

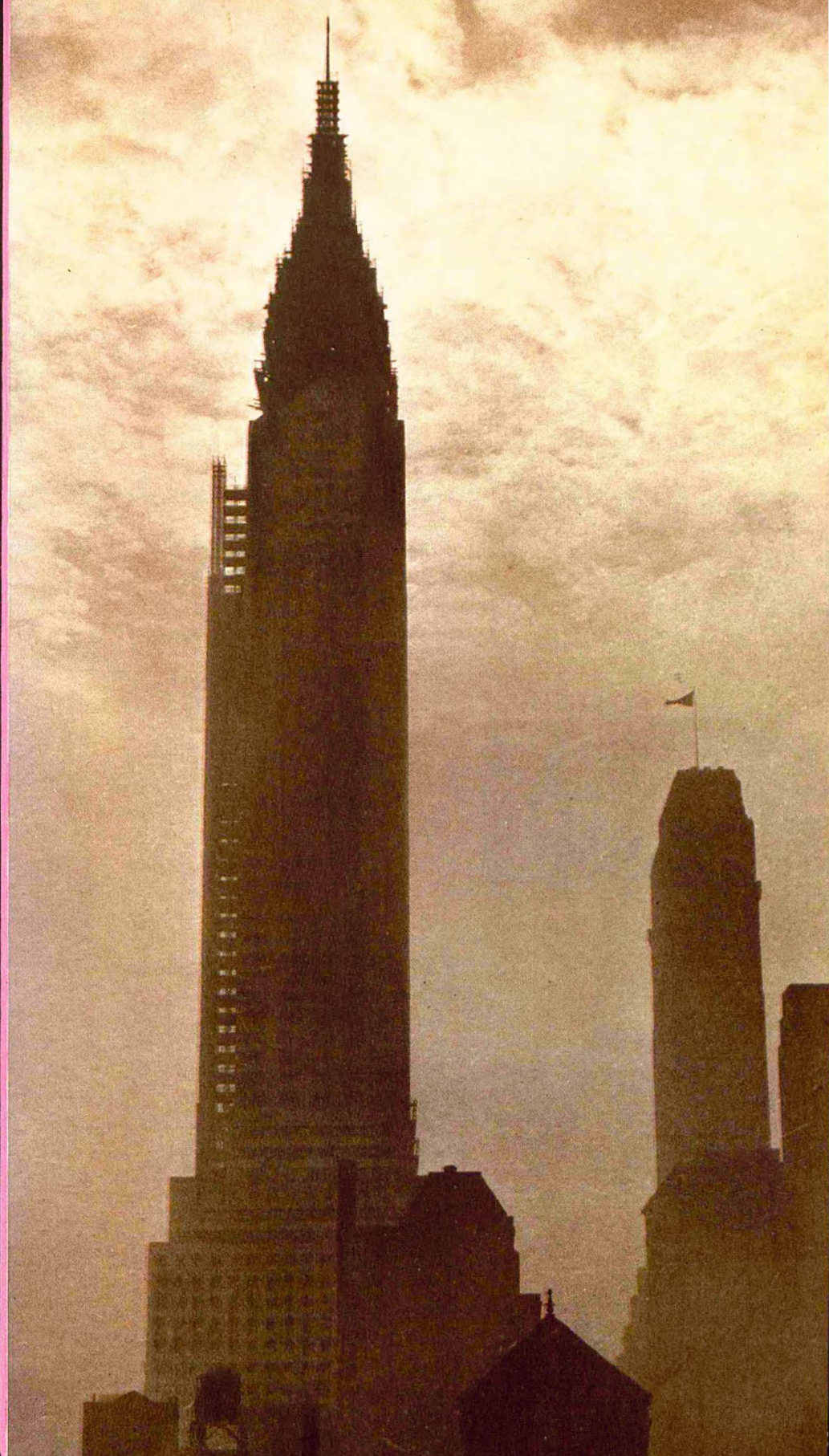
The
DU PONT
Magazine



May 1930

**The
Chrysler Building**

New York City's tallest skyscraper in the evening glow, from an Ewing Galloway photograph, taken for *The Chrysler B*



DYNAMITE clears the way for modern engineering wonders!

The Chrysler Building

**world's highest structure . . .
how DYNAMITE helped to
build this mighty skyscraper**

THE Chrysler Building . . . towering above New York's amazing skyline . . . looms 1046 feet into the blue. It is the tallest structure ever built by man.

Genius of engineering did it. But the power of dynamite was there . . . working efficiently, quickly, to blast out solid rock so that the giant foundations might be placed.

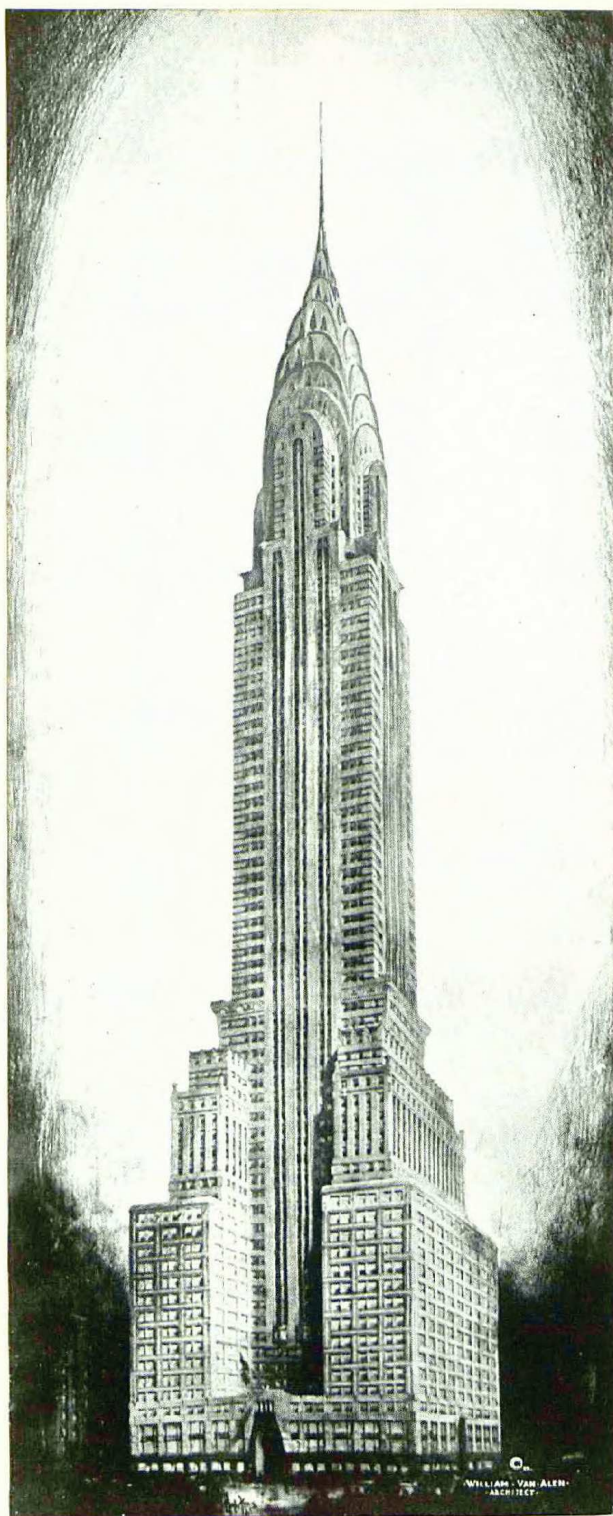
Dynamite is the ally of the modern engineer. It is the tool without which carefully designed plans for many heroic undertakings would never be more than paper plans.

Skyscrapers. Tunnels through mountains, under rivers and cities. Bridges and highways. Dams and reservoirs. These . . . and numerous other . . . engineering marvels are built with the aid of dynamite. Dynamite digs into the earth and blasts out raw materials used in the making of countless articles we use every day.

Dynamite is more than important to industry . . . it is necessary!

If you would like to learn more about explosives and how to use them . . . if you are searching for the answer to some specific explosives problem . . . simply write direct to the du Pont Company for full information.

The vast knowledge of explosives gained by the du Pont Company in 128 years of making and testing explosives is at your service.



EXPLOSIVES

E. I. DU PONT DE NEMOURS & CO., Inc. EXPLOSIVES DEPT. WILMINGTON, DEL.

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No. 5

HATS OFF TO THE RAILROADS!

They transported five hundred million pounds of explosives in 1929 without a single fatality and with only trifling property loss

RAILROAD efficiency is a familiar theme for editorial comment, and properly so, for the achievements of recent years have been of a kind to command more than passing mention and praise. Certainly one of the most striking evidences of it relates to the safe transportation of inherently hazardous freight. In this connection we quote the following from a recent issue of *Explosives Progress*:

"For three consecutive years the railroads of the United States and Canada have transported approximately five hundred million pounds of explosives annually without the loss of a life and with a negligible property damage. The annual report of the chief inspector of the Bureau for the Safe Transportation of Explosives and Other Dangerous Articles for the year 1929 just published shows that during that period no persons were killed and only \$91 damage was done. One railroad employe was slightly injured but his injuries did not result from an accident in connection with handling explosives for industrial use. The employe was hurt when an explosion took place in a box of fireworks.

"Black powder, dynamite and blasting caps constituted the industrial explosives referred to in the report.

"In 1928 the railroads handled approximately the same amount of explosives without the loss of a life or a personal injury and with a money loss of \$77.

"In 1927 approximately the same amount of explosives was handled without any loss of life or injury and with a total money loss of only \$45."

In commenting on the work for the year 1929, Col. B. W. Dunn, chief inspector of the Bureau, says:

"We may feel regret over the fact that the property loss in carrying explosives was larger in 1929 than in 1928, but an increase of only \$14 is not particularly disturbing. Although the personal injury record was kept from perfection by one such injury when a box of toy torpedoes exploded, the actual seriousness of the injury was on a par with the loss-increase mentioned

above. Considering the vast quantity of all kinds of explosives carried, the 1929 record, upholding as it does the achievements of the past three years, is absurdly small, and the gratitude and satisfaction it arouses are properly great. Once more, the difficulty rested with explosives not industrially useful. There was one small explosion of percussion caps, but the remaining 18 cases all involved fireworks, 17 of these being toy torpedoes."

"The Bureau for the Safe Transportation of Explosives and Other Dangerous Articles was organized in 1906 under the auspices of the American Railway Association, and has been functioning effectively during the past twenty-four years. Its object is to minimize losses of life and property incident to the transportation of dangerous articles by rail. At the outset its principal concern was to throw safeguards around shipments of explosives, but experience has shown that there are many products other than explosives requiring attention; in fact, the list now includes 227 of them. For more than two decades the bureau has made a careful study of the causes of fires and explosions occurring on railroad property in order to know how to prevent them. And this information has been made the basis for Federal regulations now in effect.

"In 1907, the first year of record, explosives were charged with seventy-nine accidents, fifty-two fatalities, eighty personal injuries and a property loss of nearly a half million dollars.

"The reduction in accidents and property loss during recent years has been due to the intensive efforts of the bureau in educational work among railroad employes and the inspection of shipments."

This achievement is one "to provoke thought by those of us who believe that civilization *must* bring new perils," says the *Philadelphia Record*. "The greatest triumph of the explosives manufacturers and shippers and the railroads is that they have clearly demonstrated that we, by taking thought, *can* make safe the most dangerous instrumentalities our progress creates."

Corner of a living room in the exhibit of the Ypsilanti Reed Furniture Company, where the new-type furniture is shown to advantage



Rayon as an upholstery material fits in with the decorative scheme and adds beauty to the general effect

RAYON FOR NEW-TYPE FURNITURE

Recent developments indicate a growing preference for rayon upholstery fabrics for both indoor and outdoor use

AMONG the many experiments conducted to find a new type of furniture especially adapted to the modern style of decoration and to modern needs, the new line of steel furniture designed by Donald Deskey for the Ypsilanti Reed Furniture Company gives promise of being a most original and practical development. Light in weight, clean and smart in appearance, it is altogether a novel departure from what has been offered heretofore.

As upholstery for this new furniture, rayon fabrics of different types have been chosen—some as coverings for furniture intended for formal living rooms, others for more informal porch and garden pieces. Outstandingly lovely with the smooth, hard surface of the chrome steel are rayon shikii satins from Stead and Miller which reflect the metallic, clean-looking quality of the frame and complement it in color. For one suite a lovely soft green has been used, while a soft gray-blue presents another possibility.

Steel combined with rattan is also shown, and for these suites a rayon duplex satin from Hadlee Silk Mills developed in cooperation with the Du Pont Rayon Company has been used. This material features horizontal stripes, which are considered decidedly new and good,

By E. C. HARRINGTON

and when composed of varying tones of henna and copper, they form a fitting contrast with the black rattan base and steel arms of the suite. Both this and the all-steel suite may be used in living rooms and are designed with complementing coffee tables and end tables of the same material.

For outdoors and other less formal places the Du Pont Rayon Company has developed a new material which is used on reed furniture built on more modern lines than heretofore. This texture is so treated that it sheds water and may be given hard wear without destroying the elegance and lovely luster of the rayon. The development of this upholstery material as already shown at the Ypsilanti Exhibition will do much to give reed furniture more serious consideration and will probably be more instrumental than any one thing in making it highly desirable for living room use, as well as for outdoors.

Designs in these water-repellent rayon textures feature plaid effects of interesting color combinations such as black, vermillion and gray in one, and brown, with two tones of green in another. Others are of appropriate solid colors, which are enhanced by a coarsely-woven basket weave effect in rayon. The plaids and solid-color cloths are products of Andrew McLean Company.

DUPLATE—SAFETY RECOMMENDS ITS USE FOR AUTOMOBILES

*A car equipped with this product will protect you and those who ride
with you from the broken glass hazard*

RECENTLY an analysis was made of all automobile accidents throughout the United States and it was found that in a majority of cases the injuries were caused by broken glass. The survey also established the fact that most people are, either consciously or subconsciously, afraid of flying glass and will instinctively cover their faces to ward it off when in an accident. The results of this study convinced several glass manufacturers of the need for a shatter-proof material that could be used in automobiles. They wanted a finished product which would have the appearance and visibility of plate glass without being as fragile.

For many years it was generally known that a sheet of pyroxylin plastic cemented firmly between two pieces of glass made a non-shatterable material. But this product was not very successful in the early days of laminated glass because it was lacking in good transparency and was marred by imperfections in manufacture.

