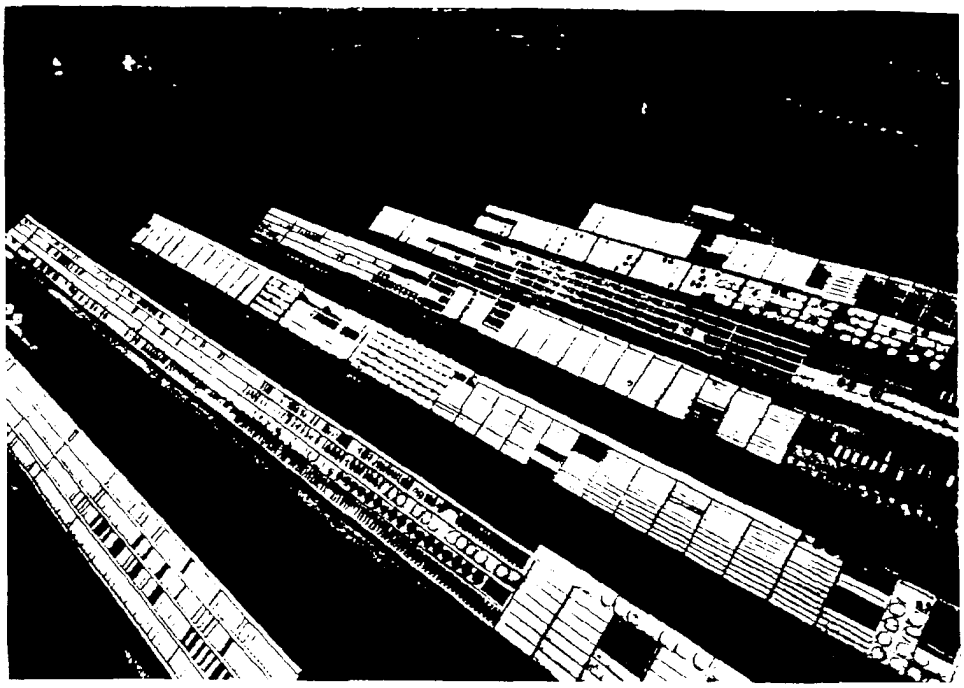
We've Painted Your House a Thousand Times



Thousands of painted panels are exposed to actual weathering conditions on du Pont "Paint Farms" scattered throughout the country. Here du Pont Paints for your home must withstand rigorous PRE-TESTING before they are offered for your use.

You need not speculate in paint today, because we have proved the durability and lasting beauty of du Pont Paint for YOUR home.

We have done this at du Pont Paint Farms, where painted panels are exposed for months—and years—to every kind of weather. When a paint laughs at the ravages of sun, rain, snow and frost; when color retains its beauty and gloss, its sheen—then we know it is ready for your use.

In fact, no du Pont Paint is put in cans and sold until it is Pre-Tested and has proved beyond all reasonable doubt that it will endure, hold its beauty, protect, and give you the unqualified satisfaction to which you are entitled. Du Pont Pre-Tested Paint will do what we say it will do when you use it.

DU PONT
REG. U.S. PAT. OFF.

Ask your master painter or dealer to recommend the correct du Pont Pre-Tested Finishes for your painting needs.

•

8 du Pont Pre-Tested Finishes

DU PONT PREPARED PAINT
DU PONT INTERIOR GLOSS
DU PONT FLAT WALL PAINT
DU PONT VARNISHES
DU PONT FLOOR AND DECK ENAMEL
DUCO FOR HOUSEHOLD USE
DU PONT TRIM AND TRELLIS GREEN
DULUX WHITE—*for Exterior Painting*

PAINTS · · · · VARNISHES · · · · ENAMELS · · · · DUCO

LBW 0011895

DUP110138562

PAINTED CATERPILLARS

Here are crawling things that are not only extremely useful, but attractive as well

By F. HAL HIGGINS

THE wheel, one of mankind's earliest inventions, probably has done more than any other product of man's genius to make possible the civilization of today. But the very conditions it helped create brought out its limitations and paved the way for a further notable development.

