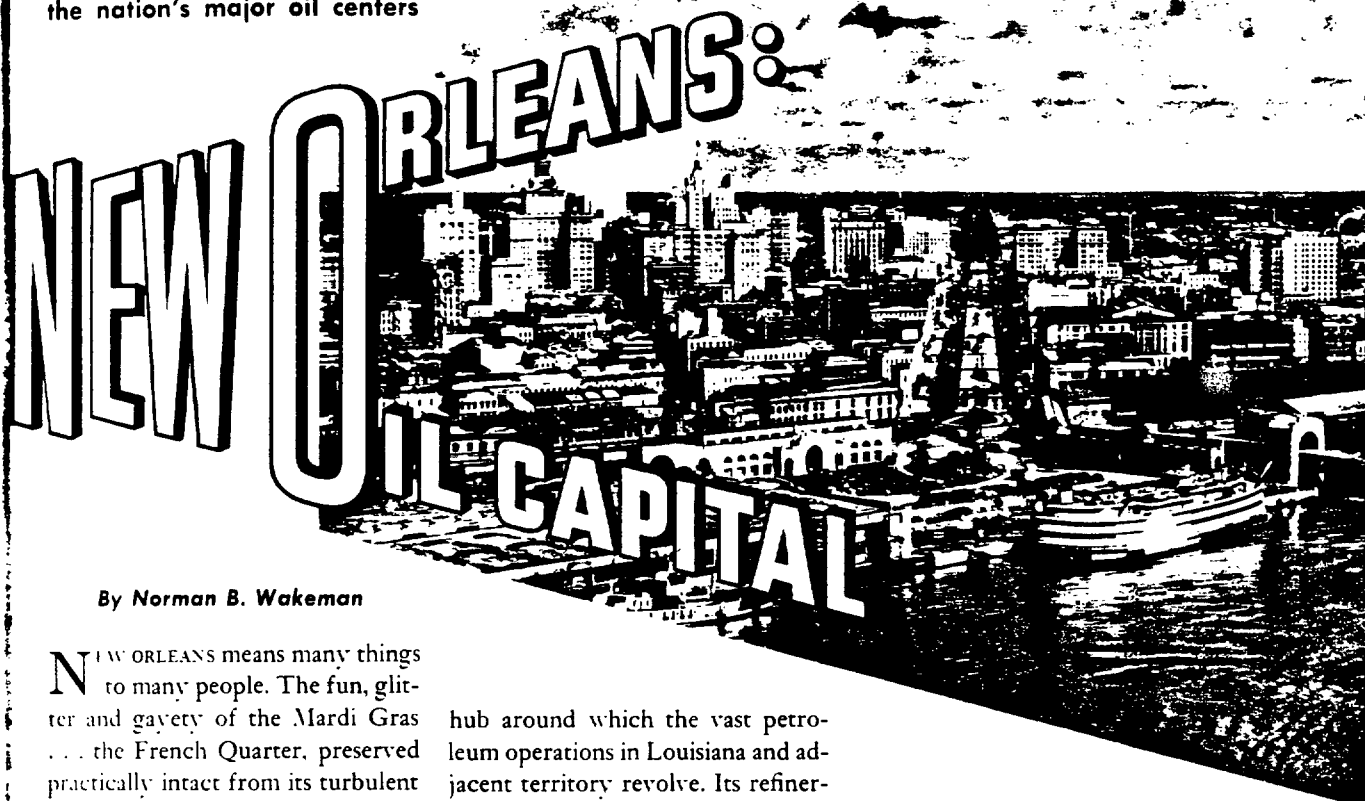
Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

ETC 32566

Hub of petroleum operations in the Mid-South, the Crescent City has joined the ranks of the nation's major oil centers

NEW ORLEANS: OIL CAPITAL



By Norman B. Wakeman

NEW ORLEANS means many things to many people. The fun, glitter and gaiety of the Mardi Gras . . . the French Quarter, preserved practically intact from its turbulent and romantic past . . . the Mississippi with its busy traffic of ships from all corners of the earth . . . fine food, Dixieland jazz, the Sugar Bowl, Lake Pontchartrain.

But the New Orleans that's famed in song and story is not the complete city. New Orleans today is really two cities. On one side of 171-foot wide Canal Street, the French Quarter pursues the fascinating tenor of its centuries-old tradition. But across Canal and around most of the city's broad rim, the skyline is changing rapidly. Old New Orleans, still "America's Most Interesting City" to tourists, is also a fast-growing industrial center, with oil setting the pace.

In the past few years, New Orleans has become the unrivalled Oil Capital of the Mid-South. It is the

hub around which the vast petroleum operations in Louisiana and adjacent territory revolve. Its refineries are expanding, its shipments of crude and petroleum products mounting steadily. Almost without the knowledge of its citizens — for, New Orleans has so many other facets to hold their attention — the city has catapulted itself into the ranks of America's great oil cities.

New Office Buildings

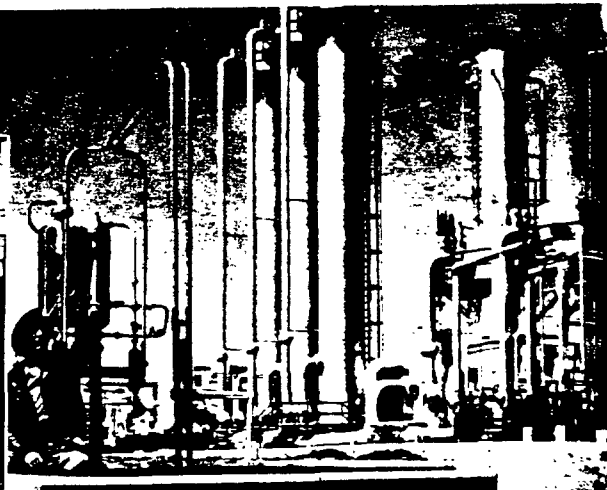
The evidence of New Orleans' growth is to be seen everywhere. Take the matter of office buildings, for instance. Five oil companies have moved into new headquarters in the city in the past two years, or are awaiting completion of buildings.

Esso Standard started the current construction parade rolling by opening a new marketing division headquarters along Canal Street in June 1950. Esso has some 270 employees

in the New Orleans area, about 8,500 in its Baton Rouge refinery and others scattered about the state, which makes the company Louisiana's largest single employer.

In October 1950, The California Company moved into its new home office — an eight-story, two million dollar building at the corner of Tulane and Elks Place. The company, which has about 350 employees in New Orleans, occupies three floors. From this location, exploration and production activities stretching over a large portion of the United States are directed.

Two other companies, Pan-Am Southern and Humble Oil & Refining, occupied new office buildings in New Orleans last fall. Pan-Am is headquartered in the former



Bourbon Street (left) and the modern petroleum processing plant above are symbolic of the two sides of New Orleans. A major tourist attraction, it also is one of the country's leading industrial cities

Bienville Hotel, which was practically gutted in being converted to a modern office building. Space-wise, Pan-Am is literally bustin' out of its britches. The company extensively remodeled its former home office building in New Orleans in 1949, thinking it would serve as an adequate headquarters for years to come. Now, it has had to move into the larger building.

The new Humble Building covers an entire block, with parking area included, on South Jefferson Davis Parkway, about ten minutes from downtown New Orleans. Made of yellow brick, it is five stories high and houses about 400 Humble employees. On its roof is a landing base for helicopters, which serve as office-to-oil field taxis, traveling from city to bayou country in a matter of minutes. The New Orleans office is headquarters for all Humble exploration and production in Louisiana, Mississippi, Alabama and Florida.

A 16-story glass and brick building now under construction by The Texas Company on Canal Street is expected to be ready for occupancy early next year. It will house the sales, legal and production departments of the company's Louisiana Division, some 450 employees in all.

The area covered by these departments includes the entire southeastern portion of the United States and a number of Atlantic Seaboard states farther north.

Major offices of many other oil companies are also located in New Orleans. In the Richards Building, one of the downtown skyscrapers, some 300 Shell employees staff the company's area exploration and production office. A few blocks away, in the Maison Blanche Building on Canal Street, is Gulf's headquarters for a six-state marketing area.

Others Also Active

Many independent oil companies, too numerous to mention, are also active in the area, playing a highly important role in the healthy growth of the industry.

Evidence of oil's increasing importance in New Orleans can also be found in the growth of the city's Petroleum Club. Founded in 1947, it now has about 525 members, and recently was forced to move to larger quarters on St. Charles Avenue. J. B. Storey, district manager for United Gas Pipe Line, is club president.

Although the city is surpassed in importance as a Louisiana refining center by both Baton Rouge and

Lake Charles, New Orleans refineries are growing rapidly. Shell Oil recently announced a \$30 million expansion program for its Norco refinery, on the Mississippi a few miles outside the city. This will boost the plant's throughput capacity from 50,000 to 75,000 barrels of crude daily. Nearby, Pan-Am is enlarging its Destrehan refinery to 30,000-barrel-a-day capacity. Bay Petroleum recently completed improvements to its refinery in the New Orleans area.

A similar growth is evident in shipments of crude oil and petroleum products through the Port of New Orleans. In 1950, the latest figures available, such shipments totaled almost 21 million tons. This was an increase of 135% over 1940 and represented 59% of the port's total 1950 waterborne trade.

The Port of New Orleans — second only to New York in dollar volume of foreign commerce — is a tremendous factor in attracting oil companies and other industrial firms to the city. Old Man River, 2,200 feet wide where it sweeps past the foot of Canal Street, provides one of the finest ports in the country.

Across the river, along the Harvey Canal, which is part of the In-



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tracoastal Canal system, some 50 or 60 oil supply firms have mushroomed up in recent years. Many of them are shipbuilding and repair firms, handling all types of marine equipment, from tugs to LST's which have been converted into floating drilling rigs. Here, too, are firms handling cement, drilling mud, steel, rigs, pipe, tools, lumber, chemicals and the countless other items oil companies need to find and wrest oil from deep within the earth. Bulk plants and operating bases of many oil companies — Gulf, Texas, The California Company, and Superior, to name a few — are also located along the Harvey Canal.

All told, the oil industry now employs about 25,000 people in the sprawling New Orleans metropoli-

This stands as the greatest industrial expansion in a single year in the city's history.

Strangely enough, Orleans Parish, which embraces New Orleans, is one of the five of Louisiana's 64 parishes (counties) with no oil production. Within a 100-mile radius of the city, however, are more than 90 oil fields and over 3,000 oil and gas wells.

Bustling Activity

Take a trip outside the city in almost any direction and evidence of the bustling activity that has made New Orleans a leading oil center is sure to catch your eye.

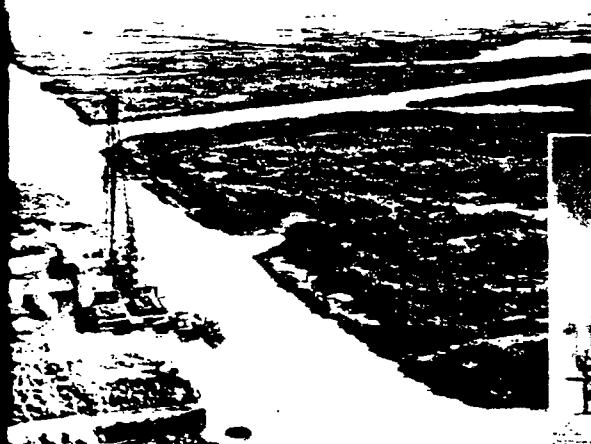
Along the highway to Baton Rouge, oil company signs point to drilling operations in the thick-

clumps of cylindrical storage tanks.

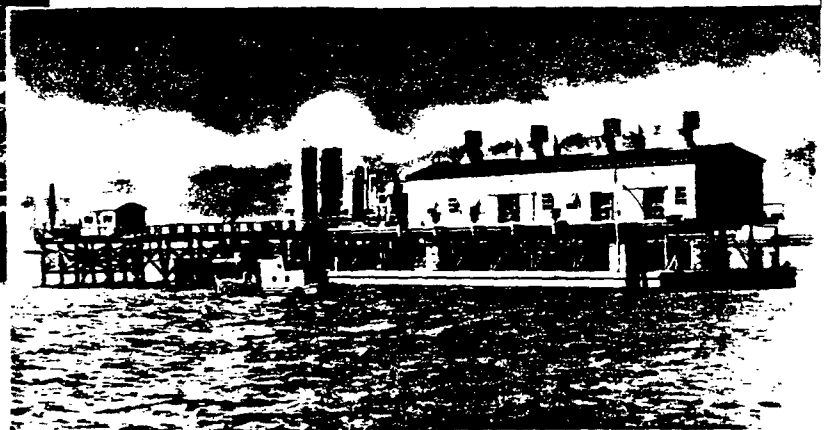
If you fly out from New Orleans toward the Gulf of Mexico, you'll note still more drilling rigs, mounted on barges, in the crazy-quilt pattern of winding bayous and marshlands. Out in the Gulf are mammoth installations, strange things that look like ships at first, or maybe lighthouses, but which are platforms, high out of the reach of waves, holding tanks, compressor houses and other oil equipment servicing wells off shore.

It's oil country, for sure, on every side of New Orleans. Petroleum is now one of the most important factors, if not the most important, in the economic life of both New Orleans and Louisiana as a whole.

A few statistics make the point emphatic. Levies on the petroleum



Oil is found on all sides of New Orleans. Drilling rigs on barges are at work in the bayous and marshlands (left), while out in the Gulf of Mexico are great installations of tanks, compressors, and equipment (below)



tan area and has a monthly payroll of more than six million dollars.

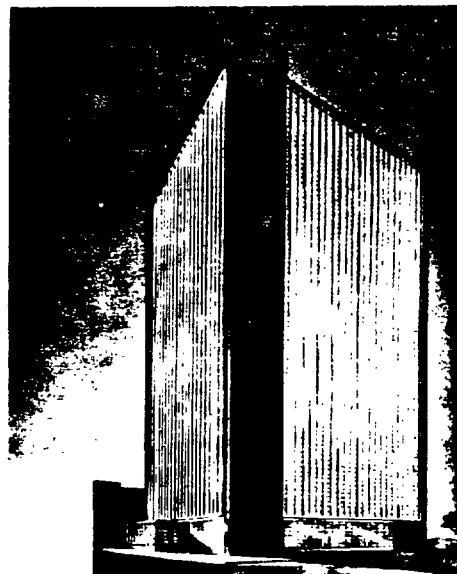
Besides being important for its own sake, the petroleum industry serves the city as a magnet, drawing other business there. New Orleans is aggressively trying to attract more plants to the area, and one of its most effective talking points is Louisiana's abundant supply of low-cost natural gas. During the past year, approximately \$225 million has been invested in new manufacturing facilities of all kinds in New Orleans.

tangled woods and swampland lining the road. Travel west along Highway 90, the old Spanish Trail that winds through the Evangeline country, or down Highway 31 through Plaquemines Parish, below the city, and you encounter more drilling rigs, set amidst moss-draped live oaks and cypress trees. Here and there you see the silvery columns of natural gasoline plants and note

industry and its products amount to more than half of all taxes collected by the Pelican State. The petroleum industry employs approximately 62,000 — that's more than any other industry — and provides jobs for thousands more in related businesses. It pays annual wages and salaries of over \$217 million and puts more than a million dollars a day in circulation throughout the state.



Left, Pan-Am Southern is headquartered in the former Bienville Hotel which has been converted into a modern office building

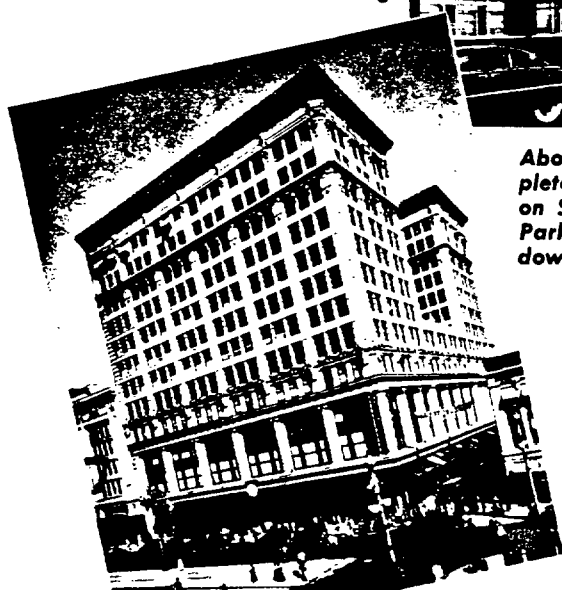


Right, a drawing of The Texas Company's building now under construction. When completed it will house some 450 Texaco employees

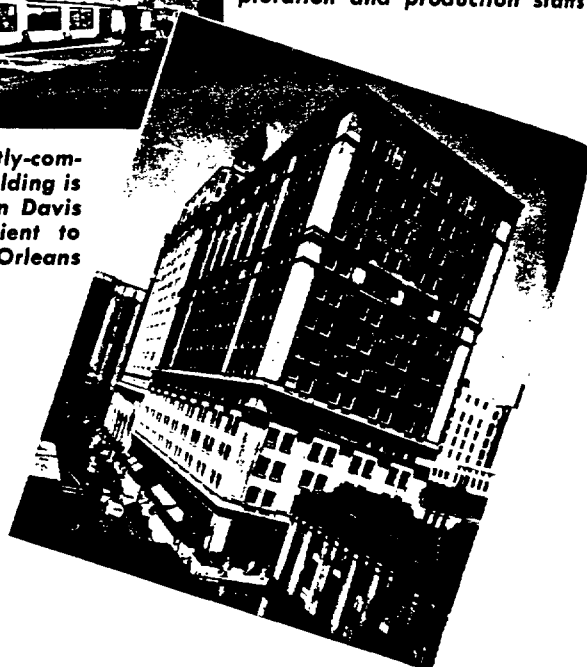
Below, the headquarters for Gulf's marketing activities in a six-state area are located in the Maison Blanche Building



Below, the Richards Building, one of the Crescent City's skyscrapers, houses Shell's area exploration and production staffs



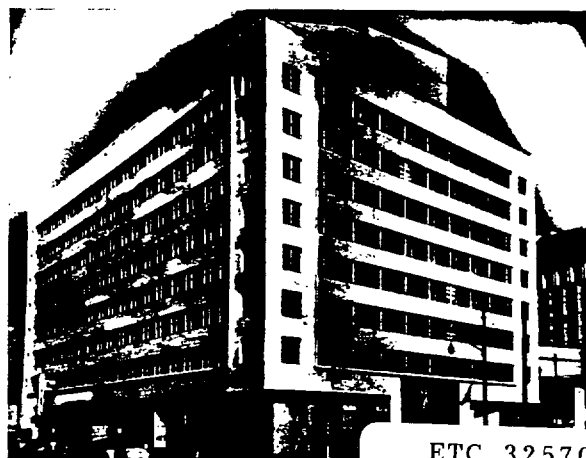
Above, the recently-completed Humble Building is on South Jefferson Davis Parkway, convenient to downtown New Orleans



Below, The California Company's home office is in this new building at the corner of Tulane and Elks Place



Esso Standard's marketing division for the area is housed in this modern structure on Canal Street



OUR COVER

The colorful and unusual illustration on the front cover of this issue of ETHYL NEWS is a Kodachrome of a mural in the lobby of New Orleans' Lee Circle Building, in which the main offices of Pan-Am Southern Corporation are located. Painted by Conrad A. Albrizio, of the Louisiana State University art staff, the mural is a symbolic representation of the various phases of oil production, refining, and transportation, all of which are playing an increasingly important part in the life of both Louisiana and New Orleans.

At the left, a derrick is erected, a well penetrates the earth's strata, a "Christmas tree" is installed, and the oil is vaporized. In the center, the vapors are catalytically cracked. Farther to the right, cracked stocks appear in fractionating towers. Finally, finished products move through pipelines. Colors in the mural graduate from light to dark, representing light-to-heavy petroleum fractions.

The mural is done in fresco (wet lime), one of the oldest and most permanent forms of painting. With age, the colors will become more brilliant, and the surface, chemically speaking, will become like marble.



Building,
City's sky-
line's area ex-
tension staffs

Only Texas and California among the 48 states top Louisiana in crude oil production and refinery throughput. In natural gas production, Louisiana is the No. 2 state behind Texas.

Until the Tidelands issue became so well publicized, however, the average American rarely thought of Louisiana as an oil state. It was known more for sugar cane, cotton, rice, timber, salt, sea foods, and furs.

Louisiana's oil industry was born in 1901 when W. Scott Heywood brought in the state's first well in a rice field owned by a man named Jules Clement. This was near the town of Jennings. When the well came in, the story goes, Heywood and his drilling crew grabbed Clement, who had been skeptical of success, and ducked him in the stream of oil spewing from the well.

Present-day Louisiana oilmen, let it be noted, are just as enthusiastic about the business today as Heywood was a half-century ago. And with good reason. Last year, the state produced 232,439,000 barrels of oil—almost double its production at the end of World War II.

The oil industry has made phe-

nomenal progress in the state since it learned 15 or 20 years ago how to operate in what was once considered the inaccessible watery areas of southern Louisiana. Drilling rigs and other heavy equipment were mounted on barges and floated in to the remote locations. Men went to work in boats. By converting a dry land business into a marine business, the industry turned up prolific producing horizons in areas once known only to trappers and fishermen.

The Tidelands

The costs proved tremendous, largely because some of the deepest drilling operations in the country were undertaken. During the past year, more than 100 wells below 12,500 feet (some below 15,000 feet) were drilled in southern Louisiana. According to the Mid-Continent Oil and Gas Association, it is not unusual for one of these deep wildcats to cost \$750,000.

After licking problems on the swampy mainland, the search for oil was carried out to sea, into the area now known as the Tidelands. There were no textbooks available on how

to do this job either, and costs were triple those of oil operations on land. But again, the industry proved equal to the challenge.

The first Tidelands producer was completed in November of 1947. When the U. S. Supreme Court enjoined all Tidelands operations under state lease in December 1950, some 15,000 barrels daily were being produced from offshore wells. The oil industry had invested more than \$230 million in the area—and had recovered only about \$6 million worth of oil from that investment.

Whether any one producer in the Gulf has penetrated a small salt dome or the heart of a vast pool is not clear, and probably won't be until the question of Tidelands ownership is settled once and for all. Practically all oilmen agree, however, that the Tidelands is one of the most important remaining oil frontiers, with limitless possibilities that have barely been tapped—if such factors as cost and weather can be overcome. The risks are tremendous, but the oil industry has always been willing to pioneer.

Even without Tidelands develop-

s in this
Place

ment, Louisiana oil production is climbing annually. Not as rapidly as it did some years back, true, but still at a faster rate than the national average. Louisiana now needs only ten days to produce oil worth \$15 million, the same amount of money the United States paid Napoleon for the entire Louisiana Territory.

Louisiana's oilmen talk confidently about the industry's future in the state. Their enthusiasm is shared by Mayor de Lesseps S. Morrison. Says he: "The people of New Orleans are extremely optimistic about the great future of the oil industry in our metropolitan area. I can think of no industry which is more important to our nation's future and which has a more beneficial effect upon the city's economy."

The quickening tempo of oil industry activity in the state is reflected in the growth of the city under "Chep" Morrison's energetic administration. Besides the new oil buildings and industrial plants, a \$50 million civic improvement program is under way, featuring the construction of a new railroad passenger

terminal and overpasses and underpasses to eliminate 28 grade crossings. Streets are being widened and resurfaced. In one 12-month period two years ago, 13 new recreation centers were opened. A new City Hall is being talked about.

Civic-Minded Oilmen

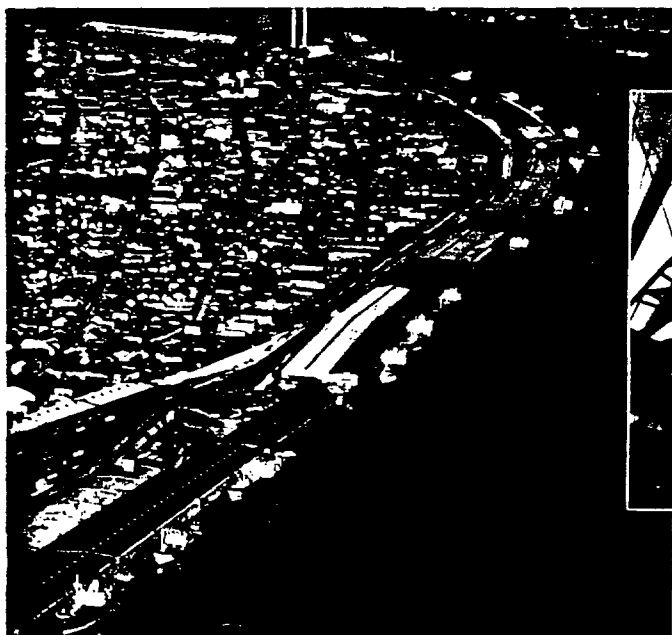
Many oilmen are active participants in these and other civic enterprises. For instance, C. J. Guzzo, Gulf Refining division general manager, is president of the Rotary Club and is a Chamber of Commerce board member. Among the other oilmen engaged in civic activities are Roy J. Diwocky, executive vice president of Pan-Am Southern, who is also on the Chamber of Commerce board; R. E. Elliott, head of New Orleans Petroleum Corporation, who is president of International House, the unique institution which serves as a meeting place for businessmen from all countries; Harold Teasdel, president of The California Company, who is on the board of International House and who just finished a term

as a board member of the Chamber of Commerce; and W. H. Saunders, Jr., president of International Lubricant Corp., who is a member of the important, non-salaried Board of Commissioners for the Port of New Orleans, the group which guides the over-all activities of the Port.

Literally a fair-sized army of oilmen is helping to fuse a new element into the old New Orleans traditions. As a result, added to the pride in the city's past, inbred in all New Orleanians, is a new pride in the city's future.

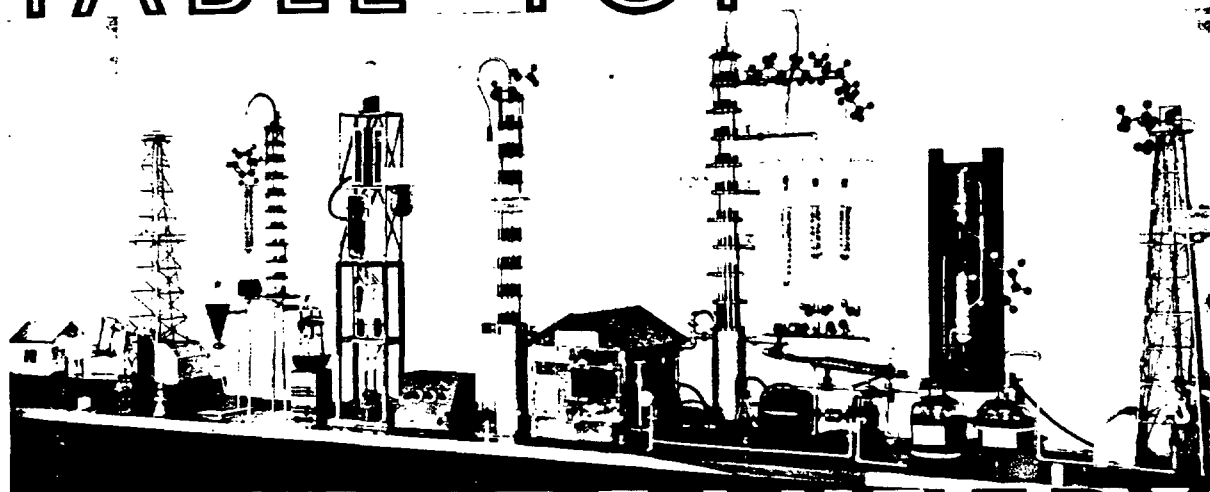
Come to New Orleans, the Chamber of Commerce beckons. Sure, come to see the sights and be entertained. But come to stay, too. Don't just look at the gay mask the city wears and be fascinated by the mystery of the Vieux Carré. Strip away that mask and see what we've really got to offer — one of the world's finest ports, a plentiful labor supply, more oil and gas per square mile in the outlying sections than you'll find anywhere else in the country.

The oil industry has answered that call, amid assurances that New Orleans, in years to come, will prove an even more important oil center than it is today.



The Port of New Orleans is second only to New York in dollar volume of foreign commerce. Crude oil and petroleum products account for more than half of the port's annual tonnage

TABLE-TOP



REFINERY

Assembling and displaying a miniature petroleum processing plant has long been the hobby of oilman Frank McCurry

PEOPLE get interested in hobbies in a number of different ways. A foreign stamp on a postcard from vacationing Aunt Minnie has been the beginning of a stamp collection for many a boy, just as a well-stocked tool chest under the Christmas tree has launched more than one male on a woodworking hobby. But for Frank McCurry, the start of it all was a bit more irregular.

Now vice president in charge of manufacturing for Derby Oil Company in Wichita, Kansas, Mr. McCurry had his first real introduction to oil—and his eventual lifelong hobby—when he was a boy of 12. Throughout that part of Kansas in which he lived at the time, oil derricks had become almost as common as trees. One morning, the neighborhood group of boys set out to “inspect” a new well that had just been

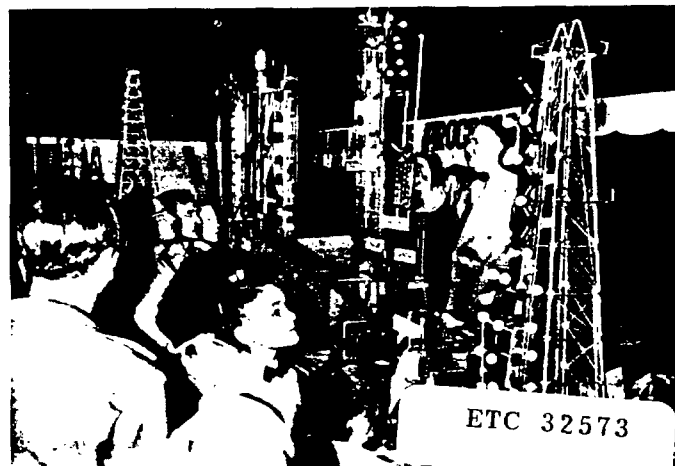
shot in. The derrick, stretching up to the heavens and blanketed in sticky oil, presented a formidable challenge to boys of climbing age. One of his playmates put the matter to young Frank McCurry: climb the greasy derrick and he would win as a reward a long-coveted shotgun shell the challenger owned.

The dare was accepted. It wasn't easy scaling the rig, and getting down again was even more of a problem. But McCurry finally made it—and he took prompt possession of the red gun shell with its shiny brass base. With that hazardous climb up the oil derrick near his home, Mr. McCurry now realizes, he gained

something else, too. That was an interest in petroleum and the petroleum industry—an interest that he was never to lose.

Although he had to wait almost another ten years before he had the means to start developing it (even though he built his first drilling rig at the age of 12), the idea for Mr. McCurry's lifelong hobby had its genesis in that scramble up and down the Kansas derrick. Today, the hobby—a unique scale-model of a representative modern refinery, together with drilling and flowing oil wells—stands as a monument to a man's work and interest in the petroleum industry.

The miniature refinery has been seen by hundreds of audiences. Here, Mr. McCurry explains his hobby to some of the 20,000 spectators who saw it in action at the Rocky Mountain Empire's industrial exhibition held last year



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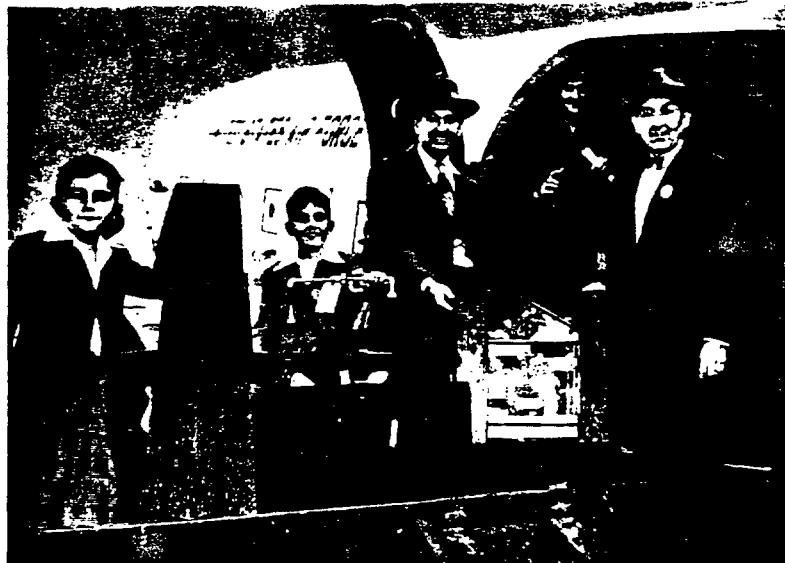
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The model is not a replica of a refinery as such, but rather is an elongated arrangement of novel, individual models of the major structures and pieces of equipment to be found in most refineries. When completely assembled, the entire unit stretches 30 feet in length. In addition to the drilling and flowing oil wells, the display includes simulated pipelines for both crude oil and petroleum products, a Universal Oil Products fluid-type cracking unit, a fractionating tower, a crude heater, a gas absorption tower, a Socony-Vacuum TCC unit, and a synthetic tower. All are operated by electrically-driven pumps, compressors, and blowers.

Although it was created as, and still remains, an oilman's hobby, the model has been employed extensively over the years as an industry public relations device for demonstrating and explaining the story of modern refining to both technical and lay audiences. Because it makes use of glass wherever possible, the unit is of special value in that it permits the flow of oil from one refinery unit to the next to be understood more readily.

Hundreds of Audiences

In the years since Mr. McCurry started piecing it together, the model refinery has been seen by hundreds of audiences, ranging in size from that of a small town civic club to the 20,000 who viewed it at the Rocky Mountain Empire's industrial exhibition held in the University of Denver field house during Colorado's 75th anniversary of statehood last year. Twice, the United States Air Force has flown the exhibit to Wright Field for display there, once before the World-Wide Fuel Conference in 1949 and the second time in connection with Armed Forces Day the following



Twice the U.S. Air Force has flown the model refinery to Wright Field for display there. When packed for shipment it fills ten special cases

year. The Air Force also showed it in its Oil Reclamation program at Tinker Field. The annual West Coast meeting of the American Society for Testing Materials saw the model refinery in action at its San Francisco session in October 1950, and it has been presented before the American Chemical Society at meetings at the Universities of Kansas and Nebraska.

That it never loses its appeal is attested by the fact that presentations have been given before the Wichita Rotary Club and at Kansas State College on four different occasions each.

In addition, of course, Mr. McCurry has exhibited his hobby at virtually every high school and college in Kansas, and before most civic clubs in the state. Following most of the educational meetings, science teachers were presented a set of charts that showed, in simplified form, the flow of oil from the well through the refinery.

In exhibiting his hobby to an audience, particularly a group of laymen, Mr. McCurry begins his lecture with a discussion of several of the theories relating to how crude oil originated. After that, he sketches verbally the means and methods by which geologists determine what

areas might bear crude. Then, the model itself goes into action, with the drilling well the first unit in the spotlight.

As Mr. McCurry unfolds the fascinating story of oil exploration and production, the drilling well replica hums into activity. He explains that it is necessary to keep careful check on the rock cuttings that are bailed from the well hole, so that drillers will know whether they are reaching an oil-bearing formation and when they hit the cap rock.

Well Blows In

"Our tests show that we are now in the cap rock," the audience is informed, "and since our formation is running high, we should hit oil or gas at any minute."

With that, the well blows in, spewing oil (black coffee, in this case) high into the air. So complete is the operation of the model that miniature bits, casing and other drilling paraphernalia also gush out of the hole.

Moving to the opposite end of his display, Mr. McCurry explains the operation of a producing well and paints a word picture of the vast petroleum pipeline system to be found in the United States. Through the use of glass tubing and pipes,

Field cases

actual oil can be seen flowing from the well into field storage tanks and then to refinery tanks for storage before processing.

On through the several units of the representative modern refinery, the oil is channeled. As it goes, the audience is able to see such action as the crude being heated, to separate the natural components by distillation; the oil being separated into gasoline, jet fuel and other products in the fractionating tower; the recovery of gases in the absorption tower; and the operation of the cracking units which provide base stocks of high-octane gasoline.

Each of the miniature refinery's units has been skillfully planned and constructed to show operations exactly as they take place in an actual refinery. The two cracking units in Mr. McCurry's set-up, for instance, are equipped with air lifts that circulate the catalyst the same as it is circulated in full-scale units. The heater, or pipe still, is equipped with 3,000-watt heating units, and boils the crude in the same fashion as does an actual refinery heater.

To supplement the operation of his hobby refinery, Mr. McCurry employs molecular models to explain how straight-chain hydrocarbons are broken down to help form the desired petroleum products. He also makes use of a wooden model of a one-cylinder automobile engine. Operated by an electric motor and designed to permit various compression ratios up to 8 to 1, the engine model helps give audiences an understanding of what Mr. McCurry calls "the octane story." He shows, with the help of glass cylinders containing iso-octane and normal heptane mixtures, how the octane number of any given fuel is arrived at, and then, in actual engine operation, demonstrates the added power better fuels make possible.

Mr. McCurry never realized, when he first started building it while still a student in college, that his table-top refinery would reach the size and importance it now enjoys. From small beginnings, it has grown to a unit which weighs three-quarters of a ton and requires ten special cases to house it properly. The creator and possessor of what has been called "the world's greatest working oil hobby" has rebuilt and modernized the miniature refinery many times, to keep it abreast of the continuous improvement in refinery technology and equipment.

Other Uses

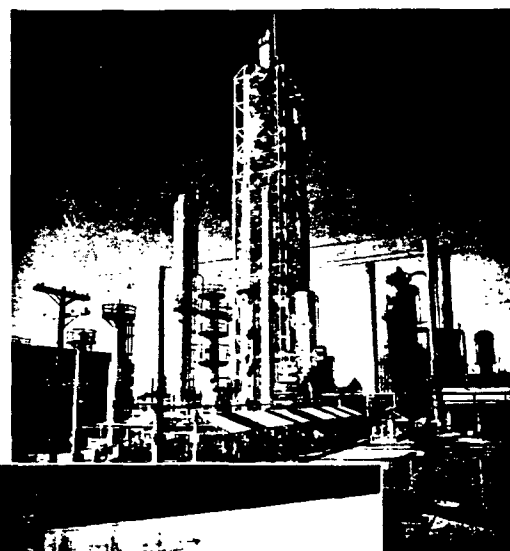
Beyond its use as an educational feature, the hobby refinery proved of value on more than one occasion last year and early this as Derby Oil rushed completion of a three-million-dollar expansion of its refinery on the northern rim of Wichita.

"By carefully noting the operation of certain units in the model refinery," Mr. McCurry says, "those of us in charge of the Derby refinery expansion program were able to suggest improvements or modifications in the actual equipment."

Below, Mr. McCurry discusses a refinery operation with Derby Oil board members. The model was used in planning expansion of the company's Wichita refinery (right)

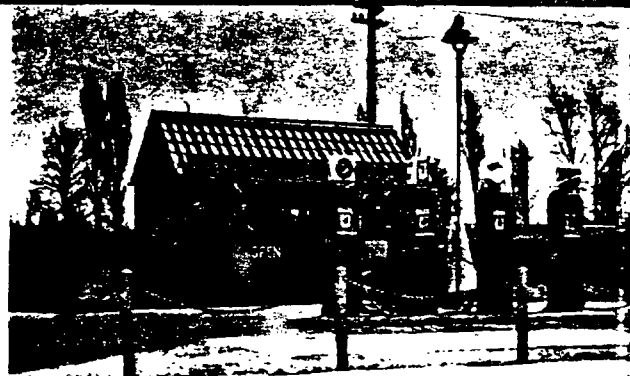
The Derby expansion, which is to be completed this month, includes a Socony-Vacuum Thermoform catalytic cracking unit, a Universal Oil Products catalytic polymerization unit, a gas concentration plant, several new crude and products storage tanks, and a new crude still. The latter will raise Derby capacity to the neighborhood of 15,000 barrels a day, and this can be modified later to 20,000-barrel capacity.

Bringing his hobby to its present state of completeness has represented thousands of hours of spare-time work, of blueprinting units as carefully as they would be drawn for actual refinery use, of sweating out shortages of materials, of arranging and re-arranging the layout far into the night. But it's all been fun for Frank McCurry, and he never once has rued the boyhood climb up that Kansas oil derrick.



ETC 32575

Shell station on the Autobahn outside of Salzburg, Austria, at the point of entry into Germany.



American tourists find it surprising that many English stations, like this one outside London, sell several different brands of gasoline.

By Oliver De Wolf

The display of Allied pennants at this Austrian "gasolin" stop is a motorist attraction.

FILL'ER UP

Auftanken

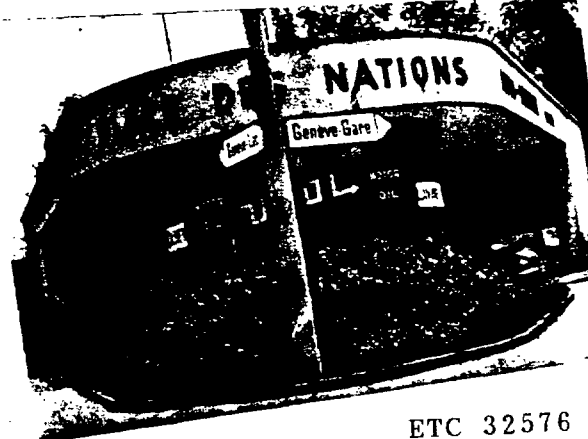
Täyttäkää
Tankki

WITH THE Olympic Games in Helsinki and standards ceremonies leading up to the coronation in western of Queen Elizabeth II as added attractions, it is likely that the number of Americans touring Europe this year will reach a new high. Literally "pumping" Europe this year will reach a new high. Some 15,000 of those Americans will do their gasoline sightseeing by automobile.

As I did during a recent 10,000-mile motor tour to country, trip covering all nations on this side of the Iron Curtain, the motoring American will find, for the equipment perhaps to his surprise—that almost everywhere he can buy petroleum products under several different brand names quite familiar to him. In addition, of course, a number of European brands are available.

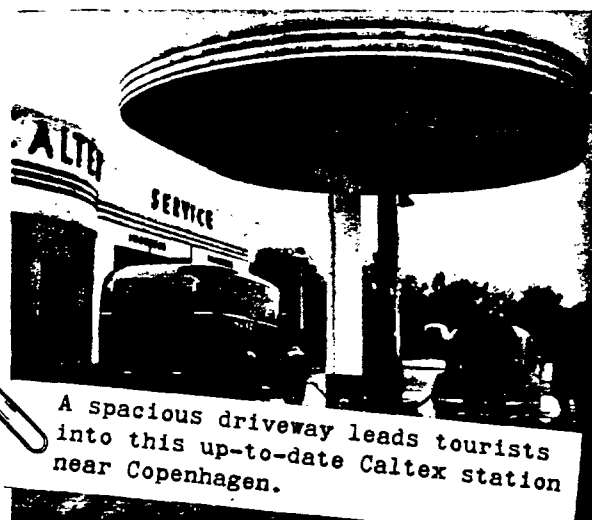
Outlets vary all the way from single roadside pumps in small out-of-the-way villages to super service stations in the metropolitan areas. As a rule, service is not up to American standards wherever the

Adjacent to the famous Palais des Nations, this modern station occupies a busy corner in Geneva.



A line of Oil Company skirts

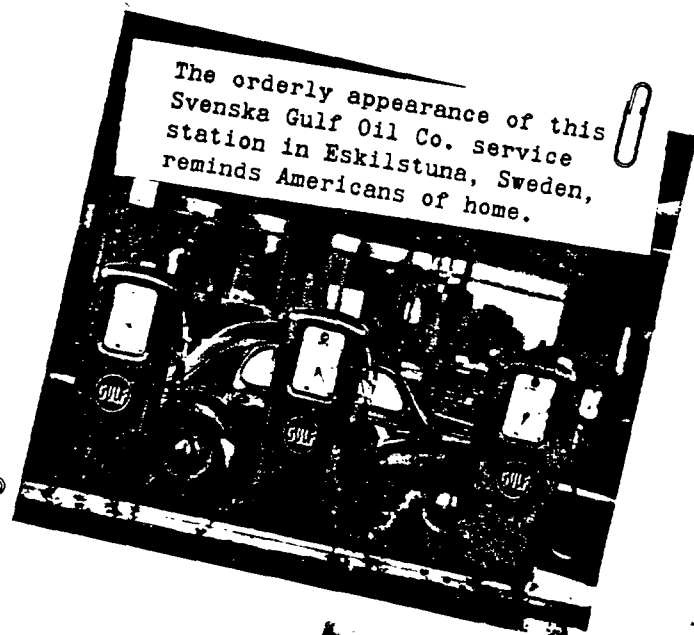
ETC 32576



A spacious driveway leads tourists into this up-to-date Caltex station near Copenhagen.



This sign near the German border is a reminder of the many Mobiloil dealers found in Denmark.



By Olive De Wolf

Helsinki and coronation attractions, in western Austria, it is not unusual for the attendant, frequently a woman, to ask the customer to hold the hose nozzle while she literally "pumps" the gasoline.

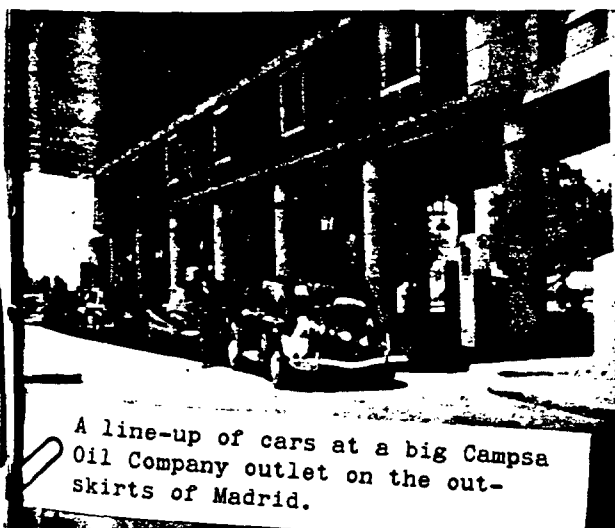
Gasoline is measured in liters rather than gallons, and prices, which vary from country to country, are comparatively high. On the average, regular grade gasoline is selling now for the equivalent of 60 cents a gallon. Premium gasoline is not always available. Excise taxes account for half of the retail price.

The service stations shown on these pages were taken at random during my motor trip abroad. Many of them, no doubt, will this year serve the thousands of U. S. tourists who will enjoy their European vacations in typical American fashion — by driving whenever and wherever they want to go.

Llénelo
Faites
le Plein
FILL'ER UP

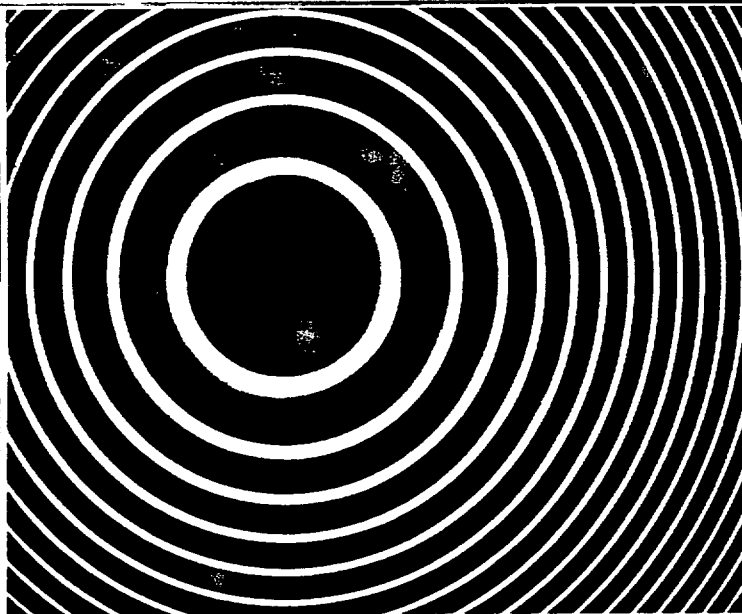


ETC 32577



Azur, a European motor fuel, is dispensed from hand-operated pumps at this Carcassonne, France, station.





Left, the waves of light emitted by mercury 198, measurable to within one-billionth of an inch, probably will become the new universal standard of length

Standards

We rely upon the National Bureau of Standards for our uniform "yardsticks" of time, length and the many other physical constants

COUNTING to 60 slowly to estimate a minute or figuring the distance from the knuckle to the tip of the thumb as an inch are ready ways of judging time and distance when no clock and ruler are handy. But the confusion and chaos that would prevail in industry and commerce, and in our own everyday lives, if these were the best types of standards we had to go by is frightening to contemplate.

There would be no nation-wide unity in time, length, weight, temperature and all the other physical constants. A bushel of wheat in New York might (as it one time actually did) contain 68 cubic inches less than a bushel in South Carolina. The weight, and hence financial value, of a gem would vary even among jewelers doing business in the same city block. When it was six o'clock in Boston, it might be only 5:59½ in Pittsburgh. What was ten degrees below zero in St. Paul might be recorded as eight below in Minneapolis. And so on.

In this modern day and age when infinitesimal measurements in such as milliseconds and millionths of an inch are so vital in so many indus-

trial and scientific undertakings, the need for precise standards is apparent. Thanks to the National Bureau of Standards, we have them.

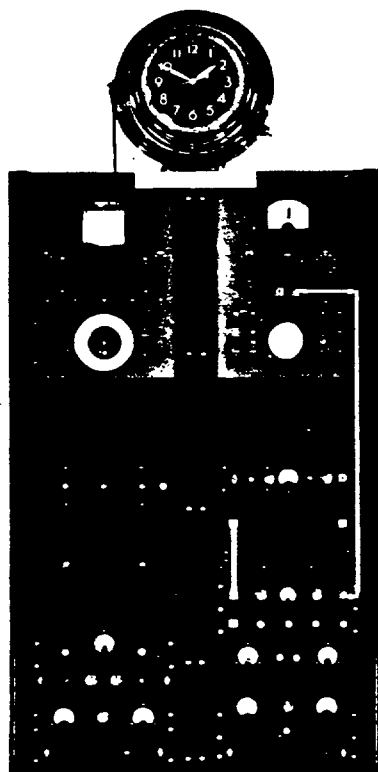
An agency of the Department of Commerce, the Bureau has three main missions in life, the first and foremost of which is fixing the physical standards of the nation. In addition, the Bureau is charged with carrying on basic research that encompasses everything from atomic

energy and guided missiles to how best to preserve the Declaration of Independence and our other priceless national documents; and with testing the quality and performance of literally thousands of kinds of products purchased for use by the Federal government.

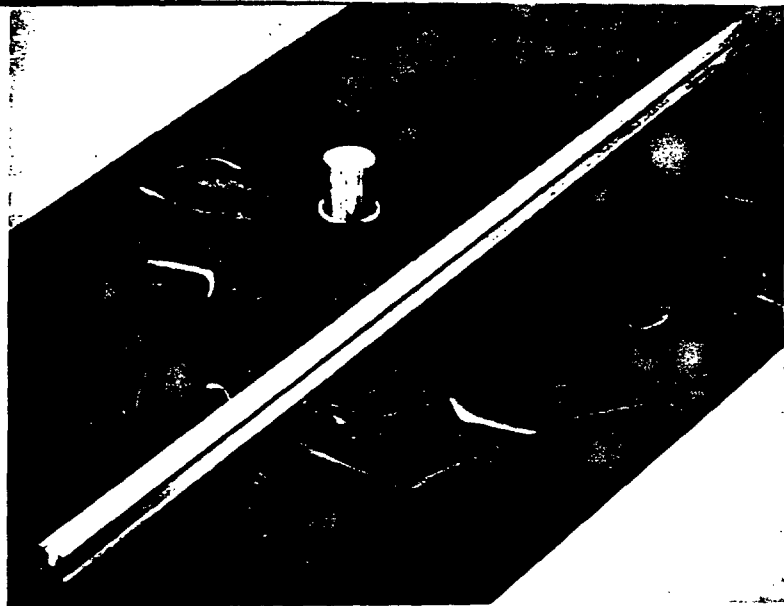
In a special vault at its Washington, D. C., headquarters, the Bureau maintains under lock and key two treasured pieces of platinum-iridium. One is a cylinder that is one and one-half inches in both height and diameter and which has a mass of exactly one kilogram. The other is a long, slender piece of the metal, on which is marked off a true meter. These — the kilogram and the meter — are the universal standards of mass (weight) and length, and are also our national standards by Presidential executive order.

Every precaution is taken to assure that the length of the meter bar and the weight of the kilogram never vary by even so much as the proverbial hair. For instance, when the kilogram is removed from its special vault, to have other weights checked against it, the operator works by remote control ten feet away so the heat of his body will not affect the test being conducted.

This atomic clock, developed by the Bureau, promises greater accuracy in the measurement of time



Right, our present national (and universal) standards of weight and length are the platinum-iridium kilogram and meter bar. Both are kept in a special vault



Is to Live By

As faultless as it is in providing minutely exact measurements, the meter bar may be on its way out, a victim of the atomic age. For, in their research into peaceful uses of atomic energy, Bureau scientists have hit upon new atomic standards of length — and time — and plans are already under way to have these adopted as the world's new criteria. Even the highly-regarded kilogram threatens to become outmoded as NBS researchers probe into possible atomic standards of weight, or mass.

The wave length of green light emitted by atoms of man-made mercury 198 provide the new atomic standard of length. The light is of such uniform wave length that its waves can be used to measure an object to within one-billionth of an inch. The Bureau of Standards recently made mercury 198 lamps available to laboratories which require the precise measurement their light waves provide.

Atomic Clocks

Another atomic age specialty that has emerged from the NBS research center is a series of atomic clocks. These timepieces, which are not expected to vary more than one second in 300 years, are regulated by vibrating atoms. The most accurate of the clocks developed by the Bureau is the one run by atoms

of cesium, which vibrate within themselves at the astounding rate of 9.2 billion times a second.

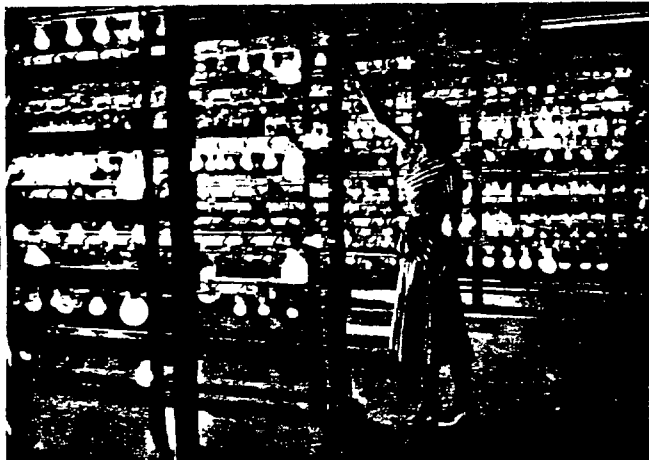
Adoption of the atomic clock would provide a new and more accurate means of measuring the "standard second" which the Bureau broadcasts, night and day, in the form of continuous "ticks" from its own transmitter in Maryland. A second is the time interval between two ticks. Measurement of the standard second currently is based on the time of the earth's rotation as deter-

mined by the Naval Observatory. The earth's rotation is slowing down, however, and over the centuries the length of a second is changing. Scientists believe that characteristics of atoms are unvarying and that clocks regulated by atomic vibrations will provide constantly accurate time measurements.

If the National Bureau of Standards ever decided to go on a self-advertising spree, its list of accomplishments, beyond the super-modern atomic developments, would

The Declaration of Independence and the nation's other cherished documents are preserved according to the Bureau's standards and techniques





On these testing racks, the Bureau checks samples of electric light bulbs purchased by the Federal government. Since most manufacturers make their bulbs to meet government standards, such tests also are of value and significance to the public

both amaze and bewilder the general public. It can boast of developing an automatic electronic computer that can add or subtract figures in 50 one-millionths of a second, of studying radio "broadcasts" from the sun, and of such more down-to-earth achievements as perfecting a technique to make tooth fillings last much longer and also eliminate most of the filling "after-pain" suffered by many people.

Varied Activities

Any survey would probably show that the average taxpayer's idea of the National Bureau of Standards is that it's "a bunch of men in Washington who test men's shirts to see how much laundering they can stand, or how many miles a shoe can be walked before the sole wears out." Much of that type of work is

carried on by the Bureau. NBS tests, for instance, have established that a good suitcase can be picked up 25,000 times without it suffering a broken handle and that a fluorescent lamp should glow approximately 7,500 hours before burning out. All such findings are of interest and importance to the industries and publics concerned, but they do not begin to indicate the vast scope of the Bureau's activities.

No research assignment is too big or too small, too Buck Rogers-ish or too basic, for the Bureau's staff of close to 2,000 physicists, chemists, mathematicians, and engineers to tackle. The Bureau is Uncle Sam's principal laboratory for delving into the mysteries of the physical sciences, and there is virtually nothing in the world today which the giant research center has not tested and

set standards for. That applies to everything from metal alloys to the gloss of paper, paints, and plastics.

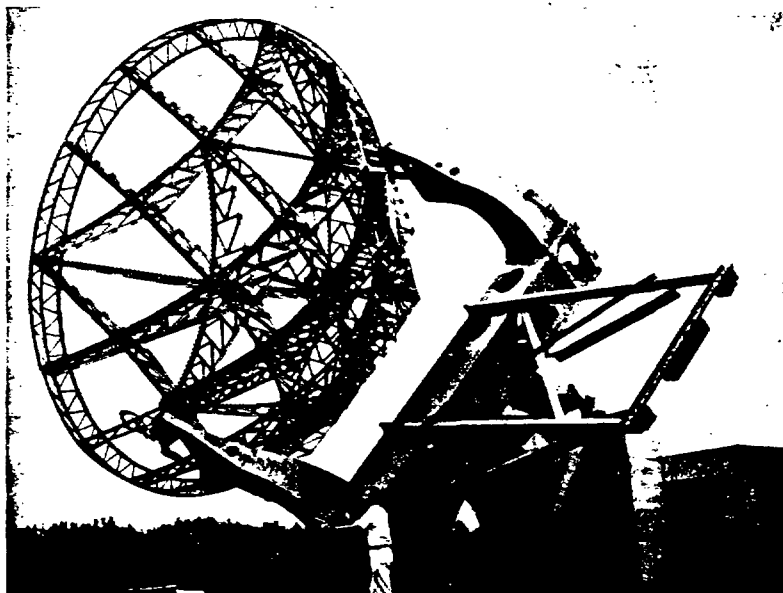
"Name it, and undoubtedly we've tested and set standards for it," could well be the Bureau's motto. That applies, to cite an extreme, even to baseballs. Whenever the argument crops up that batters today are hitting more home runs because the ball is "livelier" NBS calls its baseball batting machine into action. This is a device which hits every ball pitched to it with exactly the same force. The argument probably will never be settled conclusively in the minds of sports fans, but every test made by the Bureau hints that the baseball doesn't get livelier each year. It's just that the batters are clouting it harder.

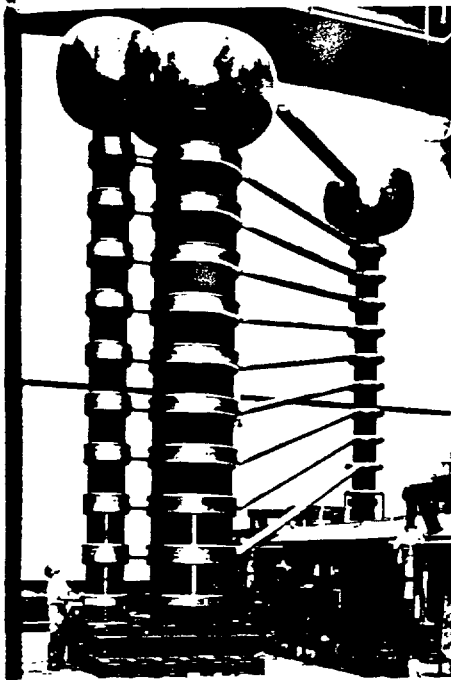
Standard Threads

More on the significant side perhaps is the Bureau's efforts to help the United States, Canada, and Great Britain standardize on the threads of nuts and bolts. It took World War II to show just how costly and tragic it can be when the screw threads used by one nation do not fit the bolts of another. The overall loss during the war because of this condition has been estimated at \$100 million. Now that the three nations have agreed on one uniform standard of threading, those costly delays should not be repeated in the future.

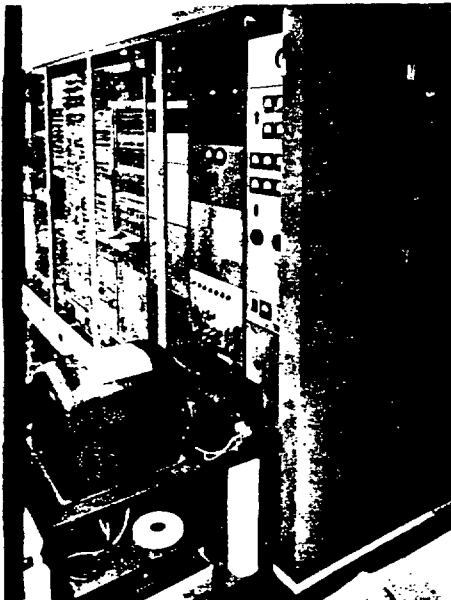
An important facet of the Bureau's testing and standard-setting program is its work in calibrating the machines and equipment used by American industry and business. NBS was established by Congress in 1901 in answer to demands of scientists and businessmen for a central agency in this country to fix standards for all kinds of things and to calibrate precise scientific apparatus. Prior to that time, it was necessary

This giant radio telescope, which follows the sun across the sky, enables the Bureau to gain advance data on sunspots and other solar "weather"





Largest of its kind in the world is this high voltage X-ray installation at the Bureau of Standards. It is used in a broad program of X-ray research and development



Given the proper coded instructions and numerical data, this Bureau of Standards computer can add or subtract a pair of 11-digit numbers 1,100 times in one second

to send instruments and other mechanical devices to Germany to be calibrated for complete accuracy.

The Bureau is called upon to calibrate, according to its standards, countless pieces of machinery and equipment used by industry and professional people. One item, for instance, is the pipette on the blood sampling apparatus used by doctors. The pipette must contain an amount of blood known to be accurate if the physician is to make a true blood count. All of the nation's radio and television stations calibrate themselves to the standards of frequency broadcast around the world 24 hours every day by the Bureau. Without this assurance of wave length accuracy, broadcasting stations might interfere with each other. These are but a couple of random examples. Actually, there are almost no bounds to the Bureau's standard-setting and calibration effort.

Proximity Fuse

In its basic research in the field of the physical sciences, the National Bureau of Standards has delved far and wide. Chemists of the Bureau were the first to produce pure uranium and graphite, both essential in the production of the atomic bomb, and made other notable contributions to the development of the super-modern weapon. It was NBS scientists who played a major role in perfecting a proximity fuse, which detonates bombs, rockets and mortar shells as they near, rather than as they hit, their target. The fuse, which basically is a pint-sized radio set, was one of the outstanding weapon developments of World War II and has, scientists agree, speeded the day of individual radio sets that fit in a man's pocket or lady's handbag.

Outstanding among the Bureau's more recent developments is the au-

OUR COVER: Courtesy Pan-Am Southern Corporation (see page 7).

OUR PICTURES: Page 3, copyright 1947 by Air Photos & Advertising, Inc.; page 4 (left), courtesy New Orleans Chamber of Commerce, and (right), courtesy Humble Oil & Refining Company; page 5, courtesy Gulf Oil Corporation; page 6, Leon Trice, C. J. Laughlin, and courtesy The Texas Company, Pan-Am Southern Corporation, Gulf Oil Corporation, Parkway Building, Inc., and Esso Standard Oil Company; page 8, courtesy Port of New Orleans; pages 9, 10, and 11 (bottom left), courtesy Frank McCurry; page 11 (bottom right), courtesy Derby Oil Company; pages 14, 15, 16, and 17, courtesy National Bureau of Standards; page 19, courtesy American Airlines; pages 20, 21 and 22, courtesy American Automobile Association.

tomatic electronic computer, which can work out in 30 minutes mathematical problems that a human operating a desk calculator could not figure in less than two months. The machines — there are two, one at the Bureau's headquarters in Washington and the other at the NBS Institute for Numerical Analysis on the campus of the University of California at Los Angeles — were developed under sponsorship of the Department of the Air Force, to aid that branch in applying scientific principles to the large-scale problems of military management and administration. The machines, which may eventually be adapted for such civilian uses as billing, inventory control, merchandising, bank transactions, etc., can add or subtract figures in the billions at the unbelievable rate of 1,100 times a second, and multiply and divide them in only slightly more time.

Through its development of such as the automatic computer, its constant checking of products for quality and performance, and its prime work in setting the nation's standards, the NBS is truly providing standards to live by.

FLIGHT BOOK

"Aviation Fuels," originally published by Ethyl Corporation during World War II, has been revised and is being reissued

Mechanics and pilots who serviced and flew the Spads and De Havillands of World War I had little, if any, special knowledge of aviation fuels and their relationship to engine performance. Gasoline was "just gasoline," and airplanes then were on pretty much the same fuel diet as military trucks and automobiles.

But when World War II struck, it was a different story. Aviation, a mere infant in 1917, was full-grown by Pearl Harbor time. Tremendous, almost unbelievable, strides had been made in aircraft engine design, and the petroleum industry had kept pace by producing aviation fuels that were to rate so high in antiknock quality they would "run off" the octane scale.

During this period of rapid development, a number of mistaken impressions concerning the relationship of fuels to engines had been cre-

ated. Clearly, there was an urgent need for a general, yet authoritative, book that would give personnel charged with flying and maintaining our military planes understandable information about aviation fuels and engines.

At the request of the Army Air Forces and the Navy Bureau of Aeronautics, such a book, entitled



"Aviation Fuels and Their Effects on Engine Performance," was produced by Ethyl Corporation. Prior to its publication, the military had only their various Technical Orders, which consisted mostly of fuel recommendations for specific engines. "Aviation Fuels" supplemented the existing manuals by explaining the relationship of gasoline properties to engine performance, and, conversely, the influence of engine design and operating conditions on fuel behavior. The necessity for selecting the proper grade of gasoline for each type of engine was thus emphasized.

Once the book was removed from the "restricted" list after the war, it became assigned reading for many college engineering students and also gained widespread use in

The revised edition of "Aviation Fuels" contains 145 pages, almost twice as many as the first version

training programs conducted by the commercial airlines and aircraft engine manufacturers. Military and civilian requests were still coming in a year ago when the initial supply of 40,000 copies ran out.

Because of the continuing demand, and to bring the book abreast of the very latest engine and fuel developments, Ethyl has prepared and is now issuing a revised edition of "Aviation Fuels and Their Effects on Engine Performance."

New Jet Section

Aviation's progress in the years between the two world conflicts was rapid, but what has happened within the past seven years is perhaps even more significant. In order to bring the current edition of "Aviation Fuels" up to date, for example, it has been necessary to include an entire new section on turbine (jet) fuels, to take into account the rapid development of turbo-jet and turbo-propeller type engines since 1945.

In the new section on jets, it is observed, "combustion problems would seem relatively simple in a turbine engine, where there are none of the complications of fuel distribution and ignition timing. However, this apparent simplicity is deceiving." The principal difficulty with combustion in turbine engines, the book explains, stems from the fact that extremely lean fuel-air mixtures must be used. The low fuel-air ratio in jet engines is necessary to keep the temperatures of the gases down to a level which the turbine blades can tolerate.

The turbine fuels chapter discusses the advantages and disadvantages of the three common military grades of jet fuel, which are JP-1 (kerosene-type), JP-3 (blend of unleaded motor-type gasoline and kerosene) and JP-4 (essentially a

low vapor pressure JP-3). Besides containing as much heat energy as possible per gallon and per pound, turbine fuels must have low freezing points and good re-starting ability at high altitude. Avoidance of vapor lock is as desirable as in piston engines, the book points out, and for an airplane's fuel system to handle jet fuels satisfactorily, the fuels must be non-corrosive and must flow freely even at extremely low temperatures.

Changes in gasolines and refinery economics since World War II also have necessitated a number of modifications in the aviation gasoline section of the new book.

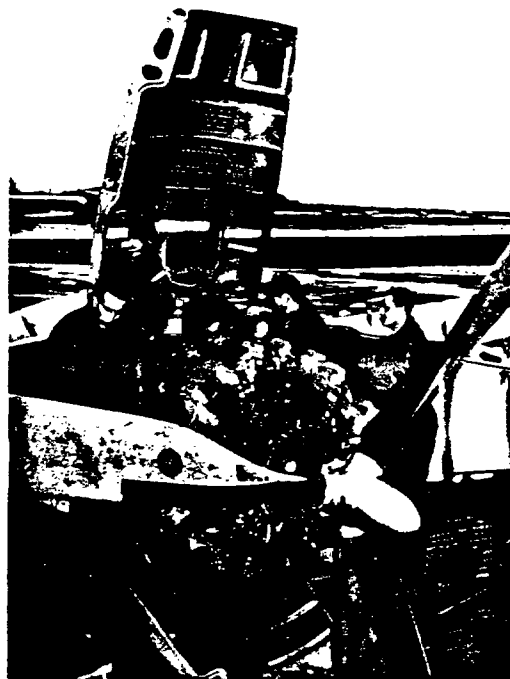
In the paragraphs concerning aromatic hydrocarbons, for instance, it is pointed out that cumene—an aromatic which was of great importance in relieving the critical shortage of alkylates and other high-performance-number blending agents during the war—is no longer available in quantity for this purpose. This is due to the tremendous growth in other uses for benzene, from which cumene is derived.

Discusses Hydrocarbons

The section on "The Piston Engine and Its Fuel" includes a discussion of the desirable and undesirable qualities of the four types of hydrocarbons—paraffins, naphthenes, aromatics and olefins—which make up aviation gasoline. Covered in some detail, too, are the physical and chemical characteristics which must be considered in establishing specifications for the various military grades. Among these are volatility, anti-knock quality (and the use of the performance number scale as a means of expressing this), vapor locking tendency, and storage stability. A supplement to the gaso-

line section discusses the factors which control fuel economy at cruising speeds, and concludes with a description of laboratory methods for knocking aviation gasolines.

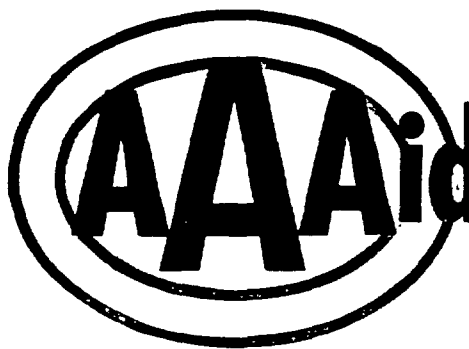
"Aviation Fuels and Their Effects on Engine Performance" has been written for those concerned with engine operation, design and development, and not for those con-



The book is designed to be of value to civilians concerned with aircraft fuels and engines, as well as to Air Force and Navy personnel

cerned with other phases of the aviation fuel problem. It is assumed that the reader is familiar with construction of aircraft engines.

A limited number of copies of the revised edition are being made available to civilian personnel concerned with aircraft fuels and engines. Ethyl Corporation hopes that they, as well as the armed services for whom the book was specifically prepared, will find the new "Aviation Fuels" even more useful than its wartime predecessor.



AAAid for the Motorist

On its Golden Jubilee, the American Automobile Association re-dedicates itself to "promoting travel and use of the automobile"

WHEN NEW YORK livery stable keepers of the late 1890's closed their doors to the first horseless carriages in that city, they were in effect opening the doors for the founding of an organization that this year is celebrating "fifty years of service to the motorist and the nation." The American Automobile Association, whose familiar Triple-A oval emblem has become a guide and comfort to highway travelers throughout the United States and in Hawaii, Panama, Puerto Rico, and the Philippines, was established in

Chicago, on March 4, 1902. Formation of the AAA resulted from a merger of a group of independent automobile clubs that had been started, among other things, to convince livery stable proprietors that gasoline buggies had to have parking space even if they didn't eat oats.

Provision of sufficient parking space is still one of the organization's goals. But through the last five decades, in which our automotive vehicle population has jumped from 23,000 to 52 million, the AAA has added a variety of other important services. Triple-A services are in use

every minute of the day and night, and the organization is credited with pioneering many of the advances that have helped bring automotive transportation to its present high state of development.

Service was not always the purpose of automobile clubs, however. The nine individual groups that banded together to form the AAA in 1902 were then primarily social organizations. Members entertained each other by relating "hilarious" automobiling adventures and organized week-end runs to picnic areas and nearby communities.



Modern two-way radios (above, left) are making it possible to provide emergency road service for stranded motorists without delay



Left, AAA field men are constantly touring the country, checking on road conditions. The reports they flash to national headquarters are quickly relayed to affiliated clubs

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Above, the AAA cooperates with police departments and schools in training and equipping safety patrol members . . . Right, a "Safety Town" demonstrates traffic problems to children



Above, some of the entries in the annual traffic safety poster contest . . . Right, the AAA has been helping promote high school driver education for almost 20 years



After their consolidation, and as more clubs became affiliated, the AAA undertook more important projects. It repaired roads, erected signposts, went to the rescue of stranded motorists and broken-down cars, campaigned for better roads, and fought for automotive reciprocity between states and for fair motor vehicle laws. It organized competitions and tours and eventually came to supervise virtually all legitimate automobile races.

Today, there are 18,000 garages under contract to render emergency road service to AAA members, and they respond to calls on an average of one every ten seconds. Many of the service vehicles are equipped with two-way radios to speed them to disabled vehicles without delay.

Distribution of informative literature is another AAA service. Its National Touring Bureau produces and distributes over two million tour books, accommodations directories, and lists of emergency service garages, five million state, regional, and special maps, and 30 million strip maps every year.

Road Reports

Twelve AAA field reporters supply up-to-the-minute reports on road, highway, and bridge conditions. Qualified examiners check on hotels, motor courts and wayside inns, permitting such establishments to display the AAA emblem of approval if they measure up to the Association's standards.

Many of the individual AAA

affiliated clubs provide their members with bail bonds, personal accident and car insurance, auto financing, travel literature, and lock and key services for absent-minded motorists who lock themselves out of their cars.

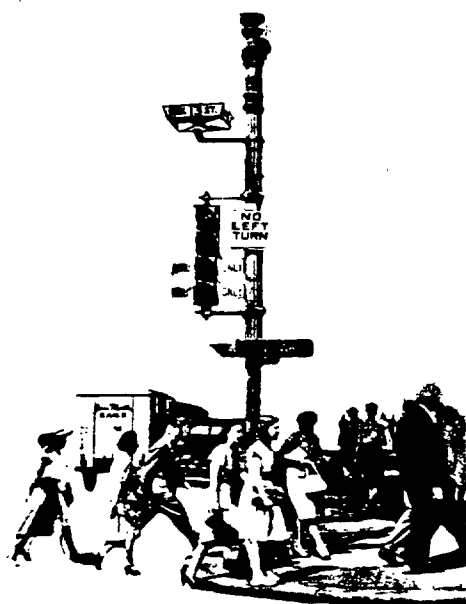
Working through the individual clubs, the national AAA organization sponsors a number of highway and street safety programs. In cooperation with schools and municipal police departments, it has trained and equipped some half million boys and girls as traffic safety patrolmen. It sponsors a national traffic safety poster contest for school-age youngsters and has been a pioneer in fostering driver-training courses in thousands of high schools. Almost two thousand towns and all of the



Handy AAA "Tripkits" packaged in compact folders are supplied to members to guide them on their travels



Through its Contest Board, the AAA supervises and sanctions virtually all of the country's legitimate auto races



The AAA-sponsored pedestrian protection contest is credited with helping reduce pedestrian fatalities by 44% in 15 years

states participate in the Association's national pedestrian protection contest. Launched in 1937, when deaths in this category were at an all-time high level, the contest helped bring about a 44 per cent reduction in pedestrian fatalities during a period when non-pedestrian traffic deaths increased by five per cent.

