

The
DUTCH BOY PAINTER
MAGAZINE

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Containing the Four Numbers Issued in

1943



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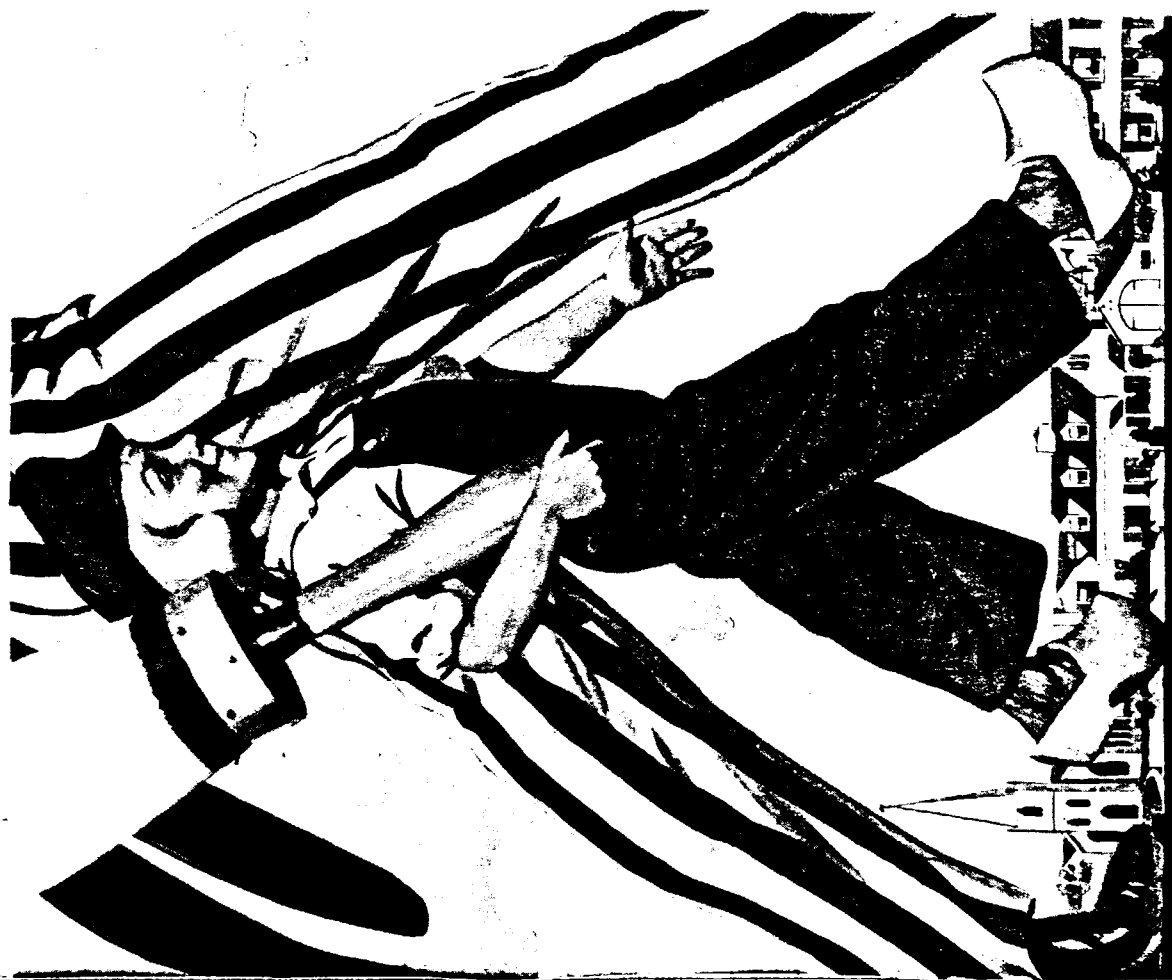
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DUTCH BOY PAINTER

MAGAZINE

Vol.36 No.1 1943



0000-NLI-000019894

All Set

**A skilled hand, a good brush
and a bucket of DUTCH BOY**

... here's a combination that forecasts a good paint job.

But what type of job? Is it painting new outside wood... or brick... or stucco... or concrete? Is it finish-coating a repaint job? Or doing flat or eggshell work on interior plaster or wall-board? It could be any one of these types of jobs.

Dutch Boy White Lead, as most experienced painters know, is an all-purpose material. With a few accessory oils and thinners, Dutch Boy opens up a range of possibilities about as wide as the scope of the painting craft itself.

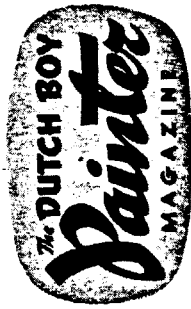
That's an advantage not to be overlooked these days, particularly when costs are considered—gallon for gallon, square for square, job for job.



**Standardize on DUTCH BOY and let your
paint-mixing "savvy" pay you some real dividends**



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New York, N. Y.



VOLUME 36 NUMBER 1, 1943

WARTIME MAINTENANCE OF PAINTED WALLS

As a wartime conservation measure, many home owners, when having their rooms done over this spring, undoubtedly will want a job that will last well beyond the normal peacetime maintenance period. And they will welcome a job that can easily be restored to its original fresh, neat appearance merely by a thorough washing with materials usually at hand.

War conditions, as we all know, have forced changes in the formulation of numerous paints and have been responsible also for the introduction of new coatings and the revival of old. But, war conditions or no, there is at least one paint that has been "through the mill", that has proved its mettle and, very important right now, that is available everywhere. That paint is one mixed by the painter—Dutch Boy White Lead and Lead Mixing Oil.

For wartime painting, when the job may have to last for the duration, when adaptability, washability, continued good appearance and long-run economy are not only important but downright essential, white lead-lead Mixing Oil paint will be the choice of many painters. It is not a "cheap" paint—it costs more per gallon than

some wall paints. But room for room, year for year and "looks" for "looks", white lead-lead Mixing Oil paint can talk price with any wall paint.

When it comes to mixing and using this paint any painter who has mixed and spread lead and linseed oil outside paint will feel right at home. For most repainting purposes, the paint is mixed on the basis of equal volumes of Dutch Boy white lead and Lead Mixing Oil. That is to say, for a job requiring about three gallons of paint, 50 lbs. of white lead should be mixed with 1½ gals. of Lead Mixing Oil. If the paint is to be tinted, Dutch Boy Colors in Oil may be added.

For walls that have never been painted or that have been stripped of wall paper or washed free of calcimine-type coatings, use Dutch Boy Wall Primer on the bare plaster before applying the white lead-lead Mixing Oil paint. If the Primer is not available, one can be mixed on the basis of 50 lbs. Dutch Boy white lead and two gals. Lead Mixing Oil.

Plaster walls and ceilings, like any other surface, must be properly prepared before painting. Cracks and nail holes should be repaired and dust and

grease cleaned off completely. No paint can be expected to bridge and hide wide cracks and deep holes nor can it get a grip on dirt or grease or on old cracking and scaling paint. New plaster, or old walls that may still contain "live" alkali, should be given a wash coat of zinc sulphate solution (two lbs. of zinc sulphate to the gallon of water) before painting.

With all surfaces in proper condition—properly patched, clean, dry and smooth—the plaster can be given its priming coat, or its first paint coat if it is a repaint job. Succeeding coats

In washing a painted wall one man applies the cleaning solution, using a calcimine brush, while his partner follows with a wet sponge, cleaning off the dirt loosened by the solution.



are applied when the previous coat is dry and hard.

STARCHING

To suggest starching a white lead-Lead Mixing Oil job may seem to some like suggesting wearing a belt with suspenders—the paint itself is washable so why make it more so? For one thing, starching makes a wall easier to wash because the dust and grime collects on the starch coat, not on the paint film. For another, starching gives a uniform, flat appearance even to a wall or ceiling that may not have been painted as carefully as it should have been.

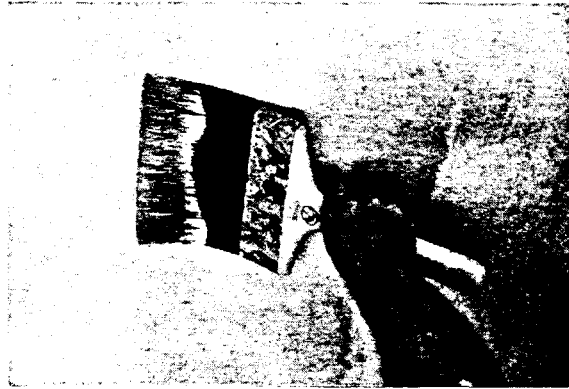
The practice of starching painted walls is one of long standing and is

the lady of the house has satisfied her natural desire to put the furniture back in place in the room.

Another thing to avoid is the building up of an appreciable sheen on the paint coat that is to receive the starch. A starch coat that is applied to a glossy surface is apt to run and, when it does, the drop that forms at the end of the run is likely to turn to a rust-red color. If, by some mischance, a glossy surface has to be starched, wiping the paint down with a cloth dampened with vinegar, prior to starching, will cut the gloss.

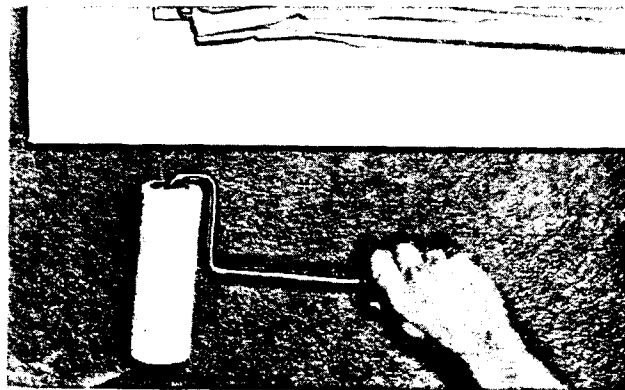
To mix the starch coating, first dissolve a pound of ordinary laundry starch (not cornstarch) in as little lukewarm water as possible, in order to more easily beat up the lumps and form a thick, uniform paste. Add about one ounce of powdered alum, then pour boiling water into the solution until it thickens to jelly and becomes clear. Reduce to brushing consistency with cold water. If lumps are present, strain the mixture.

The starch should be applied to the wall or ceiling with a clean four or five inch wall brush or a calcimine brush. Brush it on methodically, yard by yard, as the coating is difficult to see, and stipple each yard as it is applied. Some painters find it easier to observe the progress of the starching by beginning the application near a window or some other light source. For the stippling a regular wall stip-



Any old brush will not do for brushing on the starch coat; it must be good to lay off an even film. The calcimine brush, Dutch brush, or the wide wall paint brush in good shape—all serve well.

used as a matter of course by many painters. There are some precautions to keep in mind. If the starch coat is applied before the paint is hard and dry, there is a chance that the starch, especially if it is applied too warm and too thick, will, upon drying, shrink enough to pull the paint off in spots. Obviously there isn't sufficient time on most jobs to allow several days for the paint to dry before starching but it is best to wait as long as possible. Since starching is not a messy or smelly job, it can often be done after



For stippling the starch coat on walls a roller stippler is often used. The handle is long enough to reach most home room wall tops. For the narrow spaces between casings there is available a roller only 3 inches wide.

pling brush may be used or, what is much faster, a new roller stippler which is simply a carpet-covered roller attached at right angles to a handle.

If neither a wall stippling brush nor a roller stippler is available, the starch coat may be stippled with a sponge or even with a wadded-up coarse-textured bath towel. The important point is to stipple, by some means, in order to eliminate the brush marks and to distribute the starch uniformly,

especially thick starch, as there is a tendency for thick ridges to change color when dry.

WASHING

The most effective washing materials and methods are rather generally known, yet they are not universally used. Washing is, of course, much easier on starched surfaces, as has been pointed out. But even here a poor washing job can mar the appearance of the paint finish if streaks and runs remain as evidence of slap-dash methods.

There are a number of washing powders or preparations on the market that are efficient, convenient and economical. Some painters, however, like to use shop or job mixed cleaners. One such cleaner that is widely used consists of flour paste and trisodium phosphate dissolved in warm water.

The flour paste keeps the solution wet longer on the walls and makes application with a brush less likely to result in spatters and drips as is the case without it. The trisodium phosphate (commonly termed "TSP" in the trade) is an excellent dirt solvent and mild bleach. It makes no suds, like soap, but cleans well because it emulsifies oil and grease-bound dirt, breaking them down so that a clean water rinse with a sponge removes them.

The flour paste-TSP cleaner is prepared by first dissolving two to four tablespoonfuls of TSP in about 2 gallons of warm water and adding

to this solution about a pint of flour paste. This paste is made by wetting a cupful of flour with cold water, beating thoroughly to break up lumps, then pouring on boiling water to thin the paste and, finally, allowing the mixture to cool before adding it to the TSP solution.

Apply the cleaner with any wide, clean brush to only about a square yard of surface at a time. Sponge off immediately with clean, warm water. Change the water as often as it becomes too dirty and rinse out the sponge after every wiping. The new synthetic sponges, in the large sizes—4½" x 6" x 1", at least—are just as effective as any of the natural sponges and they cost considerably less. Small sizes, of either type sponge, shouldn't be used for this work because they don't hold enough water and are a nuisance to handle.

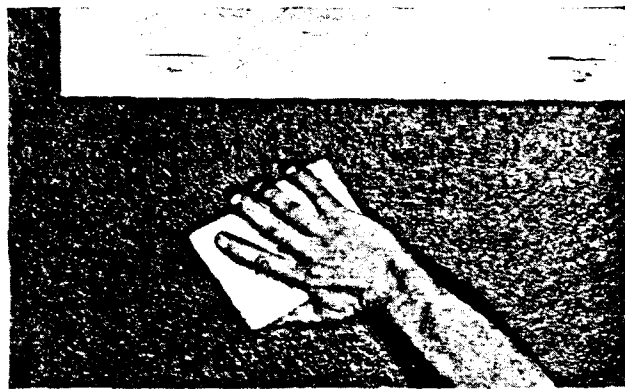
Unusually dirty walls, such as may often be found in kitchens and bath rooms and sometimes where there is oil heating, may require more than the usual once-over treatment. Or they may need a stronger cleaning solution than the one suggested. The painter can tell, of course, whether his solution is really "getting the dirt" and if it isn't, he can readily give it a little more potency by adding extra trisodium phosphate. He must not, however, get the cleaner too strong as it might attack the paint coating itself.

Finally, as to working procedure, the washing should start in a corner of

the room, at the bottom of the wall. If the upper portions are washed first, the cleaning solution is bound to drip or run down on the lower, uncleaned area, leaving light streaks that are practically impossible to remove.

So, the lower portion of the wall should be cleaned first, then the upper portion, then the ceiling and finally the woodwork.

Washing painted walls doesn't necessarily require a natural sponge, so difficult to get now at a moderate price. The new synthetic sponges are just as effective and durable at a far lower cost. A popular size is about four inches wide by six inches long by one inch thick.



BETTER PAINT WITH LESS OIL

TO describe the special part that linseed oil has always played in paint, someone in the dim and distant past remarked "Linseed oil is the lifeblood of paint." In the sense that it is the oil that is the "live" element in a paint coating and that when this vehicle loses its binding power the paint film "perishes," the statement is of course true. It doesn't necessarily follow, however, that because linseed oil is the "lifeblood" of paint, the more oil that is used, the longer will be the paint's life. Nor does it follow that the less oil used the shorter the paint's life. As with nearly everything, enough is enough.

Because of the diversified nature of the surfaces, exposure conditions, and other controlling factors with which his craft must deal, the painter finds it a practical impossibility to set up and adhere to a rigid pigment-vehicle ratio. In one case he may need a heavily pigmented paint, in another a lighter weight paint. His experience and his judgment guide him in his formulation of a particular coating for a particular purpose. Where there is any leeway—and this is no criticism of the craft, because the reasons for it are entirely understandable—the painter usually is inclined to add more oil than is actually necessary. It makes more paint and it goes on easier.

On the other hand, there are good and sufficient—and we think, better—reasons for using *less* oil in most cases where the painter may wish to add

more oil. Three important reasons are:

Better hiding power. It is obvious that since the pigment does the hiding, the less it is dispersed with a nearly-transparent vehicle, the better the coat will hide. Also, the denser the grouping of the pigment particles, the more solid and substantial the film will be.

Less dirt collection. A newly applied exterior paint acts like sticky flypaper to all dust and dirt particles with which it comes in contact. The longer the time the paint takes to set up and dry, the greater the opportunity offered for discoloration. A paint lean in oil takes less time to dry and dries harder than one rich in oil.

Longer-lasting good appearance. Because there has been less dirt collected by the paint film during its early stages, there is less dirt to be "shed" as the normal slow erosion, or "chalking", occurs over the years. Thus the job maintains a cleaner appearance.

It is significant that while painters are often cautioned to use less oil, almost never are they advised to use more oil. The answer, of course, is that it is easier to use more rather than less. But, as the following article points out, we've reached a time when linseed oil is less plentiful (while white lead is still in good supply) and it is necessary to make the available supply of oil go into as many gallons of paint as possible. This end can be achieved—with no impairment of the service paint must render, and without jeopardizing the painter's reputation.

NATIONAL BUREAU OF STANDARDS Gives Recommendations for Mixing WHITE LEAD PAINT with LESS LINSEED OIL

WHILE wartime conditions have not greatly affected the supply of a number of staple paint commodities, other basic paint materials are in none too secure positions, so far as visible and certain future supplies are concerned. Linseed oil is now in this category.

Because other paint oils such as China wood (tung) oil and perilla oil have practically ceased coming into our markets, linseed oil has had to take their place, particularly in coatings that are produced for military materials. Service in this new wartime field demonstrates the versatility of linseed oil but it also makes this vital vehicle "short" for normal purposes.

Moreover, there is less flaxseed available for making linseed oil in this country because of the greatly reduced import tonnage. Of the 31,554,000 bushels of seed crushed in the United States in 1940, more than 11,000,000 bushels were imported. Due to the scarcity of ships, current imports of flaxseed are negligible.

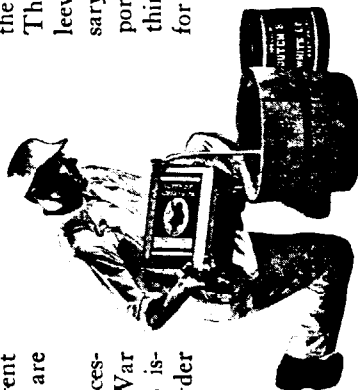
It thus became necessary recently for the War Production Board to issue Conservation Order No. M-71, to curtail the use of dry-

ing oils. This Order restricts the amount of drying oils that can be used in the paint industry, for other than military purposes, to 70 per cent of the average for 1940-1941. Paint manufacturers are reformulating their products accordingly.

To supplement the WPB Conservation Order mentioned above, the National Bureau of Standards, Washington, D. C., has issued a circular, also approved by the War Production Board, on the "Conservation of Linseed Oil in Paint". This circular suggests ways in which painting contractors can conserve this most important paint vehicle. Because considerable linseed oil is used by painters, the Bureau recommends the adoption, for the duration, of the "reduced-oil" formulas for mixing white lead exterior paint which appear on the next page.

It should be understood that the formulas given are, like all general recommendations, applicable to the average run of jobs.

The painter still has such leeway as may be necessary in adjusting the proportions of vehicle and thinner for paint intended for unusually absorbent or for exceptionally hard surfaces.



REPAINTING EXTERIOR WOOD

FIRST COAT

100 lbs. white lead
1 1/4 gals. raw linseed oil
2 gals. turpentine or mineral spirits
1 pint liquid drier

SECOND COAT

100 lbs. white lead
2 gals. raw linseed oil
5/8 gal. turpentine or mineral spirits
1 pint liquid drier

PAINTING NEW EXTERIOR WOOD

(Three-Coat Job) PRIMING COAT

100 lbs. white lead
2 1/2 gals. raw linseed oil
2 1/4 gals. turpentine or mineral spirits
1 pint liquid drier

SECOND COAT

100 lbs. white lead
1 gal. raw linseed oil
1 3/4 gals. turpentine or mineral spirits
1 pint liquid drier

THIRD COAT

100 lbs. white lead
2 gals. raw linseed oil
5/8 gal. turpentine or mineral spirits
1 pint liquid drier

PAINTING NEW EXTERIOR WOOD

(Two-Coat Job) FIRST COAT

100 lbs. white lead
1 gal. raw linseed oil
1/2 gal. turpentine or mineral spirits
3/4 gal. spar varnish
1 pint liquid drier

SECOND COAT

100 lbs. white lead
2 gals. raw linseed oil
5/8 gal. turpentine or mineral spirits
1 pint liquid drier

(If boiled linseed oil is used in any formula,
instead of raw, omit drier.)