The wheel requires a reasonably hard surface on which to roll effectively; it bogs down in loose sand, mud or soft ground. But not until it bucked up against modern power requirements did its inefficiency on a yielding surface become acute enough to demand an improvement. Thus crawler traction, offspring of a venerable parent, did not come into its own until the twentieth century.

Two young men who took Horace Greeley's advice and went West are credited with the development of crawler traction. Daniel Best of Iowa and Benjamin Holt of New Hampshire had the same idea when they joined the gold rush to California in '49. Both, of course, sought "fame and fortune." Both were to dig their stakes from the soil, but not in the way they originally planned.

Best walked out to the Pacific Coast and tried his hand at gold mining. Holt and his brothers sailed around the Horn and began importing wagon materials for freighting. This business led them naturally into the manufacture of wheels and wagons. By 1885, Best and the Holt brothers were rivals for the steam engine and combined harvester business of the Coast. These two firms grew rapidly and became keen competitors.

This tractor became so hot when it was used in fighting an oil well fire that the operator could not touch the metal, yet its du Pont finish remained in perfect condition

California ranchers met great difficulties in their efforts to cultivate and harvest over the soft reclaimed lands in the San Joaquin and Sacramento river valleys. Attempts to solve these problems by designing machines with broad, cleated wheels came to a head in 1905, when Benjamin Holt built a pair of tracks and installed them on a steam tractor. Results in improved traction and power were highly gratifying, even with this crude machine. This was the beginning of a new day in mobile power, for it marked the first successful application of crawler traction.

Development of the track-type tractor by both Holt and C. L. Best went forward rapidly. Weight was reduced to more efficient limits when gasoline engines replaced steam early in this century. Crawler or "caterpillar" traction today has lifted the wheel out of power-wasting soft ground and put it on an endless chain of self-laying steel rails. This enables the load to be widely distributed; positive traction is secured with low frictional resistance.

This type of tractor achieved its first great victory in the transporta-

tion of supplies across the Mojave Desert during construction of the Los Angeles aqueduct in 1908. No other piece of equipment could negotiate the loose sands or the steep, roadless mountain grades. But it was the World War that made "Caterpillar" a household word.

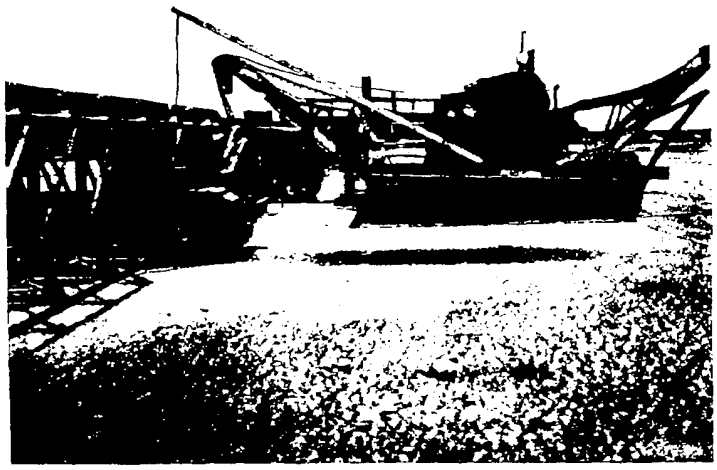
In 1925 the Holt and Best interests were merged into the present Caterpillar Tractor Co., which now also produces a varied line of combined harvesters and road machinery. Road building and farming were the main fields for Caterpillar tractors for years. But new uses constantly were being found by nimble-witted operators. Pipe-line construction, oil field work, nursery and other specialized types of farming, snow removal, railroad maintenance and construction, house-moving, forest-fire trail building, ditch construction and terrace building are only a few of the "side fields" pioneered by Caterpillar.

A fascinating story could be written on the "Adventures of Caterpillar Afield." This tale would jump from Tokyo, where a representative of the company recently witnessed the attempted assassination of Emperor Hirohito by a bomb-thrower, to Mount Olympus in Greece, where a Caterpillar ran over a notorious bandit sleeping in a thistle patch, so slowing him up that the police captured him. These incidents illustrate the world-wide use of this equipment.