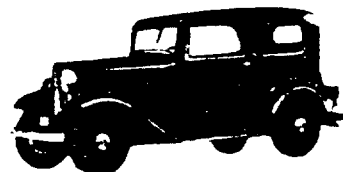
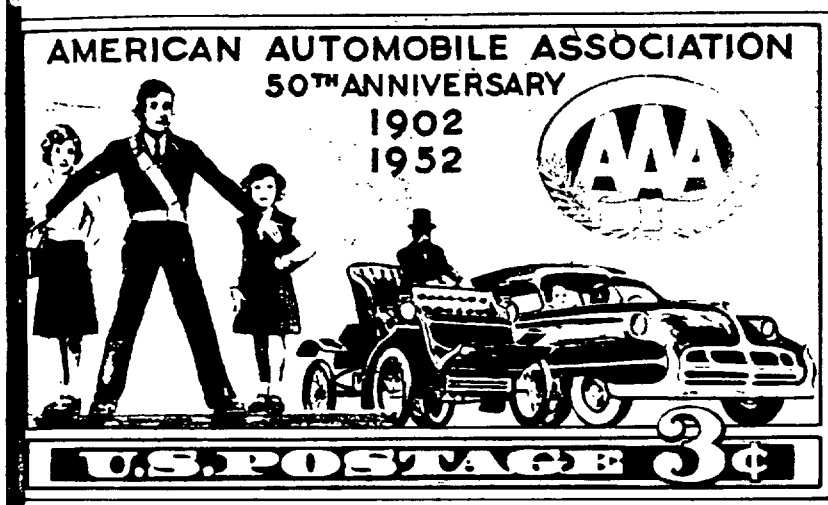
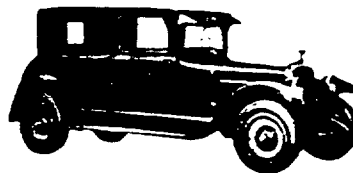
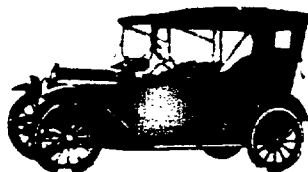
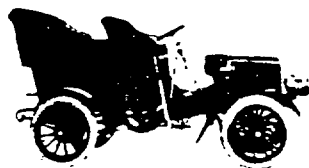
In addition to these continuing projects, the AAA performs a number of special services each year. During 1951, for example, it made a study of the drunken-driving prob-

lem, issued a special report of the "jack-knifing" of semi-trailer and trailer trucks, and reported to Congress on the breakdown in the nation's highway building program caused by a lack of steel.

As the American Automobile Association marks the mid-way point in its first century, it can look back on fifty years in which services have been expanded and improved. But, more important, it can look ahead to a bigger job in an era of unprecedented automobile popularity.



Left, the three-A sign on a tourist accommodation denotes clean, modern facilities and good service . . . Above, the AAA's International Travel department arranges for shipping cars for vacation travel overseas



STAMP OF APPROVAL

A parade of special events, led off by the issuance this month of a commemorative U. S. postage stamp in its honor, will highlight and dramatize the many contributions the American Automobile Association has made in the field of motoring during the 50 years of its existence.

The first day of sale of the stamp in Chicago on March 4 coincided not only with the founding date of the AAA, but also took place in the city which gave birth to the national motorists' organization. It was on March 4, 1902, that delegates of nine small independent motor clubs from various sections of the country gathered in the old Chicago Coliseum to create a nation-wide organization "to promote travel and the use of the automobile."

The postage stamp pays tribute to the AAA by picturing two automobiles, one of 1902 vintage and one of the modern era, to point up the tremendous strides that have been made in automotive progress during the 50-year lifetime of the Association. In addition, the school safety patrol, one of several activities sponsored by the AAA, is honored. On the stamp is to be found a sketch of a patrol boy on duty. Throughout the United States, upwards of half a million boys and girls serve on AAA school safety patrols. On duty at street crossings near schools in all kinds of weather, theirs is the assignment of safeguarding the more than nine million students who attend schools that have safety patrols.

Many and varied observances will be held across the nation during the year as the Golden Jubilee celebration gains

momentum. The emphasis will be on local and state-wide events, in which many of the AAA's 3.5 million members will take active parts. Climax of the 50th anniversary festivities will come on September 23, 24 and 25, when the Association gathers in Washington, D. C., for its Golden Jubilee convention. This meeting will feature nationally-known speakers and a cavalcade of antique automobiles, driven to the capital from all parts of the country.

As it enters upon its second half-century of "service to the motorist and the nation," which is the theme of this year's anniversary, the American Automobile Association has accepted the challenges of the future.

"A great deal of water has gone under the toll bridges since the days when motor vehicle owners were exercised over the problem of finding stables to house their vehicles," says a Golden Jubilee review issued by the AAA. "By bringing about improved motoring conditions and by influencing design of more dependable vehicles, the motor club movement was in large measure responsible for the increased ownership and use of passenger cars. This augmented use of individual transportation in turn brought about new problems of congestion, of safety, of parking and other modern motoring dilemmas.

"To solve these and related problems, both here and abroad, is a major objective of the more than 750 motor clubs and branches working together under the banner of the AAA oval emblem."

ETC 32587



You had something there, Mark Twain

We doubt if the beloved Mark Twain had gasoline refiners in mind when he was reported to have said:

"Everybody talks about the weather, but nobody does anything about it!"

But he certainly was hitting close to the problem which has for many years vexed refiners who wanted to obtain reliable road knockratings. There are hardly two days in a year when the same weather conditions are to be found . . . not to mention traffic variables. As a consequence, a day-to-day variation of four octane numbers was possible in the rating of a single fuel in a particular automobile. Fuel ratings obtained indoors on chassis dynamometers often were subject to considerable variation, and sometimes bore little relation to performance on the road.

This is not surprising, because of differences in atmospheric temperature and humidity, and failure of the equipment in the chassis dynamometer room to provide "wind" equivalent to that encountered in normal car operation.

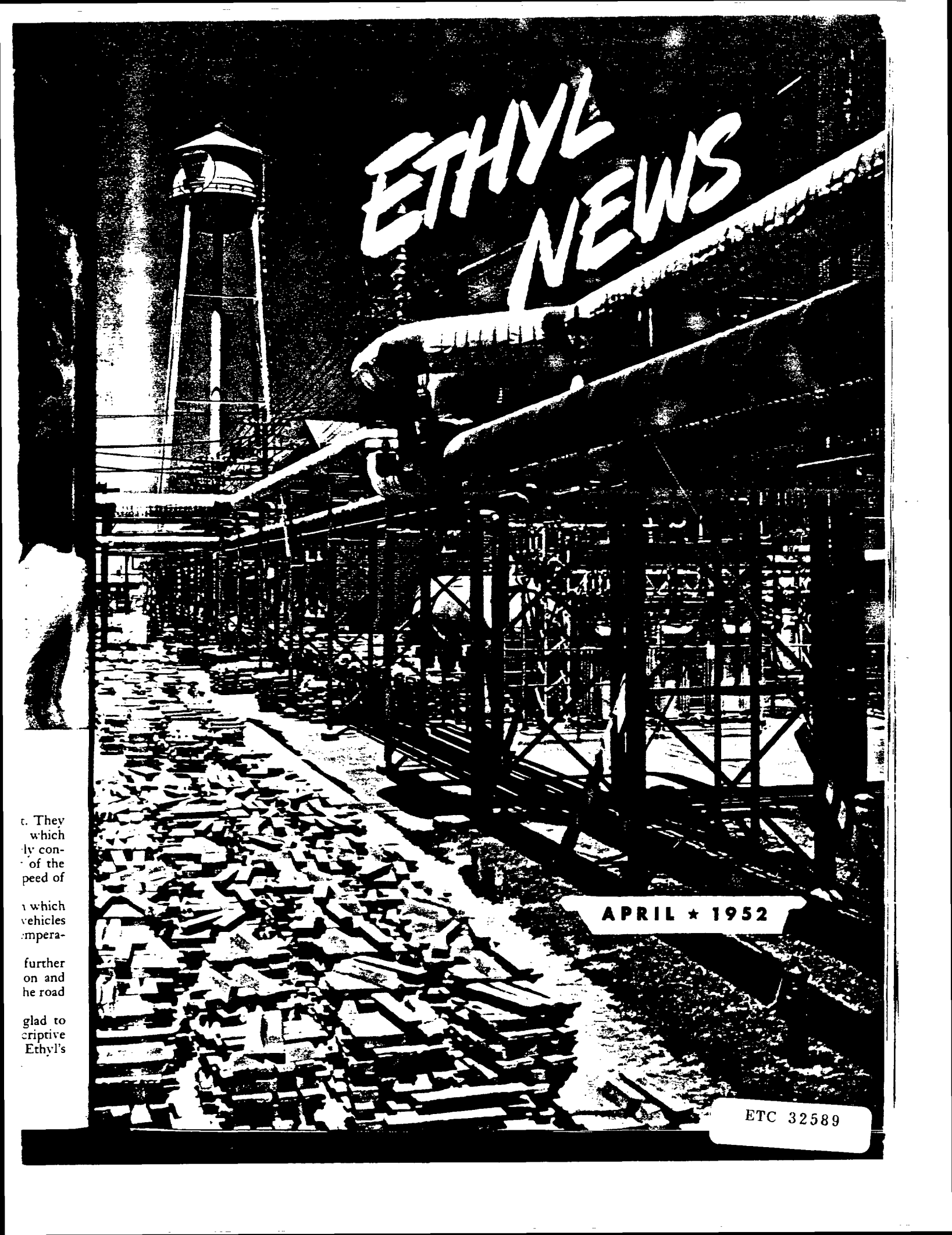
So Ethyl research people did something about it. They built two unusual chassis-dynamometer rooms in which atmospheric temperature and humidity can be closely controlled. Furthermore, air velocity against the front of the car can be automatically controlled relative to the speed of the rear tires.

These two rooms constitute a flexible combination which can accommodate a wide range of automotive vehicles operated under substantially any combination of temperature, humidity and wind encountered in service.

Simulation of vehicle operation on the road is further assured by equipment which causes the acceleration and speed of the rear wheels to be the same as those on the road resulting from any movement of the foot throttle.

The next time you are in Detroit we shall be glad to show you these rooms. In the meanwhile, our descriptive brochure entitled "Road Knockratings Indoors with Ethyl's New All-Weather Rooms" is yours for the asking.

ETHYL NEWS



APRIL ★ 1952

ETC 32589

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IN THE

ETHYL NEWS

APRIL 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wehanka, Art Director

Jack D. Fuller, who joined Ethyl Corporation in 1941, has been named to the newly-created position of Manager of Fuel Technology. As fuel technologist in the company's Central Region for the last four years, he has been assisting refiners in the solution of special blending problems, with emphasis on methods for obtaining maximum benefit from the addition of "Ethyl" antiknock compounds. In his new capacity, Mr. Fuller will coordinate this phase of the Sales department's activities in all four regions. His headquarters will be at the Ethyl Corporation Research Laboratories in Detroit.

Mr. Fuller was born in Mason City, Iowa. He attended Los Angeles Junior College for three years and received his bachelor of arts degree from the University of California at Los Angeles in 1940. Before joining Ethyl, he was employed as a chemist by the Caminol Oil Co., Ltd., at Santa Fe Springs, Calif.

His first assignment at Ethyl was as a safety engineer for the Sales department at Hutchinson, Kan. From 1942 until 1948, he served in the Refinery division of the company's Research Laboratories. There, during World War II, he was active in a number of cooperative fuel and engine projects conducted in behalf of the Army Ordnance department. In 1948, he rejoined the Sales department to handle fuel technology in the Central Region.

SIGNS TO FLY BY 3

Town names on building roofs are more than expressions of civic pride — they're valuable guideposts for small plane pilots.

IGNITION IMPROVER FOR DIESEL FUEL 6

Ethyl is making samples of a new additive available to refiners and diesel engine manufacturers.

MEET THE CHAMPS 10

Here in words and pictures is the story of the service station Brand Name Retailers of the Year.

PIGEONS IN KHAKI 14

Even in this day of super-communications, homing pigeons play a big part in the plans of the military.

KNOCK STUDY: PROGRESS REPORT 18

An Ethyl Corporation motion picture reports the findings of a knock research project being conducted at M.I.T.

ANYTHING, ANYTIME, ANYWHERE 19

Everything that America eats, wears, and uses — in peace or war — moves at least part of the way by truck.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

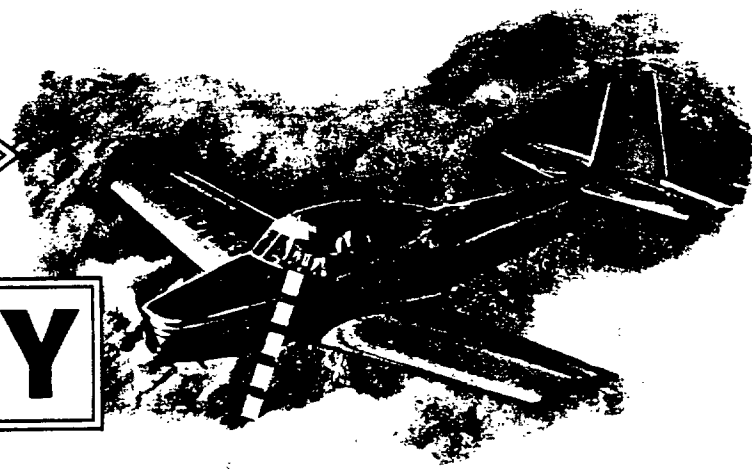
Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

ETC 32590

SIGNS

TO FLY BY



Directional ground markers, readable from the air, are veritable life savers for those who fly small private planes

By Henry F. Unger

FLYING ACROSS southern Pennsylvania one summer afternoon, the pilot of a small airplane ran into a sudden thunderstorm. Dark clouds limited his vision and high winds soon blew him far off his course. When crackling static made the radio useless, the private flier was forced to admit to himself that he was lost. To make matters worse, his plane was running out of fuel.

At last, a small hole opened up in the clouds below and he dropped down to search the ground for some identifying landmark. None stood out. Despite an almost-empty

gasoline tank, he had no choice but to keep on flying.

Finally, as he approached a small town, the letters of a word loomed up on the broad roof of a building. They spelled "Gettysburg." Oriented at last, the pilot breathed a sigh of relief, checked his maps, and made for the nearest airport.

Another name thus was added to the growing list of pilots who have been saved by air markers.

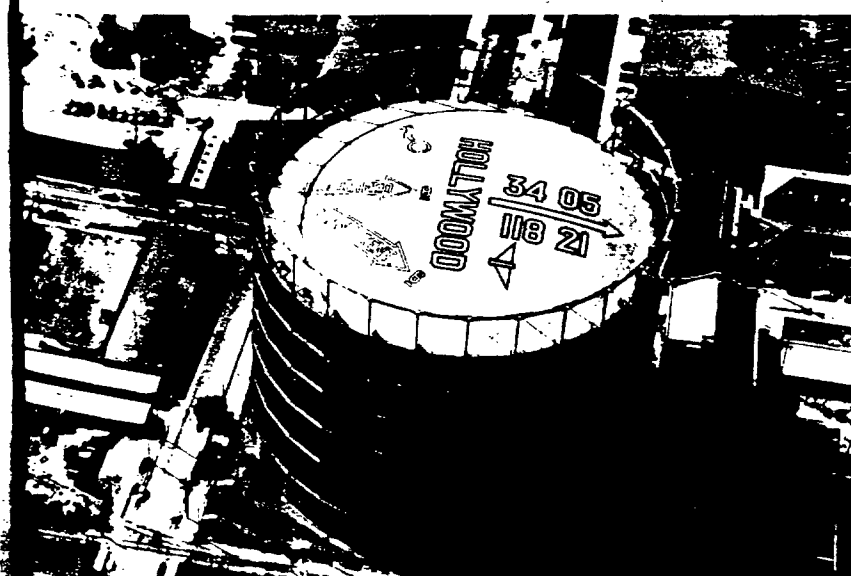
There are some 50,000 such air markers on towers, storage tanks, roofs, and on the ground throughout the country. By definition, an air marker is a sign, readable from the air, which tells the name of the town in which it is located. Frequently, markers include, beside the name of the town, its longitude and latitude, an arrow pointing to

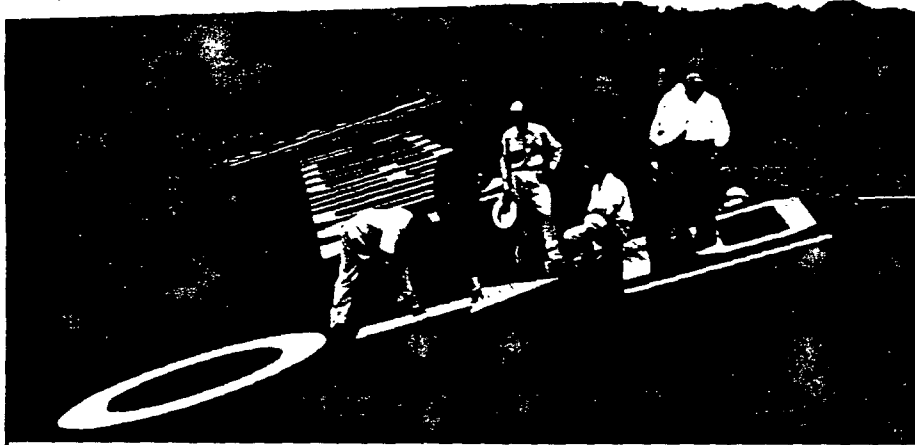
true north, and a symbol and number indicating the direction and distance to the nearest airport.

Such an apparently rudimentary and unscientific means of navigation and communication may seem outdated in this day of flight patterns, beams, ground controlled approaches and electronic equipment. While such elaborate systems are used by commercial airliners and the larger military planes, the average small plane is equipped with none of these expensive instruments. Many cannot boast even a radio. Scores of private pilots have only limited training and experience in navigation. To flyers in these categories, air markers literally are life savers.

Despite the popularity of private flying in this country, the installation of air markers has been relatively limited. Agitation for them began in the middle Thirties. Before that time, there were almost no visual means by which pilots could orient themselves from the air. It was not uncommon for them to land on the streets of a town and inquire its name.

Typical of the 50,000 air markers to be found throughout the country is this one atop a gas storage tank in Santa Monica, California





Service clubs are responsible for many air markers. Here, a rooftop sign erected by Woodbridge, Va., Kiwanis gets a new coat of paint

In the early stages, there were widely scattered efforts on the part of local pilots and airport operators to mark towns. However well intended, these efforts resulted only in a hodge-podge of markings on roofs, towers, and other structures.

More Markers Needed

Air marking was given a much-needed shot in the arm when Blanche Noyes — a former Bendix Trophy Race co-winner, holder of the women's east-west transcontinental airplane speed record, and one of the country's leading female pilots — was named to head a concerted air marking program under the Civil Aeronautics Administration. With thousands of flying hours to her credit, Mrs. Noyes appreciated the value of a nationwide system of air markers.

By the time the United States became involved in World War II, about 30,000 air markers had been installed from coast to coast. Fear that they would prove too helpful to an air-raiding enemy caused many of them to be obliterated. With the Axis beaten, Mrs. Noyes and the Air Route Marking Branch of the CAA launched a campaign to replace the erased markers and add at least 50,000 new ones. For maximum safety, it has been estimated that the country should have at least 100,000.

Under Mrs. Noyes' direction,

CAA specification markers have proved so legible and successful in directing lost pilots they have been adopted as international standards. They are described in detail in the CAA's "Air Marking Guide."

The booklet points out that markers should, if possible, be located on the roofs of buildings adjacent to main highways or railroad tracks, or near road intersections. They should be visible from all angles and readable from an elevation of at least 3,000 feet. They should not be installed where they will be exposed to excessive amounts of dirt or smoke, and should be away from firewalls, chimneys, and skylights that might crowd the lettering or reduce its legibility. Power lines and large concentrations of machinery or other sizeable metal objects are to be avoided in the placing of markers because of

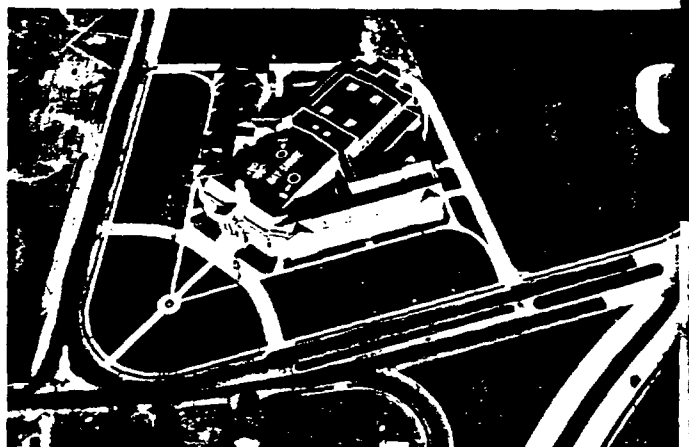
the effect they would have on the compasses of approaching airplanes.

CAA specifications call for the use of chrome yellow letters on a black background where possible. Minimum height of characters should be ten feet and letter strokes should be at least 16 inches wide.

Air markers are found in almost every conceivable type of place. In Birney, Mont., a ranch house has one on its roof. The Minster, Ohio, marker is on the roof of a church. The Joliet, Ill., state prison has installed and maintains a large marker on its grounds just outside the prison yard.

Help in the installation of markers comes from a wide variety of individuals, groups, and organizations. In several states, the aeronautics commission makes regular surveys and sends paid workers out to repaint faded markers and install new ones. Where there is no state organization, the Civil Air Patrol and other public-spirited groups have volunteered for the task.

Throughout Missouri, for instance, teen-agers teamed up to install markers on a number of high



school buildings. The CAA supplied the paint, the State Aviation division promoted the program, and the youngsters did the work. Schools, incidentally, are considered especially good spots for air markers because they usually stand apart from other buildings.

Zack Mosley, creator of the well-known "Smilin' Jack" comic strip, spurred the people of Georgia to action with his plugs for the air marking program. His cartoons showed the strip's characters following the air markers in several episodes and pointed out their usefulness when the pilot was lost.

In Mississippi, members of the Aero Club of Jackson and the Civil Air Patrol fly around the state on holidays and weekends, to paint air markers. During bad weather, they make prefabricated markers indoors. Then, when the skies clear, they carry them directly to predetermined locations.

Besides civic groups and other organizations, many private companies support the air marking program. Outstanding among these are a number of oil companies through-

out the country which have installed markers on their buildings, storage tanks, and grounds.

The Air Marking Branch of the Civil Aeronautics Administration encourages individual firms to install air markers, but discourages them from painting their corporate name or names of their products on the roofs of their buildings in large letters. There are cases on record where such signs have confused pilots with disastrous consequences.

On Air Maps

In an effort to eliminate such confusion, the CAA will draw up plans for any company desiring to install an air marker and at the same time exhibit its trade-mark or some other type of identification. Many companies have taken advantage of this offer and have succeeded in advertising themselves while building goodwill among airplane pilots.

No matter where or by whom air markers are made, the Air Marking Branch of the CAA in Washington likes to be advised of their installation. The presence of a new marker can then be indicated on official air

maps, thus enabling the pilot to orient himself readily by coordinating map and ground information.

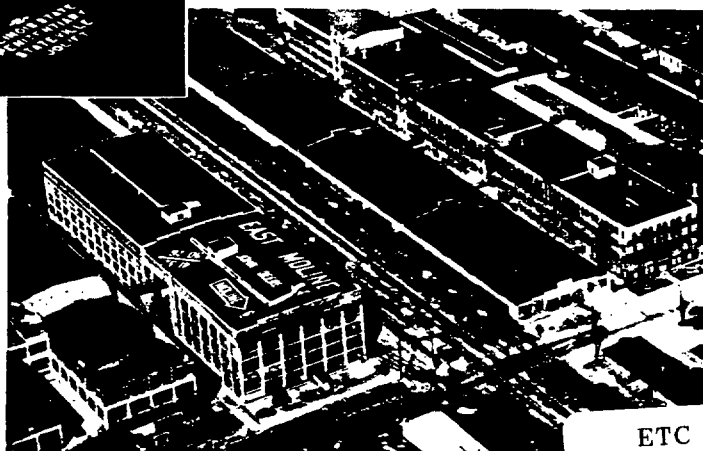
Private and civilian fliers, of course, aren't the only ones whose lives can be saved by air markers. Anyone who flies a plane may have occasion to use them at some time or other. In Mrs. Noyes' repertoire of stories about the value of air markers is one of a Navy jet pilot who was off his course and fast running low on fuel when he spotted the Greenfield, Ohio, marker. Despite the fact that the local airport was a sod landing field with only a short runway, he managed to bring his plane down safely. When he climbed out of the cockpit, his first words were ones of thanks for the marker.

There is also the story of two Indiana National Guard fighter pilots who were guided to a safe landing at Revere, Mass., by an accurate marker.

Although great strides have been made in the installation of air markers, more are critically needed. States, towns, and organizations could well take a page from the highway marking book and make air markings just as complete. Mrs. Noyes and others connected with the program feel. The installation of air markers is inexpensive. But in times of distress they become priceless to the floundering pilot who is guided to a safe landing by their big bright yellow letters.



Air markers can be erected on any suitable rooftop — or even on the ground itself, as has been done at the Illinois State Penitentiary at Joliet (above). Schools, like that at left, are considered especially good spots for air markers because they usually stand apart from other buildings. Factories (right) also are used extensively for air marking





Ignition for Diesel

A new additive, developed by Ethyl Corporation, is now being tested by the Navy, refiners, and engine manufacturers

EVER SINCE that day in 1934 when the first diesel-powered streamlined passenger train raced across the Western plains and into the pages of transportation history, the use of diesel engines has increased spectacularly. Although diesel power dates back beyond the turn of the century, it remained for the now-famous Burlington Zephyr to demonstrate dramatically the efficiency and potentiality of this type of engine and bring it forcefully to the public's attention.

In the 18 years since that historic run between Denver and Chicago, diesel engines have contributed to the progress of land and water transportation and have found a number of important military and industrial uses.

Increased Demand

The greatest gains in the use of this type of power have been on the railroads, where diesel locomotives have replaced thousands of steam engines in all types of service, and on the highways, where over-the-road diesel trucks and buses are carrying both freight and passengers. The increased use of diesel



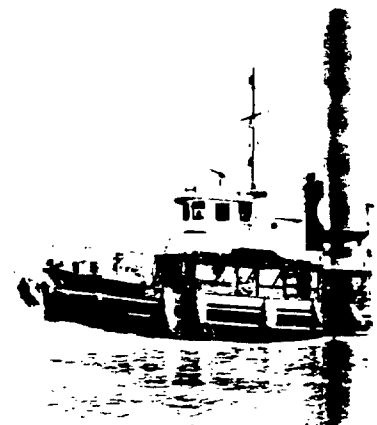
power by these carriers and the growing popularity of diesel-powered boats, military vehicles, power plants, earth-moving equipment, and industrial machinery have made "diesel" a part of America's everyday vocabulary.

This spiraling growth in the use of diesel power has, naturally, been accompanied by a great increase in demand for diesel fuels.

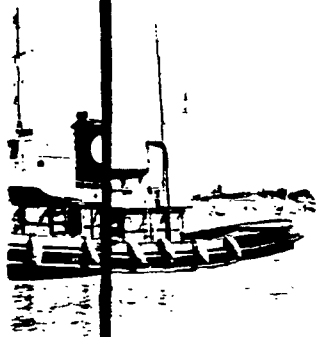
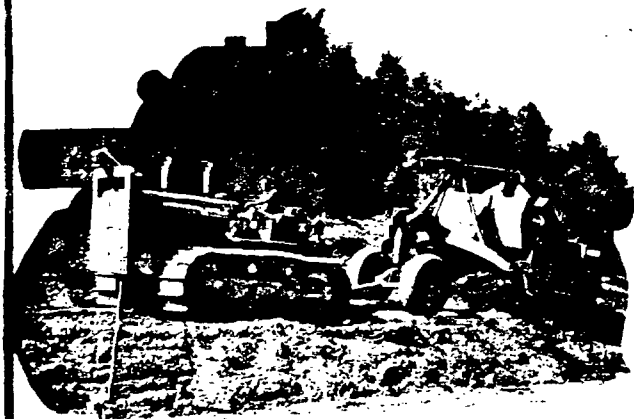
In the earlier years of diesel engine use, an ample supply of fuel usually was available through the straightrun distillation of selected crudes. In the six years following 1934, however, the demand doubled. From 1941 until the present, it has increased fourfold; and by 1960, according to best estimates, present consumption will double.

To keep pace with the growing diesel market, many petroleum refiners are now including in diesel fuels substantial quantities

of straightrun distillates from naphthenic crudes and distillates from cracking operations, in addition to the straightrun distillates from selected crudes. Meanwhile, however, demand for all middle distillates has jumped tremendously. Diesel fuels thus must compete with the added call for heating oils and "charging stocks" for catalytic cracking, and new demands for fuels for jet aircraft.



n Improver Diesel Fuel



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The problems of diesel fuels are better understood when the characteristics of diesel engines are considered. As is well known, diesel engines differ from gasoline engines in several fundamental respects. In the latter, fuel and air are mixed in the carburetor before they enter the cylinder. In diesel engines, the fuel is injected directly into the cylinder in the form of a spray and is there mixed with

the air. Where gasoline engines employ an electric spark to ignite the mixture, diesel engines rely on the heat of compression.

A brief time lag, or "ignition delay," between fuel injection and ignition in a diesel cylinder is necessary to allow the fuel and air to become thoroughly mixed. If there is a long delay, however, uneven or incomplete combustion follows. This can lead to knocking or misfiring which may result in engine damage, smoke, and loss of power.

Diesel fuels containing high percentages of straightrun distillates from naphthenic crudes or distillates from cracked stocks generally have high heating values per gallon and a low pour point—both desirable characteristics—but tend to have poor ignition quality. This prolongs the ignition delay period and causes improper engine performance. Such fuels need only to

have their ignition quality, or cetane number, raised to make them acceptable diesel fuels.

To help improve the ignition quality of such fuels, Ethyl Corporation has developed a diesel fuel additive. A number of thorough tests indicate that the use of this agent will be able to make greater quantities of acceptable quality fuel available and also help standardize diesel fuel quality, which now varies widely from coast to coast.

Many Advantages

The additive, a special blend of primary amyl nitrates referred to as DB-36 Amyl Nitrate, converts middle distillates into acceptable diesel fuel by raising their ignition quality, or cetane number. The availability of this additive, which could economically upgrade distillate fuels by from two to ten cetane numbers, would offer a number of advantages to many oil companies.

By permitting the inclusion of greater quantities of cracked and low-cetane-number straightrun distillates, it would increase the quantity of uniform quality diesel fuel that a refiner could produce.

Refinery operations could become more flexible through elimination or reduction of the selective blending now required in many



The availability of fuel with more uniform ignition quality would reduce diesel engine manufacturers' problems associated with the use of the variety of fuels now marketed

part of the country's oil refiners.

Among the others who could benefit from the use of DB-36 are diesel engine users. The availability of fuels of low pour point and more uniform ignition quality would tend to reduce their cold weather operational problems, and in many cases reduce maintenance and operating costs.

Long Research

Eventually, too, the availability in all parts of the country of diesel fuel with a more uniform ignition quality would reduce the diesel engine manufacturers' problems associated with the use of the wide variety of fuels that is currently being marketed.

While amyl nitrate in various forms has long been known in principle as a cetane improver, the Ethyl blend is the best from a combined cost-efficiency standpoint. Its development is the result of years of search and study by Ethyl's research and development staff. During the course of this continuing research, hundreds of

localities to produce diesel fuel of the necessary ignition quality. Alternately, refiners might choose to blend selectively unfinished stocks for the desired pour point, flash point, and volatility, with less regard for cetane number. This would be especially valuable in the production of fuels designed to be used in the Arctic.

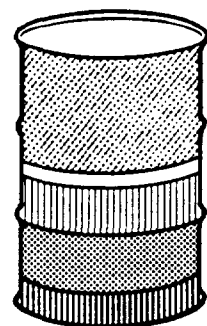
Wherever the refiner has stocks that would be suitable as diesel fuel except for inadequate ignition quality, the availability of an ignition improver could enable him to store or distribute these stocks as suitable for both heating and diesel fuel purposes. That portion to be sold as diesel fuel could be upgraded as desired. This would be particularly valuable to refiners who rely heavily on pipeline distribution from refinery to bulk stations.

Further, the use of an ignition improver would allow refiners to market diesel fuels of more uniform ignition quality.

These advantages would add up to increased output of uniform quality diesel fuels through simpler, more economical refining, distributing and storing operations on the

As can be seen in the accompanying drawing, approximately one - fourth of each barrel of crude is used for the production of middle distillates (kerosene, gas oil and distillates). An additive that permits the economical upgrading of diesel fuel offers many advantages to refiners

YIELDS FROM A BARREL OF CRUDE OIL



	% YIELD
GASOLINE	42.5
KEROSENE	5.7
GAS OIL AND DISTILLATES	19.9
RESIDUAL FUEL OIL	19.7
OTHER PRODUCTS AND LOSSES	12.4
	100.0

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6 YIELD

- 42.3
- 5.7
- 19.9
- 19.7
- 12.4
- 100.0

different compounds have been tested as cetane improvers. Of these, DB-36 Amyl Nitrate has proved most practical from a commercial standpoint.

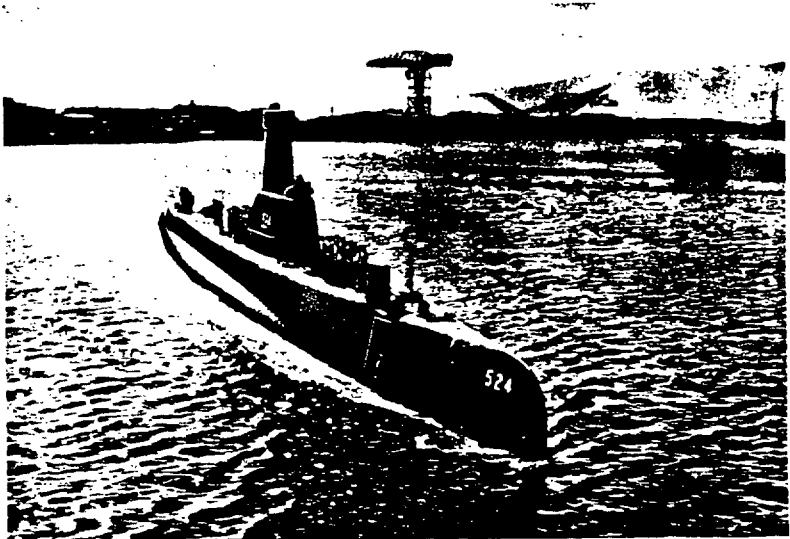
This special blend economically creates diesel cetane numbers that are the equivalent of natural cetane numbers. In addition, it has a number of other desirable characteristics. The added ignition quality which it imparts is retained even during prolonged storage of the fuel under normal conditions. The fact that it is relatively non-toxic enables it to be handled, stored and used without creating health hazards. Further, it does not cause maintenance problems by increasing wear, deposits, or corrosion or clogging of fuel system parts.

Cetane Number Gain

All kinds of diesel fuel — regardless of the type of crude from which they are obtained, the refining method used, or the sulfur content — may be improved with DB-36 Amyl Nitrate, tests show. On the average, five cetane numbers may be gained from the addition of 0.13 volume percent; and 2.5 cetane numbers with 0.05 volume percent.

Thorough testing is an essential part of the development of any new product. The performance of Ethyl's ignition improver in over-the-road diesel trucks and in other full-scale engines in the laboratory is being checked and rechecked. Too, the Bureau of Ships of the Navy is presently conducting extensive tests.

The Navy is an important consumer of diesel fuels and one of its current specifications calls for a fuel containing no cracked material. This, of course, reduces the amount of fuel that can be obtained from a given quantity of crude.



As a large consumer of diesel fuel, the Navy, through its Bureau of Ships, currently is testing the effectiveness of Ethyl's special amyl nitrate blend

The outcome of current tests with fuels containing DB-36 Amyl Nitrate should have an important bearing on future Navy diesel fuel specifications.

Plans for the manufacture of DB-36 Amyl Nitrate in commercial quantities will be announced when all tests have been completed. While they are in progress, production is limited to pilot plant quantities.

Meanwhile, however, as a service to the petroleum industry, Ethyl Corporation is making sample quantities of the ignition improver available to refiners and diesel engine manufacturers. This sample distribution program will enable fuel and engine technologists to produce their own diesel fuel blends and test them under any laboratory or service conditions they may care to create.

Special electronic equipment, like that shown below, was used by the Ethyl Research Laboratories in their preliminary testing of DB-36 Amyl Nitrate



ETC 32597



Meet the CHAMPS

Left, the top award winners — "Cleve" Wilborn and "Buster" Henderson, of the Halifax (Va.) Esso Station — flash wide grins upon receiving notice of their selection

Service station winners of the coveted Brand Name Retailer of the Year awards have just been announced

TWO SERVICE STATION partners in the Virginia tobacco belt hamlet of Halifax are beginning to get the idea that the month of March holds some sort of special significance for them.

First of all, they established their partnership in March of 1947, taking over an Esso Standard station along Route 501, which is the

As a community service, the winning station provides free gasoline and oil for the local fire trucks and free storage for the bookmobile

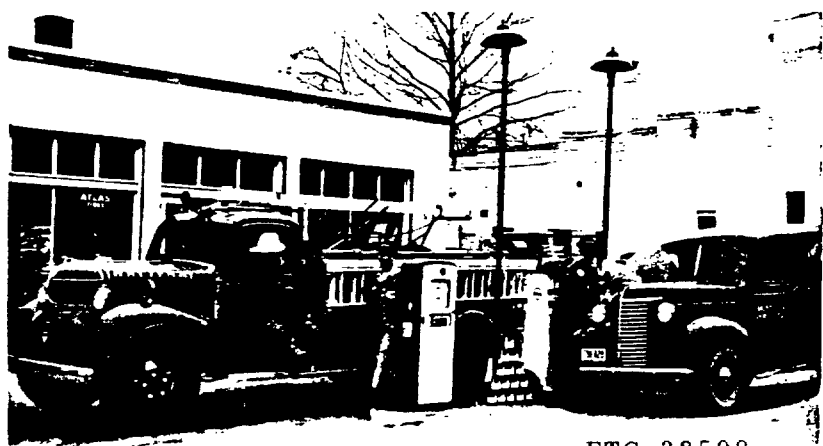
Broadway of Halifax (pop. 791).

It was on a night in March, 1949, that the busy station faced its first and thus far only threat of disruption of business. Fire struck a building connected to the rear of the establishment. With the help of townsmen, the partners moved their stock and equipment across the street just to be on the safe side.

But firemen brought the flames under control before they did any damage, and the station opened for business as usual the next morning.

Now, this March, last month, the partners were informed that they had won the coveted Brand Name Retailer of the Year award in the service station field.

Thus, after five years of quiet, faithful service to the motorists of Halifax and those cruising Route 501 either south into the Carolinas or north into central Virginia, the partnership of Cleveland Wilborn and Edgar Henderson finds itself in the retail world's spotlight. In competition with similar businesses throughout the land, their Halifax Esso Station has been voted the nation's leading service station with respect to the manner in which it



Halifax Esso Station Halifax, Va.

The above picture of the winning station in Halifax was taken before the establishment was remodeled last month. At right are the stations which won Certificates of Distinction for their outstanding programs of brand name product selling during 1951

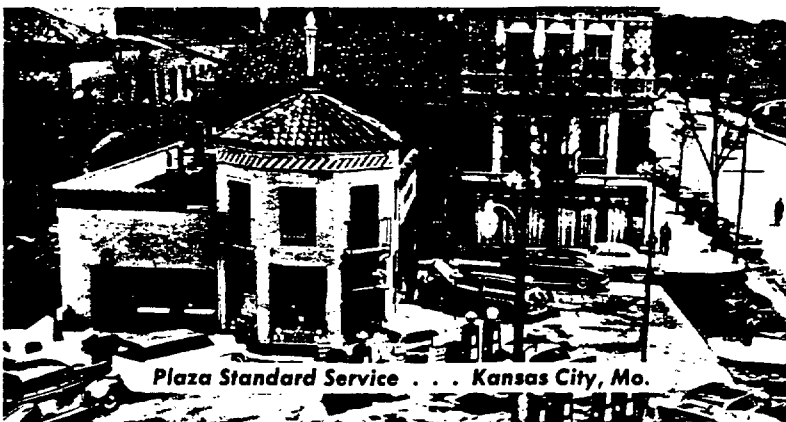


The Auto Tire Co. Hartford, Conn.

impressed upon customers the importance of purchasing merchandise that bears a reliable brand name.

In all, more than 500 service stations vied for the honor in the annual nation-wide competition sponsored by Brand Names Foundation, the non-profit organization supported by more than 750 leading manufacturers and firms as a means of educating the American buying public to "remember to ask for the things you like by their brand names." From the original entrants were screened 35 finalists — service stations reaching into all corners of the country from Montpelier, Vt., to Beverly Hills, Calif., and from Butte, Mont., to New Iberia, La.

Two separate judging sessions were held, one in New York and the second in Chicago on March 10. So that each entry would stand on its merits, and so the judges would not unknowingly be influenced by the fact that one entrant's presentation might be more elaborate than another's, the work accomplished by each finalist in promoting brand names was judged separately. The impartial judges were the 1951 Brand Names champions in 18 different fields (food stores, furniture stores, department stores, etc.). Among them was Tom



Plaza Standard Service . . . Kansas City, Mo.



Bell's Sohio Service . . . Newcomerstown, O.



Tichenor's Gulf Service . . . Owensboro, Ky.

ETC 32599



Record-keepers and general helpmates to their husbands in the clerical operation of the Halifax Esso Station are Mrs. Wilborn (left) and Mrs. Henderson

The Wilborn-Henderson station sponsors daily radio commercials over WHLF in South Boston, a larger town a few miles south of Halifax. Here, the partners tune in their message



Schuon, a Gulf Oil dealer in Ann Arbor, Mich., who was Service Station Brand Name Retailer winner last year, the first of competition in this category.

When the votes were tabulated the Halifax Esso Station emerged the winner. Close behind in the voting came, in order, The Auto Tire Co., of Hartford, Conn., a Socony-Vacuum dealership; Plaza Standard Service, of Kansas City, Mo., a Standard of Indiana outlet; Bell's Sohio Service, of Newcomertown, Ohio; and Tichenor's Gulf Service, of Owensboro, Ky. The

four runners-up will receive "Certificate of Distinction" awards from the Brand Names Foundation.

"Cleve" Wilborn was in the grease pit when he received a telegram from Henry E. Abt, president of Brand Names Foundation, notifying him of the selection of the Halifax Esso Station as Brand Name Retailer champion. Wilborn had been nursing a hunch that "we might win," but lost that feeling when no wire arrived on March 10, the date for announcing the winners. What was to have been the big day for the partners had come and gone—and so had their hopes of sharing the famed award. But, then about 2 o'clock the next afternoon, while he was lubricating a customer's car, a Western Union messenger reached into the grease pit, tapped Wilborn on the shoulder, and delivered the good news.

While they have a natural pride in their service stations—the partners also operate one in Centerville, a couple of miles south of Halifax

on Route 501—"Cleve" Wilborn and "Buster" Henderson are as much amazed as anyone that their small operation in one of the nation's smallest communities should gain national distinction. The answer, as Brand Names Foundation points out, is not a question of where the business is located or how much it spent to promote its brand names, but rather *how* was the job done.

Well-Rounded Program

The Wilborn-Henderson partnership, the judges decided, did the job in an extremely well-rounded manner. Newspaper advertising, radio commercials, direct mail pieces, window displays, use of brand name decals on pieces of equipment, and virtually every other known means of reaching the public were employed. Always, of course, the integrity, pride, ingenuity, and values back of the products were stressed.

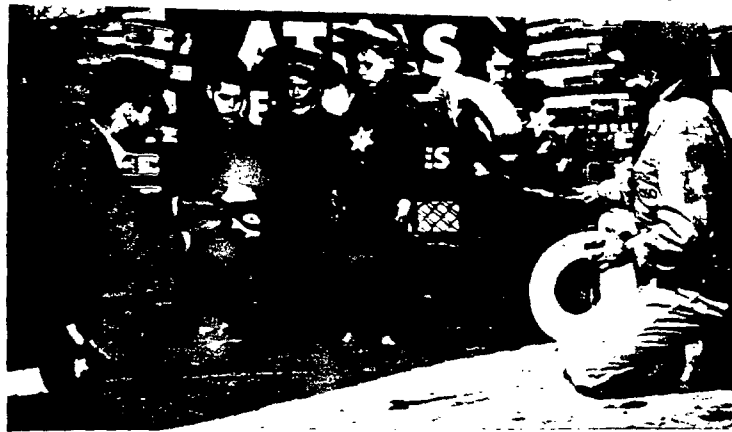
"We never let our customers have a doubt about the products we sell and how proud we are of 'our brand,'" is the way the partners sum up their efforts.



Timely outdoor displays and extensive use of brand name decals were items that helped win the Brand Name Retailer of the Year award

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As an added means of attracting customers, and at the same time featuring brand name products, the Halifax station makes it a point to change window displays monthly



"Giveaway" items bearing names of certain products sold at the station help further brand name sales and also build goodwill among the motorists of tomorrow

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In addition to their continuous and wide use of the various media for keeping their brand names before the buying public, the partners engaged in a singularly successful public relations and community service campaign. Both Wilborn and Henderson are natives of the area, both are World War II veterans, and both belong to several local fraternal and civic organizations. Wilborn also is Halifax County chairman of the Governor's Highway Safety Council.

As part of its extensive program of community service, the Halifax Esso Station has, ever since it began business in 1947, provided free

gasoline, oil, and lubrication to the local fire department, which is now a two-truck organization. Free storage is provided by the partners for the Halifax County Public Library bookmobile, and use of the station's jeep is donated for smoothing the local high school baseball diamond before games. The station serves as local center of operations for the Halifax Artificial Breeding Association. And, as a still further community service, the partners distribute a well-received business telephone directory for the Halifax community.

It was all these efforts rolled into one which convinced the Brand

Name Retailer of the Year judges that the Wilborn-Henderson team had done the outstanding brand-selling job in the service station field during the past year.

Homage and their reward, in the form of an appropriately-worded plaque, will be bestowed upon the two Halifax operators at the annual Brand Names Day banquet in New York City's Waldorf-Astoria Hotel on the 16th of this month. That will be a real highlight for both Wilborn and Henderson. Although both served overseas during the war, neither has ever visited New York before.

"We're really excited about the trip to New York," the partners readily admit. "But, what's more important, that award as Brand Name Retailer of the Year is going to make us redouble our efforts from now on to sell the brand name along with the product. Most people, we've found, would rather buy products that carry a reputable trade name than those that don't — and that certainly applies to service station products as well as drugs, food, or what have you."

The Brand Name Retailer award in the service station category was established last year. Here, Tom Schvon (right), Gulf dealer in Ann Arbor, Mich., receives his plaque as oldom's first brand name "champ"



Even in this day of advanced communications equipment, these homing birds play a big part in the plans of the military

THIS BEING the era of radar and super-communications, one might well imagine that the use of homing pigeons in warfare now is, as they say in the Army, something strictly for the birds. But, in the military's plan of things, the pigeon is far from being a dead duck or reasonable facsimile thereof. American forces employed 54,000 of the birds in World War II. In any new global battle, the number would be much higher.

Why, when we have the most advanced communication systems man can devise, would the pigeon be relied upon in the future far more than it has been in past wars? The answer: With all the wonderful radio, telephone and telegraph



techniques and devices modern science has given us, it has also developed equally effective ways by which enemy forces can disable each other's transmitters. It is when the other means of communication have been knocked out of commission, or perhaps never set up in the first place for reasons of troop security, that the Army relies most heavily upon its faithful pigeon message carriers.

Training Center

To prime the homing pigeon for its place in the military world, the Signal Corps operates at Fort Monmouth, N. J., a vast Pigeon Breeding and Training Center, the only installation of its kind in the world. Presently on "active duty" at the Center are 1,300 birds. Behind them stands a potential "reserve force" of almost one million birds, owned by the nation's 20,000-odd homing pigeon fanciers. In World War II, three of every four birds that flew in military service were those turned over to the Signal Corps, without cost, by patriotic civilian fanciers.

The nucleus of what might be called the "U. S. Pigeon Force," the birds now being bred and trained at Fort Monmouth are G.I. in every sense of the word. Their matings, feedings, exercising and flight training all follow a strict set of Army procedures.

Developing a pigeon's natural

homing instinct takes approximately a month, and this training is started 28 to 30 days after the baby squab is hatched. As a "recruit," the pigeon's first duty is to learn how to "trap." This means to go into a loft through an opening which permits the bird to enter, but not leave again. No pigeon is considered "home" until it is through the loft trap.

Next come exercise flights around the loft, to strengthen the wings. Then, when the bird is barely six weeks old, flight training starts. At first, the pigeon is taken only a short distance from the loft and released. But each day the distance is increased until finally it is making flights of 50 miles. Trainers know that when a bird is condi-



Before being released from flying airplanes, Army pigeons are placed in slitted paper bags which hold them only until they are clear of the propellers' slip stream



Above, written messages are carried in a small capsule fastened to a pigeon's leg . . . Right, film carrier capsules are strapped to a bird's back by a tiny harness



tioned to make 50-mile trips it has the ability and stamina to accomplish flights of as many as 300 miles or more.

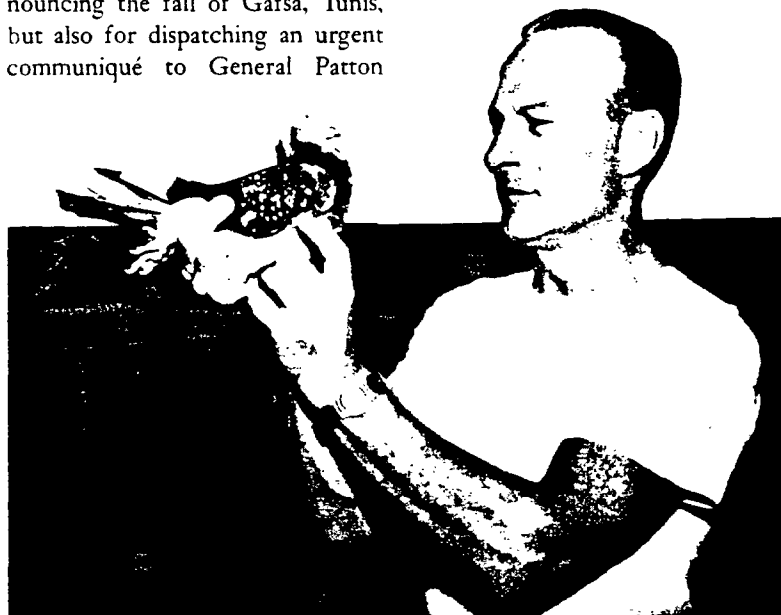
The Army's pigeons are developed over one of the toughest training courses in the world. This is the so-called west course, which stretches westward from Fort Monmouth to beyond the Allegheny Mountains of Pennsylvania. The mountains, and the way they lie, make the course hazardous as well as tough. Numerous birds have been lost, but those that negotiate the mountains are among the sturdiest, fastest and most dependable pigeons in the service of any nation.

Dependability is perhaps the major quality demanded of a feathered military message carrier. Speed, and physical stamina coupled with it, are also vital requisites, but the main concern is that the message gets through in the first place. Of

the thousands of battle zone messages borne by American pigeons in all World War II theatres of operation, all but one percent were delivered safely. As part of that outstanding record of performance, many individual pigeons won for themselves everlasting fame.

There was, for instance, *Yank*. This pigeon is remembered not only for carrying the message announcing the fall of Gafsa, Tunis, but also for dispatching an urgent communiqué to General Patton

he carried a message which is credited with saving the lives of one thousand British troops — soldiers, ironically enough, who would have been victims of an American air attack. U. S. bombers were scheduled to blast a certain town in Italy at a given hour. Just before that time, however, the Germans evacuated the town and the British moved in. Flying a message from



Otto Meyer, chief of the Army's Pigeon Breeding and Training Center at Fort Monmouth, N. J., with "G.I. Joe," most famous living pigeon hero

some 90 miles in only 100 minutes. *Blackie Halligan* was another outstanding carrier. When the position of 300 Japanese troops on Guadalcanal was discovered — enemy forces we did not know were in the area — it was *Blackie* who carried the warning message. The bird was severely wounded while in flight. But true to Signal Corps — and pigeon — tradition, he got the message through.

The outstanding hero of them all, and the bird rated the outstanding military pigeon in the world, is one appropriately named *G. I. Joe*. Flying at a mile-a-minute clip,

the British to call off the attack, *G. I. Joe* arrived at the American airfield, 20 miles away, just as our planes were warming up to start the bombing mission.

For his heroic act, *G. I. Joe* became the first American bird to win the Dickin Medal of Great Britain, which is awarded to birds and animals for deeds of daring and bravery. Presentation was by the Lord Mayor of London. The United States could not honor him in such fashion, since Army regulations do not permit the bestowing of medals or military rank on pigeons. But, as the next best thing,





Magnets are placed in pigeons' wings to test the theory that their homing instinct stems from a sensitivity to the earth's magnetic field

the Signal Corps lets *G. I. Joe* and some 25 other war-hero pigeons live a life of contentment and ease at Fort Monmouth.

Through its long interest in pigeon breeding and training, dating back to before the first World War, the Signal Corps has been able, speaking generally, to develop a smaller, faster, more reliable bird than that of a generation ago. One disadvantage of larger birds is that they tend to get "lazy" in hot weather. The present smaller birds suffer no such letdown when the mercury zooms. Of the more than 100 different strains of homing pigeons in existence, 25 are used at Fort Monmouth in the Army's scientifically-planned program of selective breeding.

The homing pigeon has been developed entirely by man during the past 150 years. The progress that has taken place is evident. In the early 19th Century, a flight of from 50 to 100 miles was considered a great distance, and the speed of pigeons was not what today would be called rapid. Now, pigeons fly hundreds of miles in a single flight

Like other vital combat area communications centers, mobile pigeon lofts are camouflaged to prevent detection by enemy observers

(the record is 2,300 miles) at speeds up to 50, and even 60, miles an hour.

In its breeding-training program, the Signal Corps works closely with civilian pigeon fanciers, whose birds form the backbone of the nation's military pigeon reserve force. Annually, Army pigeoneers participate in civilian competitive races. These enable the military to test and check its birds, and to note how they compare with pigeons being bred by civilians. Last year, Army birds won nine titles, including the 625-mile race from Greenfield, Ind.

Chief of the Pigeon Breeding and Training Center at Fort Monmouth

and the Army's top pigeon expert is Otto Meyer, an Ohioan who has raised and trained pigeons since boyhood. A musician by trade, Mr. Meyer was commissioned in the Army in 1940, and during the war was commanding officer of the Army Pigeon Service.

As a champion of the homing pigeon, Mr. Meyer is quick to point out that the bird is a supplemental, and not emergency, means of military communication. Twenty times during the North African campaign, for instance, pigeons were the only means of contact between American units.

For obvious reasons, U. S. agents operating behind enemy lines, as in Korea today, place strong reliance on the pigeon to carry both messages and films from their positions back to our headquarters.

There are many other military situations which dictate the use of pigeons rather than radio, telephone, or telegraph. Radio signals often fail or are lost in mountainous terrain, radio silence may be required so the enemy doesn't know of the presence of our troops, wires cannot be strung because of terrain or enemy action, and radios or other forms of communication



cannot be installed as quickly as troops move forward. Under such circumstances, it's up to the Signal Corps' feathered messengers to get the word through.

Aside from breeding and training pigeons, the Signal Corps also sponsors research programs designed to answer some of the questions man still does not know about this particular bird. One project, conducted at Pennsylvania State College, was aimed at establishing what it is that makes homing pigeons "home." Findings indicate two factors bring a pigeon back to its loft: the effect of flight through the earth's magnetic field, and the effect of the earth's rotation in conjunction with flight, producing side slip. Another research project, this one conducted at the New Jersey Agricultural Experiment Station at Rutgers University, dealt with the effects of diet. Diet was found to have a marked effect on the homing performance of pigeons, and the Army now feeds its birds a standard mixture of 12 different grains and seeds.

Of particular value and interest



In the early days of their training, young pigeons are allowed to take wing-strengthening flights in the vicinity of their lofts

to civilian fanciers was an investigation carried out at Fort Sam Houston, Texas, in collaboration with the U. S. Air Force. In this test, pigeons were placed in a decompression chamber, to learn how they would react at 25,000 feet. After a few minutes in the chamber, the birds were released to return to their lofts, about ten miles away. Although each was a trained and experienced racer, the birds appeared confused and reluctant to fly. All eventually returned to their lofts, but only after an unusual length of time. As a result of this

experiment, fanciers who transport pigeons from place to place by airplane now know it may be necessary to rest the birds two or three hours before releasing them, in order to allow the blood oxygen saturation to become normal again.

All in all, though, the pigeon is a pretty stable creature. It may need a few hours rest after a plane trip and certain weather elements, particularly rain and snow, can slow it down. But, even with that, the pigeon remains one of the most dependable means of communication the military has in time of war.

THE WOOLY BEARS DO IT AGAIN

TO RESIDENTS of Florida, California, Arizona and those other states where winter is little different from any other season, the wooly bear probably doesn't mean a thing. But in a majority of the states, where winter is synonymous with snow, cold and ice, the furry, crawling creature is a thing of great interest to many people.

Last November, **ETHYL NEWS** printed an article entitled "The Heat's on the Wooly Bears." Now that spring has burst upon the scene, many readers have inquired: How right were the woolies in their prediction of the past winter's weather?

The answer is, they were dead right. That makes four years running the caterpillars have, by the width of the reddish-brown band that circles their



No user of instruments, the wooly bear relies on the width of his band

middle, rightly forecast the weather — at least, the weather experienced by the Eastern part of the country.

Fred VanCovern, director of the American Petroleum Institute Department of Statistics, is one of those who has followed the wooly bears with more than a passing interest.

By no means does he advocate that the oil industry begin relying on the woolies for gauging seasonal demand for, say, heating oil. "But," says Mr. VanCovern, "anything that can forecast local weather correctly four years in a row is something we might want to watch."

Whether anybody bothers to watch them in the future, the woolies right now are batting 1,000, which is about the best you can do in any league.

KNOCK STUDY: *Progress Report*

KNOCK in gasoline engines has been a subject of concern to engine designers and petroleum refiners alike almost since the first days of the automobile. Ethyl Corporation and a host of oil and automotive companies concerned have devoted an immense amount of research to the problem over the

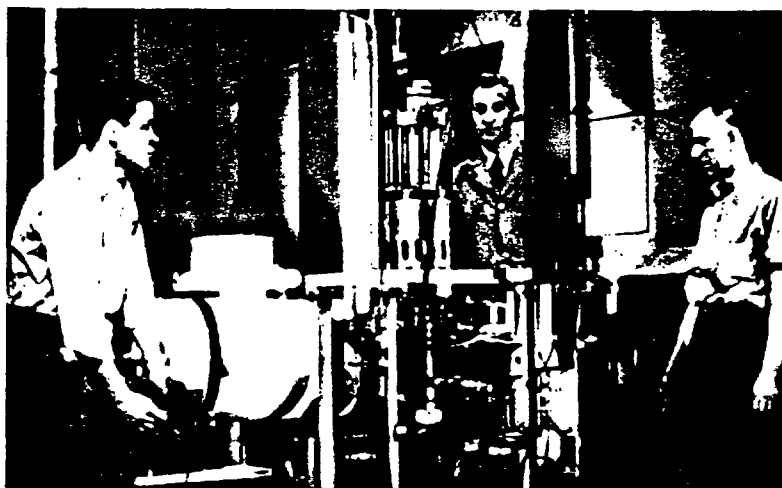
"Hero" of the film is a rapid compression machine developed at M.I.T. to duplicate, under close control, the conditions that produce knock in an operating engine. The machine compresses fuel-air mixtures, without spark ignition, to a state where their temperatures and pressures approximate those of the end-gas in an

purpose. Simultaneously, combustion chamber pressures are measured by a sensitive stain-gauge unit connected to a cathode-ray oscillograph. In "Fundamentals of Fuel Knock," the information recorded by these instruments is presented in the form of graphs and charts together with the high-speed pictures of the action within the end-gas.

As the film points out, the rapid compression machine has produced results which have added materially to an understanding of combustion. They have, for example, shown that a definite time lag, or delay period, takes place after compression of a fuel-air mixture, but before the occurrence of the main rise in pressure which accompanies the explosion set off by spark ignition. They have further demonstrated that a fuel that has a high resistance to knock exhibits a relatively long delay period followed by a gradual pressure rise. A fuel with low resistance to knock, on the other hand, has a short delay period followed by an abrupt pressure rise.

The effect of tetraethyl lead is demonstrated to be primarily one of softening the explosion by causing more of the end-gas to burn slowly, leaving a smaller quantity to burn rapidly enough to cause knock.

Data obtained in the M.I.T. studies, together with information resulting from other combustion research programs being conducted by Ethyl and other organizations, are contributing to progress in the development of better fuels and engines. As part of that progress, Ethyl is making known the findings of the M.I.T. research in "Fundamentals of Fuel Knock."



Conditions that produce knock in operating engines are duplicated by this rapid compression machine developed for the purpose at M.I.T.

years. The results of those studies have been singularly successful.

Despite the fact that knock can now be controlled, there is much that is not known about the exact mechanism of knocking combustion. Researchers are constantly making studies which delve into the whys and wherefores of the phenomenon. One current leading project of this type is that being sponsored by Ethyl Corporation at the Sloan Laboratory of Massachusetts Institute of Technology. As a form of progress report on this knock-study project, Ethyl has prepared a motion picture entitled "Fundamentals of Fuel Knock."

actual engine cylinder. Researchers know end-gas as the unburned portion of a fuel-air mixture in a cylinder ahead of the flame front. Thus, the entire charge in the compression machine can be considered as end-gas and so studied in a way not possible in an operating engine.

To obtain the desired data about the character and behavior of the end-gas mixture as it is compressed, high-speed pictures of the phenomena taking place in the combustion chamber are made through a glass window in the side of the apparatus. A special motion picture camera that operates at the rate of 10,000 frames per second is used for this



In peace or in war, virtually everything that America eats, wears and uses moves at least part of the way by motor truck

ANYTHING, ANYTIME, ANYWHERE

HIGH ON ANY LIST of explanations for the great productivity of American industry, the super-abundance of American agriculture, and the high standard of American living, stands our unsurpassed system of truck transportation. The relative ease and convenience with which trucks move raw materials, farm products, component parts, and finished manufactured goods from one part of the country to another, where and when they are needed or wanted, have played a major part in the making of America.

Essential to the development and maintenance of peacetime pursuits, trucks are even more vital in our present defense economy. They are as indispensable on the homefront as at the battlefield in Korea. Trucks are truly one of the reasons why the American farmer can feed so much of the world, and why the American industrial worker is able to satisfy the exact-

Moving household goods, transporting petroleum products, making deliveries to customers, serving the construction industry, and hauling the products of the country's mines—these are but a few of the many pursuits in which trucks are proving invaluable





At all hours of the day and night, in fair weather and foul, on main highways and back roads, vital truck transportation is helping to maintain our economy



ing demands of a guns-and-butter economy.

For the last several years, trucks have been setting the transportation pace. Made up of less than five million units as recently as 1940, the nation's truck fleet has sped into the role of transportation leader on the wheels of almost four million more vehicles in a little more than a decade.

Today, America's 8.7 million trucks constitute more than half of the world's total truck population. Last year, they hauled more than 8.5 billion tons of the country's goods. This was more than three times the total tonnage carried by the railroads, waterways, pipelines, and airplanes combined.

Fully as important as carrying freight is the role of trucks in linking all other forms of transportation. Their pick-up and delivery service connects rail, water, air and pipeline terminals with each other and with shippers and receivers of goods. Trucks are seen so frequently loading and unload-

ing goods at railroad sidings, ship docks, and airports that such a sight has become a typical scene in the everyday drama of American commerce.

There is virtually no limit to the variety of pursuits in which trucks are providing essential services and no restrictions on the type of work for which they can be adapted. Daily they haul the products of mine, forest, quarry and well; help in the construction of homes and industrial buildings; move all kinds of processed and manufactured goods; make millions of house-to-house deliveries; enable farmers to produce and dis-

Truck service connects rail, water, air, and pipeline transportation with each other and with shippers and receivers of all kinds of goods

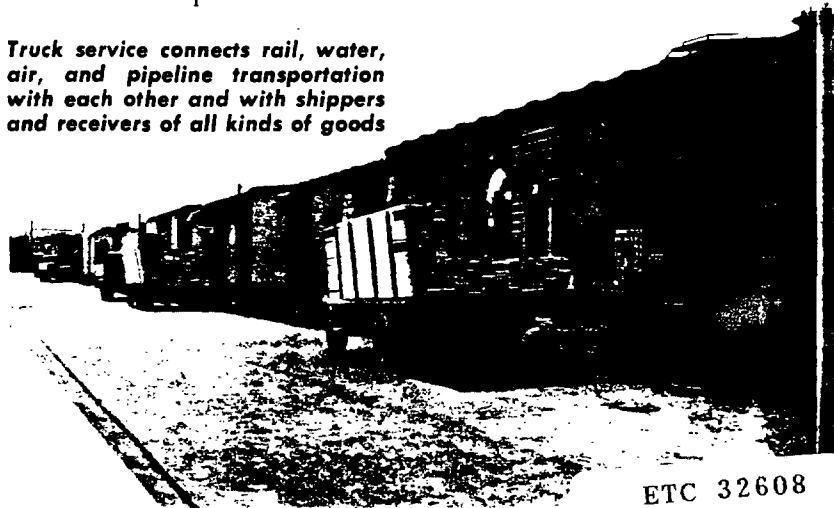
tribute food and other agricultural products; maintain fire, police, sanitation, mail, and other government services; and supply and transport the men and materials of war.

During World War II, the speed and efficiency with which trucks handled a record number of shipments of all kinds of goods made possible a coast-to-coast system of interrelated war plants. It was this system of contractors and subcontractors that enabled American industry to break production records and supply the arms and equipment that spelled victory for the free nations of the world.

Great Asset

A wartime statement by Joseph B. Eastman, then director of the Office of Defense Transportation, that any breakdown in trucking services "would have consequences, in its impact on our transportation services, so serious that they would react gravely on the whole war effort" is no less true today. More recently, President Truman has said: "Highway transportation is of the utmost importance to the national defense. It is one of our greatest assets and it must be developed and maintained at the highest point of safety and efficiency that can be achieved."

With these warnings and the lessons of World War II in mind, plans have been made to keep the



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Under our present guns-and-butter economy, every effort is being made to manufacture civilian and military type trucks and replacement parts concurrently. Some idea of military truck requirements can be gained from this view of the varied vehicles that make up a single column of army trucks at a U. N. supply center in Southern Korea

decade ago, truck plants were converted to war work almost entirely. And while they did yeoman work in producing more than 2.5 million military vehicles and a huge volume and variety of other combat supplies, they produced practically no civilian trucks or replacement parts. On the move day and night in support of the war effort, trucks finally started to show signs of wear despite heroic maintenance efforts. A disastrous transportation breakdown was averted by the prompt reconversion of some plants to civilian truck and truck parts production.

vital trucks rolling in our present economy and under any more critical international situation that may develop. A Special Motor Truck Manufacturers Committee for Defense Cooperation, named by the Motor Truck Committee of the Automobile Manufacturers Association, is providing for the manufacture simultaneously of "civilian type trucks and replacement parts to maintain the economy at the highest possible level; civilian type trucks and replacement parts needed by the military; special military vehicles and replacement parts; and other needed military equipment."

In addition, on the basis of exhaustive studies by its research

department, American Trucking Associations is keeping the Defense Transport Administration advised of anticipated new truck and truck equipment requirements. It is a function of the DTA to see that manufacturers are allotted sufficient supplies of critical materials to keep truck production in balance with these requirements.

Such anticipation and prior planning are designed to prevent any repetition of our World War II experience when wear and tear on the nation's civilian trucks threatened to hamper the entire war effort.

In the initial enthusiasm and necessity to gird the nation with needed military equipment a

"Rehearsal for Disaster"

With the United States a certain primary target of enemy attack in any future war, the versatility of trucks would make them of even greater value.

The costly Kansas-Missouri-Oklahoma floods of last summer served to emphasize the versatility and adaptability of trucks in stricken areas and provide what American Trucking Associations now refers to as a "rehearsal for disaster."

Although unorganized for any special relief work of this type, truckers, with their knowledge of routes, their system of dispatchers,



Below, for trucks the Kansas-Oklahoma floods provided a "rehearsal for disaster" . . . Left, mindful of their value, Civil Defense officials are enrolling trucks for emergency transportation



and their experience in operating under the most adverse weather and road conditions, were able to save millions of dollars' worth of property and evacuate thousands of people from the inundated areas. Their work extended through the flood and the evacuation, emergency aid, relief, and rehabilitation stages of the disaster. Trucks evacuated people from their homes; moved household goods; rescued vital and perishable materials from plants and warehouses; and supplied flood refugees with food, drinking water, and first aid equipment. When the rampaging waters receded, they helped restore life to its former status.

Mindful of truck versatility and truckers' experience, civil defense authorities are counting on them for the evacuation of target areas should enemy bombs fall on this side of the Atlantic.

In North Carolina, for example, J. T. Outlaw, executive secretary of the North Carolina Motor Carriers Association, an affiliate of the American Trucking Associations, has been appointed chief of the Civil Defense Transportation Service. In the event of enemy attack, trucks required for the movement of people, supplies, and equipment will be made available to civil defense authorities. The state civil defense organization has drawn up plans that provide for the classification of trucks, and for

OUR COVER: This Kodachrome by A. Devaney, Inc., shows the lead storage area beside one of the six tetraethyl lead buildings at the Ethyl Corporation plant at Baton Rouge, La. The pig-lead, newly arrived from one of the plant's suppliers, is stacked in piles of 100-pound bars, about 30 bars to a pile. The lead shown in this entire row represents only slightly more than half of Ethyl's normal net pig-lead requirements for one working day.

OUR PICTURES: Page 3 (top), Philip Gendreau; pages 3 (bottom), 4 (bottom), and 5 (bottom right), Fairchild Aerial Surveys, Inc.; pages 4 (top), and 5 (bottom left), courtesy Civil Aeronautics Administration; pages 6 and 7, courtesy General Motors, American Trucking Associations, and *Diesel Progress*; pages 8 (top) and 9 (top), courtesy General Motors; page 8 (bottom), courtesy American Petroleum Institute; pages 11 and 13 (bottom), courtesy Brand Names Foundation; page 14, *Wide World*; pages 15, 16, 17, courtesy Signal Corps, U.S. Army; pages 19, 20, 21 (top), courtesy American Trucking Associations; page 21 (bottom left), courtesy North Carolina Council of Civil Defense, (bottom right), Acme; inside back cover, courtesy Oil Industry Information Committee.

the establishment of motor pools, dispatchers' offices, service stations, and other installations that may be required in both target and non-target areas.

Widespread truck use has made possible the geographical disper-

sion of American industry — itself a contribution to national security and an aid in reducing congestion in metropolitan areas. Today, industrialists can locate manufacturing facilities practically anywhere they choose and still maintain uninterrupted production schedules largely because of truck transportation. Besides serving industries in once-remote sections, trucks also provide the only freight service for some 25,000 communities throughout the country that have none except highway connections.

The full story of trucks and of their importance to the nation's security and well-being would take volumes to tell. If trucking continues to expand as it did last year, the trucking story certainly will expand correspondingly. During 1951, trucks hauled 15% more freight than they did the year before, which was in turn 25% above 1949. To help handle this staggering load, \$3.3 billion was invested in new equipment. This provided for expanding the truck population by nearly a half million vehicles and replacing more than 600,000 old units which were retired.

Perhaps the most significant statement that can be made regarding truck importance is that virtually everything America eats, wears, and uses — whether in a peacetime, defense, or all-out war economy — moves at least part of the way by truck.

A YEAR AGO THIS MONTH . . .

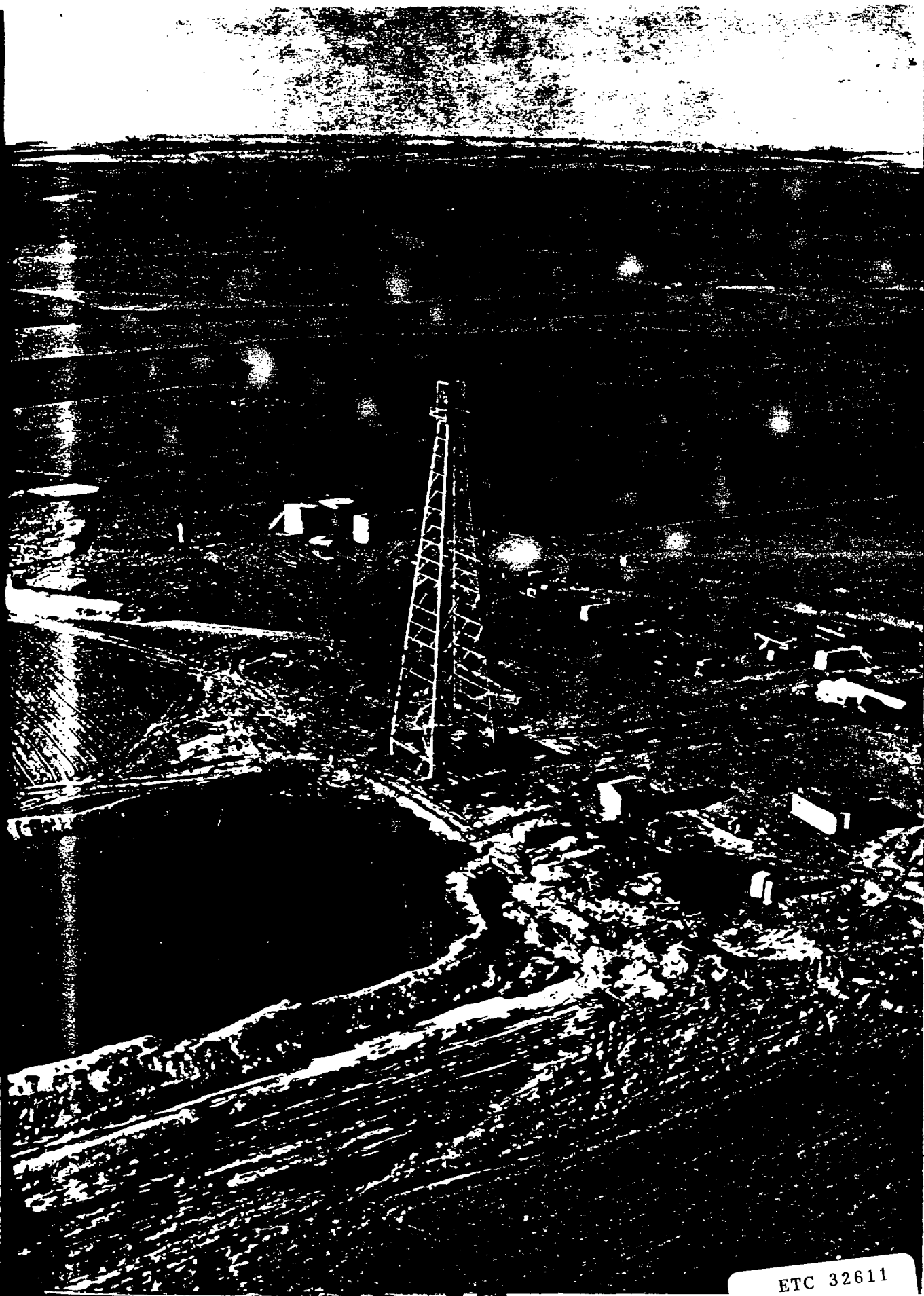
It's birthday time for oil in the rolling wheat field area of northwestern North Dakota. There it was, in what oilmen know as the Williston Basin, that on April 5, 1951, North Dakota became No. 27 on the list of states in which petroleum has been found in commercial quantity. For 30 years, off and on, the petroleum industry, in its typical never-say-die fashion, had tried to find some of the crude believed to exist in the geological strata below the Basin's surface.