Because the Pittsburgh Plate Glass Company and the Du Pont Viscoid Company were the largest manufacturers of the two basic materials required in making the first-known safety glass, it was only natural that they should combine their research departments and work together to develop a material that would meet the present-day demands.

After many months of careful research, study and painstaking work on the part of the chemical engineers of both companies, an improved non-shatterable glass was made. It was most satisfactory, for it had all the advantages of plate glass but could not be shattered by a severe shock or heavy impact.

For the manufacture and sale of this product the two companies that fostered the development work joined hands and formed the Pittsburgh Safety Glass Company, which name was later changed to the Duplate Corporation to correspond more closely to the trade name of its product—Duplate, which is made of two sheets of the finest plate glass and a sheet of Pyralin of especially high quality, welded firmly together. A factory building was erected at Creighton, Pennsylvania, and the men to operate

it were recruited from the plants of the two holding companies. At first orders came in slowly and the workers met with many disappointments and failures, but in every case the obstacles were overcome and now the company is operating a large, modern, five-story factory.

It is true that Duplate will crack when struck by a heavy blow, but it will not fly because all of the parts remain adhered to the tough and elastic Pyralin center. From the point of impact a hundred cracks may radiate, but the crash and tinkle of broken glass is missing, for the plate is still whole.

The occupants of the present-day car ride in what is practically a glass case mounted on wheels, for they have glass to the right and left of them, glass in front of them, and behind them as well. This means that regardless of how carefully one drives there is always the hazard of flying glass, unless the non-shatterable kind is used. If your car is equipped with Duplate, you have the assurance that you and those who ride with you will be protected in case of an accident.

Non-shatterable glass has added immeasurably to the safety of the traveling public. Its use in motor

vehicles has been recommended by many safety associations, and in some states legislation has been introduced requiring that all cars engaged in public service be equipped with it. Commissioner Whalen of New York City has ordered that "Duplate or its equal" be installed in all new taxicabs as standard equipment.

Many automobile manufacturers have already added Duplate or its equivalent in some or all of their models. The following were equipped with shatter-proof glass at the 1930 New York Automobile Show: Cadillac, LaSalle, Viking, Pierce-Arrow, Studebaker, Hudson, Nash, Chrysler, Franklin, Ruxton, Stutz, Graham, Ford, Lincoln, Peerless, Marmon, Jordan, du Pont and Cunningham.

While some of these cars have non-shatterable glass in the windshield only, it is generally conceded that it is only a question of time before all cars will be completely protected. If you want to ride with safety, insist that your next car be equipped with Duplate.



Lodger Photo Service
A non-shatterable glass windshield bulged out
but still intact after an accident

COLOR PHOTOGRAPHY TODAY

The methods used in producing colorful motion pictures are the result of discoveries made many years ago

WHEN sound was introduced in the motion picture industry, there were many who predicted its early and painful end. Today it is safe to state that practically no production of consequence is without sound. The same process of evolution is taking place right now in colored movies. Two or three years ago a color sequence in a picture was a novelty. Crowds flocked into the theaters not so much to see the picture as to gaze at the red, green and blue color effects.

How different it is today! A large percentage of our biggest and best productions are either entirely in color or have color sequences as the climax. There are many who are bold enough to predict that in the space of a few short years color will have replaced black and white just as sound has pushed the silent picture into the background.

In searching for data on the early attempts to obtain pictures in natural color we have to look back many years. The impression that color photography belongs to recent times is far from true.

One of the earliest records shows that in 1860, Clerk Maxwell, then of the Royal Institute of London, expounded very definite ideas along this line. He was unable to reproduce natural colors mainly because the plates of his day were sensitive only to the blue region of the spectrum.

About ten years later, du Hauton, a learned Frenchman, published a book on the problems and solutions of color photography. In it he explained the results of his experiments, and undoubtedly he had a very comprehensive idea of what was required to obtain true color results. He suggested that the surface of a glass plate be covered with tiny filters of red, green and blue, and then coated with a sensitive emulsion. When the photo was made the little filters would pass the colors through in their correct order.

A little later Dr. Vogel of Berlin made the discovery that certain dyes added to the emulsion prior to photographing made the negative sensitive to reds and greens. The value of this discovery cannot be overestimated, because it forms the basis of all natural color processes, either for still work or for motion pictures.

With the advent of motion pictures, it was only natural that sooner or later attempts would be made to produce them in colors, and so we find in 1902 two Englishmen, Lee and Turner, ready to place on the

By WILLIAM T. CRESPINEL

market the first natural color motion pictures. In the time allotted for one exposure they photographed three pictures successively through red, green and blue filters revolving in front of the camera lens. When a positive print from the negative was projected through a similar arrangement of filters, the red, green and blue images merged, and, due to the persistence of vision, one received the impression that the picture was in natural colors.

During the period that Lee and Turner were working on their process another method was born, namely Kinemacolor, the invention of George Albert Smith of England. Undoubtedly, Mr. Smith had seen the results of the Lee and Turner process and realized that the method was too complicated, for he eliminated one color from his experiments and worked with only red and green. His results, while not so perfect as the three-color method of Lee and Turner, were remarkably good.

It is strange that since the introduction of Kinemacolor in 1909 there have been invented only three prominent color processes—Tech-

nicolor, Prizma and Multicolor.

Technicolor, no doubt, has had the field much to itself, but recently Multicolor has come to the front. Some of the most outstanding pictures containing sequences photographed by this process are "The Great Gabbo," "This Thing Called Love," "His First Command" and "Red Hot Rhythm."

The chief advantage of the Multicolor process is its flexibility, and because of this it is attracting a great deal of attention among those producers who can see in color not only one of the refinements but also one of the essentials of up-to-date motion picture production. It is, first of all, a simple process which any cameraman can use with a little instruction. He can use either his Bell & Howell or his Mitchell camera to photograph with Multicolor; only a slight change is necessary.

For use on distant locations this process is especially desirable, for it is fool-proof, economical, efficient and does not require any unusual treatment in the laboratory. For "shooting" interiors no more light is needed than for monochrome photography.

Another advantage is that sound can be recorded on the film itself. The sound track, an integral part of the film, is colored and is protected with a transparent

GREAT strides are being made in the motion picture industry. First came sound, then color. The latter innovation enables producers to bring to the screen your favorite stars just as they appear in real life.

This article reviews the development of this new art and the Multicolor process in particular.—Editor

(Continued on page 16)

HIGH CARNIVAL ON MANHATTAN

A thrilling spectacle, it is—builders racing to rear the world's highest building on one small island

PEOPLE who visit New York City infrequently are usually amazed to note the visible evidences of Manhattan's always-interesting and ever-changing skyline. Once the most conspicuous peaks were located almost exclusively in the financial district, but in recent years most of the new building construction—at least the most noticeable part of it—has been placed on sites farther uptown. Present-day builders seem to have their minds centered on erecting office buildings higher above the city streets than ever before.

Some time last year, men were burrowing, drilling and blasting in the solid rock to construct foundations for structures that were designed to outstrip in height the Woolworth Building. Now that the buildings are up, the palm for height goes to the Chrysler Building, which is 1,046 feet above the grade level and actually twenty-two feet higher than the world-famous Eiffel Tower.

Next in rank is the Manhattan Company Building, with sixty-three rentable stories. Its topmost height reaches 927 feet above grade. Incidentally, it is interesting to note that the Downtown League of New York City has selected this building as the recipient of the League's 1930 award for the finest building in that section.

The speed with which these structures were reared

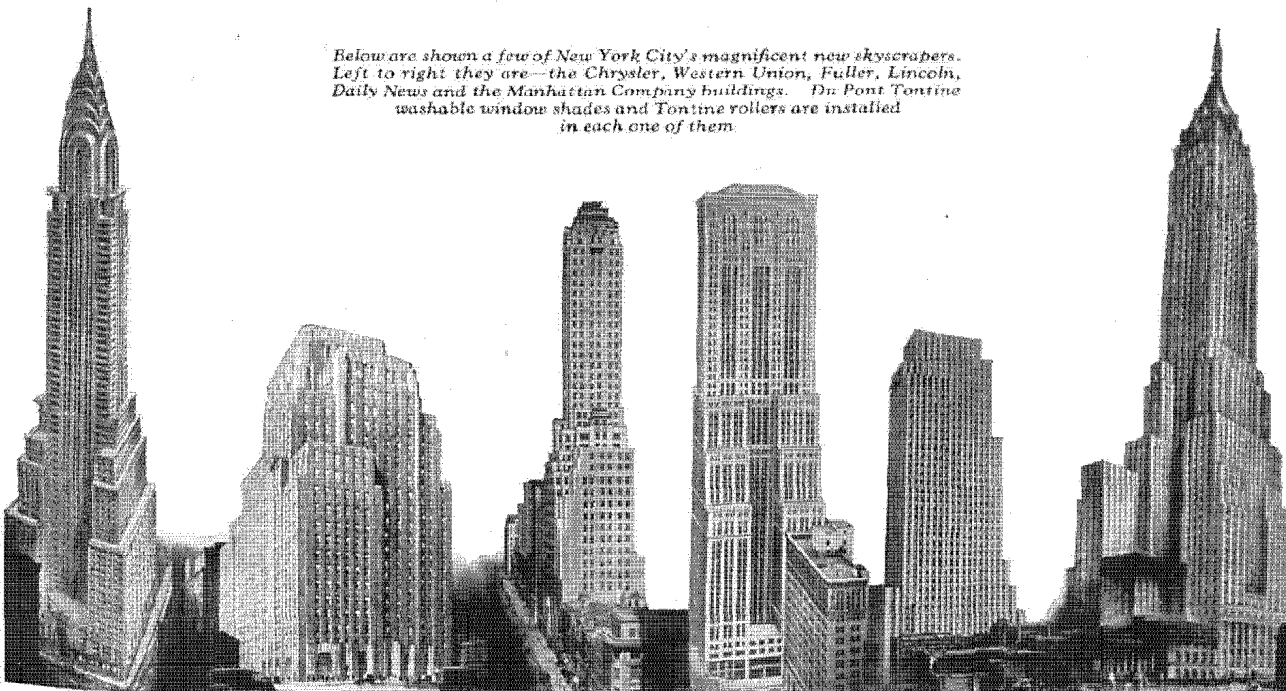
seems almost incredible. Take the Manhattan Building, for example. Workmen began tearing down the old buildings previously occupying the site on March 15, 1929, and yet on November 1, seven and one-half months later, the last rivet was driven in the steel work.

Sharing honors with the Chrysler Building in the Grand Central zone is the Lincoln Building, fifty-three stories high, with an observation terrace 653 feet above grade—and that is more than a hundred feet higher than the Washington Monument. Other towering structures, less in height but no less beautiful, are the Daily News Building, the Western Union Building and one erected for the Fuller Construction Company.

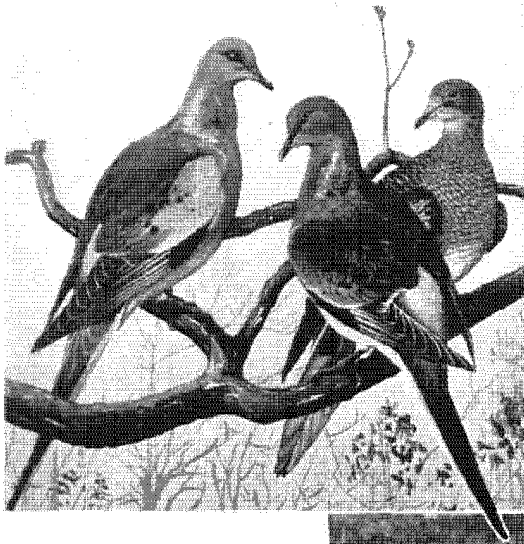
But altitude honors are never secure. On the site of the old Waldorf-Astoria Hotel, Ex-Governor Smith's projected Empire State Building which is now under construction will top them all—until the Metropolitan Life Insurance Company's 100-story structure rears its bulk against Manhattan's new skyline.

All the buildings shown on this page have been shaded with du Pont Tontine washable window shades. Altogether, nearly 15,000 of these shades, mounted on Tontine rollers, have been installed to guard the office workers against the glare of the sun.

Below are shown a few of New York City's magnificent new skyscrapers. Left to right they are—the Chrysler, Western Union, Fuller, Lincoln, Daily News and the Manhattan Company buildings. Du Pont Tontine washable window shades and Tontine rollers are installed in each one of them.



WILD LIFE—PAST AND PRESENT

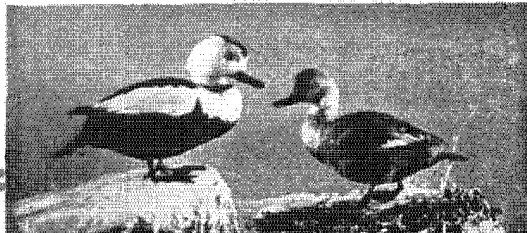
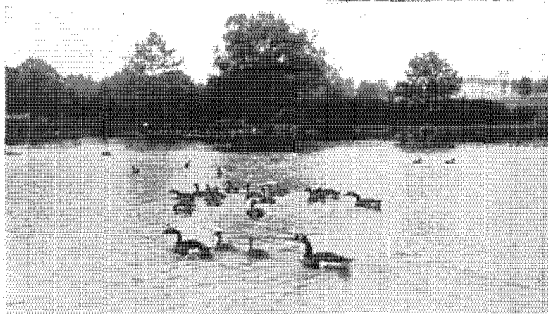
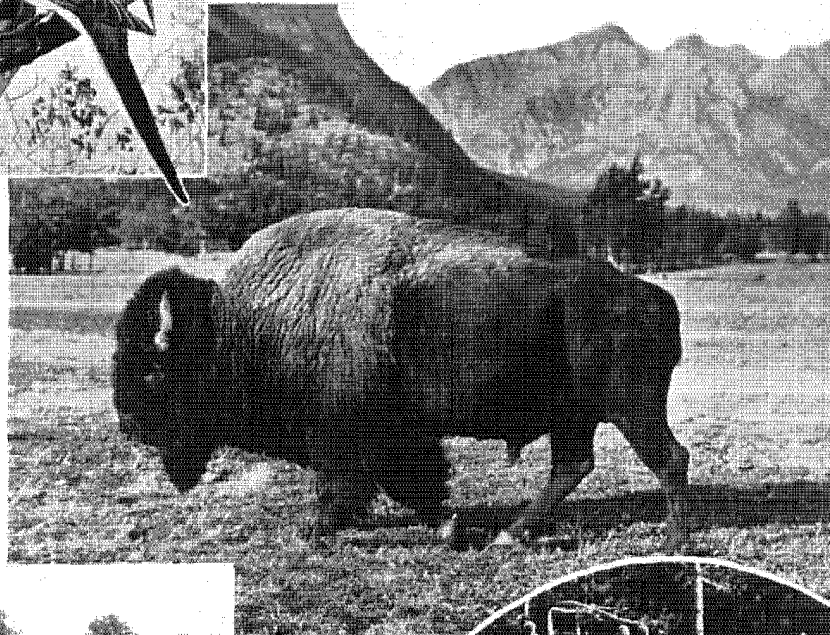


The passenger pigeon today is generally believed to be an extinct species. Yet there are men still living who can recall the time when millions of these beautiful birds each year were wantonly shot and captured in nets for food. The illustration at the left reproduces part of a painting by Fuertes.