Most people think of a tractor as a piece of machinery designed to do a given job as efficiently as possible. But the operator of a Caterpillar has almost as much "pride of ownership" as the driver of an expensive automobile. Naturally, he expects it to be a fine piece of mechanism. But he also demands that it be good looking. That is only one of the reasons why the Caterpillar Tractor Co. today offers colorful du Pont finishes on its tractors and also on its combined harvesters and road machinery.

The "paint job" on a Caterpillar must be the best that can be obtained, for it is forced to withstand the onslaughts of sand, rock, mud and dust, of snow and ice in sub-zero temperatures and the blazing rays of the sun.

Also, the Caterpillar Tractor Co. has found that the color and general attractiveness of the du Pont finishes have a definite sales value. Such a pleasing "dress" is of no little importance in helping to sell the product. And, by creating pride of ownership, these finishes inspire the operator to take better care of his tractor. All dealers are urged by the company to keep these points in mind. The shops of most all agents are equipped to turn out rebuilt machines that look like new. This is accomplished by using the same du Pont finishes as are employed at the factory.



This Caterpillar tractor looks like a huge insect as it creeps across a salt bed in California. A du Pont finish protects its metal surfaces from the ravages of the salt

KEEP YOUR WHITE HOUSE WHITE

The story of Dulux White for exterior painting — stays whiter—lasts longer

By C. F. RASSWEILER

THE trim white house with the green shutters is an American institution. By strolling through any residential section you can see the widespread appeal of this color scheme. In this same walk, however, you will undoubtedly notice how little of the fresh, crisp whiteness of new paint remains after a few months. The brightness of the white is destroved by smoke and dust and, before the second summer has passed, the green has either blackened with mildew or faded from sunlight.

How to make white houses stay white, and green shutters stay green, has been one of the most important problems facing paint manufacturers for many years. The solution is one of those fascinating romances of modern chemical research, backed up by a testing program of nation-wide scope, on a scale never before attempted with a paint product.

Any house paint contains two different types of materials. First, there must be pigments, which are white or colored powders that give color and hiding power. By themselves, however, the pigments are of no value without the second material, called the vehicle, which serves to bind or cement the pigment particles together into a continuous, adherent film.

Linseed oil has been almost universally used as the vehicle in outside house paints. Even though it is the best of the naturally occurring materials, this oil, by itself, has little resistance to the destructive influences of weather conditions. The making of durable paints has depended on the development and selection of pigments which would protect the oil to the greatest extent. The du Pont Company—one of the foremost pigment producers of the country, as well as a maker of paints—has played a prominent part in this work.

To the research chemists, however, this seemed only a half-hearted attack. "If the vehicle is the weak part of paint," they reasoned, "let's not stop with simply trying to protect it with new pigments; let's make a binder that is really durable in itself."

On this program the du Pont Company has spent six years of effort and hundreds of thousands of dollars. Over four thousand materials were made and tested. Many were failures; many were better than previous products, but not good enough; a limited

DULUX HAS THESE OUTSTANDING ADVANTAGES

Looks Better—Stays Whiter

1. Dries faster, collects less dirt and bugs during drying. Sets up more quickly to a state where it is unaffected by sudden storms.
2. Dries free from tack.
3. Dulux becomes self-cleaning. After a period of exposure, cleanliness of the surface is maintained by fine, shallow chalking.
4. Dulux does not spot or smudge easily on doorjambs, pillars, and is more readily washed clean.

More Durable—Protects Surface Longer

1. Five-year tests indicate fifty per cent longer life for Dulux as compared with orthodox paint. In many cases it has lasted twice as long as other finishes.
2. Dulux is highly impermeable to moisture.
3. Dulux resists checking and cracking. Dulux wears away by slow, shallow chalking, leaving an excellent surface for repainting.

ew stood out with properties that surpassed all original hopes.

Linseed oil by itself protected wood on an exposure fence for less than six months. Under the same conditions, one of these new vehicles, called Dulux oil, protected wood between eighteen and twenty-four months. The use of this oil instead of linseed oil, as a binder for the pigment particles, was an obvious way to make the paint last longer. Also, when using a weak binder like linseed oil, the pigments had to be selected with the object of protecting the oil rather than for whiteness retention. When using Dulux oil, the vehicle was so durable that it needed less protection and the pigments could be selected for their whiteness and whiteness retention, and the resulting product was still more durable than the best oil paint.