The break came a year ago when Amerada Petroleum Corp. brought in its discovery well at a depth of more than two miles. The strike was made on eroded farmland which, in Dust Bowl days, went begging for takers at the fantastic price of 50 cents an acre. On the opposite page is a photo of the discovery well. It stands as another symbol of the petroleum industry's constant quest for oil to keep America's wheels of progress turning.

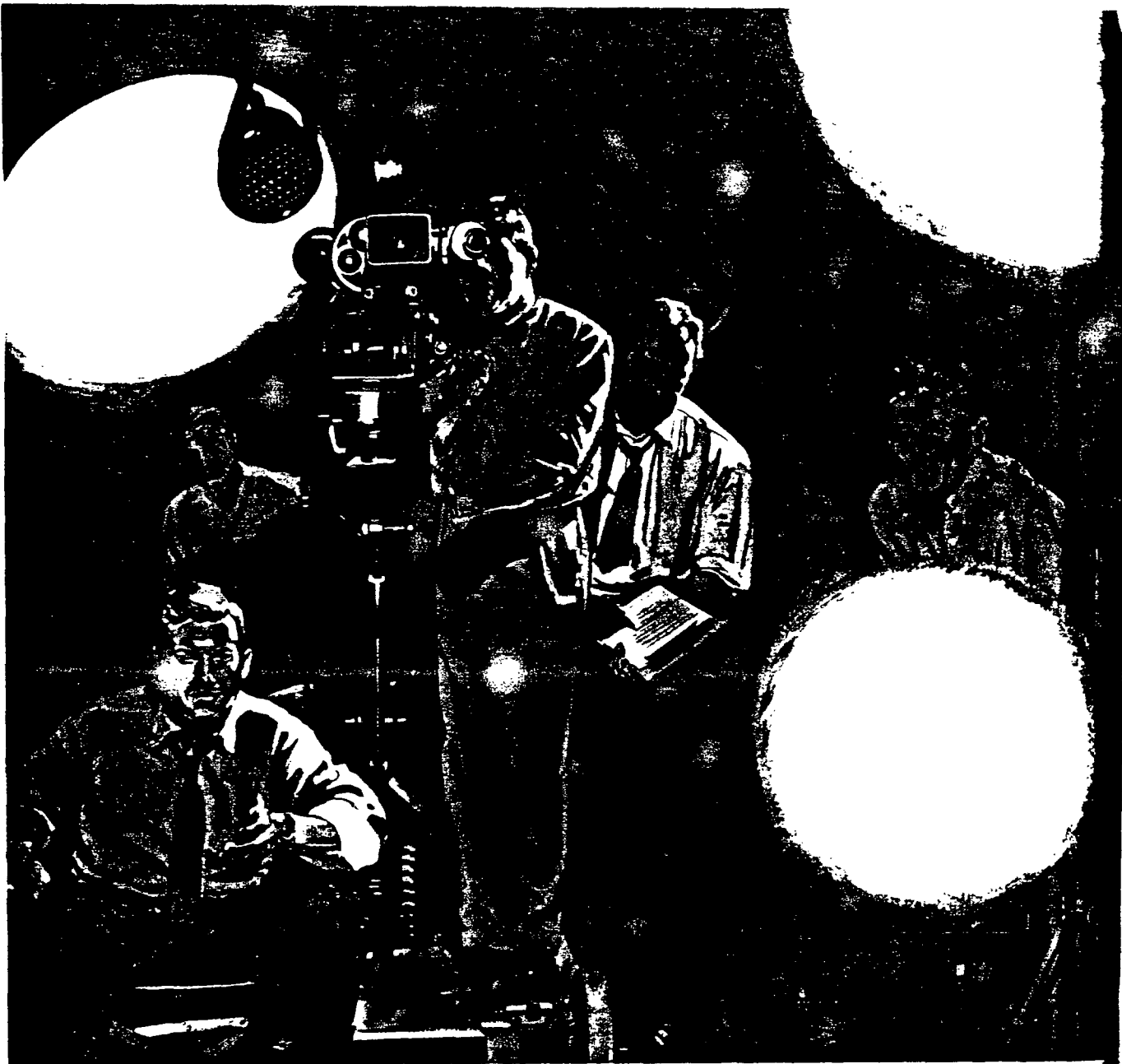
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Slightly Colossal

We are under no illusions that the twenty-seven films currently in the Ethyl Motion Picture Library will ever win "Oscars." By Hollywood standards they are only slightly colossal . . . but we believe they have been of tremendous value to our customers over the years.

What our films may lack in glamour, they most certainly make up in educational value. The subjects are ones that are close to the heart of any petroleum man trying to make better products, train his people to handle fuels more safely, or assist his customers to get more from the fuels and lubricants he supplies.

A glance at the following list will give you an idea of the films we have available . . . and probably suggest uses for them in your own operations.

Fire Power — *The safe handling of gasoline*

Fundamentals of Fuel Knock — *Combustion studies at M.I.T.*

You're the Doctor — *Precision servicing of tractors*

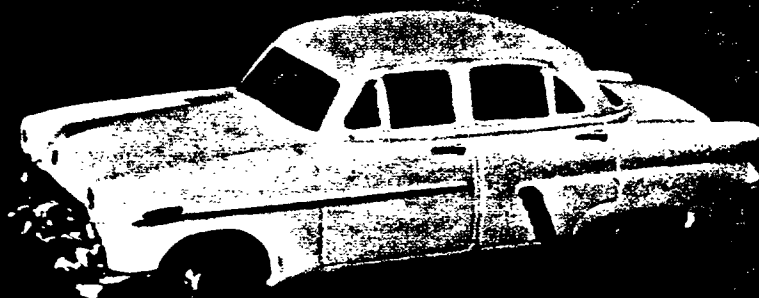
There is a Difference — *Service station customer relations*

Gasoline for Everybody — *Brief story of Gasoline*

Pattern for Progress — *Tractor power in Agriculture*

We will be happy to send you a complete catalogue of films in the Ethyl library. If you need a particular film in a hurry, our regional offices maintain a full stock for quick service. Of course, there is no charge for these films. They are part of Ethyl's service to the oil industry.

ETHYL NEWS



MAY ★ 1952

ETC 32613

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IN THE

ETHYL NEWS

MAY 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wohanka, Art Director

Robert J. Moody, who joined Ethyl Corporation on February 8 this year, is the holder of badge No. 1 among wage-roll employees at the company's new antiknock compound manufacturing plant in Texas.

A pumphouse and power operator, first class, "Jim" Moody is a member of the Maintenance Section in the plant's utilities area. Since being employed, he has been joined by hundreds of other production and maintenance employees. Total employment, when the plant reaches full-scale production later in the year, will approximate 1,000 men and women.

A native Texan, Moody was born in Lufkin and was graduated from high school there in 1928. Before joining Ethyl he held a variety of jobs in a number of locations, gaining the skill and experience that qualify him for his present position. He has engaged in pipeline and pump station construction work at Beaumont, Texas; operated a central heating plant at Scott Field, Illinois; operated boilers and turbines at the Southland Paper Mills at Lufkin; supervised the operation of an iron castings annealing furnace at Lufkin; and has worked for the Tennessee Valley Authority in Chattanooga.

During World War II, Moody was a master sergeant in the Air Force, specializing in the maintenance and repair of aircraft engine carburetors and ignition systems.

ETHYL'S NEW PLANT READY TO SERVE OIL INDUSTRY

4

Start of operations at the Texas installation means a substantial increase in the Company's production of antiknock compound.

INDUSTRIAL WONDERLAND

10

The Texas Gulf Coast is a booming manufacturing region, with petroleum and petrochemicals in the forefront.

ON A SUNDAY AFTERNOON

14

Old race cars and automobiles shared the spotlight as Ethyl's fuel economy demonstration made its West Coast debut.

THE CITY THAT HAD TO BE

20

Over a century ago, its founders predicted that Houston would become "the great interior commercial emporium of Texas."

AT YOUR SERVICE

24

Ethyl's interest in its major product goes far beyond just the manufacture of antiknock compound.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

ETC 32614

Ethyl Corporation's new manufacturing plant along the Houston Ship Channel — the photo shows the hydrogen chloride drying tower — has gone into operation. The significance of the plant and the area in which it is located are discussed in several articles in this issue of *Ethyl News*.



ETC 32615

ETHYL'S NEW PLANT READY TO SERVE OIL INDUSTRY



Opening of the Houston facility—climax of a \$100 million expansion program—assures refiners of ample antiknock compound supplies

SEVEN YEARS AGO, with the Axis crushed, Ethyl Corporation embarked upon what was to prove a \$100 million expansion of its antiknock compound manufacturing facilities. Through the construction of new buildings and engineered improvements in the manufacturing processes, this vast expansion program enabled the Ethyl plant at Baton Rouge, already the world's largest of its kind, to produce antiknock compound in a quantity never before achieved.

Now, as the climax to its expansion and to add still further to its record-breaking output of "Ethyl" fluid, Ethyl Corporation has put into operation its new manufacturing plant on the south bank of the Houston Ship Channel, about 17 miles from downtown Houston

and near Pasadena. Modern in every respect, the plant incorporates technological improvements, process changes, and new engineering designs which only Ethyl's long experience in the field of antiknock compounds could make possible.

Specifically, the production of the Texas plant represents an increase of about one-third in the Company's tetraethyl lead capacity.

This gain comes at a most opportune time, as the nation's refiners face a new record demand for gasoline, both quantity-wise and quality-wise. Last year, 45 billion gallons of gasoline were consumed by automotive vehicles, aircraft, farm tractors, and other gasoline-powered equipment in the United States. That all-time high, it is predicted, will be surpassed this year.

As the call for more and more gasoline has been sounded, so, too, have refiners had to meet the demand for gasoline of higher antiknock quality to fulfill the requirements of modern high compression cars and

other vehicles needing the very best in motor fuels.

Assurance that the petroleum industry will now have sufficient tetraethyl lead to provide gasoline of suitable antiknock quality, even during a war period, was contained in a statement by E. L. Shea, president of Ethyl Corporation, announcing the start of operations at the Texas plant.

"Completion of our new plant," said Mr. Shea, "marks a major milestone in the growth and utilization of 'Ethyl' antiknock compound. Not only does it mean an important increase in Ethyl's ability to meet the oil industry's requirements for antiknock compounds. It also means renewed assurance that the oil industry will be able to provide gasoline of adequate antiknock quality for the nation's needs in war or in peace. We take particular pride in the completion of a new and strategically located center for the manufacture of antiknock compounds."

Situated as the plant is in the heart of one of the nation's great petroleum refining and chemical

manufacturing regions, the raw materials required in Ethyl's manufacturing operations are readily available. From nearby sources in the Texas Gulf Coast area, the new plant obtains salt brine, hydrogen, ethylene, sulfuric acid, ethylene dibromide, electric power and all but one of its other major raw materials. That exception is pig lead, which is secured from both domestic and foreign suppliers.

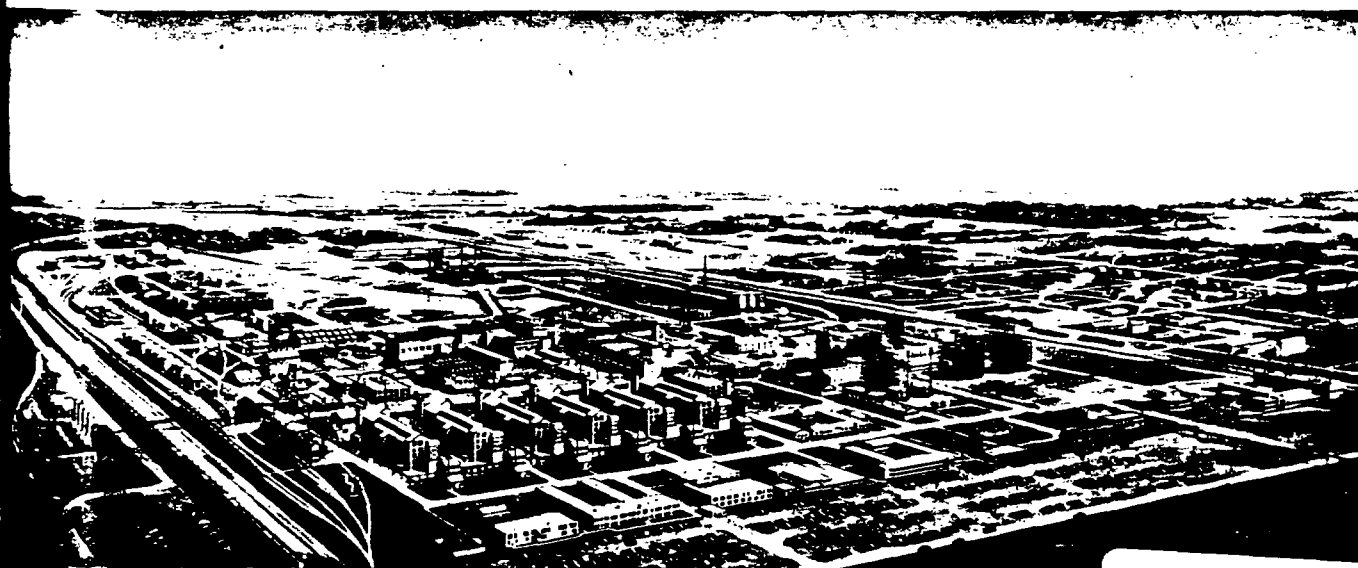
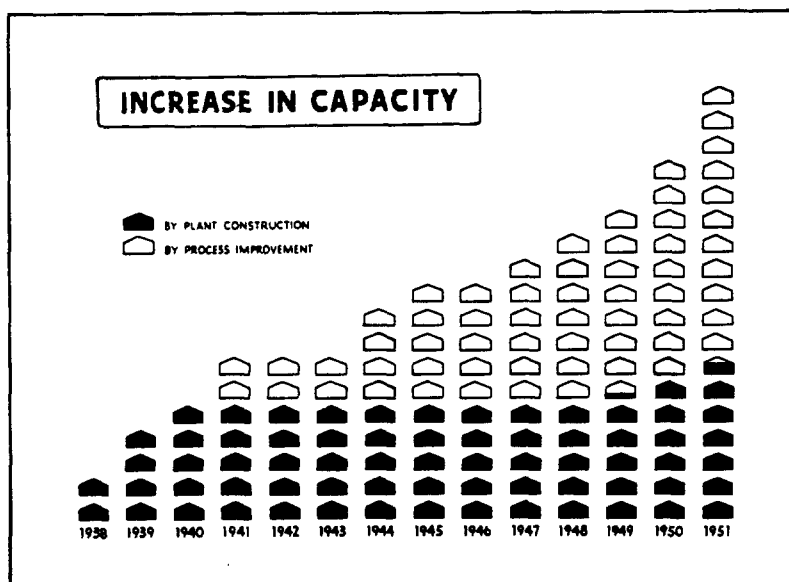
From these basic raw materials, the new plant, like the Baton Rouge installation, produces practically all of the intermediate chemicals that go into the manufacture of the antiknock compound. This full in-

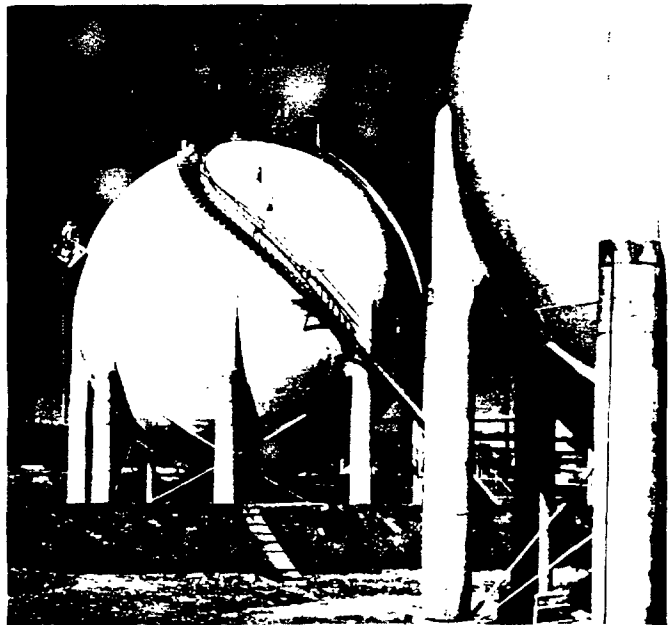
tegration of both Ethyl manufacturing plants — the fact that they are dependent upon outside sources for so little — is one of the principal reasons why customer oil companies are assured of sufficient supplies of "Ethyl" fluid.

Because of the diversity of manufacturing operations, the plant is divided into three general operating areas — the sodium area, the ethyl chloride area, and the tetraethyl lead area.

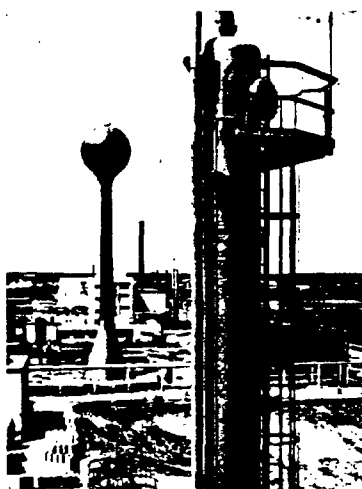
The largest structure of the new plant is the T-shaped sodium building, where salt is electrolytically decomposed into sodium and chlorine. In one section of the

Ethyl's Baton Rouge plant, below, is the world's largest antiknock compound manufacturing center. The chart, at right, illustrates increases in production, in terms of capacity of one TEL building, that have been scored at the plant





The world's most modern antiknock compound manufacturing plant stands on what 18 months ago were acres of scrub-covered flatlands, on the Houston Ship Channel. A team of Ethyl experts, two architectural firms and a dozen contractors were engaged in planning, designing, and erecting the complex installations. A total of more than 11,000 purchase orders for construction materials and services were placed . . . Above, the facilities include many tanks for the storage of intermediate and finished chemicals. Ethyl chloride is stored in these horthonspheres . . . The three photos at the left picture prominent structures in each of the plant's major operating areas. From top to bottom, they are the ethyl chloride plant, the tetraethyl lead building, and the salt treatment wing of the sodium building . . . Below left, the distinctive "golf-ball-on-a-tee" water tower is seen to the left of an ethyl chloride area processing tower . . . Below right, part of the massive array of pipes, valves and gauges found in the sodium area



ETC 32618

building, incoming salt brine is evaporated, filtered and dried prior to being decomposed. The other section contains the cell room, where the salt is electrolyzed. Already the world's largest producer of sodium, Ethyl is substantially increasing its output with the new manufacturing installation.

In the ethyl chloride area, the first unit to participate in the process is the hydrogen chloride plant. Here, hydrogen is burned with chlorine obtained from the sodium operations. The resulting hydrogen chloride is then compressed and sent to the ethyl chloride unit where it is reacted with ethylene to form ethyl chloride. Another unit is the ethylene dichloride plant, where ethylene is added to chlorine to form ethylene dichloride.

Simplified Operations

As in the case of the sodium plant, the new ethyl chloride facilities represent an important addition to Ethyl's capacity for this tetraethyl lead intermediate. The new unit, moreover, incorporates a number of design improvements resulting in more efficient and simplified operations.

In the tetraethyl lead area, the principal structure is the newly re-engineered tetraethyl lead building. Both the alloying and tetraethyl lead operations are carried out in this structure. Metallic lead is reduced to a molten state. This molten lead is then combined with molten sodium to form the alloy which participates with ethyl chloride in the tetraethyl lead reaction.

The TEL section of the building is four stories high. Manufacturing operations begin on the top floor with the introduction of the lead-sodium alloy and the ethyl chloride. After the basic reaction has been completed, the tetraethyl lead is



Ethyl Corporation leaders photographed on an inspection tour of the new Texas plant: Clinton W. Bond, general manager of manufacturing; B. Bynum Turner, vice president in charge of research and engineering; Wallace F. Armstrong, plant manager; E. L. Shea, president; and John H. Schaefer, vice president in charge of manufacturing

washed and purified and then blended with other ingredients to form the finished antiknock compound.

Throughout all manufacturing processes, a central control laboratory containing many pieces of highly-specialized analytical equipment maintains a close check. It insures that all materials used are up to standard and that finished products are of the highest quality.

In addition, a number of other

installations and pieces of equipment necessary for the administration and operation of the plant are to be found. Typical of the scope of the plant's operation is the fact that it consumes as much electricity, primarily for the sodium operations, as a city of 100,000 people. To handle this electrical load, it has its own power substations with some 28 heavy-duty transformers capable of reducing incoming current of 66,000 volts to as little as six volts.

Elaborate water-treating and purification facilities provide proper-quality water for steam generation, cooling and fire protection. A special tower cools some of the water used in manufacturing processes. There is also a central refrigeration plant of 825-ton capacity. All process water used at the plant is treated in a special purification system before being returned to the Houston Ship Channel.

The administration building houses the plant's offices and medical services. There is a separate house where employees can shower and change street and work clothes, and the plant has its own laundry.

Storage Facilities

Also available, of course, are extensive storage facilities for finished "Ethyl" antiknock compound, sodium, chlorine, ethyl chloride and other chemicals.

Throughout the plant is evidence of Ethyl's long experience in the manufacture of antiknock compound. A large part of the equipment is custom-built for Ethyl's needs and according to its specifications. While the Baton Rouge plant has long been the world's largest antiknock compound manufacturing installation, it also has been, in one sense, a proving ground for im-

WHAT ARE PLANTS MADE OF?

What goes into the construction of an up-to-the-minute industrial plant such as Ethyl's in Texas?

Untold hours of planning, conferring and designing, of course. Then after that come the material things. In Ethyl's case, these amounted to:

- 15,500 tons of steel
- 46,000 cubic yards of concrete
- 500,000 bricks and tiles
- 200 miles of pipe
- 275 pumps
- 20,463 valves
- 625 miles of electrical wiring
- 5,000 lighting fixtures
- 26,000 gallons of paint
- 4 miles of roads and streets
- 6¼ miles of railroad track

proved processes and new engineering designs. Throughout the new plant is reflected the knowledge that has been gained, and the improvements that have been developed, over the past years at Baton Rouge. As a result, Ethyl now operates two completely independent — yet completely integrated — manufacturing plants, both producing antiknock compounds by the most modern processes and with the most modern equipment known.

Beyond its manufacturing status, the Texas plant becomes still another supply point from which Ethyl can conveniently and prompt-



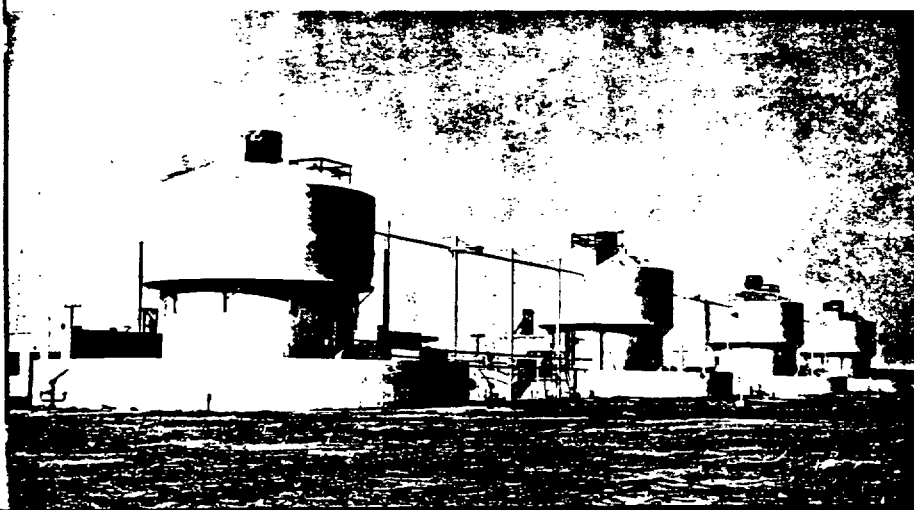
To provide refiners prompt deliveries, even in periods of peak demand, Ethyl operates its own fleet of hundreds of railroad tank cars

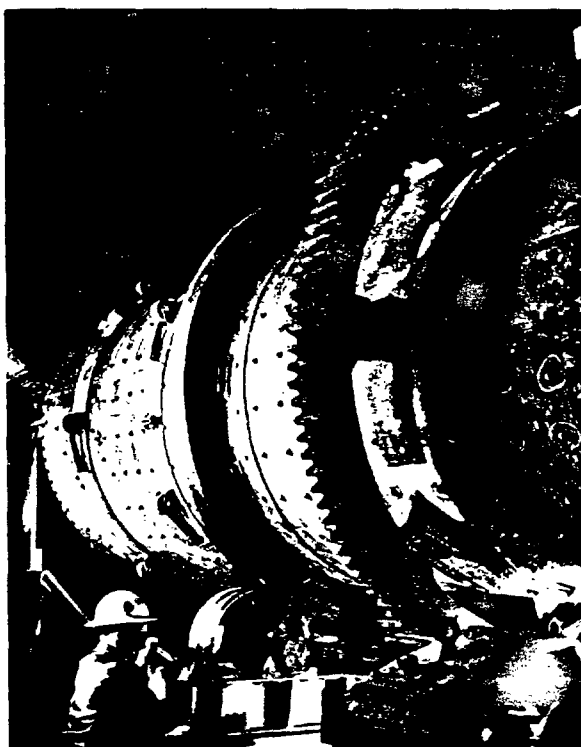
ly make deliveries to its customers. The plant site, with more than six miles of railroad trackage of its own, is served by the Port Terminal Railroad, which connects with all six major lines serving Houston.

As with deliveries from the plant at Baton Rouge and the storage terminals on the East and West Coasts, shipments of "Ethyl" antiknock compound from Houston will be speeded by a fleet of tank cars soon to number more than 400 when carriers on order become available. In addition, the Company maintains a fleet of 130 cars for customer delivery of sodium, chlorine, and ethyl chloride.

The site upon which the new plant has been constructed is ideally placed on the famous Houston Ship Channel. It embraces 400 acres in all. As it now stands, the plant covers about 80 acres, leaving ample room for expansion to satisfy any future demand for increased supplies of antiknock compound. Construction of the plant — completely changing the site from a broad expanse of scrub-covered flatlands to the locale of the world's most modern installation of its type — is a

Besides making deliveries from its manufacturing plants, Ethyl maintains storage terminals on the East and West Coasts for serving customers





Above, the new Texas plant uses as much electricity, primarily for its sodium operations, as does a typical city of 100,000 people. Complex plant equipment includes, above right, huge revolving ovens for drying salt before it is decomposed into sodium and chlorine; and below right, a unit for drying hydrogen chloride gas, one of the intermediate chemicals used in producing "Ethyl" antiknock compound

tribute to the skillful planning, co-operation, and engineering acumen of the men who participated in it. Assembling, integrating, and supervising the vast team of architects, contractors, and engineers needed for the job was the responsibility of the Company's Research and Engineering department. It in turn was guided by recommendations of Ethyl's Manufacturing department.

In actual construction work, some 2,500 workmen in the employ of a dozen contractors devoted over 3,250,000 man-hours to completing the plant in just 18 months.

Several factors entered into the selection of the Texas Gulf Coast area as the location of the plant. The availability and adequate supply of raw materials had to be ascertained, of course. So, too, was it

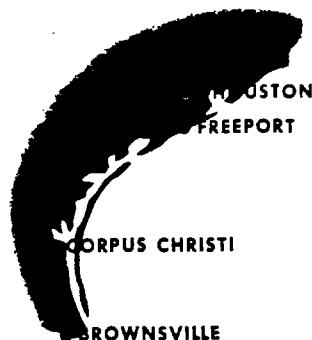
necessary to be certain that the 1,000 skilled employees who will man the plant when it reaches full-scale production later in the year could be recruited.

Above that, however, placement of the facility had to be considered in the light of national defense and security. By building at a site well removed from its Baton Rouge plant, Ethyl has effected a dispersion of manufacturing facilities, making it impossible for a single enemy attack or act of sabotage to curtail all of its production.

And so the new Ethyl plant on the Houston Ship Channel stands — a new guarantee to the nation's refiners that, in peace or war, they will be able to provide gasoline of adequate antiknock quality to meet civilian and military needs.



INDUSTRIAL WONDERLAND



Many miracles of science and production, particularly in petrochemicals, are being performed along the Texas Coast

By Weldon B. Hill
Oil Editor, The Houston Post

AN INDUSTRIAL MIRACLE is being unfolded along that crescent-shaped strip of land abutting the Gulf of Mexico known as the Texas Gulf Coast.

This area, stretching 100 miles inland and extending from the Rio Grande River to the Sabine — from the Mexican to the Louisiana borders — is the nation's newest chemical frontier. Or, more specifically, petrochemical frontier.

From 1940 through 1951, an estimated \$2.1 billion was invested in the construction of chemical plants and the expansion of oil refineries in the area for the production of petrochemicals for both military and civilian consumption. Now, this year, it is estimated, an additional \$1 billion is being spent in further expansion. By the end of 1953 — in just a 13-year period —

the petrochemical industry of the Texas Gulf Coast will represent an investment of about \$3.5 billion.

The exciting growth of this comparatively new industry has been described as "breath-taking," "whopping," and "bustling," and has captured the attention of all America.

A vigorous young industrial region, the Texas Gulf Coast is just beginning to realize its potentials.

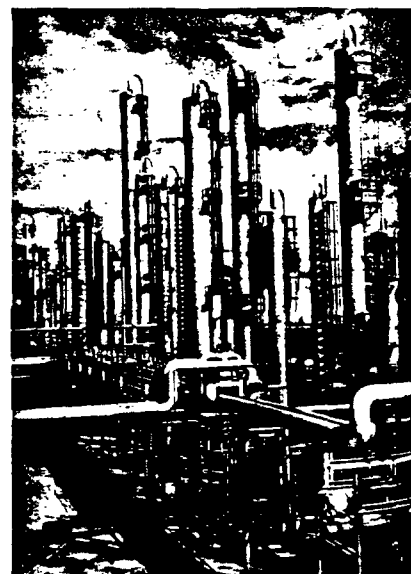
Known as an area where more wealth is taken from the soil than from any other equivalent area on the face of the earth, it was a natural site for the petrochemical industry. It offers the chemical trinity — acids, hydrocarbons, and water — in abundance.

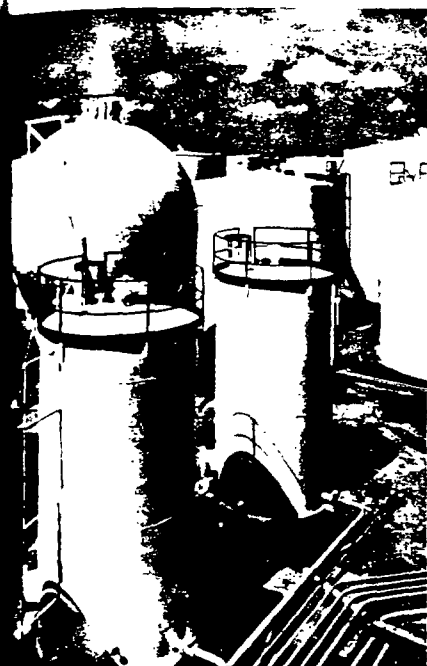
Petroleum, the source of the petrochemical industry, became an industry on that cold January morning in 1901, when Captain Anthony F. Lucas' gusher roared into production at Spindletop, just outside of Beaumont. Since that day, the Texas Coast has become one of the

world's largest oil producing and refining centers. The never-ending search for petroleum has led, in turn, to the discovery of vast deposits of sulphur and salt, which are also vital materials in the petrochemical industry.

The Texas Gulf Coast is blessed with an ever-growing supply of natural gas, one of the magnets which has drawn the petrochemical industry to this area.

In half of its dual role, natural gas serves as an important source of hydrocarbon raw materials for petrochemicals. To cite one, ethane, a by-product of natural gas, is a major source of ethylene. The latter is one of the most versatile of the petrochemical family.





Above, left, and left below, familiar sights in the nation's newest industrial empire, stretching from the Sabine River to the Rio Grande, are the storage tanks, processing towers and modern plants of the petrochemical industry

Equally important is the role natural gas plays after it has been stripped of its liquids. The dry gas then becomes an efficient, clean, economical fuel that fires the boilers of industry.

Crude oil produced on the Texas Coast is noted for its naphthas and gasoline, and chemists found this type of petroleum to be a natural source of petrochemical raw materials. Prior to 1939, there was little demand for oil or gas in the chemical field.

The change came with World War II, when there developed a definite "blood" relationship between the petrochemical industry and the petroleum refining industry. Born of necessity through the critical shortages of chemicals from other sources, the petrochemical industry was mothered to maturity

during the war through the use of petroleum.

The wartime shortages included ingredients used in making synthetic rubber, toluene for TNT, and other chemicals used in meeting the needs of modern war. A chemical process was developed at oil refineries whereby straight-run gasoline served as the source of toluene. When not used in making TNT, this petrochemical is employed in many industrial solvents.

To help solve the rubber shortage, butadiene and styrene, co-ingredients in the manufacture of buna S rubber, were developed from refinery by-products. Butadiene is produced through the dehydrogenation of butylene, a refinery by-product primarily obtained through the catalytic cracking of heavy gas oils. Benzene and ethylene, both made from refinery streams, were processed into styrene.

The early development of these synthetic chemicals by the oil refining industry gave technicians a much better understanding of how to produce chemicals from petroleum and, at the same time, opened

the door to the production of many other such chemical products.

Currently coming into its own is a petrochemical known as paraxylene, a refinery by-product and a basic ingredient in the manufacture of a new synthetic fiber. Wartime experience in producing xylenes synthetically for use in the production of high-octane aviation gasoline led to the development of this new petrochemical. Although some xylenes occur naturally in crude oils, particularly those from fields on the Texas Gulf Coast, by far the largest supply is man-made through the magic of chemistry.

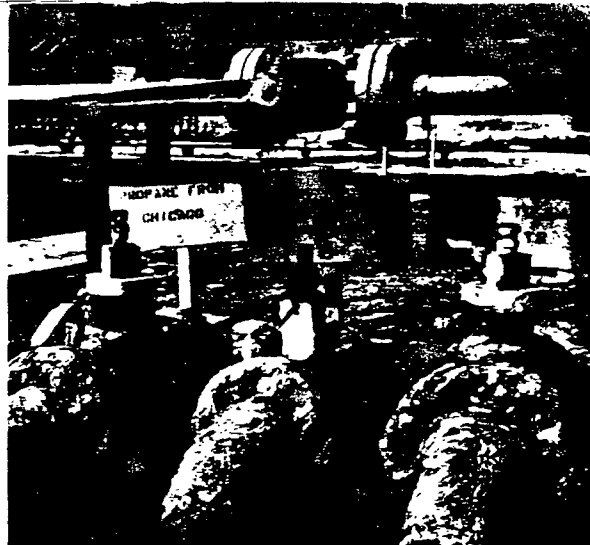
Building Blocks

Many of the petrochemicals are never seen by the average consumer in their natural form, since they serve as intermediates, or building blocks, in the manufacture of everything from the smallest kitchen gadget to mighty airplanes. For instance, ethylene in its natural form is of little value, just like a piece of unfinished lumber cut from a tree, but it serves as a handy intermediate in the production of plastics.

From certain petrochemical in-

Synthetic rubber being manufactured in a Gulf Coast plant. Born of wartime necessity, this petrochemical product was a forerunner of the many that are now produced in Texas' great "industrial wonderland"





intermediates, synthetic textiles are made to clothe a person from head to foot. And synthetic fibers now are being made into synthetic furs resembling beaver and mouton.

Joining with the mineral resources to turn the eyes of industrialists to the coastal plains of Texas when considering plant location are ample supplies of electric power, water, labor, and yes, a mild climate. The climate, in many instances, has helped reduce the cost of plant construction through the installation of open-type buildings. Power companies have been able to supply all demands for electricity.

Adequate supplies of water, a major consideration for process industries, can be found on the Texas Gulf Coast, either from underground sources or surface supplies. The several rivers which traverse the area to the Gulf of Mexico offer possibilities for increased reserves.

Native, intelligent labor, easily trained in the process industries, is in plentiful supply.

Various modes of transportation make the Texas Gulf Coast industrial centers easily accessible to world markets. Rail, air, water and highway connections to the markets of the East, West and Midwest are many. Great harbors on the Gulf of Mexico provide ideal centers for export to Mexico and Central and South America. An intra-

From Texas ports, left, natural and manufactured products of the Lone Star State are shipped to all parts of the world . . . Right, abundant supplies of natural gas that can be piped directly to plant locations have been a major factor in industrialization of the area

coastal canal, serving the coastline of Texas, makes possible direct barge service over the nation's inland waterways.

Modern, progressive communities, ranging from small towns to metropolitan centers like Houston and Corpus Christi, dot the area. Within the 62 counties of the Texas Coast region live 2,500,000 people.

Houston, the largest city in the South, is the hub of Texas' petrochemical industry. Arriving in the city by any of the usual means of travel, the "outsider" is slow to realize that he is in a petrochemical center. The awakening comes with a boat trip down the Houston Ship Channel, past the towering San Jacinto Monument, the refining center of Baytown, and on toward the Gulf of Mexico.

Plants and Refineries

On both sides of the Ship Channel and in seemingly chain-like manner, petrochemical plants and oil refineries loom large, and skeleton-like structures of steel tell a glowing story of new expansion.

The list of companies with facilities along the Channel is too long to give here. An idea of the diversity of operations, however, can be

obtained by mentioning such as Champion Paper and Fibre, Diamond Alkali, General Tire & Rubber, Hercules Powder, Sheffield Steel, and the many oil companies, of course.

More than 60 petroleum, chemical and related companies operate plants on the Texas Gulf Coast. Many of these companies make certain petrochemical intermediates, and their plants are linked by pipelines for the processing of one intermediate with another.

Texas City, a gulf port, is the site of the chemical works of Monsanto Chemical Company, Carbide & Carbon Chemicals division of the Union Carbide & Carbon Corporation, Pan American Refining Corporation, and Tin Processing Corporation. Expansion plans of Monsanto and Carbide & Carbon call for an investment of possibly \$150 million.

At Orange and La Porte are the petrochemical plants of E. I. du Pont de Nemours where intermediates for finished nylon products are produced. Du Pont also is constructing a large plant at Victoria for the production of nylon salts.

The Beaumont-Port Arthur-Port

Neches area is another large petrochemical center. Located in this area are the plants of Mathieson Chemical Corporation, Jefferson Chemical Company, Neches Butane Products Company, and the refining facilities of Gulf Oil, The Texas Company, Magnolia Petroleum, Atlantic Refining, and Pure Oil.

Probably the largest producer of chemicals on the Texas Gulf Coast is the Dow Chemical Company. At Freeport, on the Gulf, Dow produces a list of chemicals from here to yonder. Among the first major chemical companies to make huge investments on the Texas Gulf Coast, Dow is continuing to expand. The company is reported to have plans for an immediate expansion program costing about \$75 million. Freeport is also the site of the Ethyl-Dow plant for the extraction of bromine from sea water.

The Corpus Christi area is also a big industrial production center. Here are located the plants of the Aluminum Company of America, American Smelting & Refining Company, Corn Products Refining Company, and American Cyanamid Company. Corpus Christi, an oil refining and export center, also has been selected by the Reynolds Metals Company as the site of a plant to make aluminum.

At Bishop, inland a bit from Corpus Christi, is located, among other plants, the big petrochemical unit of the Celanese Corporation of America.

All these are among the installations which have given the Texas Gulf Coast the first stage of its industrial development. Compared with the Northeast and the Midwest, industry in Texas came late. The remarkable thing about the petrochemical industry in Texas is that so much has been done in such a short time.

Key to the Future

What about the future continuing growth of this budding industrial empire? Although new Texas Coast plants for the production of still more petrochemicals are on the planning boards, only recently have initial steps been taken toward converting the raw materials into finished products at plants in this area. And therein lies the key to the future expansion of this area, industrialists say.

Texas is hopeful that its aggressive petrochemical industry will serve as the forerunner of an industry that will turn petrochemical intermediates into finished products. In only a few cases — as in insecticides, detergents and fertilizers — are

the chemical ingredients converted into end products locally.

Meanwhile, the Texas Gulf Coast's petrochemical industry is providing steady employment for almost 30,000 workers at an annual payroll of \$110 million.

There is no doubt that this new industry is here to stay, because the supply of its basic material — petroleum — is abundant. It takes but a small amount of petroleum, comparatively, to fill the needs of the petrochemical industry. Chemists say the production of one chemical product in the amount of 25 million pounds annually is a fair rate of production and that this requires only about 225 barrels of oil and gas daily. This amount can be produced from one Texas Coast well.

Truly, the petrochemical industry is the modern miracle of America's industrial progress.



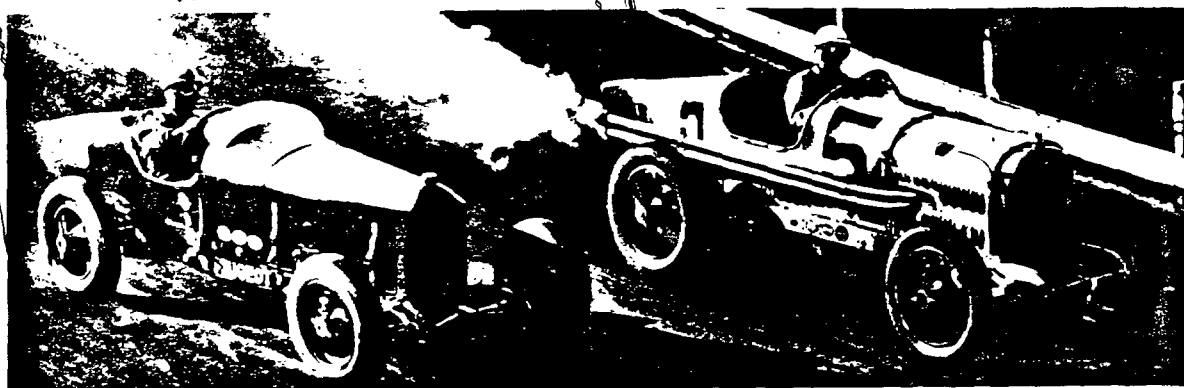
Left, butyl rubber is enclosed in polyethylene film at a Texas Coast plant. Both are petrochemical products . . . Above, petrochemicals, too, went into the synthetic fabrics of these men's suits



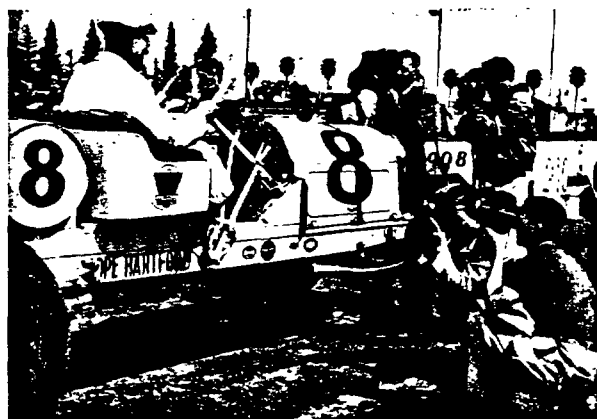
OFFICIAL PROGRAM

ETHYL CORPORATION

Vanderbilt Cup - Grand Prix
Veteran Car Races



POMONA FAIR GROUNDS - APRIL 6, 1952



Newsreel, TV and other photographers had a field day snapping the old race cars, such as this 1910 Pope Hartford . . . Left, a general view of the Fair Grounds track and grandstand



ON A SUNDAY

A series of oldtime auto races lent color as Ethyl demonstrated anew, in California, the extra benefits of modern gasoline

WITH an afternoon of dust-raising competition by race cars of Barney Oldfield's heyday as an added attraction, the fuel economy feature of Ethyl Corporation's now-famous "two equals three" demonstration was staged last month for the first time before an audience west of the Mississippi.

Conceived and developed by Ethyl almost two years ago, "two equals three" since then has enjoyed successful showings before oil industry, military, and press groups in Detroit, Washington, D. C., and on the New Jersey Turnpike. Its West Coast debut came at the Los Angeles County Fair Grounds in Pomona, Calif., on Sunday, April 6, as one of the highlights of an Ethyl-sponsored program featuring oldtime automobiles and race cars.

The fuel economy run at Pomona provided proof anew to the 6,000 oil company representatives and general public present that while gasoline today still costs only about the same as it did a generation ago (excluding taxes), it delivers up to 50%

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DAY AFTERNOON

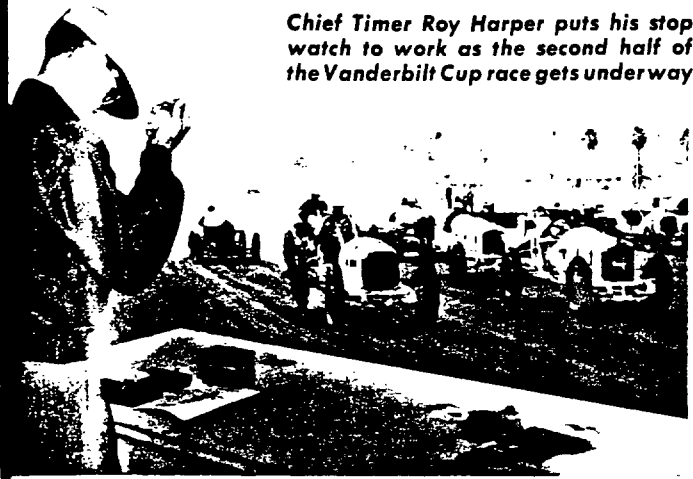
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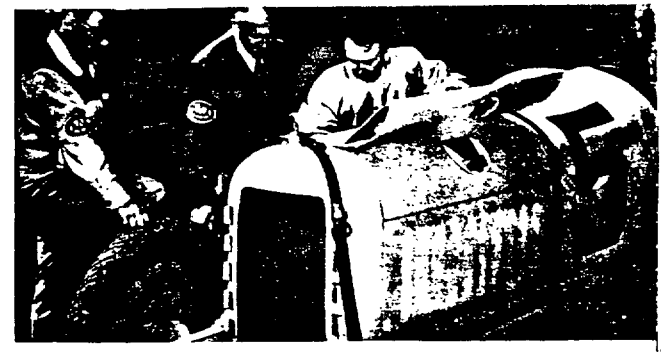
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Chief Timer Roy Harper puts his stop watch to work as the second half of the Vanderbilt Cup race gets underway



In this pre-race huddle are Jimmy Jackson, Indianapolis driver who was race starter, Chief Steward Gordon Betz, and driver Henry Banks



Interested onlookers were Mrs. Meredith Littlefield, wife of Ethyl's Western Region manager, Mrs. R. L. Minckler, wife of the General Petroleum president, and Sarah Littlefield

more mileage and increases the useful power of an automobile engine by about the same percentage.

The major events of the afternoon's card of racing by the veteran cars were the Ethyl Vanderbilt Cup and Grand Prix competitions, modern revivals of those famed speed dashes of another generation.

AAA Sanctioned

In age, the 15 race cars that took part ranged from a 1907 Benz, in which Barney Oldfield once set a one-mile speed mark of 83 mph, to a 1917 Hudson, one of the most popular Indianapolis 500-mile race performers of its day.

The entire race program was sanctioned and supervised by the Contest Board of the American Automobile Association.

The cars may have wheezed a bit at times, some were balky at the starting line, and others set up heavy smoke screens from the exhaust. But, all in all, they provided as many thrills for the Pomona gathering as they did decades ago when many of

these same cars were competing in the original Vanderbilt Cup and Grand Prix races.

In fact, the outcome of the Ethyl Vanderbilt Cup race was a case of history repeating itself. For, a 1913 Peugeot — the same as Dario Resta drove to victory in both the 1915 Vanderbilt Cup and Grand Prix competitions and then to Indianapolis "500" first-place honors the next year — won the Pomona revival. With Danny Oakes, 1948 AAA national midget-racing champion, at the wheel, the Peugeot covered the 25 laps of the half-mile Los Angeles County Fair Grounds dirt track in 15 minutes 23.9 seconds. This victory gained Oakes the big trophy of the day.



Among the many West Coast oil company representatives who attended the Ethyl program was (above, right) William G. King, Jr., vice president of marketing for Richfield Oil. Beside him, their eyes following Grand Prix race action around a turn, are Chalmers McGaughey, a friend, and Mrs. King

Left, Jack Curnow, sports writer for the Los Angeles Times, was the public address system announcer. Here, he interviews Ralph DePalma (right), noted race driver of days gone by



Photographed as they enjoyed one of the events on the famous Fair Grounds track were K. E. Kingman, Union Oil Company's vice president in charge of manufacturing, son Billy, and Mrs. Kingman

Oakes was pushed every inch of the way by the 1917 Hudson, piloted by Henry Banks, well-known Indianapolis driver and the AAA national champion two years ago. They had the field lapped by about the 20th turn and thereafter made it a two-car race.

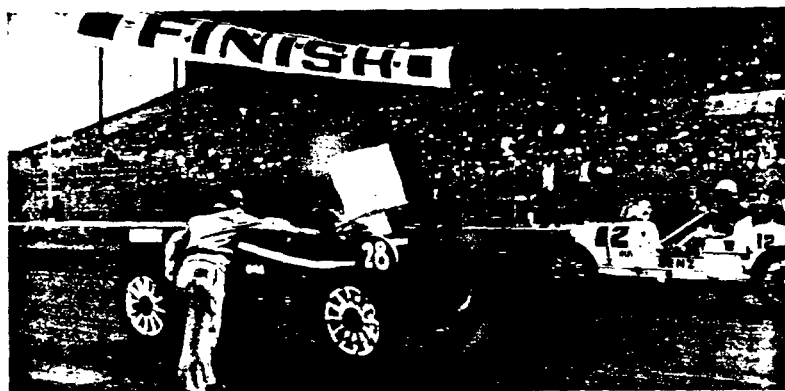
Earlier in the afternoon, the same two drivers and cars had battled it out in a special three-lap challenge race. This time Banks was first over the finish line. His clocking was one minute 40.8 seconds, or almost a mile-a-minute clip.

The Vanderbilt Cup race was run as a two-part affair. Oakes captured the trophy because his winning time was faster — by seven-tenths of a second — than that recorded by the winning car of the other "heat." This was the 1907 Benz, steered by Sam Hanks, the AAA national midget-racing champion in 1949. Hanks and driver Don Colee, at the wheel of a 1914 O. N. O. (a car with a Fiat chassis and Pope Hartford engine), waged a ding-dong race and had the crowd hoarse from yelling by the time it was all over.

By leading the pack home in its portion of the Vanderbilt Cup run,

Well-wishers rush onto the track to congratulate Danny Oakes after his popular victory in the final race of the program. Inset, Oakes smilingly accepts the big Vanderbilt Cup trophy from Meredith (Ted) Littlefield, manager of Ethyl's Western Region

The camera caught this view of Gale L. Adams, General Petroleum's manager of manufacturing, during a race highlight. With him are his daughter and son-in-law, the Leland Steinhausers



the ancient Benz proved itself the outstanding vehicle performer. The right-hand-drive racer also won the Ethyl Grand Prix, leadoff race of the afternoon. In the 50-lap (25-mile) event, Lindley Bothwell rode the Benz to Grand Prix victory, in the rather good time of 34 minutes, 37.1 seconds.

Thus was capsuled into a few hours an entire era of notable and never-to-be-forgotten automobile racing.

The white flag signals one lap to go in the Vanderbilt Cup first race. Car No. 12, a 1907 Benz, won the event, nosing out the 1914 O. N. O. (No. 28)



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Lined up before exhibits of old and modern service stations are the 1923 and late-model Cadillacs used in the fuel economy demonstration

THE VETERAN race cars which roared around the Fair Grounds track at Pomona were visible reminders of how much automobiles have improved since the early days. But one of the most important gains of all is hidden from view — inside the gasoline tank.

To point up, vividly and dramatically, the year-after-year improvement in gasoline, the fuel economy event of Ethyl Corporation's "two equals three" demonstration was presented as a feature of the afternoon's program.

A modern Cadillac, with high-compression ratio and powered by modern premium gasoline, and a low-compression 1923 Cadillac, running on fuel equivalent to that of its era, were the competing vehicles. Each was allotted one-tenth of a gallon, and was operated at a constant speed of 30 mph. When their fuel rations became exhausted, the modern car had far outdistanced the older model, thus confirming once again the now-established fact that two gallons of today's better gasoline do the work of three gallons of fuel of a quarter-century ago.

Below, a last-minute check makes sure that all is in readiness. The pipette containing the fuel ration can be seen at the observer's side of the front seat



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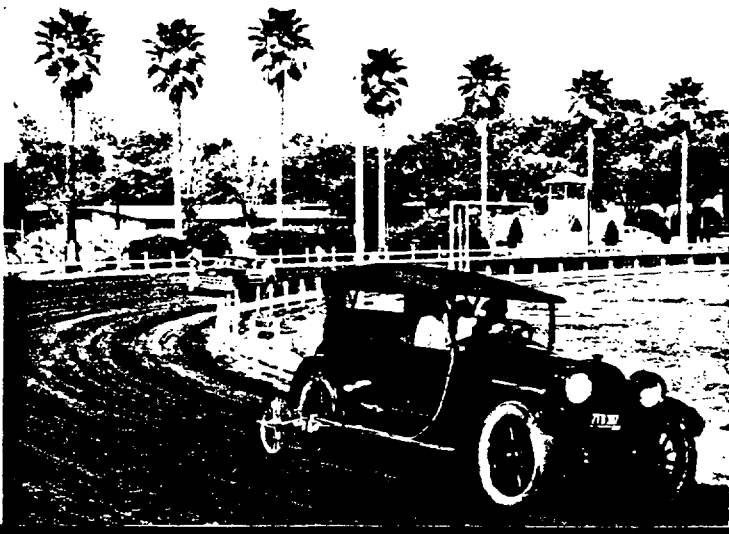


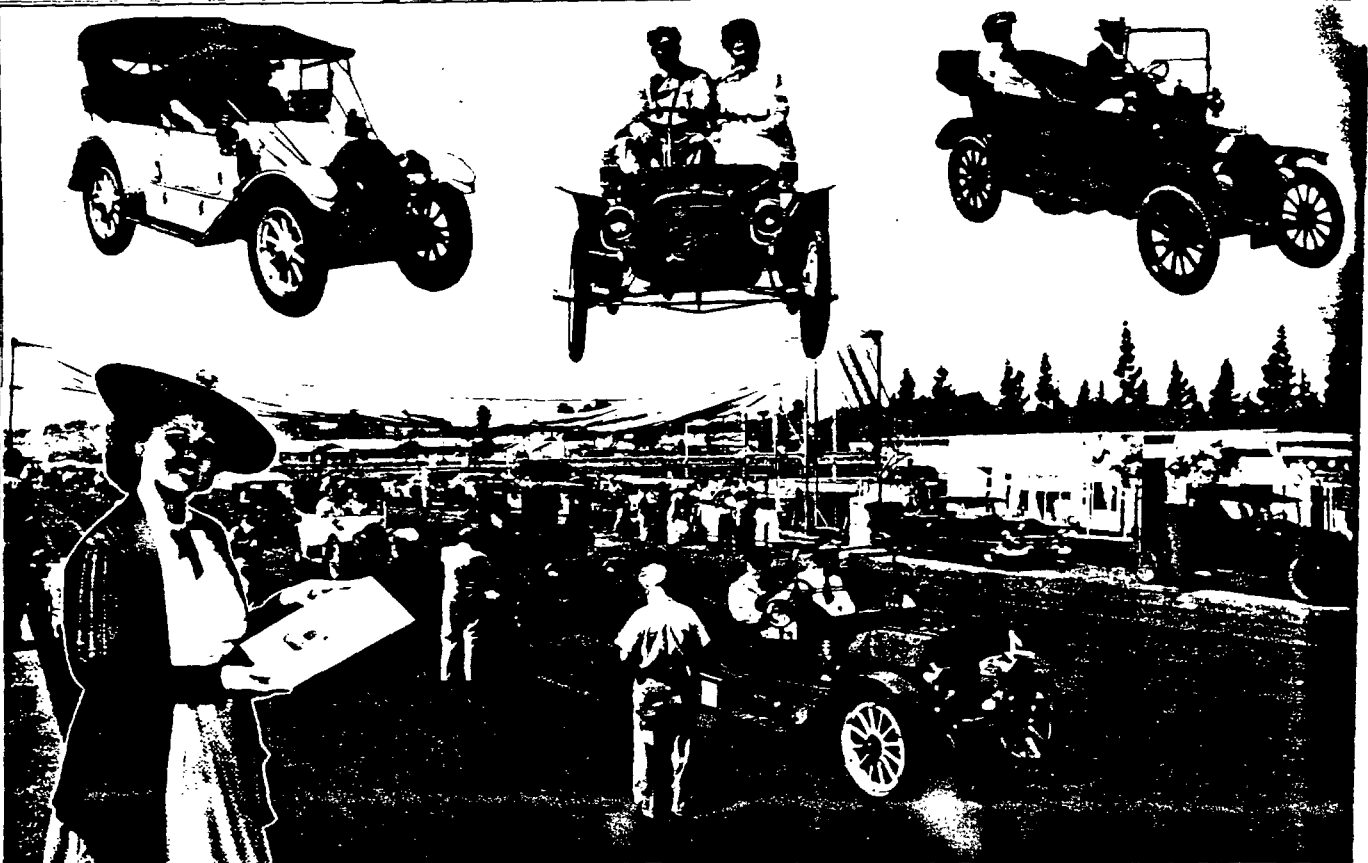
Spectators took part in a how-far-will-the-cars-travel guessing contest. Here, F. E. Behrens, Wilshire Oil vice president, turns in his entry



With California Institute of Technology faculty members riding as impartial observers, the competing cars are shown here as they moved into position for the start of the fuel economy event. Each car ran at a constant speed until its supply of gasoline gave out

Here's one case where looks are deceiving. Actually, by the end of the run, the modern car, using modern premium gasoline, had lapped the old car, running on 1925 fuel, and almost caught up with it again





Attractive old-car enthusiast Mrs. R. S. Hampton, of North Hollywood, sets the theme as the vehicles move around the track — and past Ethyl's service station ex-

hibit — to open the afternoon's program. In the procession were (inset) such well-remembered oldtimers as a 1911 Oldsmobile, a 1907 Cadillac, and a 1915 Ford

Below, once in a while it was necessary to "get out and get under" to make sure the horseless carriages would perform at their best. Here, an owner checks his 1903 Oldsmobile



All roads led to Pomona for owners of old automobiles on the day of the Ethyl program at the Los Angeles County Fair Grounds. After the ancient cars paraded around the track, they were arranged in the infield (above) for public inspection at the end of the day's events. Those who drove and rode in the vehicles wore the attire of motorists of grandfather's time. Owned and operated by members of the Horseless Carriage Club, most of the cars were actually driven to Pomona over the area's highways

ETC 32630

LENDING COLOR and a further touch of memory to the proceedings, more than 50 vehicles, driven by members of the Horseless Carriage Club attired in dusters, goggles and other appropriate early motoring garb, paraded and were otherwise on view at the Los Angeles County Fair Grounds.

Their presence provided the large audience with something of a preview of Ethyl Corporation's new series of advertisements, each of which will picture old and new automobiles under the theme "Today as yesterday, cars run their best on the best gasoline." A reproduction of the first of these ads, which will appear monthly in leading national magazines with 23 million total circulation, can be seen on page 25 of this issue.

In the nostalgic procession, as the old cars wended their way around the Fair Grounds track in single file to open the afternoon's festivities, were such venerables as a tiller-operated Oldsmobile, a Stanley Steamer, a Model T Ford, a 1907 Cadillac, and a 1912 Studebaker.

Following the Fair Grounds events, Ethyl's Western Region was host at a buffet-reception, held at the nearby Pomona Golf and Country Club, tendered 350 representatives of West Coast oil companies and members of their families.



At the Ethyl reception for oil company personnel, C. T. Furrer, district manager for Standard of California, and A. B. Wyrick, of Ethyl's Los Angeles regional office, view a Pacific Coast League ball game

In this family group, pictured on the grounds of the Pomona Country Club, are (standing) Anita Bachmann, E. O. Bachmann, president of Century Oil, Carole Bachmann, and Mrs. E. O. Bachmann. Kneeling are Paul S. Bachmann, secretary of Century Oil, and his daughter, Linda Lee Bachmann



Below left, smiling out from an old Brush on view at the reception are R. D. Stetson, Shell Oil division manager, and Jack Shea, district manager of Tide Water Associated

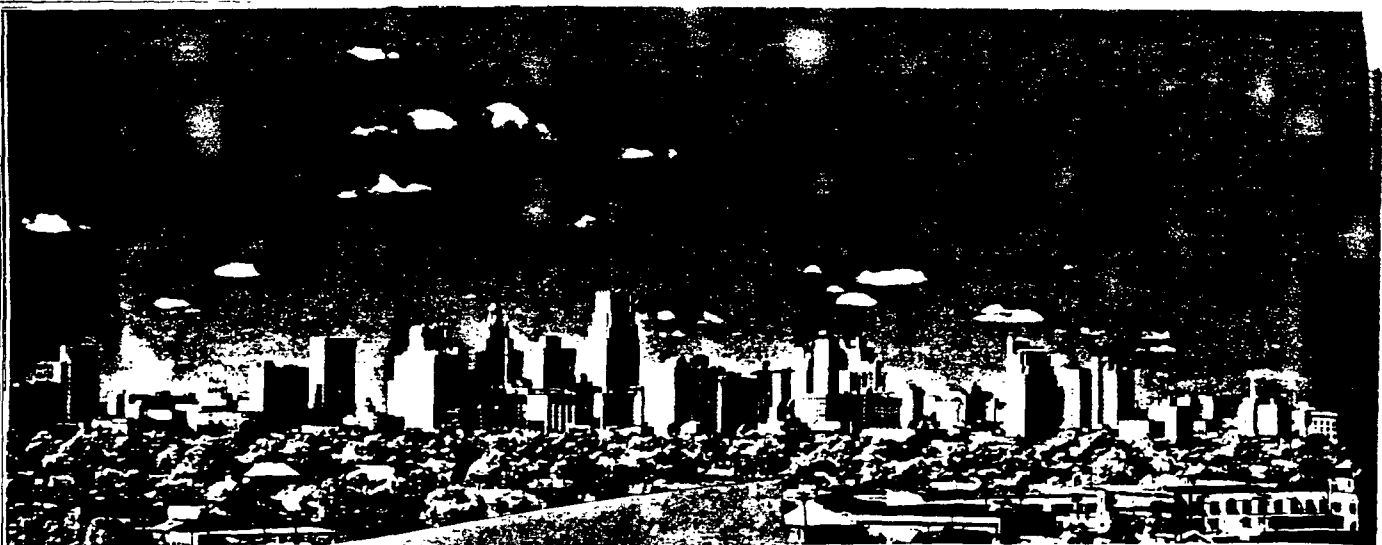
Fathers and daughters make up the foursome below. Charles Acker, Shell Oil assistant division manager, makes a golf point to Jeraldeen Acker, R. W. McOmie, Shell manufacturing manager, and Carol McOmie



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THE CITY THAT HAD TO RE

As the capital of the great industrial empire of the Texas Gulf Coast, Houston is merely keeping its date with destiny

**By Tom Lester
Industrial Editor,
The Houston Chronicle**

HOUSTON is a paradox of nature. It is an inland city, 50 miles from the Gulf, yet it stands as one of the nation's leading seaports. It is an industrial and commercial city where the startling beauty of semi-tropical vegetation goes right up to loading platforms and can be seen through plant windows by workmen on assembly lines. Giant manufacturing pile brick on steel to sprawl over the prairie, but there is no smoke or smog.

The town was laid out a little

over 100 years ago by real estate promoters who advertised it, in a style that would do credit to any of today's builders, as:

"Situated at the head of navigation . . . at a point on the river which must ever command the trade of the largest and richest por-

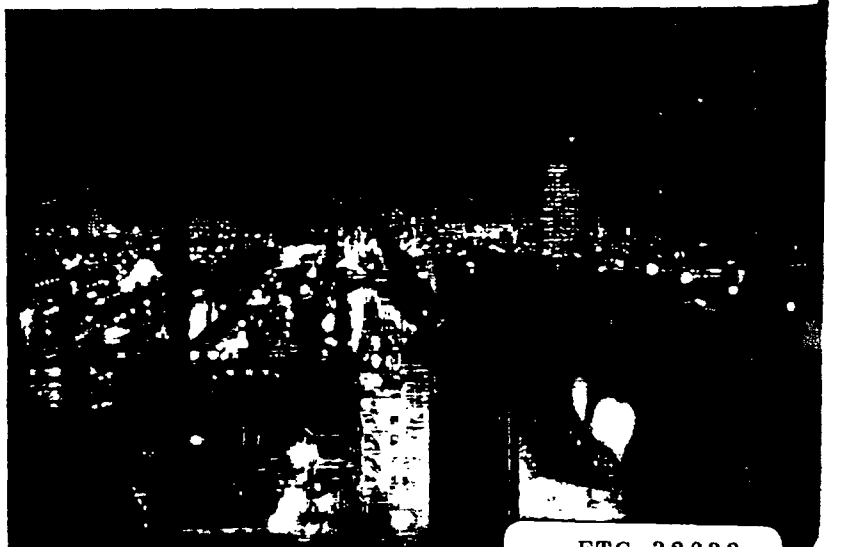
tion of Texas . . . making it, beyond all doubt, the great interior commercial emporium of Texas."

The river referred to was the sluggish, snag-infested Buffalo Bayou. Only a brave skipper would dare venture across its shifting mud shoals. Submerged logs and roots tore at side-wheelers, while sweeping overhead branches ripped top-sail and mast and tortuous bends of the bayou wore down a crew's resourcefulness and patience.

Today that dreaded bayou is the broad tidewater Houston Ship Channel, 34 to 36 feet deep.

Without the Ship Channel, Houston would probably be just another little inland city of good folks with an agricultural air. The great industry that was built around oil, sul-

Around the clock, the huge refineries and manufacturing plants of the industrialized Houston area are humming with activity



phur, salt, cotton, livestock, grain, lumber, steel and other resources of the Southwest would have gone to another city.

How the Houston Ship Channel evolved from the Buffalo Bayou to the nation's second port (in total tonnage) is a saga of American progress and free enterprise.

The Port was officially opened in 1915. The Ship Channel had been dredged for 25 miles across Galveston Bay, through a short section of San Jacinto River and up Buffalo Bayou for 25 miles to the eastern city limits of Houston. It was 25 feet deep and had a bottom width of 100 feet. It ended in a turning basin where a few docks had been built.

Cargo in 1915, the first year of operations, totaled 86,000 tons. Last year the total was a record 45,051,789 tons — about 525 times as much. In fact, the Port broke four records in 1951. They involved the amount of tonnage moved, foreign tonnage handled, dollar value of cargo, and the number of ships arriving and leaving port.

Dock Facilities

Port Houston is governed by a Port Commission which represents the Navigation District of Harris County. Public docks line nearly 8,000 feet of the Ship Channel shores. Private docks extend from the Turning Basin downstream to Galveston Bay. More than 100 tankers and barges and other vessels can dock simultaneously. Industries on the Channel have their own berthing facilities for docking one or more ships.

Prosperous little cities have developed back from the waterfront. They include Pasadena, Galena Park, Clinton, Deepwater, Greens Bayou, Jacinto City, Deer Park, Channel View, Baytown and La

Porte. Their combined population is over 100,000 persons.

Port Houston has had the official title of second port in the nation since 1948, when it passed Philadelphia, and now ranks only behind New York City.

\$2 Billion Value

Around the 25-mile section from the Turning Basin to Galveston Bay, an industrial area with investments of plant and facilities valued at close to \$2 billion has been built up. They include half a billion dollars invested in oil refineries and a half-billion or so invested in plants for making steel and steel products, oil field equipment and other supplies for the oil industry, tools, pipe, structural steel, tanks, builders' supplies, machine shops and foundries. There is another half-billion dollar investment in chemical plants

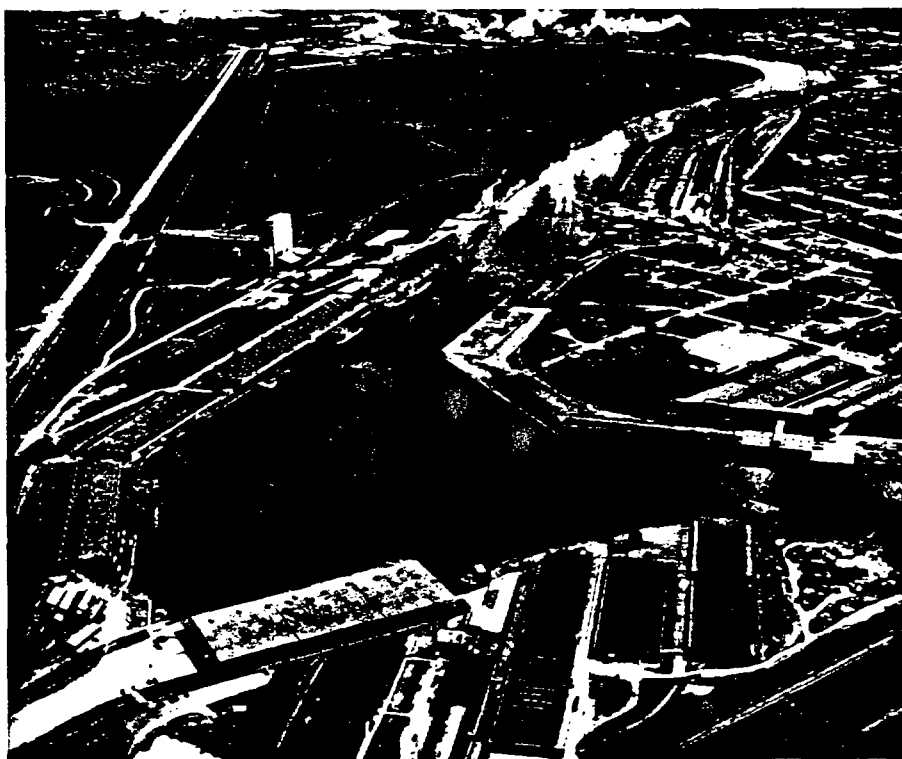
and over \$250 million in miscellaneous industries such as shipyards, food processing plants, cotton compresses, paper mills, cement plants and planing mills.

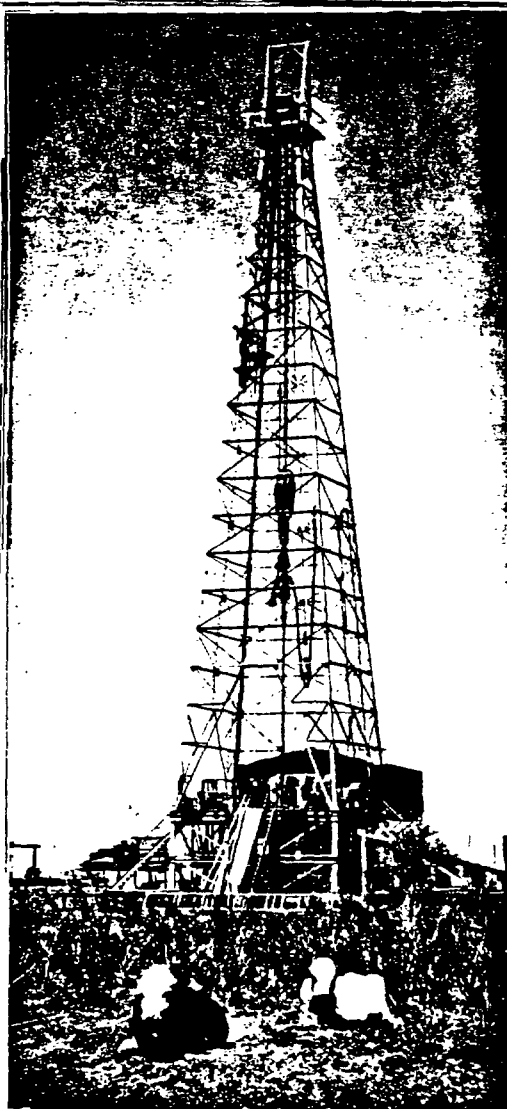
Also in this 25-mile circle are numerous warehouses and shops, where products shipped from other ports and foreign nations are stored for local use or reshipment throughout the Southwest.

The whole area is a beehive of activity, with refineries working night and day to turn out vitally-needed aviation gasoline and jet fuel and to meet the ever-growing civilian demand for oil products. Steel mills, pipe mills, oil tools and supply factories also work around the clock six or seven days a week to meet defense and civilian demands.

Much of the planned expansion and new plant construction programmed or under way is to pro-

The Turning Basin of the Ship Channel. By connecting the city with the Gulf, the Channel has made Houston one of the nation's leading ports





Symbolized by this photo are the oil and beef cattle industries in which Texas leads the nation. Houston is a center for both

duce goods required by the defense program.

Sinclair Refining Company is in a \$28 million building program at its refinery just east of Houston on the Ship Channel. This will raise crude capacity from 85,000 to 115,000 barrels daily.

Eastern States Petroleum Company has just completed a new platforming unit and other facilities costing an estimated \$10 million or more and hiking crude capacity to 50,000 barrels daily.

Shell Oil Company and its subsidiary, Shell Chemical Corporation, which together have spent nearly

\$100 million since the end of World War II at the plant at Deer Park on the Ship Channel, according to press reports, are now adding facilities costing more than \$10 million. National Production Authority allocations indicate an additional \$20 million outlay.