Below—The American bison, once monarch of the western plains, has been driven from his natural habitat. Despite the slaughter of these noble animals, thanks to conservation activities, small herds of them still remain—on game reservations.

In the circle—Thousands of deer still roam the wilds, and in some states are actually increasing in numbers. Law enforcement, game refuges and good sportsmanship have all contributed to their preservation. Note the spreading antlers—in the velvet stage.

Below—A flock of Canadian wild geese and goslings. The lake is privately owned and is maintained as a sanctuary. There should be more of them, lest wildfowl become increasingly scarce and eventually become extinct like the Labrador duck, illustrated at the bottom of the page.



TRUE SPORTSMEN CONSERVE GAME

The second Duke of York endorsed the practice 500 years ago. Game conservation is still a problem that every true sportsman can help to solve

NOW shall I prove how hunters live in this world more joyfully than any other men. For when the hunter riseth in the morning, and he sees a sweet and fair morn and clear weather and bright, and he heareth the song of the small birds, the which sing so sweetly with great melody, each in its own language in the best wise that it can according that it learneth of its own kind. And when the sun is arisen he shall see fresh dew upon the small twigs and grasses, and the sun by his virtue shall make them shine. And that is great joy and liking to the hunter's heart." Thus wrote Edward, second Duke of York, about 1406 in *The Master of Game*,* the oldest, most important work on the chase in the English language.

Edward was a great hunter and out-of-doors man. He was also a great sportsman, who wrote at length not only of bringing to bag the species hunted in that day, but of protecting animals during the breeding seasons and of sparing fawns and other young until maturity. And so on all through the years, true sportsmen have interested themselves in conserving and increasing the game supply for their own enjoyment and that of generations of hunters to come.

Due to cross motives and differences of opinion among men the conservation of natural resources, which include fish and game, has not been easy to accomplish; for a singular apathy, a reluctance to help, exists among many who should be directly interested. This has made the task of the few far-sighted, sincere sportsmen difficult.

The first state law in this country protecting migratory game birds was enacted in 1791, nearly 140 years ago, but the first Federal Migratory Bird Law is only seventeen years old. The Migratory Bird Conservation Act was enacted only last year.

As recently as 1857 a Senate committee in Ohio, reporting on a game bill, said: "The passenger pigeon needs no protection . . . the snipe, too, like the pigeon, will take care of itself, and its yearly numbers can not be materially lessened by the gun. The wild goose does not perhaps need general protection, though if any linger here until near breeding time they should be spared."

The former abundance of game and the rapidity with which certain species moved from place to place once

By J. H. OTTERSON

seemed to assure a plentiful supply for all time. We know now that such abundance is not likely to occur again. Some species, like the bison, have disappeared entirely from their former range. Agricultural development had its part in driving them away to the refuges where they are now located—in national parks and on reservations. And the same applies to the large predatory species. Our upland and migratory game birds and smaller game animals, however, must be maintained and increased by proper game management in which restrictive legislation is only a part. They represent a tremendous natural resource.

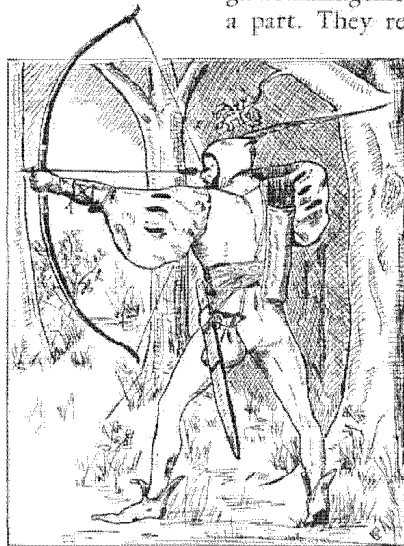
Aside from the economical or food value of game, the esthetic or recreational value forms a part of a picture that appeals not only to the hunter but to everyone.

Interest in the outdoors is a powerful factor in molding character in the youth of our country. It is a traditional, an inherited trait to enjoy days afield with rod or gun or camera, and to camp out at night under the star-studded canopy of the sky. These pleasures must be perpetuated.

Clashes of opinion between hunters of different kinds of game—between farm owners and hunters or fishermen—between the bird lover, who hunts with camera and the sportsman who takes game with the gun—these, to

the thinking sportsman of today, are only minor obstacles in the path of progress in conservation work. We can and should compromise on these minor differences, which in many cases merely obscure the fundamental principles and objectives. Even though it is perhaps too much to expect that the parties at interest will ever reach an accord as to the best methods to pursue, the fact remains that a vast amount of work remains to be done, and it behooves us all to undertake a share of it and carry it through by every means that may be available.

Let us, therefore, insure the continuance of this recreational asset, so valuable and interesting to all, by applying the powerful machinery of research and study to our game problems; by developing systems of game management that will assist the natural increase of game species; by providing regulated surroundings, artificial propagation, and by careful legislation preserve this heritage, which, as the Duke of York phrased it 500 years ago, is a "great joy and liking to the hunter's heart."



*NOTE: Edited by Wm. A. Baillie-Grohman (Chatto and Windus—London).

The Minuette, with its 250 full-scale pipes, is a real instrument of standard tonal quality



Its compact size and finish of black, gold and white make it a charming addition to any music room

IN a day when "reel music" is bidding for its place in the world, it is a hopeful sign when somebody does something to encourage *real* music. During the past few months the Estey Organ Company of Brattleboro, Vermont, has made such a contribution by the creation of what is practically an entirely new instrument in the organ field. It is a portable, inexpensive, compact and self-contained pipe organ of standard tonal quality, made after the model of a grand piano, and done in black, gold and white Duco finish.

From the earliest evolution of the pipe organ there have been two objectives of organ builders—one to construct the most mammoth instruments; the other, to make available in miniature the power and majesty of organ music.

The Estey Organ Company, while building instruments of the cathedral type, has also kept in mind during the past eighty years the possibility that adaptation of the electric action and compactness of construction might some day develop a portable organ beyond the capacity of any such instrument yet known. In the new Minuette that ambition has been realized. All the limitations which have hitherto made the pipe organ available only for spacious places and at a costly outlay have now been lifted. The new instrument comes in about the same size and price range of a first-class grand piano, and may be installed without trouble in a living or music room of ordinary size.

NOW—A PIPE ORGAN FOR THE HOME

The Minuette, a portable pipe organ designed in the modern manner, makes its debut as a new development in musical instruments

By C. E. CRANE

all modern organs. The instrument is real; not a toy, not an imitation. One of its valuable construction features is the fact that the pipes may be doubled back on themselves and thereby require only half the room they otherwise would, without having the tone injured in the process. There are, as a matter of fact, nearly 250 full-scale pipes within the casework of the Minuette—even a full-scale 16-foot open tone. There have been portable pipe organs in the past, but a large part of their failure and lack of tonal satisfaction has been the absence of a 16-foot and a sufficient 8-foot tone.

The upright model is voiced on a 5-inch wind pressure.

(Continued on page 24)

It has been the dream of most professional organists to own a pipe organ, and the Minuette now makes this possible.

In a recent article in the *American Organist* the editor says, "We have long preached the doctrine that the professional organist of the future must own his own organ. Several of our builders have been giving the subject more or less serious attention

of late, but it appears that the Estey Organ Company is first to market an actual organ in such shape and at such price as to be a sound business proposition for a professional organist to undertake."

This instrument, in so compact and inexpensive a form, has been made possible largely by the invention of a new electric action.

As the illustration shows, the actual keyboards and pedal clavier are precise duplicates of those found in

A NEW MATERIAL IS PRODUCED FOR THE SHOE INDUSTRY

*Du Pont develops Pontan for quarter-linings. This product
is manufactured at Fairfield, Connecticut*

DURING recent years competition has become so keen in all branches of industry that more attention than ever is being directed towards economy in production costs. This results not only in increased efficiency of men and machines, but also in the development of newer and lower-cost materials.

While cost reduction through economic necessity does not always make for improved products, it frequently accounts for the creation of replacement materials of unusual quality and serviceability.

The shoe industry has probably been as subject to conditions of this sort as any other, and so it is not strange that it should look for economy in the direction of new materials. That this has been done may be taken for granted, for various products of leather-like quality, but not of animal origin, are now being used to advantage by the shoemaker.

Coated textiles have become increasingly more practical for use in shoes because of newer developments and improvements that have made it possible to build into them the essential characteristics of a shoe constituent.

Newer developments in rubber-coated fabrics in particular have yielded certain products that are admirably suited to certain definite uses in the shoe industry. One of the more recent is a rubberized fabric for quarter- and vamp-linings. It is being used very successfully and is meeting the various conditions of service economically and practically.

The material produced for this purpose is known as

By S. G. BYAM

du Pont Pontan. Not only is it adequate for the service required of low-price rubberized products, and even to the lower grades of sheep skin previously used.

In order to develop successfully such a product as this, it was necessary first of all to determine the chief requirements or characteristics that a satisfactory quarter-lining should have. These are appearance, economy, workability and wear.

Du Pont Pontan was developed with these points in mind. It is built of a specially constructed fabric which had not previously been used by rubber manufacturers to any great extent. To this fabric base a special rubber coating is applied in such a manner as to give it properties resembling leather. Because of its special construction the coating has excellent wearing qualities and the tendency to peel is practically eliminated.

Pontan, generally speaking, looks like leather to the casual observer. It is made in similar colors and has a slightly fibrous surface not unlike some leather. When wrinkled or crushed, it takes on an even more leather-like appearance due to the grain-like creasing that develops. This quality of appearance is of prime importance, for a quarter-lining material must look like leather in order to be practical for use in shoes.

Such a product must also be economical or the shoe manufacturer cannot afford to use it. Du Pont Pontan is economical not only because its square-foot price compares

(Continued on page 19)



Left—Lasting an upper to a sole in a shoe factory.
Center—Stitching the quarter-lining to the upper.
Right—Die cutting shoe quarters

CLIPPING OFF A CLIFF

*A few details about one of the largest coyote shots ever set off
to help build a Pennsylvania highway*

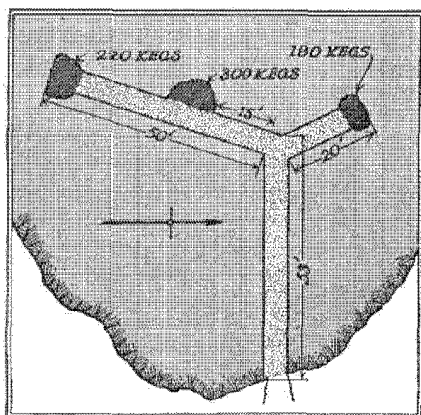
ROCKY cliffs frequently obstruct road-building operations, but when state highway engineers lay out their work, if barriers of this kind stand in the way, they order them removed by the quickest, most economical means possible—usually explosives.

That was the situation in widening the North Delaware River Drive near Easton, Pennsylvania, last winter. The route followed the river bank to a place where a solid body of rock—about 200 feet high and 300 feet long—stood directly in the path of progress. It was a formidable barrier, but Dawes and Morris, Easton contractors in charge of this section of the road, were not at all dismayed by the prospect of removing it.

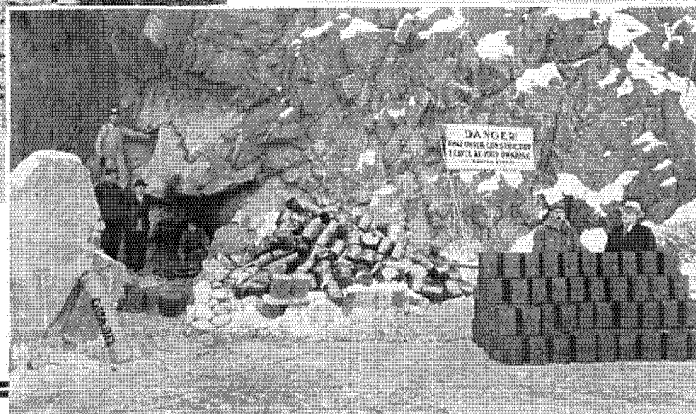
After consulting a du Pont technical representative, it was decided

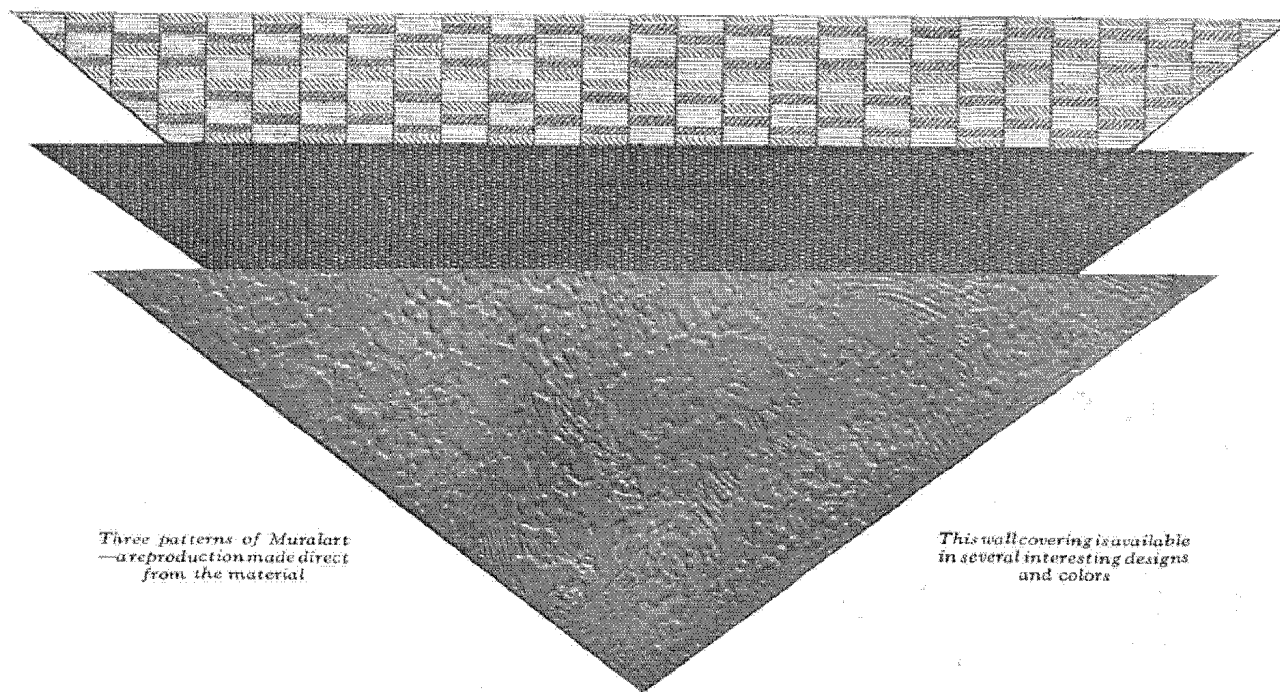
to shear off the projecting side of the cliff by a coyote tunnel shot. One of the accompanying illustrations reproduces a plan drawing of this tunnel, with distances, pockets and powder charges indicated.