The white lead specified in these formulas is soft paste—if heavy paste is used, add an additional quart of turpentine or mineral spirits.

Based on the normal consumption of linseed oil by the painting trade in the mixing of white lead paint, it seems evident that the adoption of the wartime formulas will result in conserving 30% of the linseed oil which might otherwise be required.

It is interesting, and pertinent to the present subject, to recall that during World War I there was a shortage of linseed oil brought about largely by the same lack of shipping space (for imported flaxseed) which is chiefly responsible for the current shortage. However, the result of the scarcity of oil 25 years ago was skyrocketing prices, up to about \$3.00 per gallon. And the result of those high prices was the introduction into the paint vehicle field of a flood of substitutes—"war oils", "linseed oil compounds" and other mostly worthless "dopes"—with the further result a large number of bad paint jobs and ruined reputations.

The problem this time is being tackled much more realistically by conservation measures. And if the painting industry gives the cooperation of which it is capable, as it undoubtedly will, there will be little incentive for the introduction by unscrupulous persons of worthless liquids masquerading as oil substitutes—there just won't be any market for them if the genuine oil we have is fairly priced, properly distributed and conservatively used.



It's everybody's duty —and Your BUSINESS— to MAKE THINGS LAST

WARTIME is no time to let the home front go to pot. The things we own must be made to last. Practically all construction materials that need weather protection are scarce and getting scarcer. No one, least of all the men-in-government, is advocating the abandonment of the home front to the elements for the duration. Indeed, the government suggests that property maintenance be vigorously continued, not at the expense of the war effort, but to promote it.

A case in point is the fostering by the Department of Agriculture of a conservation movement which includes a campaign to keep farm equipment from rusting into a state of uselessness by prompt and proper painting. The FHA recommends that houses be properly kept up to prevent weather damage and the subsequent need of expensive repairs.

The makers of Dutch Boy Products believe that just as there is a real need for making things last, so too, is there a real need to remind the public of that fact. It is patriotic to protect existing property with paint. So Dutch Boy advertising asks American home owners to "Be Paintriotic". And the

advertisements also remind the public that Dutch Boy white lead paint is "First choice for making things Last".

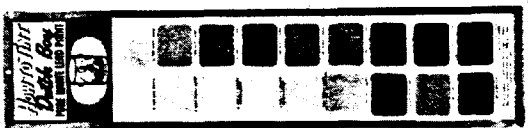
To tell the story of conservation-with-paint, the Dutch Boy campaign will include advertisements in the Saturday Evening Post, Collier's, American Home, and Better Homes and Gardens, in the general magazine field. It will include advertisements in The Country Gentleman, Farm Journal, and Hoard's Dairyman in the agricultural field. It will include advertisements in Architectural Forum in the building field. And it will reach the paint and painting field via the American Paint Journal, Paint Industry Magazine, the Oil, Paint & Drug Reporter, the Paint, Oil & Chemical Review, the American Painter & Oil Dealer, the American Painter & Decorator, the National Painters Magazine, and the Painter & Decorator.

As the illustrations on the following pages indicate, distributors are offering various features that allow local tie-ins with the national campaign. The dealer and painter items take the form of window displays, counter cards, door-or-window pasters, fold-

BE PAINTRIOTIC

Pass
the word

— HERE'S THE AMMUNITION —



COLOR CHART



WET PAINT SIGN



HANDS ON PAINTING



PAINT FOLDER



DODGE



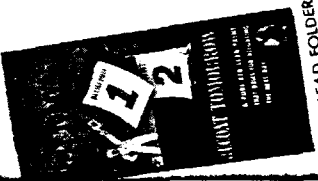
PAINT DISPLAY



COLOR PACK



PAINT WINDOW STICKER



RED LEAD FOLDER



PRODUCTS BOOKLET



ADVERTISEMENTS

in LEADING GENERAL and TRADE MAGAZINES



COLOR-IN-OIL FOLIO



PASTE BOOKLET



PASTE DISPLAY



PASTE



PASTE WINDOW STICKER



COUNTER CARD

ers, color charts, color cards, booklets, blotters, "dodgers," wet paint signs, etc. Then, too, there are up-to-the-minute new editions of those long-time painter's pocket pals—the Hand-book on Painting and the Painter's Color Pack.

All of the above features are designed to do a necessary job—yes, a patriotic job—by stressing the importance of paint on the home front. And pointing out that the way to get a job

NATIONAL LEAD COMPANY

111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 1376 River Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Philadelphia.

HELP WITH YOUR TAX PROBLEMS

ALL employing contracting painters should by this time, be fully informed regarding the employer's duties under the Victory Tax provisions of the Revenue Act of 1942. If there are any employing painters not so informed, they should write immediately to the Collector of Internal Revenue for their district and ask for a copy of Circular VT.

The law requires employers, which of course includes painting contractors, to keep a record of the amounts deducted from employees' wages for the Victory Tax, the dates thereof, and the dates and amounts of the employer's transmittal of these taxes to the Collector of Internal Revenue.

Users of the Dutch Boy Business Record Outfit can readily record the

that will last is to insist on a lasting paint—Dutch Boy white lead.

While the variety of these Dutch Boy features is wide the supply of each item is necessarily limited. If you wish to identify your store or your contracting business with the "Be Patriotic" campaign by judicious use of the features available to you, mail your request to the office of National Lead Company located nearest you. Here are the addresses:

At the end of the quarter, when it is necessary to forward to the Collector of Internal Revenue the tax money you have withheld from employees, you make an entry, for the amount of money sent, in "Cash" column 2 and, at the same time, make appropriate entries for the F.O.A.B. Tax and the Victory Tax, separately, in "General Assets—Debit" column 14. Obviously these entries in column 14 will balance those made previously in column 15 when the taxes were withheld from your employee's wages.

As a further aid to the painting contractor in keeping his tax records systematically, we are making available a new type of Record Card (see cut below) which sells at two cents per copy, postpaid. These new cards, called "Wage-Tax Cards", have space for recording days and hours worked

both types, send your remittance—2 cents per card—to National Lead Co., Room 1815, 111 Broadway, New York, N. Y. Remember, state clearly in your order whether you want the "Employee's Wage Record Card" or the new "Wage-Tax Card".

NAME *Dutch Boy* YEAR *1943* CLOCK NO. _____ STATE NO. _____

PERIOD ENDING DATE	WEEKLY PAY	WORKED DAYS	TOTAL EARNINGS	DEDUCTIONS		TOTAL EARNINGS	WORKED DAYS	TOTAL EARNINGS	DEDUCTIONS	
				F.O.A.B.	VICTORY TAX				F.O.A.B.	VICTORY TAX
1/6	5.40		45.00			45.00		45.00		
1/13	5.40		45.00			45.00		45.00		
1/20	5.40		45.00			45.00		45.00		
1/27	5.40		45.00			45.00		45.00		
2/3	5.40		45.00			45.00		45.00		
2/10	5.40		45.00			45.00		45.00		
2/17	5.40		45.00			45.00		45.00		
2/24	5.40		45.00			45.00		45.00		
3/2	5.40		45.00			45.00		45.00		
3/9	5.40		45.00			45.00		45.00		
3/16	5.40		45.00			45.00		45.00		
3/23	5.40		45.00			45.00		45.00		
3/30	5.40		45.00			45.00		45.00		
4/6	5.40		45.00			45.00		45.00		
4/13	5.40		45.00			45.00		45.00		
4/20	5.40		45.00			45.00		45.00		
4/27	5.40		45.00			45.00		45.00		
5/4	5.40		45.00			45.00		45.00		
5/11	5.40		45.00			45.00		45.00		
5/18	5.40		45.00			45.00		45.00		
5/25	5.40		45.00			45.00		45.00		
6/1	5.40		45.00			45.00		45.00		
6/8	5.40		45.00			45.00		45.00		
6/15	5.40		45.00			45.00		45.00		
6/22	5.40		45.00			45.00		45.00		
6/29	5.40		45.00			45.00		45.00		
7/6	5.40		45.00			45.00		45.00		
7/13	5.40		45.00			45.00		45.00		
7/20	5.40		45.00			45.00		45.00		
7/27	5.40		45.00			45.00		45.00		
8/3	5.40		45.00			45.00		45.00		
8/10	5.40		45.00			45.00		45.00		
8/17	5.40		45.00			45.00		45.00		
8/24	5.40		45.00			45.00		45.00		
8/31	5.40		45.00			45.00		45.00		
9/7	5.40		45.00			45.00		45.00		
9/14	5.40		45.00			45.00		45.00		
9/21	5.40		45.00			45.00		45.00		
9/28	5.40		45.00			45.00		45.00		
10/5	5.40		45.00			45.00		45.00		
10/12	5.40		45.00			45.00		45.00		
10/19	5.40		45.00			45.00		45.00		
10/26	5.40		45.00			45.00		45.00		
11/2	5.40		45.00			45.00		45.00		
11/9	5.40		45.00			45.00		45.00		
11/16	5.40		45.00			45.00		45.00		
11/23	5.40		45.00			45.00		45.00		
11/30	5.40		45.00			45.00		45.00		
12/7	5.40		45.00			45.00		45.00		
12/14	5.40		45.00			45.00		45.00		
12/21	5.40		45.00			45.00		45.00		
12/28	5.40		45.00			45.00		45.00		
TOTAL			540.00			540.00		540.00		

FORM 10—DESIGNED BY ROBERT ROY CO., INC.

THE ARMY TRAINS ITS PAINTERS AT CAMP LEE

THE brush is practically on a par with the rifle at the Quartermaster Corps Painting School, Camp Lee, Virginia, although we don't suppose the soldier-painter trainees go into action at any such command as "Ready! Dip! Commence Painting!" The fact is, however, that the paint brush is mightier than the rifle for certain military purposes and Camp Lee trains men to use the brush most effectively.

Painters are necessary in the Army, as they are in civilian life, to keep equipment from deteriorating, to protect property from weather damage, to paint signs and posters, and do other jobs with the tools of the trade. In the Quartermaster Replacement

Training Center at Camp Lee, painting specialists are trained for duty in camps, posts and stations throughout the country, and for service in the field. The Painting School is a part of the Supply Training Section directed by Colonel John V. Rowan under the command of Brigadier General Guy I. Rowe. Head of the school is Lieutenant George H. Wolford, who is assisted by a staff of experienced non-commissioned officers, including Master Sergeant Edward Perkowski, formerly with the Kramer Decorating Co. of Cleveland, Staff Sergeant Edward Dadulak, formerly with the sign painting firm of Murray & Reynolds of Hackensack, N. J., Staff Sergeant Emil Wilberding, formerly with Hansen Glass & Paint Co. of Sioux City, Ia., Sergeant Paul Szabady, who was an independent artist in Chicago, and Corporal Arthur Niebauer, who was in the decorating field in Cincinnati.

The soldiers assigned to the Painting School are selected on the basis of experience and ability, after comprehensive tests and interviews by the Army's Classification and Assignment Section. Most of the men selected

The trainee shown here, a student at the painting school at the Quartermaster Replacement Training Center, Camp Lee, Va., is advanced enough in his class to warrant practical training. His task is to paint the exterior of a barracks building, and he wields that brush like a veteran.

U. S. ARMY PHOTOS



Army painters must know their "stuff" in soldiering as well as in wielding a brush. These soldier-painters are going through their military basic training at the Quartermaster Replacement Training Center, Camp Lee, Va. Equipped with rifle and gas mask they will be prepared for any emergency in camp or field.

have, of course, previously been active in some phase of the painting craft in civilian life. Not all painters who enter the Army, however, are assigned to this school because the Classification and Assignment Section may decide that a man's aptitude and talents qualify him for service in some other branch of the Army where he can be used to better advantage.

Before beginning their technical training, soldier-painters at Camp Lee undergo a period of rigorous basic military training. They are given the regular military drills, are taught how to handle a rifle, roll a pack, pitch a tent, etc. They take day-long hikes with full field equipment, make overnight bivouacs in pup tents and

get frequent workouts over the tough Obstacle Course.

Following their basic military training, the soldier-painters begin their period of intensive technical training. And no matter how much a man may have known about paints and painting before he "joined up," he begins at rock bottom, with the fundamentals.

Instruction includes the study of brushes, how to take care of them and how to use them. Strangely enough, it has been found that some men who have worked as civilian painters for years, learn for the first time here at Camp Lee, the correct method of handling a brush.

The possibilities and potentialities of white lead are, of course, thorough-

Dutch Boy Painter

ly discussed and demonstrated to the soldier-painters. They are instructed in the mixing of white lead paint and in tinting and matching various colors. Much emphasis is placed upon the economy angle, the men being taught that paint must not be wasted and that as much surface as possible should be properly coated with a minimum of material. They're taught that everything wasted is an aid to the Axis.

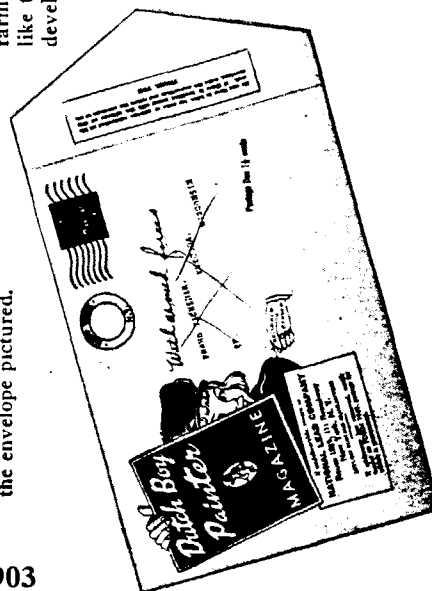
One important phase of the training at Camp Lee is the sign painting instruction. The men spend many hours perfecting their lettering before being assigned the job of turning out the numerous signs needed at the camp—street labels, traffic warning signals, regulating signs, desk signs, training aid posters, truck signs, etc. Many offices in the camp have been painted

by the trainees, as well as the rows of buildings used by the Baking School. When the soldier-painters at Camp Lee have finished their courses, they may be assigned to various U. S. camps, posts or stations or may be sent to join units in combat zones. Many painters are needed in Quartermaster bases and depots in theatres of operations behind the front lines.

Camp Lee's Painting School graduates are firm believers in the adage, "Save the surface and you save all". When they have helped to put the finishing touches on the Axis and have taken off their Army O.D.'s and stepped into their old familiar "whites", these soldier-painters will find that, while serving their Country, they have also become better fitted to serve their own communities.

NOTICE TO READERS NOW "ABSENT ON LEAVE"

Among the copies of this magazine returned by the Post Office as "Undeliverable", we find an increasing number with the notation "With armed forces" . . . like the envelope pictured.



We have no wish to discontinue sending "The Dutch Boy Painter" to any regular reader who has joined the armed forces or who is working in a war plant or on a farm raising wartime food. We would like to continue to keep him in touch with developments in the painting field. We suggest that, in these cases of temporary separation from their regular occupation, the "home folks" forward the magazine to the absent painter or send us his present address. That address is all-important because, unless we have it, the Post Office will return the magazine to us and we will have no choice but to remove the name from our list.

WHAT'S YOUR PROBLEM?



National Lead Company's staff of practical paint men will help you solve your painting problems without charge. Address your letter to National Lead Co., Room 1815, 111 Broadway, New York, N. Y. Please state your problem fully and be sure to place your name and address on your letter. Our reply will reach you promptly by mail. The problems discussed below have been selected because they appear to be of general interest. Space limitations permit the printing of only a few of the problems handled.

Painting Concrete Garage Floor

Question: One of my customers is converting his commercial garage to other purposes. He wants the concrete floor fixed up and painted. Naturally there is a lot of grease on the floor. How can I clean up the spots so they won't bother the paint job?

Answer: It may be difficult to remove the grease and oil spots but they must be eliminated if the paint is to stay put. A method often used calls for the use of a fairly strong sal soda solution which is washed freely over the concrete surface and then scrubbing in briskly with scrubbing brushes, hand or power-driven. After the scrubbing, the floor is rinsed well with clean water, mopped up and allowed plenty of time to dry out thoroughly.

If oil spots still show up, the above treatment is repeated. This should get rid of the remaining spots. Following this second drying out, give the floor a liberal soaking with a mixture consisting of equal parts of vinegar and water. Then give the concrete time to dry out thoroughly, after which it can be painted in the regular manner.

Priming Window Frames and Casings Before Plastering

Question: A customer of mine recently built an addition to his house and has suggested that I prime in the window frames and casings before the plastering is done. He thinks this will keep the moisture from the drying plaster out of the wood and give him a better job. Do you think this is a good thing to do?

Answer: Almost without exception, interior window casings are not set until the plastering is done. Otherwise there would be only bare lath back of the casings. However, there may be some special consideration in the job you mention or, perhaps, you apply the term "casing" to what is generally called the frame.

At any rate, "pre-priming" the interior sash and frames is a good idea if the owner finds it impossible or impractical to allow plenty of time for the plaster to dry out, as is the usual practice, before the painters go into action. Of course, if you work ahead of the plasterers, you'll have to clean off promptly such stray gobs of plaster

Dutch Boy Painter

as land on the frames, sills and casings. Even the most careful of plasterers will get some of their material where it doesn't belong, especially in making the joint where wall meets woodwork, and if the live plaster is allowed to dry on the new priming coat it will "burn out" the oil and invite discoloration of succeeding paint coats.

Modified Silver Gray on Knotty Pine

Question: I have a knotty pine interior to finish but not in the usual way. The owner wants a slightly whitened or bleached-out effect. Can you suggest a way to do this?

Answer: The finish your customer apparently wants is neither unusual nor is it any real problem. Painters often produce the effect by giving the woodwork a coat of silver gray "stain", then when this coat has set slightly, wiping off some of the paint.

The "stain" is mixed on the basis of 25 lbs. Dutch Boy white lead thinned with one gallon of Dutch Boy Lead Mixing Oil. This mix makes a little less than two gallons of "stain" which will cover about 700 square feet of surface per gallon. Brush this "stain" on the wood in the regular way, then a half hour or so after application, wipe the "stain" with a large wad of waste or burlap, working across the grain of the wood. This will remove some of the "stain" but will leave enough in the pores and grain of the wood to give a slightly

antique or frosty effect. To make sure that this is the finish your customer has in mind, however, better locate a few odd pieces of the knotty pine left from the job and give the customer a little demonstration before you finish the interior.

Finishing Juniper Woodwork

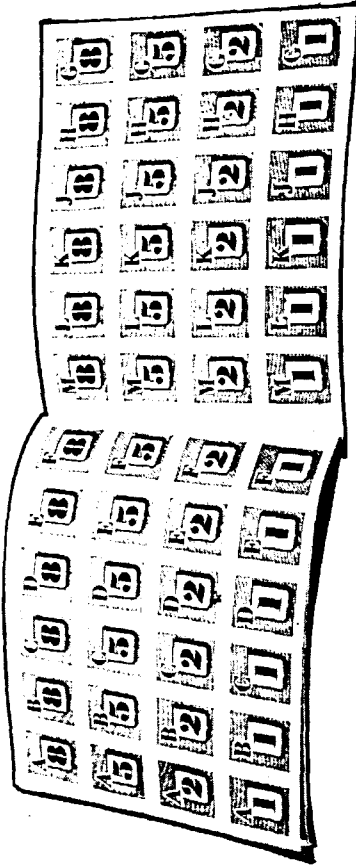
Question: What is the best method of finishing juniper woodwork in its natural color?

Answer: The procedure usually followed is to first apply a very thin coat of white shellac, rub this down carefully to remove the gloss, then apply a coat or two of wax. Waxing tends to least of all treatments to darken the woodwork. In some instances the wax is applied directly to the bare wood but this practice may prove to be bad if ever the owner wants to refinish the woodwork in some other manner. As you know, neither shellac nor varnish nor paint will properly adhere to a waxed surface. Before any of these coatings can be applied, the wax must be removed. If the wax is applied directly to the bare wood it will be difficult to take off, while if it is applied to the shellac coat, it can be readily removed.

Repainting a Metal Ceiling

Question: We are going to repaint the 60' x 80' embossed metal ceiling of our auditorium here and since there are several spots where the old paint is peeling off we

To folks at home this ration book's a reassuring sight—



We know our men get what they need to keep them fit-to-fight.