Almost five years ago du Pont chemists recognized the possibilities of developing white and green house finishes from this amazing new vehicle. The past five years have been spent in the most thorough and exhaustive testing of these new finishes. First, on exposure fences in all parts of the country where 50,000 panels have been exposed, many of them turned up at 45° toward the sun and rain, an angle at which paints fail twice or three times as rapidly as on a house; then, on selected houses around the country; and, finally, the most practical test of all, representative master painters, using their own methods, have applied these finishes to all sorts of surfaces.

The first Dulux white exposure panel is still in good condition. A built-up vertical section of white pine clapboards finished with three coats of Dulux has faced the full force of southern exposure in Delaware for five years and is still intact and snowy white. Some of the Dulux-finished houses are three years old. Over a thousand of them have been painted with this product for more than a year. Tests have been made in every section of the country. The most conservative executive has been convinced. A dream of six years ago has become a reality, and the householder with his white house and green shutters may now procure a Dulux Exterior White that will stay white and a Trim and Trellis Green that will really stay green.

Anyone seeing a group of Dulux-painted houses for the first time always asks, "Why does the Dulux White stay so white?" The answer is as interesting as the story of the development of this finish.

In the first place, Dulux dries rapidly. Three to five hours after it is applied, it is dry enough so that dirt and bugs no longer adhere to it. Oil paints stay wet for almost twenty-four hours and are definitely sticky for forty-eight hours or more.

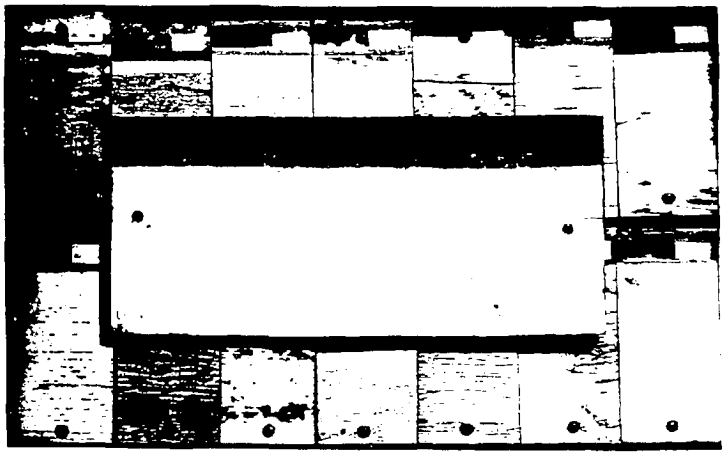
Second, Dulux flows out to a smooth, almost enamel-like surface which is hard and free from any sign of stickiness or tack. It is difficult for dirt to cling to such a surface, and the mold colonies which grow on oil paints and blacken green trim find it hard to gain a foothold. Oil paints have uneven surfaces, due to brush marks, and even after several months' drying are soft and slightly tacky. Running the finger tips over the two products tells this part of the story better than words.

Then, third, the Dulux becomes self cleaning. After a period of exposure an extremely fine, white, chalky material begins to form on the surface. Some of this washes away with the rain, carrying the dirt along with it. Most of this chalk clings to the side of the house and gives it a brilliant whiteness. This process goes on steadily, accompanied by the gradual wearing away of the film, until after years of exposure it becomes so thin that repainting is necessary.

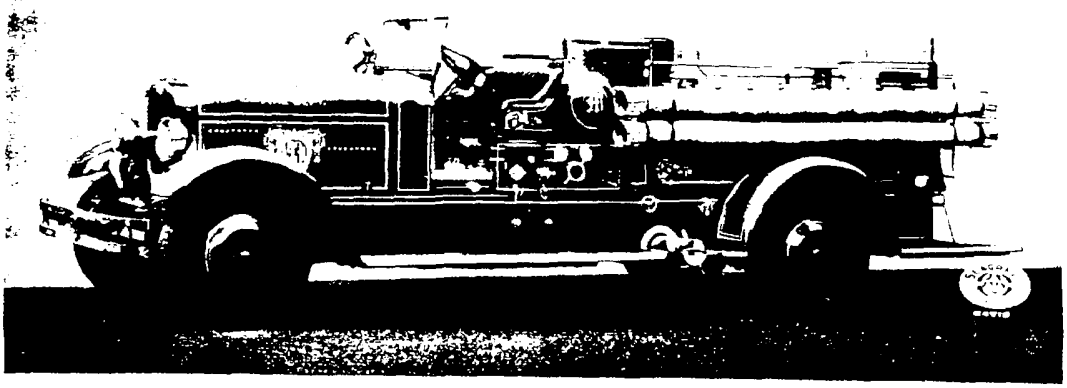
Likewise, all good oil-type house paints chalk but, with them, the material that washes away is coarse and does not have the intense whiteness of the Dulux chalk. Also, in the case of oil paints, the chalk comes away unevenly, leaving a splotchy or shadowed appearance. Being coarse, the oil-paint chalk leaves a rough surface which catches more dirt, while the Dulux chalk is fine, and even after years of exposure it can be wiped away and the surface underneath is so smooth that it is actually glossy.