It is of interest to note that seven hundred kegs of du Pont black blasting powder were required to throw down the mass of rock that stood in the way. The charges were detonated by six du Pont No. 6 waterproof electric blasting caps, with a leading wire connection to a du Pont No. 3-A blasting machine. This shot was made successfully and is believed to be one of the largest of its kind ever set off in the history of Pennsylvania's very extensive road-building operations.



Above—After the shot. Right—Entrance to the coyote tunnel, from a picture taken during loading operations. Above, right—A long-distance view of the same spot. The projecting cliff you see here had to be brought down—and it was





Three patterns of Muralart
—are production made direct
from the material

This wallcovering is available
in several interesting designs
and colors

MURALART GAINS FAVOR RAPIDLY

Leading architects, artists and decorators are endorsing this washable fabric for use in hotels, clubs and the like

WITH the ever-present demand for smooth, cleanable surfaces in this modern age, the popularity of du Pont Muralart has risen sharply.

This new and interesting product that is meeting with such favor among hotel men, architects and interior decorators is a cotton fabric base treated with pyroxylin—the same basic substance as that used in the famous du Pont Duco. Hence it has a beautiful and lasting finish. It is obtainable in various interesting colors and textures. Some simulate rough plastic effects; others, lustrous silky finishes, and still others, rugged linen weaves, as well as the conventional geometric and floral patterns.

Du Pont Muralart is washable and waterproof. Repeated applications of soap and water serve to keep it clean and will

By R. A. APPLEGATE

A PARTIAL list of hotels, clubs and exhibits that have had walls finished in Muralart, with the name of the interior architect and designer, follows:

St. Regis Hotel, New York City—Joseph Urban
Bossett Hotel, Brooklyn, N. Y.—Joseph Urban
Gibson Hotel, Cincinnati, Ohio—Joseph Urban
Central Park Casino, N. Y. C.—Joseph Urban
St. George Hotel, Brooklyn—Winold Reiss
Beaux Arts Apts., N. Y. C.—Winold Reiss
Du Pont-Biltmore Hotel, Wilmington—Winold Reiss
Kew Gardens Apts., Kew Gardens, L. I.—Winold Reiss
Transportation Club, N. Y. C.—Forzina, Inc.
Investors' Bank Stocks Corp. (Offices), N. Y. C.—
Forzina, Inc.
Broker's Office (Arthur Lipper & Co.), N. Y. C.—
Forzina, Inc.
Tavern Club, Chicago—Holabird & Root
Little Carnegie Playhouse, N. Y. C.—
Wolfgang Hoffmann
Stewart & Co., Dept. Store, Palm Beach, Florida—
J. Allen Boyle
Architect's Office, N. Y. C.—J. Allen Boyle
Metropolitan Museum Exhibit (Office), N. Y. C.—
Raymond Hood
Metropolitan Museum Exhibit (Child's Playroom),
N. Y. C.—Eugene Schoen
Westover Hotel, N. Y. C.

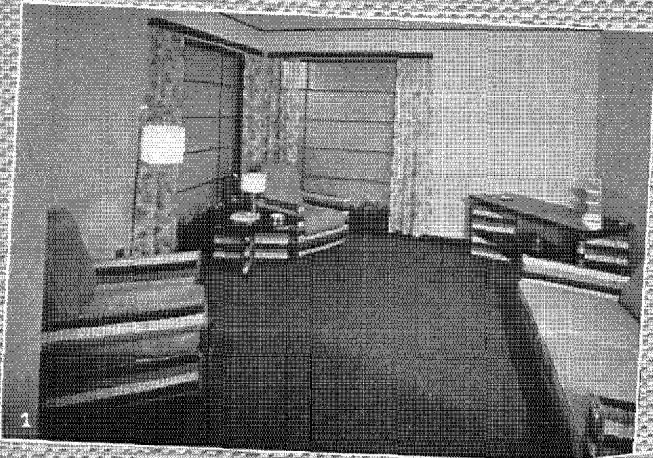
not harm the fabric. It is extremely resistant to scuffing and rubbing. And, because of its strong fabric base, it bridges old cracks and acts as a surface support.

It is easily applied by any interior craftsman, with no muss or inconvenience. An average size room can be completely finished by one man in one day.

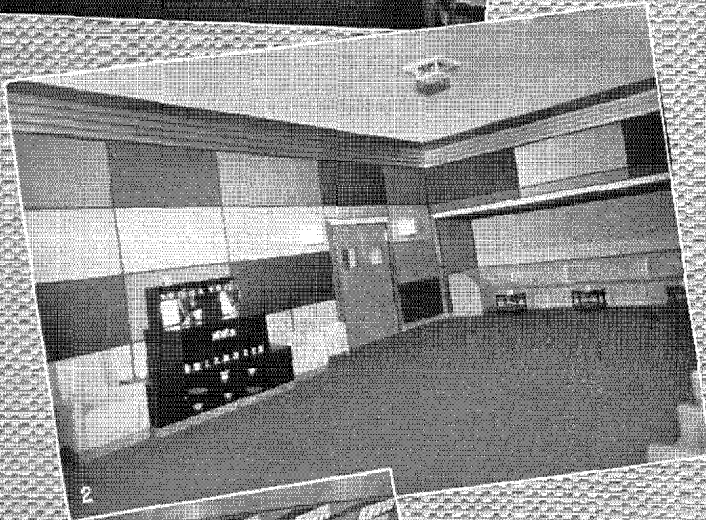
When applied, Muralart presents a beautiful effect. It is economical because it will last for years. When a change in finish is desired after a time, Muralart lends itself to additional decoration such as painting or air-brushing. It is truly a most satisfactory, lasting and economical wall covering.

Further particulars and actual samples may be obtained from E. I. du Pont de Nemours & Company, Inc., Fabrikoid Division, Newburgh, New York.

WHERE HOTEL M. AND ARTISTS USE WALL COVERING



1—A sun room by Ypsilanti Reed Furniture shades of green Muralart and the du Pont Lacquer



2—Little Carnegie Playhouse, New York City The walls are in interesting du Pont Lacquer contrasting colors

3—The Grill Room of the Bossert Hotel, Brooklyn A soft gray-green Muralart finish is upholstered in du Pont Lacquer

4—A broker's office by Forzina, Inc., with a

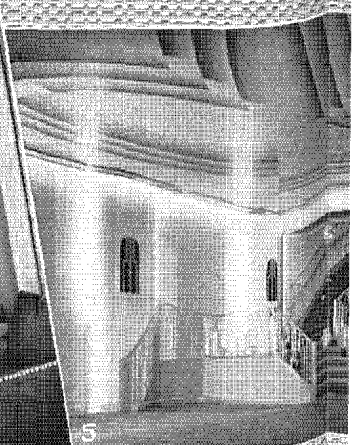
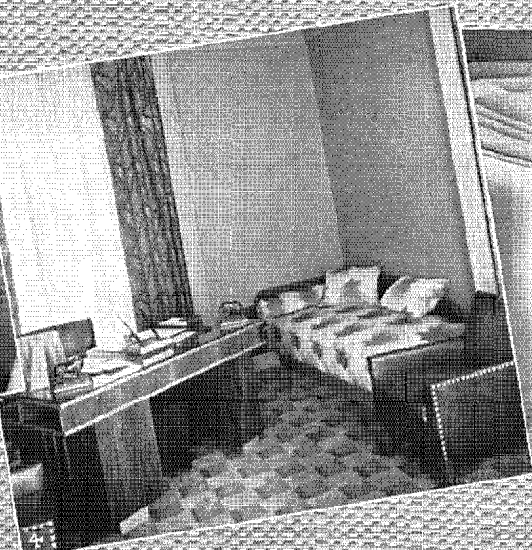
5—Grand foyer of the St. George Hotel, Brooklyn Du Pont Muralart in red and gold

6—The Cafe Bonaparte, Beaux Arts Apartment by Winold Reiss. The walls show a new pattern used as the covering. The chairs are upholstered in du Pont Lacquer

7—A dining room by Forzina, Inc. Walls are a beige Muralart and are interesting because which has been

8—Reception room in the Central Park East Apartment by Joseph Urban. Soft cream-colored, step-up ceiling is finished in

9—Stewart & Company Department Store columns are of green and gray Muralart



MEN, ARCHITECTS USE THE MODERN FINISHING—MURALART

Furniture Company. The walls are in three shades of beige and the cushions are of a soft coral Lacquered Fabric

York City. Interiors by Wolfgang Hoffmann. Creating panel effects, utilizing five colors of Muralart

Hotel, Brooklyn, New York, designed by Joseph E. Fincher. The walls and columns are finished with Lacquered Fabric of the same shade

with walls of beige Muralart

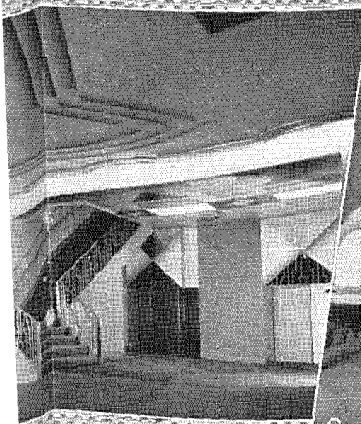
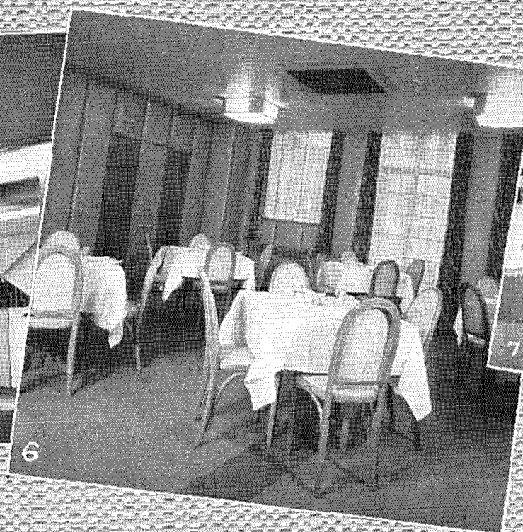
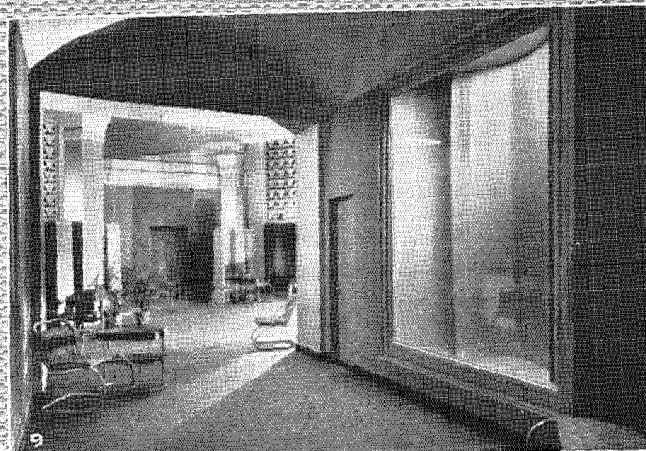
Hotel, Brooklyn, New York. Interiors by Winold Reiss. Gold is used to carry out the smart effects

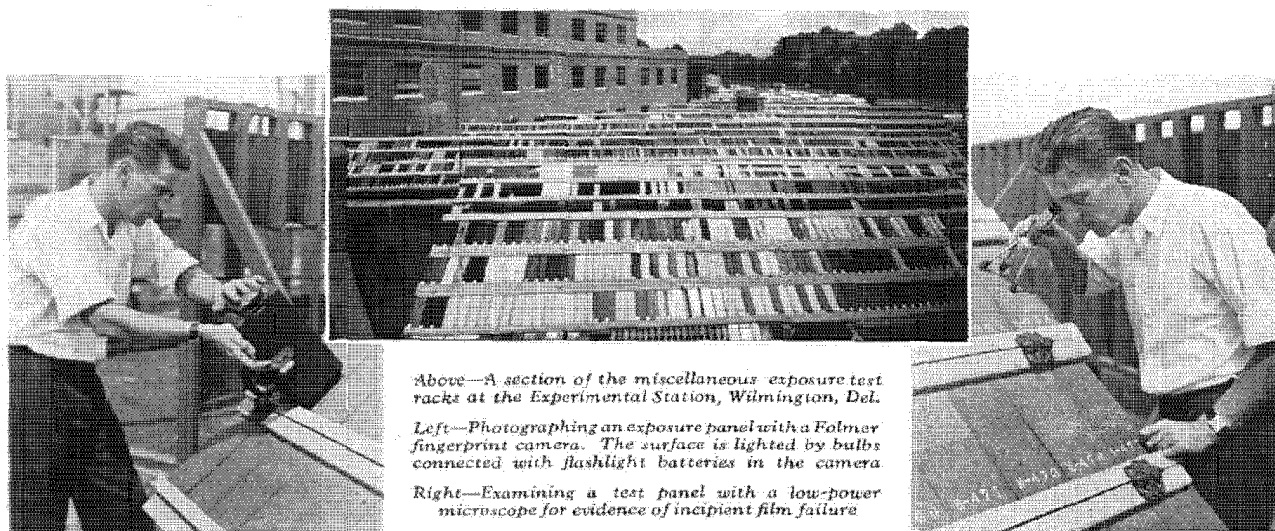
Apartment, New York City. Interiors also a new padded effect, with Muralart in green. The chairs are in a beautiful vermillion Lacquered Fabric

Walls and wall panels are in three shades of beige because of the particular inlay treatment which has been used

Ark Casino, New York City. Design and treatment—colored Muralart covers the walls. The floor is finished in the same material

Hotel Store, Palm Beach, Florida. Walls and columns finished with Muralart. Architect, John Allen Boyle





Above—A section of the miscellaneous exposure test racks at the Experimental Station, Wilmington, Del.