—Photos by Office of War Information

Dutch Boy Painter

think the safest thing to do is to remove all the old paint and start with a clean surface. Can you suggest the best method of getting a good, lasting job?

Answer: Removing the old paint by the usual torch-and-scrapers method is out of the question on an embossed ceiling. We suggest using a prepared slow-drying liquid or paste remover. Some of the soft, loosened paint can be stripped off with putty knives or scrapers, after the remover has done its work, and the remainder of the softened coating in the hard-to-get-at indentations of the metal can be scrubbed out with a stiff wire brush.

After all the old paint has been removed, wipe the metal surface with rags soaked in benzine or some other suitable solvent, being careful of fire and of making sure that the rags are properly disposed of after use.

Next give the ceiling a priming coat of Dutch Boy red lead paint, using the Semi Quick-Drying variety or a paint mixed from paste red lead, on the basis of 25 lbs. Dutch Boy red lead, one-half gallon Dutch Boy raw linseed oil, one-half pint turpentine and one-half pint Dutch Boy drier.

Brush this priming coat on carefully, being sure to coat both the depressions and raised areas equally well. When this coat is dry and hard, apply a second coat, using a white lead and Lead Mixing Oil paint mixed on the basis of 25 lbs. of Dutch Boy white lead and three-fourths of a gallon of Dutch Boy Lead Mixing Oil. This

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When the forces of Nature bring calamity upon the community, neighbor joins neighbor to help the victims and to restore order, cost what it may. And when evil men seek to force their will upon the world, the decent, freedom-loving citizenry

rises to fight off the challenge, cost what it may.

● Fighting, and win-

ning, this war is costing "blood, sweat and tears".

And it is costing money. The government raises the money by taxation and by the sale of bonds. The taxes *must* be paid—that is the law. The bonds *must* be bought—that is our duty, and privilege... because these bonds bear the government's pledge of repayment, with interest. ● Lend your government every dollar you can, now, when it will do our Country the most good. The money will be repaid later, when it will do you the most good. Keep this thought in mind:

"Some will give all... forever—

You are asked to lend... for a while".

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BUY MORE BONDS

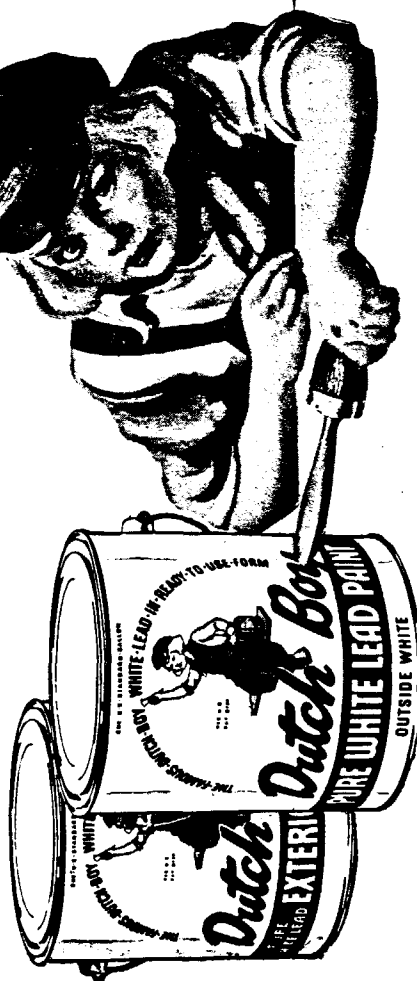
Sewer Gas Discoloration

Question: It has long been a question around here as to the cause of paint discoloring on some houses located near the outlet of one of the city's sewers. Is there any test that could be made to determine whether sewer gas is the cause?

Answer: Chemists tell us that common sewer gas contains an appreciable amount of hydrogen sulphide. This gas has a darkening effect on some paint films and has been known to cause considerable trouble. Where the concentration of the gas has been bad, local Boards of Health have stepped in to see that steps were taken by the proper authorities to reduce or eliminate the nuisance.

A simple test to tell whether hydrogen sulphide is causing the discoloration consists of applying a few drops of ordinary peroxide of hydrogen to the discolored paint surface. If this liquid restores the paint to its original color—without any rubbing—the trouble is due to sulphide gas.

Judged by the name alone

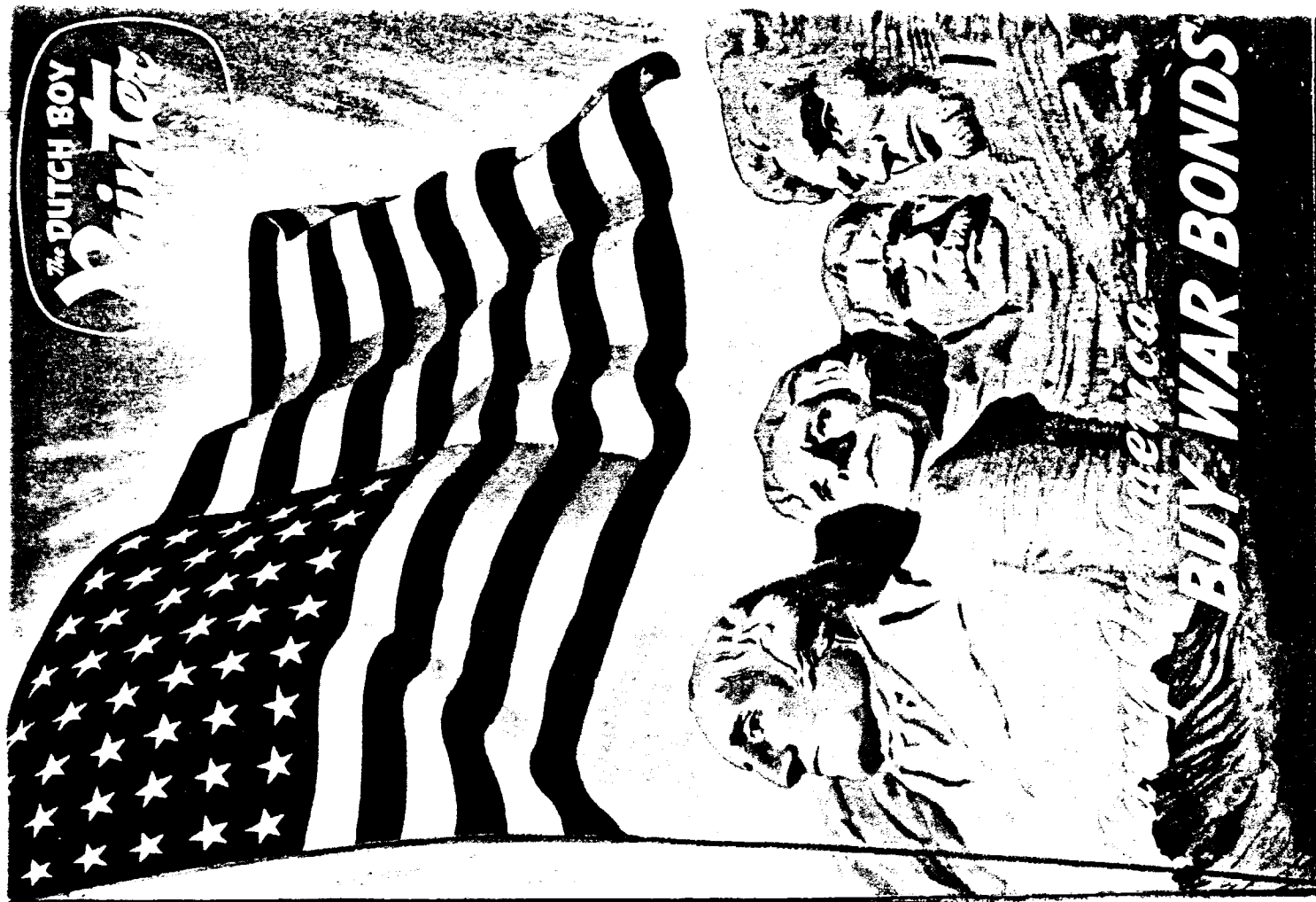


you'd expect this paint to be a top quality article. Dutch Boy Pure White Lead Paint certainly is that! But the words "top quality" don't tell the whole story—not by a pailful! To get *that* you'll have to make a date with a gallon and brush up a personal acquaintance.

Stroke out a brushful on an off-color piece of siding. Take note of the husky body, the spreading capacity, the hiding power and the dazzling whiteness. Some paint, eh?

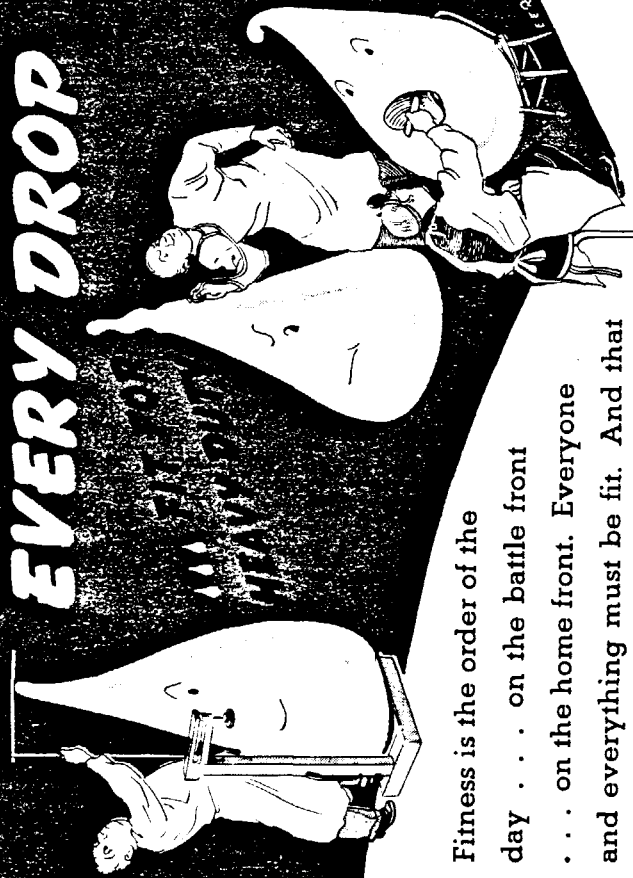
And that's only the beginning.

Here's a paint that not only acts good, looks good and feels good when you put it on—it *makes good* on the long haul. Because it's pure white lead through and through, Dutch Boy Paint stays on the job, doing the job it was designed to do—*make homes last*.



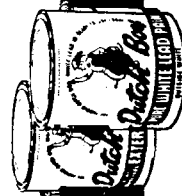
BUY WAR BONDS

EVERY DROP



Fitness is the order of the day . . . on the battle front . . . on the home front. Everyone and everything must be fit. And that includes paint. Because we must depend on paint to keep our homes fit — to make them last. Dutch Boy Pure White Lead Paint — both the Primer and the Outside White — is fit for heavy, wartime duty. It's a sturdy, lasting 1A paint, 100% white lead, ready-mixed, ready for action, ready to do a stand out, stand up job.

Dealers are featuring Dutch Boy White Lead Paint. Get Some!



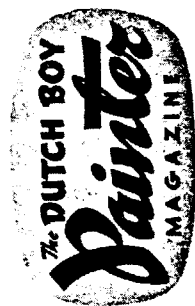
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VOLUME 36, NUMBER 2, 1943



MAKE THE METAL LAST . . . WITH RED LEAD

NO ONE knows how long the war will last. So no one knows how long the homes we own will have to last. Certain it is that so long as the war effort gets first call on the stuff our homes are made of, there will be practically no opportunity to replace wood and metal. Particularly metal.

World War II is largely a mechanized war, a war of machines. Machines are mostly metal. And the most-used metal is steel. With iron and steel so important to the winning of the war, almost none can be spared for ordinary civilian uses, none, certainly, to replace that which may be destroyed through rust-neglect.

Metal surfaces and objects on and around city and rural homes are more numerous than appears at first thought. Galvanized iron or so-called "tin roofs" are found on many buildings, if not as complete roofs, then as dormers and porch decks. Gutters, downspouts or leaders, and flashings over doors and windows are often of galvanized iron. Garage doors are sometimes of galvanized sheet. On the farm, grain storage sheds, building ventilators and windmills, for example, frequently are of all-metal construc-

tion, as is much farming machinery.

Contrary to the impression of some, galvanized iron is not permanently rust proof. So long as the coating applied by the galvanizing process remains continuous and unpunctured, rust can not get at the steel or iron itself. However, the galvanizing is done at the mill, on large sheets. When these factory-size sheets are cut into the various shapes and sizes required in actual use, raw, ungalvanized edges are exposed. On the job, these sheets and shapes may be trimmed, drilled for screws or rivets, deeply scratched or otherwise treated so that the original coating is no longer a complete protection. It doesn't take rust long to locate these weak spots.

As many painters have learned by experience, new galvanized iron is a tough proposition to paint—not that it needs overall paint for protection immediately it is exposed to the weather, but some owners insist on prompt painting for the sake of appearance. The new sheet is difficult to paint not only because of the characteristics of the galvanized coating but also because, during its erection or the fabrication of the roof, deck, gutter or



Here's how galvanized iron surfaces look after pre-treatment to etch and clean the metal. It should not be etched, however, with a wash strong enough completely to remove the zinc coating in places as indicated here.

may do it by using certain liquids which etch the metallic surface.

The pre-painting treatment should include removal of oil, grease, soldering flux and mud or cement splashes, and the etching treatment should roughen the sheet enough to assure good mechanical anchorage of the paint. Much depends, however, on the selection and control of the etching liquid. For example, muriatic (hydrochloric) acid brushed onto galvanized iron will etch the surface. However, it must be used as a dilute solution and even then it must not be allowed to remain on the surface too long or it will dissolve the galvanized coating down to the steel itself. When sufficient etching action has taken place, therefore, the surface should be well flushed off with water.

Many proprietary etching formulas are offered for treating new galvanized iron, and care should be exercised to use them strictly in accord with the manufacturers' directions.

Sandblasting is, of course, the most effective treatment for new galvanized sheet—it both cleans and etches the surface. Sandblasting equipment, however, is not generally available to most painting contractors.

Hot dip phosphate treatments of galvanized steel are very satisfactory but require factory equipment.

The most practical treatment, and perhaps the most economical, is the application of a liquid that will clean and etch in one operation. A comparatively simple mixture, and one that usually gives as good results as more



Gutters need the protection of red lead primer and at least two additional coats of paint inside and outside if they are to be saved for useful service for many years.

iron scrubbed or rubbed with a stiff wire brush before new paint is applied.

So much for large sheet metal areas. Other metal details about the structure—gutters, downspouts, leaders and flashings, for example—must be taken care of, too. Rain gutters may be sagging, or broken at the joints, or filled with dirt, muck and leaves. In many cases the brackets or fasteners have rusted through and broken off, allowing the gutter to sag so that the drainage water, during a rain, spills down the side of the house. What this does to the house is obvious, of course. And, if regular roofers or tinsmiths are not available at paint-up time, the painters may have to effect the necessary re-

complicated formulas, is composed of 8 ounces of copper sulphate in one gallon of water. The liquid should be applied to the galvanized iron with a clean, oil-free brush. When the solution has dried, the surface of the metal should be rinsed well with plenty of clean water, then permitted to dry prior to painting.

Old galvanized iron (that which has been exposed to the weather more than six months may be considered "old") needs no artificial aging or etching. But every bit of rust must be removed and the surface cleaned carefully. Rust is most likely to be found around nail or bolt heads, along seams and at the edges of the sheet.

If the iron has previously been painted, all loose paint must be removed, along with rust, mud, mortar, soot, etc., before new paint goes on.

If the old paint coating has failed by general flaking it is advisable to remove it with paint remover. Removers of the paste type are usually the most efficient and economical, if they will work at all on the type of paint that was used. Sometimes the old paint is of a kind that is difficult to dissolve, and here a blow torch or acetylene gas burner must be used. However, the use of heat in any form—blow torch or acetylene gas—calls for a lot of extra care to avoid getting the metal so hot that it will buckle or bulge. Moreover, soldered seams are apt to open if the heat is sufficiently great. Whatever method is used to soften or loosen the old cracked and scaled coating, all of it must be taken off and the

pairs, to rehang the gutters and pitch them for proper drainage to the leader downspouts, in addition to the indicated preparation of the metal itself.

Other metal around the buildings—steel sash, porch or stoop railings, iron fences, etc.—should not be overlooked any more than the sheet metal referred to. Every item that is apt to rust, and by rusting, to become useless to the extent it requires replacement, should

Loosely-adhering paint as well as all dust and rust must be removed with wire-brush, steel wool, scraper or paint remover before new paint is applied.



be cleaned up and adequately painted.

Just as there is no question about the eventual rusting of exposed iron and steel, so, too, there is no question about what paint has proved itself the most effective rust-preventer. That paint is one made with pure red lead.

Red lead, as most painters know, is obtainable in three forms—dry, paste and liquid. Some large users of red lead prefer the dry form. Others buy the paste. Most painters, however, whose chief work is house painting, find the liquid form—Dutch Boy Semi Quick-Drying Red Lead—best suited to their needs. Red lead paint has a high spreading rate and, if used as the priming coat only, a gallon or less usually is sufficient for all the gutters, downspouts, flashings, porch decks or roofs, etc., on the average home.

On some metal surfaces, for example flat or nearly flat roofs that drain slowly or poorly, or rain gutters, it may be advisable to use two coats of red lead paint. This practice makes anti-rust assurance doubly sure because any tiny pin holes or skips in the priming coat are sure to be sealed by the second red lead coat.

For light colored finishing coats over red lead, there is nothing better than pure white lead paint, either white or tinted. Red lead and white lead are chips off the same block, so to speak, and work perfectly together.

There are no important differences in the application of red lead and white lead paints. But because red lead is



used on hard, unabsorbent metal, it stays right where it's put—none of its oil leaves the film and suction and absorption don't enter into calculations. By the same token, red lead paint usually is brushed out more thoroughly, to produce a smooth coating of uniform thickness. Because it has nothing but a hard, smooth surface to get hold of, red lead paint must get its mechanical anchorage by other means than penetration. That indicates good, close brushwork, especially around bolt and nail heads, at seams and joints and edges, with rather stiff, sturdy brushes.

The priming coat should go on the metal right after the surface has been cleaned and dried. Any delay invites the formation of rust, especially in humid weather. It should be understood, of course, that the mere spreading of paint

This is what usually happens when new galvanized iron is painted with no artificial "weathering" of the surface prior to painting. In this particular case the paint failure did not occur until after several repaintings.



Keep this in Mind—

ON A REPAINT JOB, YOU'RE PAINTING PAINT

PAIN is pretty matter-of-fact stuff to most folks. It's just a liquid to be spread upon an object, and should, when dry, make that object look better and last longer. Because paint is everywhere, people take it for granted, like cement sidewalks and macadam roads. But when folks have an "accident" with paint, they begin to take notice, just as they do when they stumble on a bad sidewalk or hit a hole in the highway.

Yes, when paint goes wrong, it gets noticed by the man who paid the bill. And, of course, the man who spread the paint is apt to get notice to appear and explain himself.