Humble Oil & Refining Company's mammoth Baytown refinery is engaged in a continuing program of expansion and enlargement which has run into millions of dollars since war's end.

Refineries belting the Ship Channel, now having a total capacity of around 600,000 barrels of crude oil daily, will be expanded by 15% under these enlargement programs.

Pipeline Expansion

Pipelines bring over 2,000,000 barrels of crude oil daily from West Texas, the Mid-Continent, East Texas and Louisiana to Houston Ship Channel terminals, and they are being augmented by new lines or enlargements of old ones. The oil is processed in refineries on the Channel or shipped by tanker or barge to domestic and foreign markets.

Products pipelines radiate from these Houston refineries to market centers. Thousands of acres of tank farms stretch back from the waterfront, where millions of barrels of oil are stored for future use.

Some 350,000 persons are employed in Metropolitan Houston. Nearly 100,000 of them are industrial workers, centered largely in the Ship Channel area.

Industrial Houston, however, extends far beyond the limits of the Ship Channel. It runs for 12 miles directly across town to the extreme western limits, to include plants making oil tools and equipment, asbestos, chemicals, metals, and heavy industrial machinery.

It spreads north and south — to the Wright Manufacturing Company which makes rubber tile flooring and virtually all the football cleats used in the nation, in the southwest part of the city; to Schlumberger Well Surveying Corporation's \$3 million plant for scientific oil well service, in the southeast; and north of Buffalo Bayou to more oil tool and specialty factories and metal fabricating and food processing plants.

Houston has never had much time to stop, take stock and gather up loose ends. From an aesthetic and cultural point of view, there are things the visitor might find to criticize.

The city is growing so fast that public schools find it difficult to provide needed services. Although \$35 million has been spent for new

The San Jacinto Monument on the Ship Channel is a Texas shrine. It marks the site of Sam Houston's historic victory over Santa Ana



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and enlarged buildings in the past five years, the schools are crowded. Facilities for telephone service, sanitary sewers, streets and even water, lights and gas are behind demand in some of the city's areas.

On the credit side, Houston boasts two top universities, Rice Institute and the University of Houston, as well as a number of secondary schools and colleges.

Medical Center

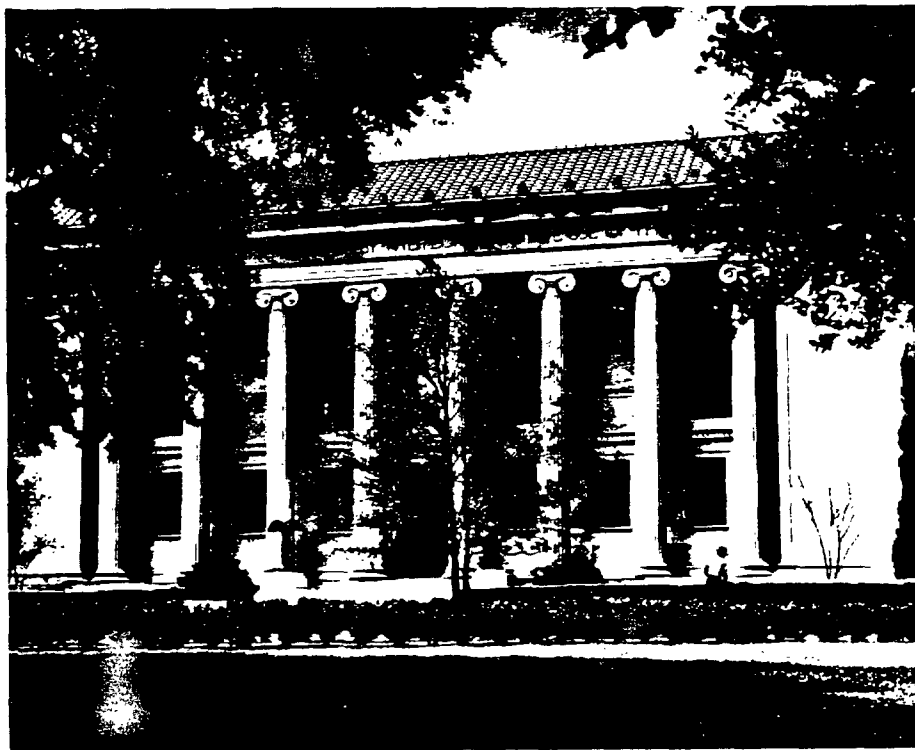
A medical center of world-wide importance is being built on a 153-acre tract five miles south of downtown Houston. Known as the Texas Medical Center, it already includes Baylor University College of Medicine and a number of special and general hospitals. When completed, it will be one of the world's outstanding centers for medical study, research and treatment. The investment is well over \$100 million.

Houstonians are proud of their symphony orchestra, the Museum of Fine Arts with permanent art exhibits valued at several million dollars, amateur theatricals and other evidences of cultural growth, even if the piles of steel, stone and brick that mark an ever-widening skyline and expanding industries mean more to the average man.

The Houston Fat Stock Show and Livestock Exposition has had much to do with improving the quality of livestock. Held in mid-winter, it draws exhibitors from many parts of the South and West.

The city's population growth in this century has been meteoric, particularly in the past three decades. It first went over 100,000 in 1920.

Houston's population was near 600,000 in the 1950 census. That was a gain of 55% over 1940. It is estimated there are 650,000 Houstonians today. Statisticians freely predict the city's population will ex-



Houston's expansion has not been confined to industry. The Museum of Fine Arts is a reminder that there also has been cultural growth

ceed a million in another ten years. Local records, such as utility connections, indicate the city is growing at the rate of 3,000 residents monthly. Many of the nation's outstanding industrial leaders say the finger of destiny is pointed at Houston, that it eventually will become one of our three major cities.

Latin America Trade

Growth of the Latin American nations is cited as one of the reasons for this claim, and the present importance of the Good Neighbor countries to our Southern states is shown in a breakdown of Houston Port statistics for 1951. Sixty-one percent of imports were from Latin America. Europe sent but 26%.

Houston is a metropolitan city. It is made up to a surprising degree of country folks from just about every part of the United States. Many residents are but a single gen-

eration removed from the pioneers who came from New York, Ohio, Massachusetts, Kentucky, Virginia, Georgia, and the Carolinas because they wanted a better place with wider opportunities.

They were people whose women stood homeguard with musket in hand while the menfolk went out to tame the wilderness. They learned to do things for themselves, and today's generation still wants to do the job that way.

As the city grows, and as its industries continue to expand, the Port of Houston fully intends to keep pace. Port officials have plans for a multi-million-dollar enlargement program, including deepening the Ship Channel to 40 feet, widening at several points, carving out a second turning basin, and building new docks and other facilities.

Who knows, some day the port may even surpass New York.

At Your SERVICE

Since its founding, Ethyl has conducted a broad program of service to help promote oil and automotive industry progress

EVER SINCE the introduction of "Ethyl" gasoline almost three decades ago, the role of Ethyl Corporation in all phases of the antiknock compound field has been that of pioneer. Because no product similar to it had ever before been made or marketed, it was necessary to start from scratch in the manufacture, handling, distribution, and servicing of "Ethyl" fluid.

Certainly this has been especially true in the case of services — the many and varied extra benefits which accrue to those industries directly associated with the utilization of "Ethyl" antiknock compound. Not available from any other source, it rested with Ethyl Corporation, first, to develop these services, and, secondly, to bring them to their present high level of usefulness and efficiency.

Ethyl's program of service has benefited not only customer oil companies, but also the entire petroleum industry, the automotive, farm machinery and aviation industries, and ultimately the general public. Embracing as it does research, gasoline testing, advertising, sales promotion, safety, educational projects, farm and fleet activities, and others, the service program travels many avenues. But always the destination is the same — to help

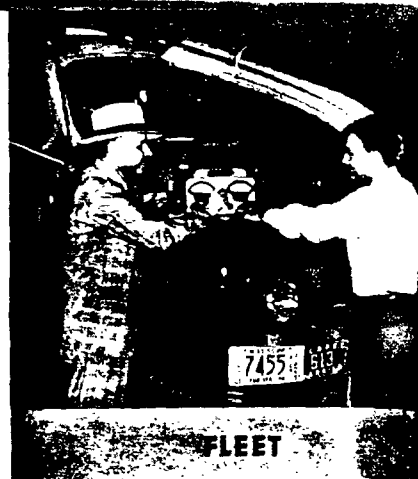
promote the best and fullest use of modern-day fuels.

First of all, to guarantee the safety of every person who handles antiknock compound, Ethyl Corporation engineers developed a safety code covering every phase of the transportation, storage, and blending of "Ethyl" fluid. Recognition of the need for such a code dates back to the beginning days of the Corporation, with the result that its long experience in this field has enabled Ethyl to develop an unusually effective program and compile a noteworthy record of safety accomplishment.

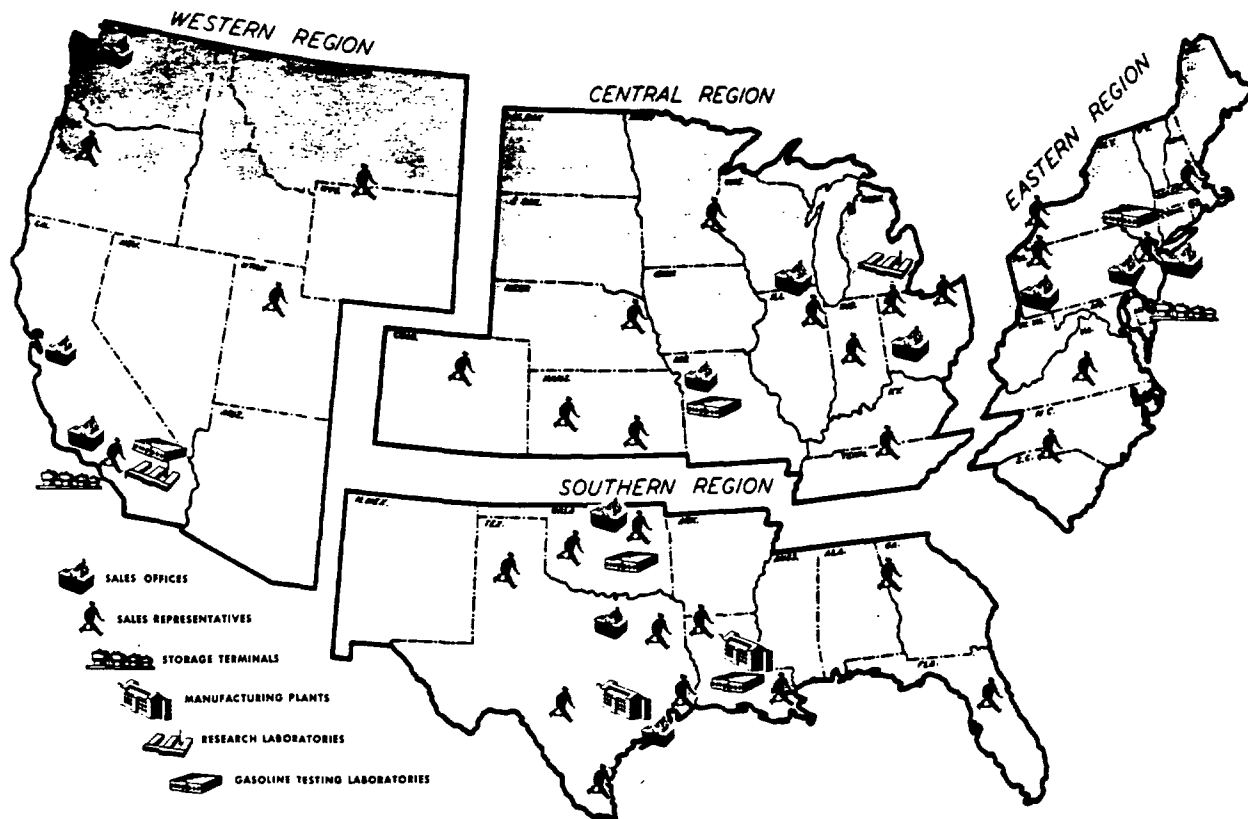
Many "firsts" crown the Company's efforts to develop a safety program of high standards. Ethyl played a major role in designing the blending plants where antiknock compound is mixed with gasoline, just as its engineers have contributed greatly to the development of improved storage tank design.

Still another form of safety work is the current "Fire Power" show. Prepared as an industry-wide service, this unique presentation has demonstrated to hundreds of refinery, service station, and other interested audiences throughout the country the safe way to handle gasoline.

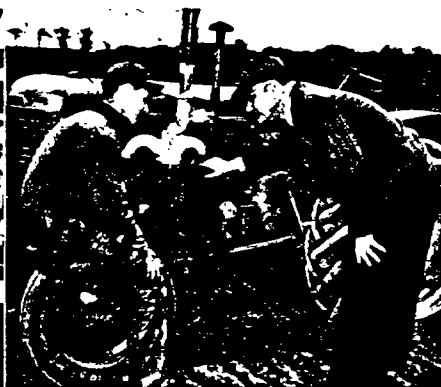
In another area of service, Ethyl



provides the oil industry with accurate, up-to-the-minute surveys of gasoline quality, based on the work of its five gasoline testing laboratories located at key points throughout the country. The surveys, which also are of known value to engine manufacturers, present not only a picture of over-all gasoline quality, but of trends in quality as well. Issued at regular intervals, the



RESEARCH



FARM



ADVERTISING

Ethyl's nationwide chain of facilities and representatives is pictured on the map above. The photos depict some of the Company's services

surveys are compiled on both a sectional and national basis.

Each year, thousands of samples of gasoline obtained from refineries, bulk plants, and service stations undergo tests at the gasoline testing facilities. In addition to this general sampling, the laboratories analyze

individual samples at the request of customer companies, to aid them in controlling the quality of their gasoline blends.

As a further part of the gasoline testing program, Ethyl provides customer company laboratories with emergency spare parts for their own

knock-testing equipment, makes available the services of its experts in helping to keep this equipment in good repair, and trains oil company personnel in knock-testing equipment and methods.

The fact that it maintains, in Detroit, one of the world's most modern and best-equipped research laboratories of its kind has afforded Ethyl countless opportunities to

render valuable research service to all industries concerned with the manufacture and operation of gasoline-powered equipment.

More than merely studying current engines and tomorrow's experimental power plants, the Ethyl Laboratories, in many cases, have actually helped to bring these engines to their present advanced state of development.

A phase of the Ethyl research program of particular interest to refiners is the work of the Company's fuel specialists in studies of the inherent antiknock properties and tetraethyl lead susceptibilities of old and new fuel components, to

and at the Ethyl Laboratory in San Bernardino, California, where year-round road-test weather prevails.

Leading to the best utilization of fuels in commercial engines, Ethyl supports active fleet and farm programs in which both research personnel and field engineers participate. The Technical Service division of the Research Laboratories works closely with the manufacturers of trucks, buses and tractors on the best use of present and future fuels. The Laboratories themselves study, test, and evaluate both engines and fuels. Then, as the final step in this three-way program of service to oil companies and engine manufactur-

OUR COVER: Kodachrome by Jean Vincent (see inside back cover).

OUR PICTURES: Pages 3, 4, 6, and 9, Robert Yarnall Richie; page 7, Houston Post; pages 10 (upper), 11 (bottom), 12 (top right), 13 (bottom left), courtesy Standard Oil Company (N.J.); page 10 (lower), A. Devaney, Inc.; pages 11 (top), 12 (top left), 20, 21, courtesy Houston Chamber of Commerce; page 13 (bottom right), courtesy Celanese Corporation of America; pages 14, 15, 16, 17, 18, and 19, Doug Kilgour and L. A. Todd; page 22 (left), Monkmeier; pages 22 (right) and 23, Philip Gendreau.



Located in Detroit, center of the automobile industry, Ethyl's Research Laboratories are staffed by an experienced team of technical experts

help oil companies obtain maximum utilization of every drop of "Ethyl" fluid.

Fleets of cars and trucks are used for road tests to substantiate and supplement laboratory findings. Highway programs are carried on both at the Laboratories in Detroit

ers, Ethyl engineers in the field cooperate with specialists from customer companies in on-the-spot projects.

In augmenting its various service activities, Ethyl makes widespread use of such means of communication as films, booklets, meetings,

and demonstrations. Among the latter is the Product Sales Clinic, units of which are currently active in each of the Company's four sales regions. Through the use of huge working models, the Clinic discusses the various parts of an engine and the role petroleum products play in their proper functioning.

Finally, to reach the consumer, the ultimate beneficiary of all its many services, Ethyl sponsors a comprehensive program of national advertising. "Consumer" ads are designed to help oil companies maintain and increase their premium gasoline sales. Many such Ethyl insertions appear in national magazines reaching more than 56 million readers monthly, and most of them appear on choice reading pages of each publication.

These, then, are some of the services which add a plus to the value of the Ethyl product sold to customer oil companies. All are conducted with the long-run interests of both the oil and automotive industries in mind. Ethyl Corporation is understandably proud of the contributions it has made in the past to the mutual progress of these industries. It now looks forward to the increased opportunities for service that the opening of its new manufacturing plant indicates.

SYMBOLS OF PROGRESS



They're only toys and scale models, such as you might buy in any store selling such items, but the three objects in the photograph above (a black-and-white reproduction of our cover) symbolize at least two important things.

First of all, they represent the outstanding progress that has been scored in automotive transportation in the near-30 years that "Ethyl" gasoline has been on the market. Outwardly and inwardly, there is no comparison between the stubby, high-bodied black sedan of 1923 and the beautiful, sleek 1952 creation. For instance, the average compression ratio of modern cars is almost double that of their older brothers—and that means greater performance, more power, more of everything good that we moderns expect in automobiles.

But you don't get higher compression ratios just by wishing for them. Engines can be as good only as the fuel that powers them. That's where the gasoline pump comes in. Through the hoselines of service station pumps today flows gasoline so superior to fuel of a generation ago that two gallons of modern gasoline do the work of three gallons of 1925 fuel. Spelled out, that means more miles per gallon and greater all-around car performance. Credit for this accomplishment of better gasoline rests with improved refining methods and the widespread use of tetraethyl lead antiknock compound.

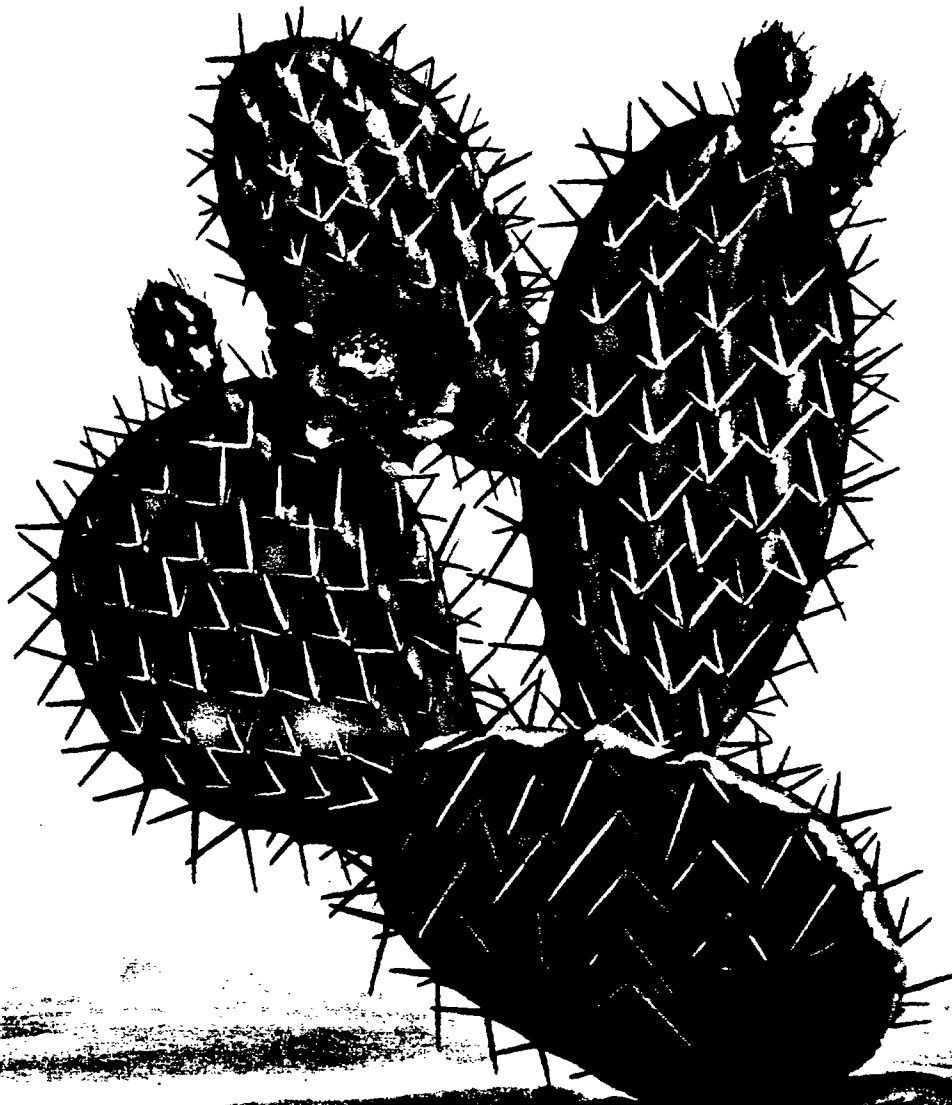
The second important achievement symbolized by the objects on our cover is that of man's never-ending quest to find newer and better things to benefit his fellow-man. The long, patient, and costly search for an agent that would satisfactorily overcome fuel knock is a ready example.

When, 40 years ago, knock in an automotive engine first reared its ugly head, Charles F. Kettering recognized it as an obstacle that had to be removed if, figuratively speaking, automotive transportation was not to run into a stone wall. To conquer knock, he assembled a team of young chemists and engineers, all of them destined to gain universal fame in their chosen fields. Captain of the team was Thomas Midgley, Jr., who gave the world tetraethyl lead and so many other benefits. Among those who researched with Dr. Midgley in seeking the answer to knock were T. A. (Tab) Boyd, Charles Allen Thomas and Carroll A. Hochwalt, all names that immediately come to the fore in any discussion of the great scientists of this era.

It was the discovery of the antiknock properties of tetraethyl lead which led to the marketing of "Ethyl" gasoline and to the formation of Ethyl Corporation as the pioneer marketer of antiknock compounds.

That was a discovery without which there might have been little difference—under the hood, at least—between the 1923 vehicle and the automobile of today. It was a discovery which, because tetraethyl lead is such a flexible refinery tool, has resulted in the conservation of a billion barrels or more of petroleum. It was a discovery, too, which each year saves the American motorist at least one billion dollars in his gasoline bill, by providing refiners an economical means of achieving desired antiknock quality.

And certainly it was a discovery that serves as the foundation stone upon which the new Ethyl Corporation manufacturing plant on the Houston Ship Channel, as well as the very Corporation itself, has been built.



What is the most important point about our new Texas plant?

It probably would be more usual to announce the opening of Ethyl's new Texas plant by showing a large air view of the entire layout. However, this close-up of another kind of Texas plant better illustrates our point.

You see, the plant in the picture above is completely self-sustaining. Just give it sunlight, air, a little water, and a place to grow. It depends only upon raw materials to make the complex chemicals it needs to stay in business. In other words, it is a *completely integrated* plant . . . just like the new Ethyl plant at Houston, Texas.

Give Ethyl's new Texas plant the raw materials — such as pig lead, salt, petroleum gases, electricity — and it can make all the chemical ingredients needed in "Ethyl" antiknock compound. In this way the new plant is like Ethyl's plant at Baton Rouge. Each is completely integrated — and is independent of the other.

We think this integration is an extremely important

point to refiners. Today refiners are faced with the challenge of supplying great quantities of high-quality gasoline to meet the ever-increasing demands of American transportation. To perform this service, they need an uninterrupted supply of antiknock compound — which an *integrated* plant is best able to give them.

With the construction of Ethyl's new Texas plant, such a reliable source of antiknock compound is now assured. The new plant is engineered for highest efficiency. Raw materials are available nearby. Electric power supplies are ample. Six railroads out of Houston give Ethyl wide choice in routing antiknock compounds to Ethyl customers throughout the country. And, perhaps most important, this new plant has expanded facilities to a point where "Ethyl" antiknock compound manufacturing capacity is now more than ample to meet demand in the foreseeable future.

ETC 32640

ETHIOPIA NEWS



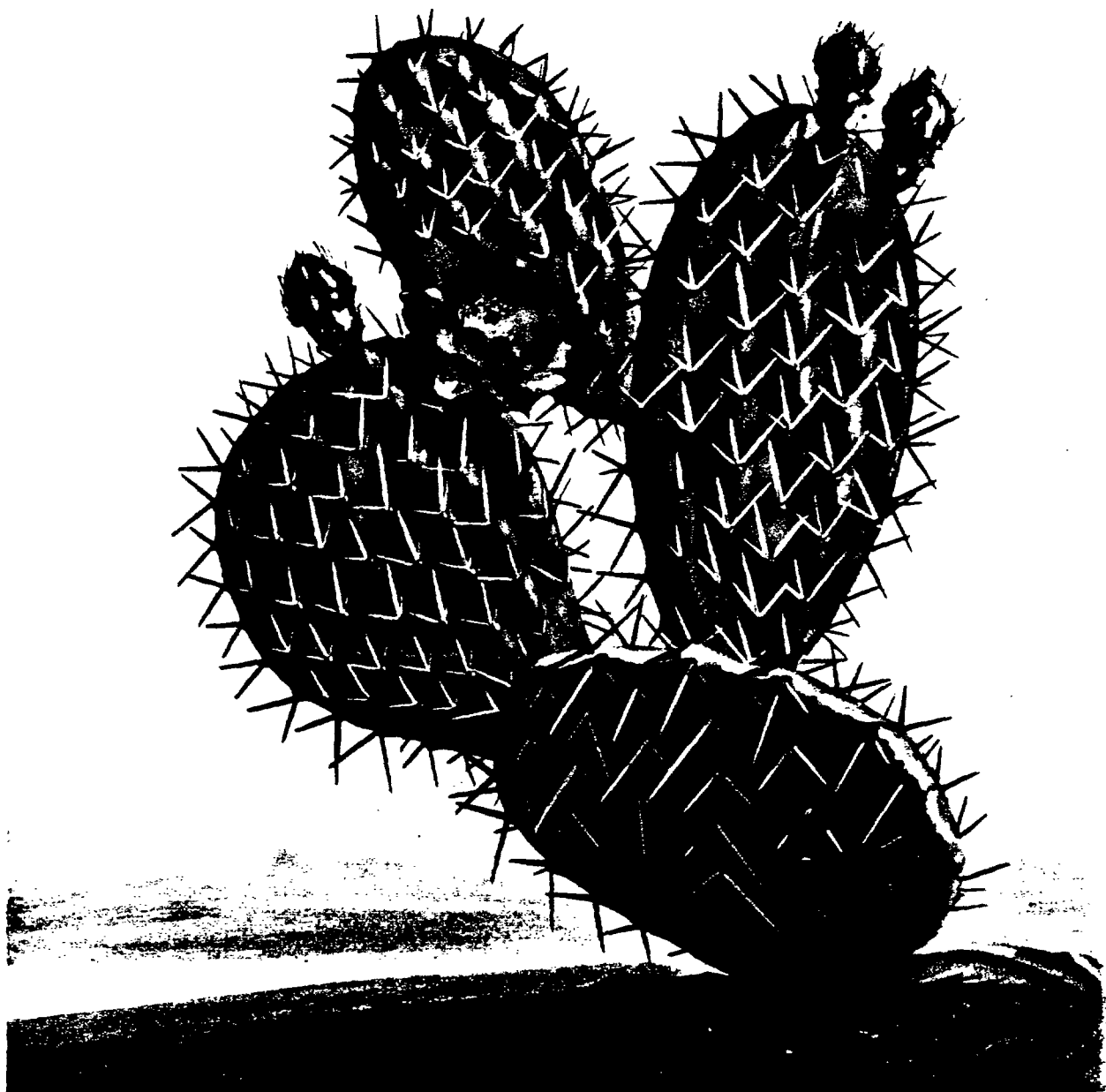
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What is the most important point about our new Texas plant?

It probably would be more usual to announce the opening of Ethyl's new Texas plant by showing a large air view of the entire layout. However, this close-up of another kind of Texas plant better illustrates our point.

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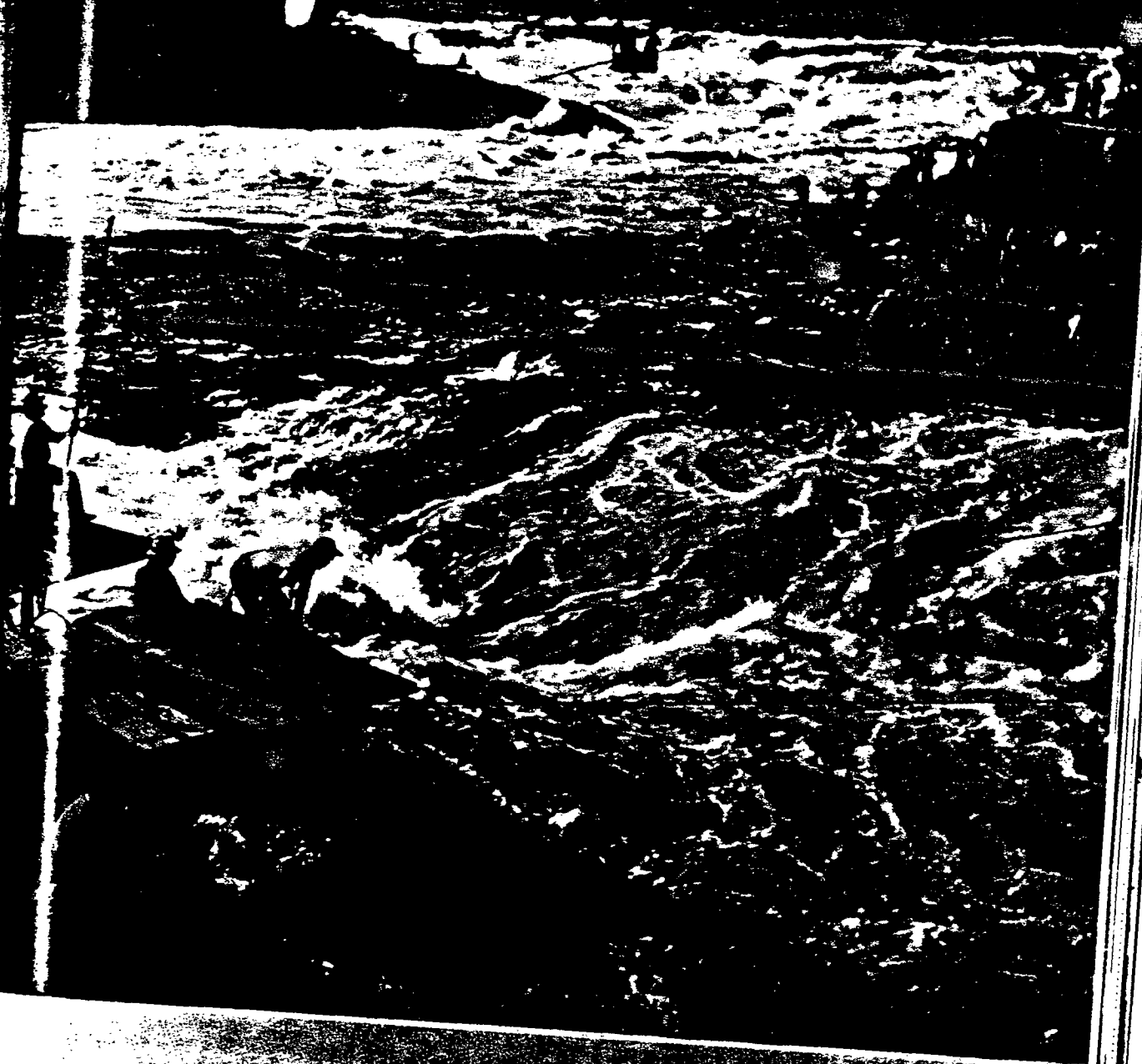
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ETHYL NEWS



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ETC 32643



IN THE

ETHYL NEWS

JUNE 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wohanka, Art Director

As superintendent of operations, James J. Bergin is directly responsible for the production of "Ethyl" antiknock compounds at Ethyl Corporation's new manufacturing plant on the Houston Ship Channel.

Behind Mr. Bergin, as he actively assumed his new position with the opening of the plant this April, were 18 years of experience in the field of chemicals manufacturing. Dating his service record with Ethyl back to 1934, Mr. Bergin was a supervisor in operations at the company's plant in Baton Rouge until 1945, when he was named assistant superintendent of tetraethyl lead operations. Last year, when the supervisory staff for the new plant was being selected, he was transferred to Texas and promoted to the position of superintendent of operations there.

Born and reared in Washington, D. C., he was graduated from Catholic University of America in that city in 1934 with a bachelor of science degree in chemical engineering.

Mr. Bergin is one of five veteran Ethyl employees who comprise the administrative staff headed by Wallace F. Armstrong, manager of the new plant. The other members of the staff are: Robert C. Bloodwell, superintendent of services; J. Gordon Burdick, physician in charge; John C. Klock, superintendent of maintenance; and Arthur B. Winttingham, superintendent of engineering.

TV: PRESIDENT-MAKER?

3

An official of one of the leading television networks assays the role TV will play in electing our next White House occupant.

ETHYL'S NEW ATTACK ON INSECTS

7

As further ammunition in the constant battle against pests, Ethyl will produce high gamma benzene hexachloride and lindane.

LESSONS IN OIL

10

Teachers from all over the country learned about the petroleum industry during a Rensselaer Polytechnic Institute weekend forum.

OIL'S MEDAL OF HONOR

16

In a few short years, the API Gold Medal for Distinguished Achievement has become a coveted industrial award.

ELEMENT OF SUCCESS

19

Thousands of manufactured products require sulphur or one of its many chemical derivatives.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

ETC 32644

TV: PRESIDENT-MAKER?



DWIGHT D. EISENHOWER



W. AVERELL HARRIMAN



HAROLD E. STASSEN



HUBERT H. HUMPHREY



ESTES KEFAUVER



EARL WARREN



ROBERT S. KERR



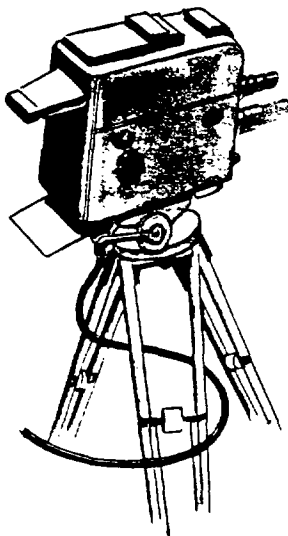
ROBERT A. TAFT



BRIAN MCMAHON



RICHARD B. RUSSELL



Television, with 50 to 60 million viewers, seems destined to play a key role in selecting our next Chief Executive

By William R. McAndrew*

ONLY a comparatively few thousand delegates and onlookers will be wedged into Chicago's International Amphitheater next month when the two major political parties name their choices for the Presidency, but the proceedings may be seen by as many as 60 million Americans. A mathematical riddle? Not at all. Through the magic of television, anyone who fixes his eyes on a TV screen can be in on the conventions from beginning to end.

Promised for the months ahead is

one of the most exciting political campaigns in history. Candidates of every political stripe and outlook are vying for the world's most important elective office and have long been circuit-riding the country to corral delegate votes at the Chicago conventions. Once the nominees have been selected, the political campaign will begin in earnest, climaxed by the November election.

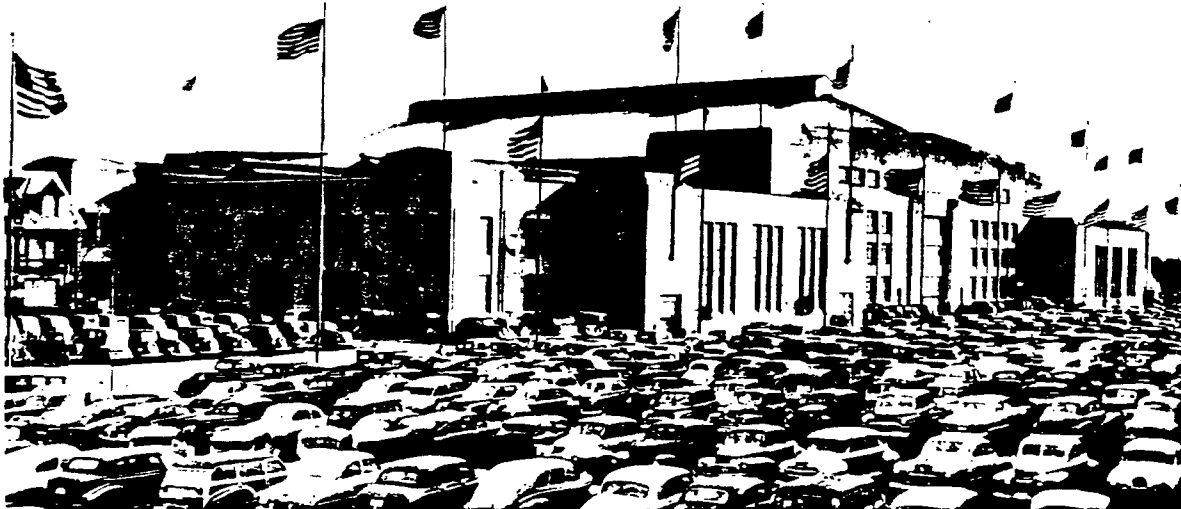
Into this highly-charged political atmosphere—a usual quadrennial fever enjoyed by the American public—has been added the new and vital element of TV. Whatever its full effect on the selection of our next President, television is bound to exercise some influence on the outcome of the July conventions and the November election. The 17

Although the names of many "favorite sons" and others are heard, the men pictured above were the only avowed candidates for nomination when this issue went to press

million television receivers now in the hands of the American electorate are a factor that cannot be ignored. These sets represent a potential audience of 50 to 60 million voters, with the heaviest concentrations in states with the largest numbers of electoral votes.

For the first time, then, a majority of the voters will be exposed to this new medium of communication. These are facts which have not been overlooked by either the television networks, the Democratic and Republican national committees, or the candidates themselves. This is a brand new political world—a world where a candidate can appear simul-

*As Director of Public Affairs for National Broadcasting Company television, Mr. McAndrew will supervise his network's TV coverage of both major political conventions in Chicago next month. He has been closely associated with the reporting of all national nominating conventions that have been televised.



Opportunities for better TV reporting influenced selection of the International Amphitheater as scene of both major party conventions

taneously in the living room before 40% of the nation's population at one and the same time.

Television's impact is not fully known yet because candidates are still stumping in the old political tradition. Further, there are still some sections of the country where television is not available. But, by and large, every indication is that the candidates know at least some of the tremendous political potential in TV. There is no major candidate for the nation's highest office who has not appeared, if only infrequently, before the searching TV eye.

Convention televising is not new, but earlier conventions which were televised reached such a small portion of the voting population that TV had no bearing on the outcome of the campaign.

The Republican convention of 1940, in Philadelphia, was the occasion of the first networking of a political conclave between that city and New York. Few voters were even aware of TV at that time and the guess is that at best there were only 5,000 receiving sets in the two

areas. In 1944, the conventions were held in Chicago. Because network facilities were lacking, television viewers on both coasts saw only films of those assemblies. What's more, the TV set ownership figure was still largely a statistical error.

It was in 1948 that the first gleanings of the potential of television to the political parties became apparent. The conventions that year were again held in Philadelphia and many cities on the East Coast were interconnected to permit viewers to watch the proceedings. Only about 400,000 television sets were in the hands of the public, but they were located mostly in large population centers. Many of the convention

speakers, seeing each other on TV sets, rushed to the make-up rooms to do away with their "5 o'clock shadow." Speakers vied for honors on choice evening network spots after realizing that hundreds of thousands of voters were glued to their TV sets.

Then, two years ago, television experienced what must be recorded as the most effective political use of the world's latest communication marvel employed to that date.

With the 1950 New York State gubernatorial contest drawing to a close, Thomas E. Dewey, seeking re-election to that office, walked into a television studio, doffed his coat, rolled up his sleeves, and for



One effect of widespread TV coverage of the July conventions will be a cutting down on the length of traditional floor demonstrations

TV ELECTION BALLOT

Almost more than any other man, William R. McAndrew, Director of Public Affairs for NBC television, has had occasion to study the behavior of the various political candidates before the all-seeing television camera eye. Below he summarizes the strong points of each of the announced candidates for the presidential nomination of each of the major parties. Judging by their appearance on the television screen in your home, how would you cast your vote?

DEMOCRATS

- ☐ ESTES KEFAUVER—"Gives the impression of an easy-going personality in complete control of any situation."
- ☐ ROBERT S. KERR—"The old-fashioned type of political spellbinder. He has the voice of an evangelist and is a good debater."
- ☐ W. AVERELL HARRIMAN—"Is dignified at all times and gives the impression of a successful country squire."
- ☐ HUBERT H. HUMPHREY—"Probably the least known TV personality on the list. Impresses with his Mid-Western friendliness."
- ☐ BRIEN MCMAHON—"A sincere lucid speaker. Shrewd, and has a good sense of humor. Well acquainted with television."
- ☐ RICHARD B. RUSSELL—"Has the soft voice of a Southerner but is clear-cut in answers to tricky questions; affable and at ease."

REPUBLICANS

- ☐ DWIGHT D. EISENHOWER—"His clipped, incisive delivery makes him a forceful speaker. Gives the television viewer an impression of utmost sincerity."
- ☐ HAROLD E. STASSEN—"One of television's better speakers. He is camera wise, has an excellent voice and gives a completely sincere presentation."
- ☐ ROBERT A. TAFT—"Has appeared on TV on many occasions. He is an excellent 'ad lib' speaker and is good in repartee. Works hard to assure success of each appearance."
- ☐ EARL WARREN—"Though he has been seen less frequently, he has an 'open' appearance which literally bespeaks honesty and forthrightness."

(Bob Hope) in March reached an estimated audience of 32 million persons, the largest ever to hear a single program in the history of either television or radio.

The first real test of TV's impact on the voter this year will come with coverage of the conventions in Chicago, starting July 7 for the Republicans and July 21 for the Democrats. All major television networks are "throwing the book" at both conventions in their coverage, assuring a maximum audience for both parties. Whether the American people will like what they see, and whether they will vote their likes and dislikes, are things party leaders are anxiously waiting to find out.

Both parties have made plans to streamline their conventions to fit into the fast-paced pattern of regular television fare. For example, when leaders of the two parties met last fall to ratify selection of Chicago Stadium as the locale of the 1952 conventions, TV representatives present argued against the Stadium as not permitting enough room for adequate video coverage. Thereupon, both the Democratic and Republican committees approved the TV industry's recommendations to hold the conclaves in the International Amphitheater, in the stockyards area, rather than in Chicago Stadium. Party leaders gave up some four or five thousand precious seats to accommodate TV in the Amphitheater.

In addition, there have come

18 continuous hours answered questions pitched at him by voters from all over the state. Most of the questions were asked during street corner television interviews.

That 18-hour political marathon was a gruelling physical test for Tom Dewey, but it got to the heart of many matters of vital concern to the people of New York. It was a new use of the "whistle stop" campaign of old — and, what is more, it reached people in the intimacy of their homes and not in a large arena. In a word, it was a revolutionary method of talking to the constituency on its own home ground.

The inklings of 1948 and 1950 have become the hard facts of 1952. Today, television stretches across the land, reaching 64 of the nation's biggest centers from Boston to Los Angeles. Almost 40 of every 100 homes have receiving sets. A TV show

Mindful that every TV appearance can influence millions of votes, candidates make careful preparations before going in front of the revealing cameras. Even seasoned campaigners don't balk at make-up applications



ETC 32647



President Truman's many personal appearances helped him to win in '48. The question now is: Will TV replace this type of campaigning?

promises that the long and sometimes tedious convention floor parades and demonstrations — acceptable when the conventions were held in comparative secrecy before 15,000 or 20,000 persons — and the dozens of nominating and seconding speeches will be greatly shortened. Only recently, because time is so precious on television, the Republicans announced a five-minute limitation on seconding speeches.

Both parties are aware that TV coverage of the conventions must hold the home audience, else there may be widespread changes in the long-accepted convention traditions. They know, for instance, that there is a presidential preference primary bill before Congress, and that if the conventions displease the mass of the American public — looking in on them for the first time — such a bill might well be enacted.

Insincerity is quickly spotted on the television screen of Mr. and Mrs. Average American, quietly sitting at home. The political party that sticks to business and transacts its affairs with a serious, business-like approach is apt to appear better to the home viewer (whether it actually is or not) than one which employs false devices.

Whatever TV's full role in politics proves to be, says the author, the true American still will vote for the candidate he feels best qualified

Never doubt it, the American public cannot easily be fooled — by television or any other means. Many have said that a "telegenic" candidate will have a far greater chance with the public than a less photogenic one. But you can't "put one over" on the public as easily as one might suspect. A whole host of factors will enter into the selection of the standard-bearers for the two parties and the final election of one of them as President. To be sure, good looks are an asset. But only one.

Sincerity Important

Sincerity is another and far more important asset. And eventually the public will, as it ever does, get down to the heart of the matter: the basic facts of what the man stands for, what he has done in his political life,

and what he and his party promise to do in the future.

In the long run, television as a political force can result only in a better-informed citizenry. It promises to make campaigning a far more personalized matter than it ever has been in the past, for there are many who doubt that the old form of a prepared speech will meet the tastes of audiences accustomed to fast-moving debates and the wit-matching of television forums. The political parties must consider whether television will allow them to cut down on, or take the place of, expensive, time-consuming candidate swings across the country.

There is no question that in 1952 the nation will have the best covered political campaign in its history. Television will broaden the democratic process and acquaint the citizenry with the workings of the machinery that makes White House occupants. It goes without saying that the next President of the United States will be better known to his constituents than any President before him. Courtesy of TV.



ETHYL'S ^{NEW} ATTACK ON INSECTS



Facilities for the manufacture of high gamma BHC and lindane are being built at the Company's Baton Rouge plant

NO SMALL PART of what often is described as the "miracle of America" is the tremendous productivity of the nation's six million farms. Ever since Pilgrim days, agriculture has been vital to the country's life and development. In recent years, the products of American soil have been used not only to feed and clothe our own population but also to combat food and material shortages throughout the world.

One reason agriculture has been able to satisfy the many demands that have been placed upon it has been the almost unbroken succession of high-output years stretching back over the last decade. Year after year, despite floods, droughts, manpower shortages, and the ravages of insect pests, U. S. farmers have harvested crops in unprecedented abundance. Contributing to this mass production of farm crops have been the developments of modern science and industry and an accumulation of farming know-how. Up-to-date methods of planting, cultivating, fertilizing and harvesting, modern power machinery, improved parent strains of both seed and livestock, and other helps have taken many of the hazards out of farming and assured more dependable production.

High on the list of factors respon-



Technical benzene hexachloride, which Ethyl has been manufacturing since 1948, has been effective in controlling pests that attack cotton crops

sible for the success of modern farming stand agricultural chemicals, of which organic insecticides are an outstanding example. Faced with a loss from insects every year that runs into billions of dollars, farmers have turned to chemical science for ammunition to wage the war against these pests.

BHC Effective

One of the most effective insecticide materials that has been introduced in the postwar years is benzene hexachloride, which Ethyl Corporation has been manufacturing at its Baton Rouge plant since 1948. Now, as a new contribution to the all-out war on insect pests, Ethyl

is constructing facilities for manufacturing high gamma benzene hexachloride and lindane, greatly improved and more efficient forms of this useful insecticide. In addition, the company is making important additions to its benzene hexachloride production capacity. The completion of this expansion early this summer will provide substantial increases in available supplies of BHC. This increased supply, in turn, will provide the base material from which Ethyl will produce commercial quantities of the improved forms.

Ethyl's production of benzene hexachloride in its newer and more effective forms is important first of



Laboratory tests, in addition to those conducted under field conditions, attest to the effectiveness of high gamma BHC and lindane

all to insecticide formulators and ultimately to agriculturists, public health and conservation officials, and even householders. An appreciation of the great potential value and many possibilities of the new chemical forms is based on an understanding of the insecticidal properties of BHC.

The toxicity of benzene hexachloride is present only in one of the forms, or isomers, in which the chemical occurs. BHC is believed to be capable of existing in 16 of these different isomers, of which six have been isolated. Of these six, the gamma isomer is the one that is active in killing insects.

Kills Cotton Pests

The BHC that Ethyl has been producing for use in insecticides is described as "technical." That is, its gamma isomer content is in the 12-15% range. It is made available to farmers through agricultural insecticide formulators who convert it into concentrates and into finished dusts ready for application. The most widely used of these is the so-called 3-5-40 mixture, a cotton dust



United Nations troops in Korea are protected from disease-carrying body lice by a special powder in which lindane is the active agent

consisting of 3% of the gamma isomer of BHC, 5% DDT, 40% sulphur, and the remainder clay and other inert materials. This mixture has been highly successful in controlling boll weevils, cotton aphids, cotton fleahoppers, cotton leafworms, thrips, red spiders, and many other cotton pests.

An example of progressively higher production of American agricultural products made possible in part by the use of insecticides is found in cotton yields, to cite but one of the staple crops. In 1930, according to Department of Agriculture statistics, the average cotton yield per acre was 157 pounds. Twenty years later, in 1950, it stood at 269 pounds. It is more than coincidence that during the later years of this increasing per-acre cotton yield period, benzene hexachloride production and use skyrocketed. In 1947, little more than eight million pounds were produced in the entire United States, and it ranked far down on the list of chemicals in insecticide use. Reliable estimates place this year's output at well over 100 million pounds.

The new and more effective forms of BHC which Ethyl will produce — high gamma BHC and lindane — promise to establish even

greater performance records. They offer a number of advantages of toxicity, versatility and economy. Rather than containing a 12 to 15% concentration of the gamma, or killing isomer, high gamma BHC contains a 35 to 80% concentration of the toxic ingredient. Lindane, the most concentrated form, is 99% or higher in gamma concentration.

Samples Available

While expanding its BHC manufacturing facilities and constructing new equipment for the production of high gamma BHC and lindane, Ethyl is making pilot plant quantities of both new products available for experimental and development work. Production quantities of high gamma BHC, according to present plans, will be available to insecticide formulators during the first quarter of next year. "Ethyl" lindane, it is anticipated, will be in full-scale production by next spring.

Ethyl plans to concentrate its manufacture of high gamma BHC in the 70 to 80% gamma range. BHC of this strength, tests show, is far more effective than lower gamma

concentrations. This is particularly true of sprays, the use of which is rapidly becoming more popular. Too, it has been found that the larger quantities of the inactive isomers present in the lower gamma forms are injurious to plants when applied as sprays. In addition, smaller quantities of an insecticide are required when a high gamma BHC is used because of its increased insecticidal properties. This decreases the amount of residues deposited on the soil in the course of a growing season. Because of these advantages, Ethyl's high gamma BHC will control pests more effectively.

Lindane, because of its greatly increased gamma isomer content and resulting toxicity to insects, offers all the advantages of high gamma BHC plus a number of others. Generally speaking, it is from five to ten times as deadly to many insects as DDT. It acts as a stomach poison, a contact poison, and a vapor poison. This means that if an insect eats it, touches it, or breathes it, the insect will die. It is particularly effective against such insects as aphids, plant bugs, lice, beetles, weevils, flies and mosquitoes, thrips, grasshoppers and roaches. It can be used effectively

Besides proving effective in large-scale agricultural use, lindane can be used in sprays designed to control household and garden pests

on dairy and beef cattle, poultry, and other farm animals, on food and forage crops, on forest and wood products, and against a wide variety of household insect pests.

Lindane can be formulated into dusts, water suspensions, emulsions, and solutions. It can be combined effectively with other insecticides such as DDT, and with all non-alkaline fungicides, including carbamates, sulphur and copper.

Extensive tests completed and others still in progress attest to the great versatility and effectiveness of Ethyl's high gamma forms of BHC. Lindane, for example, has been tested with outstanding results at some 40 state and federal agricultural experiment stations throughout the country over a period of many months and under a wide variety of conditions. Continuing research reveals new advantages and still more uses.

More than any one factor, it was the diversity of Ethyl Corporation's

its high volatility and lack of offensive odor recommend lindane for use in sprays which are to be applied to crops for human consumption



antiknock compound manufacturing operations that provided the experience in photochemical chlorination which led to the production of BHC through the chlorination of benzene. In turn, the manufacture of commercial quantities of BHC and the proved effectiveness of this chemical insecticide have pointed the way to the production of high gamma and lindane. For the future, Ethyl research has revealed that some of the inactive BHC isomers may have applications as a base for many other useful products.



ETC 32651

Lessons In Oil

Hundreds of high school and college instructors gained a broader understanding of the petroleum industry during a weekend conference at R.P.I.

SO RAPID and so sweeping have been the accomplishments of American industry that there has been little time to reflect on the full meaning of these gains to modern civilization.

To provide one important segment of the general public — the nation's high school and college instructors in social studies and economics — the opportunity to pause and so come to understand better the true role of industry in society, Rensselaer Polytechnic Institute has created what it calls the "Industrial Council program."

Briefly, the idea is this: Invited teachers from all corners of the land gather at RPI for a weekend of meetings, discussions and consultations with the leaders of a given industry. In the quiet and dignity of the campus, and away from their normal routine, teachers thus find the opportunity to probe deeply

and thoughtfully into the industry being studied. They learn — from the top men of each business — what makes that particular industry tick, what are its strong and weak points, and what is the full measure of the better life the industry has helped to make possible.

During the next several years, the chemical, electrical, steel and other major industries will undergo "searching scrutiny" by representa-

E. W. Light, Sr., Gulf Oil district manager, and Prof. Shepard W. Lowman, of the R.P.I. faculty, symbolize the coming together of industry and education on the college campus

tative cross sections of the nation's teaching corps.

Because of its eminent position in the world economy, the petroleum industry was singled out to launch the long-range Industrial Council program last month. As guests of RPI and several oil and other interested companies, more than 600 teachers from high schools and institutions of higher learning in all but two of the 48 states assembled at the country's oldest engineering college to delve into all phases of

Pictured on the steps of the registration lounge are John O. Amstutz, Behr-Manning Corp. vice-president; Paul G. Ryan, of Grover Cleveland H.S. in Brooklyn; Charles Whitham, of Alhambra (Calif.) City H.S.; and Prof. Roland F. Beers, of R.P.I.



THE INDUSTRIAL COUNCIL



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The scenes at left and below are of the well drilling and seismographic operations exhibition, one of the features of the first afternoon of the Industrial Council meeting



the petroleum industry. From the time of their arrival at midday Friday, May 16, until their departure from Troy, N. Y., two days later, the emphasis was on Oil.

Key day of the assembly was Saturday, May 17. In morning speeches in the massive RPI field house, N. S. B. Gras, Joseph E. Pogue and Max W. Ball sounded the three central themes of the weekend session — the development of the oil industry, its financial background, and its contributions to society.

The afternoon then was given over to developing the themes in detail. Separate panel conferences were held on each subject, providing educators the occasion to question industry representatives on a wide range of specific points, ranging from labor relations to the problems created by spiraling taxation. Sidney A. Swensrud, president of Gulf Oil; Edward T. McCormick, president of the New York Curb

Exchange; and Leonard F. McCollum, president of Continental Oil, were the panel moderators.

Final event of the first Industrial Council assembly was a Saturday evening speech by Trygve Lie, secretary general of the United Nations. His topic was "Oil on Troubled Waters."

As the hundreds of educators prepared to return to their homes after the weekend of illuminating sessions, they were of virtually one voice in praising the Industrial Council plan which had enabled them to learn firsthand from the many leading industry representatives something of oil's fruitful contributions to 20th Century living.



Three oilmen from the Albany, N. Y., area enjoy a moment's pause. They are C. A. Leland and L. M. Raymond, both Shell, and W. T. Conroy, Texaco

During a Friday evening reception, an R.P.I. student serves refreshments to Mrs. Ford H. Longsdorf, of Baton Rouge (La.) H.S., and Mrs. Salie Baugh, of Columbus (Ga.) H.S.

This trio at the Friday evening reception, held in the college field house, consists of H. Oakley Sharp, R.P.I. professor; J. E. Blackburn, vice-president of McGraw-Hill Publishing; and Norval Baker, of Iraq Petroleum





Dr. L. W. Houston, R.P.I. president who welcomed teachers to the Saturday session, with Bishop W. A. Scully, who asked the invocation



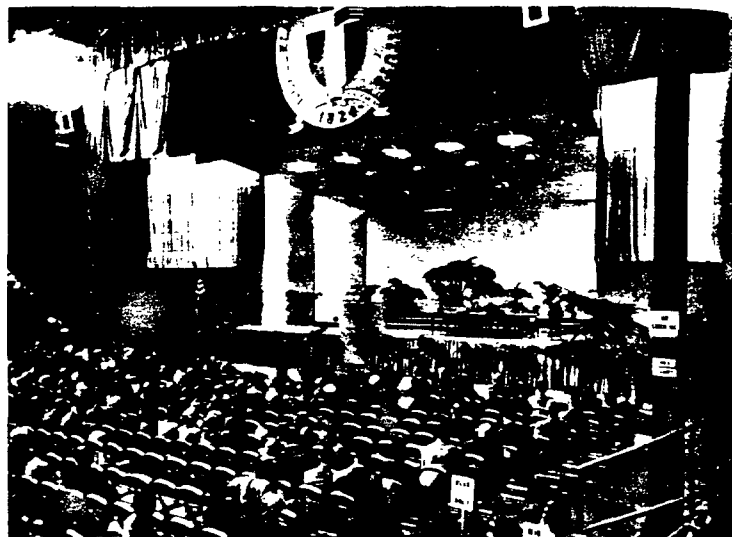
Above, grouped at the speaker's stand are the morning's three main speakers — Max W. Ball, N. S. B. Gras, and Joseph E. Pogue



Interested audience members included (above left) D. J. Whitener, of Appalachian State Teachers College, and L. T. White, of Petroleum Advisers, Inc.



George Ericson, financial editor of The Christian Science Monitor, asks a question from the floor. Seated is Helen Bertrand, of a Los Angeles school



This was the view as the hundreds of educators and oil industry representatives at the Industrial Council assembly met in the field house for the Saturday morning program

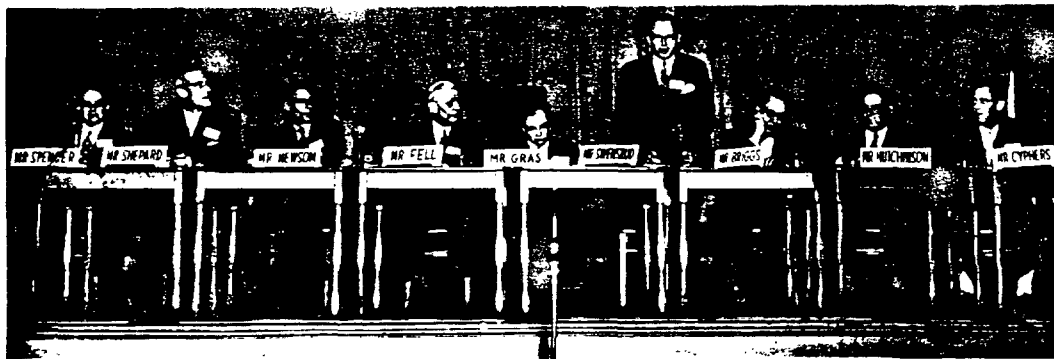
TO ANSWER every conceivable question about the petroleum industry the teachers might have on their minds, the Industrial Council assembly offered a host of oil experts.

The three central themes of the weekend meeting were set by Saturday morning speakers. N. S. B. Gras, president of the Business History Foundation, told of the development of the oil industry; Joseph E. Pogue, Gulf Oil director and petroleum consultant for Chase National Bank, related the industry's financial background; and Max W. Ball, oil and gas consultant and former director of the Interior Department's Oil and Gas Division, cited oil's many contributions to society.

In afternoon sessions, at separate halls on the campus, each of the three main points was spelled out in detail through question-and-answer panel discussions.

Special buses were used to transport guests to and from widely-separated meeting points on the sprawling campus of Rensselaer Poly





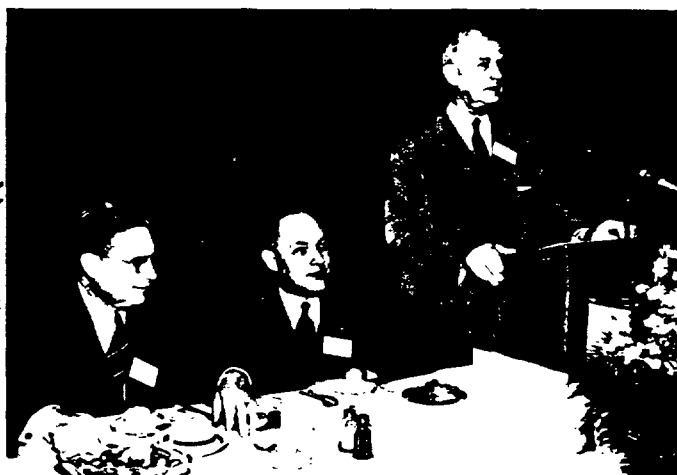
Two of the Saturday panels: Above, Herbert Spencer, Asphalt Institute secretary; David Shepard, Standard of Jersey director; Earl Newsom, public relations counsel; H. B. Fell, Simpson-Fell Oil president; N. S. B. Gras; Sidney Swensrud, Gulf Oil president; William Briggs, Valley Oil president; B. E. Hutchinson, Chrysler Corp. vice president; and N. J. Cyphers, Hamilton Rubber vice president . . . Left, Frank Appleman, Fort Worth attorney; Joseph Pogue; Vollmer Fries, White Motor vice president; Carl Gerstacker, Dow Chemical treasurer; Edward McCormick, New York Curb Exchange head; J. R. White, Imperial Oil executive vice president; W. D. Heath Eves, of Anglo-Iranian Oil; and A. J. McIntosh, of Socony-Vacuum



On the third panel (right) were F. W. Caldwell, United Aircraft research director; Ira C. Keller, Container Corp. executive vice president; M. D. DeTar, Aero Oil president; John Harper, Harper Oil head; Richard J. Gonzalez, Humble Oil director; L. F. McCollum, Continental Oil president; W. Chalmers Burns, Hartol Petroleum president; Max W. Ball; Fred VanCovern, of API; and Emerson Smith, of Conoco

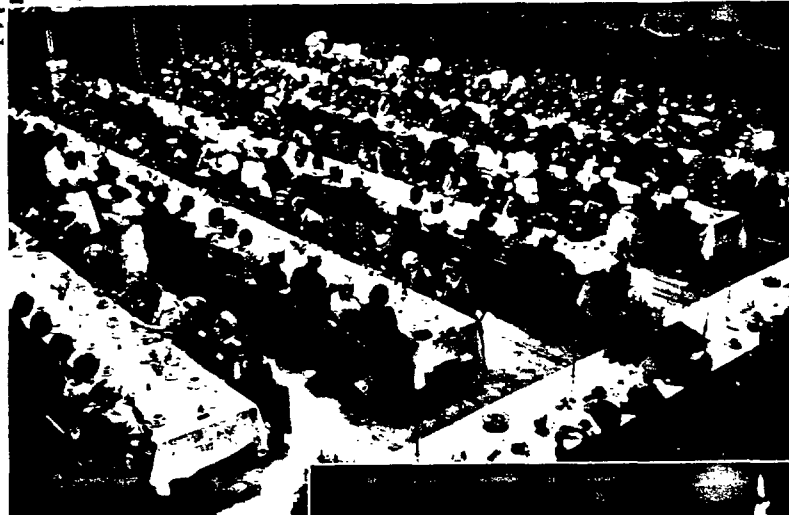


Left, Paul E. Hemke, R.P.I. faculty dean, who made the introductions at Saturday's luncheon and dinner . . . Below, dinner speakers Emerson Brown, of Harcourt, Brace & Co., and Kennard Goodman, of a Cleveland (O.) school, with toastmaster John Harper . . . Right, William Haley, Esso Export president, luncheon toastmaster

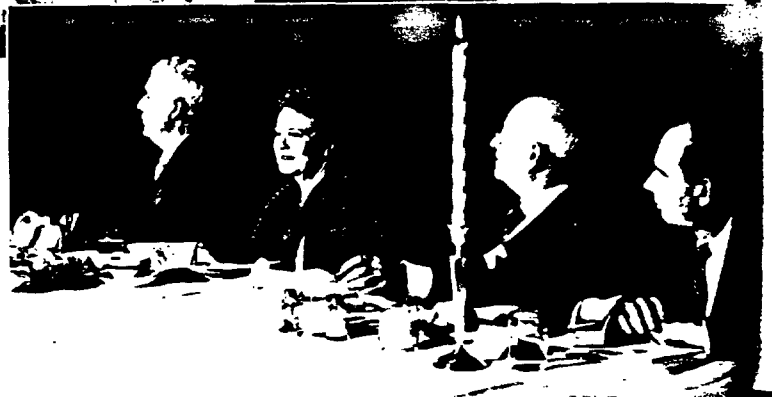




At the opening dinner Friday in the gymnasium (below), Ray Palmer Baker, R.P.I. vice president and Industrial Council leader (left photo), made the introductions. Seated are (l. to r.) Lewis Froman, Russell Sage College head; Mrs. Baker; Lewis Wilson, New York State education commissioner; Mrs. Froman; and John F. Cummins, Cumberland Oil president, who was toastmaster



Right, at the other end of the Friday dinner head table were Col. John Haskell, vice president of the New York Stock Exchange; Mrs. Livingston Houston; Joseph E. Pogue, and E. W. Esmay, acting information director of the API



The Saturday luncheon was get-together time for D. F. Hayes, of Ethyl, and Mr. and Mrs. Harry J. Green. Mr. Green is an Esso Standard Oil district manager

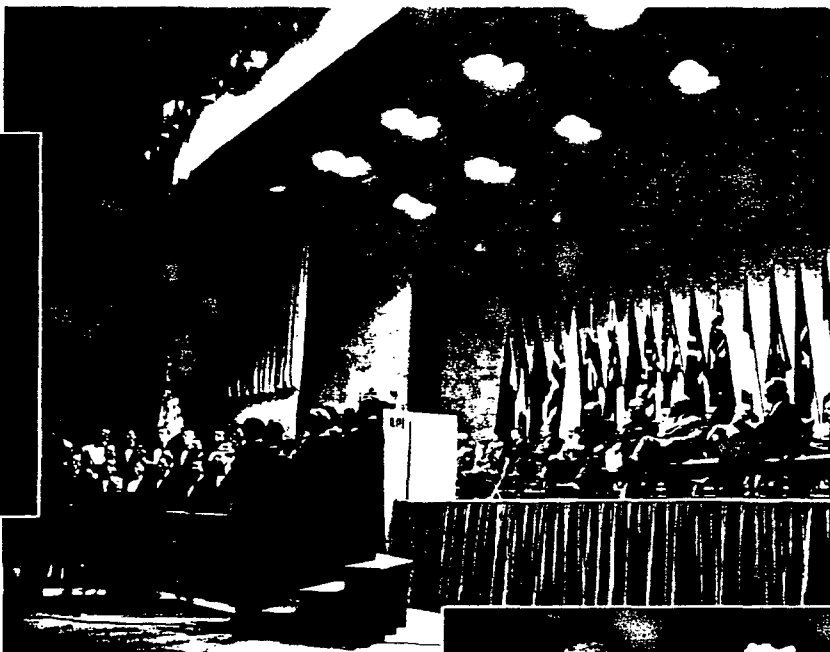
Rensselaer Poly lacrosse players Bob Lindgren and Charles Carr explain the fine points of the old Indian game to C. S. Lowry, social science head at Murray (Ky.) State Teachers College, and Francis Mechlin, instructor at Schenley H.S. in Pittsburgh



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A young pretty member of Troy's Norwegian colony beams as she receives an autographed program from Mr. Lie



Above, the impressive setting of the R.P.I. field house for the Saturday night address by Trygve Lie, secretary general of the United Nations. The group at left center is the Rensselaer Poly glee club

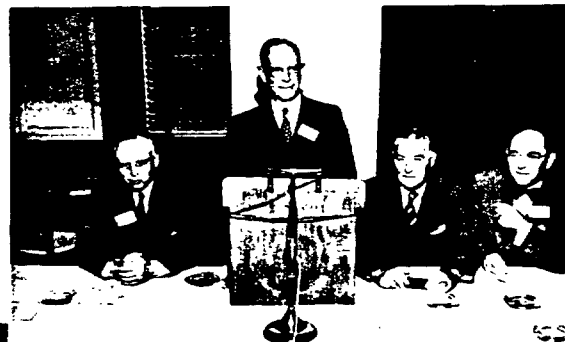


Left, Ruth Harrison and Ann Fitzpatrick, both of Burdell Oil, chat with Eugene L. Elmore, a San Antonio teacher



Among those who heard Mr. Lie's talk were John J. Leu, American Oil vice president, and R. W. Reilly, American Oil division head

Right, the head table at a Sunday morning session to review the weekend meeting included Ray Palmer Baker, Chester Lang, General Electric vice president, who presided; Dr. Houston, and James K. Hunt, of E. I. duPont de Nemours . . . Below is a general view of the Sunday session audience



Above, three Socony-Vacuum representatives talk things over. The group consists of S. R. Crocker, R. J. Hoteling, and A. R. Reissing



ETC 32657



OIL'S MEDAL OF HONOR



Created only six years ago, the API Gold Medal for Distinguished Achievement already ranks as one of the country's foremost industrial awards

EACH YEAR, one of the highlights of the annual meeting of the American Petroleum Institute is reached when a person of universal prominence in his field stands before the convention to receive the highest award for industrial achievement that oildom can bestow.

The Institute's 32nd annual meeting, again set for the Conrad Hilton hotel in Chicago, is still five months off. But already the wheels are in motion to select the man (or woman) who will receive from the hands of L. S. Wescoat, the API board chairman and president of Pure Oil, this year's award of the coveted API Gold Medal for Distinguished Achievement.

Presentation Date

Presentation will be made during the convention's first General Session on Wednesday morning, November 12. The recipient, whoever he may prove to be, then will join the small, select fraternity of winners of the Gold Medal. Those so honored in the past have been Henry Ford, Dr. William M. Burton, Charles F. Kettering, J. How-

ard Pew, Walter C. Teagle, and Lt. Gen. Ernest O. Thompson.

Although it is one of the newest awards of its kind, the API Gold Medal has come to be recognized as among the leading honors to be won in the entire field of industry and business. The list of recipients to date clearly indicates the monumental achievements required before a person can even be considered for the award.

So deliberate and thorough-going is the selection of the Gold Medal recipient that a minimum of five months is spent in making the final choice. Selection rests with a special nine-man API awards committee, headed this year by former API President William R. Boyd, Jr.

All nominations had to be made by the first of this month, and not more than 30 days later, by July 1. Mr. Boyd must publish the names of the nominees among his fellow-committee members. The individual committeemen then vote for the nominee they consider most worthy and deserving of Gold Medal recognition. Six affirmative votes are required. New votes are taken until

one candidate receives the necessary six votes, the name with the least number of votes being eliminated from each succeeding ballot. If, by September 15, the committee is unable to agree upon a recipient, no award is made that year.

Name Kept Secret

Otherwise, the name of the successful nominee is reported to API President Frank M. Porter. It remains known only to him, to the recipient, and to the Committee on Awards until announcement is made as the time for presenting the Gold Medal nears.

It has never happened, but the awards committee may select more than one Gold Medal recipient for simultaneous award. Also, it is up to the committee to set the time and place for the presentation ceremony. Award of the Medal, however, has become almost a fixture of the annual meeting's opening General Session.

Restrictions on potential recipients are few. The major qualification is that he "must have made substantial contributions to the arts and

sciences that are of particular and outstanding benefit to or in the petroleum industry, its human relations, its business practices and its organization, which have enabled the petroleum industry to serve better the public welfare."

Gold Medal nominees may be of any nationality, and need not be a member of the API or any other organization to qualify. Posthumous award is made if the recipient dies after his selection and before the Medal is presented. Otherwise, the person chosen "must be able and willing to present himself in person to receive the award at the time and place designated." Exception to this rule was made in 1946, the year the Gold Medal award was created and first presented. Mr. Ford became too ill to attend the Chicago convention and the award was accepted on his behalf by his grandson.

Of solid gold, the Medal has a monetary value of about \$400. It is three inches in diameter, or almost three times as big as a half-dollar. On the front is a bas-relief illustration of an oil derrick and a cluster of three structures—the engine, belt, and forge houses. Around the circumference are the words "American Petroleum Insti-

Recipient of the first Gold Medal was Henry Ford (right). In the photos below Mr. Ford's, Dr. William M. Burton is shown accepting the award from William R. Boyd, Jr., and Charles F. Kettering is pictured as he delivered his speech accepting the '48 honor

tute Award." On the reverse side, the API emblem occupies the center and is half-encircled by the words "For Distinguished Achievement." Along with the Medal is presented an embossed scroll which cites the achievements of the recipient.

It has not been the intrinsic value of the Medal or the accompanying scroll that have established the award as a foremost honor in a relatively few years. Rather, its prestige is based on the outstanding reputations and high qualifications of those upon whom it has been conferred. Each of the recipients is a man whose contributions to modern civilization stand alone.

A roll call of recipients reads like a veritable who's who of American industry.

Henry Ford was cited for his vision, courage, and independence which gave birth to the mass production system and resulted in an abundance of so many things for all Americans. Dr. Burton was hailed

Right, the 1949 recipient was J. Howard Pew. . . . In 1950, at Los Angeles, the Medal was bestowed upon Walter Teagle (below, right), shown with W. Alton Jones, then API board chairman. . . . Left, Ernest Thompson was the 1951 recipient



former president of Sun Oil, was recognized for his half-century service as "a conscientious public servant, a wise counselor and a courageous leader of the American petroleum industry." Walter Teagle, former board chairman and president of Standard Oil Company (N. J.), made countless forward contributions to the progress of the oil industry and the country at large during his many active years. General Thompson, the most recent re-

The Gold Medal represents half of a program of awards adopted by the API board of directors on September 25, 1946. The other part provided for the bestowing of Certificates of Appreciation "for outstanding services rendered to the American Petroleum Institute" by officers and members of committees and other organized API groups.

The Certificate of Appreciation award was created to overcome what the Institute board of directors recognized as the absence of "suitable means of adequately rewarding leaders of the petroleum industry and the API for . . . advancing the work and best interests of the industry and the Institute." Often, the board was aware, "the mere feeling of personal satisfaction derived from such accomplishment has been the only reward that has come to those making such contributions."

Each of the divisional general committees — Marketing, Production, Refining, and Transportation — and non-divisional committees such as Agriculture, Defense Services, Highways, Public Relations, Research, and Safety is authorized to honor those who have made outstanding contributions to its work. Last year, a total of 28 Certificates was presented.

Behind each award made at this November's annual API meeting — whether it be the Gold Medal for Distinguished Achievement or the several Certificates of Appreciation — will stand long, careful and deliberate study and preparation. For those who receive the awards, it will mean "thanks and congratulations on a job well done."