The Dulux White not only stays whiter than oil paints but also lasts longer. In the first place, the Dulux film wears away more slowly than an oil paint film. This is demonstrated both by film thickness measurements and by actual exposure tests. The chalking of Dulux is very fine and shallow, whereas the chalking of an oil paint is coarse and deep. The apparent amount of chalk clinging to the side of a house is no measure of

(Continued on page 22)



These panels, each of which was finished with some high-grade exterior white paint, were exposed on the test fence at an angle of 45° facing south. After thirty-six months, long after the others had failed completely, the Dulux panel shown in center was still snowy white and affording adequate protection to the surface



HERE COMES THE FIRE ENGINE

Modern fire-fighting equipment is built for hard service . . . and so is the Duco which adorns it

By R. C. WILLIAMS

•

POUNDING hoofs, clanging gongs, gleaming brass and nickel, a flash of red—that was the fire department of yesterday. Now the motor car has supplanted the horse, the siren has replaced the gong, but the combination of shiny nickel and brass and flaming red paint still remains the symbol of the brave fire-fighters.

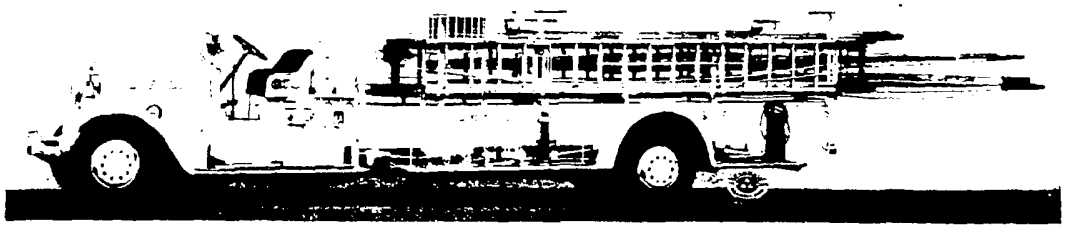
To maintain their apparatus in perfect condition at all times has always been a laborious task. In recent years, however, manufacturers of fire equipment have used better materials and finishes, with the result that fire companies find maintenance a less serious problem than heretofore.

Duco has played an important part in this. It can withstand heat and cold, changing climatic conditions, and abusive treatment without peeling off or cracking, and the finish can easily be restored to its original beauty when soiled. The Seagrave Corporation of Columbus, Ohio, which made the two machines illustrated on this page, has found it advantageous to use Duco on all its fire trucks.

The city of Muskogee, Oklahoma, is the proud owner of the one above. It is of the centrifugal pumping type with a capacity of 1,000 gallons per minute. In place of the usual forty-gallon chemical tank, it carries a hundred-gallon water tank, along with 1,200 feet of two and one-half inch hose. The six-cylinder motor develops 140 horsepower and, although the truck weighs more than five tons, a speed of over sixty miles per hour can be obtained when necessary. The body is finished in red Duco, thus providing a durable surface which is so essential for apparatus of this kind.

A departure from the usual color scheme was made when white was selected for the quadruple model shown below. It was made for Chanute, Kansas, and is a combination pumper, hose-carrier, ladder-truck and booster tank. It has a capacity of six hundred gallons per minute. The equipment includes a centrifugal pump, a full complement of ladders and 1,000 feet of two and one-half inch hose.