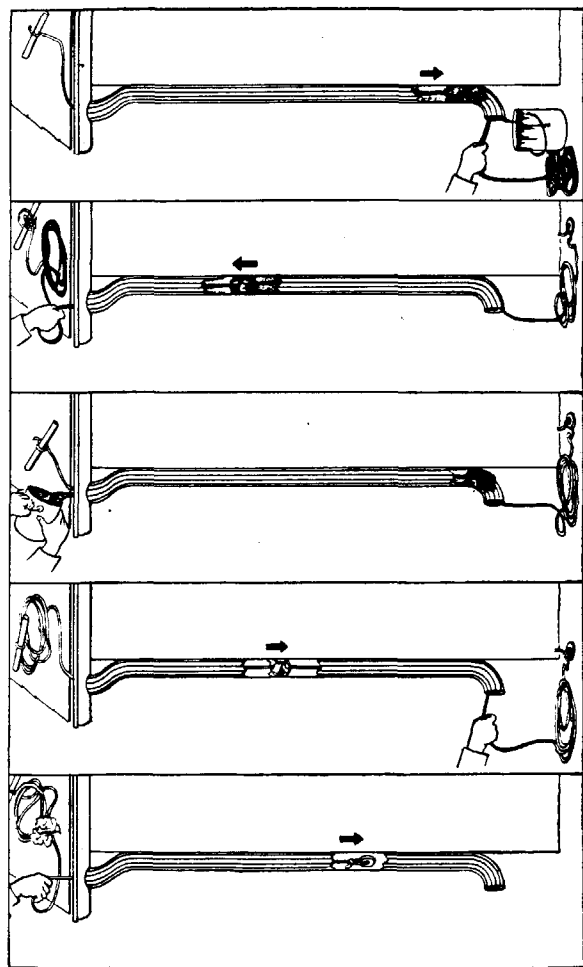
Now, disregarding for a moment the disagreeable things that can and sometimes do happen to paint jobs, might it not be a good idea to take a little closer look at a paint film? Have you any idea of the *thickness* of a coat of paint? Well, if you have a pencil and piece of paper handy, you can check the following figures: A gallon of paint—231 cubic inches—covers, say, 700 square feet—100,800 square inches—of surface. Divide 231 by 100,800 and you get .0023 inches. Stated another way, it is $\frac{1}{435}$ th of an inch—about three-fourths as thick as the sheet of paper on which these words appear. On a two-coat or even three-coat job the thickness of the paint

is but a very small fraction of an inch. Cross-sectionally speaking, a coat or two of paint is a mighty thin barrier to place between the surface and the weather. To give that barrier all the strength, the durability and the anchorage it needs calls for good paint, a fit surface and good workmanship.

It is futile to argue that any one of these elements is more important than the other two. Like the legs of a tripod, all three are equally important. Good paint carefully spread on a wet, or an insecure, or a scaling surface will fail to do a good job. Good paint carelessly applied to a fit surface will perform poorly. Poor paint painstakingly spread on a fit surface won't last.

It is safe to assume that every experienced painter not only knows but also practices the rules of good painting procedure. He does, at least, insofar as the customer allows him the latitude. So, when a practical painter has a job go wrong, the reasons therefor are likely to be mysterious, or seem to be, at first blush.

In an honest effort to clear up the mystery of why seemingly good paint properly applied failed prematurely, the painter may call upon our technical paint service department. Usually the painter sends us some paint scrapings, chips or scales from the job in question. Or it may be a sliver of wood or piece



A method of painting the inside of a downspout. Articles needed: A length of old clothes-line, a heavy nut or washer, a wad of rags, and Dutch Boy Semi Quick-Drying Red Lead.

be a few feet more than twice as long as the downspout) and fasten a ball of rags, big enough to fit snugly in the downspout, at about the halfway point in the rope. Drop the weighted end of the rope down the pipe and pull the rope through until the ball of rags just reaches the bottom end, where it serves as a plug. Place a paint bucket under the pipe outlet. Pour a quart or so of red lead paint slowly down the pipe. Now pull the rope up through the pipe. The rag ball will spread the paint on the interior surface of the pipe as the rope is pulled slowly upward. Just as the rag ball is about to emerge at the top of the pipe, pull the weighted end of the rope back down the pipe

and remove the rope and ball of rags at the outlet, catching in the bucket any paint that drains off. This method of "interior" painting is much more effective than merely pulling a sponge or wad of rags through once.

It should be mentioned here that, prior to painting downspouts, the rope-and-ball contraption can also be used, with several pulls in both directions, in cleaning the pipes.

To summarize, there is an enormous tonnage of sheet metal on and about America's homes and farms. It must be preserved because right now it can't be replaced. To save it, get it into condition to paint and then paint it with red lead.



Samples of paint coatings come to us in various forms but the majority are just plain scales and chips. Here are shown a half-dozen typical batches. Note the small "cube" with each of the samples in the top row. This "cube" is a block of paraffin on which a small piece of the film has been mounted by our paint technicians for their convenience in handling and testing.

of siding bearing the offending coating.

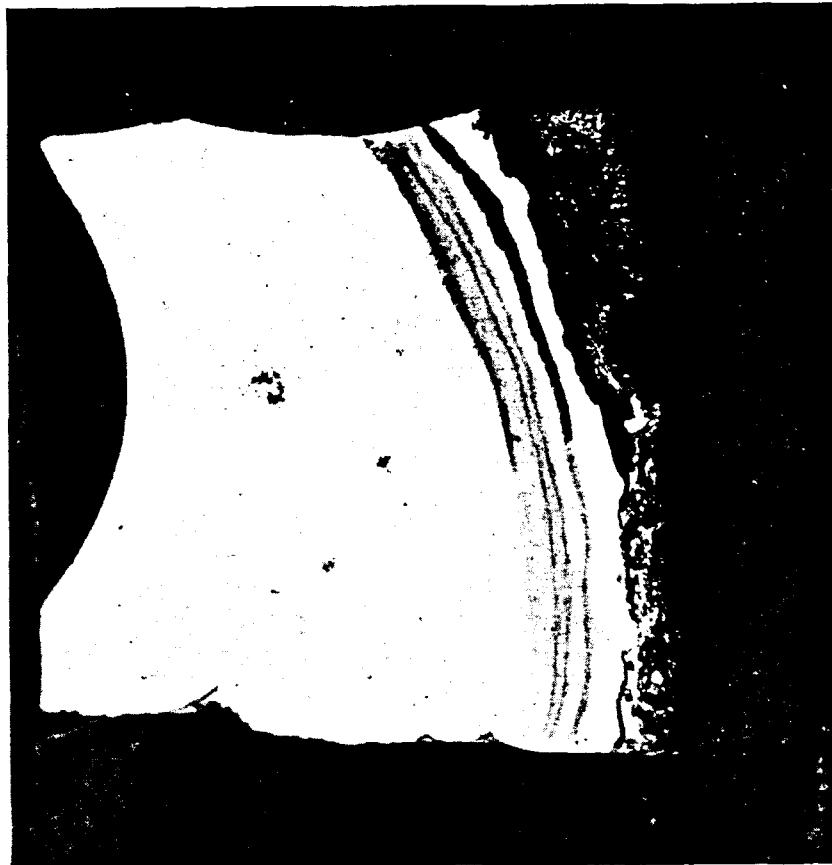
Years of experience in studying hundreds of specimens of paint that "went wrong" have led us to some definite conclusions, among which are these:

(a) The chief handicap under which a painter labors in trying to turn out a good repaint job is his inability to get accurate information on the paints that were used previously on the job.

(b) A surprisingly large number of painters appear to think that applying a good paint on top of a doubtfully adhering coating will somehow solidly anchor both itself and the old film.

(c) There is a reluctance to insist that property owners permit and pay for removal of old paint coatings which are both so old and so thick that another painting is almost sure to cause the original priming coat to let go.

This is an enlarged, close-up photo of the middle "cube" shown in the top row in the picture at left. Actually the "cube" measures $\frac{3}{4}$ " x 1", so in this view it is enlarged about four times. It shows how our "paint detectives" study the paint sample. After mounting, the edge of the film is carefully bevelled with very fine sandpaper. This exposes the bias edge of each of the coats of paint which make up the sample. In this case, seven coats can be seen. Application of certain chemicals to the bevelled film edges causes reactions which indicate the nature of each layer of paint. In this case, the black line seen in the lower right corner, following the use of the chemical, indicates that that particular coat is white lead. Since the other coats showed no similar reaction, it was concluded they contained no white lead.



Announcing



lifeless that it is flaky or crumbly. It just isn't possible for the new paint to reach through the old, hold it on and also get a secure anchorage itself.

Up to this point we have not mentioned white lead as such. But when we have said "good paint", we have meant "white lead paint". It is no accident that seldom do pure white lead paint films come in to us for "trouble-shooting". When they do come in, they almost invariably have proved to be victims of "dat ol' debbil"—moisture. And that, of course, is no respecter of paint, no matter how good or how well applied.

Another reason for omitting direct reference to white lead previously is that we have discussed primarily "paint chips, scales, etc." which have

sent to us for analysis and comment show a surprisingly heavy accumulation of coats; others are relatively thin. But in practically every case where the chips show that the coating left the wood completely the original primer, and not the recently applied coat, was the culprit. Adding our own findings, as disclosed by a study of the chips, to the painter's comments about the job that failed, it would in many cases be unfair to blame the present painter for the trouble.

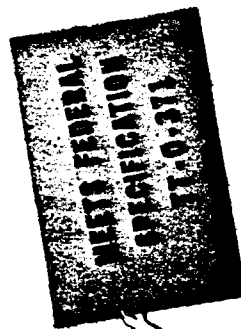
The painter must, however, assume at least some of the blame for failure resulting when he paints paint coatings that show signs of cracking (even though there is no actual scaling) due to abnormal thickness of the film. This is true, too, when the old coating is so

Occasionally a paint-troubled friend sends us a paint specimen right on the piece of wood it failed to protect. The piece of siding shown below in about actual size, bears a cracked and scaled film composed of several layers of paint, as indicated by the bevelled portion at the left end. The chemical test shows that while white lead was used on the last job, and in some of the old coats, at other times the wood was painted with "brittle" paints which caused the cracking and scaling.



Dutch Boy LINSEED REPLACEMENT OIL

As is generally known, the demand for linseed oil has been steadily increasing during the past year or so because, in addition to holding down its long-acustomed job as a



paint vehicle, it has been asked to serve in place of certain paint and varnish oils which now are virtually unobtainable on account of war conditions. Moreover, linseed oil has become an important factor in the United Nations' food program. At the same time, the country's normal supply of linseed oil is currently considerably curtailed due to the shipping shortage which limits the imports of flaxseed.

To enable the supply of linseed oil to meet, as far as possible, the demands made upon it, the Government has put into effect certain controls on both the use and sale of linseed oil. The latest ruling—War Production Board Conservation Order M-332—reduces the amount of linseed oil that may be used by manufacturers in ready-mixed paints, varnishes, etc., for the civilian market, and at the same time places a limit upon the non-volatile content of linseed oil supplied to

painters and others for thinning white lead in oil and other pastes. The order is effective July 1st, 1943.

The non-volatile content of linseed oil for the purpose referred to is restricted by the order to a maximum of 70 per cent by weight, the remainder to be volatile material such as thinners and drier.

To meet the new government regulation, we are now marketing a special oil known as Dutch Boy Linseed Replacement Oil. This new paint vehicle conforms to Federal Specification TT-O-371 and contains only pure linseed oil, mineral spirits and drier. Its non-volatile portion is a careful blend of raw and heat-bodied (polymerized) linseed oil.

Dutch Boy Linseed Replacement Oil has the consistency and working properties of straight linseed oil and can be used in place of the latter in any white lead or red lead paint for

CAUTION: Before buying any product intended for use in place of strain linseed oil, first make sure that it meets Federal Specification TT-O-371, as does DUTCH BOY LINSEED REPLACEMENT OIL. This is your assurance that it contains not only an ample amount of pure linseed oil but also the right proportions of heat-bodied (polymerized) oil to insure proper viscosity and painting properties. Linseed Replacement Oil, as described in the above Specification, cannot be made simply by adding kerosene thinner to regular raw or boiled linseed oil.

the regular mix. Setting up is a little more rapid due to the higher volatile content but this has the advantage of minimizing dust and dirt collection during the drying period. There is no noticeable difference in the appearance of the film, either in the wet or dry state. As for durability, tests and experience have shown that white lead paints will produce long-wearing films even when somewhat less linseed oil is used than the painter customarily employs.

The use of Dutch Boy Linseed Replacement Oil in place of straight linseed oil does

any coat on any surface. The paint it produces has the same general properties in respect to body, brushability, drying qualities, spreading rate, etc., as those formerly made with raw or boiled linseed oil. There is the same easy brushing and good hiding. Leveling qualities are as good as, if not better than,

the regular mix. Setting up is a little more rapid due to the higher volatile content but this has the advantage of minimizing dust and dirt collection during the drying period. There is no noticeable difference in the appearance of the film, either in the wet or dry state. As for durability, tests and experience have shown that white lead paints will produce long-wearing films even when somewhat less linseed oil is used than the painter customarily employs.

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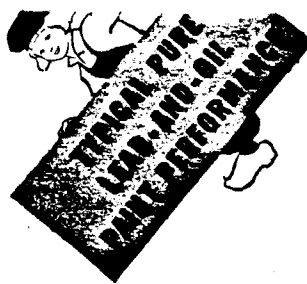
not involve any major change in the mixing of paints. Use it wherever you used linseed oil before and in the same quantity.

One exception to this general statement is in mixing finishing coat paint for exterior work. Here a half-pint of turpentine is added for each gallon of finished paint. As will be noted,

the new finish coat formula calls for 3 gallons of replacement oil and 3 pints of turpentine for each 100 lbs. of soft paste white lead rather than the 3 1/4 gallons of linseed oil previously used. Another exception has to do with drier. Since the new oil already contains drier, the usual addition of a small quantity by the painter is no longer necessary.

Dutch Boy Linseed Replacement Oil is put up in one-gallon and five-gallon containers bearing the familiar black and orange Dutch Boy label. For large users and for retailers making bulk sales, the new oil is also available in steel drums.

In times like these, when many long-familiar products are off, or are disappearing from, the usual markets and new products are being introduced, it is more than ever important to look for the long-familiar brands and trade marks. Just as you have a reputation to



MIXING DIRECTIONS (BY VOLUME)

REPAINTING OUTSIDE WOOD

FIRST COAT FINISH COAT*



*After paint for this coat is mixed, add 1/2 pint turpentine to each gallon.

PAINTING NEW OUTSIDE WOOD

First prime with 3 parts white lead, 4 parts linseed replacement oil and 2 parts turpentine. Then use above two coats.

(For complete exterior paint formulas, see next page.)



Dutch Boy LINSEED REPLACEMENT OIL

uphold, so have they. Though the product may be a new acquaintance, the producer is an old friend. The buyer may rest assured that every possible precaution has been taken to make Dutch Boy Linseed Replacement Oil a thoroughly worthy addition to the Dutch Boy family of top quality paint products.

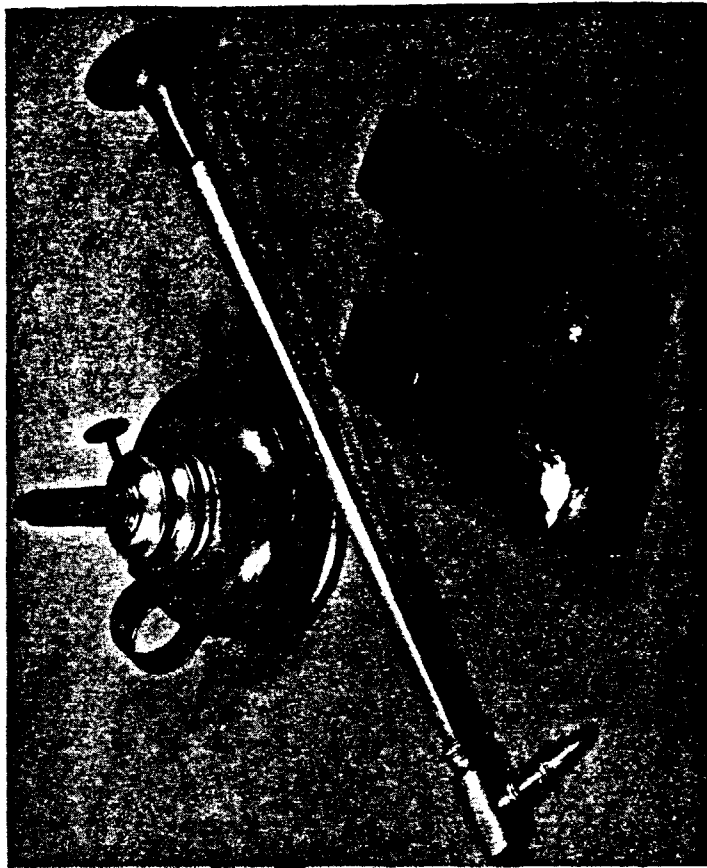


In mixing or thinning paint, Dutch Boy Linseed Replacement Oil may be used any place where it has been customary to use linseed oil. No drier is needed as this is already in the product. Follow the standard white lead painting formulas except for the finish coat. This should include a small amount of turpentine as shown by the finishing coat (gloss) formulas below.

DIRECTIONS FOR MIXING PURE WHITE LEAD PAINT WITH DUTCH BOY LINSEED REPLACEMENT OIL

PAINT INTENDED FOR	MATERIALS	REPAINTING				NEW WORK			
		First Coat	Finish Coat	Priming Coat	Second Coat	Finish Coat	Priming Coat	Second Coat	Finish Coat
EXTERIOR WOODWORK	Dutch Boy Soft Paste White Lead Dutch Boy Linseed Replacement Oil Pure Turpentine Gallons of Paint Produced Square Feet Covered per Gallon, 1 Coat	100 lbs. 2 gals. 2 gals. 7 1/4 700	100 lbs. 3 gals. 3 pts. 6 5/8 700	100 lbs. 4 gals. 2 gals. 9 1/4 600	100 lbs. 1 1/2 gals. 1 1/2 gals. 6 1/4 700	100 lbs. 3 gals. 3 pts. 6 5/8 700	100 lbs. 5 gals. 3 gals. 9 800	100 lbs. 3 gals. 1 gal. 7 1/4 400	100 lbs. 3 gals. 3 pts. 6 5/8 600
EXTERIOR COMMON BRICK	Dutch Boy Soft Paste White Lead Dutch Boy Linseed Replacement Oil Pure Turpentine Gallons of Paint Produced Square Feet Covered per Gallon, 1 Coat	100 lbs. 2 gals. 1 gal. 6 1/4 400	100 lbs. 3 gals. 3 pts. 6 5/8 600	100 lbs. 5 gals. 3 gals. 9 800	100 lbs. 3 gals. 1 gal. 7 1/4 400	100 lbs. 3 gals. 3 pts. 6 5/8 600	100 lbs. 5 gals. 3 gals. 9 800	100 lbs. 3 gals. 1 gal. 7 1/4 400	100 lbs. 3 gals. 3 pts. 6 5/8 600
EXTERIOR STUCCO, CONCRETE and STONE	Dutch Boy Soft Paste White Lead Dutch Boy Linseed Replacement Oil Spar Varnish Gallons of Paint Produced Square Feet Covered per Gallon, 1 Coat	100 lbs. 2 gals. 1 gal. 6 1/4 400	100 lbs. 3 gals. 3 pts. 6 5/8 600	100 lbs. 5 gals. 3 gals. 9 800	100 lbs. 3 gals. 1 gal. 7 1/4 400	100 lbs. 3 gals. 3 pts. 6 5/8 600	100 lbs. 5 gals. 3 gals. 9 800	100 lbs. 3 gals. 1 gal. 7 1/4 400	100 lbs. 3 gals. 3 pts. 6 5/8 600

If heavy paste white lead, instead of soft paste, is used in any of the above formulas, add 1 quart of turpentine.



With this simple apparatus it is possible to determine whether or not a paint specimen—either the liquid paint out of the can or an old dried paint film—is pure white lead. A couple of drops of the paint under test, or a small piece of paint film, is placed in the hollowed-out end of a charcoal block. With a blow pipe directing the flame of an alcohol lamp on the specimen, a small bead or globule of pure metallic lead will form in the hollow if the paint contained practically pure white lead. Note lead bead in block at right. If no bright lead bead results from the burning, but only a white ash, as shown in the block at the left, it may be concluded that the paint was not pure white lead.

come off failed jobs. As all experienced painters know, pure white lead paint does not fail by chipping or scaling.

Furthermore, white lead paint almost never contributes to the overly-thick-paint-coating type of failure, for the simple reason that, as white lead paint weathers, it gradually becomes thinner. That is why it is seldom necessary to "unpaint" old buildings that have been painted with pure white lead at regular intervals over a century or more.

KEEPING AMERICA POSTED

AMERICAN home owners, generally, realize that it is more important now than ever to keep their homes in good condition—to make them last. It makes sense, and it bespeaks patriotism. Because materials with which to rebuild, or even repair, the home front are virtually non-existent. Because building materials, and building capital and building labor are more urgently needed in the war effort.

There is no better, no more practical, no more economical way to make homes last than to repaint them. There is no more lasting paint than white lead. There is no shortage of white lead paint.

To place these facts before American home owners, and to keep on reminding them, the makers of Dutch Boy products are sending out 215,566,494 messages this year via The Saturday Evening Post, Collier's, American Home, Better Homes and Gardens, Country Gentleman, Farm Journal, and Hoard's Dairyman.