Left—Photographing an exposure panel with a Folmer fingerprint camera. The surface is lighted by bulbs connected with flashlight batteries in the camera

Right—Examining a test panel with a low-power microscope for evidence of incipient film failure

DU PONT "PAINT FARMS"

They are proving grounds for a great variety of products that must withstand the assaults of Old Man Weather to demonstrate their serviceability

DU PONT paints and varnishes are sold in a world-wide market. Distributors are located in every one of the United States. Our associates cover Canada. To the south sales outlets have been established as far as the Argentine. In Europe distribution reaches from Finland to Greece—from Norway to Portugal; in Africa, from Egypt to the Cape of Good Hope—from Liberia to Somaliland. In Asia we or our associates have distributors from Manchuria to India. And there are, of course, many small islands such as Bermuda, Hawaii and the Dutch East Indies. In fact, so popular are du Pont protective coatings that they are made by affiliated companies located in England, France, Italy and Australia.

These products meet a wide variety of climatic and service conditions. Obviously, it is desirable to know how well they stand up. While it is not practical to make experimental exposure tests in each country, certain places in the United States have been selected representing all the various conditions of temperature, humidity and light exposure which are likely to be met. Testing facilities are established there. We call these places paint farms.

Near Miami, Florida, for example, there is a large collection of test panels exposed to the sunshine and heat

By D. V. GREGORY and J. W. ILIFF
Central Technical Laboratory

of that clime practically the year round. Other exposures are made at Boston, Massachusetts, and at Flint, Michigan, where winter weather constitutes a severe test. At Philadelphia thousands of panels are exposed in an industrial environment. Near Wilmington, Delaware, more thousands are exposed under what might be termed ideal conditions, for there is little dirt in the air to coat the panels and thus shield them from the elements.



Du Pont paint is also tested on about forty residences in various parts of the country. This one is near Philadelphia

At Parlin, New Jersey, is another set of exposures in an industrial setting, and the same is true at Newark, New Jersey, and at Chicago, Illinois. Panels are exposed at Louviers, Colorado, where low humidity prevails most of the time; and also at Houston, Texas, where the opposite condition exists. Certain specialty products are tested on ocean liners, others on underground pipe lines, on large gas and oil tanks, and so on. Prepared paints are

applied to fences as a preliminary to practical house tests. Approximately forty painted frame houses scattered between Philadelphia, Wilmington, Paulsboro, Louviers, Flint and Chicago, as well as metal buildings coated with metal-protective paints, are now under close observation.

At present on all the testing racks there is a total of more than 36,000 panels. Some 29,000 panels have been exposed and removed. Altogether more than 65,000

exposures have been made to date. In general, those in progress may be divided into three groups. At the du Pont Experimental Station at Wilmington is a series of panels representing each new development or type of product formulated at the local research laboratories. General experiments are made there with all possible variables to determine the value of these new products and the conditions to which they are most resistant. Those at Parlin, Fairfield, Flint and Philadelphia are concerned with general development work on new lines of products. A third class covers exposure tests made at plants where the finished products are manufactured. It is customary to expose one panel of every new and approved formula.

The conditions, of course, vary with the use for which the product is intended. It is a general practice to use 4 by 12-inch or 6 by 12-inch steel sheets. If a clear varnish or lacquer is to be tested, the lower half of the panel is first coated over with a black baking Japan to prevent rusting. No preliminary coating is applied to the upper section, so that one can study the protective properties of the film on the base metal. For pigmented products, the panel is built up with undercoats similar to those used in actual practice or the durable undercoat system developed for use under Duco. In the case of prepared paints the panels are built up with coats of these paints reduced with oil and thinner.

While 4 by 12 or 6 by 12-inch panels are standard for most purposes, exposures are often made on 1 by 3-foot panels or even on such things as automobile fenders, depending on how the product will be used. Prepared paints are applied on regular clapboard panels consisting

of four sections, each two or three feet long. These boards are built up of both edge and flat-grained wood—usually white or yellow pine.

There are a number of ways in which a product may fail. One of the principal types of failure is checking. This usually appears as little three-pronged marks in the film. In some cases when they are microscopically small, this is not a very serious condition, for the film can be polished to give a good luster or another coat can be applied over it. Cracking is a more troublesome type of failure, for it is usually necessary to remove the finish before re-coating. Scaling, too, often occurs as an advanced stage of cracking, and peeling belongs in the same category.

Blistering usually indicates the use of unseasoned wood, or the application of the paint on a wet day, or moisture entering the wood from the opposite side.

Loss of gloss is serious or not, depending on how easily the film can be restored to its original appearance.

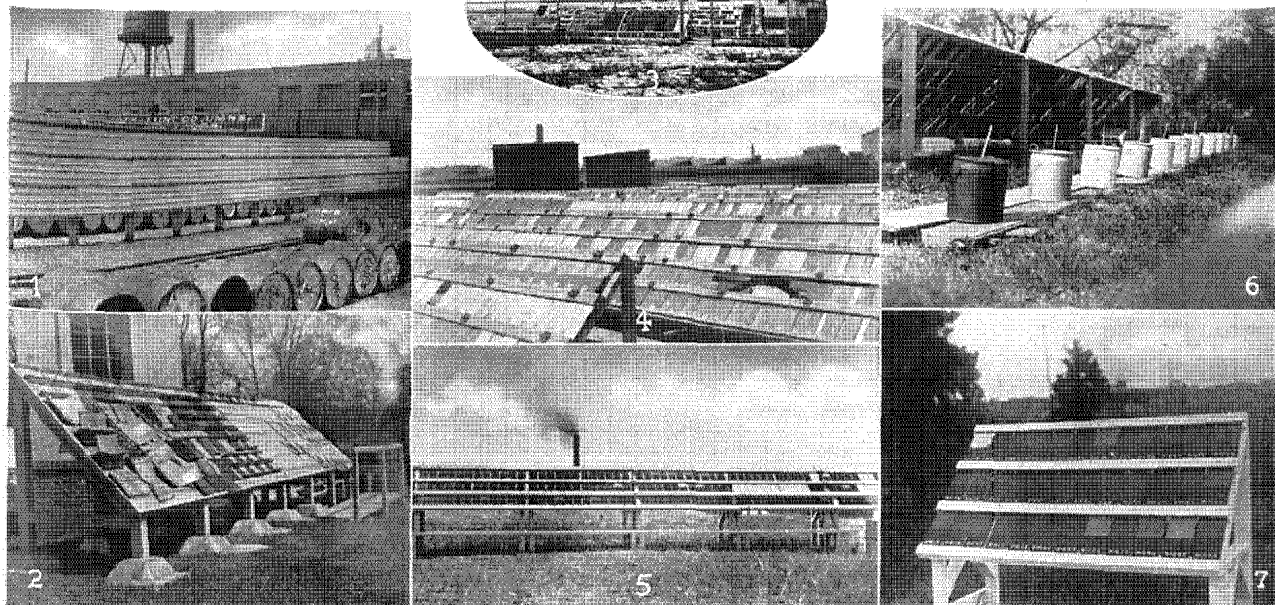
Color change is, of course, serious. It is likely to occur only in experimental formulas when new types of products are being tested.

Chalking is usually less troublesome than checking except when a tint off white has been used and the chalking tends to throw the color to a white. Failure to hide usually follows continued chalking.

Rusting on painted metal surfaces indicates a breakdown of the film. All these types of failure are looked for periodically on each panel and careful records are kept to determine just when the product reaches each stage.

Panels are observed by the naked eye or by finger tests in the case of

(Continued on page 24)



1—Prepared paints are applied to fences before house tests are started. Here you see a fence at the Chicago plant. 2—A section of a metal-protective test fence at the Experimental Station, Wilmington. 3—Another one at Hialeah, Florida. 4—Close-up of metal panels on the roof of the Philadelphia plant. 5—The metal-protective test fence at Louviers, Colorado. 6—Miniature gasoline tanks exposed to the elements. 7—Testing metal-protective paints at Houston, Texas

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MAY, 1930

No. 5

THE WORLD'S TALLEST

SEEMINGLY there is little excuse for saying much about the cover illustration this month, for the nearby legend identifies it sufficiently. But as you turn the page another view of the Chrysler Building looms up in an advertisement that directs attention to the part played by dynamite in excavating a suitable foundation for this huge structure. And still again on another page it fits into a group of New York City's towering skyscrapers, all of them equipped with du Pont Tontine shades. Others have preempted the story usually reserved for this page, but let it pass; the picture of the world's tallest building is not less interesting on that account.

USING DUCO SAVES MONEY

AN annual saving of \$106,886.86 in the cost of refinishing equipment is being effected by five American railroads, according to the results of an investigation which was recently completed.

The economies resulted from reductions in direct costs and equipment time, and ranged from 26 per cent to 56 per cent. One road saved \$22,940 on refinishing 500 steel cars and \$30,620.88 on the refinishing of 1,278 locomotives. Another railway refinished 114 cars at a saving of \$3,948.34. Altogether, costs were obtained on the refinishing of 1,876 cars and 1,347 locomotives.

The surveys were made by the A. C. Nielsen Company and represent the results of impartial personal investigations by Nielsen staff engineers in collaboration with executives of the several systems. Investigations were made at the shops of the St. Louis & San Francisco, Central Vermont, Denver & Rio Grande, Missouri Pacific, and the Big Four Railroad.

In making the surveys, the object sought was to obtain data on the comparative costs of refinishing with paint and varnish, and with Duco. In each case it was shown that marked savings have resulted from the adoption of Duco. The experience of the Central Vermont Railway covered a period of two and a half years, while the other four roads have been using Duco for five years.

It was further shown that the equipment finished with

Duco presents a better appearance, requires refinishing less often and that cleaning takes less man-hours of labor.

Typical of the reports received was that from the St. Louis & San Francisco Railway Company as a result of an investigation at the company's West Shops, Springfield, Missouri. Duco is the standard finish on all passenger car and locomotive equipment. It has been used for the past five years on 800 passenger cars. The annual saving in direct costs is \$23,727.09, representing a reduction of 26 per cent. This is equivalent to \$29.66 per car per year and does not include several indirect savings. More cars can be handled in a given time, thereby virtually increasing the paint shop capacity and the life of Class A jobs is increased at least 50 per cent.

"DITCHING WITH DYNAMITE"

BY the time this number reaches you a new booklet bearing the quoted title will be off press and available for distribution. The text, graphically and pictorially illustrated, outlines the methods employed by A. J. McAdams, of the College of Agriculture, University of Missouri, and described in Circular No. 190 issued by the Missouri Agricultural Extension Service. If you desire to receive a copy, address an inquiry to Room 6032, Du Pont Building, Wilmington, Delaware.

COLOR PHOTOGRAPHY TODAY

(Continued from page 4)

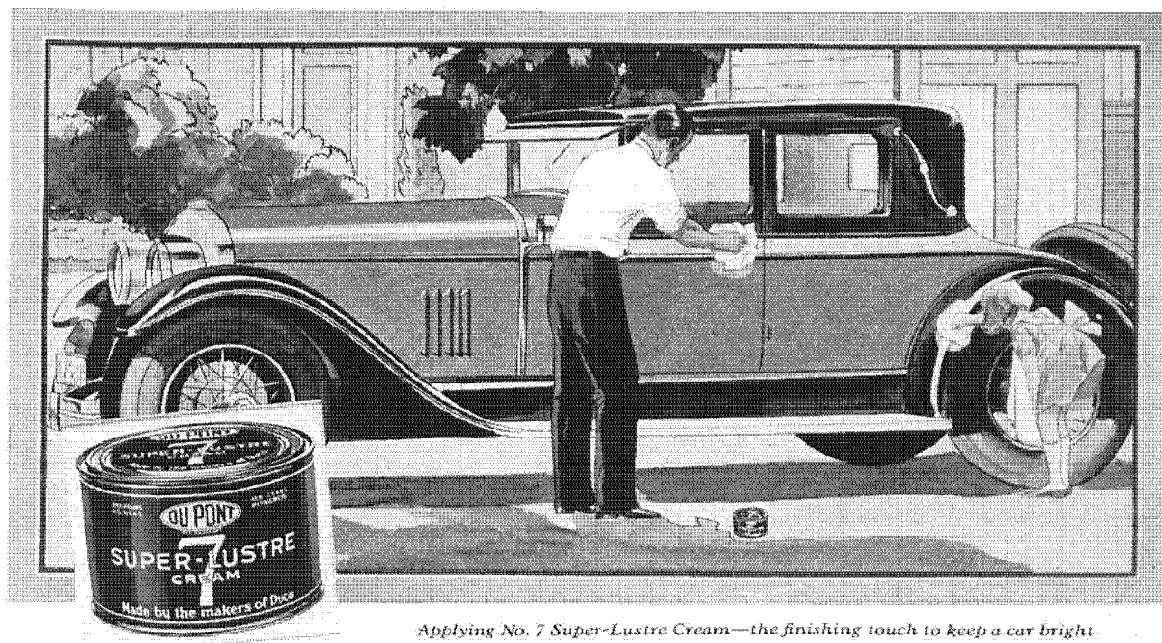
coating which keeps it and the picture free from abrasions.

Multicolor's colored sound track is patented. It permits of supplying both sound and color to the producer regardless of rush requirements. People who are competent to judge state that the blue sound track offers as fine a sound rendition as anything done with the black and white track. Any of the present sound-reproducing systems are equally adaptable to the Multicolor process.

This process also gives the same sharp definition as is secured in the use of black and white. If the original negative is sharp in the taking, the Multicolor positive must be, and is, equally sharp. Inasmuch as the basic chemicals used result in combinations of blue-green and orange-red, Multicolor pictures possess a great color range.

One of the most recent successful productions by the Multicolor process was a seven-reel picture photographed at Agua Caliente, under the personal direction of Wirt G. Bowman, an organizer and sportsman. Fifteen thousand feet of color negative was used in photographing the activities of this beautiful spot in Mexico. Thirty thousand dollars' worth of electrical equipment was shipped from Hollywood and used for photographing interior scenes of the hotel lobbies, paintings, frescoes, the Presidential suite, the music room and the dining room. These wonderful pictures demonstrate especially well the flexibility of this process.