AMERICAN PETROLEUM INSTITUTE HONOR ROLL
RECIPIENTS OF 'CERTIFICATE OF APPRECIATION'

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In one form or another, sulphur is used in the manufacture of thousands of products, including those of the petroleum industry

ALONG WITH the mustache cup, the nickel cigar and the free lunch, one of the fondest memories of "the good old days" is the sulphur and molasses concoction that was spooned out to youngsters and grownups alike as a spring tonic. The mixture never tasted quite as good as sassafras tea, but for "cleaning up" or "thinning" the blood after a hard winter there was noth-

ing better than sulphur and molasses.

A generation or so back, few people thought much about sulphur except as a medicament. But nowadays sulphur is an industrial, rather than human, "tonic." It is, in fact, the very lifeblood of many American industries. Either in its elemental form or, more likely, as sulphuric acid, the reddish-yellow mineral is with us constantly in our everyday

Left, a power shovel scoops up chunks of the yellow mineral at a Gulf Coast sulphur mine. Together, Louisiana and Texas now provide over 40% of the world's sulphur

life — from the match that lights our first after-breakfast "smoke" to the soap that refreshes us just before bedtime.

Chemicals, detergents, rubber, steel, rayon, paint, petroleum products, newsprint and thousands of other manufactured items all need sulphur or one of its derivatives. Thirty-five pounds of it go into the manufacture of the average automobile. Medicines, dyes, foods, insecticides — on and on the list goes. But, far and away, the greatest use of sulphur is in the production of sulphuric acid, the so-called workhorse of all chemicals. More than a third of all U. S.-made sulphur goes, as sulphuric acid, into the manufacture of fertilizers. Another big use of the acid is in petroleum refining.

Close Kinship

The petroleum industry's interest in sulphur, and vice versa, is a natural one, dating back almost to the sinking of Colonel Drake's historic well at Titusville. It was oil wildcatters, in fact, who indirectly founded the American sulphur industry. And it is an oil company consulting chemist, the late Dr. Herman Frasch, who is considered the father of that industry.

Eight years after "the Drake" came gushing in, a group of oil drillers in Calcasieu Parish, Louisiana, noticed traces of sulphur in cuttings from their wells. For years thereafter, men bored the caprock of the Gulf Coast salt domes in search of the mineral, but rarely was it located in commercial quantities. Unlike the surface deposits found in the world's other producing areas, the coastal sulphur refused to yield



Sulphur and oil are found in the same type of salt dome deposit. Core samples obtained by this sulphur drilling team will help engineers to determine the extent and quality of the brimstone formation

to ordinary mining methods. It remained for Dr. Frasch to suggest that a solution might be to mine the brimstone not as a solid but as a liquid.

His idea was to melt the mineral underground, by injecting huge amounts of hot water into the formations, and then pump the liquid sulphur to the surface through pipes. It was a radical idea, greeted with doubt and ridicule. Dr. Frasch persisted, however, and in 1894 brought in the first flow of molten sulphur from the Louisiana deposit. Years of work and research made the process a commercial success. Although there have been numerous refinements, basically the same method still is employed to recover brimstone from the salt dome formations of the Gulf Coast. Together, Louisiana and Texas now produce more than 40% of the world's supply of sulphur in all of its forms.

New Sources

Before Frasch's time, the traditional world sources of elemental sulphur were the pyrite ores of Spain, the volcanic deposits of Japan, and the surface mines of Sicily. Now, sulphur is obtained from sev-

eral additional sources. It is present in the hydrogen sulphide in sour natural gas and refinery gas, in sulphur dioxide at smelters, and in sulphate minerals such as gypsum and anhydrite. But the cheapest and purest sulphur is that which lies in the salt dome brimstone deposits, from which is produced 85% of America's total supply.

The most recent major brimstone deposit to come to light — and one

which promises to prove the biggest sulphur development anywhere in the world in the past 20 years — is at Garden Island Bay, Louisiana. The Texas Company discovered the dome near the mouth of the Mississippi River while exploring for oil. Through a leasing arrangement, Freeport Sulphur Company has obtained sulphur rights to the dome and is building a \$10-\$15 million mining plant having a production capacity of 500 000 long tons a year.

Altogether, the Garden Island Bay project and three other new brimstone mines under development along the Gulf Coast are expected to add about one million long tons to the supply by the end of next year.

This production, when it becomes available, will do much to ease the world shortage of sulphur. Meanwhile, a half-hundred other projects aimed at increasing production



The common salt dome

This molten sulphur is flowing into an outdoor storage vat, where it solidifies. Reddish-orange when it comes from the coastal salt dome deposits, the mineral takes on its familiar yellow color in solidifying



are under way in this and 18 friendly nations. If all fulfill expectations, they could add as much as three million long tons a year to the overall supply by 1954. Currently, world production outside the Russian orbit is in the neighborhood of 12 million tons yearly.

Among the projects to secure additional sulphur from sources other than brimstone are several instituted by the larger sulphur-consuming industries. The foremost of these is the petroleum industry.

Even now, the petroleum industry is producing more sulphur than it consumes, according to the Petro-

leum Administration for Defense. PAD has estimated that the industry's gross requirement of fresh sulphuric acid in 1951 was equivalent to 638,000 long tons of sulphur. Through various by-product operations, the oil industry actually produced 643,500 long tons, leaving a marketable surplus of 5,500 tons. The industry, PAD says, will jump its surplus an additional 190,000 long tons this year as the result of more and more sulphur-recovery units coming into operation at refineries.

Of the total sulphur equivalent the petroleum industry produced last year, 133,000 long tons were reclaimed from spent sulphuric acid and acid sludges after the chemical had been used in a series of refining operations. An additional 170,000 tons were reclaimed from other acid recovery and sulphur-extraction operations at refineries. The remaining 340,500 tons were derived from the hydrogen sulphide contained in sour natural gas and also removed from crude oil during distillation.

As a major industrial consumer, the petroleum industry requires roughly 10% of total U. S. sulphur production—in one form or an-

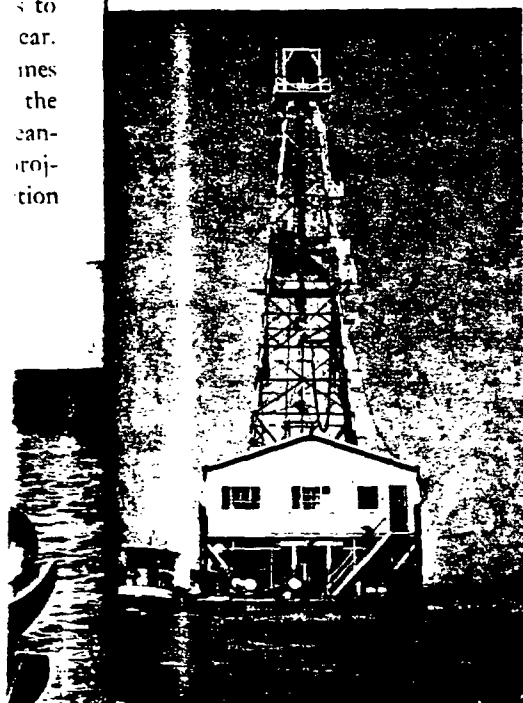
other. On the whole, it takes about two-fifths of a pound of sulphur to refine each barrel of crude oil.

Most of sulphur's value in petroleum refining lies in the element's chief chemical derivative, sulphuric acid. This versatile chemical helps make the activated clays and catalysts used in treating various petroleum products. It also, to cite another important use, is an essential raw material in the manufacture of "Ethyl" antiknock compound.

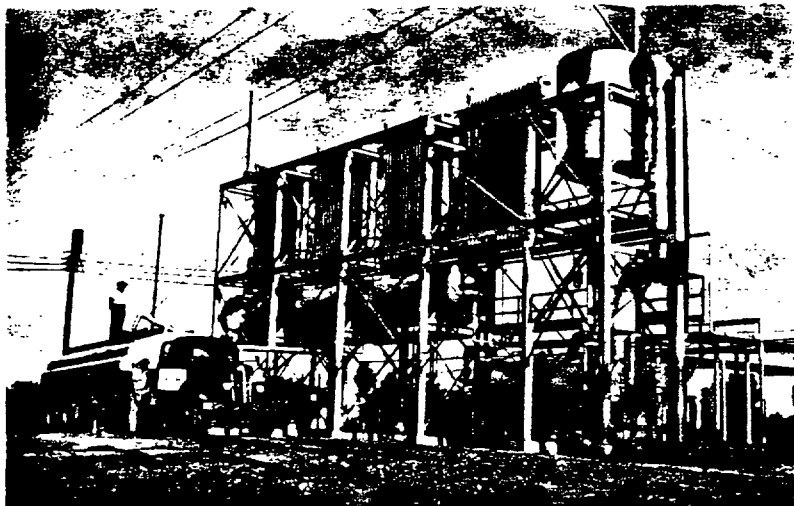
Chemical "Treaters"

At many stages of petroleum refining, sulphur compounds are employed as chemical "treaters." They help break down lube distillate into finished lubricating oils and paraffin wax, assist in the conversion of light gas oil into domestic heating oil and diesel fuel, and aid in refining raw kerosene into finished kerosene and raw naphtha into solvent naphthas for use as paint thinners and cleaning fluids.

As necessary as sulphur is to refining, it can also be an unwanted element, as oilmen discovered early in the game. Because of the vile odor sulphur imparted to petroleum once



The floating sulphur rig (above) is a common sight in the Mississippi delta. Dredges (left) bite out river channels so the rigs can move about freely in the search for sulphur



Typical of the petroleum industry's own sulphur plants is this new Lion Oil unit. It produces an average of nine tons of liquid sulphur per day

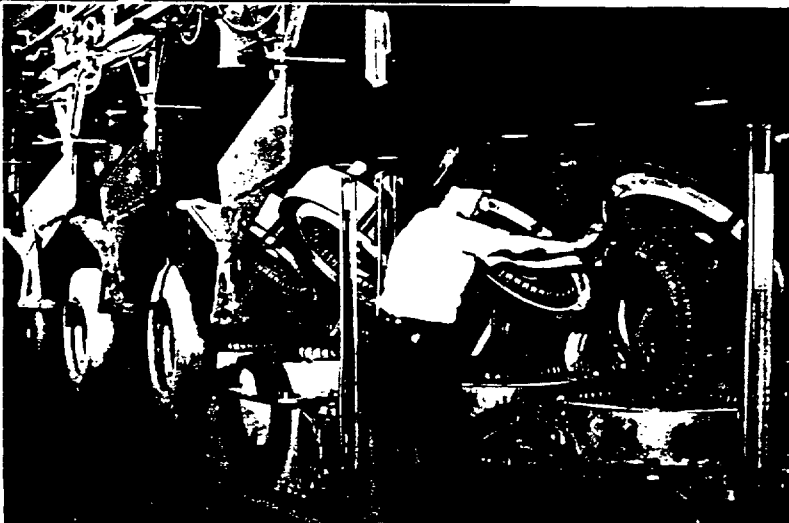
used for illuminating purposes, the product was unaffectionately known among 19th Century Americans as "skunk oil." Now, thanks to desulphurization processes, most petroleum products are made without the obnoxious smell.

Conversely, sulphur's pungency is deliberately employed to lend a recognizable odor to normally-odorless natural gas. Minute quantities of sulphur compounds, called

mercaptans, are added in order to warn consumers of accidental gas leakage. Also, in the manufacture of special lubes and additives, sulphur is put back in after earlier having been removed. The addition of sulphur to jet engine fuels, for example, helps eliminate the formation of carbon in the combustion chamber.

One trade journal has aptly referred to sulphur as the petroleum industry's "ugly duckling." Always

But two of the many industrial uses of sulphur and its derivatives are in the manufacture of glass and rubber. Being assembled at left are auto windshields, the making of which requires sulphuric acid. Sulphur is used in tire manufacture to give strength, durability and shape to rubber



undesirable in gasoline in excessive amount because of its ability to contaminate the product, sulphur, on the other hand, now gives promise of becoming another oil industry product of sale. In addition to the 16 sulphur-recovery units in operation at various domestic refineries at the beginning of this year, the oil industry is spending \$10 million on the construction of new facilities or the enlargement of existing ones. Before long, it has been forecast, the industry might be supplying as much as five percent of the nation's sulphur.

In such a position, the petroleum industry would not only continue to meet its own sulphur requirements but would help ease the general shortage now being felt throughout the free world. In so doing, it would help assure each person in the United States of his per capita consumption of 75 pounds of sulphur annually — with little, if any, of it incidentally, going to make the sulphur and molasses elixir upon which our forebears thrived.

OUR COVER: Indians fishing for salmon at Celilo Falls on Oregon's Columbia River. Kodachrome by Ray Atkeson from A. Devaney, Inc. **OUR PICTURES:** Page 3, Acme, International News Photos, United Press, and Arnold Newman; page 4 (top), International News Photos, (bottom), Acme; pages 5 and 6 (top), courtesy National Broadcasting Co.; pages 6 (bottom), and 9 (bottom), Frederick Lewis; pages 7 and 9 (top right), A. Devaney, Inc.; page 8 (top right), courtesy American Petroleum Institute; pages 10-15, Camera Associates; pages 19, 20, 21, courtesy Freeport Sulphur Co.; page 22 (top), courtesy Lion Oil, (bottom left), courtesy Libbey-Owens-Ford, and (bottom), courtesy B. F. Goodrich Co.; third cover, art work courtesy Trans World Airlines.

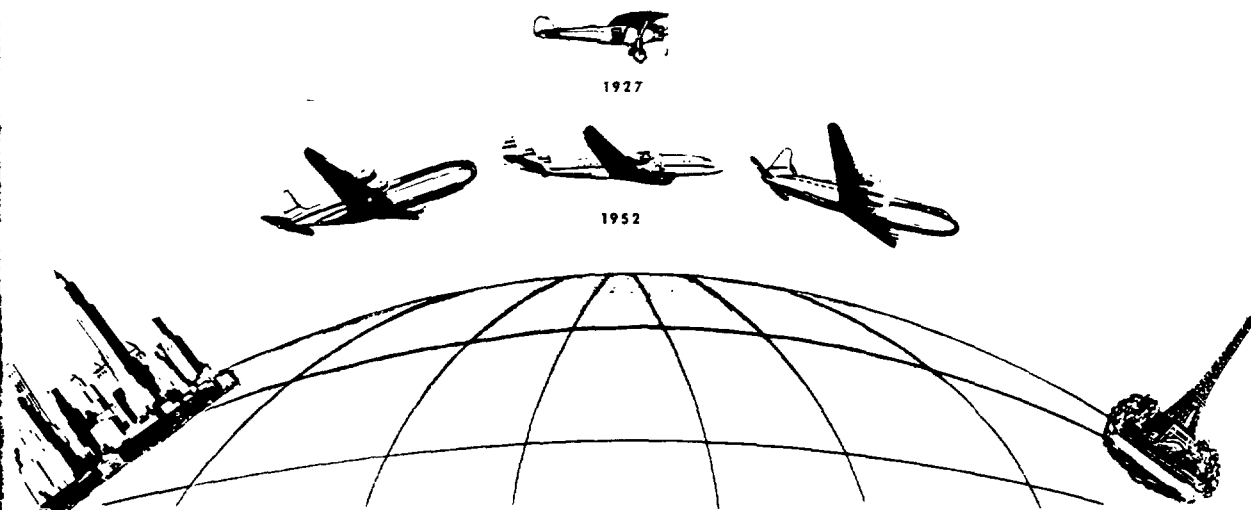
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Twenty-Five Years of Trans-Atlantic Flying



Of the millions of Americans who were thrilled by Lindbergh's New York-to-Paris flight 25 years ago last month, only a handful regarded the "Lone Eagle's" feat as anything more than a sensational stunt. Twenty-five years ago, it would have been hard to convince any but the most imaginative that by 1952 flying the Atlantic would be routine rather than spectacular.

Yet today, trans-oceanic flying is well-organized, regular and comfortable. The 33½ hours that it took the tiny *Spirit of St. Louis* to make the trip from New York to Paris has been whittled to 12½ hours by the mammoth Constellations, Stratocruisers and DC-6s. In contrast to the bleak scene of one flyer spanning the North Atlantic all alone, eleven international airlines now carry hundreds of passengers every day on regularly scheduled flights to European destinations. Sky travelers have a choice of sleeper, regular and tourist planes carrying as many as 60 passengers.

Contributing to this transportation miracle has been a combination of modern science, industry, and business. Without the development of airplanes, weather forecasting, communications, navigation, airport facilities and many other necessities, none of it would be possible.

But fundamental to all others, perhaps, has been the development of high-octane aviation fuels. It is these fuels that make possible the powerful engines required by today's huge planes and enable them to fly farther, carry heavier loads, and travel at greater speeds.

Any similarity between Lindbergh's flight and those of 1952 pretty much begins and ends with the fact that their New York-to-Paris crossings follow the same general route. The gross weight of the *Spirit of St. Louis*—all that the 223-horsepower engine could sustain—was 5,250 pounds.

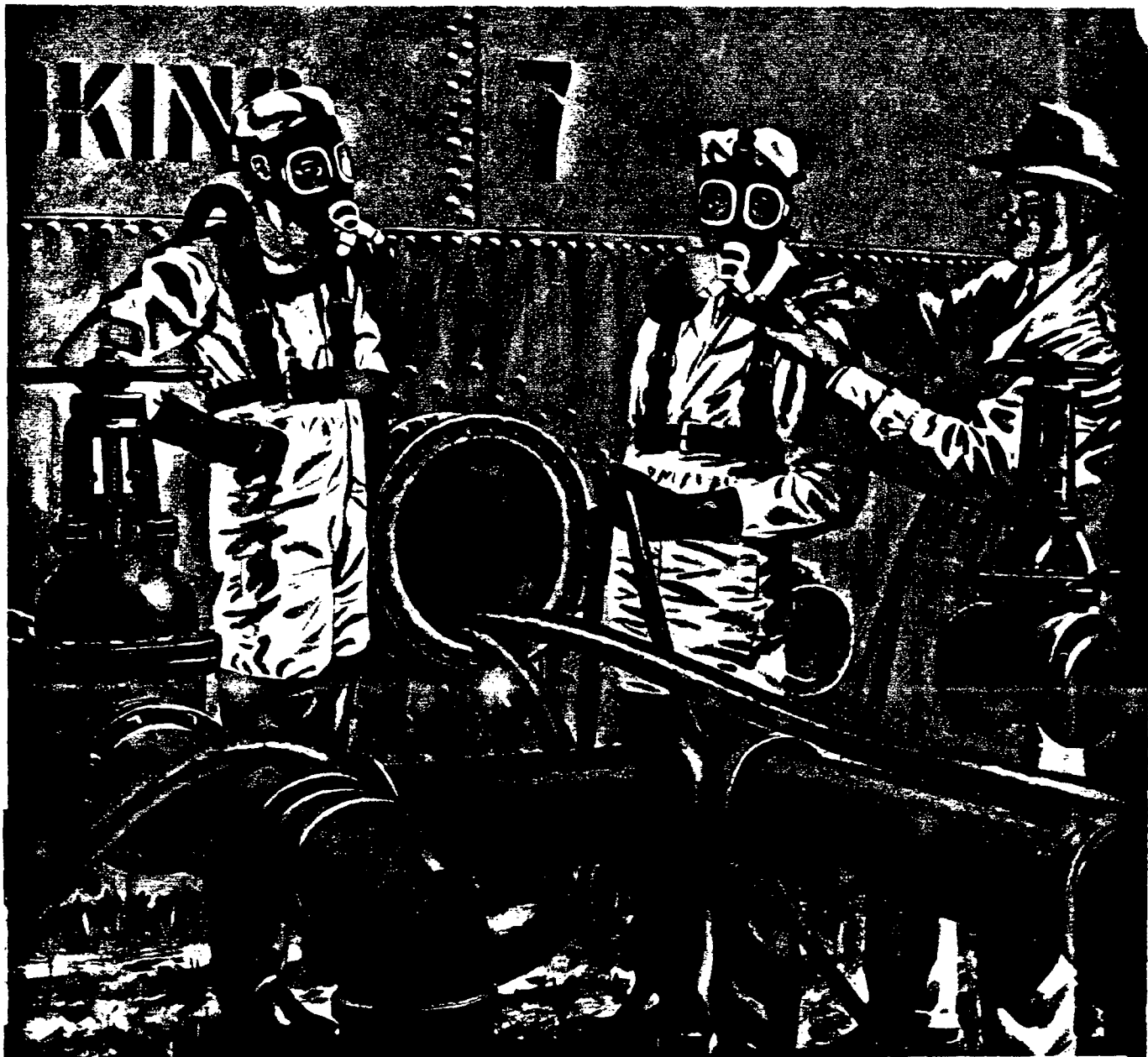
In its entire 3,600-mile flight it used less than 450 gallons of gasoline of a quality far below that used in present-day automobiles.

The almost unbelievable accomplishments of the last quarter-century are the results of the cooperative efforts of oil refiners and engine designers. The weight of commercial airliners in current use is measured in tons, not pounds, and they are powered by four engines each of from 2,500 to 3,500 horsepower. They carry thousands of gallons of high-octane aviation gasoline for a single ocean crossing and in one hour consume about as much as the *Spirit of St. Louis* did in 33½.

In the unceasing development of bigger and faster airplanes, aeronautical engineers have looked to engine designers for bigger and better engines. In turn, the designers have called on the oil industry for higher octane fuels that could withstand the greater squeeze of supercharging.

The first big step in fuel improvement was the addition of tetraethyl lead. Then came improved refining methods and the use of blending agents to raise the quality higher and higher. The production of 100-octane aviation gasoline was one of the great milestones of aviation progress. More than that, such gasoline was one of America's most potent weapons of war, enabling our planes to fly further and carry heavier bomb loads.

More recent cooperation between fuel and engine technologists has resulted in the development of still better fuels that literally have "run off" the octane scale. While the average airplane passenger rarely thinks about it, it is these fuels that have made possible the difference between trans-Atlantic flying as he enjoys it and the way Lindbergh knew it just 25 years ago.



A safety record is no accident

Setting a record is no easy job, but it's well worth the effort — especially when safety is involved.

We are proud of the part we have played in the oil industry's safety record. We are particularly proud that the system of safety precautions for the handling and mixing of "Ethyl" antiknock compound and the safe practices in tank-cleaning techniques which have been accepted and put into effect throughout the industry were pioneered by Ethyl safety engineers.

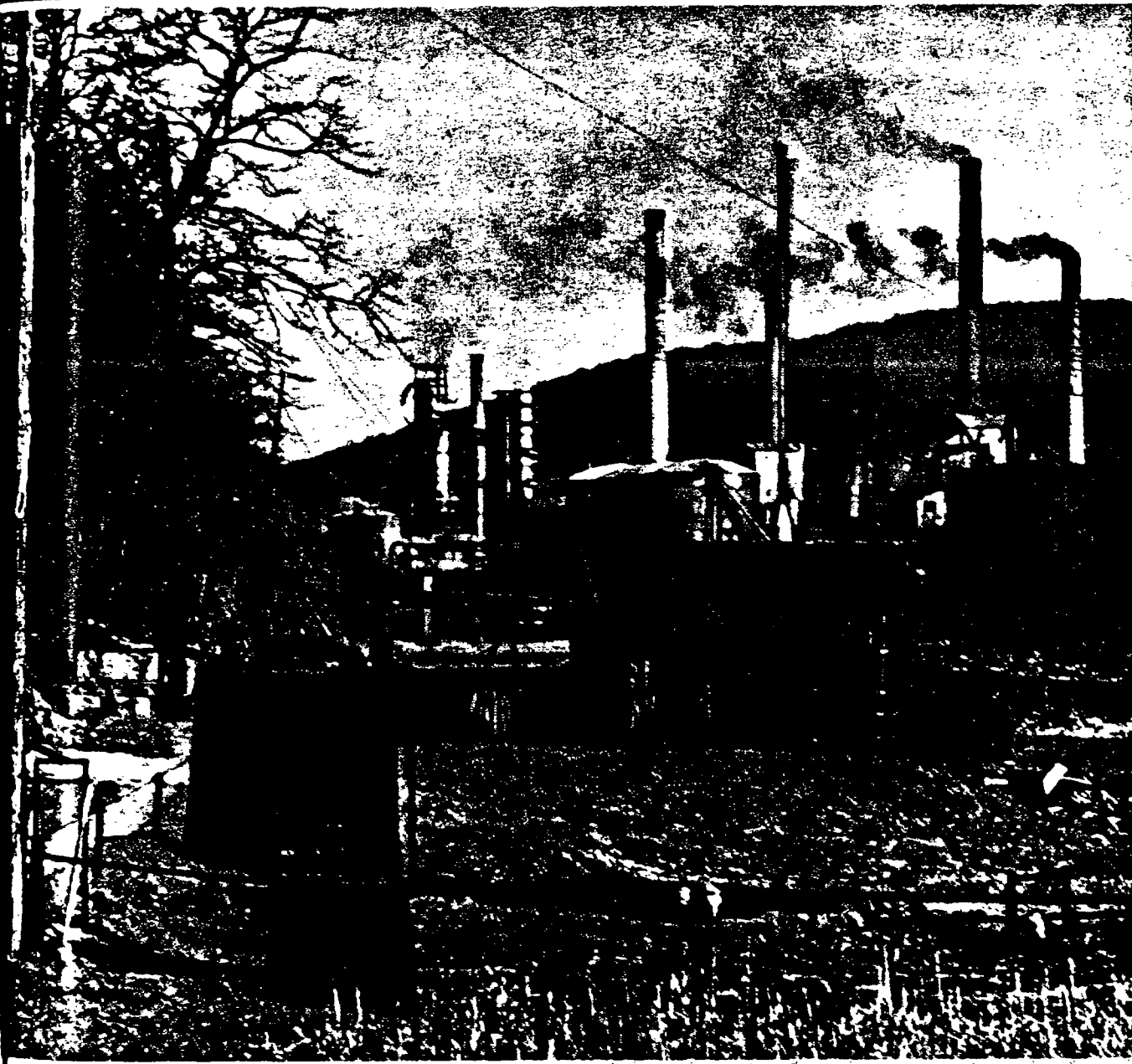
However, Ethyl safety engineers do a lot more than prevent accidents. They save refiners time and money, too. For example, they are constantly seeking new ways to save time and labor and to assure safe operation. This search has resulted in many improvements in mixing installations, tank-cleaning methods and has contributed to improvements in storage-tank design. One recent contribution is the "Ethyl" lead-in-air

analyzer which quickly checks the amount of lead in the air at any moment — permitting the safe entry of tank-cleaning personnel.

Our engineers have broad experience in the construction, operation and maintenance of mixing plants. You can put this experience to work for you if you are contemplating the erection of new mixing installations or modernizing existing plants. Our trained men will assist you in the selection of a site, supply plans and specifications, and instruct refinery personnel in correct procedures for operating the new equipment. And when your plant is in operation, Ethyl's engineers help keep it working at top efficiency. They make periodic "check up" visits, assist with maintenance and help make modifications to meet changing conditions.

So you can see why we say "A safety record is no accident."

ETHYL NEWS



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IN THE

ETHYL NEWS

JULY-AUGUST 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wohanka, Art Director

Earle M. Craig, chairman of the board of Freedom-Valvoline Oil Company and president of The National Petroleum Association, is the thirteenth in a list of illustrious oilmen who have served at the head of the trade organization. It is Mr. Craig's added distinction to be president at the time when The National Petroleum Association is marking the 50th anniversary of its founding.

To take proper note of that important milestone, Ethyl News devotes the first several pages of this issue to a picture history of the Association. Presented in the form of a photo album, such as any member of the NPA might have kept, our report is not intended to be a complete chronicle of all the activities and developments of the Association through a half-century. Rather, it highlights and pinpoints events which now, in retrospect, seem to be among the most significant in NPA's first 50 years.

Gathering the photographs for the NPA photo album, particularly those of older vintage, would not have been possible without the cooperation of many. Among those to whom special thanks are due are Fayette B. Dow and his staff of The National Petroleum Association, Paul Giddens, Harry A. Logan, Sr., Harry A. Logan, Jr., Samuel Messer, C. L. Suhr, National Petroleum News, and The Oil City Derrick.

NPA PHOTO ALBUM

3

A picture-story salute to The National Petroleum Association upon the 50th anniversary of its founding.

CHIEF OF THE CHEROKEES

12

Oilman W. W. Keeler, who holds that official title, has a plan for restoring the prestige of his tribal people.

WHEELS ON STAMPS

15

Passenger cars, trucks, buses, and almost every other kind of automotive vehicle have been pictured on the world's postage stamps.

THE WELL THAT WON'T QUIT

18

Located along historic Oil Creek, near Oil City, this 91-year-old well is still producing a ration of Pennsylvania crude.

PASSPORTS OF THE HIGHWAY

20

License plates are a necessary item of motoring. But they're also a constant problem to the automobile designer.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

ST 1952

Art Director

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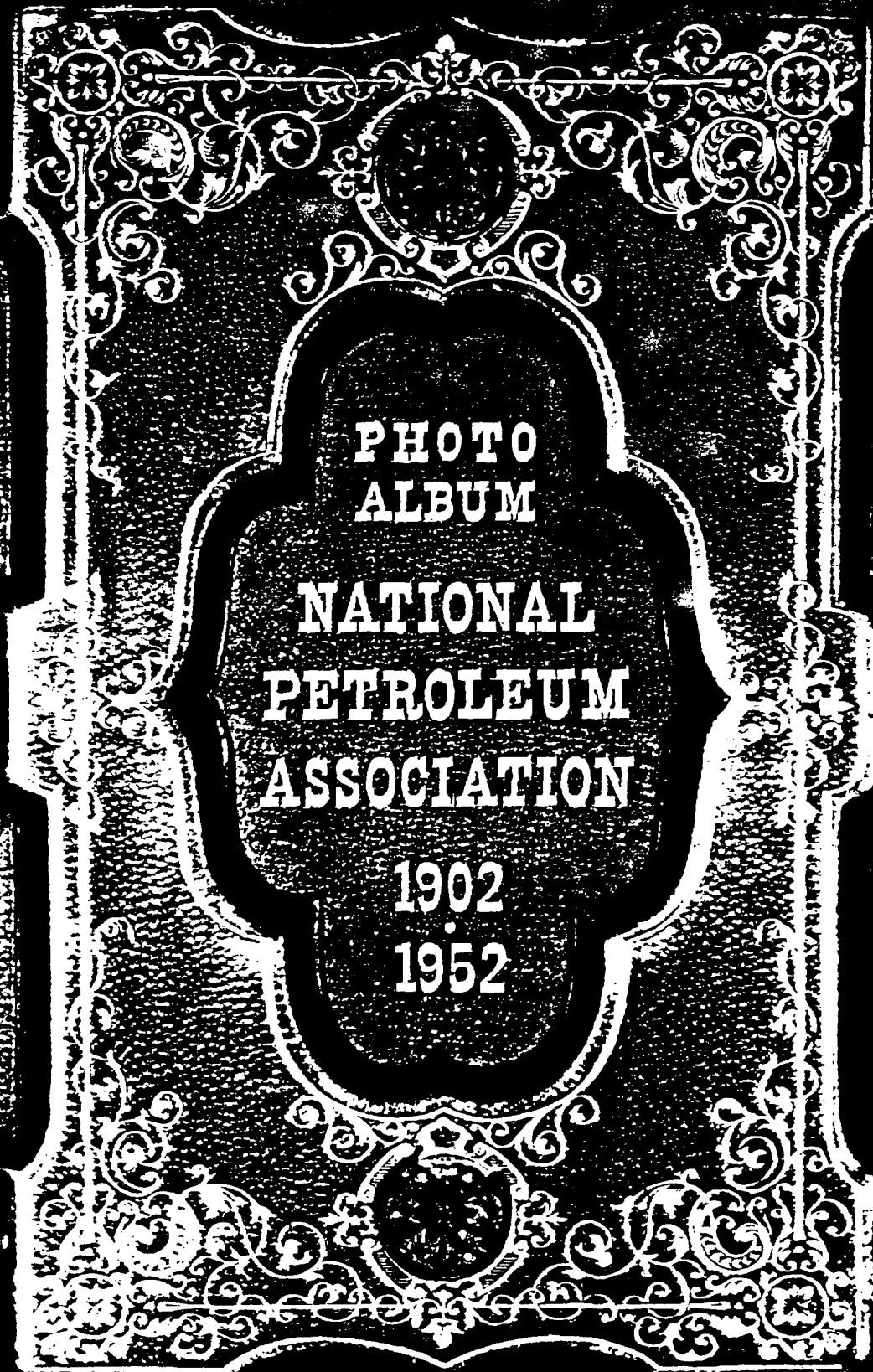
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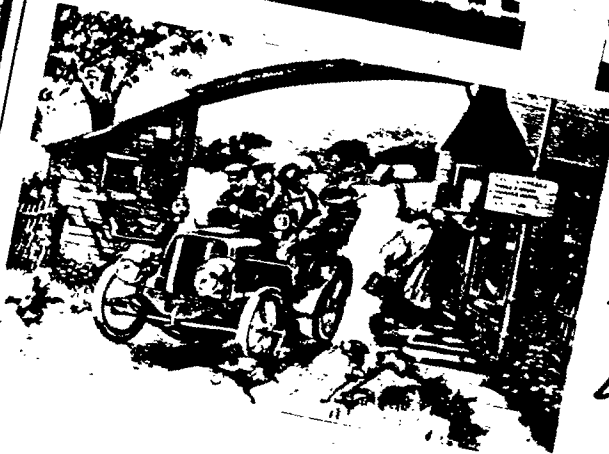
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This was the oil situation when NPA was formed: Kerosene was being out to electricity. Cylinder stocks for use by steam equipment showed no profit. Horseless carriages were for sale, but it was hard to find a market for gasoline even at a loss!

OIL REFINERS FORM NEW UNIT

PITTSBURGH, June 18—Representatives of almost a score of oil refining companies, located for the most part in western Pennsylvania, met here yesterday and unanimously formed a new group called The National Petroleum Association.

Officers of the Association, elected at the meeting in the Hotel Lincoln, are: H. A. Jamieson, of Warren Refining Co., president; W. E. (Billy) Wall, of Conewango Refining Co., first vice president; S. M. Willock, of Waverly Oil Works, second vice president; and E. H. Anderson, of Pittsburgh Oil Refining Co., secretary and treasurer.

Prior to the election of officers, Mr. Wall served as chairman of the meeting, and Herbert G. Eaton, of Superior Oil Works, acted as secretary.

In addition to those named above, others attending the meeting were P. J. Bayer, J. B. Miller, F. von Tacky, R. B. Miller, V. B. Ward, A. D. Miller, Jr., W. D. Todd, George R. Canfield, Levi Smith, Henry Suhr, J. A. Fawcett, Theodore W. Faires, M. J. Walsh, A. L. Confer, F. H. Steele, Robert C. Pew, Loftus Cuddy, W. H. Fehsenfeld, and William Muir.

According to the constitution and



by-laws adopted by the group at its organization meeting, the purpose of The National Petroleum Association is "to foster, protect and promote the welfare and interests of persons engaged in the refining of petroleum and its products, and for the protection and encouragement of that business."

Fifth Avenue, in Pittsburgh, looked like this in 1902 when the founding fathers met there on June 17 that year to form The National Petroleum Assn.



This is how the Atlantic City boardwalk looked in 1903 when NPA held its first annual meeting there.

NPA was chartered in '07

CONSTITUTION AND BY-LAWS

-of-

THE NATIONAL PETROLEUM ASSOCIATION

Chartered Under the Laws of Pennsylvania, Nov. 16, 1907

The purpose for which this Association is formed is to foster, protect and promote the welfare and interests of persons engaged in the refining of petroleum and its products and for the protection and encouragement of that business and commerce by combining the intelligence and influence of members against imposition and fraud, as experience may from time to time prove needful in bringing about greater uniformity and certainty in business transactions and by establishing relations of business association among the members.

ARTICLE I

The name of the organization shall be THE NATIONAL PETROLEUM ASSOCIATION.

ARTICLE II

The Affairs of this Association shall be in charge of a board of twelve (12) Trustees who shall be elected annually, of whom two shall come from the refinery and who shall elect from their number a President and two Vice Presidents. They shall also elect a Recording Secretary, Treasurer, General Counsel and Public Manager to serve for one year or until their successors are elected.

ARTICLE III

Trustees shall be elected by ballot, at the regular annual meeting of the Association and each member shall be entitled to one vote and the candidates who shall receive the majority of the votes cast shall be declared duly elected.

ARTICLE IV

It shall be the duty of the President to preside at all meetings of the Association. He shall call special meetings on a written application of the Board of Trustees or five members of the Association.

ARTICLE V

It shall be the duty of the Vice President to act in the absence of the President in order of their election.

ARTICLE VI

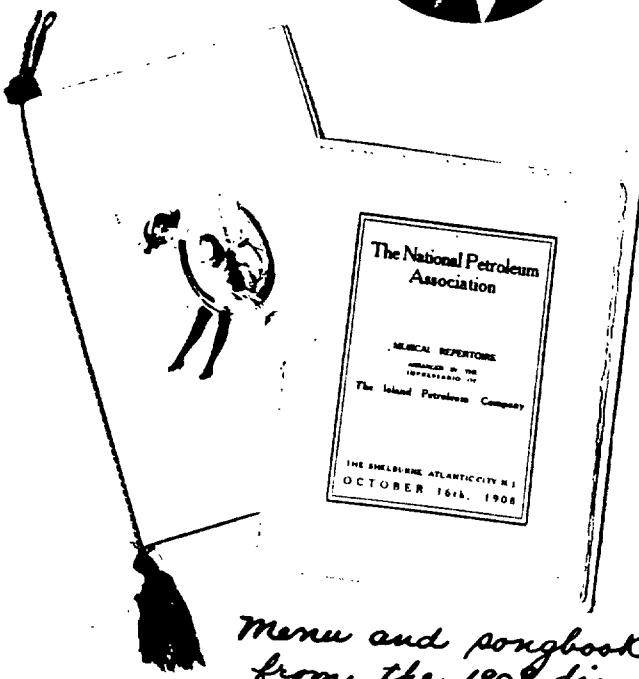
It shall be the duty of the Recording Secretary to keep correct minutes of meetings and preserve all correspondence of the Association in relation to its affairs.

ARTICLE VII

It shall be the duty of the General Counsel to represent the Association in any Federal State or any Committee of body before any Federal or State court or any body before any State or Interstate Railroad Commission or any agency or shall preserve all correspondence of the Association in relation to its affairs. He shall be governed and directed by the President and Board of Trustees in the performance of the duties of his office.

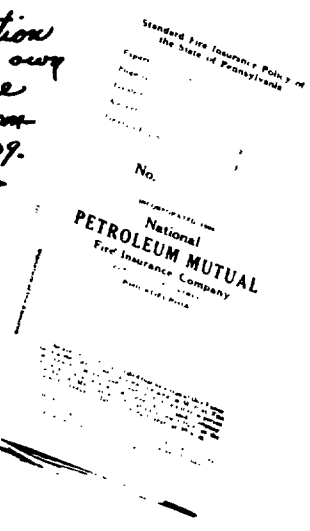
END

*C. D. Chamberlin
The "Judge" was
elected secretary
of NPA in 1906,
and soon there-
after opened an
office for the
Association in
Cleveland.*



*Menu and songbook
from the 1908 dinner*

*The Association
formed its own
mutual fire
insurance com-
pany in 1909.
Here's a re-
production
of one of
its policies.*





Refineries like this one in Muskogee, Okla., meant competition for R. oil in the early 1900's.



A group went to Germany in 1913 to study the export situation. This photo, taken in Berlin, shows W. D. Richardson, of Oklahoma; "Judge" Chamberlin; a German Editor; and C. L. Suhr.



← Samuel Messer. He was president of the Association during the hectic war years, 1917-19.



Time out for a swim during one of the annual meetings!!

NPA opened its Washington office in the Munsey Bldg. in 1918.



The National Petroleum War Service Committee in session. Officers of several NPA member companies served on the Committee during the war to "save Democracy."

An Invitation

All refiners travelling to Atlantic City to attend the National Petroleum Association Meeting will have to pass through Philadelphia.

When you reach there stop over and be our guests for a few hours.

When you reach the
guests for a few hours.

THE CREWLEVICK COMPANY extends a cordial
invitation to all **Refiners** who are en route to Atlantic
City as an en route to Philadelphia at that time, to connect their
new Express Station **PRINCE ISLAND**, on the Delaware River,
near Philadelphia. This plant is the cradle of the most
modern Construction, Equipment and Facilities for the
purpose intended.

... Development and its Export the portion
... were realization of the

To those interested in Petroleum and its Export this particular opportunity should afford them a new realization of the importance of this branch of the industry.

To take this time to visit the plant will not interfere with your plans, as we have so arranged the schedule that it will fit in without causing you any inconvenience or change of plans.

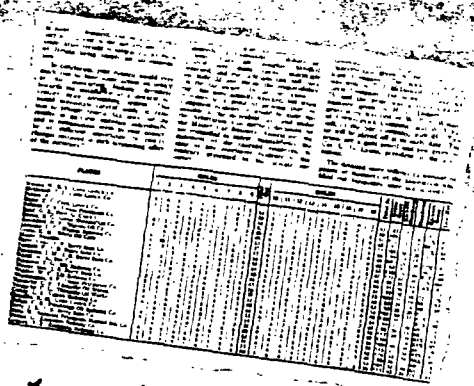
We therefore extend you a cordial invitation to join our party which will meet at the Manufacturers Club, Broad and Walnut Sts., at 10 A. M., Tuesday, September 21st. Automobiles will be in waiting. Following inspection of the plant we will return to the Manufacturers Club for luncheon. Then spend the afternoon at the Atlantic City.

If you conveniently can do so, drop us a line that you still
 come; if not convenient to write us, come anyway

Cordially yours,

111 N Broad St., Philadelphia

Cardinal's Journal
The Cross-Lock Conspiracy

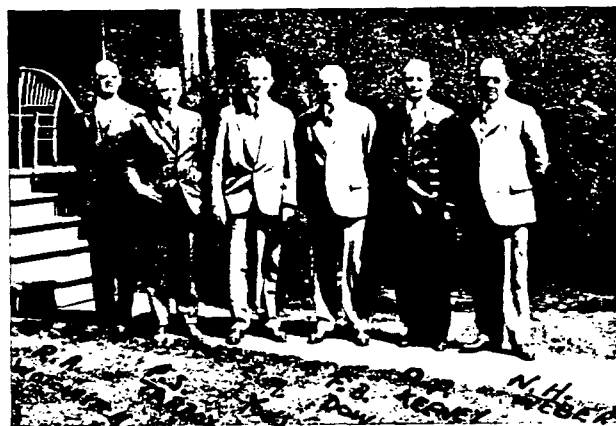


U.G. LYONS
President,
1919-24

Memento of the 1920 annual meeting -- an invitation to visit New-Rawick's new export station near Philly, and results of our golf tournament as printed in NATIONAL PETROLEUM NEWS



NPA formed a Fire Marshals Association in The early 20's.



Snapped during the 1929 mid-year meeting at Cambridge Springs, Pa. Ed Lyons was president at the time, having succeeded O. P. Kearney, who headed NPA from 1924 to 1927.



Boardwalk strollers at the 1927 silver anniversary meeting. That group above is G. B. Broadway, L. A. Farbox, O. R. Olson, J. P. Worthington, and W. S. Williams.



Mr. and Mrs. Harry
Logan and their
Children, Marian
and Harry, Jr

*On the Atlantic City
Boardwalk in '27--H. H.
Willcox, J. A. Jackson, Louis
Carruth, and Chas. McLean.*



The Depression in the 30's hit some NPA members hard, and the new Federal tax on gasoline didn't help business any.



The National Recovery Act wasn't too popular with most businessmen, but it was the law of the land and the oil industry did its part.

C. L. SUHR
President of NPA
1933-1939



N. H. WEBER
He succeeded Charley Suhr as president and served until 1942.



National Petroleum Association
Fellowship Supper
The Cleveland Club Apr. 15-1937

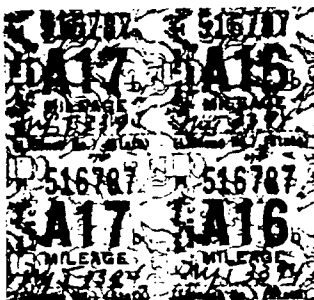
A good time was had by all -- as always -- at the 1937 Fellowship Supper.



NPA members are most active in safety and accident prevention work. This is an oil industry first aid contest at Warren, Pa.



The Traymore -- annual meeting headquarters in Atlantic City.



Rationing stamps and bombers - reminders that NPA members did their share to help win World War II!



The 1942 annual meeting was held in Pittsburgh. Highlights were the election of Harry Hogan as president and a talk by Ralph Davies.

Davies to Speak At 40th Annual Meeting of NPA

Other Officials in Office Of Coordinator Also To Address Session

MEETING TO OPEN IN PITTSBURGH SEPT. 17

General and Group Sessions Are Scheduled on Both Sept. 17 and 18

Robert H. Davies, director of the Pennsylvania Petroleum Council, will be the guest speaker at the 40th annual meeting of the National Petroleum Association, which opens in Pittsburgh on September 17. Davies will address the group session on the evening of the 17th and the general session on the morning of the 18th. The meeting is being held at the Hotel Pittsburgh. Other officials in office of the coordinator will also address the sessions. The meeting is being held at the Hotel Pittsburgh. Other officials in office of the coordinator will also address the sessions. The meeting is being held at the Hotel Pittsburgh. Other officials in office of the coordinator will also address the sessions.



Robert Dunlop, and J. B. Fisher, NPA president 1946-48.



G. B. HUNTER. Guy's been Treasurer of NPA since '23.



The pipe smoker is W. S. Zehring, president of the Association from 1948-51. With him are J. Howard Marshall (seated) and W. W. Vandever and R. T. Haslam.

NATIONAL PETROLEUM ASSOCIATION



All were saddened by the death of Herbert Eaton in Nov. 1951. He had been recording secretary since 1903.



Our present officers: F. G. Bannerst, Jr., 2nd VP; Fayette B. Dow, general counsel; Earle M. Craig, president; and A. W. Scott, 1st VP.

DEPARTMENTS OF NPA

Members of the
NATIONAL PETROLEUM ASSOCIATION

ASSOCIATE MEMBERS



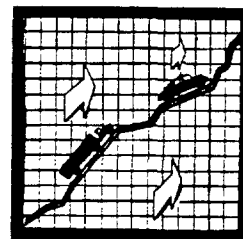
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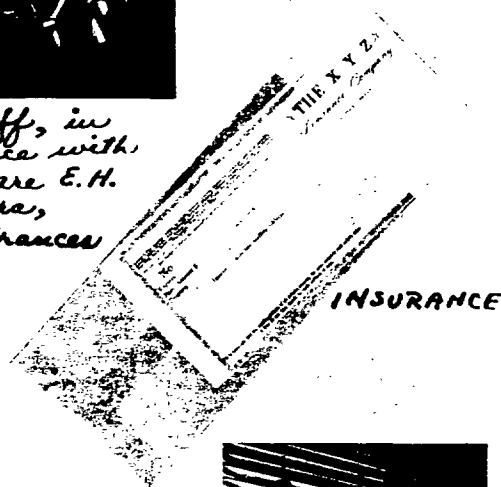


TAXATION

Members of the NPA staff, in Washington, in conference with Fayth. Dow. Standing are E. H. Fallon, Donald C. O'Hara, Gerald L. Phelps, and Frances De Vinney. Seated is Margaret Miller.



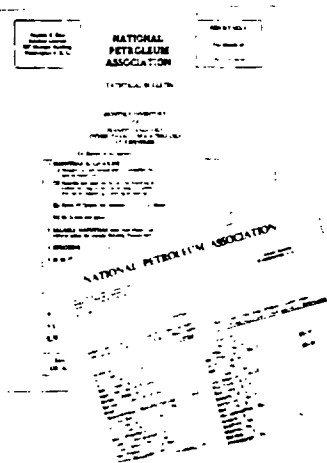
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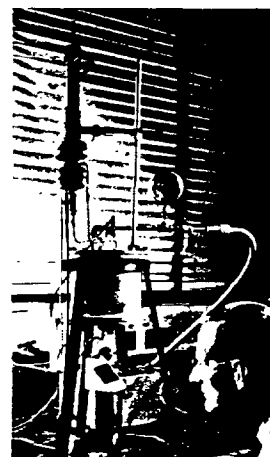
INSURANCE



TRAFFIC
AND
TRANSPORTATION



ECONOMICS, ACCOUNTING
AND STATISTICS



STANDARDS
AND
TESTS

Chief of the Cherokees

In that official capacity, oilman Bill Keeler has launched a program designed to restore the glory of his tribal people

IN THE LOFTY flatlands of northeastern Oklahoma live some 7,000 pathetically underprivileged Cherokee tribal members who, one oilman in particular is determined, shall never fall into the role of permanent government wards and taxpayer liabilities. For these people — his own people — Bill Keeler has a plan of action that aims at raising their skills and morale to the level where the Cherokees can and will make solid contributions to the industrial and cultural growth of the Southwest.

More formally, Bill Keeler is W. W. Keeler, director of the Refining Division of the Petroleum Administration for Defense. When not on leave to the PAD, as he has been since mid-February, he is active as a vice president and assistant to the executive vice president of Phillips Petroleum Company. He also is a director of Phillips.

Few people know the Cherokees and their problems like he does. He is Cherokee himself, and was born outside Indian country in Oklahoma only because his mother, even though nearing the time for childbirth, insisted on accompanying her



husband to Dalhart, Texas, on a business trip. It was there that the infant Keeler came into the world.

Today, as he has been for the past two and a half years on appointment by the President of the United States, Mr. Keeler is Principal Chief of the Cherokee Nation, which makes him titular ruler of all Cherokees in this country, except those living on the tribe's reservation in North Carolina.

No Honorary Job

The Cherokees have ever been a peace-loving, almost docile, tribe. That left few official duties for the Chief other than signing a document or tribal paper from time to time and overseeing the general welfare of his people. But Mr. Keeler isn't the kind of leader who likes to serve in a merely honorary capacity. He looks upon his position as an opportunity

With gestures, Mr. Keeler rejects an unseen friend's offer of an Indian feather headdress, to mark his appointment as Chief of the Cherokee Nation. The reason: Cherokees, as a rule, did not wear such ornate gear. Both a vice president and board member of Phillips Petroleum, Mr. Keeler now is on leave to the PAD

— and challenge — to do something for the Cherokees and for the nation. For, if he can raise the standard of living of those Cherokees who need aid, he will be providing the country with a new group of self-supporting, loyal citizens.

Specifically, the people he wants to raise up, from the education and morale standpoints, are those thousands of Cherokees who live in the hills in that corner of Oklahoma where the state abuts upon Kansas, Missouri, and Arkansas. Many of these people have an annual income of only \$50. The typical among them are uneducated and speak little or no English. Entire families, often consisting of seven or more children, live in one-room, windowless cabins. The only clothing they own is that on their backs. The food the family subsists on is the fish it catches in Grand Lake or 14-Mile Creek, the



**A gro
U. S.
boys**

corn and other crops it grows on an acre or so of land, and the squirrels and other animals it shoots. Acorns and acorn bread and acorn soup are common items of diet. What little money the family has probably was earned by the father, working on a government road or dam-building project or helping to harvest broom corn in Colorado.

Rise and Fall

The immediate job, as Chief Keeler sees it, is to restore the morale and individuality of the Cherokee. Ever since the original Cherokee nation was dissolved in 1906, there has been a constant decline in the tribe's social and cultural well-being. Once a proud, progressive group, the Cherokees established the first schools in their part of the country and printed the first newspaper in Oklahoma. But downtrodden and disgruntled at what they feel has been unwise and unfair treatment at the hands of the white man, the latter-day contributions of the Cherokees have been few and far between. At the same time, little attention has been paid to the education and vo-

Many of the Cherokees whom the Keeler program is intended to reach live under almost primitive conditions. Diets are meagre, and entire families often share a small cabin

cational training of these people, with the result that thousands of them today are anything but self-sufficient.

Chief Keeler has prescribed a multi-point program for restoring his less fortunate Cherokee tribal members to their rightful place in the life of the state and the nation.

Number one on the list is schooling for all young Cherokees and occupational guidance and education for those beyond the classroom age. Although much progress has been made in the past few years in enrolling Cherokee children in school, there still are hundreds of boys and girls who do not attend. Their Chief will not be satisfied until every last Cherokee child is enrolled in, and faithfully attending, school on the same regular basis as do youngsters in Boston, New Orleans, or Seattle.

Even more challenging perhaps is the job of education to be done among the parents and grandparents



of the Cherokee children. Not familiar at all with the methods and techniques of modern agriculture, the Cherokee farmer must be acquainted with such as crop rotation, soil conservation and the upgrading of farm livestock. Among those less able to do hard manual labor, weaving and other skills must be taught and encouraged as a means of enabling the older Cherokees to make their own way financially.

Self-Pity Outlawed

"We want the Cherokee to stop feeling sorry for himself and to realize he can be a good, productive individual. That can be achieved only through education," says the Chief.

Another item high on Chief Keeler's program is to see that the underprivileged among the Cherokees have available, and make use of, adequate medical facilities. "Bad" is the only word that describes the present general health situation of the hill-dwelling tribal members. The death rate among the children, due to childhood diseases, is extremely high, and tuberculosis prevalence among Cherokees in Oklahoma is five times greater than among white people in the Sooner State.

No small part of the rehabilitation



A group of modern-day Cherokee high school students visits Dillon S. Myer, U. S. Commissioner of Indian Affairs. A formal education for all Cherokee boys and girls is the No. 1 item in Chief Keeler's multi-point plan



The fame of Cherokee handicrafts, particularly woven goods, is widespread. This art is being encouraged among older Indian people as a means of helping them to gain morale and become more self-sufficient

But now that he has dedicated himself to the work, he is in it for keeps, even though the next President may not continue his appointment as Chief. He expects that the Cherokee rehabilitation program will begin to show its first substantial results about ten years hence. When it does, he thinks, Indians of other tribes will be encouraged to undertake similar projects among their less fortunate members.

The Reasons Why

On second thought, Mr. Keeler will tell you, he does have selfish reasons for wanting to help those in need of assistance. "As a taxpayer, I don't want to have to support the Cherokees, or anyone else, if I can help it." Another, and probably more serious, reason is that he is "dead set" against the government controlling any individual's life. A staunch Republican, he made it clear when he accepted the chieftain appointment from a Democratic administration that he did not intend to be a rubber stamp for any act that would tend to make his people permanent wards of the government.

It is that same pride and confidence that burns inside himself which Chief Keeler hopes to transmit to those of his people who need a rebirth of mental courage and vocational know-how. When he succeeds, he will have restored to the Cherokees once again the cultural and social gifts that were theirs a century ago.

Four Cherokees here mix Oklahoma and North Carolina soil as part of a recent ceremony retracing the 1838 "Trail of Tears"—the tribe's forced movement to west of the Mississippi

program, too, is a revitalization of the Cherokee tribe's culture. To make sure that the activities, songs, and folklore of the Cherokees are preserved, Chief Keeler has arranged for these to be recorded and filed permanently at Northeastern State College in Tahlequah, once the capital city of the Cherokee Nation.

To carry out the Keeler program, the Cherokee Nation executive council has created the Cherokee

Foundation. Formed two years ago, the Foundation really was put into force for the first time this past June at a meeting in Tahlequah among Mr. Keeler and his executive committee. The Foundation is an Indian organization, and will be self-sustaining so far as funds are concerned.

Mr. Keeler's interest in helping his fellow-Cherokees is nothing but sincere and genuine. He has emphasized from the start that he is not "in this thing" for personal glorification, and neither, he makes it clear, is it "a publicity or sales promotion stunt for Phillips Petroleum Company."



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WHEELS on STAMPS

Automobiles, trucks, buses, and almost every other kind of automotive vehicle are pictured on the postage stamps of the world

PHILATELISTS who specialize in collecting postage stamps of specific categories know no famine when it comes to those portraying automotive vehicles.

At one time or another in the past half-century, most major countries, as well as many lesser ones, have issued at least one stamp — and usually a series — in recognition of the 20th Century contributions of vehicles powered and lubricated by petroleum products.

Because the United States pioneered in the development of the automobile, it was perhaps natural that it should be the first country to bring out a stamp bearing a likeness of this means of transportation. This historic stamp was issued in 1901 in

conjunction with the Pan-American Exposition in Buffalo, N. Y. It pictures two men in the high front seat of a brougham being driven past the Capitol in Washington, D. C. Oddly enough (or so it seems today), the vehicle was an electric-driven affair, of the type used by a rail line to transport passengers and baggage between train terminals and convenient points in some of the larger cities.

Recent U. S. Issue

As well as being the first, the U. S. also holds the distinction of being among the countries to issue an automotive stamp most recently. In March of this year, a three-cent

stamp produced in honor of the 50th anniversary of the American Automobile Association pictured both a 1902 creation and a sleek, modern car.

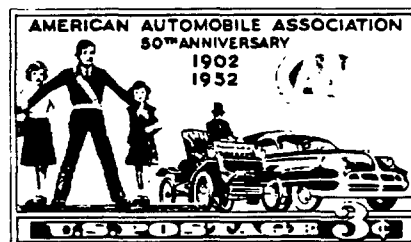
Germany, Italy, and Russia are among the other nations which have produced stamps depicting autos in style at the time of issue.

Not only has philatelic tribute been paid the world over to passenger cars, but trucks, buses, racing autos, motorcycles, and other specialized vehicles have been the subjects of issues.

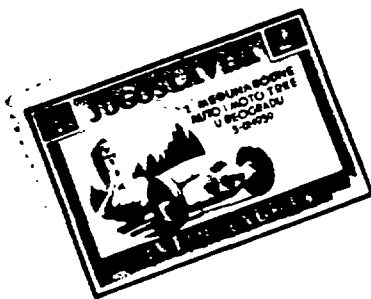
When the U. S. established its parcel post service in 1912, it used, for a brief time, special stamps that were valid only on parcel mail. One of these pictured automotive postal



Left, the world's first postage stamp picturing an automobile. A four-center, it was issued by the U. S. in 1901



The United States issued this stamp recently to mark the American Automobile Association's 50th anniversary



One of a series, this Yugoslavia stamp was issued to commemorate 1939 racing car and cycle competitions held in Belgrade

Germany issued a stamp series for the 1939 Berlin automobile exhibition. One of these, right, showed racing cars in action



delivery. Current U. S. special delivery stamps show the use of trucks and motorcycles in this type of mail service.

Other nations which have singled out the motor transport of parcel post, special delivery, and rural mail for stamp recognition include Bulgaria, China, Finland, Germany, Yugoslavia, and Switzerland.

While the U. S. has never issued a postage stamp that pictured a vehicle used in public welfare work,

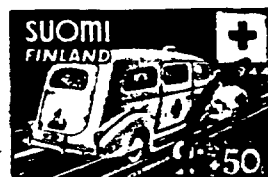
at least three nations have. A Finnish stamp pictures a speeding ambulance, a Republic of Panama issue shows a fire engine, and a Russian one offers a view of a police car. More than mere coincidence, perhaps, the Soviet is the only nation to have publicized a police vehicle in this way.

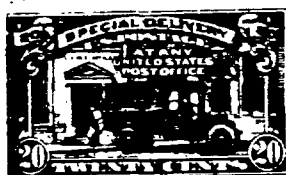
Many of the above-mentioned, as well as other postage stamps that portray automotive transportation, are shown on these pages.



As these stamps from Bulgaria, Romania, Switzerland, and China indicate, trucking is also a key industry in Iron Curtain and neutral nations

The use of automotive vehicles for public welfare purposes has been publicized on the stamps of at least three nations. Russia has an issue showing a police car; Finland, an ambulance; and Panama, a fire engine

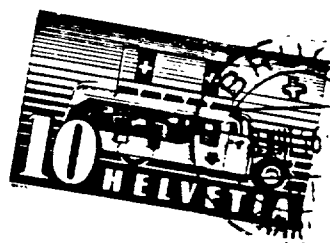




Pictured on the German issue above are early "bicycle-wheeled" autos. The U. S. stamp shows the use of trucks in special delivery service



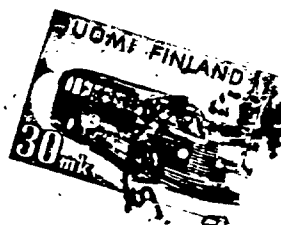
Automobile models current at the time were shown on a 60-kopek Russian issue of 11 years ago and on a 1950 Italian commemorative



The jeep—with President Roosevelt seated in it reviewing U. S. troops at Monrovia—graces a Liberia issue of 1945. The Spanish Morocco stamp salutes the truck for helping to conquer the barren North African desert



Now commonplace throughout the civilized world, the movement of mail by motor truck and other types of automotive vehicles seldom is given a second thought. Nevertheless, several countries in both Europe and Asia have singled it out for postal recognition. Among these (right, top to bottom) are Yugoslavia, in 1939; wartime Germany, in 1944; Switzerland, in a series of 1937-46; China, in 1947-48; and Finland, in 1946-47



THE WELL THAT WON'T QUIT

Drilled 91 years ago, McClintock No. 1, at Oil City, is the world's oldest known pumping well that is still producing

THE PIONEERS who joined in the mad rush for Pennsylvania oil following Colonel Drake's discovery would be nothing less than amazed if they could know about the well pictured on the cover of this issue of *Ethyl News*.

Their bewilderment would stem from the fact that the well, still yielding, is one they themselves drilled more than 90 years ago. They would have scoffed at anyone who dared predict that such a feat — nine decades of continuous production from one of their wildcats — was possible. For these were men who even then, when oil was being struck throughout the western Pennsylvania countryside, knew the full meaning of the term "limited producer." In those early days of frenzied oil seeking, hardly a square yard of land in the once-serene hills and valleys escaped the driller's tools. But all too often — even as now — little oil came forth, and the wells eventually were abandoned as lifeless tombs in the graveyard of "dry holes."

Not so the well in our cover photo. Seemingly oblivious of time and enjoying its status as the world's oldest known active pumping well,

it continues to spill out its ration of rich Pennsylvania crude. The McClintock No. 1, as it is known, stands near The Pennzoil Company refinery in Oil City, but is owned by the Brundred Oil Corporation, a producing firm in that community.

When sunk in August, 1861, there was no way of knowing that the Colby well, as it was originally called, would outlast all the others. At the time, there were some 800 wells crowded along Oil Creek between Oil City and Titusville. Other than the fact that it was a fairly good producer, making perhaps 50 barrels a day, this new one apparently was just another well.

A Story to Tell

But if it could talk, McClintock No. 1 could tell, from personal observation, much of the story of the American oil industry's growth and development.

Born during the beginning days of the Civil War, when there was far more oil than there were uses for it, the historic well has lived to see petroleum make its unprecedented contribution to progress in industry, agriculture, and transportation, and take its place as an indispensable source of heat and power. That progress is evident in the uses to which crude from the McClintock well itself has been put through the years. At first it was used for lighting, medicinal purposes, and simple



lubrication. In recent years, it has gone to lubricate the high-compression engines of the nation's modern automobiles.

The only hint, perhaps, of the longevity of the oil deposits in the sector where the McClintock well is located was the fact that the greasy fluid had been bubbling from the ground along Oil Creek for generations. A settlement called McClintockville had sprung up on the Hamilton McClintock farm in the summer of 1860 when that land

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In this photo, a reproduction of our cover view, the old pumping well (beside the telephone pole at the extreme left) is dwarfed by its storage tank and engine house. In the background, half a mile north on the opposite bank of Oil Creek, is The Pennzoil Company's modern refinery. The photo was taken by D. W. Grant, Pennzoil vice president, who ranks among the nation's top amateur color photographers



Seneca Indians are known to have used the oil in cosmetics and ceremonial fires. Later, missionaries, soldiers, and settlers relied upon it as a cure-all for such common maladies as constipation, aches, sprains, and joint swellings.

It is a matter of history that oil from the springs on the Hamilton McClintock farm found limited, but increasing, commercial use as a lubricant, lamp oil, and medicine in the years before 1859. Interest in it, and in the oil from similar sources throughout that part of Pennsylvania, was widespread. Albert H. Crosby, of Hanover, N. H., whose interest in such "rock oil" had brought him to the area in 1854, is reported to have declared, "I would rather have McClintock's farm than all the timber there is in western Pennsylvania."

With its history of oil showings, it is not surprising that the McClintock farm was one of the first pieces of land leased for drilling after Drake struck oil in Titusville in August, 1859.

A Quiet Start

But McClintock No. 1 was not the first well on the property, nor was it even among the first. Apparently its completion was not particularly spectacular either, for early oil histories make little mention of it.

The first well on the farm was drilled in November of 1859, and by the following summer, when the McClintockville community came into being, there were about a dozen. McClintock No. 1, the well that outlasted all the others, evidently was one of eight producing wells listed with some 56 abandoned ones on the property in the spring of 1862.

Henry Huddleston Rogers, who later was to become influential in

Standard Oil Company (N. J.), operated a small refinery on the edge of Oil Creek about 300 feet from McClintock No. 1. Supposedly, oil from the McClintock well and others in the vicinity was refined at his establishment.

While the well initially was a substantial producer, the years, as might be expected, began to take their toll. McClintock No. 1 reached a low production of less than half a barrel a week some years ago. The use of air pressure later upped its yield to several times that amount, and today a steady trickle of crude flows into the tank which stands beside the wellhead.

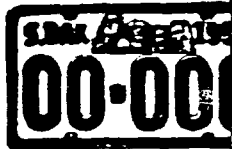
Historic Value

But the well has long ceased to be important for its production. Its value is in its historical significance. To passengers on the trains that chug lazily up the Oil Creek valley and to motorists driving through the historic region, McClintock No. 1 and the other old wells that dot the gently-rolling hills stand out as poignant reminders that here, in this area, was a great American industry born and raised.

OUR PICTURES: In addition to those mentioned on page 2, other sources for pictures used on pages 3 through 11 are Bettmann Archive, Philip Gendreau, Culver Service, Frederic Lewis, Carnegie Library in Pittsburgh, Underwood & Underwood, Socony-Vacuum Oil Co., National Safety Council, American Flange & Manufacturing Co., and the Travmore Hotel; page 12, courtesy Phillips Petroleum Co.; page 13 (top), United Press, and (bottom), Wide World; page 14 (top), Acme, and (bottom), Wide World; pages 15, 16 and 17, courtesy American Automobile Association; page 21, courtesy American Automobile Association and Smithsonian Institution; page 22 (top), courtesy Automobile Manufacturers Association, and (bottom), Sacramento Bee photo, courtesy of California Department of Motor Vehicles.

proved ripe for drilling. But the history of oil on the McClintock property dates back long before that time.

Oil springs on the land had been referred to by several writers of the late 18th and early 19th centuries. No one knows how much earlier they had been known and exploited. Some historians credit the Mound Builders of western Pennsylvania and eastern Ohio with constructing hewn-log cribs around the springs for collecting the oil. Certainly the



PASSPORTS OF THE HIGHWAY



QUERY any automobile designer about what simple exterior feature of a car gives him the most styling trouble and you won't have to wait long for an answer. It's how best to accommodate the license plate—that flat sheet of material which must be attached to every automotive vehicle that sallies forth on the highways and byways of America and Canada.

In the past, when accessories such as fenders, bumpers, windshields and luggage compartments became universally required or desired, car designers were quick to style them as integral parts of the vehicle. But how do you blend in license plate holders or recesses when, together, the 48 states, District of Columbia, and nine Canadian provinces issue tags in as many as 66 different sizes? Limited only by the laws of mathematics, the current plates come in at least 38 different lengths and 18 heights, ranging from almost seven to nearly 14 inches in the long direction and from more than four to six and one-half inches in the other.

Automobile designers have scored notable improvements in mounting and illuminating license plates, and in locating them on the car where they are least apt to be damaged.

License plates are colorful and functional. But, to those who design the nation's automobiles, they're also a headache

By Frank L. Remington

But, notes the Automobile Manufacturers Association, "the irregularity of license plate shape and size makes any fixed, built-in type of mounting as impractical as trying to fit everyone with the same size shoe."

Whatever the automobile designer's problem, however, the license plate is here to stay—and has been for almost 50 years.

Lots of Color

License tag individuality among the states and Canadian provinces goes far beyond the length and height dimensions which stymie car stylists. It extends to variations in shape, color, lettering and numbering, and even frequency of issue.

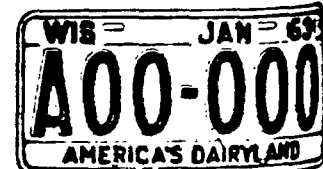
In the matter of color, for instance, the tags run almost the whole range of the spectrum. It is generally agreed that plates having a light background and dark numbers and letters can be read most

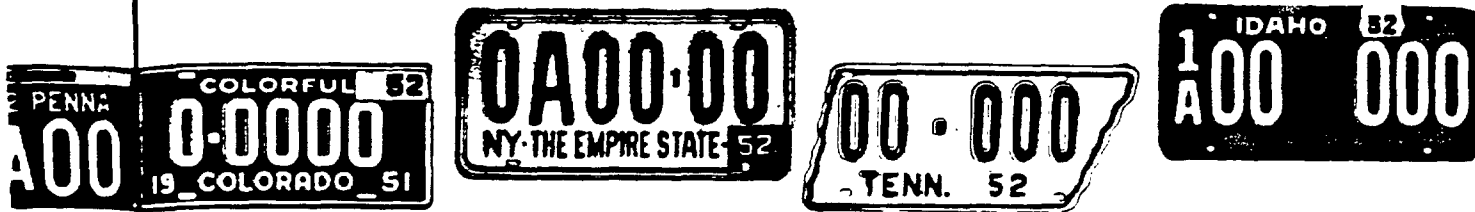
easily—combinations like black or dark green characters on a white or light yellow field. Yet, apparently even the experts differ. The color scheme of New Jersey's plates is orange characters on a black background—a combination recommended by the American Optometric Association.

In Texas, the elements exert an influence on color combinations. Lone Star State vehicles sport black and gold tags because laboratory tests show these colors stand up better in the Southwest. In Illinois, the secretary of state is authorized by law to select any colors of his own choosing so long as the same combination is not repeated during any five-year period.

Even more varying than color combinations are license plate lettering and numbering systems. Most states use distinctive arrangements that follow a prescribed pattern, but only in a few instances are these similar. In Ohio, as in certain other states, each county has its identifying code. Plates with a single-letter prefix are issued to counties in the central part of the state. An example is Franklin County which has the series A 1 to N 8000.

Most states, in addition, issue





plates bearing special markings to government officials, institutions, professional groups, and other like categories.

In New Jersey, the designation "NF" precedes the number on plates of vehicles belonging to charitable institutions, "SG" those on state government vehicles, "CG" on county vehicles, and "MG" on those municipally owned. Doctors in both New Jersey and New York display plates bearing, in addition to numerals, the letters "MD."

Connecticut carries the special plate idea even a step further. For a payment of \$5 over the regular registration fee, drivers there may obtain plates bearing any combina-

tion of three or four letters — and without numbers — of their own choosing. The only restrictions are that the letter combination has not already been issued to another driver and that the combination selected does not form an indecent word. This privilege of special plates has resulted in the appearance of countless names, nicknames, initials, and occupations on Connecticut tags. And with such possibilities, it was only natural in this election year that two Nutmeg State drivers should apply for, and get, plates bearing the combinations "I K E" and "T A F T."

In California, special license plate recognition has been extended this

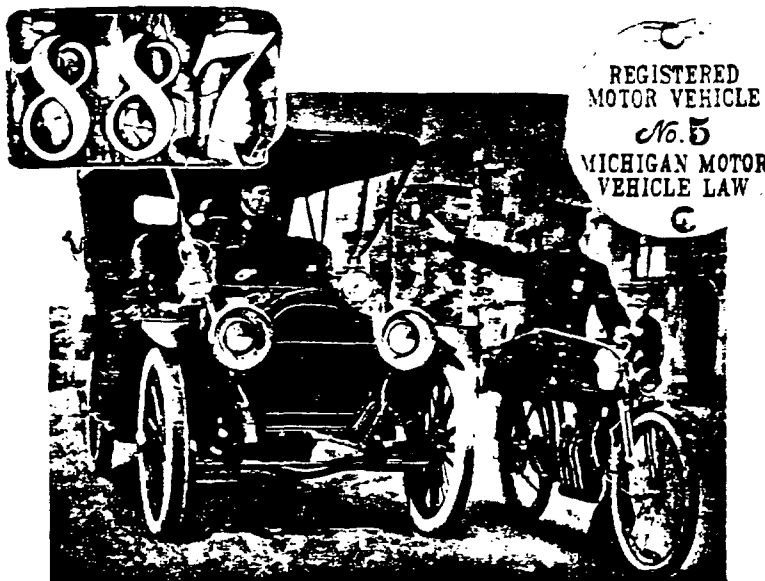
year to antique car enthusiasts. Owners of automobiles manufactured 35 or more years ago are permitted the option of displaying special plates on these vehicles in place of the conventional California tags. Red in color, they carry in white the name of the state, the year and the legend "Horseless Carriage No. —."

Plates Advertise

Currently, 18 states are using auto tags to publicize their states through distinctive slogans, symbols or shapes. The Mount Rushmore Memorial is reproduced on South Dakota's plates, a pelican on Louisiana's, and the figure of a mounted cowboy on Wyoming's. Among the states with slogans, Kansas plates announce that that is the Wheat State and those of Arizona proclaim the Grand Canyon State. Maine's herald "Vacationland." Tennessee, Montana, Pennsylvania, and Kansas plates bear the shape of the respective state in outline form.

In various shapes, forms, and sizes, license plates have been with us almost since the automobile itself burst upon the scene.

When the horseless carriage was still an oddity, however, license plates were nonexistent. When they snared traffic violators, local authorities served summonses, only to find that when it came time for the errant drivers to appear in court, many were nowhere to be found. They had given fictitious names



Before licensing, errant drivers often avoided prosecution by giving a fictitious name and address on the summons. Among the first "plates" were (inset) a leather tag issued by Denver and this Michigan metal disk





and addresses, and there was no way to trace them.

One of the first efforts to end such chicanery was a New York State law passed in 1901, requiring owners to register their vehicles. In return for a dollar, applicants received a small aluminum disk bearing a number and the words "New York State Motor Vehicle Law." Following New York's lead, other states began requiring the registration of motor vehicles.

Made Their Own

Many states started out by issuing numbers, leaving it to individual owners to see that they were somehow placed on the vehicle. The less imaginative simply painted their assigned numbers on the rear of the car or on headlight lenses. The more artistic employed such devices as house numbers mounted on a piece of harness leather, tin, aluminum, or isinglass.

A number of different materials have been used, from time to time, in the manufacture of plates. For many years Wisconsin employed zinc. California once used brass numbers on a framework of steel wire, to allow passage of air to the radiator. Leather, aluminum, baked enamel over iron, glass beads, and steel also have been tried. From 1920 until the outbreak of World War II, most states issued steel plates with embossed figures, but the war forced the adoption of substitute materials. Not all were successful,



One reason automobile stylists are unable to treat the license plate as a planned, integral part of body design is the difference in the length of tags



as witness Illinois' experiment with tags of compressed paper with a soya bean content. The use of plates of this composition was discontinued when it was found that certain farm animals considered them a tasty snack.