A few of the 1943 advertisements are reproduced in



FIRST choice for PAINTING THINGS LAST

Dutch Boy WHITE LEAD PAINT

FREE

Triple Check this New Paint...



1. It's Pure White Lead

2. It's Dutch Boy

3. It's Ready to Use

Dutch Boy WHITE LEAD PAINT

2 GALLONS

The New Paint—like the Famous Paint—Given Your Home The Long Lasting Protection of Pure White Lead



For Generations We White Lead has been famous for Making Things Last

NOW—get this Leading Protection in the NEW DUTCH BOY PAINT!

Dutch Boy WHITE LEAD PAINT

2 GALLONS

TODAY More than ever, make your HOME LAST...

A NATIONAL LEAD COMPANY PRODUCT

ON PAINT

miniature here. No doubt you have noticed them in one or more of the big magazines, just as have many of your home-owning customers, present or prospective. You may be sure that if your customer doesn't say, "Make it Dutch Boy," when you discuss the job, it is because he takes for granted that you are certain to use Dutch Boy anyway.

Lead Industries' Campaign Continues

Running practically parallel with the Dutch Boy campaign this year is the white lead paint publicity sponsored by Lead Industries Association. As in previous years, the L.I.A. advertisements stress the point that "You're Money Ahead When You Paint With White Lead."

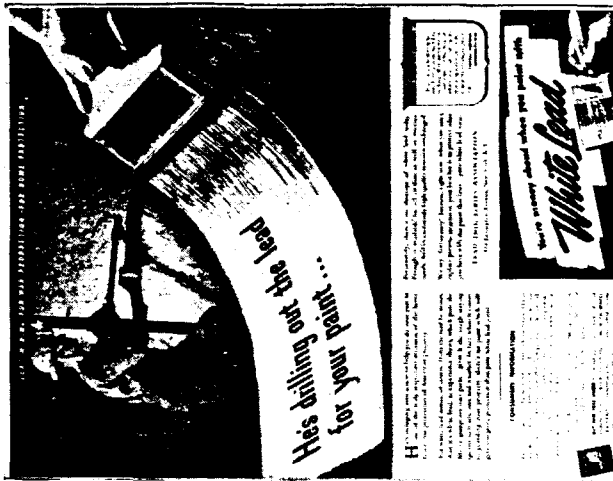
The Lead Industries' advertisements, two of which are shown here in greatly reduced size, will appear throughout 1943 in the Saturday Evening Post, American Home, Better Homes and Gardens, and Agricultural Leaders' Digest. The total of individual messages delivered during the year will be about 63,000,000.

Considered either separately or together, the Dutch Boy Campaign and the Lead Industries' campaign should make American property owners well aware of the need for keeping the home front well painted and should remind them that the paint that makes homes last is the *lasting* paint—pure white lead.



Gallons of Gumption for American Paintbrushes

White Lead



He's billing you for your paint...

White Lead

HOW THE PAINTER CAN HELP CONSERVE MANPOWER

IF ever there was a time when every American should try to reach, and remain at, the peak of his productive capacity, it is right now. Every month, every week, every day spent off the job now means unnecessary delay in winning the war.

It is hard to believe, but is none the less true, that since Pearl Harbor 85,000 persons have lost their lives in this country through accidents; that 7,700,000 persons have been injured through accidents; that 410,000,000 man-days have been lost because of accidents.

Translated into terms of *unproduced* war materials desperately needed by ourselves and our Allies—planes, ships, tanks, guns, food, etc.—the tremendous toll taken by accidents of all kinds makes large-scale preventive action imperative. And that action is taking the form of a nationwide drive to point out to the public just how much harm is being done the war effort by carelessness and to suggest methods of preventing this waste of manpower.

Led by business and industry, America is organizing the greatest counterattack on accidents ever attempted. The first move was made by the President of the United States when he called on the National Safety Council to mobilize its nation-wide resources to lead a concerted campaign against accidents.

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The National Safety Council has drawn upon its 30-year accident-prevention experience to develop plans for getting the cooperation of the public to play safe—work safe—stay safe.

The country's painters, the same as all other craftsmen, have a large stake in this or any other safety campaign. While emphasis naturally and properly is being placed on the prevention of accidents to persons directly engaged in war production, no one can afford to underestimate the importance of cutting down *all* accidents. Because we are all contributing to the war effort in one way or another—by protecting property against weather-damage, by engaging in civilian defense activities, by buying War Bonds and Stamps, by paying taxes and so on. Obviously a painter, like any one else, can't cooperate fully if he is "laid up"—his working capacity and his earning power come to a halt until he gets back on the job. Moreover, the shortage of civilian doctors, nurses, hospital facilities, etc., makes every accident doubly unfortunate now.

By nature, the painting business is more or less hazardous. It involves the use of equipment which, if faulty, can cause accidents not only to the users or operators thereof but to the general public as well. It involves the use of materials which, if improperly handled or stored, can cause much damage to persons and property by fire

or explosion. It involves the use of tools and accessories which, if left in improper places, can cause accidents to the unwary and the unsuspecting.

Quite apart from his cooperating with the stop-accidents campaign by proper inspection and use of his tools and equipment, the painter can also contribute in another direction, and that is, by the judicious use of paint. But before suggesting ways to use paint as a safety measure, we should say a word about the *abuse* of paint—on the painter's own equipment.

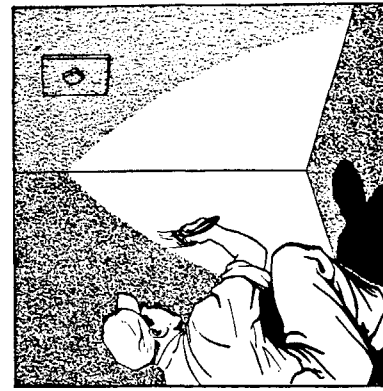
No piece of equipment such as step-ladders, extension ladders, scaffolding, planking, horses, etc., should ever be painted. An opaque paint coating, as some painters have learned to their sorrow, may completely hide a broken or cracked rung, rail, support, brace or board. To the eye, the painted object may look perfectly sound and safe, but when the painter's weight or heavy materials are placed upon it, the hidden flaw comes to light by causing an unfortunate accident. To keep

wooden equipment looking shipshape, and to keep it more moisture resistant, it may be oiled once a year or so with a liquid composed of half linseed oil and half turpentine. But it is a serious mistake to paint it or to permit the forming of a virtual coat of paint through spills and splatterings.

It is common practice among many building owners, managers and superintendents to paint the leading edge or "nose" of stair treads white, where the stairway may not be sufficiently well lighted at certain hours. To the person descending the stairs the white edges mark the safe-footing limit of each step. Note cut on next page.

In factories or other structures where careless workmen have been in the habit of disposing of rubbish, waste or oily rags in convenient dark corners, painting those corners white or a light tint has proved an effective check to such potentially dangerous practices. Note the illustrations below.

In some cities the street curbing has been painted in such fashion that it



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WHAT'S YOUR PROBLEM?

National Lead Company's staff of practical paint men will help you solve your painting problems without charge. Address your letter to National Lead Co., Room 1815, 111 Broadway, New York, N. Y. Please state your problem fully and be sure to place your name and address on your letter. Our reply will reach you promptly by mail. The problems discussed below have been selected because they appear to be of general interest. Space limitations permit the printing of only a few of the problems handled.

A Year Between Primer and Second Coat Is Too Long

Question: A customer wants me to give his new house a coat of your Exterior Primer now and a coat of your Outside White a year from now. This will be the first time I have used your new two-coat system and I don't know whether or not the customer's suggestion is practical. Is it?

Answer: While it is always desirable to give a coat of paint plenty of time to set, dry and harden, a year's lapse between coats of a two-coat system on new outside wood is too long. Point out to your customer that the Primer is designed to seal the wood surface, hide it, and make it uniform, besides furnishing a base to which the finish coat can securely anchor itself. Tell him that the Outside White is designed to protect the priming coat, to complete the hiding of the under-surface, and to add solidity and a uniformly substantial appearance to the job. To let the primer stand alone against the weather for as long as a year would be to invite a loss of some of the inherent characteristics of both the Primer and the Outside White

later applied. Best results from our paint or any other are obtained only when the material is used in the way experience recommends.

Preserving Stenciled Wall Decoration

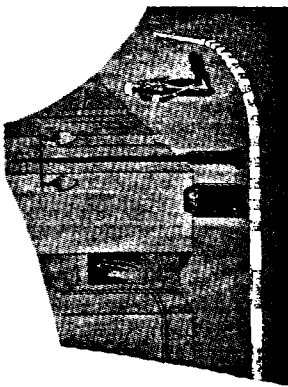
Question: Several years ago I did some very attractive stencil work in the kitchen of one of my customers. I am now painting the outside of that same house and while in the kitchen talking to the owner about this job, I noticed that some of the stencil designs on the walls looked rather marred and faded and I mentioned it to the lady of the house. She said she washed the walls about twice a year and must have scrubbed the decoration a little too hard. To get all the grease and grime off the walls near the stove she says she used a little scouring powder. Is there any way to clean these walls without hurting the stencil work?

Answer: Assuming you originally painted the walls with a high grade paint and that you did the stencilling with white lead and flattening oil and Dutch Boy colors, the designs certainly ought to last unless, as in this case, the housewife goes to work on them with scouring powder. That treatment will

body color with buff on the working areas, the paint having a washable semi-gloss finish. In addition to providing more light and better seeing conditions at the actual working surface, thus fostering increased production, this combination clearly spotlights the location of the danger point, thus helping to prevent accidents which hamper production.

It isn't to be expected, of course, that the painter can walk into a neighborhood by war plant and do an on-the-spot job of selling a safety-first painting plan. But when the occasion arises, he can suggest to interested parties the possibility of using paint to speed up production and cut down accidents. Working with the management and the National Safety Council, effective paint-using safety measures can be put into effect.

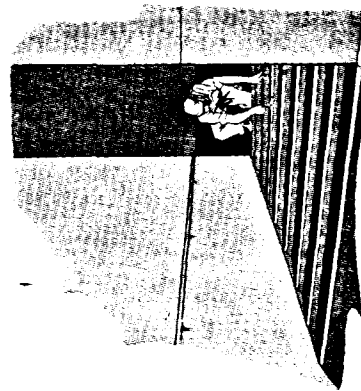
Viewed from a number of angles, it should be obvious to all painters that they can play a big part in reducing the number of accidents which are today reducing America's strength by wasting American manpower.



is more easily distinguishable during dim-outs and black-outs. This, of course, tends to cut down traffic accidents when the street lighting system is turned off.

Perhaps the most widespread use of paint today as a "safety device" is in factories, to improve over-all seeing conditions for all workers and to highlight parts of machines which are potentially dangerous. Machines that normally are painted entirely in dull greens, dark grays or black tend to blend into solid dark masses. Contrasts are lacking, eyes are strained, danger spots are not emphasized and workers' hands are all too often injured.

The proper use of paint of certain colors sets the machines apart from their dull background and creates a contrast between those parts or elements of the machine which are dangerous and those which are not. The working section of the machine is separated visually from the mass by giving it a coat of light colored paint to contrast with adjacent differently colored areas. For example, a combination much used is a medium gray



Dutch Boy Painter

take off the grease but it also takes off the paint—any paint.

If the stencil patterns are not too badly worn off it may be possible for you to touch them up free-hand. Then give the walls and ceiling of the kitchen a good starch coat. Dissolve a pound of gloss laundry starch in a little lukewarm water, add an ounce of powdered alum, then pour boiling water into the solution until it thickens to jelly and becomes clear. Reduce to brushing consistency with cold water. Brush this coating on the walls (the walls should be cleaned first, of course) with a regular wall brush and immediately stipple, either with a wall stipple or a roller stippler.

This starch coat will collect all the dirt and grease that formerly went right on the bare paint, so that the next time the lady cleans the walls, she will wash off the starch (without using scouring powder!) and will not hurt the paint. And, of course, you should then do the re-starching.

Painting Cupola of Lead-Coated Copper

Question: We have been asked to paint a large colonial style cupola on a building here. The cupola is made of lead-coated sheet copper, according to the building manager, and is about ten years old. What is the best way to do this job?

Answer: Obviously the only reason for painting a cupola of this kind is to achieve a change of color, because lead-coated copper is just about as durable as anything you can think of. Also,

most people, far from objecting to the gray antique color of weathered lead, find it most pleasing. However, if you must paint the cupola, here is how:

Clean the surface well with sandpaper, steel wool or wire brush. Thin 100 lbs. Dutch Boy soft paste white lead with 2 gals. Dutch Boy raw linseed oil, 1 gal. pure turpentine and 1 pt. Dutch Boy liquid drier. Apply this priming coat to the metal, brushing it out well to a thin, uniform coating.

When the primer is dry and hard, apply a second coat of paint consisting of 100 lbs. Dutch Boy soft paste white lead, 1 gal. Dutch Boy raw linseed oil, $1\frac{3}{4}$ gals. pure turpentine and 1 pt. Dutch Boy liquid drier. This paint should be tinted with Dutch Boy colors in oil to about the finish coat color.

For a medium gloss finishing coat, use a paint consisting of 100 lbs. Dutch Boy soft paste white lead, 2 gals. Dutch Boy raw linseed oil, $\frac{5}{8}$ gal. pure turpentine and 1 pt. Dutch Boy liquid drier, tinted to suit. If a flat finish is wanted, use a paint composed of equal volumes of Dutch Boy soft paste white lead and Dutch Boy Lead Mixing Oil, tinted to suit. For a full-gloss finish, simply use Dutch Boy Pure White Lead Paint—Outside White, tinted to suit.

Sunlight-Reducing Paint for Greenhouses

Question: About a year ago I painted the roof glass of a greenhouse here and now the paint is commencing to wash off so that

too much sunlight gets through. I know that this Florida climate is tough on some paints but I hope you can suggest one that will stand up satisfactorily on greenhouse glass.

Answer: Judged by your "washing-off" comment, we assume you applied your paint to the outside of the glass, which, of course, is all right if that's what the nurseryman or grower wanted. More often the paint, if it is to be a year-round sun filter, is put on the interior surface of the glass.

In all except the far southern and far western parts of the country, growers generally use temporary seasonal coatings of whitewash or other water-thinned paints. These are applied to the interior of the house to cut down sun radiation in the hot months and are washed off to admit all the sun's weaker rays in spring, fall and winter.

To more or less permanently frost the glass on the inside of the house, first clean the glass thoroughly. Then mix a paint consisting of 100 lbs. Dutch Boy soft paste white lead thinned with about 4 gallons of Dutch Boy Lead Mixing Oil. This paint should be applied to the clean, dry glass (and frames as well, if you wish) and stippled thoroughly with an ordinary wall stippling brush. It is important that only a thin, well-brushed-out paint be used on glass, for best adhesion. The translucency of the coating can be regulated to a surprising degree by proper manipulation of the stippler.

If you must paint the outside surface of the glass, instead of the inside, follow the same procedure but use a

Dutch Boy Painter

slightly heavier paint—thin 100 lbs. Dutch Boy soft paste white lead with an equal volume ($3\frac{1}{4}$ gals.) Dutch Boy Lead Mixing Oil.

Greenhouse service is an unusually hard test of paint, as we all know, and it is especially difficult to paint greenhouse glass. However, white lead-Lead Mixing Oil paint has proved to be as durable as anything you can use.

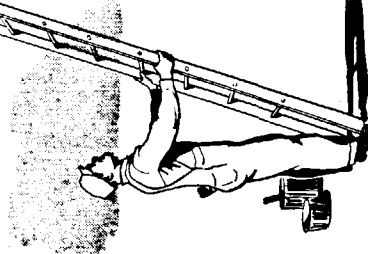
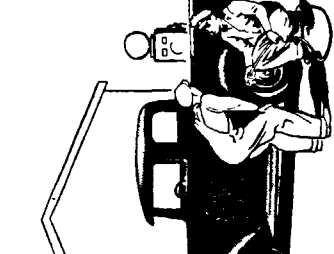
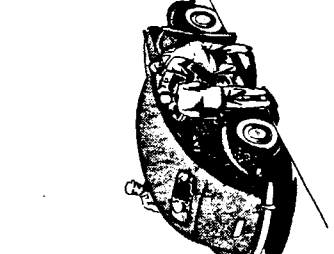
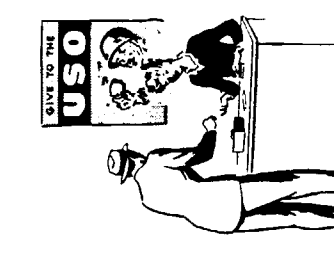
Soft Pine Not Suited to Fumed Oak Finish

Question: Is it possible to produce a fumed oak finish on interior soft pine trim?

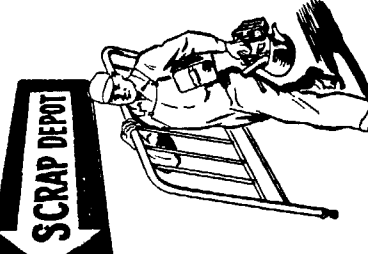
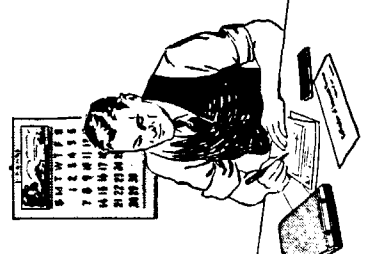
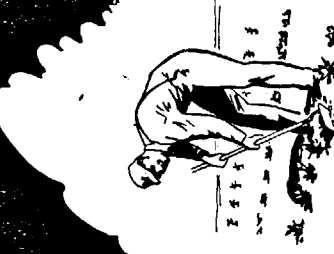
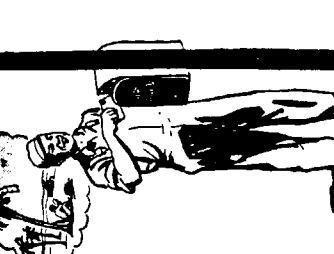
Answer: The fumed finish on oak is produced by subjecting oak lumber to ammonia fumes. If soft pine were treated the same way, the result would not resemble fumed oak because pine and oak are two entirely different types of wood. Soft pine can be stained in a way that will somewhat resemble the fumed oak effect you are after. If you wish to do this, here is the procedure:

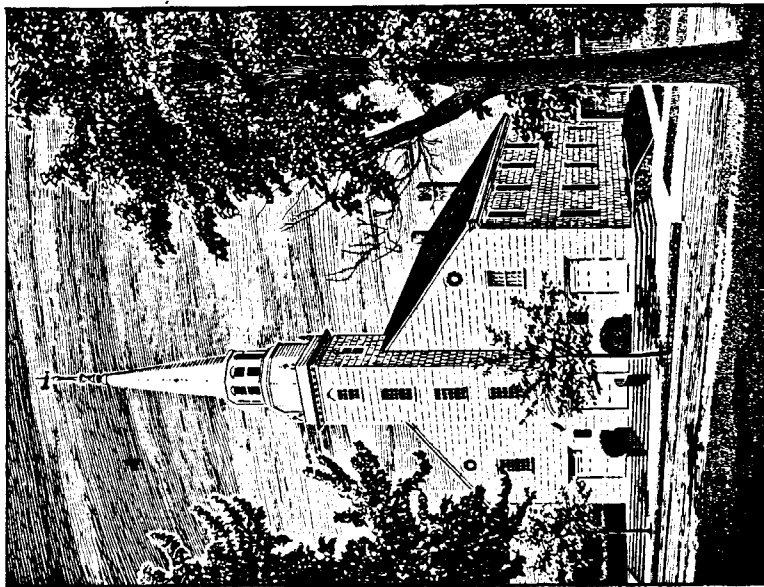
First give the woodwork a coat of straight Dutch Boy Flattening Oil. Then, while the flattening oil coat is still wet, apply a stain consisting of $\frac{1}{4}$ pint Dutch Boy lampblack and $\frac{1}{4}$ pint Dutch Boy raw umber thoroughly mixed in one gallon of Dutch Boy Flattening Oil. When the stain begins to set, wipe the surface evenly with a wad of clean, soft rags. This will, of course, remove some of the stain. Allow the woodwork to dry completely, after which you can finish it with shellac or varnish and wax.

If you can't shoulder a gun You can shoulder your home

		
☐ I'm investing 10% of my earnings regularly in War Bonds.	☐ I'm observing all safety-first rules, both on and off the job.	☐ I'm letting "war information" go in one ear and out the other.
		