(Multicolor Films, Inc., uses du Pont Negative Film.)



Applying No. 7 Super-Lustre Cream—the finishing touch to keep a car bright.

ANOTHER NEW NO. 7 PRODUCT

The du Pont Company has added Super-Lustre Cream to the line of Chemical Specialties that keep a car beautiful

THE No. 7 Line of Chemical Specialties has a new member—No. 7 Super-Lustre Cream. The car owner can now buy it along with Duco Polish, Auto Top Finish, Touch-up Black and Nickel Polish.

This new product is a soft, white paste, made from an emulsion of waxes, oils and other ingredients, and is intended for rubbing on automobile and furniture finishes after they have been cleaned and polished. It fills the pores and leaves a dry, hard, transparent film of remarkable brilliance and beauty. This film lasts for months, keeps a car shining and beautiful, and protects the finish against the destructive action of sun, rain, wind, sleet and snow.

As the manufacturer of Duco, the du Pont Company is interested in having car owners give the finish on their automobiles the very best attention to keep it looking new and beautiful after long service. After making a thorough study of polishing waxes and noting the great amount of rubbing required to apply them properly, this company developed No. 7 Super-Lustre Cream.

It can be applied in half the time needed for hard waxes and does not require strenuous rubbing. Yet it produces the same high gloss that is developed by wax polishes and will retain its luster just as long. It leaves the surface smooth and dry, with no greasy film to show finger-marks. It does not "rain-spot," and even when the car

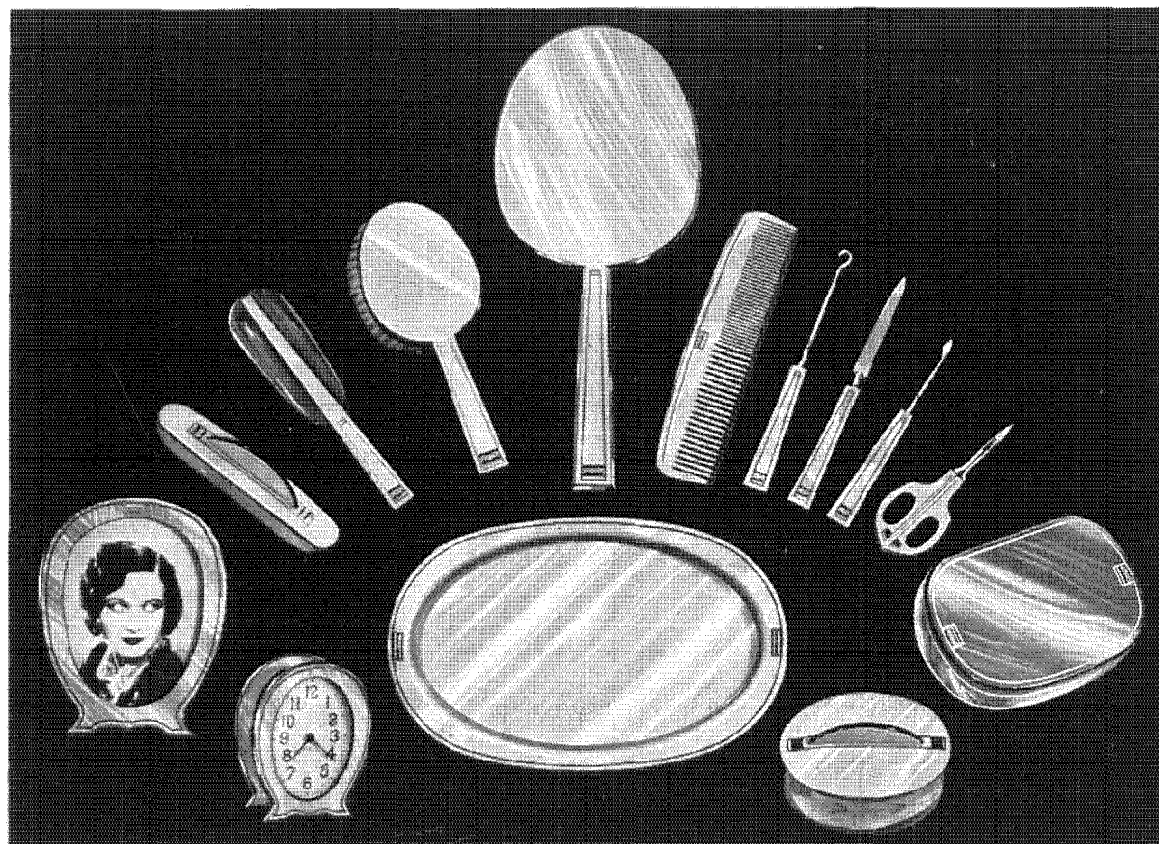
gets muddy, merely washing the finish and rubbing it with a chamois will restore its luster and brilliance.

No. 7 Super-Lustre Cream is not a substitute for No. 7 Duco Polish but is to be used in connection with it. The polish removes "traffic film" and weathered pigments, restoring the finish to its original beauty. The cream preserves the luster and protects the surface. Old car finishes which have become dull and dead looking can readily be revived by giving them a good cleaning with No. 7 Duco Polish and a rub down with No. 7 Super-Lustre Cream.

This cream is suitable for use on all automobile finishes, including Duco, lacquer, baked enamel and varnish. It may also be applied to furniture, linoleum, hardwood floors and other polished surfaces. Although it has great durability, it can be removed with No. 7 Duco Polish if the finish needs to be touched up.

No. 7 Super-Lustre Cream is sure to become popular with men at polishing stations, since they can do a waxing job with it in half the time formerly required and can work a much greater area on the car than was possible with hard waxes. It is especially economical; two ounces are enough for a whole car.

When the finish on your new automobile becomes dull, you will be delighted at the improvement in its appearance after you have used the products of the No. 7 Line.



It is the beautiful rolling effect of the Lustris pattern that gives this design a great deal of its charm

NEW BOUDOIR ACCESSORIES

The Lustris and Orleans patterns have been created to meet the present-day demand for style and color

HENRY FORD some time ago said to a group of newspaper men, "We are no longer in the automobile business but in the millinery business." It was his way of paying tribute to the importance of style and color in motor cars and likewise in all kinds of merchandise today. These influences are notable particularly in the toiletware industry when one contrasts the plain white ivory sets of ten years ago with the great variety of colorful boudoir accessories that are being made at the present time.

The changes that have brought about this consumer preference for style and color are many. The increased use of color in advertising, the growth in attendance at museums, the rise in bookings of foreign travel ships and the speed with which styles are broadcast by the radio, movies and newspapers—these are merely a few of the major influences that have been potent in our generation and have set up new standards in our tastes.

By P. A. DILLMAN

The colors we prefer and those most universally popular today are not the somber hues that came out of Russia and were adapted by the French modern movement of five years ago, but clear, positive colors which are somewhat stronger than pastels. This can be best illustrated by the recent popularity of the lighter purple shades in wearing apparel as compared with the more sumptuous ones of past generations. Simplicity also characterizes the decorations, if any, that are commonly used with these clear, lively colors.

Articles conforming to this general description, then, should be overwhelmingly popular. From the first reports this seems to be true of the new du Pont Lustris boudoir accessories, illustrated on this page. For years the entire toiletware industry has been searching for a new pearl effect and in this pattern the Du Pont Viscoloid Company has produced one of the loveliest effects yet seen.

If you will study the mirror closely, you will discover

that a beautiful satin-like pearl covers its surface. Its character becomes more and more visible the longer you look at it, until, as when a new light falls unexpectedly upon familiar things, you suddenly become aware of a certain ordered and beautiful motif. It is the beautiful rolling effect that gives Lustris pearl its charm.

The smart black and gold decoration on the handle of the mirror, like that on all of the other pieces, adds further grace to the set without destroying any of the original beauty of the pearl.

In jade, rose or maize colors, a set of the new du Pont Lustris will charm any bride, thrill any girl graduate or become the cherished remembrance of any birthday or anniversary. It is a gift any woman would prize.

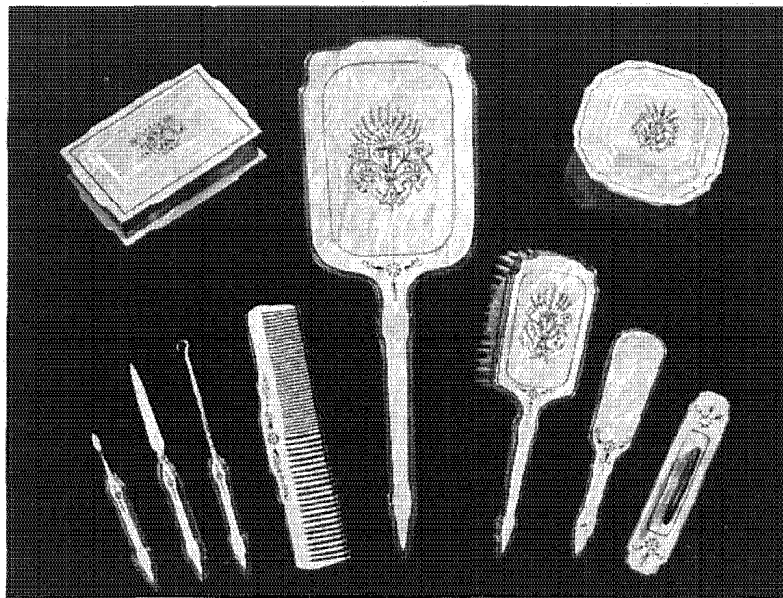
Another beautiful new toileterware pattern among the

many put on the market by the Du Pont Viscoloid Company this year is Orleans. Designed to meet the ever-growing need for popular-priced merchandise of

good quality and pleasing appearance, it will also help you solve the problem of what to give the bride or the girl soon to be graduated. All the pieces in this set are triple beveled, an innovation this year. In jade, maize, rose or white pearl-on-amber color effects, Orleans with its attractive decoration will no doubt become an outstanding favorite.

You will want to see both of these patterns and you will find them in your favorite store. Mirrors, combs, brushes

and a colorful array of clever little implements—with such a group available for selection, it will not be difficult to find the answer to many a gift problem.



The Orleans pattern was designed to meet the need for popular-priced merchandise of good quality and pleasing appearance

A NEW MATERIAL IS PRODUCED FOR THE SHOE INDUSTRY

(Continued from page 9)

favorably with that of the cheapest sheep skin that might be used, but because it comes in full-yard widths, is uniform in texture and quality and cuts to about 25 per cent better advantage than skins.

A further recommendation of this type of material is its workability, or the ease with which it can be manipulated in the factory when being built into the shoe. Factory operators usually work on a piece-work basis, and are therefore particularly interested in this quality; they will not favor any material that will retard their speed. This quality of workability is closely allied with economy, but goes more fundamentally into the building of the shoe itself.

Pontan does its work well. It has the firmness of good leather which permits it to lie smooth in the shoe. It has a back that has similar characteristics to the flesh side of a skin, thus permitting ready pasting to the counter, and it has just enough plasticity and stretch to conform smoothly to the surface of the last and counter.

Du Pont Pontan does not have the elasticity or the resiliency of an ordinary rubberized fabric which would cause it to spring away from the counter after pasting. On the contrary it has a plastic quality which tends to make it stay smoothly in place. Pontan cuts with a die or knife and machine trims efficiently, giving a desirable, smooth, non-raveling edge. In fact, it seems to comprise every important essential quality for workability in which a shoe operator might be interested. The appearance and wearing qualities of this material insure comfort and satisfaction to the user.

Thus, once again du Pont has produced a new material to meet the specific needs of an industry.

Du Pont Pontan was developed and is being manufactured by the Fairfield branch of E. I. du Pont de Nemours & Company, Inc. It will be distributed to the shoe industry exclusively through the United Shoe Machinery Corporation, 140 Federal Street, Boston, Massachusetts. Inquiries should be forwarded to that address.

STREAM-CORRECTION WORK

Illustrating a service that ditching dynamite can render in improving natural drainage conditions

ABOUT eight miles south of Mercer, in northwestern Pennsylvania, is a large area of muck land well adapted for growing celery, cabbage and the like. The farmers who own it realized that if this region could be drained effectively they could raise money-paying crops in abundance, and at the time this story begins about 1,000 acres of it had been ditched and partly placed under cultivation.

The existing drainage system was not adequate. True, one main ditch carried away the excess water after a normal rainfall and discharged it into a stream that also functioned reasonably well for some distance, and then it followed a meandering course. After every heavy rainfall all kinds of debris would lodge in its many bends and turns, clogging the stream, backing up the water and eventually flooding the cultivated fields.

Centrally located within the drainage area was a ten-acre tract belonging to A. M. Meyer, a progressive farmer who was lucky enough to raise a \$10,000 crop of celery last year. And yet, four times during the growing season his crop had been jeopardized by high water. Next year he might not get the breaks. So he asked a du Pont representative to come and inspect the

By L. F. LIVINGSTON

property and determine how best to drain it. Following a complete survey, it was decided to clean out the ditch and straighten the stream with dynamite. Plans were made. Neighboring farmers and the county agricultural agent became inter-

ested in the project and finally Mr. Meyer, with six other farmers, financed the operation, which altogether required the use of about 7,000 pounds of du Pont ditching dynamite. Fred Weber, of the du Pont staff, supervised the work.

Almost every condition of soil was encountered. One strip of new ditch—about 300 yards long—was blasted through heavy gravel containing some large boulders, and that's difficult to shoot. Various other conditions required different methods such as straight propagation, air-space loading, post-hole loading and cross-section loading. The county agricultural agent scheduled this operation as a demonstration of ditch-blasting practices. About two hundred people from four or five adjoining counties witnessed the completion of the work.

While the pictures show only a small section of the stream, you can see that du Pont ditching dynamite served well in correcting its meandering tendencies.



Before and after du Pont ditching dynamite had taken a hand at stream-correction work. The hatched line in the top picture shows the location of holes

AMBLER ASBESTOS "WALTILE"

*When old walls need modernizing or new walls need covering,
this fire-proof material solves the problem*

IN modernizing an old home or in planning a new one today, color plays an important rôle. Manufacturers of building materials have sensed the public demand for color and are supplying the home owner, builder or architect with the means of giving expression to this new desire.

There is a tendency now toward colored walls and decorations, and so Ambler Asbestos Waltile is offered by one of the world's largest asbestos manufacturing organizations, which has been experimenting for years to produce a material that is not only decorative but is also safe from fire hazard.

Waltile is made up in rigid sheets which consist of Portland cement deposited on a network of asbestos fiber that acts as a reinforcing agent for the cement and adds to the strength of the material. The sheets are fashioned and pressed into uniform thicknesses and coated with the glazed surface, which is then scored.