Fire engines made by the Seagrave Corporation guard more than 1,000 cities and towns throughout the country and all of this fire equipment is finished with du Pont Duco.



KEEP YOUR WHITE HOUSE WHITE

the speed with which the trim is wearing away. Touch a two-year-old Dulux-painted house and your hand comes away white, because the chalking material there is fine and clings to your hand. Touch a two-year-old house painted with oil paint and your hand brings away little material because, even though the surface is wearing away rapidly, the chalk is coarse and does not have the hiding power and clinging properties of the Dulux chalk. It is simply the difference between putting your hand into a flour barrel and into a sugar bowl.

After two or three years on a house, an oil paint usually begins to form an alligator hide of fine checking, and the paint then either wears away rapidly to the wood or the check marks deepen into cracks and the paint flakes away. This is a serious type of failure because such a surface is difficult to repaint. Dulux is resistant to checking and cracking. It wears away slowly and leaves an excellent surface for repainting. Five-year tests indicate that it will last fifty per cent longer than oil paints. In many cases it has lasted twice as long as orthodox paints.

In the case of green trim finishes, this greater durability is accompanied by better color retention. Mold and fungus find it hard to secure a foothold on the smooth, hard surface to blacken it. Instead of the pigment having to protect the vehicle, the Dulux oil actually protects the pigment, and the Trim and Trellis Green holds its color for unusually long periods.

Dulux, although remarkably durable, cannot be expected to give satisfactory results unless proper precautions are taken in its application. Even the most durable finish will fail quickly if applied to an improperly prepared surface.

Dulux White and Trim and Trellis Green can be applied by any skilled painter by brush or spray. They may be used over any surface that is considered in good condition for painting with ordinary paints. However, any good finish must have a good foundation. No matter how durable the finish, it cannot adhere to unseasoned or poor lumber, or in places where there is moisture behind the film. If the old paint is flaking and peeling, it will carry off with it any new coating applied. If the paint on your house has failed by blistering or by peeling, it is probable that any new finish will also fail in the same manner. You must look for the cause of the trouble somewhere besides in the paint. Improper construction, poor flashing, bad lumber or improper earlier paintings may be the cause. Dulux is not the cure-all for these conditions. Improper construction should be corrected, and old flaking paint should be burned off. But if your house is built properly and is in condition for painting, and if you intend to have the work done by skilled and conscientious workmen, then Dulux White and Trim and Trellis Green offer you a chance to have the outstanding house in the neighborhood and at the same time to save by lengthening the time between repaintings.

DO YOU PLAY CONTRACT?

Contract bridge and Culbertson —the names are synonymous.

According to the latest estimates, there are about 10,000,000 bridge enthusiasts in this country, and contract is daily broadening its appeal. This diversion is so intensely interesting that every minute which can be conserved lends more fascination to the game.

The old-fashioned method of scoring, wherein the tally was figured, first by ascertaining what were the rewards and penalties and then computing them on paper for final entry on the score sheet, unduly held up the next deal and detracted from the fullest enjoyment of the game.

Foreseeing the need for avoiding this annoying loss of time, Jacques A. Salz, in collaboration with Ely Culbertson, has introduced the automatic computing pencil illustrated here. It is an invaluable aid to every contract bridge player, because it eliminates errors, avoids disputes, and saves time in scoring.

There is nothing to get out of order, since the mechanism is durably constructed, and its operations are reliable and accurate. It is a simple but ingenious invention. By merely turning the movable barrel until the desired number of over tricks or under tricks is shown in the center column marked "Tricks," the answer instantly appears. Totals are shown for vulnerable, not vulnerable, doubled, not doubled, or redoubled, as the case may be. Under tricks are indicated in red; over tricks, in black.

This pencil can be used for contract bridge and for any other purpose. It propels, repels and expels the lead; has an eraser and a chamber for reserve lead. Except for the findings and inner mechanism, it is made entirely of Du Pont Pyralin, a beautiful, lustrous, durable material.

The Culbertson Scoring Pencil has aroused considerable interest since its introduction, and the manufacturers anticipate acceptance from every player of contract bridge.

A postal card or letter direct to the Salz Brothers, Inc., 102 West 101st Street, New York City, will promptly bring further information and prices to those interested.