☐ I'm taking extra good care of my truck and car—to make them last.	☐ I'm giving a lift to others when I drive my car to and from jobs.	☐ I'm contributing frequently to USO, Red Cross, etc.

front responsibilities Check the things that **YOU** are doing

		
☐ I'm taking every item of scrap metal I find to the scrap depot.	☐ I'm giving a good share of my spare time to Civilian Defense activities.	☐ I'm keeping accurate "books" and paying all taxes promptly.
		
☐ I'm "growing our own" in a Victory Vegetable Garden.	☐ I'm giving good books periodically to the men in the armed forces.	☐ I'm writing my boys in service frequent newsway V-mail letters.



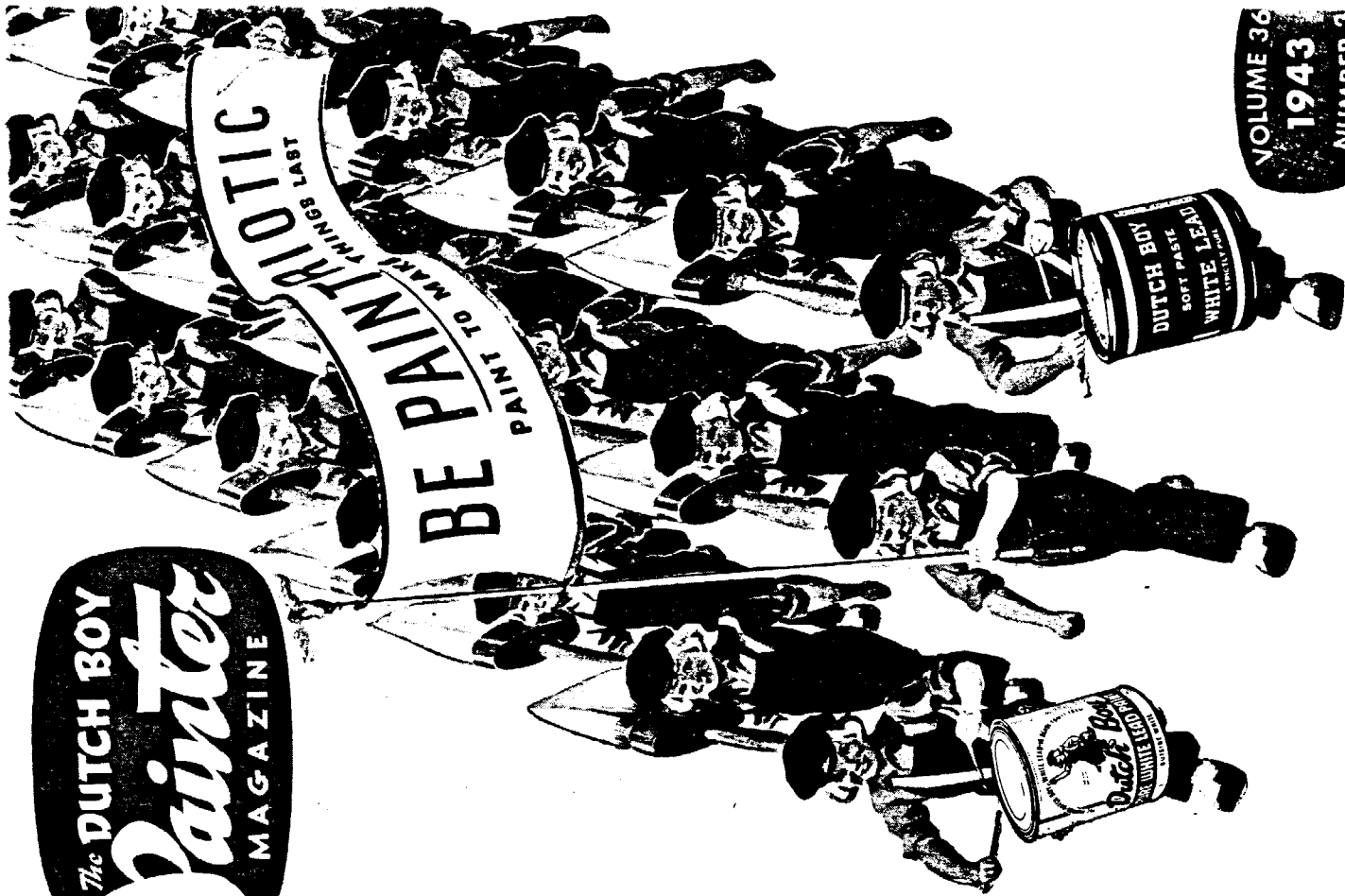
Since this beautiful church at Huntington, L. I., was built in 1784, it has had the uninterrupted protection of pure white lead. Not a sidewall shingle has required replacement.

PRESERVING THE PAST FOR POSTERITY

Just as Old Glory has staunchly weathered the wars that have beset our Nation so, too, have landmarks of early America survived their constant struggle with the elements. That many of these structures have so long and so well withstood the buffeting of summer's heat and winter's cold is due to the skill and integrity of their builders...and to the protection given by regular painting with pure white lead. And today, Dutch Boy White Lead is standing vigil, as did its Colonial counterpart, preserving the heritage of the past for posterity.



The DUTCH BOY
Painter
MAGAZINE



VOLUME 36
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NUMBER 3

VETERAN

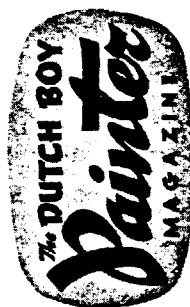
of many a tough campaign



If campaign bars were given for service on the "home front" Dutch Boy White Lead would rate the limit. Because for as long as many of us can remember, Dutch Boy has faithfully served the nation's homes, from border to border and coast to coast. Like a loyal soldier, Dutch Boy has stayed on post, in forty below cold and a hundred and forty heat, battling the elements and protecting our property. Truly, Dutch Boy is America's home guard, full of weather fight, putting up a defense that does not crack, rendering years of distinguished paint service.



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VOLUME 36, NUMBER 3, 1943

NEW FIBRE KEG for DUTCH BOY WHITE LEAD

LOOKING ahead to the time when the steel required in making kegs for white lead would no longer be obtainable, due to government restrictions on the use of the metal for this purpose, we have for the past year or more been investigating the possibilities of other types of containers to take the place of the familiar 100 lb. size steel white lead keg.

As a result of this prolonged research and testing a new fibre 100 lb. keg has been adopted for Dutch Boy white lead. It will gradually make its appearance in different sections of the country as stocks of steel kegs become exhausted.

A large number of commodities heretofore sold in metal containers are now being put up in metal-saving packages. In many instances the change-over has been rather easily accomplished because of the nature of the product. Certain liquid goods such as beverages, oils and the like, formerly sold in metal containers, have lent themselves well to glass packages, for example. Dry products such as coffee,

toilet goods, cocoa, etc., once put up in metal, also have gone over to glass or cardboard with little difficulty.

When it came to perfecting wartime containers for certain paste or semi-liquid products, however, it was quite another story. Printing inks, greases, creams, cooking fats and other materials which are not dry, solid or liquid, have frequently not taken kindly to new wartime environments. If items like these have proved troublesome to repack, imagine the problem we were up against with a paste like white lead.

Here we deal with a very heavy material. That rules out glass or other fragile containers, for the large sizes at any rate. Here we have a paint material which, by its very nature, is "penetrative". That rules out ordinary cardboard or other essentially absorbent packaging materials. Here we have a product that has always been shipped "naked"—without benefit of protection afforded by outer wrappings, boxes, crates or shooks.

But, all these problems are now

Dutch Boy Painter

solved. The new package for white lead is here. Chalk up another triumph for Dutch Boy.

Every test to which the new fibre package has been subjected shows that it will withstand normal shipping and handling satisfactorily. It has been approved, for example, by the Interstate Commerce Commission. As with other "war emergency" containers, however, it is advisable to handle the new keg with reasonable care. The thick, raised bands around top and bottom are a help in this regard since they afford a place to grip in handling the keg. They also act as "bearers" for the keg when it must be rolled. Particularly, the keg should be kept dry. Don't stand it in a wet place or allow it to remain on a floor or sidewalk that may become wet. See that it is protected at all times from rain, snow or other moisture or liquid.

Opening the new fibre keg is a quick, clean and easy proposition. As the illustrations indicate, it takes no time at all. The use of a saw is preferable but if one is not handy, the top band and inner ring can be severed with a hammer and screwdriver, putty knife or chisel.

Once this new keg is opened you may be sure that you will find in it the same top-quality, triple-improved Dutch Boy white lead that you previously got in steel—with the same extra whiteness, greater hiding power and better body.

In these days of change dictated by military necessity it is well to bear in mind that quality and dependability still are by-words for Dutch Boy. It will pay you to look for and buy goods bearing the Dutch Boy Painter trademark, whether the package be the old familiar type or its wartime successor.

1.—Cut through inner ring and band. 2.—Pull severed band and ring off keg. 3.—Pry out cover.



Note: Body labels for kegs were not ready when above photos were made, hence blank keg is shown.

REJUVENATE THE FLOOR WITH PAINT

The painter, during these war times, probably is as intimately concerned with the many problems involved in housing war workers as any other building craftsman. Where living quarters are scarce, practically any structure resembling a house is converted as quickly and as cheaply as possible into "a housing unit". Old, one-to-seed residences are pressed into service when war-workers come to town. The larger ones are divided into separate quarters for several families. Even store buildings are now serving as homes in some cities.

Any major rearrangement of a building calls for carpenters, plasterers, electricians, etc., of course. But when the structural alterations have been completed the painters take over. And it is largely up to the painter to apply the touches that really make liveable homes out of what otherwise would be dingy, cheerless and unsanitary quarters. It is the painter who spruces up and protects the interior of the rebuilt house. It is the painter who hides the scars of remodeling. It is the painter who brings cheerful color to bare and drab interiors. And, perhaps even more important, it is the painter who gives a new lease on life to materials made scarce or unobtainable by the war.

Take flooring for example. In some cases it may be possible to obtain new lumber but in others it is either impossible or impracticable. The contractors or the tenants must make the

most of what the remodeling has left them. The floors, if of hard wood, may, of course, be sanded off, bleached and refinished. But it is different with soft wood floors. They are usually much harder to get into shape and it is on them that paint can do a real renovating job. Particularly so when it may not be possible for the owners to provide the carpeting which would completely hide the floor.

With the proper preparation, the right paint and judicious choice of color and design, the painter can do a floor job that will be entirely in keeping with the interior furnishings and that will be serviceable as well.

Getting the floor ready to paint calls for the usual sanding and scraping of rough areas, the digging out of cracks to remove long-embedded dirt, the removal of any wax, and the setting of all nailheads. Here and there, flat slash grain wood slivers may have to be removed or fastened down, some boards may need renailing and large cracks may have to be filled.

Cracks and holes may either be filled with wood fillers like "plastic wood" or with putty made with paste white lead and whiting. The puttying should be done after the first paint coat has been applied, but the "plastic wood" should be used before painting.

To make the filler, put some Dutch Boy soft paste white lead into a pan, work in enough dry whiting to produce a rather stiff paste, then add a bit of floor varnish and a little more

Fig. 1

whiting. Do a thorough job of mixing and kneading. Mix the putty just thin enough to draw smoothly out under the knife.

When the priming coat on the floor is dry, apply the putty to the cracks and other worn spots using a broad glazing knife, smoothing off carefully. After the putty has dried hard and firm, sand it off smooth and even.

Before any paint is applied to the floor, all scrapings, dust and dirt should, of course, be swept up.

More often than not, floors are simply cleaned and then painted without much thought about the nature of the service to which floor finishes are subjected. It should be pretty obvious that, in order to stand up for any length of time under the scraping legs of furniture, scuffing heels, much scrubbing, etc., floor paint has to be carefully designed to assure a hard, tough, well-anchored coating. Paint that is built to give good all-weather service on exteriors, for example, doesn't necessarily meet the demands made on floor paint—it contains too much oil.

Here are the formulas for paint for floors not previously painted, or for floors from which the old paint, varnish or wax have been entirely removed:

PRIMING COAT

Dutch Boy Soft Paste White Lead 100 lbs.
Dutch Boy Linseed Replacement Oil 3 gals.
Pure Turpentine 2 gals.
Gallons of Paint Produced $8\frac{1}{4}$
Sq. Ft. Covered per Gal., 1 Coat 600

SECOND COAT

Dutch Boy Soft Paste White Lead 100 lbs.
Dutch Boy Linseed Replacement Oil $\frac{1}{2}$ gal.
Pure Turpentine $2\frac{1}{4}$ gals.
Gallons of Paint Produced 6
Sq. Ft. Covered per Gal., 1 Coat 700

FINISH COAT

Dutch Boy Soft Paste White Lead 100 lbs.
Dutch Boy Linseed Replacement Oil $\frac{3}{4}$ gal.
Pure Turpentine $\frac{3}{4}$ gal.
Floor Varnish $1\frac{1}{4}$ gals.
Gallons of Paint Produced 6
Sq. Ft. Covered per Gal., 1 Coat 700



Fig. 2

Dutch Boy Painter

To protect the paint finish and to help the paint coating absorb the wear and tear of day-to-day service, it is a good idea, when the paint is dry and hard to apply a coat or two of paste wax, polished to a high lustre.

Regarding color choice, there is no reason whatever to confine the range of proper floor paint colors to a couple of grays, browns and yellows. In planning color assemblies or groupings for interiors, housewives think in terms of many colors—and they include the floors in their thinking, whether it be a carpet, rug or other covering. Such colors as turquoise, deep wine red, plum, prune, green, blue and even black are considered by the ladies. Furniture, drapery, and upholstery colors, once bought, are fixed. The big advantage of painted color has always been and always will be the ability to meet and match any and all conditions, to fit right in the decorative scheme.

So it should be with floor paint colors. The primer and the second coat may simply be gray or perhaps approximately the finish color, but the final coat can be just what the housewife wants to match her own ideas.

A painted floor need not be a plain, one-color expanse, either. Some highly decorative and interesting effects with stencils are possible on floors as they are on other interior surfaces.

Paint-decorated floors should be of more than passing interest right now for several reasons. Many of the new

small homes in housing developments have soft wood floors; the vogue for rag rugs in cottage-type homes indicates a vogue for painted floor designs; there has been considerable interest the past few years in Pennsylvania Dutch home decoration, and in Swedish and Peasant styles where painted floors are much in evidence; Early American and Colonial decorative forms are present in the new small home designs.

Sources for ideas for decorating floors are numerous. Rugs and carpets in modern designs offer endless ideas, as do marble, terrazzo and parquet wood floors.

Probably the most commonly used floor decorating idea is the spotting of a design in each of the four corners, as shown in Figure 1. It is a simple procedure and takes very little time.

Figure 2 shows a simple stencilled border, while Figure 3 is an unusual variation of the floor border style, using a rather dark center color, a lighter value of the same color for the border and applying the stencil in a third value of the same color.

A simple treatment and one that takes but little work is the time-honored border treatment suggested

Fig. 3

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in Figure 4. A border of suitable width is painted around the room edge in lighter or darker value than the center color. Then, diagonally in the corners is placed a simple design in the same color as the border.

For the room in modernistic or contemporary modern architecture and furnishings, there is practically no end of decorative floor layouts that are easy to do and that do not require much time. Figure 5 suggests a simple mask design with a distinct modern flavor. Here the floor has been done all over in one color of medium value, two coats. Then a wave mask was used on top, the dark color being applied off the mask with a stencil brush.

The small double leaf designs were stencilled in later on the dark border.

All-over or diaper patterns for floors are almost necessary for some of the rooms now being done in Peasant style decoration. The floor shown in Figure 6 was stencilled in black and white on a tile red ground color. In this particular case, two coats of tile red, the stencil colors, two coats of dull floor varnish and wax made up the complete floor finish. The stencilling was quickly accomplished because a large stencil with five of the motifs was used, thus five black or five white designs were applied at each setting of the stencil. A center chalk line was struck down the floor both ways

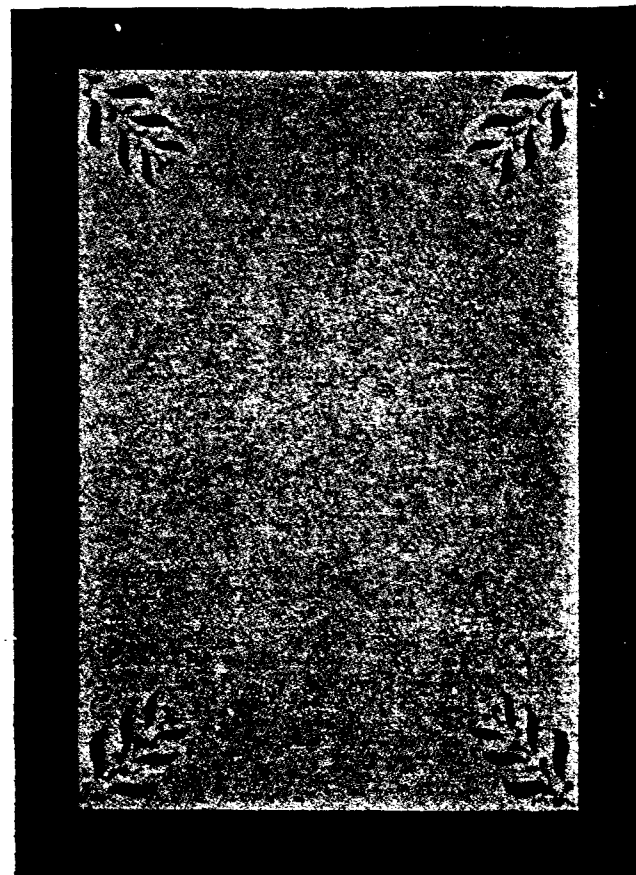


Fig. 4

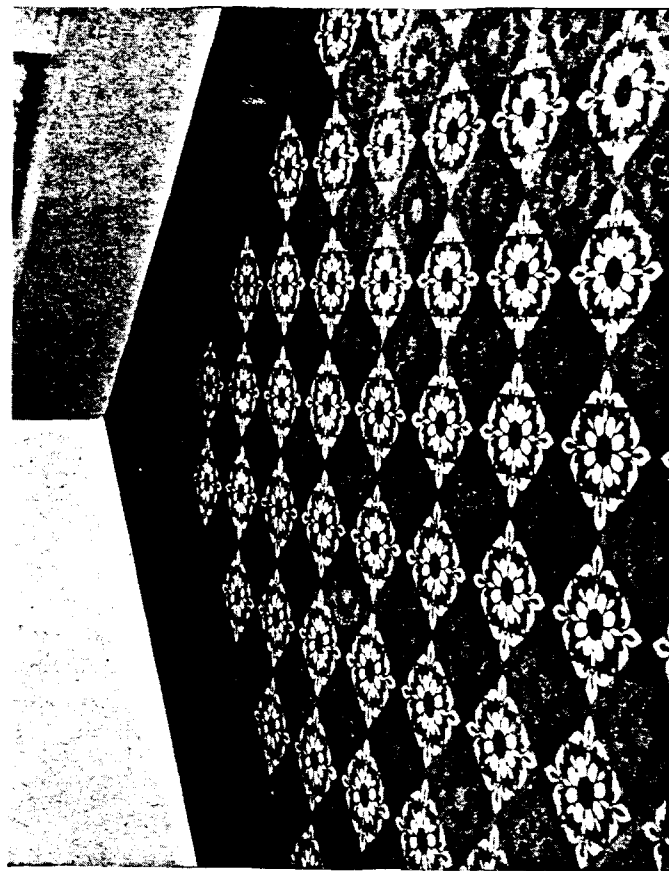
Fig. 5

and the stencil was set first in one of the four quarters about the center point. Working in each direction from the center made it easy to keep the pattern running true to match on all four sides of the stencil.

A definitely modern shaded floor treatment is indicated in Figure 7. The two side margins may be some very dark color such as black, blue-black, dull red or jade green. In between, the floor calls for a light ground color such as cream, and it should be in harmony with the mar-

gin color. The pairs of shaded stripes next to the dark margins are done after laying masking tape to properly

Fig. 6



"LET'S LOOK AT SOME SAMPLES"

If you can't carry samples to your customer, carry your customer to the samples. Many salesmen have but to open their sample cases in order to demonstrate their arguments for their particular goods. The painting salesman, however, cannot operate in this manner. The samples he wants to show may be at the other end of town.