The very nature of the materials from which Waltile is produced makes it absolutely unburnable. The asbestos used by the manufacturers comes from their own Canadian mine where geological formations show that it was at one time immersed in molten rock and passed through the fiery state unscathed. Portland cement is made from equally inert incombustible rock, so that there is no possibility that a combination of these two materials could burn.

Ambler Waltile is in reality a thin slab of reinforced concrete in which the cement is bound together by the innumerable interlacing fibers of asbestos. In the process of manufacture, the asbestos and cement are thoroughly beaten together and the sheets are then built up from successive layers, consolidated by tremendous hydraulic pressure. This method of manufacture produces a uniformly strong product which cannot crack, split or chip, and combines strength with lightness.

Sheets of Waltile are made up in convenient size—

By F. C. WEBER

32 by 48 inches—with a permanent highly-glazed surface of white, cream, apple green, smoke, Nankin blue, pink or black. The material is sold at approximately half the price of ordinary ceramic tiles or wood paneling. Its use does not require any particular form of construction, it can be

applied direct to the studing of a new building or over the plastered wall of an old one.

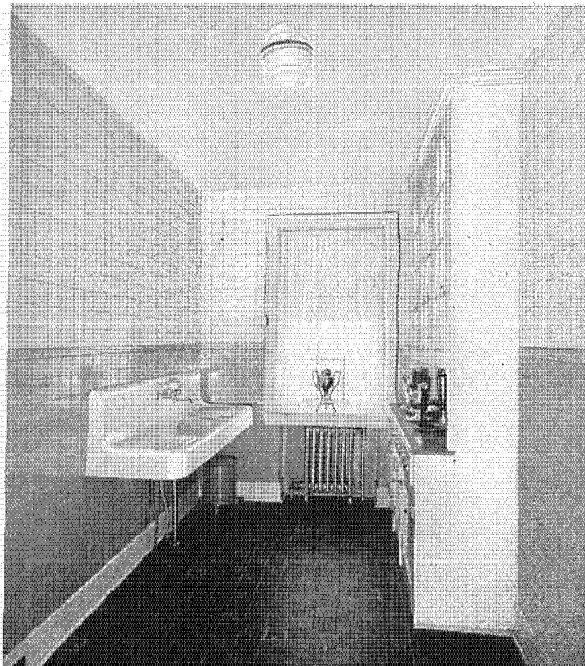
The sheets, with the surface scored every four inches, are of uniform thickness and fit together evenly without showing the joints. This material is applied with finishing nails, driven through the scoremarks and countersunk. A little putty adds the finishing touch. The sheets can be fitted around plumbing fixtures, doors and windows easily, for they can be sawed and drilled like ordinary lumber.

Waltile affords no lodging place for vermin. It will withstand any amount of scrubbing and actually becomes stronger with age as the cement sets, a process that extends over a period of years.

The bathroom, kitchen or hallway of your home can be made more luxurious by covering the wall surfaces with this material which is not only beautiful but waterproof and fire-resistant as well. It can also be used to good advantage in stores, restaurants, butcher shops, hospitals or any place where cleanliness is important.

The manufacturers make special cap moldings and baseboards which are used for finishing. They are scored and likewise grooved with an overhanging lip that fits snugly over the sheets when applied.

In the development of Ambler Asbestos Waltile, the du Pont Company has given much coöperation. The product is finished in du Pont Duco, which is especially suited for the purpose because it will not crack, check or craze with age or changes of temperature. Duco, with its hard, smooth finish, is well chosen in this case to add longer life and beauty to a product of real utility.



Cleanliness and cheerfulness are characteristics of this modernized butler's pantry finished in Waltile

MODERN BANK BOOKS

The art of the ancient Moorish craftsmen was the inspiration for these beautiful hand-tooled cover designs

AMONG the personal accessories owned and used by men and women alike, probably no two others, aside from one's watch and wallet, receive so much wear and tear as the individual check book and bank pass book. Usually you can count on finding one or the other, or both, kept close at hand and for reasons that require no explanation. Articles of this kind are changed from this suit to that,

By PAUL W. SAMPSON

from one handbag to another, along with fountain pens, compacts and lip-

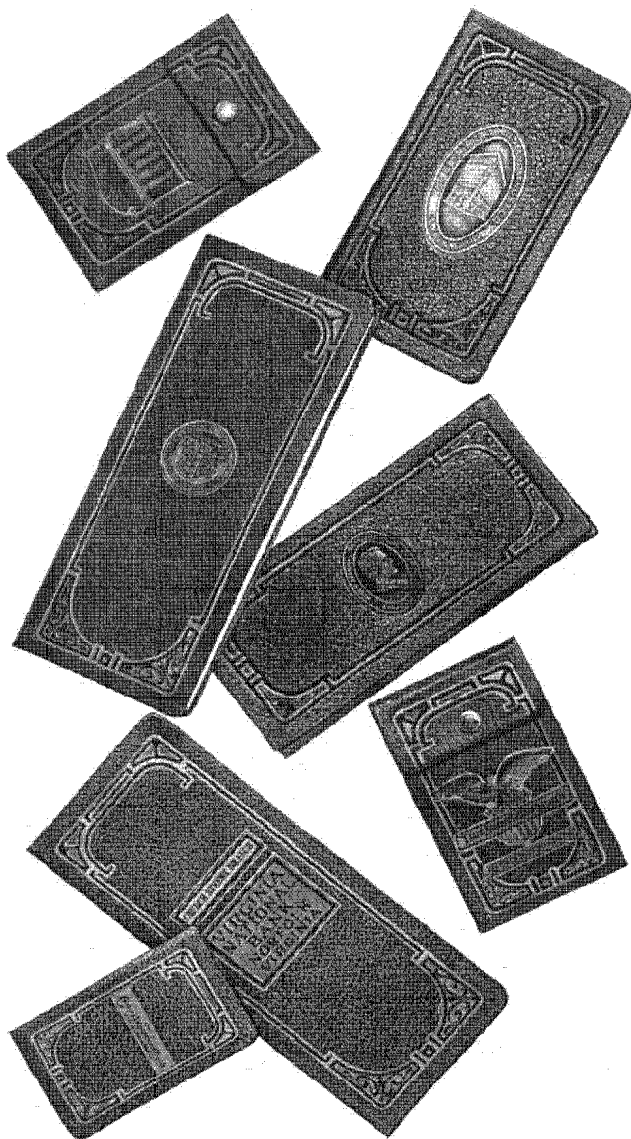
sticks. Few people understand this better than the bankers who distribute these books to their patrons and the manufacturers who design and execute them.

Also because check and pass books belong definitely in the same category with pocket memorandum books, the manufacturers realize the importance of giving them style and beauty along with utility. Bankers, too, know this, and they require that these silent salesmen shall reflect at least in outward appearance the prestige and character of the institutions represented.

That is why the beautiful books you see illustrated on this page—all produced for leading banking houses—are finished in an attractive two-tone Antique Moorish hand-tooled effect. They are designed to be in keeping with the beauty of the bank's architecture and appointments. How incongruous it would be for a banking institution housed in a beautiful, splendidly-equipped building to furnish its depositors with drab, unattractive check book covers and pass books!

The inspiration for the pleasing color effects and striking hand-tooled designs reproduced here came from the ancient Moorish craftsmen and artists of northern Africa. In these modern reproductions the skill of the artists and artisans has been faithfully duplicated. And since the designs are executed on genuine du Pont Fabrikoid, the covers possess a degree of toughness and flexibility suited to their use. They are also moisture-proof, washable with soap and water and extremely resistant to wear and tear.

Incidentally, we illustrate below a beautiful Fabrikoid-bound booklet entitled "Antique Moorish," which describes briefly the artistry of the ancient Moors and pictures in colors some interesting reproductions of their work. Bank executives who desire to receive a copy are invited to note their requests on a letterhead addressed to the Todd Company, Bankers' Supply Division, Rochester, N. Y.



DUCO IN THE ARGENTINE

In Buenos Aires, Henry W. Peabody & Company distributes du Pont finishing materials for industrial and home uses

BUENOS AIRES . . . the pampas. What vivid pictures and associations these words bring to our imagination! Captivating strains of a concertina . . . waving fields of wheat and barley . . . tangos and toredors . . . Gauchos and senoritas. That is the Argentina we so often read about. But we are more interested here in the industrial and trade aspects of this republic.

As distributor for the Fabrics and Finishes Department of the du Pont Company, and with its main office in Buenos Aires, Henry W. Peabody & Company supplies the Argentine Republic with finishing materials and other du Pont products for industrial and domestic use. This company has made decided headway selling American products in South America; in fact, it is one of the pioneer exporting houses, having run clippers out of Boston in the days of old.

The du Pont Company also maintains its own office in Buenos Aires, where laboratory-trained men are stationed to give the trade technical assistance pertaining to the uses of du Pont products and to promote their sale. But that is another story. The distributor referred to has been remarkably successful selling clear Duco for office and home furniture. In some cases the trade actually demands Duco-finished articles.

In the automotive field Duco is accepted as the standard finish. Under the varying atmospheric conditions of the country it has proved to be the most enduring finish available. Reports for 1929 indicate a registration of 299,839 automobiles in the Argentine, and with their number increasing yearly, the potential use

By REGGIE ELLIS

of this product grows apace. Even now the car owner finds no difficulty in

locating a Duco Refinishing Station in this republic.

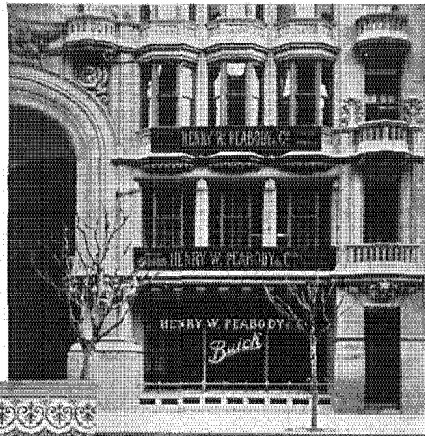
Utilization of nitrocellulose lacquers is increasing in proportion to the imports of automobiles. The country is one of the most important outlets for American-made cars. Over 43,000 were imported during the first seven months of 1929, compared with less than 25,000 for the same period of 1928. Two large assembly plants are located in Argentina, and thousands of cars are refinished, merely to keep abreast of modern color trends.

Argentina ranked as the fourth largest buyer of American paint products for the first part of 1929.

The du Pont Company sells large quantities of Duco for brush application in Argentina. Hardware stores—the chief distributors of the product—carry on demonstrations with remarkable success. Department stores, too, are important outlets. Every exporter of department store merchandise, whether he be American, European or Oriental, knows the firm of Gath and Chaves in Buenos Aires and tries to get his goods displayed on its counters. In this well-appointed, modern store even the elevators

are Duco finished.

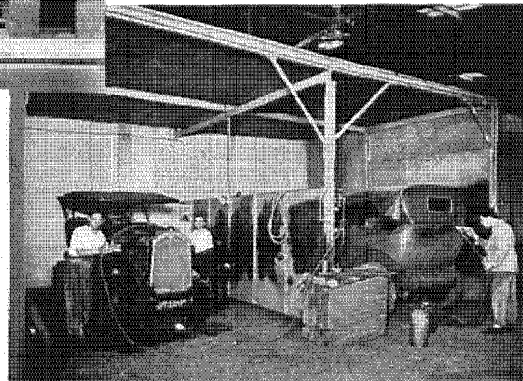
With the natural growth and productivity of the country, the railroads are making exceptional progress. Their leaders have profited by the experience American railroads have had with Duco and other du Pont finishes. It is not unusual for one to dine, sleep and ride in Duco-finished railway cars almost anywhere in the republic, which is up to the minute in all respects.



Above—Main office of Henry W. Peabody & Company in Buenos Aires



Left—A Brush Duco demonstration in a leading hardware store



Right—One of the refishing booths at the Peabody shops

A PIPE ORGAN FOR THE HOME

(Continued from page 8)

It has 24 stop tablets, and in every way is equivalent tonally to a small organ built on traditional lines. The grand model is particularly adapted for homes, hotels and use with orchestra, and the upright is made especially for the small church, mission, Sunday school, chapel, funeral chapel, studio or private home. The instrument is installed with practically no more difficulty than a grand piano. The organ itself is complete in one unit, and the only accessory is the blower which is enclosed in a sound-proof box and may be located in a nearby closet or basement. A 5-inch hole for the wind trunking is the only preparation necessary.

Not only may the organist himself now afford a pipe organ, but hotels and clubs, which have not hitherto considered this instrument within the range of possibilities, may now find it practical to install one.

The Minuette is a sufficiently unique instrument to have been featured recently in the Fox Movietone and it is being used in several of the sound-picture studios, as well as figuring prominently in radio broadcasting.

It comes equipped, at an extra cost, with the Estey automatic player, which makes available the Estey library of organ music, the largest of its kind in existence.

Although this instrument has been on the market only a few months, it appears to have a promising future. Its artistic design and lustrous Duco finish make it as much of a delight to the eye as it is to the ear.

DU PONT "PAINT FARMS"

(Continued from page 15)

chalking. It is of assistance, however, to use a small hand microscope which often reveals a film failure before it is apparent to the naked eye. It is also helpful to have available a binocular of somewhat higher power than the hand microscope. For making permanent records, the Folmer fingerprint camera is of value. Each panel is photographed periodically simply by laying the camera flat on its surface and pressing the button.

The time of year when paint and varnish films are exposed has considerable influence upon their durability, particularly where summer and winter conditions are different. In northern climates failure occurs much faster in summer than in winter time. Moreover, the durability of a film is not always the same from year to year, because of varying weather conditions. The direction and the angle of exposure are also factors of considerable importance. For example, panels facing south fail in about half the time of those facing north when the exposures are vertical. And if the angle of exposure is 45 degrees the durability is again cut in half.

Such exposure tests determine the suitability of various formulations to meet specific durability requirements, and they serve as a guide in the production of paints and varnishes that will give maximum protection under all climatic conditions. Du Pont paint farms therefore produce facts relating to the serviceability of protective coatings, and that crop is an exceedingly valuable one.

COMBINATION BATH SETS

HAVE you noticed the gradual increase of color in your home? Little by little the tintful wave has swept over the household, changing everything from dull, monotonous shades to bright colors radiating warmth and beauty.