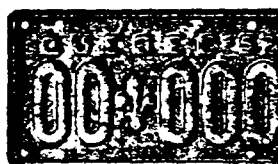
The present defense economy has seen a return to many of the steel conservation practices of World War II years. Several states are retaining their old plates and merely issuing windshield stickers to keep them current. Others are adding small metal tags, bearing new year numerals, to previously-issued plates. This practice, instituted by Connecticut in 1937, now has become so prevalent that it has been predicted it eventually will become the style nation-wide.

Just as the automobile designer has his headaches providing the proper mounting for the wide assortment of license plates, so do many motorists have difficulty remembering their tag numbers.

This shortcoming, along with the desire for distinctive numbers, each year provides license plate issuing agencies a deluge of requests of every imaginable description. A Delaware legislator, for instance, wanted a plate bearing the number of votes by which he was elected to office. Another motorist in another state annually requests No. 31770 because upside down and backwards it spells Ollie, his wife's name.

But perhaps the most unusual request of all was one made by an Illinois car owner. "This year," he wrote, "could we have No. 1-928-135? My wife was born in 1928 and she weighs 135 pounds. She says she can remember these numbers."

New this year is a special California tag for vehicles manufactured 35 or more years ago



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Fluid Action



Unlike the typical "Ethyl" antiknock compound tank car whose usual journey must be plotted over considerable stretches of the nation's railroad trackage, the initial cargo trip of car No. 6026 out of the recently-opened Ethyl manufacturing plant on the Houston Ship Channel was indeed a short one. But it was a most significant and historical run.

On its haul to the neighboring Sinclair Refining Company refinery, "6026" carried the first shipment of antiknock compound produced at the new Ethyl plant. The shipment totaled 77,500 pounds of "Ethyl" fluid. Blended with present-day base stocks, that amount of additive is sufficient to produce, on the average, more than six million gallons of "Ethyl" gasoline or more than seven million gallons of regular motor fuel.

Unloading of the initial shipment at the refinery on June 16 was witnessed by several Sinclair and Ethyl representatives. Among them, left to right in the above photo, were: R. B. Thacker, Sinclair assistant superintendent; Wallace F. Armstrong, Ethyl plant manager; J. D. Seifer, Sinclair operating superintendent; Parker Kendall, Sinclair's assistant general manager of refineries; R. W. Green, foreman of Sinclair's cargo and terminal department; Howard J. Gerber, Ethyl sales representative; C. C. Stovall, Sinclair assistant foreman; and Clinton W. Bond, Ethyl's general manager of manufacturing.

Delivery of the first Texas-made "Ethyl" fluid to Sinclair symbolized the continuing growth of both companies.

The Sinclair refinery at Houston currently is undergoing a multi-million-dollar expansion that will increase crude oil capacity from 85,000 to 110,000 barrels daily. In Ethyl's case, said Mr. Armstrong on the occasion, the production milestone represents the Company's "readiness to meet increased demands for antiknock compound not only during the summer months, when national gasoline consumption is at its peak, but also in the future."

Opened in April, and now in full production, the plant increases the manufacturing capacity of Ethyl Corporation, already the world's largest producer of antiknock compounds, by about one-third. The new Texas plant is thus another supply point from which Ethyl can conveniently and promptly make deliveries of "Ethyl" fluid and other chemicals to its customers.

The historic shipment to the Sinclair refinery represents the first of millions of pounds of "Ethyl" antiknock compound that will go to the nation's refiners each year from the Houston plant. Together, the output of the Ethyl manufacturing units at Houston and Baton Rouge, La., provide renewed assurance that the oil industry will be able to supply gasoline of adequate antiknock quality for America's needs in either war or peace.

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Coasting is fine for him—but not for us

A friend of ours asked us not so long ago, "Why does Ethyl keep up all this activity — research, advertising, educational shows, exhibits, customer services of all kinds? Why not just make your product and sell it?"

The answer is very simple. The U. S. petroleum industry is a progressive, up-hill business and a very competitive one.

That industry buys "Ethyl" antiknock compound from us and adds it to their gasoline. Furthermore, they change and improve their gasoline from year to year. To be prepared for those changes—and to be sure that refiners get the most from every cc. of "Ethyl" antiknock compound, we must be continually exploring ahead.

At the same time, engines, lubricants and operating conditions are changing — so we try to be ready with the answers to the various technical problems that arise.

And since gasoline containing "Ethyl" fluid must ultimately be sold to consumers, it is our aim to keep out in front with up-to-the-minute merchandising and advertising help for our customers in all parts of the country.

We regard ourselves as part of the petroleum business, and that makes us part of your business. The petroleum industry has never coasted. It has always pushed on to greater and greater accomplishments. And you can be sure that Ethyl people will always be ready and anxious to do their share of the pushing.



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ETHYL NEWS

SEPTEMBER ★ 1952

ETC 32691



IN THE

ETHYL NEWS

SEPTEMBER 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wohanka, Art Director

Edwin A. Desmond has been named head of a new section devoted to Ethyl Corporation's growing interest in diesel engines and diesel fuels and fuel additives. The section is part of the Technical Service division, which has its headquarters at the Ethyl Research Laboratories in Detroit.

Mr. Desmond will be responsible for coordinating all field tests of diesel fuels and diesel fuel additives with Ethyl's research programs in this field.

A native of Boston, Mr. Desmond was graduated from Pennsylvania State College in 1939 with a B. S. degree in mechanical engineering. He joined Ethyl immediately as a student engineer, and was engaged in automotive and aeronautical research projects at the Laboratories until he entered the Navy in 1943.

He rejoined the Ethyl aeronautical research laboratory organization in 1946 after wartime service as a submarine officer in the Pacific.

Subsequently, Mr. Desmond served as project engineer on field service tests of experimental aviation fluids, and as liaison engineer with the commercial airlines and the U. S. armed services. Most recently, he has been the Company's representative in connection with field service tests of amyl nitrate, the new diesel fuel ignition improver developed at the Ethyl Research Laboratories.

Mr. Desmond is a member of Tau Beta Pi and the Society of Automotive Engineers.

DATELINE: SEATTLE AND CHICAGO 3

Ethyl engineers, serving the oil industry, played leading roles in this modern tale of two cities.

HOOSIER MINT FARM 6

Indiana leads the way in the production of spearmint and peppermint. Here's a close-up of one of the state's big farms.

FOR FUTURE REFERENCE 10

American industry is engaged in a vast project to store its records against both enemy action and the ravages of nature.

GOING TO EXTREMES 13

It takes precise planning to assure on-time deliveries of "Ethyl" fluid to the Hemisphere's most remote refineries.

THE TIME OF HIS LIFE 17

Collecting and repairing antique and unusual clocks is the hobby of Pennsylvania oilman L. W. Slaughter.

ASK ME ANOTHER 20

Much behind-the-scenes activity is required to stage a successful television show like Ethyl's sports quiz program.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

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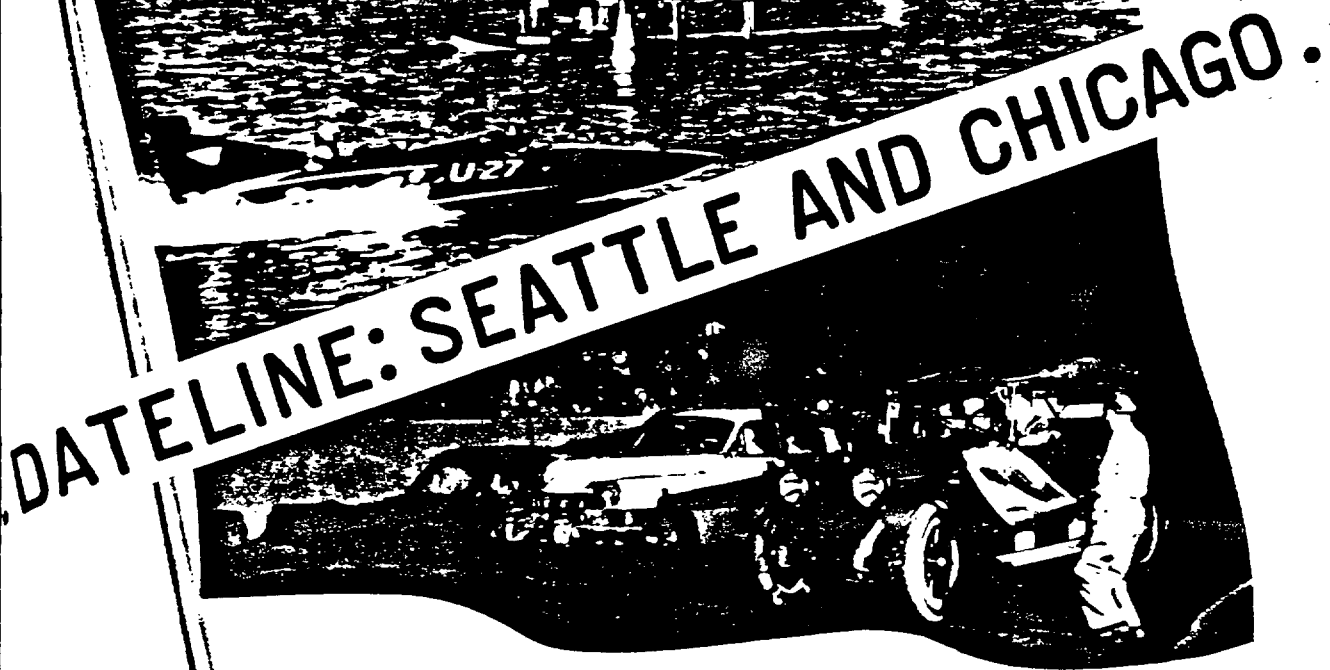
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AT THE SAME HOUR on the second Saturday of last month, these two seemingly unrelated happenings were taking place: In Seattle, a great throng of 250,000 that had rimmed Lake Washington for the historic Gold Cup hydroplane race was dispersing; in Chicago, the vanguard of a gallery of 18,000 likewise speed-minded fans was moving into the tiered seats of Chicago's vast Soldier Field for an evening of stock car competition.

Still, although separated by two time belts, the Seattle and Chicago gatherings did have one very strong bond. They had just seen, or were about to witness, performances made possible in part by Ethyl Corporation's all-embracing program of service to customer oil companies and the industry as a whole.

The afternoon of August 9 was murky in Chicago. But 2,000 miles

In those two cities, on the same day last month, large throngs saw impressive fuel performances made possible in part by Ethyl Corporation

westward, the sun was at its brightest as the tense crowd at Lake Washington settled itself for the start of the Gold Cup, the Kentucky Derby of boat racing. It was, admittedly, a partisan audience. Even towering snow-capped Mount Rainier, looking down on the proceedings from 90 miles away, seemed to have its favorites. If so, they undoubtedly were *Slo-mo-shun IV* and *Slo-mo-shun V*, the boats Seattle automobile distributor Stanley S. Sayres was counting on to bring him his third successive Gold Cup.

But you have to go back another month or so — to late June and early July — to understand the extra en-

thusiasm of the already-rabid Seat-teans. *Slo-mo IV*, the fastest hydroplane afloat, then was getting ready to take a crack at its own one-mile world's speed record of 160.32 mph, set in 1950.

Powered by a 2,000-horsepower Allison aircraft engine, the water giant obviously has a healthy appetite for fuels. Not only in respect to quantity, but quality-wise as well. To formulate the special fuel blend needed, Mr. Sayres had called upon the experts of General Petroleum Corporation, Socony-Vacuum's West Coast affiliate, whose products his craft use.

Off to Seattle, a few weeks before the run-for-the-record, went A. D. Johnson, the company's chief marine engineer. With him, at General Petroleum's request, traveled Frank R. Elliott, an engineer in Ethyl's Western sales region.

"Give me a fuel that will accelerate better, and I know *Slo-mo IV* can beat its old record."

That in effect is what Mr. Sayres told the engineers. It took only two days of experimental blending to come up with the proper mixture. What Mr. Johnson suggested was a pure hydrocarbon fuel, containing an additional amount of tetraethyl lead, which had a performance number of around 165. It sounded good when you talked about it, but what performance did the special blend actually permit? When a trial run showed a 25% gain in acceleration going from 80 to 140 mph, *Slo-mo IV* looked like a cinch.

On the big day (July 7), in keeping with world-record attempt procedures, the craft had to zoom the mile-long course in two directions. The average of the two runs would be its speed for the distance. Mr. Sayres himself was at the controls as *Slo-mo* made the first run, north-to-south on the East Channel of Lake Washington. Even though he

eased her off near the end of the first mile because of heavy water chop, the powerful boat turned in a sensational 185.567 mph. The return sprint, hampered by a gusty head wind, was timed at 171.428 mph. *Slo-mo* had beaten its own mark in each of the runs. Its average time — and the new world's record — was 178.497, the fastest any water craft has ever traveled.

Retains Gold Cup

Thus, the anxiety of the quarter-million onlookers on Gold Cup day last month was understandable. They were relying on the two *Slo-mo* boats to withstand the challenge of the one Los Angeles and three Detroit entries and so keep the championship in Seattle. The crowd wasn't disappointed.

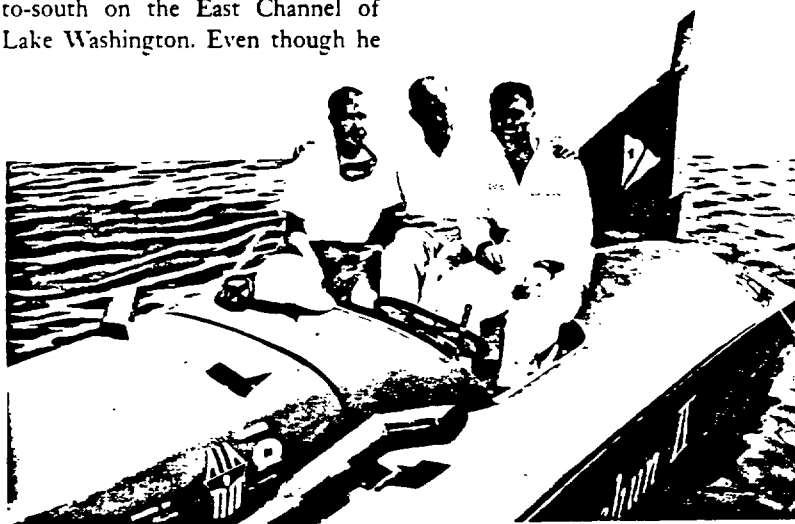
Mishaps and mechanical failures took their toll of the five other entries, and *Slo-mo-shun IV* rode to victory all by itself in the last two

of the three 30-mile heats. With the Gold Cup still in its possession, Seattle's claim to "speedboat capital of America" was stronger than ever. No small part of the credit for *Slo-mo IV*'s summer triumphs, owner Stanley Sayres will tell you, was due to the excellent performance of the fuel blended by General Petroleum engineers in cooperation with Ethyl Corporation representatives.

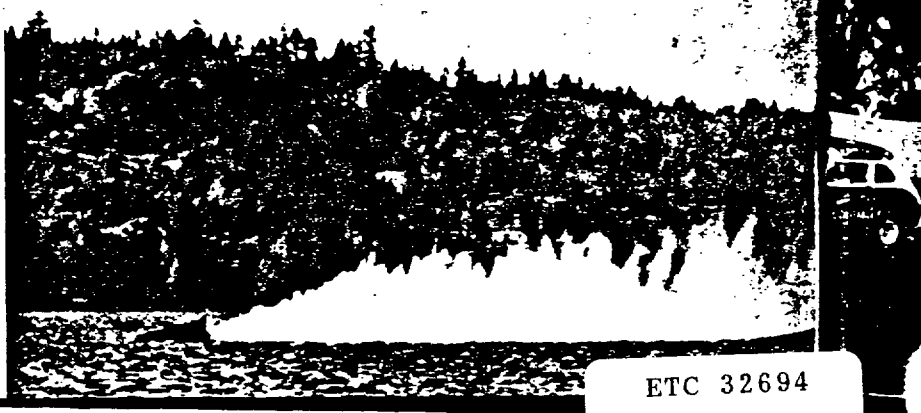
As the afternoon sun began to nestle down behind the woodlands that shelter Lake Washington, Ethyl engineers who arrived early at Chicago's Soldier Field looked up at the leaden early evening skies and waited for the rain that inevitably would fall. It came, but couldn't dampen the enthusiasm of 18,000 fans who showed up for the regular Saturday card of stock car races.

This night there was an extra attraction in store for them. Between races they would see a special version of Ethyl Corporation's "Two Equals Three" demonstration, in which visual proof is offered that two gallons of modern gasoline do the work of three gallons of 1925 motor fuel. The program, conducted by Ethyl personnel, was under the sponsorship of the Metropolitan Chicago district of the Oil Industry Information Committee.

Just as had been demonstrated before another Soldier Field audience at the midget racing car championships the night before, the superior-



Above, Lou Faegol and Stanley Dollar, pilots of the *Slo-mo-shun* boats, flank Stanley Sayres, owner of the water speedsters . . . Right, with Mt. Rainier as a backdrop, *Slo-mo IV* streaks to a new world's record in an early July test. Last month, the boat scored another triumph by capturing the Gold Cup race



ity of modern gasoline was brought out in comparative tests between old and new cars operating on old and new gasolines.

In the first of these, a reconditioned 1921 car and a new model of the same make were the competitors. Each was to see how far it could travel on the same small amount of gasoline. The only difference was that the 1921 vehicle had fuel of 1925 antiknock quality, while the new car was running on premium gasoline purchased that day at a Chicago service station. The old car barely completed two laps around the 1,500-foot track and then stopped dead. The new model, meanwhile, rode on and did not run out of fuel until it had lapped its rival, with a car length or two to spare. That represents 50% greater fuel economy and was proof that two gallons of modern gasoline are worth three of that available in the mid-1920's.

Test No. 2 emphasized the improved acceleration and performance of 1925 motor fuel. Again running on gasoline of their respective eras, both cars approached the starting line in high gear at ten mph. At the starter's signal, the drivers opened the throttle and accelerated. Within seconds, the new car had shot from three to four lengths ahead of the old vehicle. Engineers pointed out that this advantage would have been even greater had

more straightaway on the track been available.

Then, as the evening's final dramatic proof of the vast improvement that has been achieved in gasoline during the past quarter-century, a modern car was sent through its paces alone. A special two-way fuel system enabled it to run first on equivalent 1925 gasoline and then on modern fuel. This permitted the audience both to see and hear how today's high compression automobiles would suffer if they had to operate on low antiknock quality gasoline.

Knock Disappears

On its first trip around the oval, using old-fashioned gasoline, the car knocked loud enough to be heard throughout the vast stadium. Had it been operated long enough, it surely would have overheated, with damage to certain engine parts.

When the vehicle was operated on modern gasoline, of course, it

functioned as our present automobiles should. Smoothly it rolled around the Soldier Field oval. Gone was the knock and vibration.

The public address announcer summarized this most recent "Two Equals Three" demonstration in these words: "Ladies and gentlemen, after seeing these events tonight, I don't believe any of us would be interested in returning to the cars of 25 or 30 years ago operating on the gasoline available at that time. Neither, I'm sure, would we be interested in trying to get along with 1925 gasoline in our 1952 automobiles."

At approximately 11:30 (CDT) on the night of August 9, Ethyl engineers in the widely-separated metropolises of Chicago and Seattle could look back upon a fruitful day — a day in which the Company, because of its long experience in the entire broad field of engines, fuels and lubricants, was again able to be of service to the petroleum industry.



Above, C. J. Wood, Harry P. Dunn Co.; F. V. Martinek, Standard of Indiana; Gene Williams, Gaseteria; L. R. Kamperman, Leonard Refineries; and C. Z. Hardwick, Ohio Oil, the national OIIC head, display "2=3" buttons at a reception. Later, they saw the Soldier Field tests (left) proving the gains in gasoline value

Raising one of the nation's most popular flavors is a big business in the rich muckland country of northern Indiana

tion. Twelve of its northernmost counties and parts of lower Michigan together supply about half of the world's mint. Translated into everyday items, that means veritable mountains of chewing gum, candy, ice cream, flavoring extracts, and

paying them something like \$14,000 a week. His scores of tractors, trucks, and other petroleum-powered equipment sometimes consume as much as 24,000 gallons of gasoline and 10,500 gallons of diesel fuel in a single month. The rural enterprise is incorporated, has its own machine

HOOSIER MINT FARM

THESE late summer days there wafts from the mucklands of northern Indiana and southern Michigan a pungent but pleasant aroma not generally associated with the farms of America.

Not from the corn, potatoes, small grain or onions, which are the principal food crops of the region, does the sweet smell originate. Rather, it drifts from the waving green leaves of the peppermint and spearmint plants which thrive so well in the black, mucky soil that is common to the two-state border area.

Indiana traditionally is the nation's pacemaker in mint produc-

a variety of pharmaceuticals.

In this region of big mint farms, the biggest is that of Wisconsin-born William Gehring.

One of the largest mint growers in the U. S., husky, 49-year-old Farmer Gehring is master of 5,300 acres of rich farmland in Jasper County, Indiana, some 17 miles northeast of Rensselaer, the county seat, and 90 miles southeast of Chicago. During the harvest season, he employs as many as 250 hired hands,

shops, and employs its own full-time agronomist and agricultural engineer and purchasing agent. It is, no matter how you view it, big business on the farm.

Actually, Gehring's farm is four farms in one. Each individual farm has its own manager who lives right on the property he supervises. Three of the farms maintain their own mint still, the black-capped smokestacks of which form a collective landmark, if not trade-mark, of this part of Indiana.

The region's spongy, soot-black soil, with its excellent water-holding capacity and high nitrogen content, is extremely well-suited for the production of mint. But such was not always the case. Fifty years ago, the muckland was swampland. In the intervening years, far-sighted farmers moved in. With modern agricultural techniques and the unfailing help of tractors and other mechanized pieces, they drained off the excess water and then planted mint, potatoes, corn, and the other crops which have become the mainstays of the area.

William Gehring was among the pioneers. A lifelong believer in scientific crop-growing techniques, he looked upon the Indiana muckland as an ideal place to test some of his ideas on a large scale. Back in 1939, he bought 350 acres of brush-covered land at \$60 per acre and planted them to potatoes. He had no intention at first of getting into the mint-growing business. But potatoes must be rotated, and mint fit into the program. Mint and potatoes demand irrigation, and that meant, in Gehring's words, "controlling more land to protect our water rights."

Starting out with just 350 acres of brush-covered land 13 years ago, William Gehring has become master of one of Indiana's biggest farms

So it was that his farm holdings expanded to their present 5,300 acres, with each of the original acres now worth more than six times what he paid for them 13 years ago.

A perennial plant, mint should be plowed under after two seasons. Otherwise it is subject to disease and insect infestation, making it an unprofitable venture. Gehring doesn't always let his mint go that long. He rotates some fields after the first year. That means he still is a major potato grower — probably Indiana's biggest.

Mint is harvested much like hay. During the cutting season, which extends from July to October, the 24-to-30-inch plants are mowed, raked, and left in the fields to dry. Trucks, heaped full with the sweet-smelling green leaves, then transport them to one of the three stills on the farm and dump them into giant vats. Workmen, jumping up and down on the leaves, squeeze the plants into the vats. For up to an hour, the leaves are steamed, to boil out the mint oils.

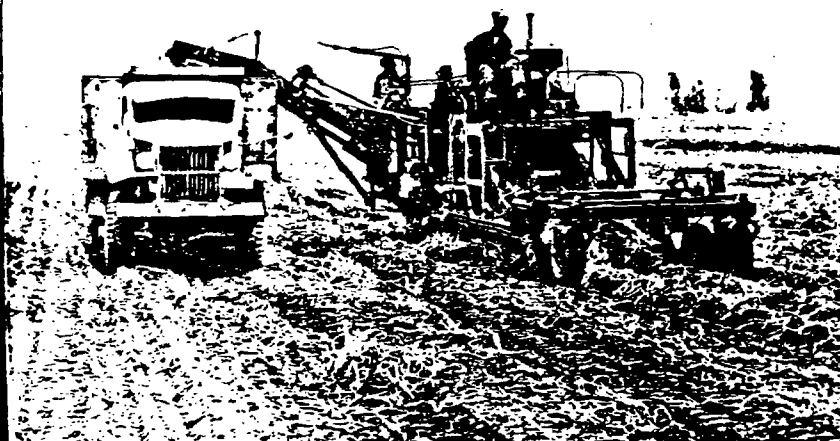


These in turn are condensed and drained off. The resulting light yellowish-white oil is packaged in 50-gallon drums and (in Gehring's case) shipped to a processing plant in Kalamazoo, Mich., where it is further refined for eventual use in chewing gum, foods, certain drugs, and other products.

A satisfactory yield is 40 to 50 pounds of oil to an acre of mint leaves. Spearmint oil this year is bringing about \$7 a pound. Peppermint, which is more delicate and harder to cultivate, commands 50 cents to a dollar more a pound.

As recently as 1949, the farm had almost 2,500 acres of both spearmint and peppermint under cultivation. Last year, plantings totaled 1,400 acres. This season, because of the amount of land available under rotation and because of his desire to

A harvester that uproots and loads potatoes at a rate of 600 bushels an hour is one of the labor-saving machines in use on Gehring's farm





Three common sights in the Indiana mint country: Above, harvested much like hay, the mint is cut and afterwards is loaded by machine... Right, one of the many stills whose black-topped smokestacks tower above the low-lying mucklands. ... Right, below, arrived at a still, the mint is compressed into vats where the oil is steamed out of the leaves

build up the volume of other crops, Gehring has only 750 acres planted to mint. His major crop presently is corn — something like 3,200 acres of it. Potatoes are next, with 800 acres.

When your acreage is as large as Gehring's is, and when you have a farm on which certain points are 14 miles apart, as on Gehring's, heavy reliance must be placed on mechanized equipment to get the crops sown, grown, harvested and off to market.

The extent of Gehring's reliance is 61 tractors (35 gasoline and 26 diesel), 20 Army surplus 6 x 6 trucks, 13 pickups, 12 jeeps, nine miscellaneous trucks (including two mobile repair shops and a field equipment - testing vehicle), five buses (for transporting workers from field to field, picking up local

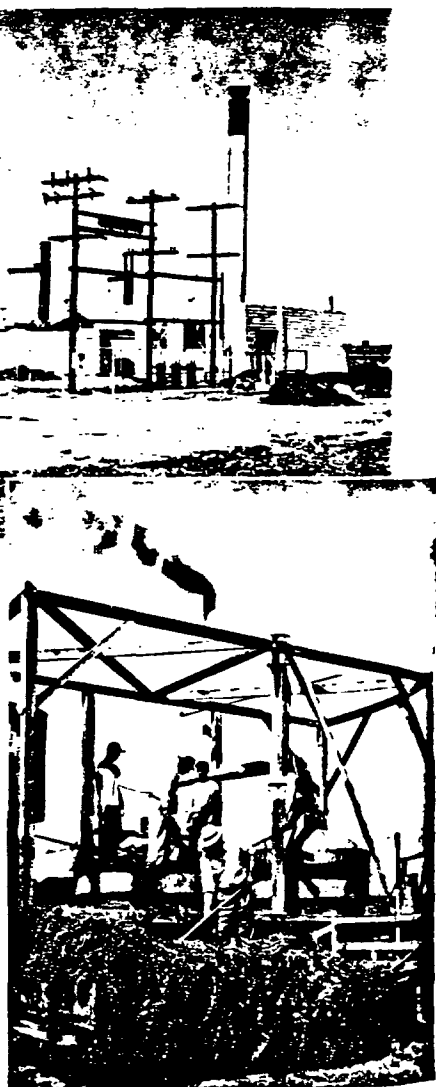


help in town, etc.), 55 stationary engines, and eight large gasoline-driven irrigation pumps.

Beyond their tremendous consumption of gasoline and diesel fuel, these vehicles and equipment require annually about 4,000 gallons of lubricating oil, 1,600 pounds of high-pressure grease and 3,900 pounds of universal grease. These are supplied directly by Baumgartner Oil Company, consignee for The Texas Company in Rensselaer. The gasoline and diesel fuel are delivered in transport lot from the Texaco terminal in Indianapolis.

Even though there is ample work to keep a peak-season staff of 250 employees and a year-round payroll of 50 to 60 people busy, all operations on the farm are mechanized so far as possible. Ernest Munter, the farm's agricultural engineer, has designed special pieces of equipment to help ease the laborious jobs of digging potatoes and seeding onions.

The potato harvester, which was four years in the creation, does away with much of the human labor required to get the mature potatoes out of the ground, sorted, packaged.



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and off to the grocer for retail sale.

A tractor-mounted, self-propelled device, the harvester can uproot and load into trucks that are driven along beside it up to 600 bushels an hour. The digger even shakes dirt and vines loose from the potatoes, although a crew of pickers rides on the machine to make sure that no objectionable materials accompany the spuds across the conveyor belt and into the waiting trucks.

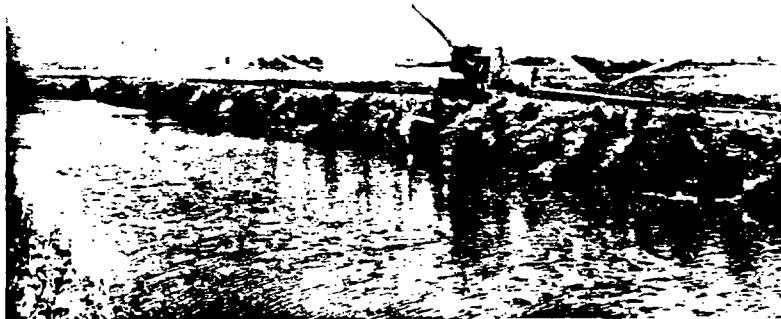
Named "Limberlost"

When loaded, the trucks cart the produce off to the farm's own potato sorting and packaging plant. There, after two washings, the dried potatoes are sorted and graded and then sacked in 10, 15, 50, and 100-pound bags. Gehring's top grade potatoes, as well as his best onions, are marketed under the trade-name of "Limberlost." This was taken from "Girl of the Limberlost," Gene Stratton Porter's famous novel about the swamplands of northern Indiana before that area was reclaimed for crop use.

The ingenious onion seeder, devised by the farm's agricultural engineer, plants 10 rows of onion seeds, fertilizes under the rows, and sows wheat or some other wind-break crop between every two rows of onions. And it does all this in one operation.

Maintaining the farm's echelons of tractors, trucks and other motorized equipment in maximum condition is a special problem because of the considerable sand in the area. A full complement of mechanics and shop workers are on the job the year 'round to keep the equipment on the go.

Irrigation and water storage facilities on the property are, like William Gehring's other farm activities, modern and scientifically planned.



An extensive irrigation system which supplies water to growing fields even during prolonged dry spells is one of the modern features of Gehring's farm

An extensive overhead system supplies water for irrigation under dry weather conditions. But provision also is made for proper drainage in the event of prolonged wet weather. Beneath the farm — three to four feet below the top of the soil — snake 350 miles of tile drain. This system is used to drain off excessive rainfall, which pumping stations at key locations throughout the farm pump into the drainage ditches. The ability to feed this water back into the soil through the same tile during dry spells, as a form of sub-irrigation, helps to maintain better growing conditions.

Combats Erosion

The underground water storage system also is a boon in overcoming the soil erosion problem that constantly confronts all farmers. Gehring has a choice of two ways he can return to the land those washed-away soil particles that become trapped in the maze of drainage ditches. The particles either can be dredged out and spread over the ground again, or they can be

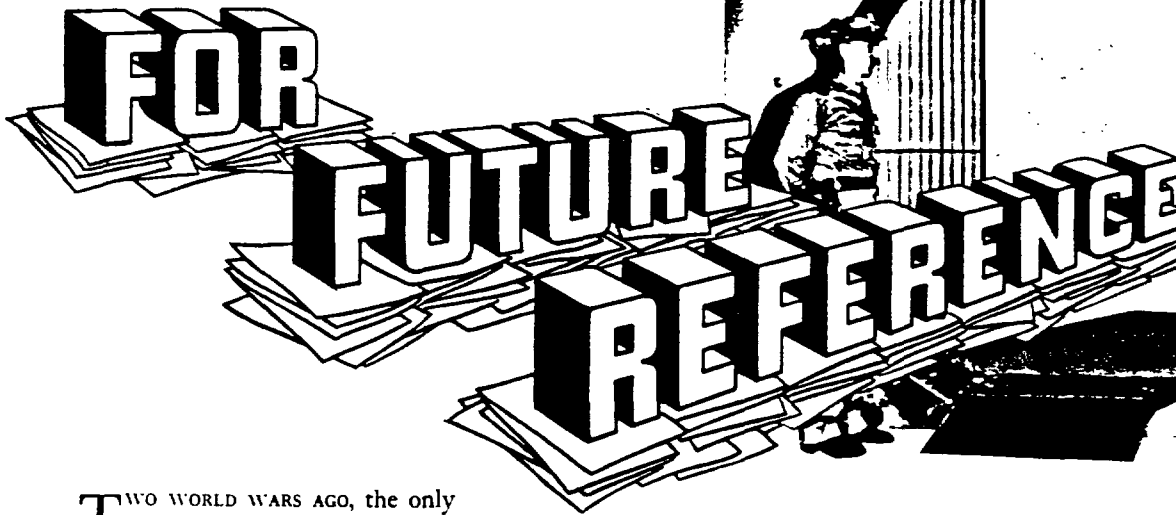
Most of the nation's output of mint goes into small boys in the form of flavoring for chewing gum, candy, ice cream and other confections

pumped through the overhead sprinkling system and returned to the land that way.

As he proudly explains his irrigation system and the other marvels of his scientific farm, Farmer Gehring is a walking advertisement for one of his most profitable and (until this year) most prolific crops. He is a confirmed gum chewer — both spearmint and peppermint.



With irreparable damage to vital records almost a certainty in the event of enemy attack, many companies are having them safely stored . . .



TWO WORLD WARS AGO, the only enemy action American industry needed to guard itself against was sabotage. Airplanes could not span the oceans, and submarines were not used for land attacks.

By World War II, industry had to face not only the threat of sabotage, but that of aerial bombing and shelling of coastal installations by undersea boats. The bombing threat never materialized, but it was there.

In any future all-out war, the security of American industry will be threatened as never before. Attempts at sabotage will almost certainly reach a grandiose scale. Sneak enemy air and sea attack will be both possible and probable. A single A-bomb dropped on one of the nation's major cities, say our military and civil defense planners, could blast many companies out of business, even though their factories and manufacturing plants were located far from the blast area.

The well-directed bomb would almost certainly claim as human casualties executives and other key personnel of business firms. And it

would make confetti of irreplaceable business records and corporate documents. Gone forever would be the cumulative mental and paper knowledge of a stricken company—knowledge without which many business firms could not operate even with their manufacturing facilities still intact.

A Real Threat

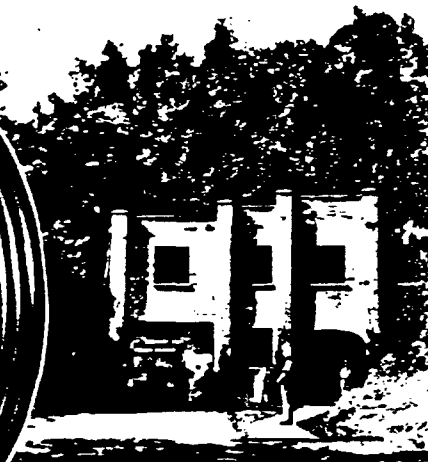
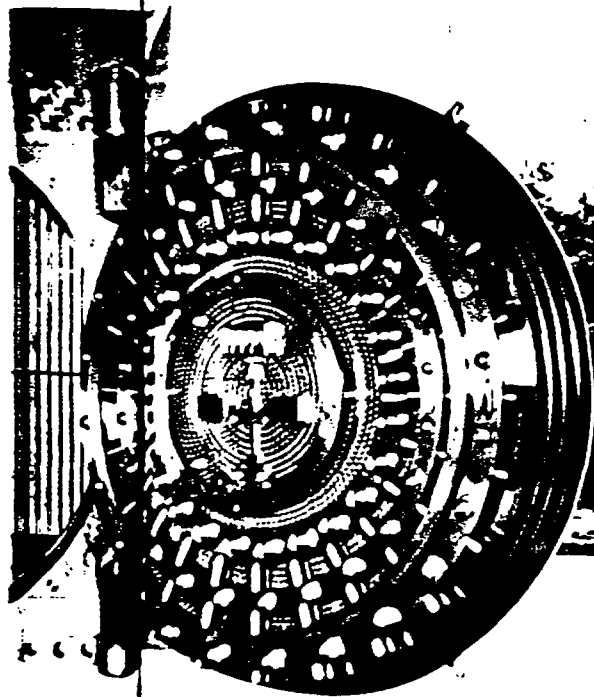
This is not mere supposition. It is something those charged with defending the nation say can and will happen if the United States ever comes under bombardment.

Except for seeking proper shelter and following other rules for survival prescribed by civil defense authorities, there is little individuals can do to protect themselves. But corporate records are something else again. These (or copies thereof) can be placed in safekeeping at sites far removed from potential target areas. And that is exactly what thousands of forward-looking business firms are having done.

Right now, in America, there is underway the greatest mass movement of business records, or copies, in the history of free enterprise. Corporation charters and certificates of incorporation, minutes of meetings, blueprints, formulas—all these and scores of other types of necessary papers are being moved into storage.

There is nothing secretive about this Operation Records Preservation, nor is it restricted information as to where the records are being stashed away. Many are being deposited in subterranean bank and other vaults in towns and cities. But the bulk of the papers are being shipped to outlying areas for storage in special buildings. Some records, including those of firms as far away as Oklahoma, are being held in an historic old iron mine 125 miles up the Hudson River from New York.

Termed "the safest place in the world" and announced as the only commercial underground storage place of its kind in the United



A helicopter carrying records for storage approaches the entrance to Iron Mountain's remote vaults

States, the iron mine site opened for "atomic storage" business in August, 1951. What used to be the mine shaft—extending almost 1,000 feet into the mountain—has been concreted and coridored to form more than 200 storage rooms of varying sizes. Each equipped with a 400-pound combination lock door, the vaults rent for from \$362 to approximately \$24,000 a year.

For its fees, the Iron Mountain Atomic Storage Corporation guarantees the safekeeping—at a site re-

moved from potential target areas—of all records placed in its care. And therein lies the story of the record shelters that are springing up all over the country.

The first requisite of such a storage place is that it be remote from areas likely to be hit by bombs. That is why many firms along the Eastern Seaboard have erected buildings or remodeled such structures as abandoned farmhouses and factories for this purpose in upstate New York, and in Vermont and New Hampshire. Many Detroit firms are storing in northern Michigan locations.

In Chicago, one commercial records storage firm has plans for constructing an underground depository 60 to 150 miles outside the city. Many companies with offices, plants or other facilities in the Midwest are using those for the storage of company records, providing they are not in or near potential target areas. On the West Coast, the trend is the same—storage in a remote area.

Some idea of the value that business and industry put on their vital records comes with the announcement by several concerns that they have appropriated more than one million dollars each for storage programs. Another indication of the scope of the project is the estimate that the larger banking institutions of New York City spent more than five million dollars in their first year of concerted effort to duplicate and store records.

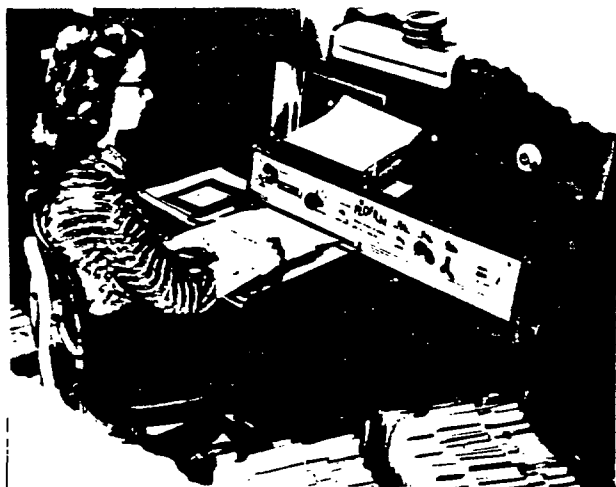
Protection Vital

Whatever the cost, more and more companies are coming to the decision that their vital papers must be protected. Among those which already are well along with their records preservation program, the attitude of Socony-Vacuum Oil Company is significant. In an address before the American Management Association, Russell H. Jackson, Socony-Vacuum's senior methods analyst, declared:

"... We as a company need to preserve the accumulation of knowledge we have built up through years of active competition, years of marketing and scientific research. Our plants are not simply arranged. We cannot maintain that 'anyone can do it in ten lessons.' We have spent millions of dollars learning how to

Once they have established record-storage programs, many companies dispatch classified documents for safekeeping at regular intervals





Usually, it is not necessary to preserve the original of a valuable paper or document. In these cases, carbon copies or photostats frequently are used. Or in order to conserve space, they can be reproduced in much smaller size on microfilm

make better refineries and better products. The investment has not been in money alone, but in the labor, thinking and perseverance of our employees. Our knowledge is a record of individual accomplishments in science, engineering and plain hard work. We don't intend to lose that, no matter what the outcome of the present situation.

"The importance of our attitude in this matter is indicated by the fact that in World War II, sixty percent of the total tonnage represented by all men, munitions and materials employed by the Allied forces was in petroleum products alone. In the event of another worldwide conflict, Allied dependence on petroleum would be even greater.

"We in the petroleum industry are better prepared than ever before to meet the colossal demands made upon us in peace or in war, but essential records of oil fields, refineries, pipelines, distributing yards, docks, fleets of tankers, and other facilities must be preserved."

A staunch believer in the need to store corporate records and an authority in that field, Mr. Jackson has coined the term "business amnesia" for the condition that would

afflict any company whose only set of records was bombed out of existence, or otherwise lost.

The size, scope, and plan of action of records preservation programs naturally vary from company to company. Somewhere along the line, though, three elementary decisions must be reached: who in the company is to be responsible for the program, where and how are the records to be kept, and what records should be preserved.

In segregating and evaluating those records to be stored, a Special Committee on the Protection of Business Records appointed by the Commerce and Industry Association of New York suggests, they should be labeled "vital," "valuable," "important," and "useful."

Top-priority "vital" records are those which are not immediately replaceable and which are needed to

continue business operations. "Valuable" records are those which a company would need to prevent large financial loss and to recover monies for the replacement of buildings, equipment, and other assets.

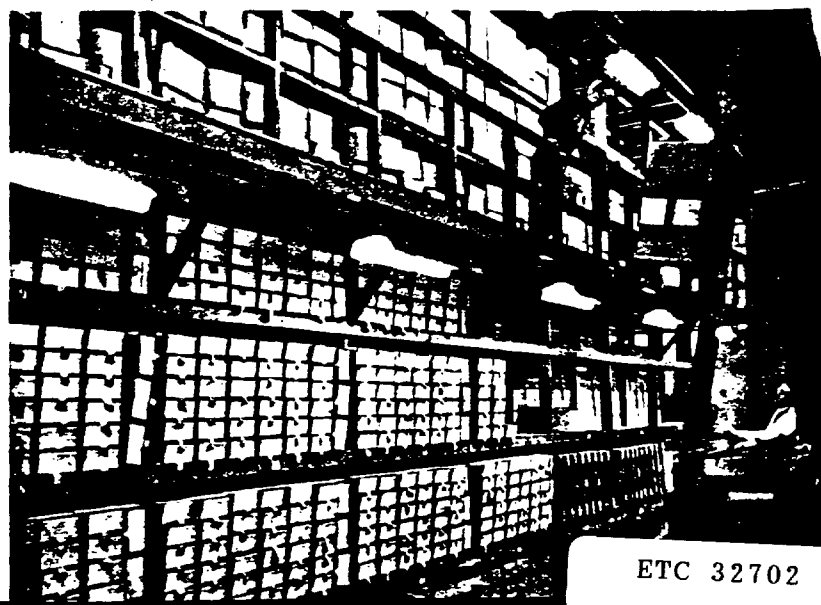
Records which cannot be replaced without long delay or confusion, but which would not seriously affect necessary operations in the meantime, fall into the "important" classification. "Useful" records are those which are helpful in current operations, but which are retained on file normally only for reference or historical purposes.

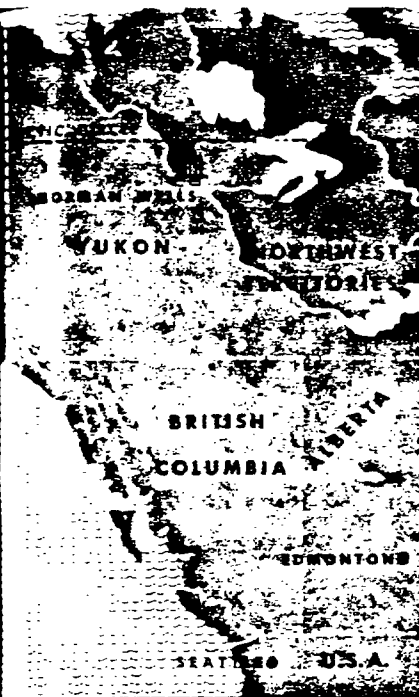
Need Continues

A survey by the Commerce and Industry Association's special committee found that many of the business firms plan to continue preservation measures even if the present threat of war should evaporate. "There is always need," the survey pointed out, "to protect against fire, explosions, flood, theft, sabotage and wanton destruction."

In preserving its vital records under well-organized programs, then, American industry is serving notice upon both potential enemy nations and the elements of nature that it expects to conduct "business as usual" no matter when or where any type of disaster may strike.

Banks are faced with one of the biggest storage problems. Shown here is one corner of a building devoted to sheltering some of the records of one of the nation's larger banks





Going

DEEP IN THE vast wilderness of Canada's Northwest Territories, miles from the nearest outpost of civilization, a river barge, pushed by a powerful diesel tug and carrying a shipment of steel drums, makes its way down the broad cold waters of the Mackenzie River.

Ten thousand miles away, on the windswept pampas of Tierra del Fuego, near the bottom of the world, a heavy truck loaded with similar drums slogs its way almost axle deep through the slimy mud of what passes for a road.

Two shipments of "Ethyl" fluid — to the two most remote oil refineries in the Western Hemisphere and probably the world — are nearing their destinations.

Ethyl Corporation has been shipping antiknock compounds to the Imperial Oil Company refinery at Norman Wells in Canada's far north for several years. When the first shipment of "Ethyl" fluid went out

It takes a combination of know-how and transportation facilities to get "Ethyl" fluid to Norman Wells and Tierra del Fuego

to the Chilean government's new refinery at the southern tip of South America this summer it meant that Ethyl was shipping not only to within 80 miles of the Arctic Circle but also almost to Cape Horn.

These two installations on the fringes of the north and south polar regions are at the end of far-reaching and often tenuous supply lines. Between Ethyl's manufacturing plant at Baton Rouge, La., the shipping point, and Norman Wells and Tierra del Fuego lie not only great distances measured in thousands of miles but also some of the world's most rugged weather and geographical conditions.

Shipments travel over land via railroad and truck, across oceans on

incoming shipments of antiknock compounds must be timed to take advantage of weather conditions most favorable for transportation and also to provide the refinery with ample supplies for its manufacturing season.

The long trek north for the drums starts in the late winter. Loaded in box cars at Baton Rouge, they travel by rail for 2,500 miles up through the United States and southern Canada to Edmonton, Alberta, in what perhaps is the only routine part of their long journey. At Edmonton, they are transferred to the Northern Alberta Railways for a 317-mile rail trip through that province.

At the town of Peace River, on the river of that name, the drums of "Ethyl" fluid are taken over by the Yellowknife Transportation Company. Here starts an overland journey over 500 miles of frozen snow-covered tundra. For the first 400

To Extremes

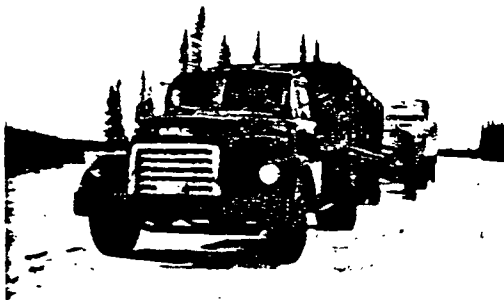
freighters, and along rivers on barges. They pass through large cities, remote outposts, and great regions of almost uncharted wilderness. Infrequent shipping schedules and almost unlivable weather conditions call for much advance planning and extraordinary feats to assure that shipments will make connections and reach their destinations on time.

The Imperial refinery at Norman Wells is operated from about the first of February to late October, when demand for petroleum products in the Territories is greatest.



miles, the trucks buck the winds and fight the bumps and curves of Mackenzie Highway, a rough gravelled road paralleling the Hay River.

No brightly lighted diners dot this unpaved road. Instead, there are occasional shacks where the truck drivers huddle around stoves and eat bacon and eggs and hot coffee, the only items on the menu. Sometimes they stop by the roadside and make their own coffee on portable gasoline stoves. During the 24 hours it takes to negotiate the 400 miles, the eating stops are the only break in the monotony of the grueling ride.



Some 30 miles south of the town of Hay River, the trucks swing off the highway and head northwest over a bush road to Mills Lake, which is the end of the truck route. Mills Lake is nothing more than a widening in the Mackenzie River a few miles from its source in Great Slave Lake, but it has become a shipping point for vessels heading "down north" to the "Wells" and beyond because it is ice-free earlier in the year than the lake itself. At Mills Lake the drums of "Ethyl" fluid are transferred from trucks to the Yellowknife Transportation Company's river barges, powered by diesel tugs. The barge trip extends for several hundred miles down the 2,500-mile-long Mackenzie River, second longest in North America.

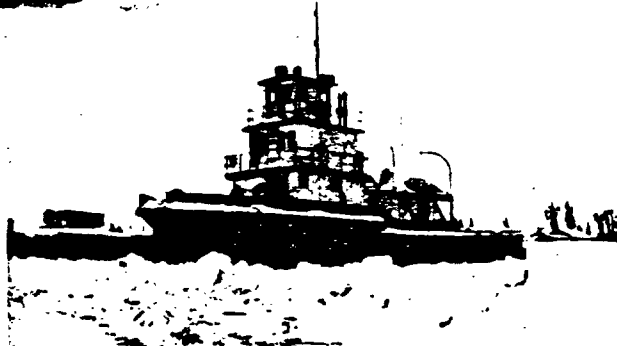
Settlements are few and far between on the rocky river banks. There are only Fort Simpson, some 100 miles from the starting point, and Fort Wrigley, about the same

distance farther on downstream.

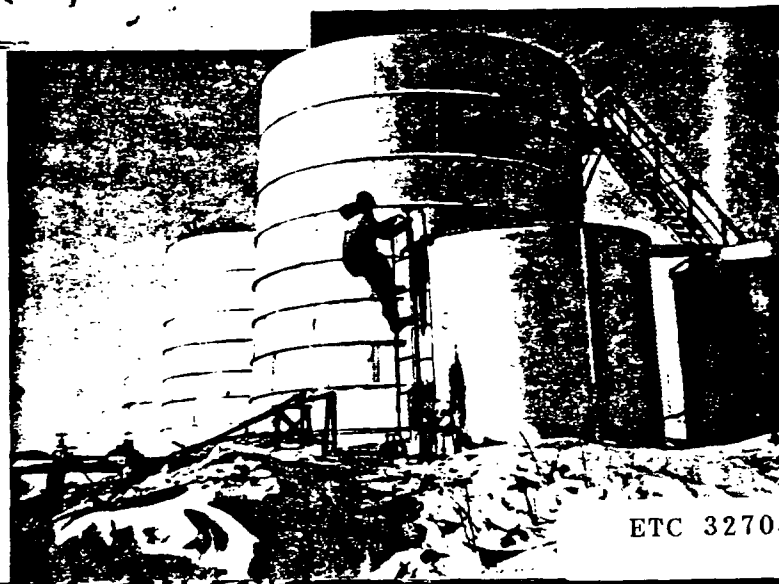
It's a 150-mile stretch from Fort Wrigley to Norman, located just where the 65th parallel crosses the Mackenzie, but then it's not much further to the end of the long trip. At Norman Wells, the refinery wharf jutting out from the right bank of the river is the first sign of welcome.

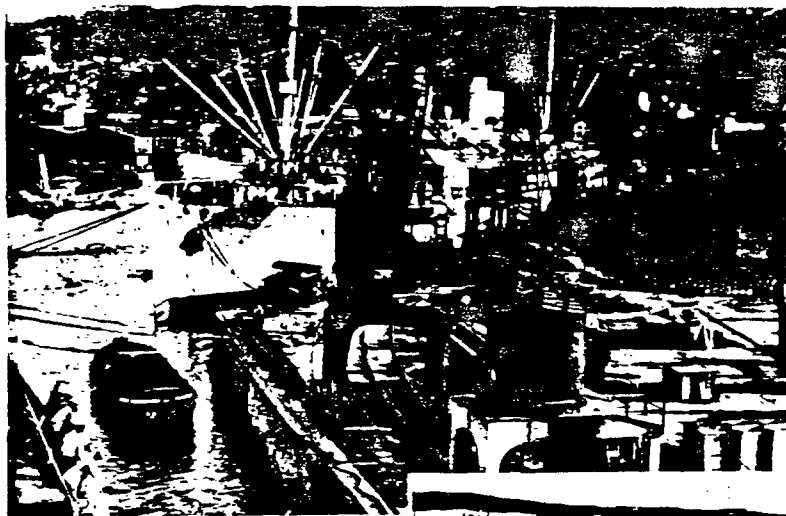
The story of oil at Norman Wells, where "Ethyl" fluid is blended with both aviation and motor gasolines, goes back more than a century and a half to the late 1780's when Sir Alexander Mackenzie spotted seepages of petroleum near Fort Norman on the banks of the river that now bears his name. Imperial Oil put down the first successful well in 1920 near where the refinery now stands and operated a small steam still there as early as the fall of 1921. However, operations attained no significant proportions until 1932 when oil for fuel was supplied to a company developing uranium claims in the area.

A prefabricated refinery of 840-barrel-a-day capacity was shipped in piece by piece in 1939 to supplement the small equipment that was then being used. With the war, the accent at Norman Wells was on production. More than 20 new commercially-successful wells were put down in the area. The bulk of this



After traveling north across the United States and southern Alberta by train, drums of "Ethyl" anti-knock compound destined for the Imperial Oil refinery at Norman Wells are transported by truck and tugboat-propelled river barge. Located just 80 miles south of the Arctic Circle, the refinery normally is operated from February to October, when demand for petroleum products in the region is greatest





Drums of "Ethyl" fluid on their way to the ENAP refinery on Tierra del Fuego (bottom) are transferred to a smaller coastal steamer at the bustling port of Valparaiso (left). . . . No longer producing, the discovery well in the South American republic (center) has been set aside as a monument. Gas is pumped back into the ground on the site to increase pressure throughout the field and thus help step up production

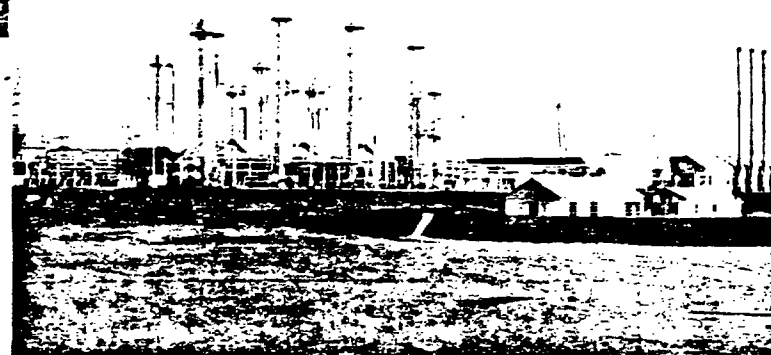
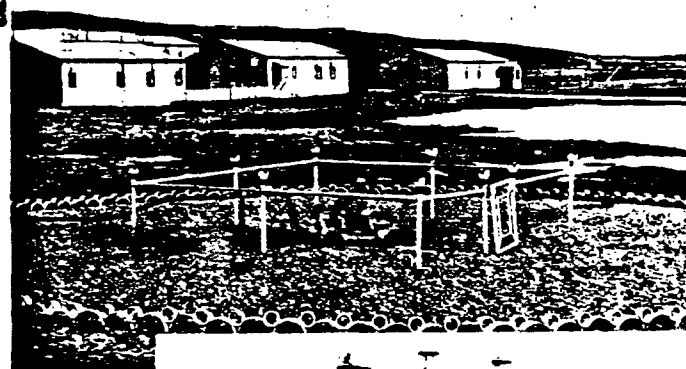
crude was shipped through a hastily-constructed pipeline to a refinery built by the U. S. Army at Whitehorse in the Yukon Territory.

War's end eliminated the urgency for producing and refining large quantities of oil for the defense of Alaska. The Whitehorse refinery was shut down and Norman Wells returned to peacetime operations. But new activities in the Northwest Territories have increased the demand for petroleum products. Refinery capacity at Norman Wells has been upped to 1,250 barrels a day to produce aviation and motor gasolines, diesel fuels, and heavy fuel oil for the "local" market.

Recent Discoveries

While the history of oil at Norman Wells is a long one, petroleum is a new discovery two continents away on the half-Chilean, half-Argentinian island of Tierra del Fuego. Until producing wells were sunk recently in the extreme south of the country, oil deposits were unknown in Chile and all petroleum products were imported.

Exploration, production and now refining in the South American republic are handled by Empresa Nacional del Petroleo. "ENAP," as it is called for short, is a subsidiary of Corporacion de Fomento de la Produccion. The parent organization is a Chilean government instrumental-



ity devoted to developing the country's natural resources.

ENAP's refinery on Tierra del Fuego went on stream for the first time last month. Drums of "Ethyl" fluid were shipped from Baton Rouge to arrive in time for the first gasoline blending operations, which were supervised by an Ethyl Corporation safety engineer.

Like those destined for Norman Wells, drums for the Chilean operation start their long journey in box cars. But, of course, they travel in the opposite direction as they head down South America way. The rail journey from Baton Rouge to New

Orleans is a short one, but when the drums are stowed on the deck of an outgoing freighter their next stop is Valparaiso, Chile, 4,700 ocean miles away.

Down the broad, winding Mississippi, through the low-lying delta country, out into the Gulf of Mexico, and into the tropical zone, the vessel steams. It passes between the western tip of Cuba and Mexico's Yucatan Peninsula, and heads down the Caribbean Sea and through the Panama Canal. Then comes the long sail down the west coast of South America over the Equator, past Ecuador, Peru, and almost halfway

down the long length of Chile.

At Valparaiso, the drums of "Ethyl" fluid are transferred to a smaller coastal steamer and go even farther south into colder waters. Last stop for this vessel is Punta Arenas, a bustling town on the mainland side of the Straits of Magellan and one of the world's southernmost ports. Here ships of many nations stop while making their way through the sheltered waters of the Straits instead of bucking the storm-lashed routes around Cape Horn. Here also the "Ethyl" fluid shipment is transferred again.

From the deck of the coastal steamer, the drums are loaded on the open deck of an LCT, operated by ENAP to carry supplies and equipment on the 70-mile water voyage through the Straits to Tierra del Fuego. Tides that are among the highest in the world, sometimes running as much as 30 feet, make the landing craft one of the few adaptable to such work.

Arrived at the island destination, the vessel is run as far aground as

possible during a high tide. When the tide goes out, ENAP-owned trucks drive out over the beach from shore and pick up their loads.

Although it's only eight more miles to the refinery, the long journey for the "Ethyl" drums that started in Louisiana some three weeks earlier is far from over.

Muddy Going

Except for sheep ranch settlements and explorers' and prospectors' camps, there is little life on the barren island. Paved highways are a thing unknown. Wind, rain, and snow alternate to keep what roads there are knee-deep morasses of mud. Frequently, the going is impossible and truckers are forced to abandon their vehicles until lower temperatures congeal the mud or the trucks are rescued by powerful tractors. Despite these trying conditions, the drums reach the ENAP refinery safely and on time.

As at Norman Wells, the 800-barrel-a-day refinery on Tierra del Fuego is operated to supply petro-

leum products primarily to the general area in which it is located. Here, too, the market is a growing one. Besides gasoline for the motor vehicles, tractors, and airplanes that are being used more and more in the exploration, development and commercial life of southern Chile, many other oil products are in demand. There are calls for diesel fuels to satisfy the requirements of the shipping industry and the diesel power that is being used in the mechanization of farms and mines. Too, plans are under way for the production of bottled gas for heat and fuel.

New horizons are opening up at the northern and southern ends of the earth. With typical resourcefulness, the oil industry has overcome the obstacles and is supplying the petroleum products needed in the exploration and development of these regions. At Norman Wells and on Tierra del Fuego, as in so many other places, Ethyl Corporation is helping the industry meet the needs by providing an essential ingredient of modern gasolines.

CHANGES IN ETHYL SALES ORGANIZATION

Matthew A. Taylor, whose association with Ethyl Corporation began 23 years ago, has been advanced to the position of manager of sales operations for the Company.

Most recently assistant manager of the Eastern region, Mr. Taylor has served in various Sales department capacities in St. Louis, Chicago, Boston, Philadelphia and New York since joining Ethyl in 1929.

He attended Brooklyn College, and is a graduate of Stevens Institute of Technology with a degree in mechanical engineering.

To assume Mr. Taylor's and other duties in the Eastern region, Donald S. Flynn and George P. Rosser, former account representatives, have been named assistant managers of that region. Mr. Flynn will be located in New York, and Mr. Rosser in Pittsburgh.

A similar change is also announced for the Western



MATTHEW A. TAYLOR

region, where Monroe F. Weill has succeeded C. Fred Naylor as assistant regional manager. Mr. Naylor has been transferred from Los Angeles to New York to assume the new position of manager of personnel development in the Ethyl Sales department. In that assignment, he will be responsible for the recruitment and selection of sales personnel, and will coordinate the Company's various sales training programs.

Ellis K. Locher, who has been manager of Safety, assumes Mr. Weill's former position of district manager in Los Angeles, and is succeeded in the Safety position by Levan R. Fleck, former assistant manager.

Another recent Sales department change creates district managerships, in place of resident managerships, throughout the Company's four regions.

Named to these new positions are: Eastern region — Roy L. Goltz, in New York, and Robert W. Richardson, in Philadelphia; Central region — Harry A. Mack, in Dayton; George W. Rose, in Chicago; and Robert R. Mead, in Kansas City; Southern region — Leonard L. Huxtable, in Tulsa; Russell Schell, in Dallas; J. O. Balzer, in Houston; and Alan C. Tully, in Baton Rouge; Western region — Mr. Locher, in Los Angeles; William H. Sievert, in San Francisco; and John S. Cole, in Salt Lake City.



THE TIME OF HIS LIFE

Clock collecting and repairing is more than a hobby with oilman L. W. Slaughter. It is his "second retirement plan"

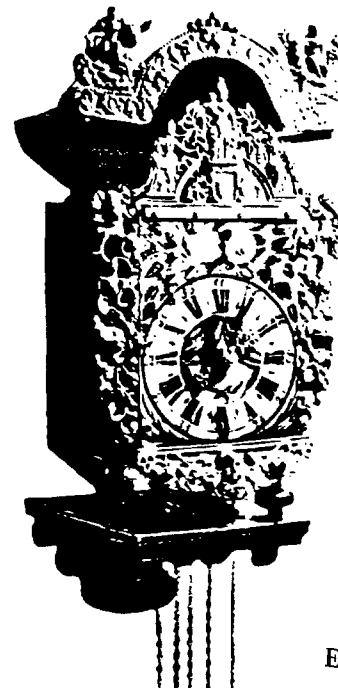
IF OTHERS have forgotten, L. W. Slaughter still recalls how difficult it was to come by a new alarm clock during the past war. And not without good reason—for it was the wartime shortage of this particular necessity of life that launched him upon a hobby he now considers "my second retirement plan."

On the job, "Jack" Slaughter is district manager for The Atlantic Refining Company at Montello, Pa., just outside Reading. In his spare time, he is one of the nation's fore-

most collectors of, and authorities on, antique clocks. And, since it is next to impossible to be a true clock-collector without developing an interest in horology, he also has become a well-informed student of the entire science of time.

A decade ago, Mr. Slaughter, by his own admission, cared little about clocks and their history. But then, as they say, came the war. An overseas veteran of World War I, he served as an officer in the Quartermaster Corps during the second conflict, and was assigned to a station where the alarm clock, and not a bugle, sounded reveille. When his "waker-upper" started to cut up, and a new one couldn't be purchased readily, he set about to repair the ailing alarm clock on his

Oldest timepiece in the Slaughter collection is the stately and minutely detailed Dutch hood clock below. It dates back some 300 years



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Repairing delicate clock mechanisms may appear to be tedious work, but "Jack" Slaughter finds it relaxing to work with his hands

own. Successful with that, he began to "tinker" with more intricate clocks upon resuming civilian life.

The first thing he knew, Mr. Slaughter was deep in a hobby that has proved to be both pleasant and profitable. Often he is able to sell, at a profit, a clock that he has restored to virtually its original condition. And that is what "Jack" Slaughter means when he refers to his hobby as an auxiliary retirement plan. He intends to convert his clock-collecting into a full-time business when he retires from Atlantic Refining ten years hence, and so add to the income he will receive under the company's generous retirement plan.

Handwork Relaxing

"Working with my hands, after mental strain, on something that interests me, is completely relaxing. Of even greater importance, I am preparing well in advance for my retirement, which to many people is a period of deadly anesthesia. I intend that it shall be the most interesting period of my life."

Gifted with a knack for taking things apart and putting them back together again in better shape, Mr. Slaughter has absorbed the whys and wherefores of his hobby in a

remarkably short time. His collection wasn't started until the postwar years. Today it numbers more than 150 pieces, many of them valuable one-of-a-kind clocks. In addition, he writes a monthly article for clock-collectors in *Hobbies* magazine, and these are soon to be published in book form.

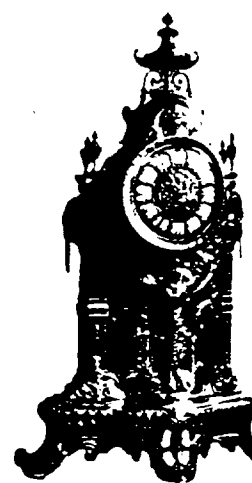
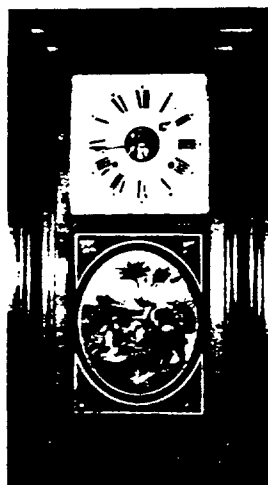
Evenings, weekends, and vacations find him visiting country auctions or inspecting the wares of antique dealers. The Pennsylvania Dutch region in which he lives and works is a veritable gold mine of old clocks. Many of the most beloved grandfather clocks were made in Reading early in the last century.

Inspect his interesting and varied collection, which is attractively displayed in the basement of his suburban home, and you'll find specimens not only of early American origin, but clocks made by the craftsmen of France, Germany, England and other European lands. His oldest timepiece, dating back about 300 years, is a so-called Dutch

hood clock — stately, minutely detailed, and with pewter decorations. On up through the years, his collection travels. There is an imposing, elaborate solid brass French clock on a beautifully inlaid wood base of the 1750-1800 period . . . distinguished tall-case (grandfather) clocks made at the hand of the renowned Daniel Oyster . . . Terry pillar and scroll timepieces handmade by Connecticut craftsmen 100 years ago . . . and the familiar calendar clocks that once were fixtures in offices, stores, barber shops, and railroad stations.

Most of these Mr. Slaughter acquired at auctions and through private sales; a few he received in trades with fellow-collectors. Some, particularly those of china construction, were in good condition when he obtained them and needed little attention. Others had dials that were all but obliterated and works that just didn't. These, Mr. Slaughter has restored, or will, through hours of careful repair in his home workshop. Restoring a neglected clock, incidentally, is a task calling for a steady hand, keen eyesight, unending patience, and a full understanding of the job. Mr. Slaughter possesses all these qualities in good reserve.

Although clock-collecting is not



among the hobbies with the most devotees in America, a surprisingly large number of persons do enjoy the pastime. The National Association of Watch and Clock Collectors, to which Mr. Slaughter belongs, has more than 1,000 members, and there obviously are many collectors who are not affiliated with that group.

With the possible exception of sun dials and sand glasses, collectors are interested in all kinds of timepieces. Some specialize in wrist and pocket watches. Others, like Mr. Slaughter, concentrate on the so-called regular clocks.

What points are taken into consideration in buying or trading an antique clock? There is no common yardstick. Mr. Slaughter's own set of standards includes — and pretty much in this order — age of the clock, its rarity, quality of design, quality of workmanship, artistic merit, and usability, or condition of the timepiece. (No matter how old, unique, or beautiful it is, a clock loses monetary and sentimental value if it can't keep time.)

An interesting by-product of his hobby for Mr. Slaughter has been

his study of the history and science of time. As he points out, "one cannot learn the true meaning and value of clocks or other old things without, at the same time, learning the contemporary history and customs that surrounded them and brought them into being."

Early Timekeepers

The first known devices for measuring time, he will tell you, were the sun dials of the Tigris and Euphrates valleys as early as the year 2000 B. C. Water clocks and sand glasses were not employed until more than 1,800 years later, and it was not until about 1360 A. D. that the first true advance in time-measurement was achieved. That was the first mechanical clock. Inventions of the mainspring, the pendulum, and the lever escapement came along at various periods during the next four and a half centuries.

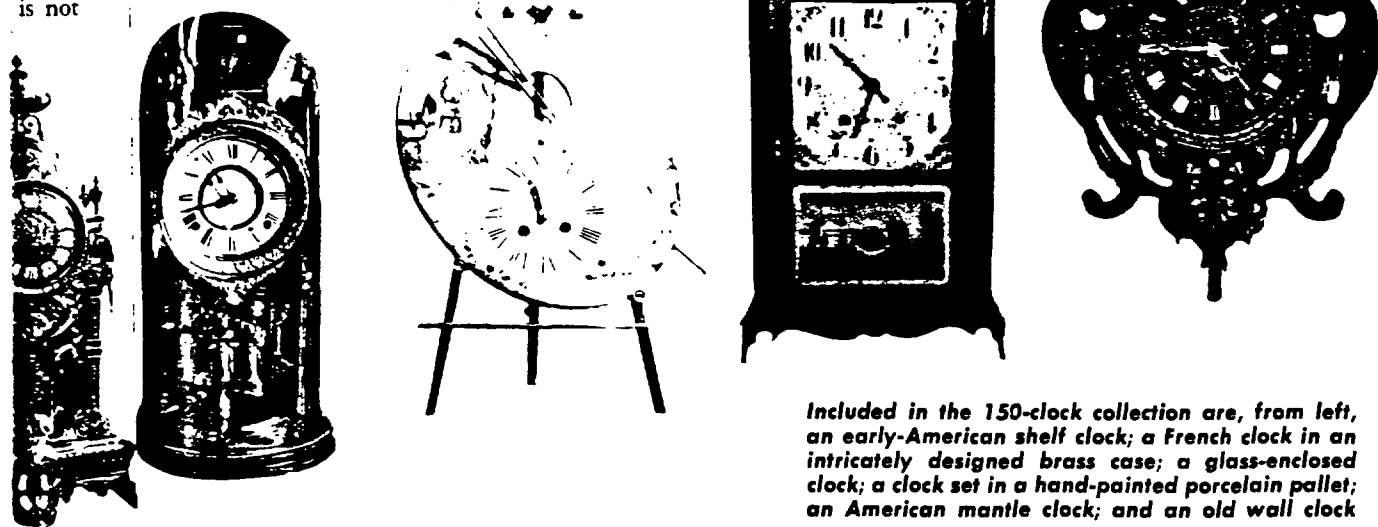
The eighth, and most recent, significant development in the history of time measurement was the construction of clocks by factory meth-

ods. Eli Terry, of Connecticut, led the way in this respect, and developed what Mr. Slaughter believes to be the first mass production of any article in the world.

For as long back as he can remember, Mr. Slaughter has held very strong feelings about time and the use man should make of it.

"Time," he philosophizes, "has always been very precious to me. There never is enough of it for the things I should do. Each of us was given an allotment of time when we came into the world. None of us will ever know what that allotment is until we are ready to depart from the world. The man who wastes something when he does not know how much of it he has is the greatest wastrel of all."

That is why, paradoxical as it might seem, Mr. Slaughter intends that in his years of retirement, surrounded as he will be with clocks of all descriptions, he shall never have time on his hands.



Included in the 150-clock collection are, from left, an early-American shelf clock; a French clock in an intricately designed brass case; a glass-enclosed clock; a clock set in a hand-painted porcelain pallet; an American mantle clock; and an old wall clock



Staging a television show, like Ethyl's sports quiz program, requires careful—often hectic—preparations behind the scenes

THE HANDS of the studio clock were fast closing on 9:30. Already it was 9:05 p.m. (CDT)—and still no "Happy" Chandler. In just 25 minutes the former commissioner of baseball was due to go in front of the cameras as a guest on Ethyl Corporation's popular television sports quiz show, "Ask Me Another."

Almost at his wit's end, Louis G. Cowan, the show's producer, was pacing the corridor of the Chicago studio when he spotted Bob Hope arriving to do his own show later this particular Thursday evening. Would Hope appear on the Ethyl program as a last-minute substitute? As part-owner of the Cleveland Indians and a tournament golfer who shoots in the 70's, he more than qualified as a sports personality. The popular comedian graciously agreed and the Ethyl program went off smoothly, the TV audience unaware of the eleventh-hour switch.

It later turned out that Chandler,

who was attending the Democratic convention, which was in session in Chicago that week, had become involved in a political gathering and had been unable to get to the studio in time for the telecast. He has been rescheduled to appear on "Ask Me Another" at a later date.

Such a close call is, perhaps, exceptional, but it serves to illustrate what sometimes goes on behind the scenes in television.

What's Involved

It's a well-known fact that television is growing with almost unbelievable speed, and that millions of people are spending more and more time in front of their TV sets. But despite television's tremendous popularity, few of its devotees know what goes on beyond the screen—what's involved in presenting a program.

When they tune in their local NBC-TV station and settle in their

favorite armchair, those who watch "Ask Me Another" each week probably give little thought to how the program was conceived and how it is produced and telecast.

They see outstanding personalities from the world of sports appear as unidentified silhouettes behind a lighted screen. Later, as each guest is identified, they see and hear him answer questions fired by a four-member panel presided over by an engaging master of ceremonies. To viewers, the half-hour show is informative, entertaining and well-coordinated. Those who stop to think about it are even more impressed when they realize that because the identity of each guest remains a mystery until the panel discovers it, there can be no prepared questions and answers. But even though practically all of the dialogue is extemporaneous, each production appears as a polished presentation. This is possible only because the entire series and every individual show has been carefully worked out in advance.

Preparations for Ethyl's TV program were made months before the first program was telecast early in July. The quiz panel type show with a strong sports flavor was selected because it would have the greatest appeal for the audience Ethyl wanted to reach.

Although "Ask Me Another" follows the same general format each week and although questions and answers cannot be prepared in advance, the hours preceding each show are crammed with activity.