This handicap is more theoretical than real to painting contractor Glen Hawthorne, though. H. A. Shugert, Cincinnati branch Dutch Boy representative, tells us that Hawthorne sells Dutch Boy jobs by taking his customers for a ride. First he makes clear to the property owner that, when buying a paint job, there's the *next* painting to keep in mind, too—whether costly unpainting will first have to be done, or merely a routine dusting. The customer naturally grasps this point very quickly. To drive home his argument, Hawthorne drives the home owner to a house the old paint on which will have to be completely removed before any new paint can go on. Since no one would knowingly buy a job that will wear out violently and expensively, Hawthorne has no trouble selling the other kind—a job that wears out slowly, evenly and stubbornly—a Dutch Boy job.

Hawthorne disclaims any particular selling ability—he says that all he does is to show samples. The jobs do the talking, the customer does the listening and Hawthorne then does the painting—with Dutch Boy.

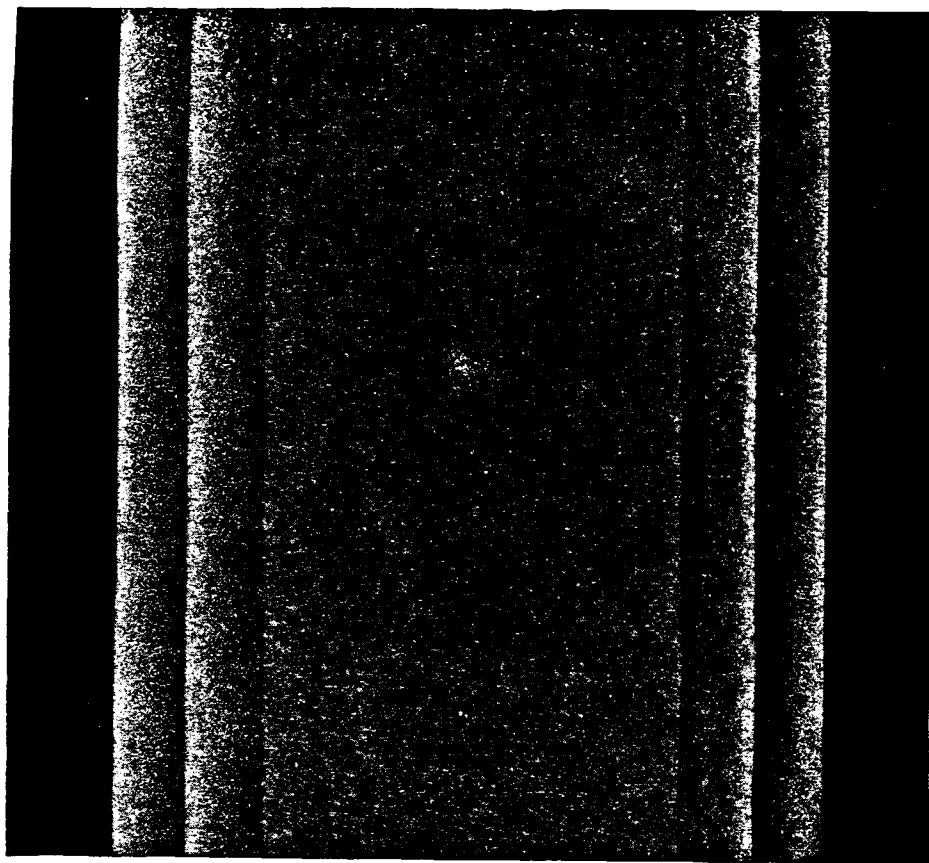
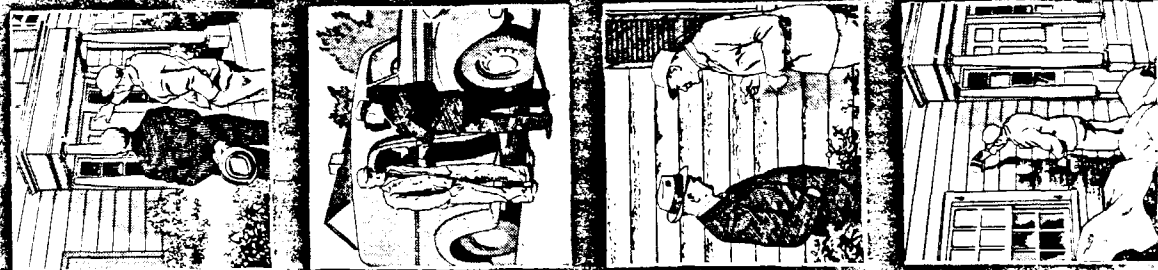


Fig. 7

spaced pencil lines, then stippling on a darker value of the main floor color.

In addition to stencil decoration there are, of course, other ways to relieve a plain painted expanse of floor. Spatter work is employed occasionally. Imitation tile effects, too, are sometimes used, copying a linoleum pattern of checkerboard squares for the use to which the room is put.

FACTS YOU SHOULD KNOW ABOUT



Dutch Boy LINSEED REPLACEMENT OIL

some of the questions about Dutch Boy Linseed Replacement Oil that may be in the minds of those who will handle it—over the counter, in the paint shop or on the job.

Perhaps the most important thing to know about Dutch Boy Linseed Replacement Oil is that it is a Dutch Boy product, put together, put up and put out by the same organization that makes and markets the products with which the oil is chiefly intended for use—paste white lead and red lead. The user can be very sure that, in formulating and manufacturing Dutch Boy Linseed Replacement Oil everything has been done to make it a fit vehicle for Dutch Boy paint pigments.

Moreover, it is important to know that Dutch Boy Linseed Replace

When an old, familiar staple like pure linseed oil virtually vanishes from the stores and paint shops where it has always been taken for granted, there is bound to be unusual interest, not to say curiosity, in any product designed to take its place. A man who earns his livelihood by applying paint wants to know everything he can about a product that is new to him. The purpose of this article, therefore, is to answer

ment Oil meets Federal Specification TT-O-371. This is the user's assurance that it contains not only ample linseed oil but also the correct proportion of heat-bodied linseed oil to insure proper viscosity and painting properties. Linseed replacement oil as defined in the Government specification, cannot be made merely by adding volatile thinner to regular raw or boiled linseed oil.

Dutch Boy Linseed Replacement Oil is a carefully controlled blend of pure linseed oil—the proper amount of which is heat bodied (polymerized)—volatile thinner and drier. There is nothing mysterious about any of these ingredients—they are all well known paint staples.

Dutch Boy Linseed Replacement

Oil, as the term implies, is intended for use wherever straight linseed oil has always been used, which, of course, is principally in mixing or thinning white lead and red lead paints. Note the paint mixing formulas below.

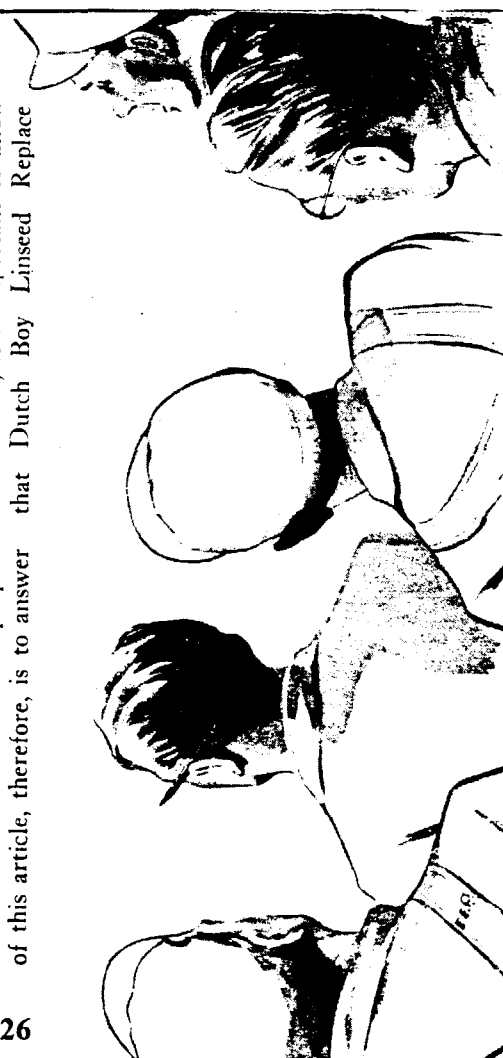
Added to paste white lead or paste red lead, Dutch Boy Linseed Replacement Oil produces a lead and linseed oil paint film—the type of protective and decorative coating which has long been first choice for durable and economical painting and for trouble-free surfaces when repainting time comes.

The physical characteristics of Dutch Boy Linseed Replacement Oil do not differ much from those of straight raw linseed oil—it has about the same viscosity and working properties. It is designed to produce paint

DIRECTIONS FOR MIXING PURE WHITE LEAD PAINT WITH DUTCH BOY LINSEED REPLACEMENT OIL

PAINT INTENDED FOR	MATERIALS	REPAINTING		NEW WORK		
		First Coat	Finish Coat	Priming Coat	Second Coat	Finish Coat
EXTERIOR WOODWORK	Dutch Boy Soft Paste White Lead	100 lbs.	100 lbs.	100 lbs.	100 lbs.	100 lbs.
	Dutch Boy Linseed Replacement Oil	2 gals.	3 gals.	4 gals.	1 1/2 gals.	3 gals.
EXTERIOR COMMON BRICK	Pure Turpentine	7 1/4	6 3/4	2 gals.	1 1/2 gals.	3 pts.
	Gallons of Paint Produced	700	700	9 1/4	6 3/4	6 3/4
EXTERIOR STUCCO, CONCRETE and STONE	Gallons of Paint Produced	700	700	600	700	700
	Square Feet Covered per Gallon, 1 Coat	100 lbs.	100 lbs.	100 lbs.	100 lbs.	100 lbs.
EXTERIOR COMMON BRICK	Dutch Boy Soft Paste White Lead	2 gals.	3 gals.	5 gals.	3 gals.	3 gals.
	Dutch Boy Linseed Replacement Oil	1 gal.	3 pts.	3 1/4 gal.	1 gal.	3 pts.
EXTERIOR STUCCO, CONCRETE and STONE	Pure Turpentine	6 1/4	6 3/4	9	7 1/4	6 3/4
	Spar Varnish	400	500	200	400	500
EXTERIOR STUCCO, CONCRETE and STONE	Gallons of Paint Produced	400	500	200	400	500
	Square Feet Covered per Gallon, 1 Coat	100 lbs.	100 lbs.	100 lbs.	100 lbs.	100 lbs.
EXTERIOR STUCCO, CONCRETE and STONE	Dutch Boy Soft Paste White Lead	2 gals.	3 gals.	5 gals.	3 gals.	3 gals.
	Dutch Boy Linseed Replacement Oil	1 gal.	3 pts.	3 1/4 gal.	1 gal.	3 pts.
EXTERIOR STUCCO, CONCRETE and STONE	Pure Turpentine	6 1/4	6 3/4	9	7 1/4	6 3/4
	Spar Varnish	400	500	200	400	500
EXTERIOR STUCCO, CONCRETE and STONE	Gallons of Paint Produced	400	500	200	400	500
	Square Feet Covered per Gallon, 1 Coat	100 lbs.	100 lbs.	100 lbs.	100 lbs.	100 lbs.

If heavy paste white lead, instead of soft paste, is used in any of the above formulas, add 1 quart of turpentine.



Dutch Boy Painter

which works easily under the brush, spreads well and hides properly. The paint levels off a little better, perhaps, than a straight oil paint. Setting up is a little more rapid due to the higher volatile content, and this has the advantage of inviting less dirt collection during the drying period. Either in the wet or the dry state, there is no marked difference in the appearance of the paint coating. Its durability on the job is, of course, very satisfactory because, as all experienced painters know, white lead paints produce long-lasting coatings even with somewhat

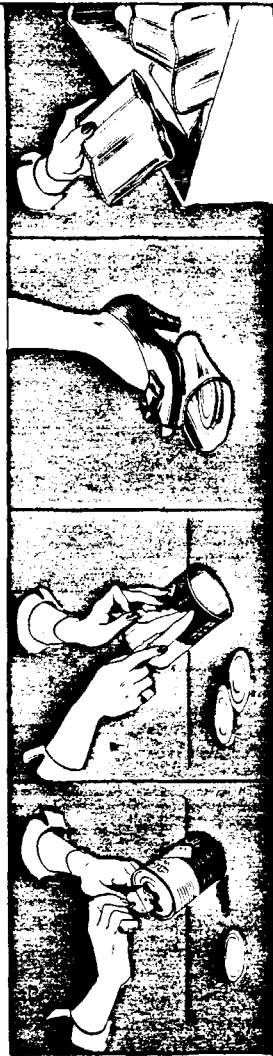
less linseed oil than is customarily used. The use of Dutch Boy Linseed Replacement Oil makes white lead paint mixing even simpler than before because no drier is needed—it is incorporated in the oil at the factory. Aside from this change, the only other alteration in the regular mixing directions concerns finishing coat paint. Here it is necessary to add a half pint of turpentine to each gallon of paint.

Dutch Boy Linseed Replacement Oil is sold the same way as straight linseed oil—in gallon jugs, 5-gallon cans and large steel drums.

Turn in your Tin!

It's a Vital War Metal!

Munition makers need every ounce they can get. You can help mightily by making it a fixed rule to send back to war every tin can you empty in your kitchen. The pictures show how to prepare a can for tin recovery.

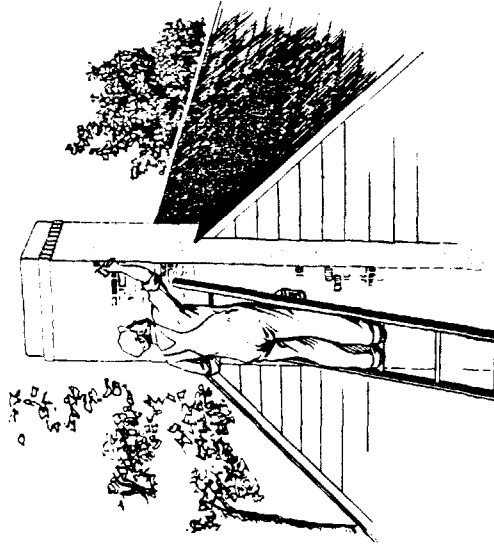


Cut out both ends of can.

Remove label and clean can.

Put ends in can and flatten.

Set out for collection.



WHY NOT PAINT THE CHIMNEY, TOO?

Chimneys are, of course, mostly utilitarian. But that is no reason they should receive little or no consideration when the rest of the house is being painted. Gutters and downspouts are utilitarian, too, but they are not likely to be overlooked when the painting of the house is being discussed.

Because the chimney's job is functional it cannot always also be decorative. That is to say, the draftsman or architect, in considering the front and side elevations of a house, to achieve symmetry, pleasing outline or nice proportion, may be handicapped by the floor plans. The furnace, fireplace or stove may be so located within the structure that its smokestack must perforce emerge from the roof at a very bad spot indeed. When this happens, proper painting can do much by way of camouflage.

Truth to tell, most people don't have their chimneys painted and most

painters don't suggest the painting simply because, if we may paraphrase a popular statement, "A chimney is only a chimney, but a good cigar is a smoke". The three- or four-foot high by a foot-and-a-half square stack of common brick perched on, or just over, the ridgepole is part of the everyday scene—the fact that it is not painted occasions no comment. And, if the chimney has been well designed, well placed and well built there is no need to paint it.

But there are chimneys that do call for paint—chimneys that need paint for protection and chimneys that call for paint for the sake of appearance.

On many an older house, the main body of which has been well maintained by regular painting, the chimney has "aged" more than the house. The mortar has fallen out of the joints, the bricks are loose and the chimney itself seems in danger of top-

pling, comes a stiff wind. Had the chimney received the same paint care as the rest of the structure it would have better withstood its exposure to the weather.

On many a modern house, the chimney is a very prominent architectural feature, not just a detail. In fact, in the photograph reproduced here, the chimney cannot possibly be overlooked. In cases like this, there is no question about painting the chimney—the main problem is how to paint it.

Assuming that many chimneys do need painting from either or both the standpoints of protection and appearance, how shall the job be done? Some painters have had little success in painting common brick chimneys simply because they viewed the job the same as a regular brick wall job. When the paint discolored or came off in patches the blame was usually placed on the paint.

The reason paint will part company from a brick chimney when the same paint will stay put on an adjacent brick or frame wall may be due to the construction of the chimney. While the sidewalls of the house are protected by the roof and thus are watertight at the top, the chimney may not be able to shed rain properly because it lacks a cement, stone or tile coping. Brick chimney tops frequently are coated over with cement trowelled much too thin for long protection. A cast slab of cement three or more inches thick makes a permanent seal

but the thin sheet soon cracks up and allows water to leak down between the bricks, break up the mortar and by attacking the paint from the rear, so to speak, cause it to blister and peel.

Another reason for paint failures on common brick chimneys may be found in the bricks themselves. Note the black-stained bricks in the previously mentioned picture. The paint came off these particular bricks because they were soot or smoke soaked when they were laid, having come to this job after use in a dismantled building.

These so-called "black bricks" also may show up in chimneys which are laid up with new common bricks but which have no flue linings. Smoke, because of the materials it contains, permeates the more absorbent bricks and in time works through to the outside. If the chimney had previously been painted, the paint on the affected bricks would, of course, come off.

On some chimneys soot discolorations occur because no chimney pots were installed to carry the smoke high enough to give proper clearance over the brick around the chimney top.

From the foregoing it will be seen that painting common brick chimneys, like painting practically all other surfaces and building materials, calls for a certain amount of inspection and preparation before the actual application of the paint.

First, is the chimney properly constructed? Does it have a rain-tight, water-shedding coping? If not, the

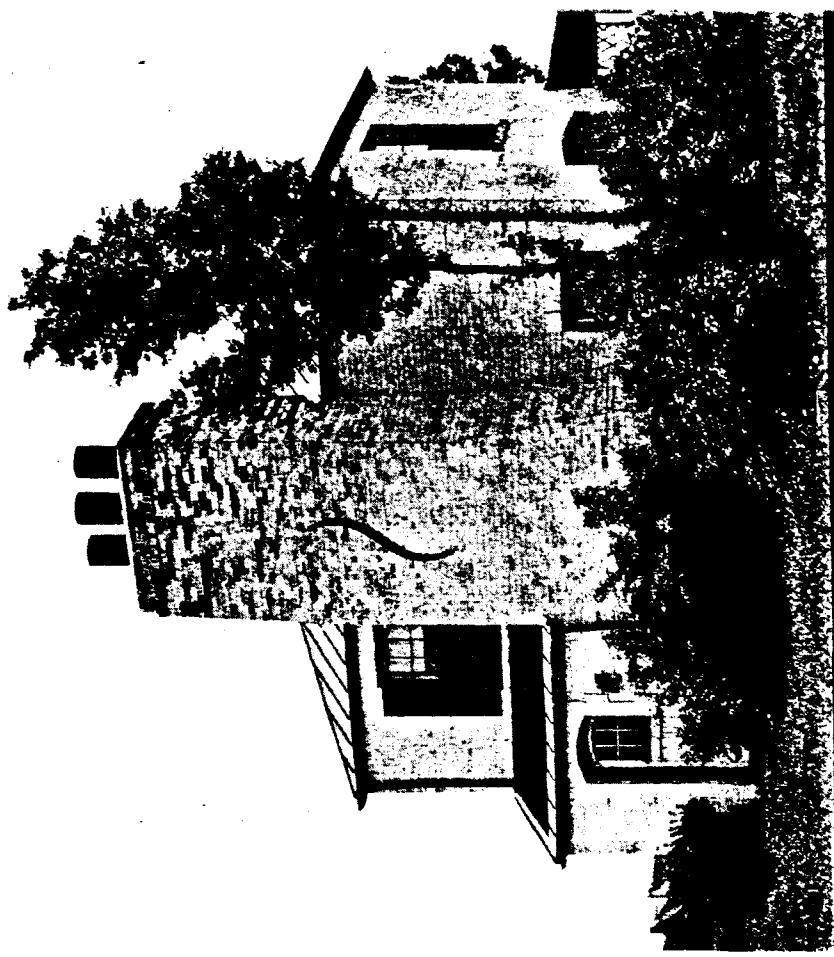
home owner should have one put on before any painting is done.

Second, does the chimney need pointing up? Is the mortar in good shape and are the bricks solidly anchored? If not, the repairs should be made before painting.