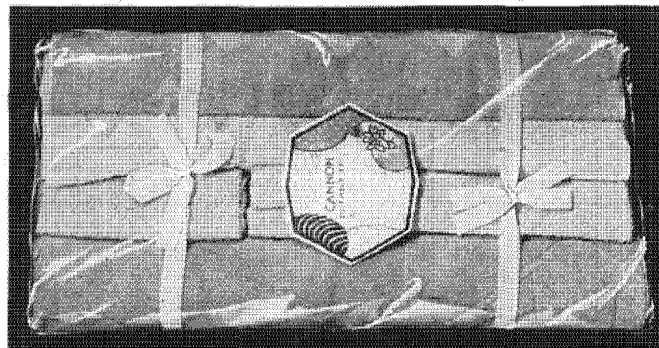
The last room to come under the influence of color was the bathroom. White tile suggesting cleanliness had so long been accepted as the best treatment for this room that decorators hesitated to use anything else. But someone had the temerity to break away from the old-time tradition and now practically all modern bathrooms are made colorful. Tile, fixtures and other appointments—even such accessories as towels, face cloths and bath mats, are all considered a part of the harmonized ensemble so much desired today.

This change in style brought about a new method of merchandising textile necessities for the bath. The cardboard box type of package that provided cleanliness for

the white towels has been found inadequate for displaying goods of delicate shades. To provide protection from dust and dirt and also to allow prospective purchasers to see the colors and designs, towel manufacturers now wrap their products in transparent Cellophane.

The combination set illustrated on this page contains a bath mat, two heavy turkish towels, two light guest towels and two face cloths of the same

color and pattern. It has been placed on the market by one of the largest towel manufacturers, and because of the attractive appearance of the package it is proving very popular.



The "Cannon Ensemble Set" is wrapped with transparent Cellophane. This material allows full vision of the products it protects from dust and dirt.

E. I. DU PONT DE NEMOURS & CO., Inc.

General Executive Offices, WILMINGTON, DELAWARE

All Inquiries Regarding du Pont Products Should Be Addressed to the Company—the Nearest Office

ACIDS, HEAVY CHEMICALS, DRY COLORS, ZINC OXIDE AND OTHER PIGMENTS

Grasselli Chemical Company, Inc.

Chemicals for leather, textile, paper, paint, rubber, battery, glass, sheet, tin plate, steel and petroleum manufacturers. Lithopone, dry colors, pigments. Chemically pure acids, electrolyte, filler alum, spray products for fruit trees, vegetables and flowers, Grasselli odorless plant food for lawns and gardens, silicate of soda, soldering fluxes, zinc, zinc chloride.

Albany, N. Y., P. O. Box 228
Birmingham, Ala., 2000 First Avenue, North
Boston, Mass., 80 Federal Street
Brooklyn, N. Y., 152 Morgan Avenue
Charlotte, N. C., 930 W. Morehead Street
Chicago, Ill., 2101 Canalport Avenue
Cincinnati, Ohio, 305 Walnut Street
Cleveland, Ohio, 629 Euclid Avenue
Detroit, Mich., 1530 E. Hancock Avenue
Los Angeles, Calif.
Dry Colors & Pigments, 2034 Bay Street
Chemicals, 363 New High Street
Milwaukee, Wis., 715 South Canal Street
Newark, N. J., 256 Vanderpool Street
New Haven, Conn., 36 River Street
New Orleans, La., 1140 So. Robertson Avenue
New York, N. Y.
District Sales Office, 347 Madison Avenue
Export Office, 347 Madison Avenue

Paterson, N. J., 6 Waite Street
Philadelphia, Pa., 3500 Gray's Ferry Road
Pittsburgh, Pa., 307 Fifth Avenue
San Francisco, Calif.
Dry Colors & Pigments, 274 Brannon Street
Chemicals, 576-584 Mission Street
St. Louis, Mo., 408 Pine Street
St. Paul, Minn., 2303 Hampden Avenue

LITHOPONE

Grasselli Chemical Company, Inc.
(See offices listed above)

Krebs Pigment & Chemical Co., Inc.
Newport, Del.
Cleveland, Ohio, 424 Hickox Building
New York, N. Y., 217 Broadway

ANHYDROUS AMMONIA, METHANOL AND SODIUM FORMATE

Du Pont Ammonia Corporation

Anhydrous ammonia in car lots.

Wilmington, Del., Du Pont Building

AQUA AND ANHYDROUS AMMONIA

National Ammonia Company, Inc.

Anhydrous ammonia in cylinders.

Aqua ammonia in drums and tank cars.

Chicago, Ill., 332 So. Michigan Boulevard
New York, N. Y., 81 Fulton Street
Philadelphia, Pa., Frankford P. O.
San Francisco, Calif., 77 Minna Street
Seattle, Wash., 2224 Northlake Avenue
St. Louis, Mo., 3600 N. Broadway

CHEMICAL PRODUCTS, AUTOMOTIVE FINISHES

Duco and a complete line of finishing materials for all automotive purposes.

No. 7 Duco Polish, No. 7 Auto Top Finish,
No. 7 Nickel Polish, No. 7 Touch-up Black,
No. 7 Super-Lustre Cream.

Chicago, Ill., 2100 Elston Avenue
Detroit, Mich., General Motors Building
Flint, Mich.
Parlin, N. J.
San Francisco, Calif., 351 California Street

INDUSTRIAL FINISHES

Duco, Duco Household Cement, bronze powders, collodion, leather belting cements, leather finishes, nitrocellulose and cellulose acetate and their solutions, DuLux synthetic resins, pyroxylin preparations and solvents and a complete line of finishing materials for all industrial purposes.

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Chicago, Ill., 2100 Elston Avenue
Parlin, N. J.
San Francisco, Calif., 351 California Street

CELLOPHANE

Du Pont Cellophane Company, Inc.

Cellophane - Sheets and rolls. Cellulose caps and bands (formerly Capes-Viscose, Inc.). Visking Cello-Tubing (Visking Casings).

New York, N. Y.
Executive and General Sales Offices,
2 Park Avenue
District Sales Office, 145 Hudson Street
Boston, Mass., Little Building
80 Boylston Street
Chicago, Ill., Conway Building
Clark and Washington Streets
Philadelphia, Pa., Liberty Trust Building
Broad and Arch Streets
San Francisco, Calif., 351 California Street

DYESTUFFS

Dyestuffs and dyestuff intermediates.
Rubber chemicals.

Boston, Mass., 274 Franklin Street
Charlotte, N. C., 232 W. First Street
Chicago, Ill., 7 So. Dearborn Street
New York, N. Y., 8 Thomas Street
Philadelphia, Pa., 126 S. Front Street
Providence, R. I., 709 Hospital Trust Bldg.
San Francisco, Calif., 351 California Street

SEED DISINFECTANTS

Bayer-Semesan Company, Inc.
New York, N. Y., 105 Hudson Street

MOTION PICTURE FILM

Positive and Negative.

Du Pont-Pathé Film
Manufacturing Corp.
New York City, 35 West 45th Street
Hollywood, Calif., 6656 Santa Monica Blvd.

EXPLOSIVES

Explosives for all industrial, agricultural, military and sporting uses.

Birmingham, Ala., 601 Brown-Marx Bldg.
Bluefield, W. Va., 607 Commercial Bank Bldg.
Boston, Mass., Room 404 Charles Chauncy Building, 38 Chauncy Street
Chicago, Ill., 1814 McCormick Building
Cleveland, Ohio, 766 Union Trust Building
Denver, Colo., Midland Savings Building
17th and Glenarm Streets
Duluth, Minn., Hartley Building
742 E. Superior Street
Huntington, W. Va., Suite 1004 Union Bank Building
Joplin, Mo., 816 Joplin Nat'l Bank Building
Juneau, Alaska, Room 503 Goldstein Bldg.
Kansas City, Mo., 210 Scarritt-Arcade Bldg.
Miami, Florida, 120 N. E. First Street
New York, N. Y., Graybar Building
420 Lexington Avenue
Pittsburgh, Pa., Clark Building
Seventh Street and Liberty Avenue
Portland, Ore., American Bank Building
Pottsville, Pa., 516 Schuylkill Trust Company Building
St. Louis, Mo., 17th Floor, Arcade Building
San Francisco, Calif., 351 California Street
Seattle, Wash., Hoge Building
2d Avenue and Cherry Street
Scranton, Pa., 701-710 First Nat'l Bank Bldg.
Spokane, Wash., 721-22 Old Nat'l Bank Bldg.
Riverside Avenue and Stevens Street
Springfield, Ill., 716 Reisch Building
Wilkes-Barre, Pa., Brooks Building

FABRIKOID

Fabrikoid for auto and furniture upholstery; auto topping, bookbinding, luggage, novelties, etc.
Tontine Washable Window Shade Cloth.

Chicago, Ill.
Fabrikoid Office, 840 No. Michigan Avenue
Tontine Office, 1411 So. Michigan Avenue
Detroit, Mich., 5-236 General Motors Bldg.
Newburgh, N. Y.
New York, N. Y., 21 East 40th Street
San Francisco, Calif., 351 California Street

RUBBER PRODUCTS

Pontop for auto tops and curtains. Raincoat fabrics, Rug Anchor, Ventube for mine ventilation. All kinds of rubberproofing.

Chicago, Ill., 840 No. Michigan Avenue
Detroit, Mich., 5-236 General Motors Bldg.
Fairfield, Conn.
New York, N. Y., 21 East 40th Street
San Francisco, Calif., 351 California Street

RAYON

Du Pont Rayon Company, Inc.

Viscose Process Department
New York, N. Y., 2 Park Avenue
Charlotte, N. C., 611 Johnston Building
Chattanooga, Tenn., 609-611 Provident Bldg.
Philadelphia, Pa., 1503 Land Title Building
Providence, R. I., 941 Hospital Trust Bldg.
San Francisco, Calif., 351 California Street
Acetate Process Department
New York, N. Y., 2 Park Avenue
Waynesboro, Va.

PAINTS, VARNISHES DUCO (FOR HOME USE)

A complete line of paint and varnish products for all home and industrial uses.

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Brooklyn, N. Y.
Building No. 26, Bush Terminal
Chicago, Ill., 2100 Elston Avenue
New York, N. Y., 21 E. 40th Street
Philadelphia, Pa., Public Ledger Building
Independence Square
San Francisco, Calif., 351 California Street

PYRALIN, LUCITE AND VISCOLOID

Pyralin toiletries and the new Lucite boudoir accessories. Toys, rattles, infant acts, hair ornaments. Novelty and transparent sheeting, rods, tubes and beading. Also Cleanable Collars.

Factories at Arlington, N. J., and Leominster, Mass.

Du Pont Viscoloid Company, Inc.
New York, N. Y., 330 Fifth Avenue
Boston, Mass., Room 404 Charles Chauncy Building, 38 Chauncy Street
Chicago, Ill., North American Building
San Francisco, Calif., 745 Mission Street

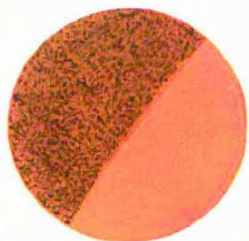
FOREIGN OFFICES

(To which inquiries about du Pont products may be addressed)

Bombay, India, Jacob Sassoon Building
Rampart Row, P. O. Box No. 1010
Buenos Aires, Argentine Republic, S. A.
Foreign Trade Development Office
Ava Roque Saenz Pena 616 (Casilla 490)
Hankow, China, No. 23 Tung Ting Road
Havana, Cuba, Room 548 Manzana de Gomez Building
Kobe, Japan, No. 83 Kyomachi
P. O. Box No. 384
Mexico City, Mexico, Edificio Cidosa
Avenida Uruguay 55
Paris, France, C. E. Michaux, Inspector of European Agencies, 14 Rue Lincoln
Shanghai, China, Robert Dollar Building
3 Canton Road, P. O. Box No. 393
Tientsin, China, 52 Taku Road

When you are in Atlantic City, New Jersey, visit the du Pont Products Exhibit at 1121 Boardwalk

USE NO. 7 DUCO POLISH ON YOUR CAR



★ TRAFFIC FILM is an accumulation of oily, sticky particles of dust and grime which are constantly settling on your car. These particles are baked together by the sun and the heat, forming a hard, dull film that hides the lustre of the finish. Soap and water won't remove it. No. 7 Duco Polish will. Here is a small section of the surface of an average car, magnified 20 times. The left side is still covered with TRAFFIC FILM. The right side has been cleaned with No. 7 Duco Polish. Note the difference.

Keep that showroom Complexion

If you would keep that showroom complexion on your car, you should clean and polish it regularly. And because No. 7 Duco Polish is a du Pont product, you will find it does the job simply, safely and surely.

Du Pont chemists, who *created* Duco, discovered and analyzed TRAFFIC FILM,* and developed a simple, rapid, and sure way of removing it and restoring the original lustre.

They developed No. 7 Duco Polish, non-acid and free from harsh abrasives. It softens film, loosens dirt, removes grime. You wipe them away, and back comes your radiant car again.

Leading automobile manufacturers put sample cans of No. 7 Duco Polish in the tool kits of their new cars and recommend its use in their instruction books.

You'll find No. 7 Duco Polish at good dealers everywhere. Ask your garage or polishing station to use it on your car. If you would like a sample of No. 7 Duco Polish, as well as No. 7 Super-Lustre Cream and No. 7 Auto Top Finish, fill out the coupon at the right.



FOUR OTHER DU PONT PRODUCTS TO BEAUTIFY YOUR CAR

No. 7 Auto Top Finish waterproofs the top—restores its original lustre.

No. 7 Nickel Polish cleans and brightens radiator and lamps.

No. 7 Super-Lustre Cream is used after pol-



ishing to preserve the lustre and protect the finish against weathering.

No. 7 Touch-up Black is for retouching scratches and worn spots on auto fenders.

READ THIS REMARKABLE OFFER

SEND FOR THE SAMPLE BEAUTY KIT

Send us coupon below (with 10 cents to help cover mailing cost) and we'll send you the following:—

- 1 SAMPLE CAN OF NO. 7 DUCO POLISH (enough for one polishing)
- 1 SAMPLE CAN OF NO. 7 SUPER-LUSTRE CREAM (enough for the hood)
- 1 SAMPLE CAN OF NO. 7 AUTOTOP FINISH (enough for a spare tire)

E. I. DU PONT DE NEMOURS & CO., INC.
Desk DM, General Motors Bldg., Detroit, Mich.
Canadian Industries Ltd., Paint & Varnish Div.,
Toronto 9, Canada.

Send me your sample Beauty Kit for my auto. I am enclosing 10 cents (coin or stamps) to help pay the mailing cost.

(Good only in U. S. and Canada)

Name _____

Address _____

City _____ State _____