For three hours every Thursday afternoon, Joe Boland, the former Notre Dame football star and ex-college grid coach who is the "Ask Me Another" master of ceremonies, meets with the three mystery guests who are to appear on the show that evening. He talks with them about

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the sports in which they have achieved fame and about their most outstanding performances. He discusses their interests and hobbies, and explains the type of questions the panel is likely to ask.

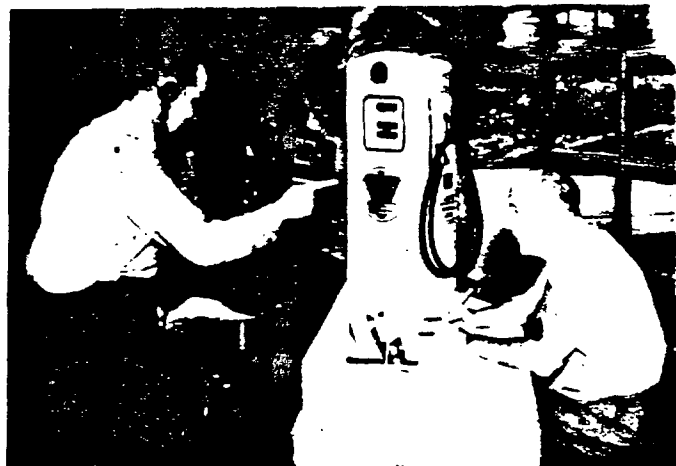
Later in the afternoon, Boland meets separately with panel members Warren Brown, sports columnist of the *Chicago Herald-American*; Kay Westfall, attractive television actress; Tom Duggan, NBC sportscaster; and Johnny Lujack, star quarterback of the Chicago Bears. Together, the emcee and the panel hold a critique of the preceding week's telecast.

Final Steps

After dinner, over which the guest stars, the emcee, and the producer and director usually discuss the coming show, the guest stars are familiarized with the physical layout of the studio. They are shown the door through which they will enter, the screen behind which they will appear, and the position of the cameras, lights, and desks, chairs, and other furniture.

At 8:30 p.m., the guests and Master of Ceremonies Boland go through a "dry run" of the show with members of the studio audience acting as panel members and

Joe Boland, emcee of "Ask Me Another," gets his "on the air" cue. At the rear are the "Ethyl" gasoline pump and other props used during commercials. The Ethyl show originates in Chicago on Thursday night, and is telecast over NBC



asking questions of their own choosing. Following this, there is a half-hour break. Then, at 9:30, "Ask Me Another" goes on the air.

On paper, it may not sound particularly difficult to assemble three outstanding sports personalities in Chicago every Thursday afternoon in time to brief them for a network telecast, but it is a task which can provide plenty of headaches. Such popular figures are in demand in all parts of the country. Engagements in places far removed from Chicago frequently make it necessary for them to fly into the Windy City only a few hours before they are due to appear in front of the TV cameras. Sometimes, as in the "Happy" Chandler-Bob Hope inci-

dent, last-minute substitutions are necessary.

From all indications, the effort being expended in producing "Ask Me Another" is producing gratifying results. The show has established a wide following among television audiences, particularly among men who, surveys show, influence most retail gasoline sales. Too, it has received enthusiastic reviews from TV columnists.

Designed to help customer oil companies increase their sales of "Ethyl" gasoline, the program reaches TV audiences in 17 states of the Mid-West, Mid-South, and Far West — areas where premium gasoline accounts for a high percentage of retail gasoline sales. It is televised

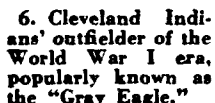
Just before program time, members of the quiz panel hold a last-minute discussion with the emcee



Pictured below are ten of the outstanding sports figures who have appeared on Ethyl's television quiz program, "Ask Me Another." Aided by the clues supplied with each picture, can you identify them? Answers below.



1. One of Notre Dame's "Four Horsemen." He later coached football at his alma mater and was commissioner of the National Football League.



2. One-time National League batting champion who has managed teams in both major leagues this year.

7. Towering ex-De Paul University basketball player now starring for the Minneapolis Lakers; often referred to as "Mr. Basketball"



3. The first woman to swim the English Channel. Her 1926 feat was performed in 14 hours and 31 minutes.

8. Former heavy-weight boxing champion who lost the title to Joe Walcott at Forbes Field, in Pittsburgh, in the summer of 1951.



4. Rotund football coach who recently resigned his college berth for a career in television.

9. Son of an Arkansas cotton picker who became a star pitcher for the St. Louis Cardinals and is now a popular radio and TV baseball announcer.



5. American track star who won the 100 and 200-meter runs and the broad jump in the 1936 Olympic Games at Berlin.

10. Player whose failure to touch second base cost the New York Giants the pennant and earned him the nickname "Bonehead."



1. Elmer Layden; 2. Rogers Hornsby (St. Louis Browns and Cincinnati Reds); 3. Gertrude Edgeley; 4. Herman Hickman (Yale); 5. Jesse Owens; 6. The Speaker; 7. George Mikan; 8. Ezzard Charles; 9. Dizzy Dean; 10. Fred Merkle.

Commercials on the show are of two types. The messages in one type are semi-technical in a popular vein. They feature Wilbur Shaw, former champion racing car driver and president of the Indianapolis Speedway, and make use of a Very pistol,

Supplementing the television advertising, which reaches a primarily urban audience, are minute-movie

Both the television and drive-in movie theater commercials are in addition to the full-page color and black-and-white advertising Ethyl runs regularly in national magazines. The current magazine campaign featuring old cars and pointing out that "Today as yesterday, cars run their best on the best gasoline," is appearing in publications with a monthly readership of approximately 48 million people.

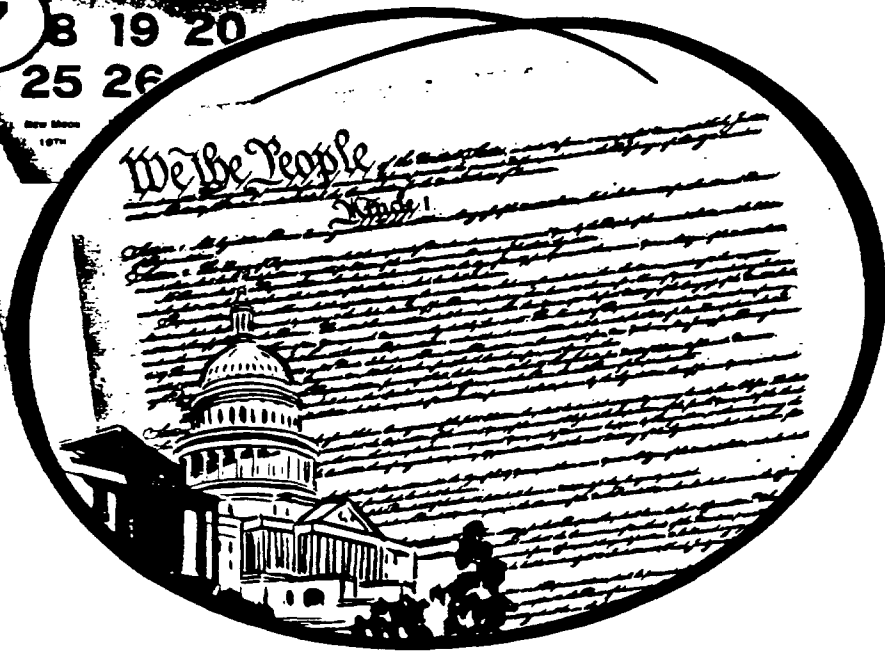
OUR COVER: The midway at the Saginaw (Michigan) county fair. Kodachrome by D. W. Corson, from A. Devaney, Inc. **OUR PICTURES:** Page 3 (top left), United Press; page 4, Wide World; page 5, Jack Jenkins; page 6, courtesy Champion Spark Plug Company; pages 7 and 9 (top), courtesy Perfect Circle Corporation; page 8 (top left and center), courtesy The Indianapolis Star Magazine; pages 8 (bottom right) and 9 (bottom), Frederic Lewis; pages 10 and 12 (top), courtesy Diebold, Inc.; page 11, Acme; page 12 (bottom), courtesy The Chase National Bank; page 14 (top left and center), courtesy Frank Huyler, and (bottom), courtesy Imperial Oil Limited; page 15 (top), Philip Gendreau, and (center and bottom right), courtesy James Baldwin; pages 17, 18 and 19, courtesy The Atlantic Refining Company; page 22, Acme, United Press, International News Photos, and Ellingsen Photos; third cover (top), New York Public Library through Frederic Lewis, and (bottom), Culver.

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A DAY "USUALLY OBSERVED"

Of the millions of calendars that grace the walls or decorate the desks of American homes, offices, schools, and business establishments, few indeed have the 17th of this month marked in red. Even if this particular Wednesday was given special calendar recognition, it is doubtful whether more than one citizen in a thousand, or perhaps ten thousand, could say why. All this is extremely pleasing to the Communists, fellow-travelers and others who hope to divorce this nation from its cherished traditions of freedom and equality.

This year and every year, September 17 is Constitution Day. It is no legal or public holiday. The best it seems to rate is a bare mention on the list of "Days Usually Observed." But even that isn't true. Observances of Constitution Day are at a nice low level that anti-Americans find very pleasing.

What's all the fuss about? What is there to observe? Actually, the Constitution of the United States is only a piece of parchment. But it is the words on that paper that count.

"Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech or of the press; or the right of the people peaceably to assemble . . ."

"The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated . . ."

"In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury . . ."

"The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."

These are some of the words that were (and, thank God, still are) in the Constitution to which 39 delegates from the various fledgling United States affixed their signatures in Philadelphia on September 17, 1787. No document, before or since, gave to civilized man such a full measure of personal liberty and human dignity.

Two months hence, a new group of national leaders is to be elected. There are two ways—yes, two ways—registered voters can cast their ballots on November 4. The true American will, after carefully considering all the issues and personalities involved, present himself at the proper polling place and vote for the candidates he thinks will best "preserve, protect, and defend the Constitution of the United States."

The other way to "vote" is to stay away from the polls completely. All who do that will, by their failure to fulfill their Election Day duty, indirectly cast a ballot to let the Constitution—and all the many great human freedoms it guarantees—fade into oblivion.

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Good ideas are like snowballs

When you start one rolling, there's no telling how far it will go or how big it will grow.

For example, several years ago, we received a letter from an oil marketer in Michigan, enclosing an invoice for some gasoline he had purchased back in the 1920's. He noted that the current price of gasoline, excluding taxes, was no higher than a quarter century ago, and he wondered how the actual *value* of the gasoline compared with that of 1925.

We knew there was a good idea here, and so we decided to do some research on the subject. It sounded like an easy question to answer, but we soon discovered it wasn't. We had to trace the separate contributions of the oil and automotive industries through the years. We had to develop a continuous record of octane numbers, as measured by today's scale, and determine the road performance of these gasolines in contemporary cars of the various years.

Finally our study was completed. We were able to report back to the Michigan oil marketer that, by any real standard, the value of gasoline had increased approximately 50% in the last quarter century. In other words, *two gallons of today's gasoline will do the work that required three gallons in 1925!*

This was news! Here, in one short sentence, was the whole story of the tremendous job American petroleum refiners had done for the public in the past twenty-seven years! It was a record to be proud of. So we took the "2=3" story to the country in public demonstrations in Detroit; Washington, D. C.; Newark, N. J.; Los Angeles; and Chicago. Newspapers across the country picked up the story. Magazines ran feature articles about it.

And the idea is still snowballing! This year, the OIIC is using the "2=3" idea in its Oil Progress Week theme.

ETHYL NEWS

OCTOBER 1952

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IN THE

ETHYL NEWS

OCTOBER 1952

Thom Yates, Editor • Richard F. Cook, Associate Editor • Hal Wohanka, Art Director

Herbert C. Moseley, a member of the Ethyl Corporation Sales department for the last 14 years, has been named account representative in western Pennsylvania and western New York State. In his new position, Mr. Moseley will represent Ethyl in all dealings with customer oil companies in that territory. He will make his headquarters in Oil City.

Mr. Moseley succeeds Gelston Howell, who has been Ethyl's western Pennsylvania-New York account representative since 1938. Mr. Howell has transferred to the Eastern Region office in New York City, where he has assumed new responsibilities in connection with the coordination of certain sales activities.

A native of Arlington, Mass., Mr. Moseley is a graduate of Worcester Academy and of Bowdoin College in Brunswick, Maine, from which he received a bachelor of arts degree in 1929. He joined Ethyl Corporation in 1938 and for the next several years served as field representative in Rhode Island and Connecticut. From 1942 to 1945, as an Ethyl safety engineer, he covered New England and eastern Canada. In 1946, Mr. Moseley was appointed field engineer in the same territory, and since 1950 has held the combined title of field and safety engineer.

Mr. Moseley is a member of Delta Upsilon and the Society of Safety Engineers.

VOTE HERE

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Stores, schools, garages — there's virtually no limit to the variety of places where Americans will cast their ballots on Nov. 4.

WATCHDOGS OF SAFETY

6

A unique animal circus, featuring trained dogs, is now touring the nation's schools to emphasize traffic safety.

SMOOTH SAILING FOR OIL

8

Almost four million tons of petroleum products a year are transported over the calm waters of New York's canal system.

NPA GOLDEN ANNIVERSARY MEETING

11

The 1952 annual convention of the National Petroleum Association will go down in the annals as one of the most memorable ever.

THE API ACCOMMODATED

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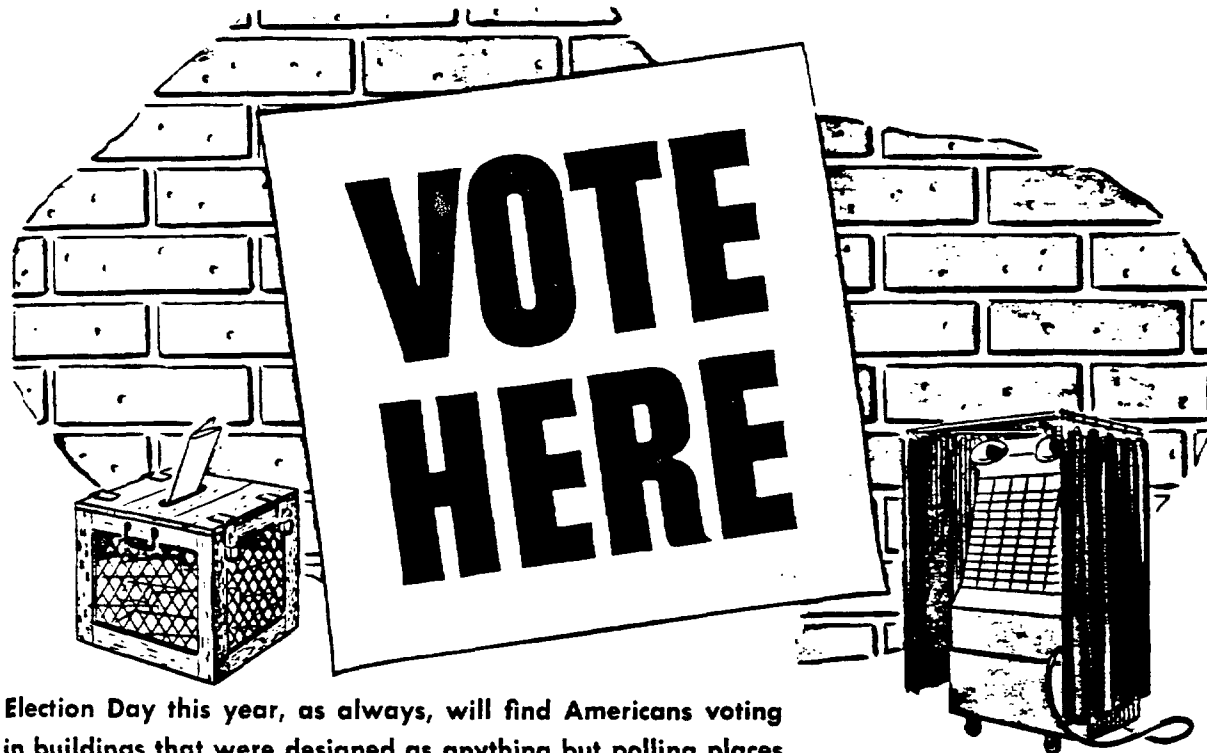
Oilmen convening in Chicago next month will find a number of changes at The Conrad Hilton hotel.

Opinions expressed in signed articles are the authors'. The editors of Ethyl News welcome articles of timely interest submitted from outside sources.

Published by Ethyl Corporation, 100 Park Avenue, New York 17, N. Y., manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer; Herbert A. Savage, Secretary

ETC 32716



Election Day this year, as always, will find Americans voting in buildings that were designed as anything but polling places

WHEN THEY TURN OUT to vote in the national election early next month. Americans all over the country will find, as usual, that the polls where they cast their ballots are housed in a wide variety of places. In everything from barber shops to county courthouses, voting machines and booths will be set up to provide facilities for voters to register their choices for national, state, and local offices, and to express themselves on various issues and proposals.

The laws of the land are quite specific in setting forth the requirements for holding office and voting, but when it comes to the places where votes are actually cast, regulations are much less confining. As a result, there is almost no limit to the different kinds of places where ballots are marked and voting machine levers pushed.

Over the years, public buildings have been the traditional voting places. But there isn't a municipal building, town hall, school, or fire

or police station in every voting district. Consequently, stores, converted railroad stations, offices, hospitals, vacant buildings, restaurants, and a long list of other conveniently-located buildings are pressed into service on Election Day.

The pictures on this and the two following pages show a few of the more unusual polling places in different parts of the country, where, on November 4, Americans will vote for the candidates they want to serve them in the days ahead.

Right, residents of Washington-on-the-Brazos, Texas, cast their votes in this replica of the house in which the Lone Star State declared its independence from Mexico in 1836. . . . Below, although they are gradually disappearing from the scene, portable polling places are still in use





This former station doubles as a railroad section house and a private home. On Election Day it is also the voting place in Hart's Location, N. H.



Politics and business mix in a local supermarket, as residents of Morris Hills, Ill., crowd into the store to cast ballots.



Left alone outside a Providence, R. I., polling place, this youngster has a cry while mother votes.



The veterans' hospital serves as a polling place in Wood, Wisc. Only patients who live in the district, however, can vote there.



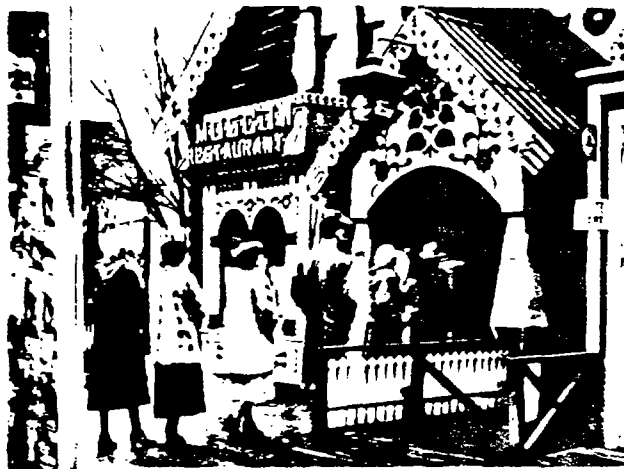
Of the places, popula



Conscientious voters in a continuous line over a block long wait on New York City's Amsterdam Avenue to vote in a neighborhood tailor shop.



The Navajoes of the Southwest, shown here voting in a tribal election, will cast their first Presidential ballots this year.



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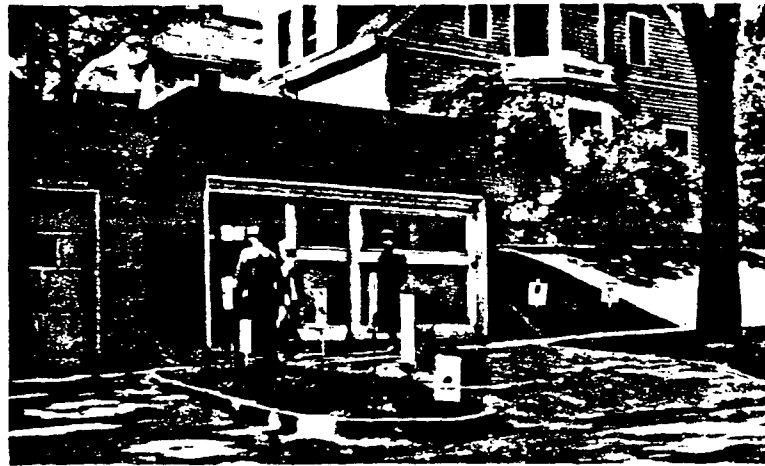
Ironically, the Moscow restaurant, run by a naturalized White Russian, is the voting place in one of Seattle's election districts



An uncompleted building in the northwest section of the city housed the polls when this long line of Miamians waited to exercise their franchise



Of the public buildings used as polling places, fire houses are among the most popular. This one is in Farmingdale, Me.



Perhaps one of the most unique polling places in the entire country is this private garage on a quiet, shaded side street in a residential election district in Sioux Falls, S. D.



t, shows
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this year

Servicemen in all parts of the world will vote for their favorite candidates on absentee ballots provided for them



No matter where he or she votes, the important thing is that all Americans do vote — after first thoughtfully weighing all of the issues, of course



A traveling troupe of talented canines are teaching the nation's school children some new tricks about traffic safety

ERNEST E. PRESSLEY is one person who has no intention of letting the traffic safety habits of the nation's school children go to the dogs. In fact, just the opposite — he takes the dogs to the boys and girls.

A traffic policeman on leave from the Charlotte, N. C., force, Pressley is ringmaster of a novel animal safety circus sponsored by the na-

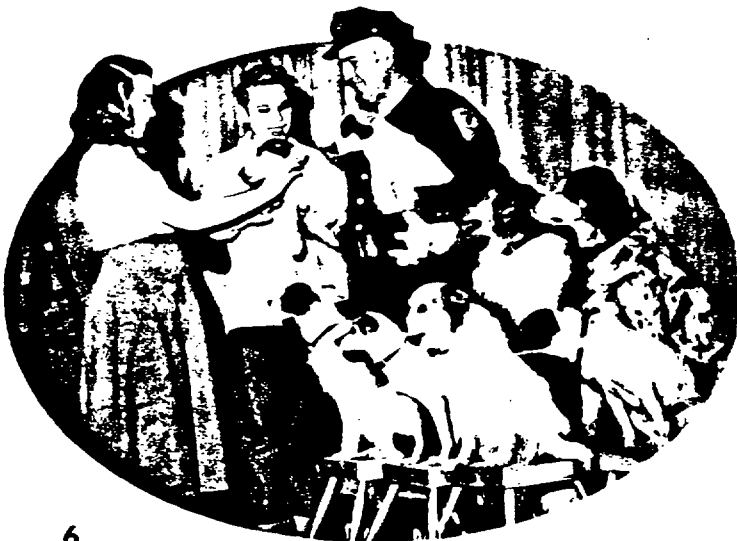
tion's trucking industry through its trade organization, the American Trucking Associations, Inc. Its lessons already have been taught to more than three million young people, and now, with schools reopened after the summer vacation, the circus has hit the road again.

One thing certain, thousands upon thousands of letters will pour in after each of Officer Pressley's tours during the current school year. They always do, and all are testimonials to the popularity and success of the show. "I don't ride two on a bicycle

no more," plaintively wrote one youngster this past spring, remembering well Pressley's grim, but forceful, story of the little girl who was killed in a traffic accident while doing just that. Not all the letters are from students either. Hundreds are from grateful parents, school personnel, safety directors, chiefs of police and civic leaders.

Pressley conceived the idea of teaching safety practices to school-agers through the medium of trained dogs after he noticed how faithfully neighborhood children

Below, two teen-agers make friends with Officer Pressley and his group of well trained dogs. . . . Right, Annie is the troupe's climber. At each rung of the ladder, the policeman drives home a certain safety point



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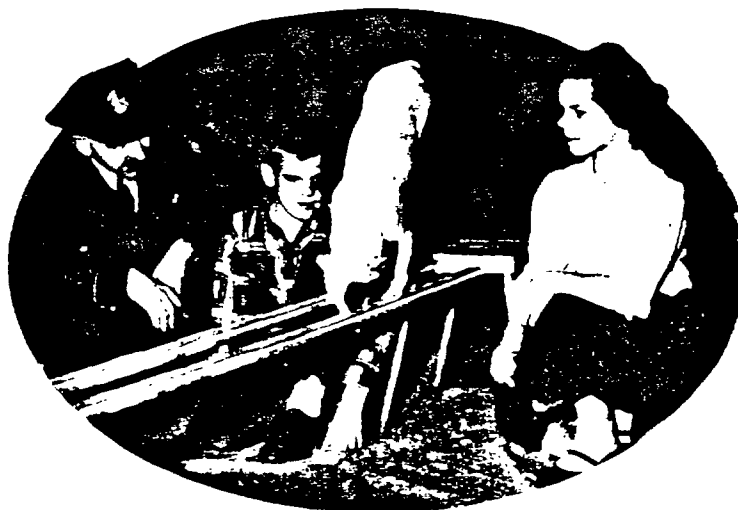


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flocked to his Charlotte backyard to watch his pet setter and Mrs. Pressley's collie perform the tricks he had taught them. His troupe augmented to eight dogs and a show format prepared, Pressley took his star performers on tour to many sections of



Above, all the while Susie is displaying her talents, the children are reminded of the safety rules they must observe if they are to avoid traffic mishaps



Left, Susie has climbed the pole for a most definite purpose. She unfurled the banner, which urges youngsters to be careful at all times—when walking, playing, or riding

the country under ATA auspices.

The presentation was an immediate hit.

What makes a "dog act" so different, and why is Pressley's so effective? The answer is Pressley himself. He is a man with a message. And he is a showman who knows how to put that message across to a young audience. The dogs, talented as they are, are merely the tools the shrewd ringmaster employs to reach the hearts of children—from six years of age to 16-plus.

With his cast of canines, Pressley makes a real production of his 40-minute show.

The curtain goes up with a musical fanfare. Pressley launches right into his talk on the importance of

traffic safety regulations and their observance. Hardly has Pressley put a period to his opening remarks before Lassie, a collie, has traversed half the stage and pulled a rope. Old Glory is unveiled and a recording of *The Star-Spangled Banner* is played. Pressley and the youngsters—seemingly the dogs, too—snap to motionless attention.

Canine Capers

Right there the show is "in." But a really amazing series of canine capers is to follow.

The dogs perform with the help of props—ladders, barrels, platforms, blocks and climbing poles. Each prop represents a factor related to street traffic and Pressley presses home his safety points with a varied but repetitive technique to an audience that he now holds in his

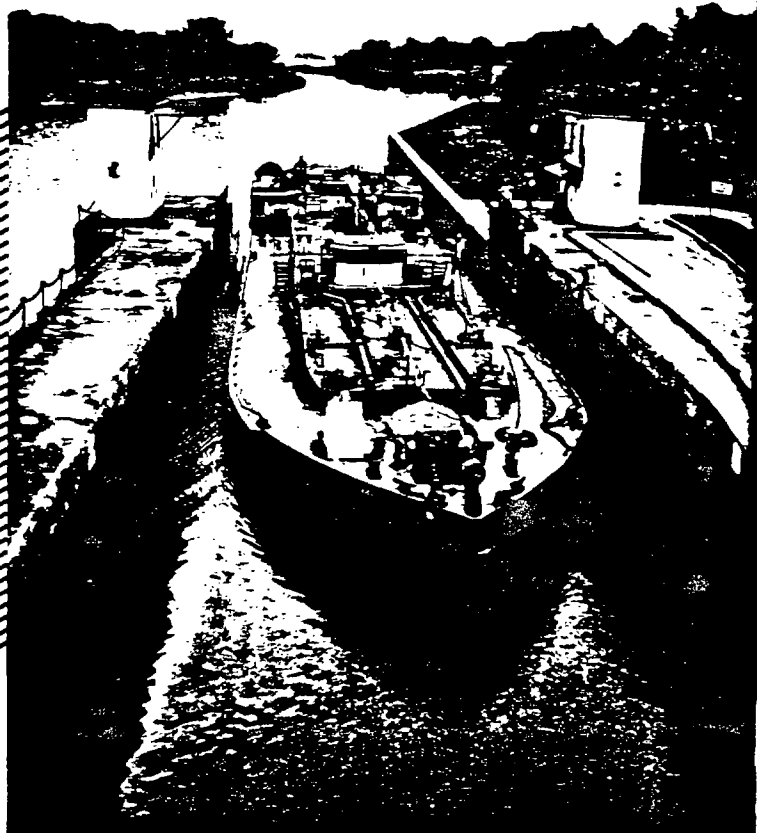
hand. When he tells the children to applaud, because the dogs like applause, they raise the roof. When he calls for quiet, there is silence.

Mig does a flip, Elmer cavorts through intricate tricks, Susie climbs a pole, Lassie plays dead, and Lady comes up with some answers to traffic problems—all with a practiced intelligence that holds the children's rapt attention.

The Pressley lesson in traffic safety isn't terminated by the final curtain. All the safety points covered in the show are printed on a questionnaire, a copy of which is distributed to each boy and girl. The children take these home for thorough study. After their teacher quizzes them and they have the answers 100% correct, the American Trucking Associations, in Washington, issues each qualified student an attractive membership certificate in Officer Pressley's Safety Club. The document shows many of the dog performers and can be framed, to hang in Tommy's or Mary's room.

Boys and girls—from the elementary grades through junior high and even high school—love it all. But most important, they have been impressed with traffic safety practices because they have come to realize how important such habits are to their own life and limb.

SMOOTH SAILING FOR OIL



Almost four million tons of petroleum products a year move over the placid waters of New York's canal system

YOUNG AMERICA, 24 states big and still growing, was just beginning to flex its muscles in 1825, the year a gang of hardened but much-ridiculed laborers finished the herculean job of digging their way across the entire middle of New York State. Skeptics called it "Clinton's ditch."

DeWitt Clinton, New York's governor, had pushed the undertaking through to completion against a wide assortment of unfavorable odds. The Erie Canal was a part of America growing up. Four years previously, our western frontier had pushed as far as Missouri with the admission of that state to the Union. And only two years before, the United States felt sufficiently strong enough to back up the Monroe Doctrine which had been issued in the face of threatened European interference in Latin America's affairs.

Unconcerned with all these worldly affairs, a boy named Drake was living the happy life of a six-year-old on an upstate New York farm not too many miles removed from the Erie Canal. It was a prophetic coincidence that this youngster was born and reared where he was. For, 34 years later, Edwin L. Drake was to make the first commercial discovery of oil — the product which today is transported on New York's canal system in volume hundreds of times greater than most all other commodities.

522 Miles In All

For 127 years now, the Erie Canal has been the key link in the chain of waterways which collectively is known as the New York State Barge Canal System. The system includes not only the 338-mile-long Erie, but the Oswego, Cayuga-Seneca, and Champlain canals and the canal har-

bors at Utica, Syracuse and Rochester — a total of 522 miles in all. The Erie Canal itself cuts clear across the state from Waterford, a Hudson River community north of Albany, to North Tonawanda, near Buffalo, where the Niagara River permits access to Lake Erie.

Famed in song, story and legend, the original Erie Canal was but 40 feet wide and only four feet deep. Still, this narrow, shallow strip of water — uniting as it did the Atlantic Ocean (via the Hudson River) and the Great Lakes — played a key part in opening up the West. Wooden packets, pulled by horses and mules huffing along a towpath edging the canal's route, carried the products of the farm to the rich markets of the East and returned loaded down with manufactured products destined for the Midwest.

Also moved in great numbers were people (40,000 of them in

some years) — Americans pushing westward to new opportunities. But not all the travelers kept going. Many found the communities along the canal to their liking and stayed to take up residence. Within ten years after the Erie's opening, Rochester, Syracuse and Utica each had experienced a threefold increase in their population. Buffalo and Albany became major cities, and New York the nation's leading port. Today, 90 percent of the state's population and the bulk of its industry are concentrated in a narrow band some 60 miles wide and following the course of the Barge Canal System.

In the days of the "old canal" — early in this century before the channel was deepened to the present 12 feet and widened to more than 100 feet — grain, salt, lumber, anthracite coal, iron ore, and sand, stone and gravel were the leading commodities shipped.

Oil and petroleum products were not moved over the New York State waterways system in any appreciable volume until 1918, when slightly more than 14.4 thousand tons were transported. Once started, however, the movement of these items along the Erie and other canals and the Hudson River skyrocketed. In the early 1930's, shipments of oil products surpassed those of wheat, which had been the canal system's leader for many decades, and the tonnage has continued to mount year after year almost

without exception. Last year, an all-time record of 3,937,510 tons of petroleum and petroleum products moved along the system, compared with only about half-a-million tons of wheat. Next in order came pulpwood and molasses, each with shipments somewhat only slightly in excess of 100,000 tons.

First Mishap

This year, shipments of all commodities on the New York State canals may show a decline, if for no other reason than the Erie Canal experienced in mid-summer the first serious mishap in its history. Failure of a movable dam at one of the system's 57 locks made it necessary to shut down an 11-mile section of the Erie to all traffic for five weeks.

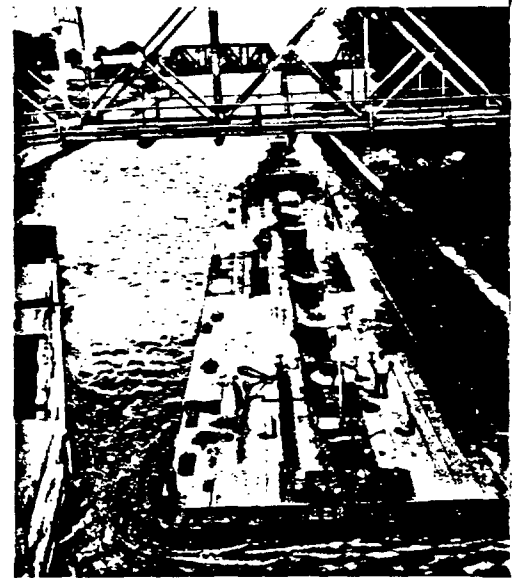
In recent years, as much as 150,000 barrels of petroleum products have moved through the canal system in a single day. These products — chiefly gasoline, No. 2 heating oil, and kerosene — are unloaded at more than twoscore terminals along the Hudson River and the Erie and other canals. Whatever part of the shipments are not to be consumed in the immediate terminal area are trans-shipped by either rail or truck to other points in the territory, usually within 100 miles.

If one were to follow a shipment of petroleum products from, say, a refinery in Texas to the Great Lakes, using the New York State Barge Canal System, generally the pat-

tern of movement would be this:

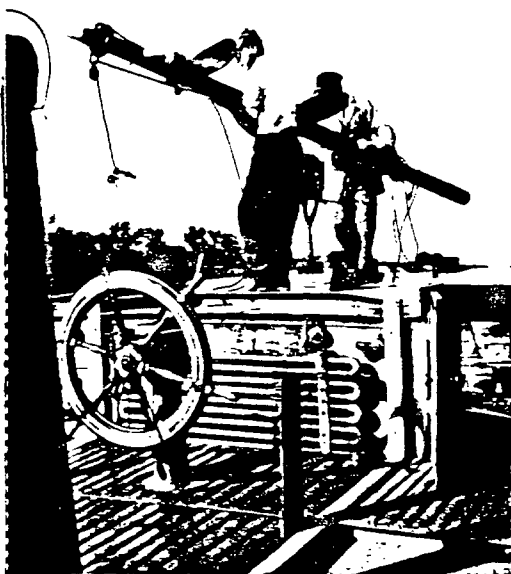
The tanker would require five or more days for the voyage through the Gulf of Mexico and up the Atlantic Seaboard to New York harbor. If fully loaded, the vessel would have to lighten itself before making the 13-hour trip up the Hudson to Albany, since the river is too shallow to accommodate seagoing tankers with maximum loads. Oil barges would transport the shipment west to Lake Erie from the Albany terminal, which is the end of Hudson River navigation for tankers. The barge trip across the Erie Canal takes five days, during which time the vessel is lifted almost 600 feet in passing through the many locks.

Virtually all shipments of petroleum on the canal system are from east to west — from Albany toward



Above, an oil barge entering one of the locks in a five-flight system at the eastern entrance to the Erie Canal. Vessels traversing the inland waterway's entire 338 miles are lifted almost 600 feet in passing through 57 different locks. . . . Left, for decades, as this old cut shows, the only source of power for boats was provided by animals plodding along the towpaths lining the banks





In order to pass under many of the 300-odd fixed bridges spanning the Canal, crews often find it necessary to take down tugboat masts

Early in the 1920's, self-propelled power units made their appearance, as did the first oil barges. Later in the decade, diesel-powered units were put into operation, and this is now the general source of power for practically all canal carriers.

About 200 different vessels are used each year in canal service. More than half of these are operated by the 25-odd companies which use the New York State waterways system for the transportation of petroleum products.

Even greater economy in toll-free barge shipments could be realized if larger vessels, capable of transporting greater loads, could be employed. The size of carrier boats, however, is limited by the depth and width of the canal channel and by the overhead clearance allowed by the 309 fixed bridges that span it.

Improved Units

Despite these limitations, notable improvements have been made in the design of hulls and engines. Outstanding in this connection is the integration of the machinery and cargo-carrying sections into a single streamlined unit. To achieve this desired effect, modern petroleum equipment nests the bow of the pushing tug into a V-shaped notch constructed in the stern of the barge. Such units meet less water resistance and permit much easier handling of the tow, particularly in navigating around the bends and through the canal locks.

Ice forces closing of the Erie and other New York State canals during

Night and day the big barges move through the Canal. Many are equipped with searchlights to illuminate lock walls and aid in navigation

the winter, from December through March, but the petroleum barges and other vessels do not usually stand idle during these months. Most of the units are employed on Long Island Sound, in the New York harbor area, and at other normally ice-free points along the Eastern seaboard, to aid in the movement of fuel oil during the period of peak demand.

Serves Other Purposes

Aside from its prime function of providing a means of transporting products between the busy markets of the East and the Midwest, the canal system serves other vital, if incidental, purposes.

For one thing, the reservoirs of the Erie Canal assist in controlling flood waters. Secondly, the canal system is a source of water power. Two hydroelectric plants, utilizing surplus canal water, sell power to utility companies. Thirdly, the canals are considered important from the national defense standpoint. During World War II, for example, many oil shipments originating on the Gulf Coast or at inland points were routed through the Erie Canal to overcome the threat of Nazi submarines to coastwise traffic.

On that day in October, 127 years ago, as he prepared to participate in ceremonies opening the Erie Canal, not even DeWitt Clinton could have guessed at the role his "ditch" would play in the future growth of America. Aboard the packet *Seneca Chief*, Clinton and a party of other dignitaries journeyed the entire length of the Erie Canal and down the Hudson to New York harbor. The voyage took ten days. But with the goal reached, the "wedding of the waters" was solemnized. Joined for the first time, never to be split asunder, were the mighty Atlantic and the majestic Great Lakes.

Buffalo. Of the nearly four-million tons of oil products shipped last year, only about 159,000 tons were eastbound.

Just as the type of cargo has changed, so is there little resemblance between the vessels in Erie Canal service today and those that were common a few decades ago.

The typical boat in 1912 was a wooden packet, either steam propelled or towed by the storied mules and horses on the towpath. There were also numerous wooden canal barges of up to 200 tons. World War I days saw the introduction of new types of both wooden and steel boats, as well as those of concrete construction. Gasoline-powered canal boats and tugs also appeared at this time.



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The 50th anniversary meeting of the National Petroleum Association was unmatched for special meaning and historical import

Four events in particular helped transport the mind back to the earlier days of NPA and even beyond to the beginning days of oil.

The first of these was the "Old Timers' Hour," a feature of the opening general session on Wednesday, September 10. H. A. Logan — longtime member of the Association, its president during the critical World War II years, and president of United Refining — presided. How NPA got started, its ups and downs through the years, its memorable achievements — all these were brought to mind in the remarks of Mr. Logan and four other veteran Association stalwarts — O. P. Keeney, Edwin M. Lyons, Samuel B. Messer, and Charles Suhr.

Again, at the Thursday general session, the exemplary and historic career of NPA was recalled and saluted. Expressing the greetings of the associations they head were Frank M. Porter, of the American Petroleum Institute, and R. L. Tollett, of the Western Petroleum Refiners Association. Fayette B. Dow, general counsel of NPA, made the nostalgic response.

Special Play

Of a different and less formal nature were the two other events which carried those attending the annual meeting back through the years.

"Great Day A-Dawning," a play recreating the first days of the oil industry, was presented during the annual banquet on Thursday evening. The stage presentation, sponsored by Ethyl Corporation as a tribute to NPA on its Golden Anniversary, was produced especially for the occasion.

Then, on Friday morning, this

theme was carried out further at the breakfast tendered annually to NPA members and guests by Ethyl. An added attraction this year was a reconstruction of the Titusville studio of John A. Mather, oil's pioneer cameraman. Mr. Mather (portrayed, of course, by a contemporary commercial photographer) was present in his establishment to photograph, in old-time costumes, any and all who wished to go before the camera.

Present and Future

While, because it had reached a special milestone, the National Petroleum Association devoted considerable time to looking back, it also, with its typical farsightedness, spent many hours at business sessions studying present affairs and previewing the future.

It heard from Earle M. Craig, the Association's outgoing president, the caution that the Federal government's recent cartel charges against several major oil companies was a cause for fear, rather than a matter of cheer, for the smaller companies of the industry.

Then, turning an eye to the future, the annual meeting listened to a panel of six experts — two from the oil industry, two from aircraft companies, and two from Federal agencies — discuss "Jet Fuels — Present and Future." Special emphasis was placed, during the discussions, on the role the small refiner might play in the production and distribution of such fuels.

Its Golden Anniversary meeting a matter of history, the National Petroleum Association now embarks upon a new era of service — service not only to the smaller refiner but to the entire oil industry and the nation as well.

OF ALL the annual meetings of the National Petroleum Association held since the first one soon after the turn of the century, none could possibly match the special meaning and historical import of that conducted last month in Atlantic City.

For, this was the Golden Anniversary convention, the grand climax of NPA's first 50 years of continuous existence.

The traditional three-day meeting at the traditional Hotel Traymore meeting place was one of contrasting moods. There were both time and occasion for pleasant reminiscences of the glorious days gone by. But there also were serious deliberations of current and future matters that do and will face the petroleum industry.

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This foursome, photographed by the registration desk in the Traymore lobby, is Harold Stone and Robert Lummis, both Atlantic Refining; L. T. Morrow, of Borne Scrymser; and George Landis, of Atlantic.



All business sessions of the Golden Anniversary annual meeting were attended by large, attentive audiences. This is a portion of the assemblage in the main ballroom of the Hotel Traymore for the opening general session.



Below, a general view of the Friday morning breakfast, tendered annually by Ethyl Corporation for members and guests of the National Petroleum Association.

In the photo directly above, T. E. Morton, of Standard of Ohio, chats with A. A. Stambaugh, Sohio board chairman. . . . Above, center, W. C. Wenzel, executive manager of the Pennsylvania Grade Crude Oil Association, waves to a friend while A. K. Stone, of Modern Petroleum, looks on. . . . Above, right, caught by the camera as they enjoyed an Atlantic City boardwalk "breather" were Paul H. Giddens, Allegheny College professor; Walter R. Reitz, president of Quaker State; and J. B. Fisher, Kendall Refining head.



ETC 32727

Mrs. Peter Klich and Mrs. E. Ross Carver, granddaughters of Colonel Drake, review the playbill as the actor who portrayed the discoverer of oil looks on.



FOUR EPISODES which have come down from the founding days of the petroleum industry formed the plot of "Great Day A-Dawning." The 30-minute stage presentation, using professional talent throughout, was sponsored and presented by Ethyl Corporation at the NPA annual banquet.

Five photographs on these pages, starting at the direct left of this text, picture the highlights of the production.

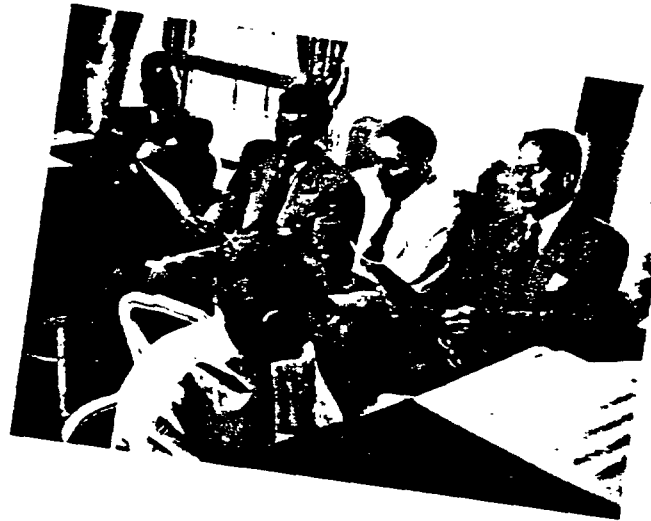
The play's opening action takes place in modern times, as four characters from the pages of oil's early history keep an after-death rendezvous in a deserted western Pennsylvania oil field. Each then proceeds to tell his or her role in the start of the petroleum industry nine decades ago.

"Mule Prescott" was the first to recall his historic past. A determined teamster, he lost his life hauling oil barrels.

Comely "Deborah Seevey" flung a lantern



Long weeks of rehearsals, right up to the very day of the actual presentation itself, preceded the showing of "Great Day A-Dawning" at the NPA annual banquet. The two photos below show typical rehearsal scenes. In the topmost photo, the play's "Sam Pritchett" runs through his lines. Below that is a picture of the famed Cities Service Green and White Quartette practicing the musical accompaniment.



Right, among the interested oilmen who witnessed the dress rehearsal was Henry B. Suhr, of Oil City, shown here with one of the actors. Mr. Suhr's grandfather was a founder of NPA.





Featured soloists at the banquet were Gertrude Ribla, soprano, and Thomas L. Thomas, baritone, of opera fame.



At the "famous descendants" table at the annual banquet were W. K. Bayer, Jr., E. Ross Carver, Mrs. Ernest Paterson, Walter Roberts, Mrs. Carver, Charles Suhr, Thomas Roberts, Henry H. Townshend, Mrs. Peter Klich, and Harry B. Smith.



Seated at the Entertainment Committee table were Richard Murphy, of Ethyl; Miss Margaret Miller, of NPA; John A. Britton, Jr., of Enjay, committee chairman; Mrs. Britton, B. G. Symon, of Shell; Mrs. George Meier; Milton J. Cross, banquet master of ceremonies; Mrs. Symon, and George Meier, of American Can Company.

Annual banquet guests at this table are Emil E. Ebner, C. W. Georgi and Guy B. Hunter, all of Quaker State Oil; Mrs. Ebner, C. H. Armstrong, of Continental Can; Mrs. W. P. Gee, G. T. Dougherty, of Standard of Indiana; Mrs. Hunter, W. P. Gee, of The Texas Co., and Mrs. Georgi.





Earle M. Craig, board chairman of Freedom-Valvoline Oil, is shown here as he delivered the traditional "President's Welcome."



A. W. Scott, president of Wolf's Head Oil and new leader of the NPA, presided at the annual meeting's final general session.

of oil fields in the Middle East."

Second featured speaker of the Wednesday afternoon general session was John S. Bugas, vice president in charge of industrial relations of the Ford Motor Company. Title of his speech was "Green Lights for Freedom."

Three-Session Day

Thursday's busy schedule called for two separate group sessions in the morning and a general session in the afternoon. One group session was sponsored by NPA's department of Traffic and Transportation. The other was a joint meeting conducted by the Association's departments of Manufacture and of Standards and Tests.

With new NPA president A. W. Scott presiding, the general session opened with a discussion of "The Aftermath of the Steel Strike" by Thomas F. Patton, vice president and general counsel of Republic Steel Corp.

Presidents Frank M. Porter of the American Petroleum Institute and R. L. Tollett of the Western Petroleum Refiners Association then extended the greetings of their groups to NPA on its 50th birthday.

At both general and group sessions, the NPA annual meeting heard key industrial figures discuss current and future problems

EARLE M. CRAIG got the 50th anniversary annual meeting off to a timely start with a speech that deplored increased regulation of industry by the Federal government in recent years.

"The most recent example of Federal government intrusion in the oil industry has occurred in the last month," the outgoing NPA president told the convention's opening session. That came when "with great fanfare some of the larger oil companies were accused of being members of an international conspiracy to dominate world trade."

Mr. Craig said he viewed this "attack" as "apparently part of a shrewd propaganda technique that ... is being made for the benefit of small business." However, he pointed out, "we of the smaller companies of the industry are not cheered by this act of Government because we recognize that an unjust attack on one company or a group of companies does not help us, but gives us cause for fear that a similar attack may be made upon us."

"These companies are charged

with having gone out with their own money to find oil in previously unproductive areas of the world, of developing this production and of winning and keeping for the U. S. a preeminent place in the petroleum world trade. It is difficult to see how this accomplishment interfered with small business. Certainly no small company has the resources necessary to undertake the development

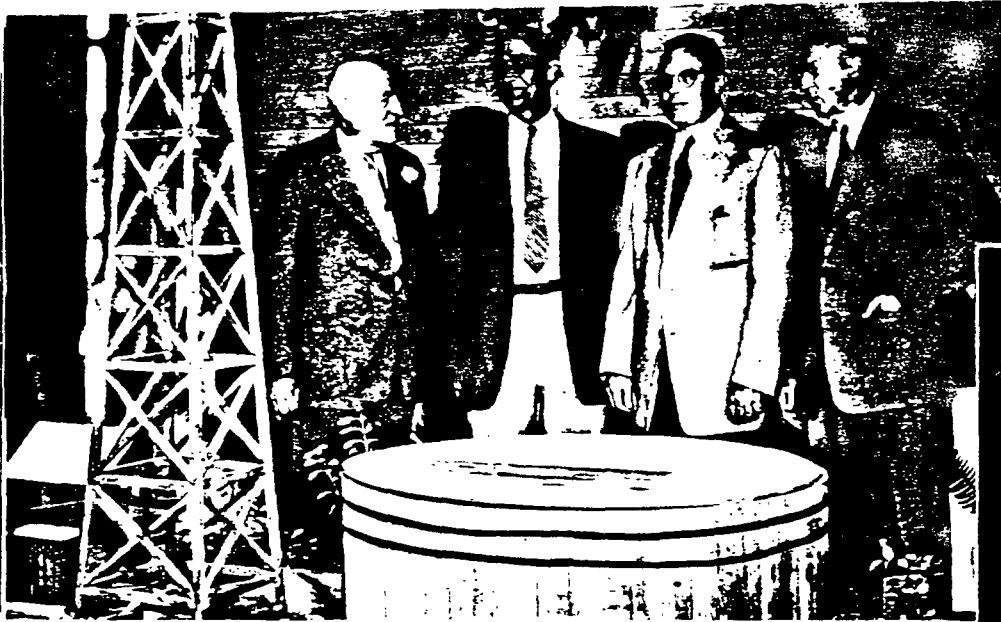
Thursday, the second day of the convention, was a busy round of work sessions. Below is part of the audience at the morning Traffic and Transportation group session, which was opened by Fayette B. Dow (standing).



C. Bayer, Carver, ich, and

ent Com- Murphy, Miller, of of Enjay, Britton, George banquet s. Symon, American





Above, four of the NPA officers for 1952-53: E. M. Lyons, recording secretary; Paul Beck, second vp.; F. G. Bannerot, Jr., first vp.; and A. W. Scott, president. . . . Inset, O. P. Keeney, who reported for the nominating committee.



John S. Bugas, vice president of Ford Motor Co., was a speaker at the first general session.



H. A. Logan, veteran member of the NPA, presided over the "Old Timers' Hour" portion of the session.



Formal presentation of the Association's History was made by Donald O'Hara, NPA associate counsel.

A highlight of one of the convention's work sessions was the premiere showing of "Crossroads, U. S. A.," a new motion picture produced by the Oil Industry Information Committee. The film's action takes place in a service station (right). Philip Humphrey, national OIIC vice chairman, made the introductory remarks.





A prediction that Congress will move to "curb the power of Labor" was made by Thomas F. Patton, a Republic Steel officer.



R. L. Tollett, president of the Western Petroleum Refiners Association, and Frank M. Porter, head of the American Petroleum Institute, flank Fayette B. Dow. The NPA general counsel made the response to messages of congratulations from the other groups.



Fred Carpi, Pennsylvania Railroad vice president, was one of the group session speakers.



Gerald Phelps, of the NPA staff, presided at the Traffic and Transportation session.



Recent tank truck developments were reported by S. F. Ninness, Leamman Transportation head.

Among the jet fuels symposium participants were Dr. J. Bennett Hill, of Sun Oil; E. A. Droege Mueller, of Pratt-Whitney Aircraft; and Stanley Smith, of Bendix Aviation Corporation.

E. H. Fallin, of NPA, is shown as he presided at the jet fuels session. Seated beside him are W. F. Krause, of Globe Oil; Dr. Carl W. Kelley, of the Munitions Board; and Maurice Granville, of PAD.



ETC 32733



Mr. and

THE PETROLEUM INDUSTRY, it has been recorded, owes a debt of gratitude to an itinerant English-born photographer named John A. Mather. It was Mather — and he alone — who roamed the hills and dales of western Pennsylvania to capture on film an extensive record of the birth of the oil industry in America.

As a special feature of the NPA 50th anniversary meeting, Ethyl Corporation reconstructed Mr. Mather's studio in the lobby of the Hotel Traymore. A modern-day John A. Mather manned the studio, and gladly took portrait pictures of any NPAers who wished to slip into the old-fashioned costumes provided and then "watch the birdie."

Below, "Next," calls Mr. Mather as onlookers watch with interest. . . . Right, Clayton G. Maxwell, of Frontier Oil Refining, and Mrs. Maxwell make last-minute adjustments by Mather's "sidewalk" sign.



Mr. J

Mr. and

ETC 32734



Mr. and Mrs. F. G. Bannerot, Jr.



Mr. and Mrs. Paul B. Beck



Mr. and Mrs. Earle M. Craig



Mr. J. C. Donnell, II



Mr. and Mrs. Fayette B. Dow



Mr. and Mrs. J. B. Fisher



Mr. and Mrs. H. A. Gardner



Mr. and Mrs. W. P. Gee



Mr. and Mrs. Paul Giddens



Mr. and Mrs. C. Z. Hardwick



Mr. and Mrs. H. P. Hobart



Mr.



Mr. and Mrs. G. B. Hunter



Mr. and Mrs. J. A. LaFortune



Mr. and Mrs. Harry A. Logan



Mr. a



Mr. and Mrs. Edwin Lyons



Mr. and Mrs. H. Grady Meador



Mr. and Mrs. Samuel Messer



Mr. a



Mr. and Mrs. Harry L. Moir



Mr. and Mrs. Walter B. Reitz



Mr. Thomas C. Roberts
Mr. Walter Roberts



Mr. and Mrs. R. C. Sauer



Mrs. Ernest Paterson
Mr. Harry B. Smith



Mr. Charles L. Suhr



Mr. and Mrs. T. J. Sullivan



Mr. and Mrs. C. L. Wedell



Mr. and Mrs. L. A. Woodward



When they assemble in Chicago next month, oilmen will be greeted by a number of changes at their convention headquarters hotel

ONE of the accomplishments the modern innkeeper is most proud of is the manner in which his hotel accommodates large conventions — oftentimes several thousand delegates strong — with the same ease that the average household entertains a few weekend guests.

In Chicago next month, when they convene for their 32nd annual meeting, members of the American Petroleum Institute will again have the opportunity to experience this type of hospitality in action. At one time or another during the four-day session, practically all of the 6,000 men and women in attendance will use the facilities of The Conrad Hilton, convention headquarters. Still, this great influx of oil industry people will cause few, if any, disruptions in the hotel's operations.

Even so, there is nothing automatic about feeding, sleeping, and otherwise playing host to a major convention. The Conrad Hilton this year is headquarters for more than 90 national meetings, ranging alphabetically from the Angus Breeders Association to the Zonta Club. No two conventions are exactly alike in their display space, guest room, dining and other requirements. That means each gathering must be treated as a separate entity.

Services of a thousand and one descriptions have to be performed to assure a convention's success.

To carry out its many services, the hotel employs a staff of over 2,000. Many of these people, of course, are skilled workmen who can convert the grand ballroom and various other rooms from meeting

halls to dining or reception rooms in minutes' time. Almost a hundred of the employees are elevator operators. Scores work in the kitchens to turn out the mountains of food that are consumed. (In an average day, those attending the API annual meeting will devour something like 1,000 pounds of butter, 1,000 dozen eggs, 35,000 cups of coffee, the beef of 10 complete steers, and 300 gallons of ice cream.) When the APler sends out his soiled clothing, his shirts will be among 32,500 handled by the hotel's own laundry each month and his socks will be among the more than 19,000 pairs cleaned during that time.

From the planning standpoint, the 1952 API annual meeting began almost a year ago for the Conrad Hilton staff. First, as always, came the

deluge of requests for room reservations, once the date of the convention was announced officially. Within a week, the hotel had received hundreds more requests for rooms than it could honor.

Sixteen hundred, or slightly more than half the rooms in the world's largest hotel, have been set aside for use by APIers this November 10-13. They provide sleeping accommodations for approximately 2,500 persons. Those who cannot be put up at the Hilton will be housed in more than a score of other Chicago hotels and clubs, including the Palmer House, headquarters for the Institute's Transportation division.

Several APIers staying at The Conrad Hilton will live in rooms oc-

hopeful earlier in the year, lived in rooms 1804 and 1805 at the Hilton, while Sam Rayburn, House speaker and Democratic convention permanent chairman, had room 2319.

The summer political conventions, incidentally, gave the hotel an opportunity to apply the acid test to a new passenger elevator system that had been conceived a year earlier. Mindful that long waits for elevators has been a leading complaint of APIers and other convention guests, the hotel drew up the new plan to crack this bottleneck. During rush periods, a corral, or roped-off area, is erected, to permit filling "Up" cars on a systematic, rather than every-man-for-himself, basis. Hilton traffic experts were delighted

cessive waits for elevators on the part of the oilmen.

Many other changes will greet the API "delegate" who has not visited the convention hotel since last year's annual meeting.

Most noticeable of all are the alterations that have been made in the business part of the main lobby. Gone are the cage-type windows before which guests lined up to check in, pick up mail and pay their bills. In their place has been installed what is called a "Chicago window," framed in marble and Spanish leather. Actually, it's not a window at all, but rather a continuous waist-high counter, much like those found in modern banks.

In addition to the new counter,



Above, enlargement of the drug store, particularly in the soda fountain area, is one of the changes at The Conrad Hilton that APIers will quickly notice

Below, extensive renovation work was required to transform the ever-popular coffee shop, one flight down from the lobby, into an exhibition hall

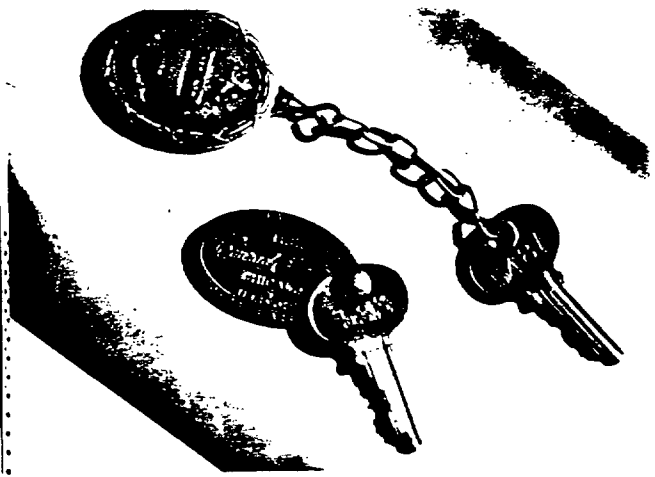


cupied a few months ago by some of the nation's top political figures. The occupant of 2320, for instance, will have the room used by former President Herbert Hoover during the Republican national convention in July. Room 2306 is the one occupied by national GOP Chairman Guy Gabrielson and his family. On the Democratic side, Senator Robert S. Kerr, a Presidential nominee

when the corral system reduced the average wait for an elevator to three minutes, even with hundreds of political convention delegates and other hotel guests in line.

Because attendance at the API meeting next month will be considerably less than that of the major political conventions, the hotel management thinks the new elevator system will virtually eliminate ex-

the various lobby business departments, such as Reservations, Mail, Cashiers, and Information, have been rearranged and relocated. All this is designed to hasten the flow of human traffic through the lobby and to shorten the time it takes to register the arriving guest. Studies made with the new lobby setup in operation indicate that it speeds up guest traffic movement by almost 40%.



Old-style room key tags (above) that weighed almost as much as the ball and chain they resemble have been replaced by light bronze tabs fastened directly to the hotel room key

By the time he is ushered into his room, the API meeting-goer should have had the opportunity to observe another innovation. This has to do with the hotel room key. The heavy key tag, which seemed to weigh only slightly less than a ton, has been discarded. Now, guests are issued a key attached to a small bronze holder which is some three times lighter than the previous chain and tag.

When he returns to the lobby and has time to look around further, the API annual meeting guest will see still other face-lifting jobs.

The hotel drug store, a favorite refreshment spot, has been enlarged to the extent of 1,200 additional square feet, most of it in the soda

fountain area. Also, a new entrance to the store has been provided.

Also on the lobby floor, the Park Row restaurant has been completely remodeled and refurnished. But at the same time, another hotel eating place has been done away with. The coffee shop, one flight down from the lobby, has been removed, and this space converted into an exhibition hall. The leading features of the coffee shop — quick service and reasonable prices — are available in the Oak Room coffee shop, which, in turn, has been enlarged.

Both in regard to physical change and services rendered then, it is a

Elimination of cage-type windows has helped speed service and give the lobby a more modern look

OUR COVER: Park Avenue, New York City, looking north to Grand Central Terminal. In the center is the 100 Park Avenue Building, where Ethyl Corporation's administrative headquarters are located. Kodachrome from A. Devaney, Inc. **OUR PICTURES:** Pages 3 (bottom left) and 9 (bottom left), Frederic Lewis; page 3 (bottom right), courtesy Texas Highway Dept.; pages 4 and 5, United Press, Wide World, Philip Gendreau, and courtesy U.S. Navy; pages 6 and 7, Courtesy American Trucking Assns.; pages 8, 9 (bottom right), and 10, courtesy Standard Oil Co. (N.J.); page 16 (top left), courtesy Metropolitan Opera and NBC; all other pictures on pages 11 to 23, Camera Associates and O. Winston Link; pages 24, 25, and 26, courtesy The Conrad Hilton hotel; third cover (bottom), Ewing Galloway.

markedly different hotel than has entertained all but one of the six post-World War II API annual meetings thus far. But there is one switch the hotel assures will not be made. Last year, even while many oilmen were en route to Chicago, the inn's name was changed from the Stevens. Now — and for some time to come, the hotel guarantees — it's The Conrad Hilton.



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buying . . .
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gallons of gasoline
he bought**



Oil Progress Week 1952



ETC 32741



Perfect example

Here is a perfect example of a business in which the service is as important as the product, itself.

There is nothing in the book to stop you from packaging all your lubricants and saying to the car owner: "Here's your grease and oil — put 'em in yourself!"

However, mighty little oil business is done that way. The reason — your business is essentially a *service* business.

So is ours.

Way back in 1925 Ethyl people realized that if anti-knock compound was ever going to be of great value to petroleum refiners, it had to be accompanied by broad-gauge service. So, over the years, Ethyl has developed many programs of service to the petroleum industry.

Ethyl services have contributed to every field in

which the power of gasoline is utilized — passenger cars, truck and bus fleets, farm tractors and aviation. Our research laboratories have cooperated with oil companies in solving the inter-related problems of fuels, engines and lubricants. Year after year our gasoline testing centers have prepared detailed surveys of gasoline characteristics and made them available to refiners. Powerful advertising and merchandising assistance has been provided to help increase the sale of both premium and regular leaded fuels. Our safety division has worked out methods and equipment for the safe handling of gasoline through all stages of blending and distribution.

And having pioneered all these services, it is natural that Ethyl looks to their continuance on even a greater scale in the future. You can be sure that we will always regard *service* as important as *product* . . . and maybe even more so!

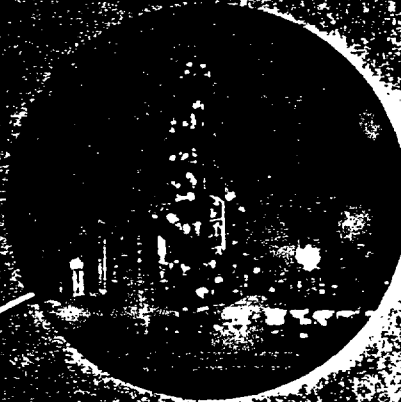
ETC 32742

ETHYL NEWS

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Annual
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DECEMBER 1952



ETC 32743

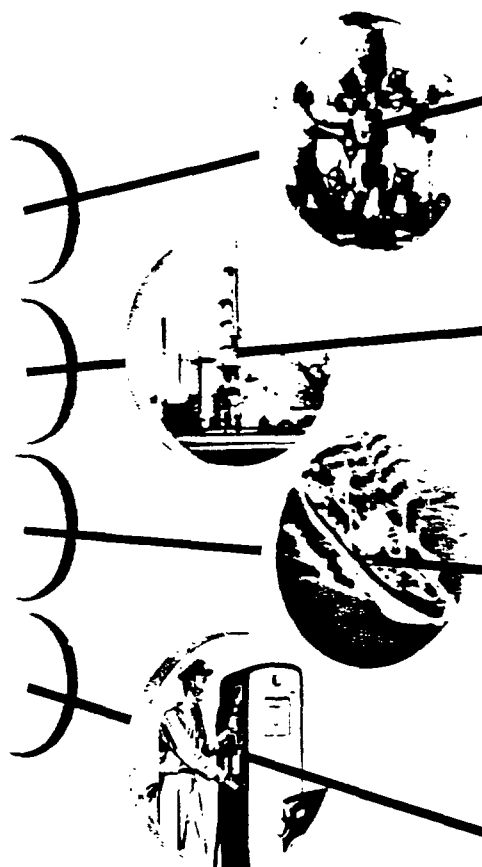
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**ETHYL
NEWS**

A
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Annual
Meeting
Issue

DECEMBER 1952



EACH annual meeting of the American Petroleum Institute provides the industry with an opportunity to evaluate its current accomplishments and, more important, to preview what will be expected of it in the days ahead.

In this respect, last month's 32nd annual meeting was particularly rewarding. The group and other sessions of the Institute's four divisions, and the meetings of the many non-divisional groups, contributed much to the continued advancement of the industry.

Again this year, following a custom established in 1946, the December issue of ETHYL NEWS is presented as a pictorial report of the API convention. Every effort has been made, through the means of the formal and candid photographs reproduced on the following pages, to capture the spirit and flavor of the productive gathering.

THE EDITORS

Published by ETHYL CORPORATION, 100 Park Avenue, New York 17, N. Y.

Manufacturer of "Ethyl" antiknock compounds, used by oil companies to improve the antiknock quality of aviation and motor gasoline

Edward L. Shea, President; Stanley T. Crossland, Vice President and Treasurer;
Herbert A. Savage, Secretary

ETC 32744

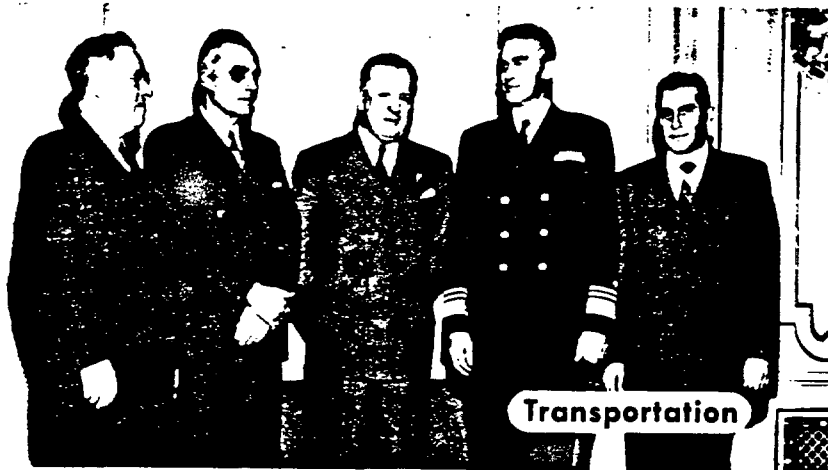
ua Meeting



Production



Refining



Transportation

APL MARKETING SESSION

GRAND BALLROOM - CONRAD BOSTON HOTEL
Monday, November 10 at 2 PM



Guest Speaker

John F. B. Brown

President of APL

APL



Guest Speaker

John F. B. Brown

APL

Marketing

ETC 32745



signing in

Right, R. F. Lambert, of Butler Manufacturing, registers for his room at the Hilton, while C. R. Athy, of Ideco, awaits his turn.



Above, Bradford L. Patton, of Standard of Indiana, became registrant No. 6,350 when he signed in late on the morning of the convention's last day. . . . In contrast (above left), Hubert Sanchez and Ernest Snyder, both of E. F. Snyder Co., were first-day registrants.



Another early arrival, Edward S. Ronan, of Standard-Vacuum Oil, checks Patricia Stoll, of the Conrad Hilton Hotel staff, for information about the various annual meeting events.



F. L. Aurin, president of Southland Royalty Co., here adds his name to the list of those present. Shirley Gibbs, secretary to API President Frank Porter, is standing by, to file Mr. Aurin's registration card.



IF for no other reason, the 32nd annual meeting of the American Petroleum Institute will go down in the records for the great attendance it drew. More than six thousand oil industry leaders — 6,350, to be exact — registered. And, as usual, there were hundreds of others present who did not sign an official registration card.

This, then, was the biggest gathering of American oilmen ever assembled at one time for any purpose whatsoever.

Just by glancing around at the throngs at the two Chicago convention hotels, The Conrad Hilton and the Palmer House, one could early guess that this annual meeting would be a record-breaker.

Hundreds signed in on Sunday, November 9, a day before the official start of the convention. The heaviest registration days, of course, were Monday and Tuesday. By late afternoon on the latter day, counted attendance at the meeting surpassed the 6,000 mark — the first time in API history. The all-time attendance record had been 5,653, set at last year's annual meeting in Chicago.

Butler
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s turn.



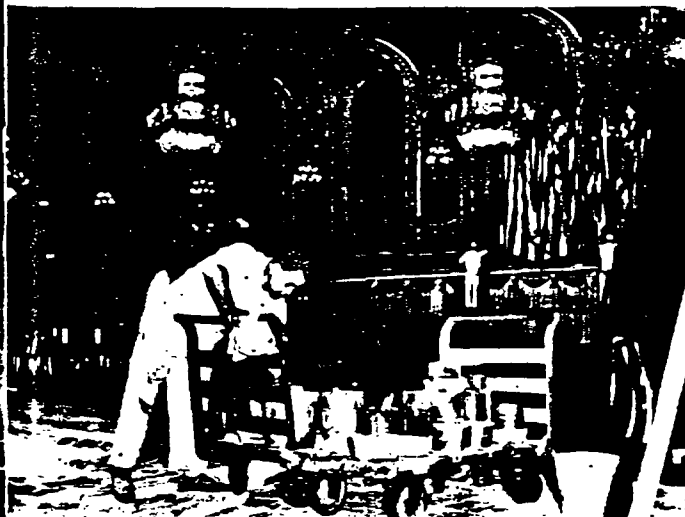
Z. S. Biglane and James T. Means, Jr., vice president and president of Great National Oil, pick up their mail after registering at the Palmer House.

signing in

Right, many early-arriving APIers attended the Sunday professional football game in Chicago. Top photo, James E. Pew and Charles E. Webber, both of Sun Oil, cheer a play. . . . Center, Sam S. Hulse, vice president of Warren Petroleum, and Mylon C. Jacobs, of Western Supply Corp., munch hot dogs. . . . Bottom, boarding a bus after the game are (r. to l.) Carl Vos Koetter, of Louisville Refining; W. G. Warnock, of Mid-Continent Petroleum; Pat Moran, of Inland Steel Container; J. L. Webster, of International Lubricant; and C. M. Taylor, of Cities Service.



A Sunday afternoon huddle of Texans outside the Hilton: H. M. Craig, of Gulf Oil; A. M. Birnie, of Wellex Jet; and E. E. Merkt, Jr., and G. H. Fisher, both of Gulf.



Making ready the gigantic Conrad Hilton grand ballroom for the API meeting was a task that kept hotel maintenance crews busy right up to the last minute.



signing in



Above, reflected in a registration room mirror are Ed F. Shannon and Stanley D. Breitweiser, both Continental Oil.

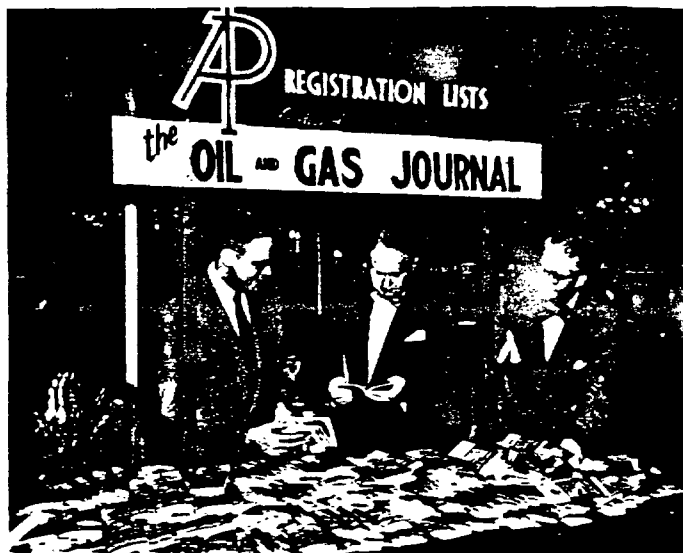


W. B. Pape, president of Petroleum Trading, and his wife check their registration cards, while L. G. Murrell, of Wilcox Oil, writes his against a wall.



His young son perched on the counter beside him, R. B. Anthony, president of Chicago-Wilcox Manufacturing, pens a sign-in card.

Lincoln F. Elkins, R. W. French, vice president; and H. B. Shelton, all of Sohio Petroleum, pick up copies of the daily registration list.



Below, C. A. Warner, Houston Oil vice president, and A. G. McNeese, Jr., also Houston Oil, check the Sunday sports section for news of the Texas U.-Baylor football game.



Above, pipe-smoking H. T. Lorne, of Anglo-Iranian Oil, and Carl Simon, vice president of Darling Valve, collect convention literature.



Left, registering here are W. J. Bovaird, of Bovaird Supply, and V. C. Burkhard, of Wisconsin Oil Refining.



signing in

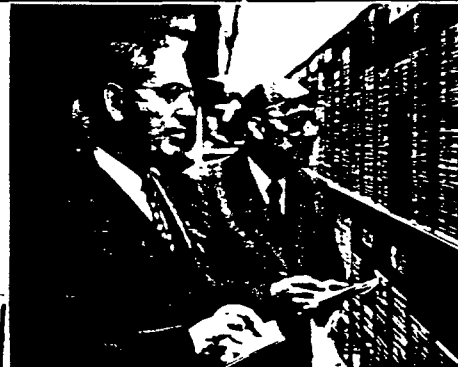
Oklahoman Harry P. Hohenadel, of Cities Service, relaxes a moment before the start of the convention's business sessions on Monday morning.



Below, early registrants H. K. Bowers, of Socony-Vacuum, and Paul F. Swanson, of M. W. Kellogg Co., wear big smiles for the camera.



As usual, the registration room was a beehive of activity. Above was the scene early Monday morning. Behind the scenes (below), a battery of typists, under the direction of API staff member J. A. McNally, worked throughout each day to process the thousands of registration cards.



The registration board maintained by Platt Publications was well used. Shown here referring to it are W. T. Dixon, of Atlantic Refining, and Grant Timmons, of Chicago Copper & Chemical Co.



fundamental research

INDICATIVE of the increasingly important role science is playing in the development and production of more and better petroleum products was the prominent part played by research men at the 32nd annual meeting.

Following a precedent established last year, a group session on Fundamental Research was held on Monday morning. Sponsored by the Advisory Committee on Fundamental Research on Composition and Properties of Petroleum, most of the session was devoted to progress reports on the work of six API research projects, many of which are given over to exhaustive studies of petroleum hydrocarbons.

Opening remarks at the session — made by Dr. Robert E. Wilson,

Standard Oil Company (Indiana) board chairman and chairman of the Research committee of the API board of directors — were highlighted by the announcement that thousands of dollars worth of specialized research equipment had been donated to the University of California and Massachusetts Institute of Technology. Originally purchased by the API for use on projects being conducted at these institutions, the equipment was turned over to the schools for their own use now that the projects are completed.

The 1952 API annual meeting marked the 25th anniversary of the Institute's fundamental research program. Reminders of API's quarter-century interest in research were provided by two "birthday" dinners, marking the silver anniversaries of Projects No. 6 and No. 37.

Dr. Robert E. Wilson, Standard of Indiana board chairman, who made the opening remarks, in a huddle with Dr. Howard G. Vesper, president of California Research, who presided.



Left, a part of the audience at the Monday morning group session on Fundamental Research. . . . Below, speakers at the session were Harry Sutherland, Shell Oil; W. D. Seyfried, Humble; W. G. Lovell, Ethyl; R. R. Brattain, Shell Development; S. S. Shaffer, Humble; and W. E. Kuhn, The Texas Co.





fundamental research



Left, above, at one end of the speakers' table at the Sunday evening dinner marking the 25th anniversary of Research Project 37 were John E. Sherborne, of Union Oil; Howard G. Vesper; and Dr. Robert A. Millikan, Nobel prize-winning physicist. . . . Left, below, snapped by the candid camera while awaiting the start of the dinner were John C. Walker, of Cities Service Research and Development; Ted W. Legatski, of Phillips Petroleum; and Harry L. Pelzer, Sinclair Research Laboratories vice president.



Right, to familiarize newspaper and industry writers more fully with API's various research activities, Howard G. Vesper, as chairman of the committee on the composition and properties of petroleum, held a press conference on Sunday afternoon. With Mr. Vesper are E. O. Mattocks, of the API, and Lloyd E. Elkins, of Stanolind Oil and Gas, chairman of the committee on the occurrence and recovery of petroleum. . . . Right, below, guest on a radio program broadcast from the Park Row restaurant Tuesday noon was Dr. Claude Zobell, of Scripps Institution of Oceanography (third from left). Others are Tony Weitzel, of WMAQ; Michael Evans, British actor; Mrs. Weitzel; Dave Williams, Chicago interior decorator; and Lou Swee, who was personal bodyguard for General Eisenhower during the recent presidential campaign.



Right, on his way to a research session is Dr. F. D. Rossini, head of the Carnegie Tech chemistry department where Research Project No. 6 is being carried out.

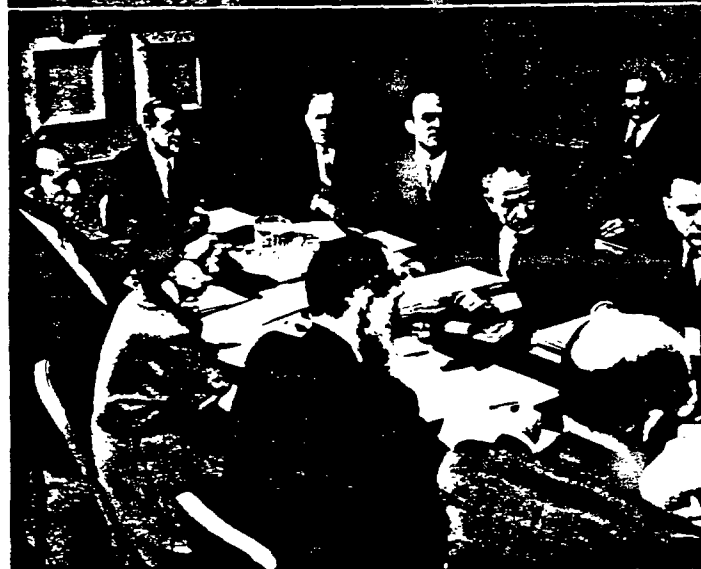




fundamental research



Left, private dining room #4 was the scene of a luncheon meeting of the Research committee of the board of directors on Wednesday. Dr. Robert E. Wilson, chairman of the committee, is seated at the far end of the table.



Left, below, Advisory committees of the several API Research Projects met separately during the annual meeting. Here Wheeler Lovell, of Ethyl, chairman of the Project 45 committee, presides at a meeting of his group. Cecil E. Boord, of Ohio State, project director, is at his left.

Below, R. D. Wyckoff, of Gulf Research, finds a corridor chair a convenient place to jot down some notes.



Left, posing with a doll-like replica of a Texaco service station attendant are Jack Sherman and Carl Cummings, both of The Texas Co.



Right, J. Bennett Hill, of Sun Oil, takes advantage of a few spare minutes before the start of a meeting to catch up on the news.

Below, two Bureau of Mines representatives, shown scanning pre-prints of technical papers, are Harold M. Smith and John S. Ball.



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public relations



"LIVE RIGHT, and let people know about it," was the way H. S. M. Burns, Shell Oil president, defined public relations at the group session on that subject as the 32nd annual meeting officially got under way on Monday morning. Mr. Burns was the featured speaker on a program that attracted an overflow audience of APIers.

In addition to Mr. Burns' talk, the audience heard:

Edwin W. Esmay, acting director of the Oil Industry Information Committee, report that the industry's public relations program is making great strides;

W. R. Huber, of Gulf Oil, explain the OIIC advertising program;

Ralph F. Carey, of Shell Oil, narrate the "story behind the story" of a film on OIIC projects.

It was announced during the convention that the API board of directors had approved an OIIC budget of \$2.9 million for 1953, an increase of seven percent over this year.

Right, H. S. M. Burns, Shell Oil president and chairman of the Public Relations committee of the API board, spoke on "Make the Most of Our Message!"



Right, Stanton K. Smith, president of Smith Oil, with Charles Z. Hardwick, Ohio Oil vice president, whom Mr. Smith succeeds as national OIIC chairman.



Below, session speakers included W. R. Huber, Gulf Oil, who reported on OIIC advertising; E. W. Esmay, acting director, who outlined OIIC activities; and R. F. Carey, Shell Oil, who was narrator for a motion picture entitled "The OIIC in New England."





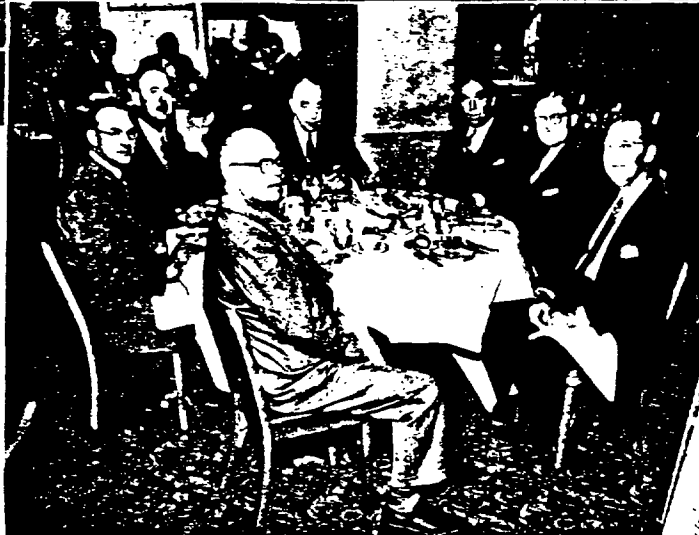
public relations



Above, Admiral H. B. Miller, director-on-leave of the Oil Industry Information Committee (right), chats with J. A. Dennis, secretary of the Independent Oil Jobbers of Iowa, beside a sign announcing the Public Relations group session.

Left, Franklyn Waltman, of Sun Oil (third from right on far side of table), chairman of the OIIC planning subcommittee, presides at a meeting of that group.

Left, below, at a table at the Monday luncheon of the Public Relations committee of the API board of directors were: B. L. Majewski, Great American Oil president; S. A. Swensrud, Gulf Oil president; R. G. Follis, Standard of California board chairman; J. N. Pew, Jr., Sun Oil board chairman; E. L. Shea, Ethyl president; K. S. Adams, Phillips Petroleum board chairman; and J. L. Hamon, of Dallas. . . . Bottom left, part of the "standing room only" crowd at the Public Relations group session.



Above, presiding at the all-day meeting of OIIC district chairmen on Sunday was W. J. Loufman, Fleet Wing Corporation president. Seated at the head table are J. F. Campbell, E. W. Esmay, and Don Waugh, all of the OIIC.



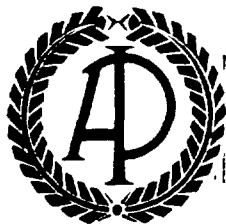
Above, John W. Newton, vice president of Magnolia Petroleum, was elected API vice president for Refining.



Above, W. L. Stewart, Jr., Union Oil executive vice president and retiring API vice president for Refining, presided at the division group session.

Right, John W. Boatwright and John E. Swearingen, of Standard of Indiana, predicted a 46% increase in use of oil products during the next 15 years in their paper, entitled "Meeting Future Petroleum Demands."

Right, W. J. Sweeney, vice president of Standard Oil Development, presented the report of the division's nominating committee.



refining

DEMAND for petroleum products in the United States will increase 46% in the next 15 years, members of the Division of Refining were told at a group session in the North Ballroom of The Conrad Hilton on Monday afternoon.

The oil industry will be able to meet these soaring demands, John E. Swearingen, general manager of production, and John W. Boatwright, general manager of distribution economics, of Standard Oil Company (Indiana), co-authors of the paper containing the forecast, assured the audience, "if the American people will create an environ-

ment characterized by monetary stability, free prices, intelligent relationships, and a sound highway development program."

Specifically, the paper broke down the predicted demand increases as: gasoline, 46%; kerosene and distillates, 44%; residual fuel, 20%; other products (including lubricating oil, asphalt and liquefied petroleum gas), 92%. To meet these demands, the oil industry by 1967, will be producing about eight million barrels of crude oil and one million 100 thousand barrels of natural gas liquids a day, Messrs. Swearingen and Boatwright held.





refining



Above, a between-sessions lobby visit is enjoyed by Clyde Cromwell, of Farmers Union Central Exchange, and John Benedict, of Davison Chemical. . . . Left, two days before annual meeting registration officially opened, committees were already at work. First scheduled gathering was a Friday morning session of the Task Force to the Manufacturers Subcommittee on Safety and Relief Valves. Peter Jurs, of Shand and Jurs, presided.



Left, J. E. Kenney, vice president of Foster Wheeler (right), joins in as three Indiana Standard men, J. W. Yant, H. E. Cotton and G. F. Ordeman, converse.



Above, H. M. Paulsen, of Bankline Oil, points out program speakers to R. H. Stubbings, of the same company.

Right, A. T. Basye, of Ethyl; R. A. Young, of M. F. A. Oil; O. H. Cunningham, of Delta Refining; and A. F. Ryan, of Ethyl.





camera candid

Top left, H. F. Stearns, Horton Steel Works president, in from Toronto for the annual meeting, takes time out to study a Canadian oil map.



Ashland Oil took advantage of the presence of company officials at the annual meeting to hold a directors' meeting. At the head of the table is Board Chairman Paul Blazer. To his right are E. L. McDonald, secretary; Rex Blazer, president; and Everett Wells, executive vice president. . . . Inset, C. M. Nickerson, of U. S. Geological Survey, lights his pipe during a conversation with Hugh A. Stewart, of PAD.



Below, holding an informal visit on the lobby steps are Sol Bronstein, president of Southern Independent Oil, and A. D. Fischbeck, of Phillips Petroleum.



Right, Fayette Dow, general counsel of the NPA, chats with W. O. Narry, of Richfield Oil, before the start of a Transportation division committee meeting at the Palmer House.





camera candid

Right, R. A. Carter, of Stanolind Oil and Gas (left), greets two Houstonians, F. B. Haverfield and W. H. Davidson, both of Transcontinental Gas Pipe Line.



Above, waiting in the elevator "corral" to be assigned to a car to take them to one of the meeting floors is this large crowd of APIers.



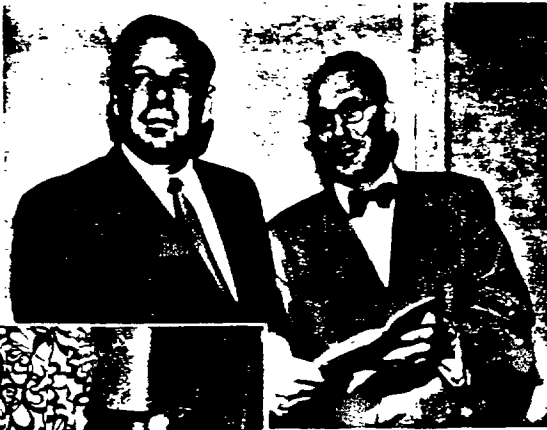
Left, these two smiling convention-goers are W. W. Guiteau, of Cleveland, and C. M. Johnson, of Allied Oil. . . . Left, below, calling friends on hotel house phones are J. D. Schofield, Jr., of Atlantic Refining, and J. J. Dvorak, of Humble.

T. Ben Arnold, of Southwestern Engineering, leans on a mezzanine stairway railing to talk with John S. Wertz, board chairman of Vickers Petroleum.





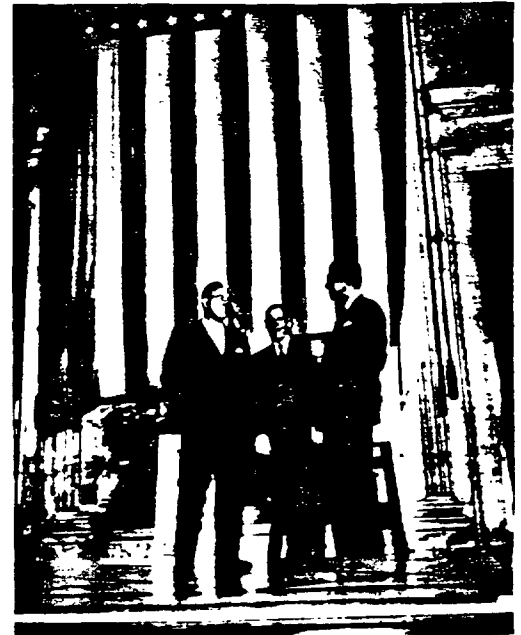
camera candida



Above, B. B. Turner, Ethyl Corp., vice president, and W. G. Tierney, president of Derby Oil.



Above, three Ohio Oil men in their company's suite, G. F. Poe, C. A. Buechner, and W. K. Tell, check the Findlay (Ohio) Republican-Courier for hometown news.



Right, silhouetted against a huge American flag, F. F. Sweeton and Robert T. Jones, vice president and president of Robert T. Jones, Inc., flank H. L. Shockley, of his own firm.

Right, among those boarding the Rockwell Manufacturing helicopter for an air tour of Chicago are T. N. Law, Falcon-Seaboard Drilling president; L. A. Myers and T. C. Smith, of Bethlehem Supply; R. J. Thomas, of Rockwell; and Paul Anderson, of Bethlehem Steel Company.



Below, L. S. Daniels, Hydrocarbon Research; J. P. Shambaugh and P. J. Wolfe, Socony-Vacuum; Lewis Gross, Taylor Oil and Gas; and J. M. Godsey, Socony-Vacuum, make up this stairway conversation group.



Left, this California delegation includes Virgil Anderson, Caminol treasurer; I. P. Hartman, of Mohawk Petroleum; W. H. Sievert, of Ethyl; and W. L. Marconi, executive vice president of Caminol.



marketing



Harry J. Kennedy, vice president of Continental Oil and outgoing API vice president for Marketing, presided at both group sessions.



THREE OUTSTANDING speakers addressed the first Marketing group session in the Grand Ballroom on Monday afternoon.

Dr. Courtney C. Brown, a director of Esso Standard Oil, cited overexpansion of petroleum facilities, increasing sensitivity to general business changes, and seasonal variations in demand as creating possible future problems for the oil industry.

Otis H. Ellis, general counsel of the National Oil Jobbers Council, discussed some of the factors that prevent independent oil jobbers

from giving full support to the battle against nationalism in the U. S.

Admiral Ben Moreell, chairman of the board of Jones & Laughlin Steel, declared that in its method of fighting communism, America may have chosen the "wrong battlefield at the wrong time and against the wrong enemy." Admiral Moreell outlined a program for a return to standards of individual liberty and responsibility.

The second Marketing session was conducted as an open business session of the division.



Pictured at the left, from top to bottom, are Dr. Courtney C. Brown, Otis H. Ellis, and Admiral Ben Moreell, speakers at the Monday afternoon Marketing group session. . . . Below, Robert M. Bartlett, Gulf Oil vice president, who was elected API vice president for Marketing, and Robert H. Stewart, API staff member, at a committee meeting.





marketing



Above, left, Marc F. Braeckel, vice president of Sinclair Refining, reporting for the Marketing nominating committee. . . . Above, right, Samuel Rosenwasser, representing Gasoline Merchants of Brooklyn, Inc., told the Tuesday session of the need for a sub-committee to help solve the retail dealer's problems.



A U.S. Army collapsible rubber petroleum products container interested George Evans, Polymer Corp.

Right, Fred Herlihy, president of Power Oil Company, visits with Dr. John W. Frey, director of the API Division of Marketing, before the start of a group session.

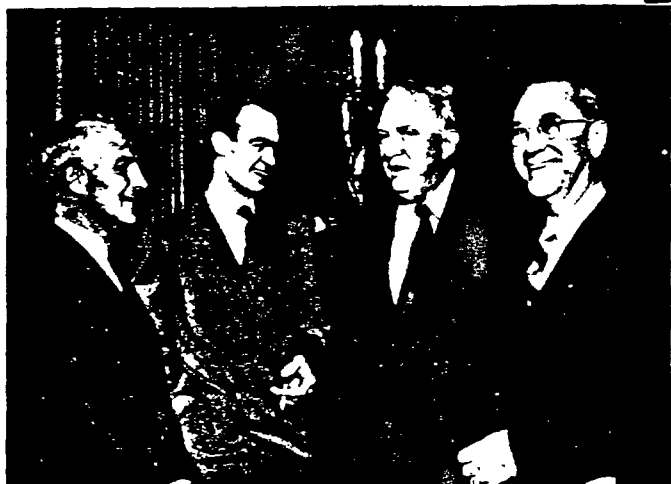
Below, two early arrivals at the Tuesday morning session were George W. Hofmayer, manager of the Texas Oil Jobbers Association, and E. K. Bennett, president of E. K. Bennett, Inc. . . . Below, right, John Harper, president of Harper Oil, and Roy J. Thompson, vice president of Apex Motor Fuel. Mr. Thompson is the new chairman of the National Oil Jobbers Council, succeeding Mr. Harper in that position.



ETC 32761



marketing



Above, R. W. Pitcher, Pan American Production; I. W. Fariss, Pan American Petroleum and Transport; H. C. Smith, American Oil president; and J. M. Vetter, Pan American Production vice president.



Below, E. J. Webster and E. H. Lyon, of Phillips Petroleum, flank L. Q. Skidmore, president of Skidmore Oil, of Kansas City, Mo.



Above, L. W. Sweet, Pure Oil vice president, and J. D. Wooten, president of Mid-South Oil. . . . Right, J. J. Harrigan, Standard Drilling president, and Mrs. Harrigan in front of a Marketing session sign at the Palmer House. . . . Left, J. C. Geniesse and H. B. Stone, of Atlantic, and D. C. Thompson, Republic Oil Refining vice president.



Below, Karl D. Friend, president of K. Friend and Company, looks up from his between-sessions reading.



ETC 32762



transportation

WHILE OTHER divisions of the API were meeting at The Conrad Hilton, Transportation sessions were under way at the Palmer House in the center of Chicago's famed "Loop." Under the general direction of P. C. Spencer, Sinclair Oil president, who was re-elected API vice president for Transportation, the division held three group sessions — one on Monday afternoon and two on Tuesday.

Featured at the Monday session were Vice Admiral William M. Cal-

laghan, commander of the Military Sea Transportation Service, who spoke on the work of that organization; B. Brewster Jennings, president of Socony-Vacuum Oil Company, whose subject was "The Effects of Competition on the Development of Transportation"; and John S. Burchmore, a member of the Chicago law firm of Walter, Burchmore, and Belnap, who lauded the Interstate Commerce Commission in his discussion of government regulation of transportation.



Top left, P. C. Spencer, Sinclair Oil president and API vice president for Transportation, presiding at a group session. . . . Left, M. E. Nuttli, of Cities Service Oil, reporting for the division's nominating committee. . . . Right, John S. Burchmore, an attorney, who spoke on "Government Regulation of Transportation" at the Monday session.



Above, two attentive members of a Transportation audience are H. C. Price, Jr., of H. C. Price Co., and G. W. Walter, of Standard of Indiana. . . . Right, B. Brewster Jennings, Socony-Vacuum president, and Vice Admiral W. M. Callaghan, commander of the Military Sea Transportation Service, both of whom spoke at the first Transportation group session.



ETC 32763



transportation



Above, J. R. Ellis, a Sun-ray Pipe Line director, speaking on "A Microwave-Controlled Pump Station."



Right, above, H. H. Anderson, vice president and general manager of Trans Mountain Oil Pipe Line, explaining "Pipe-line Organization."



Above, G. K. Manning and J. W. Lodge, of Battelle Memorial Institute, co-authors of a paper on "The Stress in Large-Diameter Gas Transmission Pipe," delivered by Mr. Manning at Tuesday's symposium.



Right, speaking on "People, Pipe Lines, and Public Relations" is Robert H. Lynch, vice president of Keystone Pipe Line.

Below, left, R. G. Strong, Natural Gas Pipe Line, and J. G. Norton, Magnolia Pipe Line, who used a question-and-answer technique to explain the new pipe-line field welding code. . . . Below, right, S. S. Smith, Shell Oil, who spoke on "Recent Products Pipe-Line Developments," with R. B. McLaughlin, Texas Pipe Line chairman, and R. K. Paine, Standard of California, who presided at Tuesday morning and afternoon sessions, respectively.





Left, S. M. Blair, vice president of Trans Mountain Oil Pipe Line, speaking at the Tuesday afternoon group session.

Right, pictured in the audience at a Transportation session are M. L. Barrett, Jr., Shell Oil; A. E. Pecore, Humble Pipe Line vice president; and W. F. Davis, Interstate Oil Pipe Line Company.



Above, Ray L. Smith, president of Ray L. Smith and Son, and T. R. Aude, of Service Pipe Line, relax between Transportation meetings.



Above, a general view of the audience at the Tuesday morning group session in the Palmer House's Red Lacquer Room. . . . Left, A. L. Christy, of Pure Oil, reads a copy of Pipe Line News before a meeting.



transportation



Left, H. N. Emerson, of Atlantic Refining, takes a last look at some notes before going into the meeting of the Central Committee on Transportation by Water, where he presented a paper.

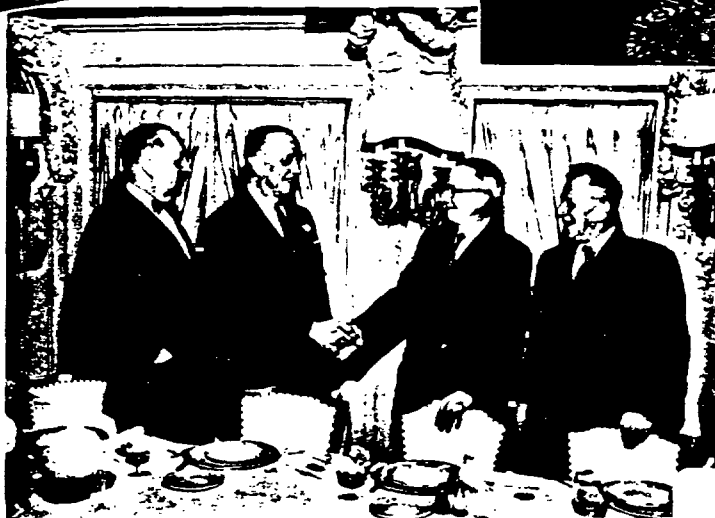


Below, in the Crystal Room at the Palmer House before the start of the Wednesday luncheon for members of the General Committee of the Division of Transportation, are Paul J. Bond, of Pure Oil, and H. L. McReynolds, of Socony-Vacuum.



Above, an over-all view of the Transportation Club dinner held Monday evening at the Bismarck Hotel. . . . Left, E. D. Sheffe, of Esso Standard, 1952 president of the Club, and P. H. Kuhns, of Continental, president-elect, flank R. A. Wotowitch, of St. Petersburg, Fla., a founder of the Transportation Club.

Right, O. F. Moore, Ohio Oil vice president, new president of the Pipeliners Club, receives congratulations from retiring president R. B. McLaughlin, board chairman of The Texas Pipe Line Co. J. L. Latimer, Magnolia Petroleum president, new Club vice president, and Oliver C. Klinger, Oildom Publishing president, re-elected secretary-treasurer, look on.





evaporation loss



Above, John H. McClintock, of Esso Standard Oil, as he presided at the symposium.

EVERY SEAT was filled and extra chairs had to be brought in to accommodate the interested crowd of oilmen that overflowed The Conrad Hilton's South Ballroom to hear the Monday afternoon Symposium on Evaporation Loss — the first ever conducted by the petroleum industry on the subject.

Evaporation losses, because of their insidious nature, have been called "the invisible robber of the oil industry." The symposium represented a consolidation of some of the studies that have been made on the subject by oil, pipeline and tank

manufacturing companies. It was presented by a special committee, appointed by API president Frank Porter, whose membership includes representatives of the Institute's four divisions.

Speakers on the program emphasized that while the problem of evaporation is universally recognized, it has not been solved because of the large number of factors still to be evaluated. They pointed out that the problem is somewhat like assembling a jig-saw puzzle. The puzzle has been outlined, but only a few of the pieces are now in place.



Above, taking part in discussions were A. B. Stevens, General Petroleum; H. L. O'Brien, Graver Tank and Manufacturing; O. W. Johnson, Standard of California; H. C. Packard, Shell Oil; C. C. Ashley, consultant . . . and, above, right, G. D. Hardin, Shell Oil; I. L. Wissmiller, Chicago Bridge and Iron; L. S. Wrightsman, Humble Pipe Line; and J. H. Field, Sohio Petroleum. . . Right, R. L. Parsons, Parkersburg Rig and Reel; Knox Henderson, National Tank; F. L. Bruckner, Maloney-Crawford Tank & Manufacturing vice president; and W. H. Ferguson, of the same company, at a tank committee meeting.



ETC 32767



board of directors



AMONG THE MANY items of business conducted by the Board of Directors at the annual meeting was the re-election of L. S. Wescoat, president of The Pure Oil Company, as chairman; Frank M. Porter, head of the Fain-Porter Drilling Company, as president; B. Brewster Jennings, Socony-Vacuum president, as treasurer; and Lacey Walker, of the API, as secretary.

John W. Newton, Magnolia Petroleum vice president; Robert M. Bartlett, Gulf Oil vice president; and John G. Pew, Sun Oil vice president, were elected API vice presidents for Refining, Marketing, and Production, respectively, succeeding W. L. Stewart, Jr., Harry J. Kennedy, and J. C. Donnell II.



Private dining room #2 was the scene of the three Board of Directors business sessions held during the convention. In the photo at top, board members are convened for the Tuesday morning meeting. . . . Left, Lacey Walker, API secretary; L. S. Wescoat, chairman; and Frank M. Porter, president, discuss the agenda.



Right, two oil company presidents in an informal get-together are Glenn E. Nielson, of Husky, and William H. Garbade, of Deep Rock.

Below, R. B. Anderson, of the W. T. Waggoner Estate, greets Amon G. Carter, Fort Worth publisher.



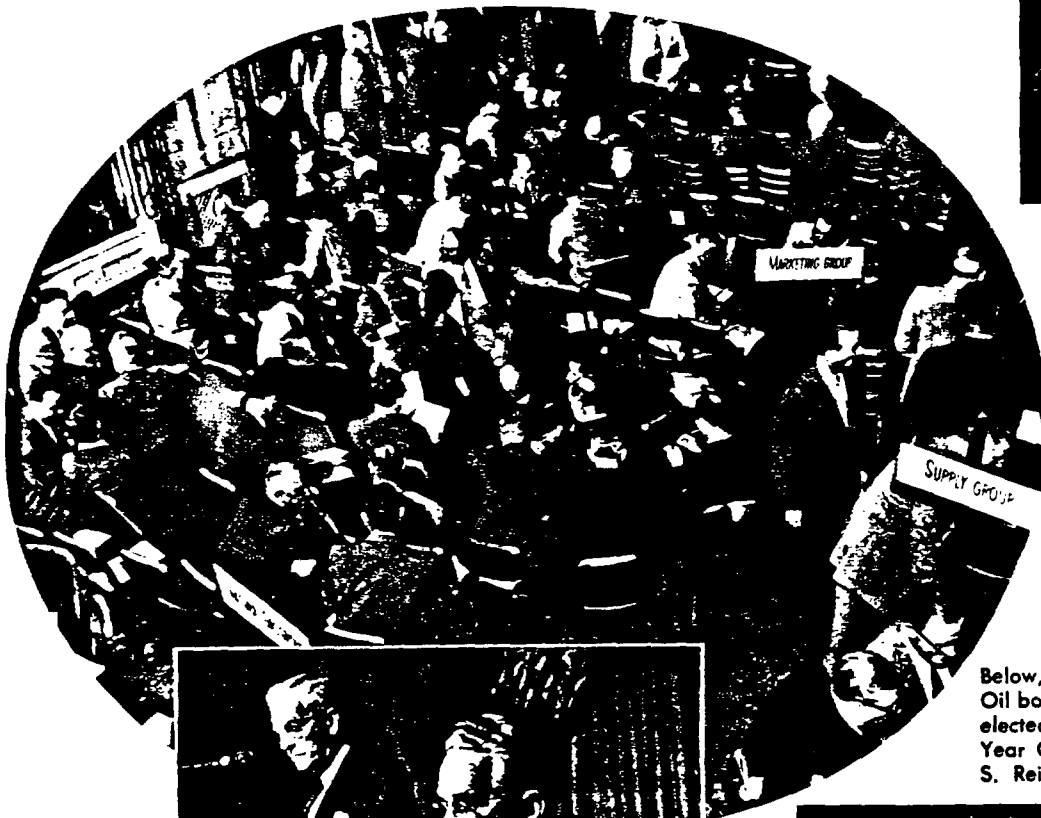


Above, Guy S. Conners (right), of Williams, Conners, Stanfield, listens as J. French Robinson, president of Consolidated Natural Gas Company, makes a point.



board of directors

Below, the Board of Councillors met Tuesday morning in the North ballroom to nominate candidates for the API board of directors. Shown here, in a view from the balcony, are some of the various groups holding individual caucuses. . . . Inset, J. H. Russell, Gulf Oil vice president, presiding at the meeting. Seated beside him is D. V. Stroop, of the API, who recorded the proceedings.



Above, the camera made this study of Fred W. Shield, of his own company, at a Monday evening board reception.

Below, Rawleigh Warner, Pure Oil board chairman, who was elected president of the 25-Year Club, succeeding Bryan S. Reid, of Socony-Vacuum.





board of directors



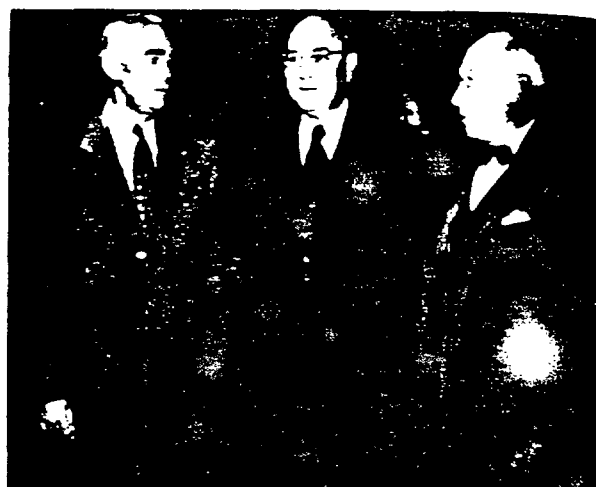
Three company presidents, Charles S. Jones of Richfield Oil; A. W. Peake, of Standard of Indiana; and W. Alton Jones, of Cities Service.



Left, John C. Case, Socony-Vacuum vice president, listens attentively while George Koegler, of the Jersey Company, emphasizes a point.



Above, John Suman, Standard of Jersey vice president, and Alfred Jacobsen, Amerada president, in conversation. . . . Left, enjoying refreshments at a Board reception are Harry F. Glair, a Standard of Indiana director; W. L. Stewart, Jr., Union Oil executive vice president; Hines H. Baker, Humble Oil & Refining president; and Max G. Paulus, Standard of Indiana vice president.



Top right, the three new API vice presidents for Production, Refining, and Marketing, respectively, who also are vice presidents of their companies, are John G. Pew, Sun; John W. Newton, Magnolia; and Robert M. Bartlett, Gulf Oil. . . . Right, Eugene Holman, Standard of Jersey president, chats with H. W. Haight, executive vice president of Creole Petroleum.





receptions

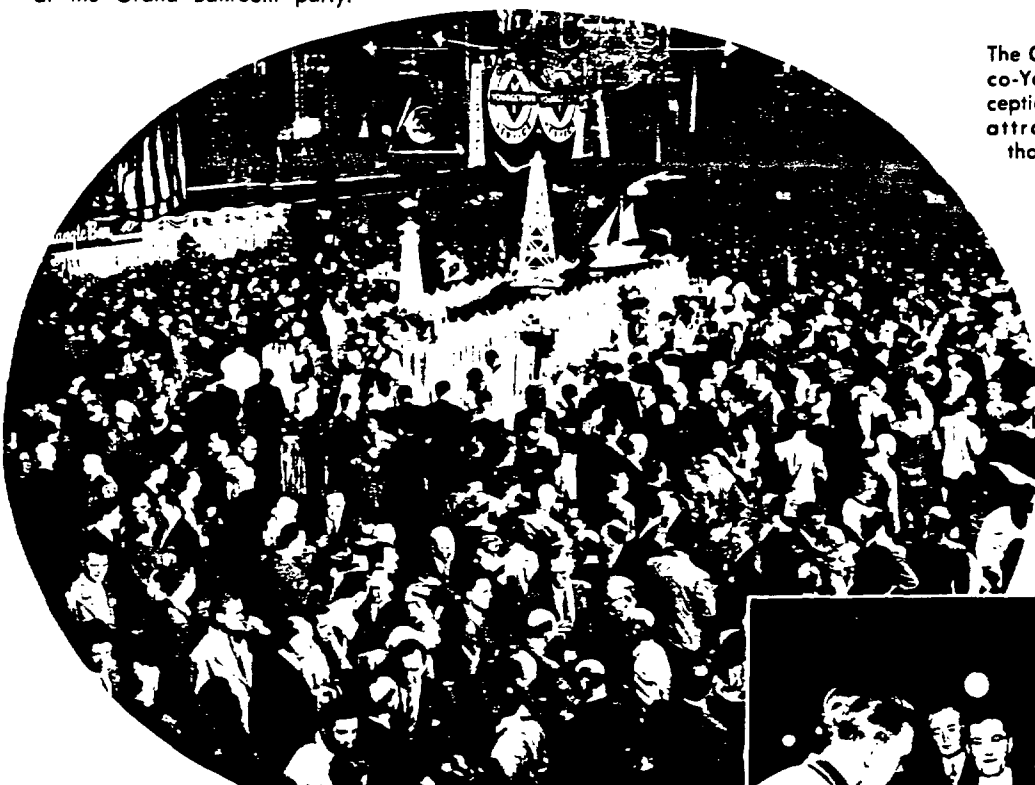


Archie D. Kroney, of Lone Star Producing, reaches for a shrimp at the Grand Ballroom party.

COMING as they do at the end of busy meeting days or between the morning and afternoon business sessions, the several receptions conducted during the API annual meeting serve as welcome "breaks" in an otherwise full work schedule.

Largest of the receptions, from the attendance standpoint, was the

one held in the Grand Ballroom of the Conrad Hilton and sponsored jointly by Continental Supply, Youngstown Sheet and Tube, and Emsco Derrick & Equipment. Another well-attended social function was the buffet luncheon hosted by Magnet Cove Barium Corp. Both events were held on Tuesday.



The Continental-Emsco-Youngstown reception (oval photo) attracted several thousand APIers.

Below, photographed being served at the Magcobar luncheon were W. R. Payne, of Lone Star Producing; C. K. Viland, of Tide Water Associated; and Herschel Y. Hyde, a Tide Water vice president.



Left, Willard M. Johnson, president, and John H. Moran, both of Magnet Cove Barium Corp., greet guests arriving at their company's luncheon.





receptions



Above, F. S. Clulow, vice president of Shell Oil, and Gelston Howell, of Ethyl, enjoy a visit during an evening buffet. . . . Left, H. S. VanCleave, Jr., and Keegan Carter, both of Gulf Refining, share a hearty laugh at the Blackstone Hotel reception tendered by Gulf Oil.



Above, photographed during an informal reception were Mr. and Mrs. E. C. Hurd and (rear) Mr. and Mrs. L. E. Hardin. Both men are with Mercury Oil.



Left, above, L. F. McCollum, president of Continental Oil; Mrs. Clarence Mantoath, wife of a Tulsa oil editor; and LeRoy Menzing, oil editor of the Fort Worth Star-Telegram, exchange pleasantries at a buffet. . . . Left, at the reception given by Shell Oil, H. L. Curtis, of the host company, greets Fred W. Woods, secretary of Shell, and R. J. Davis, formerly of Shell, but now retired.



Among the guests at the Shell Oil reception was E. H. Shomo, general manager of Chicago radio station WBBM, shown here checking his hat and coat.



dateline: chicago



The appearance of Bruce K. Brown, president of Pan-Am Southern, on a national TV news program was one of the special press events of the convention. Commentator Austin Kiplinger does the interviewing. . . . Right, new Association of Petroleum Writers officers are Russell R. Palmer (*Petroleum World*), vice president; Jay Hall (*Dallas News*), retiring president; Milburn Petty (*Petty's Oil Letter and Oil Daily*), new president; and Henry D. Ralph (*Oil and Gas Journal*), secretary-treasurer.



The press room was ever-busy as reporters for scores of newspapers and magazines pounded away on typewriters to beat their deadlines. . . . Left, Oveta Culp Hobby, herself a newspaperwoman, is interviewed by Gladys Erickson, reporter for the *Chicago Herald-American*.





dateline: chicago



Top, Robert D. Shaw, of Dowell, Inc., enjoys a pleasant registration room talk with Tom J. Crowley, vice president of *The Petroleum Engineer*. . . . Above, John H. Burke takes a long puff on his cigarette as he types an API coverage story for *The Gasoline Retailer*, of which he is associate editor.



J. Richard Shaner, API publicity director, telephones convention news to a Chicago newspaper, while Joseph W. Palmer, OIIC representative in Denver, helps.



Left, API President Porter at his Monday morning press conference. Seated with him is Fred VanCovern, of API. . . . Below, John Klinger, editor of *The Pipeliner* magazine, in a huddle with E. E. Rouland and V. J. Hall, both of Reilly Tar & Chemical.



Above, P. C. Lauinger, president of *The Oil and Gas Journal*, converses with Homer M. Eagles, of Standard Oil Co. (N. J.).





financial and accounting

Presiding at both Financial and Accounting group sessions was R. A. Martin, of Standard of Ohio (right).



Morning session speakers were Prof. Marcus Nadler (above) and A. A. Stambaugh (below).

THE NATION's business outlook was summarized at the first of two Financial and Accounting group sessions, both held on the convention's second day. The forecast was provided by Dr. Marcus Nadler, who is finance professor at New York University.

He saw the present high level of business activity continuing for at least several months, but said that the buyers' market is rapidly returning.

The morning session's other speaker, A. A. Stambaugh, Standard Oil Co. (Ohio) board chairman, discussed "The Petroleum Industry and the American Way of Life."

In describing the way the oil industry operates in the American system of free enterprise, Mr. Stambaugh likened it to a "mighty giant which writhes and twists under the



impact of competition—influenced by technology, better methods, and an increased demand both for products and capital, in a constant striving to give our people more and more products of better and better quality at lower and lower prices."



Below, E. P. Priebe, secretary-treasurer of Bay Petroleum; J. R. Mulvey, of Humble Oil; and H. H. Boyer, of Sun Oil, pick up pre-prints of the talks.

Below, heard at the afternoon meeting were T. F. Bradshaw, of the Cresap, McCormick and Paget firm (at microphone), and W. B. Dunckel, vice president of Bankers Trust Co.





financial and accounting



Alan S. Anderson and Nelson Darling, both of the Paine, Webber, Jackson & Curtis firm, formed part of the overflow audience at the morning Financial and Accounting meeting.



An interested listener was Brig. Gen. Alfred H. Johnson, chairman of the Munitions Board joint POL committee.



While awaiting the start of a Financial and Accounting session, stenotypist Ruth Willkie passes the time in "knitting one and purling two."



The Bradshaws hold a 2 to 1 advantage in the photo above. Robert Bradshaw, vice president of Warren-Bradshaw Exploration Co., and A. E. Bradshaw, president of the National Bank of Tulsa, flank A. J. Peters, vice president of the First National Bank and Trust Co., of Oklahoma City.

Below, finance department men with their firms are S. D. Williams, of Sohio Petroleum, and C. W. Plum, of Standard Oil Company (Ohio).





between sessions

Right, Carter Oil men all are Irving J. Staid, G. D. Priestman, and Thomas Brownfield, a vice president.



L. D. Mann, president of Cities Service Refining (left), poses with C. C. Tate, of Phillips Petroleum, and Mrs. Tate.



Below, a candid view of C. M. Larson, of Sinclair Refining, as he attended the Refining general committee meeting. . . . Right, a policeman gives directions to a group of APlers.



Below, E. O. Jones, of Ethyl; Paul G. Benedum, Hiawatha Oil president; and W. K. McCoys, of Gulf Oil.

Above, an informal conversation among Ray Granlund, vice president of Eastern States Petroleum; H. B. White, president of Southern States Oil; and C. R. Jons-wold, executive vice president of Arrow Petroleum.



ETC 32777



between sessions



Above, F. R. Long, vice president of Mohawk Petroleum, and Howard Cuyler, of Standard of California, exchange greetings.



Above, L. W. Kelley, Drake Petroleum treasurer; T. D. Guthrie, Eastern Seaboard Petroleum vice president and treasurer; C. E. Kelley, Jr., Drake Petroleum president; and R. N. Blaize, Eastern States Petroleum executive vice president.



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Above, signing in at a Palmer House meeting are W. G. Horstman, Plantation Pipe Line vice president; Sam L. Jackson, Standard of Indiana; C. E. Jackson, Mid-Continent Petroleum; and W. K. Borland, Plantation Pipe Line. . . . Below, Alan C. Tully, Ethyl; Jack Coast, Coast Oil president; J. W. Shemwell, Triangle Refineries; and Robert A. Douglass, Ethyl.

Above, ringing for a Conrad Hilton elevator are A. C. Ingles and David G. Reynolds, both of Southwestern Engineering. . . . Below, at a table in the hotel drug store are A. O. Olson, partner in Olson Oil, and L. R. Saunders and K. B. Britt, of Broderick and Bascom Rope Company.





between sessions



Above, J. G. Dorward, of Pana Refining, and R. H. Carroll, of Loudon Pipe Line, enjoy an informal visit. . . . Below, Comdr. S. J. Major, Armed Services Petroleum Purchasing Agency, studies the meeting program.



Left, discussing an OIIC exhibit are G. R. Fenner and W. G. Clark, of Pure Oil. . . . Below, Joseph L. Dwyer, of the API, and William T. Payne, president of the Mid-Continent Oil and Gas Association.

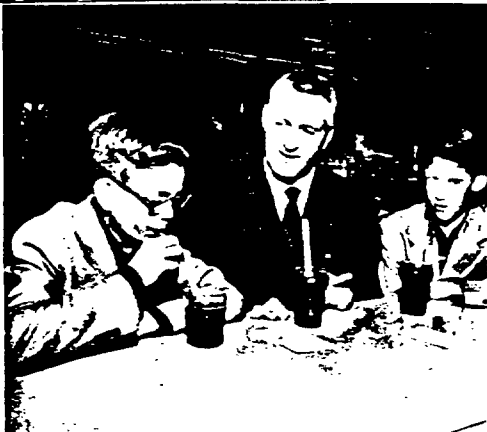


Below, George Roberts, Jr., Stanolind Oil and Gas; Henry Salvatori, Western Geophysical president; and J. A. Engstrand, vice president of Grant Oil Tool Co.



Left, R. O. Jennings, Gulf Oil; A. A. Corona, Pan American Petroleum and Transport vice president; and Stuart Forbes, of Ethyl.

Right, Michael Davis and his friend, Jerry Moore, accompanied Michael's dad, Gary Davis, president of Mountain Mud Co.





production

T. V. Moore, of Standard Oil Development (left), and R. L. Foree, director of production, Petroleum Administration for Defense (right), are shown as they discussed Production group session papers.



THE DELIVERY of seven papers, ranging in subject matter from the use of high-speed computing machines for oil field problems to the significance of the Williston Basin discovery, marked the two group sessions conducted by the Division of Production.

In discussing the Williston Basin,

S. F. Bowlby, a vice president of Shell Oil, predicted that daily oil production in the U. S. portion of the area may become ten times greater within the next five years than it is right now.

Also at the Wednesday afternoon meeting, Ralph E. Davis, a Houston consultant, declared that the natural gas industry now rests on a broad foundation of adequate reserves, and is soundly financed and efficiently operated.



Left, the speakers' table at the first of the two Production group sessions: E. R. Brownscombe, of Atlantic Refining; R. C. Zell, of Union Oil; Lloyd E. Elkins, of Stanolind Oil and Gas; W. A. Bruce, of Carter Oil; and co-chairmen W. L. McCloy, Jr., of Sohio Petroleum, and Glenn M. Stearns, of British-American Oil Producing. Speaking at the extreme right is J. E. Toussaint, vice president of Standard Oil Company of California.

In the Tuesday afternoon audience were Ed P. Trout, vice president of Lufkin Foundry & Machine Co., and C. W. Hughes and R. O. Garrett, both of Arkansas Fuel Oil.





Gerald G. Chappell, of Union Oil, commented on one of the Wednesday session papers.



production

Right, J. J. Arps, British - American Oil Producing; R. H. C. Harrison, president of Western Canada Petroleum Assn.; and K. Marshall Fagin, of Southwestern Life.



Left, the Wednesday Production speakers: Ralph E. Davis, consultant; S. F. Bowlby, Shell Oil vice president; and co-chairmen George E. Cannon, of Humble Oil, and R. O. Garrett. At the microphone, far right, is Frank H. Willibrand, of Sohio Petroleum.

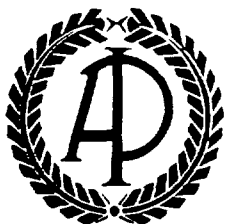


M. E. Dice, of General Petroleum, scans convention literature.

The Division of Production's general committee met at a luncheon on Wednesday. Among those seated at the head table (below) were J. C. Donnell II, president of Ohio Oil and the outgoing API vice president for Production; John G. Pew, vice president of Sun Oil and the new API Production vice president; R. L. Foree, of the PAD; and John R. Suman, vice president of Standard Oil Company (N. J.).



H. H. Healy, Ohio Oil, gave the division's nominating committee report on Wednesday.



Lubrication



Above, B. G. Symon, of Shell Oil, presided at the session.



Above, W. B. Perriguy, of Esso, was heard on the subject "Motor Oil Life Expectancy."



THREE AUTHORITIES who talked on various aspects of lubricating oils, and a fourth who spoke on selling, provided a well-rounded program for the Lubrication group session in the North Ballroom on Wednesday afternoon. Discussing motor oil life expectancy, laws relating to lubricating oil, the new API motor oil classifications, and salesmanship, respectively, were W. B. Perriguy, Donald C. O'Hara, G. A. Round, and H. G. Moock, former Chrysler Corporation executive.

G. A. Round, Socony-Vacuum, right, discussed the new API motor oil classifications. . . . Below, in the session audience were Donald Sucher, Speedway Petroleum vice president; C. Kappen, Speedway; and P. H. McMahon and C. W. Benson, both of Montgomery Ward.



Above, H. G. Moock spoke on "Selling Is Everybody's Business."



Left, Donald C. O'Hara, of The National Petroleum Association, discussed "The Law and Lubricating Oil."



A full house greeted speakers at the Tuesday afternoon session. . . . Left, by a sign, featuring the talk by H. S. M. Burns, are J. A. Blood, vice president of Western Hyway Oil, and Bernard E. Gray, Asphalt Institute president.

Below, at the group session head table were C. S. Gentry, Shell vice president and general counsel and A.P.I.C. chairman; H. S. M. Burns, Shell president; J. P. Walsh, Sinclair Oil; James J. Cosgrove, Continental Oil board chairman; Gen. Baird H. Markham; J. H. Bivins, of A.P.I.C.; and Willard Wilson, executive secretary of the Nebraska P.I.C.

THE OIL INDUSTRY must pursue an intensified program of government relations and public education to meet "one of the truly colossal industrial responsibilities of all time," H. S. M. Burns, Shell Oil president, said in a talk at the Tuesday afternoon American Petroleum Industries Committee group session. The meeting, at which A.P.I.C. Chairman Cyrus S. Gentry presided, also included the showing of a color motion picture entitled "Alerted for Action."



ETC 32783



a.p.i.c.



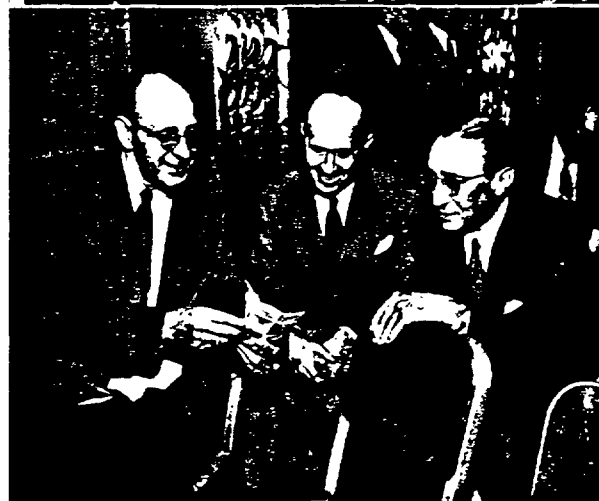
Left, at the Wednesday afternoon A.P.I.C. open meeting were Lt. Gen. Levin Campbell, chairman of the Automotive Safety Foundation, and Robert H. Scholl, of Esso Standard Oil.



I. E. Solberg, of Bismarck (N. D.) Junior College, and G. E. Millican, Gulf Oil, speakers at the open meeting, with Cyrus S. Gentry, Shell Oil vice president, who presided.



Right, above, in the audience before the start of Tuesday's group session, Oscar B. Lewis, Ethyl Antiknock vice president, and John F. Fairlie, of Imperial Oil, discuss A.P.I.C. literature. . . . Right, this smiling threesome, at the same meeting, is M. L. Margenau, Cities Service; J. A. Longan, Petroleum Exchange vice president; and H. V. Spitzer, Allied Oil president. . . . Right, below, Eliot Evans, of Central Gasoline Tax Evasion Committee, registers for a meeting.



Below, interested audience members at the open meeting were Frank W. Rogers, of Western Oil and Gas Association, and John M. Peirce, vice president of the same organization.





This year, as always, the A.P.I.C. exhibit in the registration room attracted widespread attention. Shown here, as they directed the assembling of the dramatic display on Sunday, are Stephen P. Potter and Richard J. Kunkel, both of the A.P.I.C. staff.

The A.P.I.C. contest this year called for contestants to estimate what they think will be the petroleum industry's total tax bill for 1952, after first identifying the years in which events pictured on the exhibit's screen took place. Winners will be announced later. In the photo at right, a group of Ashland Oil representatives—Joseph C. Davis, John E. Dickson, and J. E. Stone—gets some help from a pretty A.P.I.C. attendant. . . . Below left, conferring in front of the exhibit are P. J. Sweeny, board chairman of Pan American Pipe Line; C. W. Nofsinger, president of his own company; and W. H. Bruyere, of Pan American Pipe Line. . . . Bottom, W. Josiah Norton, of Hydrocarbon Research, and Louis M. Faber, executive secretary of the Petroleum Retailers Association of Milwaukee, studiously fill out their A.P.I.C. contest entry blanks.



a. p. i. c.

Below, A. W. Crowley, president of McNamara & Crowley, Inc., deposits his entry in the guessing contest as Betty Becker, an A.P.I.C. attendant, looks on smilingly.





1st general session

Right, Frank M. Porter, as he delivered the traditional API President's address.



REPORTS from the Institute's president and board chairman have become a traditional feature of each annual meeting's first general session.

In addition to the remarks of Mr. Porter and Mr. Wescoat, the Wednesday morning gathering this year also heard Interior Secretary Chapman hail the industry for meeting current oil demand.

Another feature of the session was the report of S. A. Swensrud on oil industry cooperation in the payroll purchases of U. S. bonds.

Left, L. S. Wescoat, president of Pure Oil, presided as board chairman of the API and also delivered an address.



Above, Sidney A. Swensrud, president of Gulf Oil, gave the general session a "Report on the Status of the U. S. Bond Drive in Connection with Payroll Savings Plans."



Featured speaker of the first general session was Oscar L. Chapman, Secretary of the Interior. He is shown above and at left as he addressed the large assemblage.



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1st general session

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Above, the camera snapped this group of APIers coming through the doorway to the Grand Ballroom before the start of the first General Session. . . . Right, in pre-session conversation are D. D. Little and G. B. Moody, of Standard of California; and Edgar Kraus, of Atlantic Refining.



Right, checking Oil and Gas Journal registration lists are Tide Water Associated vice presidents R. K. Kelly and H. B. Haney.

Left, R. J. Hull, of Cities Service Petroleum, and Lee Haugen, vice president of Cities Service Oil Co. (Del.), chat by a sign announcing the session.



Below, enjoying a hearty laugh are Thomas L. Apjohn, Socony-Vacuum; Lt. Col. John D. Edmunds, Office of Chief of Army Field Forces; R. A. Given, of the PAD; and Maj. Foster L. White, of the Munitions Board.

Above, Texans all are Andrew M. Howsley, vice president and general counsel of Texas Mid-Continent Oil and Gas Association; J. L. Collins, Wheelock and Collins partner; and Robert L. Wheelock, Jr., president of Four W Oil Co.



ETC 32787



offstage



Left, this threesome is H. C. Patton, vice president of J. D. Streett & Co.; Morris Crandall, of the same firm; and Frank McCracken, vice president of River States Oil.



Above, Ervin A. Carlson, of Western Oil and Fuel, and L. C. Trapp, of Midland Oil and Fuel. . . . Below, a corridor meeting between J. Howard Marshall, Signal Oil vice president, and Bruce K. Brown, Pan-Am Southern president.

Below, Dewitt T. Ring, vice president of Waverly Oil, and Roy W. Francis, of Berry Asphalt.



All smiles as they pose for the cameraman, this group is (front row) W. J. Distler, of Ethyl, and W. H. Everett and C. L. Orn, of Ohio Oil; and (rear row) Paul R. Kempf, W. K. Tell, and A. M. Gee, all Ohio Oil; Harry A. Mack, of Ethyl; and J. F. Diver, of Ohio Oil.



offstage



Above, intent on some convention papers are James Ranoford, of Tide Water Associated, and M. F. Weill, of Ethyl.



Top, in this industrious group are J. J. Martin, United Fuel Gas vice president; W. S. Morris, East Texas Salt Water Disposal Company vice president and general manager, and Mrs. Morris; and Carl W. Vogt, of Shaffer Tool Works. . . . Above, J. W. Hoppe, president of Mineral Solvents, and W. L. Rippeau, of Wyandotte Chemicals, listen to Frank J. Smith, of Pan American Refining.



Right, H. V. Smith, of Kendall Refining; C. F. Tears, president of Tears Engineers; and L. H. McMahon, of American Oil. . . . Right, below, at an Exhibition Hall display, G. F. Bayes and R. B. Smith, M. W. Kellogg vice presidents, hear Maj. H. J. Wills explain new Army food containers. . . . Below, L. B. Simmons, Rocket Oil president; H. E. Cottrell, of Ethyl; and R. M. Gray, of Esso.



Above, Mrs. G. G. Oberfell, Mrs. I. P. Hartman, and Mrs. J. S. Wintringham. Their husbands' companies are Phillips, Mohawk, and Ethyl, respectively.



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offstage

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Newspapers from many of the nation's larger cities were available each day of the convention as a service by one of the airlines. J. H. Mosbey, Jr., and J. O. Mathews, vice presidents of Modern Welding, here check the Louisville papers. . . . Below, the candid camera caught Jack A. Horner, of Shell, and Joe T. Dickerson, Shell vp, in this pose.



Above, Charles W. Hubbell, of Phillips Petroleum, and Morgan Martin, of Gulf Refining, chat before the start of one of the busy convention's many sessions.



Both representatives of the Pennsylvania Grade Crude Oil Association are C. R. Wheeler and Richard J. Cook.

Below, seated on a Conrad Hilton lobby settee, H. F. Wagner and J. L. Nolan, both of Farmers Union Central Exchange, confer with F. A. Nason, vice president of Lubrizol Corp. (center).





in recognition



James J. Cosgrove, Continental Oil board chairman, was honored for his A. P. I. C. work. Joseph Walsh, of Sinclair Oil, made the presentation.

MORE THAN 50 men, representing almost all branches of the petroleum industry, were singled out for special tribute during this year's annual meeting.

Most of the awards were American Petroleum Institute certificates of appreciation. But, in addition, the Oil Industry Information Committee honored ten of the industry's public relations leaders with special OIIC certificates, and Project 37

gave special citations for "Twenty-five Years of Valuable Research" to two California Institute of Technology doctors long associated with the hydrocarbon equilibrium behavior project.

Groups which awarded API certificates of appreciation were Production, Marketing, Petroleum Reserves, Safety, A. P. I. C., Financial and Accounting, Fundamental Research, and Transportation.

API certificate winners, below, are (front row) A. J. Morgan, John A. Roebing's Sons Co.; F. H. Lahee, Sun Oil; J. J. Schmidt, East Ohio Gas; A. A. Davidson (for Ray F. Shumaker, Sinclair Pipe Line, retired); Charles Fitzgerald, Sinclair Pipe Line; J. C. Askam, Ohio Oil; C. W. Froome, Union Oil; and J. M. Sands, retired from Phillips Petroleum. Back row, J. C. Donnell II, who made the awards; H. H. Anderson, Trans Mountain Oil Pipe Line; F. J. Spang, Spang & Co.;

F. E. Bernsen, Lucey Products; M. E. Schwarz, Seaboard Oil; Gwynne Raymond, Union Tank & Supply; L. A. Ogden, Pure Oil; Thomas G. Stitt, Pittsburgh Steel; C. E. Beecher (accepting for M. J. Kirwin, formerly of Cities Service); and Spencer B. Terry, of the Munitions Board. Awardees H. M. Henderson and P. R. Applegate were absent. All awards were by the Production division, except those to Messrs. Lahee and Sands, which were by Petroleum Reserves.



Drs. William N. Lacey and Bruce H. Sage, both of California Institute of Technology, received special awards for their long association with API Project 37. They are shown at right with Earl G. Gaylord, vice president of California Research Corp. (center).





in recognition

Thad E. Horton
The Texas Co.



E. L. Stauffacher
Cities Service



Left, John R. Suman, head of the Safety committee of the API board of directors, presents the Safety awards to R. T. Henderson, retired from Standard of Ohio; George F. Prussing, a consulting engineer; and B. A. Moeller, of General Petroleum. H. J. Wilson, of Tide Water Associated, was not present to receive his certificate of appreciation.



Ralph F. Carey
Shell Oil



Walter E. Black
Esso Standard



Harry A. Trower
Phillips (retired)



George D. McDaniel
Socony-Vacuum



Left, R. A. Martin, of Standard of Ohio (left), congratulates J. C. Anderson, of Standard Oil Co. (N. J.), recipient of a certificate for leadership in Financial and Accounting. . . . Below, honored for their Research efforts were Kenneth C. Heald, vice president of Gulf Oil; William J. Sweeney, vice president of Standard Oil Development; Charles V. Millikan, of Amerada Petroleum; and Albert E. Miller, of Sinclair Refining.





R. T. Seidel
Shell Oil

Madison Farnsworth
Gulf Oil

Harry E. Milton
Milton Oil



George F. McMillan
Gulf Oil



Oil Industry Information Committee certificates of appreciation were presented to ten men, whose individual photos are shown on these two pages. Charles Z. Hardwick, national OIIC chairman, made the presentations during the group session on Public Relations.



in recognition

Harry J. Kennedy, vice president of Continental Oil; E. J. McClanahan, vice president of Standard of California; and A. A. Stambaugh, board chairman of Standard of Ohio, line up before Bernard L. Majewski, president of Great American Oil, after receiving their certificates from him on behalf of the Marketing division.



Left, the Transportation division cited seven men for their years of service to that branch of the industry. In this photo of the presentation ceremony are H. A. Gilbert, president of Oil Transfer Corp.; George H. Hill, Jr., of Cities Service (not an award winner); J. H. Peper, president of Buckeye Pipe Line; P. C. Spencer, who made the awards; Matt E. Nuttala, of Cities Service; F. W. Littell, of Shell Pipe Line; J. J. Powellson, of Esso Standard; and C. R. Musgrave, vice president of Phillips Petroleum. Harry S. Elkins, of the National Petroleum Association, was not present to receive his award.



2nd general session



PRECEDENT was broken at the 32nd annual meeting when Oveta Culp Hobby—less than two weeks before her appointment by President-elect Eisenhower to the near-Cabinet post of Federal Security Administrator—became the first woman ever to address an API convention general session.

Equally as timely were the

speeches of Senator Knowland and T. S. Petersen.

The Senator outlined what he called seven "alternatives" to the "present stalemate" in Korea. Mr. Petersen, in his remarks, saw atomic power as a possible competitor to the oil industry within the next 20 years, but predicted petroleum would remain the major source of energy.

A capacity audience was on hand for the final general session Thursday morning to hear the timely addresses of Oveta Culp Hobby, co-publisher of *The Houston Post* (left), and U. S. Senator William F. Knowland of California and T. S. Petersen, president of Standard Oil Company of California, shown below as they greeted each other.





2nd general session



Left, pictured outside the Grand Ballroom are J. N. Pew, Jr., chairman of the board of Sun Oil, and A. C. Mattei, president of Honolulu Oil.



Left, in the general session audience were C. W. Hamilton, Gulf Oil vice president, and Claude Woessner, also of Gulf. . . . Below left, two international visitors to the annual meeting were Edgar Welti, of Switzerland, and B. N. Darbyshire, of England.



Right, these two Texas Company men in pre-session conversation are G. R. Bryant, a vice president, and J. S. Worden.



Two Californians and a Texan make up the trio above. They are G. L. Neely and William C. Lane, both Standard of California, and P. J. Sweeny, Pan American Pipe Line chairman.

Viewing the proceedings of the Thursday morning general session from a comfortable vantage point on the Grand Ballroom balcony are F. A. Kirkland, H. J. McNally, J. B. Steele, vice president, and P. A. Rowland, secretary, all of Kewanee Oil.





2nd general session



While waiting the start of the Thursday general session, W. H. Beekhuis, Standard of California vice president; Horace E. Davenport, vice president of Pocahontas Fuel; and C. F. McGoughran, Sinclair Oil secretary, engage in a bit of light conversation.



Above, both of Standard Oil (Indiana) are G. T. Dougherty and C. G. Kustner.



Above, S. M. Wagner, Ethyl vice president, and William Naden, vice president of Esso Standard.

Right, comparing notes on a convenient table near the Grand Ballroom are Allan Anthony, president of Allan Anthony Electric Corp., and W. B. Johnson, Jr., of Erie Meter.



Below, the candid camera recorded this meeting between W. G. Selby, of Tulsa, and E. N. Koonsman, of Pittsburgh Des Moines Steel Co.





committees at work



WHILE LARGER group and general sessions come in for most of the recognition and make most of the headlines at API annual meetings, scores of committees vital to the betterment of the entire industry are always hard at work behind the scenes. In this respect, this year's meeting was no exception. In private meeting rooms throughout The Conrad Hilton and Palmer House, busy groups of oilmen started meeting as early as Friday morning — three days before the convention officially began — and continued to meet through Wednesday afternoon, when all that remained of the 32nd annual meeting was the final general session.

Left, above, the Agricultural Advisory committee of the Board of Directors at its Monday afternoon meeting in The Conrad Hilton. Sidney A. Swensrud, Gulf president (seated at far left), is committee chairman.



Left, the Aviation Advisory committee and the Aviation Technical Services committee at a joint luncheon meeting.

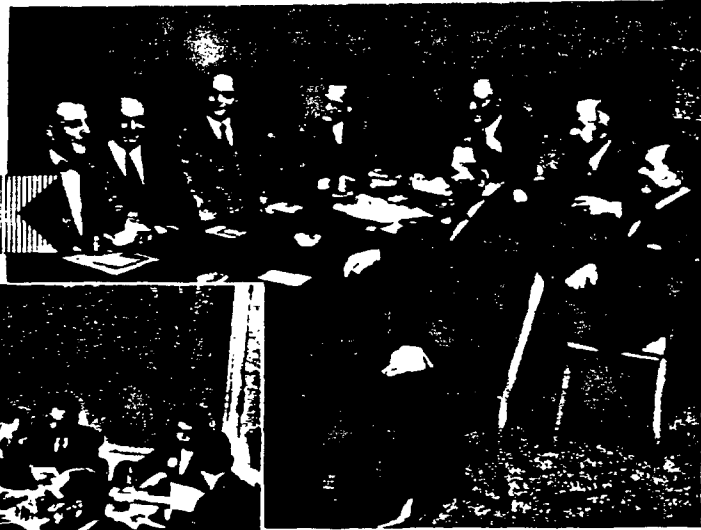
Right, chairmanned by Henry Schwall (second from left), of Shell Oil, the Statistical Advisory committee held an all-day meeting on Monday.



ETC 32797



committees at work



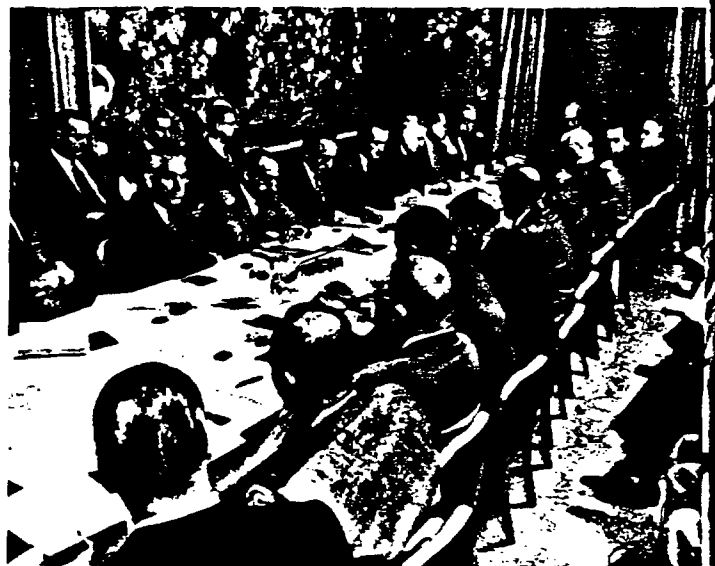
Above, the Sunday afternoon meeting of the Service Station committee. H. G. Meador, Gulf Oil vice president and committee chairman, is at the head of the table.



Left, this intent group, meeting on Monday afternoon in Private Dining Room #2 of The Conrad Hilton, is the Committee on Vocational Training, a part of the Division of Production. W. I. Kent, of Magnolia Petroleum, is committee chairman.



Left, Frank Baird-Smith, Refiners Transport and Terminal president, addresses the Tuesday morning meeting of the Central Committee on Automotive Transportation. . . . Left, below, meeting Sunday morning under the chairmanship of A. E. Miller, of Sinclair Refining, was the Committee on Petroleum Products . . . Below, W. H. Creel, Phillips Petroleum, presides at a meeting of the Committee on Refinery Equipment.



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until next year

WHEN it came time to return to their homes, those who had been present at the 32nd annual meeting did so in the knowledge that they had attended one of the most fruitful and beneficial of all Institute gatherings.

Again probably more than 6,000 strong, the API will return to Chicago next November for the 33rd in the series of yearly meetings. The Windy City also will be host to the 1954 convention.

Outward bound, this group was snapped coming down the Conrad Hilton lobby steps. Shown are David F. Cocks and Willis F. Roth, Standard of Kentucky vice presidents; J. E. Partenheimer, vice president of Atlas Supply; and M. H. Utley, Standard of Kentucky. . . . Inset, R. E. Nelson, Jr., of Standard of Indiana, and T. B. Hickman, of Gulf Refining.



With the convention drawing to a close, Russell M. Stein, of the Simpson, Spence and Young firm (above), checks flight schedules with an airline office attendant. . . . Right, ready to depart is W. Alton Jones, president of Cities Service and former chairman of the API board of directors.





until next year

Right, two Gulf Oil men pay their hotel bills at a Conrad Hilton cashier's window Thursday noon. They are V. C. Fuller and G. C. MacDonald.

Right, preparing to return to Bartlesville, W. F. De Voe, Don R. Reese, and H. J. Horsch, all of Phillips Petroleum, turn in their room keys.

Below, right, registration continued right up to the close of the annual meeting. But unlike early registrants, who came in large groups, oilmen signing in later usually arrived singly or in small groups.

Below, while chatting with Robert G. Kensel, of Continental Oil, Frank E. Butterfield, of the same company, packs his clothes for the trip back home.



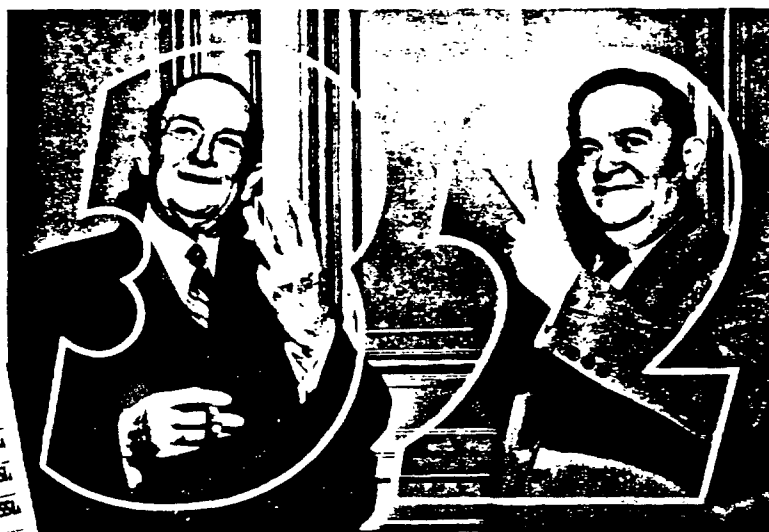
Right, these departing APlers waiting for an airport bus outside the hotel are George Cook, of Standard of Jersey, and John Wightman, president of The Wightman Agency.



They've Seen 'Em All

**American
PETROLEUM INSTITUTE**
DECEMBER 10-15, 1952

REGISTRATION INFORMATION DESK
PRESS & ADQUARTERS ROOM 554
PRODUCTION DIVISION ROOM 554
REFINING DIVISION ROOM 554
MARKETING DIVISION ROOM 554
TECHNICAL SERVICES ROOM 554
APIC HEADQUARTERS PALMER HOUSE
TRANSPORTATION DIVISION HEADQUARTERS



So far as is known, the two smiling men pictured above, in a symbolic pose, are the only persons to have attended all 32 of the annual meetings conducted thus far by the American Petroleum Institute.

Known — on sight, at least — to virtually all API convention-goers, the men are William R. Boyd, Jr., and John S. Cooke. "Bill" Boyd, of course, is the immediate past president of the Institute, having retired from that position in 1949 after an eight-year tenure. He remains active in API affairs as a member of the board of directors. Mr. Cooke — "Doc" or "Cookie" to one and all — has filled a number of positions during his long association with the Institute. Presently, he serves in the dual capacity of secretary of the Oil Industry Information Committee and secretary of the Public Relations committee of the API board.

In their more than three decades of uninterrupted attendance at the annual meetings, the Messrs. Boyd and Cooke have seen this event grow — in importance, size, significance and every other measure of success — by the proverbial leaps and bounds.

Thirty-two years ago, when the newly-formed API first assembled its members in annual session, the meeting was held in Washington, D. C. It was a three-day affair and was attended by 420 men of the industry.

Unlike today, when Chicago is the usual meeting city, the earliest conventions were held in various locations — Washington, Chicago, St. Louis, Fort Worth, Los Angeles and Tulsa. Other cities which have played host to the annual

meeting over the years are Houston, Dallas and San Francisco.

As has been announced, Chicago will be the scene of the next two annual meetings. The 1955 convention city, however, will be San Francisco. That will be the first West Coast meeting in five years, and will take APIers back to the city in which they last met only a month before the Pearl Harbor attack that plunged the United States into World War II.

All 32 of the annual meetings have been held in consecutive years, with two exceptions. The 1944 meeting, scheduled for Chicago, was cancelled due to war-time travel restrictions. The other year in which no convention was held was 1925. The sixth annual meeting, which had been scheduled for that year, actually was conducted in Los Angeles in January of 1926. Since the seventh annual meeting was held in Tulsa the following December, that meant that the API convened twice in 1926, the only year that such an oddity has occurred.

Convention attendance has increased with almost every meeting. In 1926, for instance, registration first surpassed the 2,000 mark. In 1934, it shot beyond 3,000 for the first time.

But if the growth of the API annual meeting during the years between the two world wars was rapid, what has taken place in this connection since the fall of the Axis has been little short of phenomenal.

The 6,350 registration at this year's event was far more than double the number attending the annual meeting of 1945, when World War II came to an end. It far exceeded the combined attendance of the first six annual meetings, and it was 15 times the registration at the initial meeting in 1920.

No one, least of all veterans "Bill" Boyd and "Doc" Cooke, will be surprised when, as it is bound to, attendance reaches the 7,000 mark at one of the annual meetings in the near future.



ETC 32802