Third, are there any "black bricks" in evidence? Any bricks that look sooty and discolored? If so, they should be wire-brushed, sandpapered and then thoroughly scrubbed with water to which strong soap powder has been added. The bricks should be allowed plenty of time to dry out before painting.

Fourth, are the bricks around the top of the chimney soot-discolored, indicating insufficient smoke clearance? If so, tile chimney pots should be installed if the same sort of discoloration is not to appear after painting.

Fifth, assuming the chimney was previously painted, is the old paint firmly anchored? If not, it should all



be removed down to the bare brick, using a paint remover, followed by scraping and wire brushing.

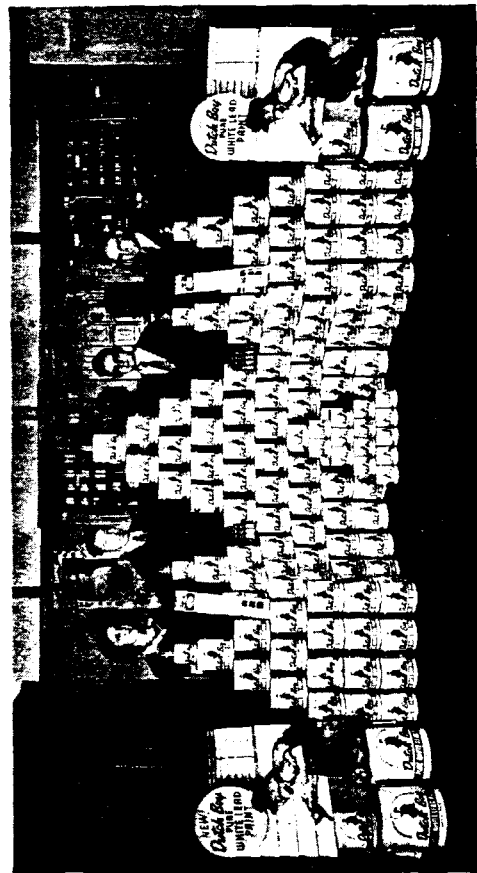
The actual painting procedure on a brick chimney, once the preparation is attended to, differs not at all from that on any other common brick surface. For the paint there is nothing better than pure white lead. Complete paint mixing directions appear on page 61, in connection with the article on Linseed Replacement Oil.

As with all other painting, a spell of good, dry weather should precede the job and prevail while doing it. Plenty of time should be allowed between coats for proper drying.

So far as the application of the paint

is concerned, most painters prefer to use their worn-down or "third best" brushes for the first coat on such rough stuff as brick chimneys. Stubby, rather stiff brushes enable them to rub the paint in close and make sure that there's paint in every pore and crack and especially in the mortar courses.

Some folks like to retain the appearance of individual bricks in their painted brick chimneys, particularly when the job is done in some typical brick color. This is readily accomplished by lining off the original mortar courses, either free-hand or with a straight-edge, with a lining brush or small fitch using paint of a different color than that employed overall.



LUMBER AND PAINT, LIKE LEAD AND OIL, GO TOGETHER

The Kittinger Lumber Company of Owensboro, Ky., realizing the natural tie-up between good lumber and good paint, put in a stock of Dutch Boy Pure White Lead Paint when this product was introduced a couple of years ago. That stock has not been static—it has moved and keeps on moving. The Kittinger people shown above are, left to right: Miss Benita Bittel, E. W. Chinn, C. D. Sharp and J. W. Kittinger. J. O. Kittinger looks after the advertising which in recent seasons has included radio and newspapers.

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I am the Dutch Boy Painter trade mark. My presence on this package of pure white lead paint changes not one whit the quality of the product within. Unlabeled, this container would still hold the best in paint. But you wouldn't be sure until you tried it. I'm here to identify this paint, to tell you at a glance that it's a Dutch Boy Product, to assure you that, if you want a paint that has everything—extreme whiteness, high hiding, substantial body, typical white lead ruggedness, *this is it.*

WHAT'S YOUR PROBLEM?



National Lead Company's staff of practical paint men will help you solve your painting problems without charge. Address your letter to National Lead Co., Room 1815, 111 Broadway, New York, N. Y. Please state your problem fully and be sure to place your name and address on your letter. Our reply will reach you promptly by mail. The problems discussed below have been selected because they appear to be of general interest. Space limitations permit the printing of only a few of the problems handled.

Painting Casein-Coated Sand Finish Plaster

Question: How shall I go about painting sand finish plaster walls and ceilings that are now coated with casein paint? The coating doesn't appear to be on very solid and I am wondering if I should try to take it off.

Answer: If there is the slightest doubt about the adhesion of the old casein paint, remove it. The chances are that you can clean it off by careful use of a fine wire brush.

Once the old coating is removed and the walls dusted clean, you can apply a coat of Dutch Boy Wall Primer right out of the container. This primer should be applied freely with a full brush and rubbed out well in order to completely seal the surface and to get a well-anchored foundation for the next coat of paint.

For the second, and any following, coat of paint use Dutch Boy Soft Paste White Lead thinned with an equal volume of Dutch Boy Lead Mixing Oil (50 lbs. white lead and 1½ gals. oil, for example). If Lead Mixing

Oil is not obtainable, mix the 50 lbs.

of white lead with ⅞ gal. turpentine, ½ pt. varnish and ¼ pt. liquid drier. This paint may be tinted with colors in oil. It may also be stippled if a straight brushed finish is not wanted.

Filling Wall Cracks to Stay Flush

Question: I have trouble patching cracks in plaster walls. After undercutting the cracks in the usual way, I fill them, let them dry and then spot prime the patches, sometimes with lead and oil paint, sometimes with varnish. More often than not the cracks swell after the final paint coat, giving the wall a very unsatisfactory appearance. Please tell me how to fill these cracks so they will stay flush with the wall.

Answer: You do not say just what crack-filling material you use. As a general rule we suggest regular patching plaster sold by most paint and hardware stores. This must be mixed with water as directed on the package, then forced into the cracks after the crack edges have been wet with clean water. The crack should be completely filled, then trowelled smooth and level with the rest of the wall surface. After

Dutch Boy Painter

the patch is dry it should be given a coat of Dutch Boy Wall Primer thinned down with turpentine at the rate of one part of thinner to ten parts of Primer. This thinning is done in order to reduce the thickness of the paint film over the patch.

After the spot priming is dry, sand down the entire wall surface, patches and all, then go ahead with the painting. Treated thus, the walls should turn out smooth and uniform.

Uneven Gloss on One-Coat Job

Question: I am disturbed over a one-coat white lead repaint job I did a couple of months ago. I used a mix of 100 lbs. white lead, 3 gals. raw linseed oil and a pint of drier. The old paint—a very light cream color—was in good shape, the swatch was good and the job appeared to be all right when I finished. It looks good now, too, until you see it from an angle. Then some areas look very dull and flat while other places are nice and glossy. The owner is complaining and I would like to know the cause of the trouble so I can correct it.

Answer: A one-coat job that turns out 100% right is an exception, not the rule. In spite of the fact that the old surface appeared to be in good condition, the premature flattening on certain areas proved that the old paint coating, if not the underlying wood, was unevenly absorbent. This condition could not have been observed, of course, on the old surface which probably had lost all its gloss.

It is obvious that these more absorbent areas robbed your paint of much of its oil. Then, too, any over-

lapped edges where you joined stretches naturally would be glossier than the rest of the surface because the overlaps are really two coats of paint.

The responsibility for the paint failure, if that is the term to use, may rest with you if you assured the owner that one coat would be all right. On the other hand, the owner is to blame if he insisted on a one-coat job even though you objected. The remedy for the uneven appearance is nothing more or less than one more coat of paint mixed just like the coat you have already put on, with this difference: If you cannot now secure straight linseed oil use Dutch Boy Linseed Replacement Oil instead and add 3 pints of turpentine, omitting the drier.

Removing Rust from Glass

Question: Rust spots from metal screens have badly stained some window glass I have been asked to clean. What is the best way to get the rust off?

Answer: The rust stains ought to come off during a brisk rubbing with a mild cleaning powder such as Bon Ami, Old Dutch Cleanser, Bab-O, etc. There is not much danger of scratching the glass unless some very abrasive cleaner is used.

After removing the stain, polish the glass with the following mixture: 1 oz. fine whiting, 1 oz. alcohol, 1 oz. ammonia and 1 pt. water. Apply this cleaner to the glass with a pad of soft cloth and allow it to dry. Then, with a clean cloth, polish the glass. This polishing mixture, incidentally, is ex-

Dutch Boy Painter

cellent for regular use on plate glass windows. It imparts a brilliant shine.

Painting Tarry Galvanized Iron

Question: I have been asked to paint some old galvanized iron now coated with some sort of tar or asphaltum. Can I do a good job with oil paint on this iron?

Answer: If you can discover some practical method of removing every trace of the old tar or asphalt from the metal you can do a good oil paint job. Otherwise, no. No paint will stick to tar for long. And if it is a light-tinted paint it will discolor quickly. Your best move, undoubtedly, if the tar can't be removed, is to recommend a new coat of the same material previously used.

Painting Concrete Block House

Question: The white cement paint on a house built of concrete blocks is turning powdery and some washes off in the rain. What is the best way to remove this old coating and how can I paint the house so the job will last?

Answer: Getting the old paint off the surface of the concrete should not be difficult if some of it now comes off during a rain. Obviously it is a water-thinned coating. A good brisk wire-brushing should loosen the old material. Then follow with a thorough brushing with an ordinary stiff scrubbing brush.

A solid, long-wearing, water-resistant job on this house calls for three coats of paint. These should be mixed as follows:

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PRIMING COAT

Dutch Boy Soft Paste White Lead 100 lbs.
Dutch Boy Linseed Replacement Oil 3 gals.
Pure Turpentine 1 1/4 gals.
Spar Varnish 2 gals.
Gallons of Paint Produced 9 1/2
Sq. Ft. Covered per Gal., 1 Coat 200

SECOND COAT

Dutch Boy Soft Paste White Lead 100 lbs.
Dutch Boy Linseed Replacement Oil 2 gals.
Pure Turpentine 1 gal.
Gallons of Paint Produced 6 1/4
Sq. Ft. Covered per Gal., 1 Coat 400

FINISH COAT (GLOSS)

Dutch Boy Soft Paste White Lead 100 lbs.
Dutch Boy Linseed Replacement Oil 3 gals.
Pure Turpentine 3 pts.
Gallons of Paint Produced 6 5/8
Sq. Ft. Covered per Gal., 1 Coat 500

It is important that the concrete be thoroughly dry before painting and that the work be done when the weather is dry, not humid. Allow the priming coat, especially, plenty of time to dry and harden. Make sure that you work the paint well into the joints and mortar courses. Otherwise the job may not be sufficiently moisture resistant.

Cleaning Calcimine

Question: How can I clean a calcimined wall that has collected considerable dirt?

Answer: About the only way to clean calcimine successfully is to use a good wall paper cleaner. It should be handled in the same way as in cleaning wall paper. Calcimine is likely to streak more easily than paper so it will be necessary to clean smaller stretches and to change the wad of cleaner frequently as it picks up the dirt.

WITH STRAIGHT LINSEED OIL ON THE RESTRICTED LIST
HERE'S THE ANSWER TO YOUR OIL PROBLEM.

Dutch Boy LINSEED REPLACEMENT OIL

This new Dutch Boy product is designed for use wherever straight raw or boiled linseed oil has been employed in mixing or thinning white lead and red lead paints.

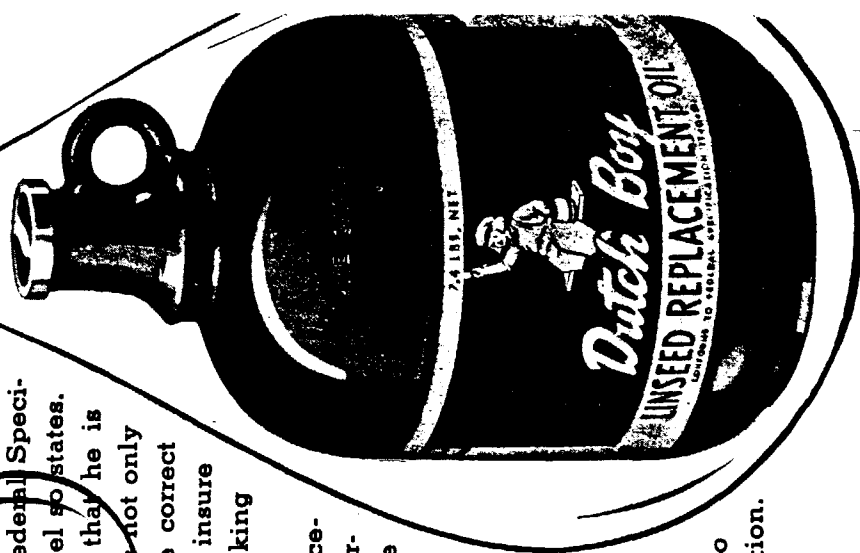
Dutch Boy Linseed Replacement Oil is a skillful blend of well known paint staples—pure linseed oil (the correct proportion of which is heat-bodied), volatile thinner and drier.

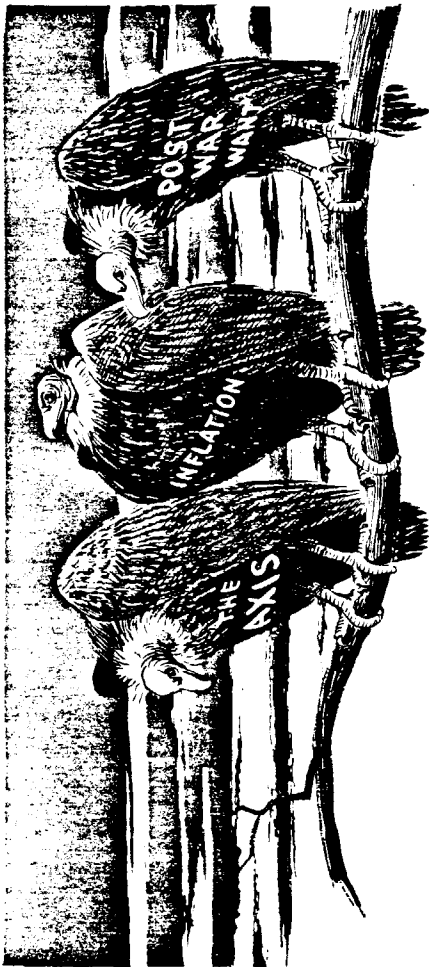
This new oil conforms to Federal Specification TT-O-371, and the label so states.

This is the buyer's assurance that he is getting a product that contains not only ample linseed oil but also the correct amount of heat-bodied oil to insure proper viscosity and paint-making properties.

Dutch Boy Linseed Replacement Oil

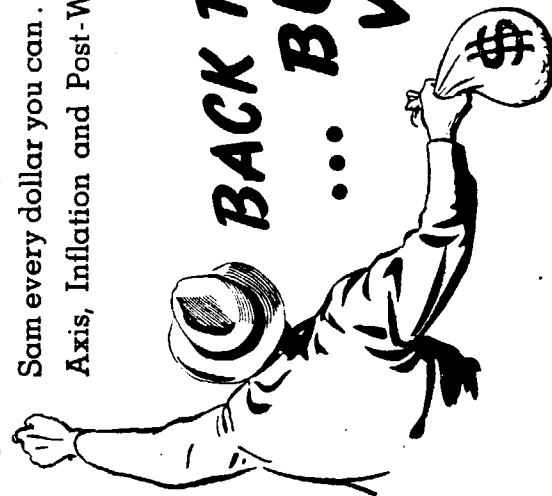
Oil is made to work perfectly with Dutch Boy White Lead. Together they produce a paint that has the easy working quality, the fine appearance, the durability, the economy that is typical of all pure lead and oil paint. Try this new oil the first chance you get—it's sold in 1-gallon jugs, 5-gallon cans; also in large drums for bulk distribution.



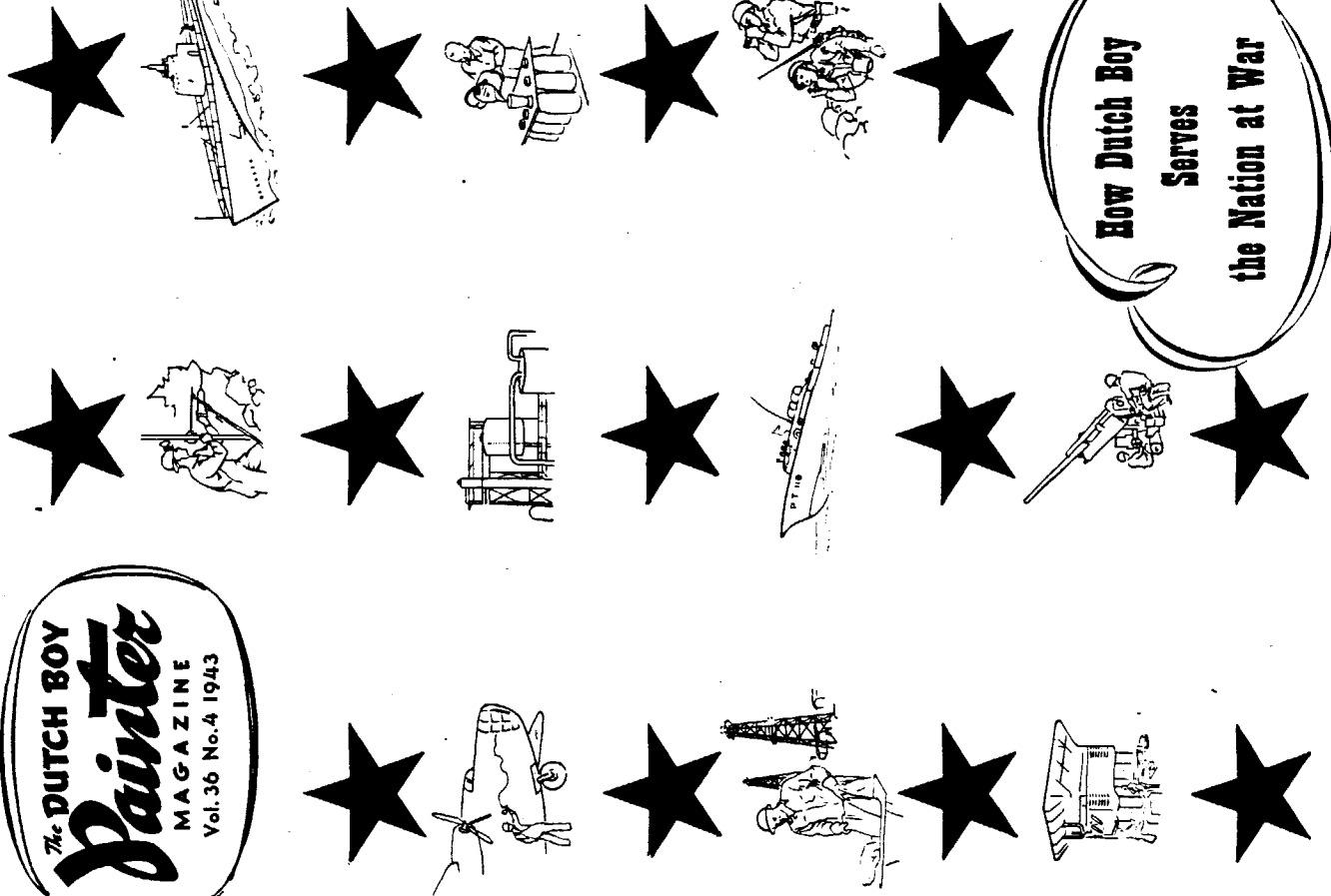


KILL THREE BIRDS WITH ONE LOAN

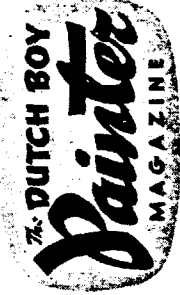
War Bond dollars work three ways: (1) They buy weapons our fighting men need to win the war. (2) They stay "in service" during the war, thus do not contribute to inflationary spending sprees. (3) They represent buying power for the things we need after the war. Lend Uncle Sam every dollar you can... and kill three birds—the Axis, Inflation and Post-War Want—with one loan.



BACK THE ATTACK ... BUY MORE WAR BONDS



How Dutch Boy
Serves
the Nation at War



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VOLUME 36, NUMBER 4, 1943

NATIONAL LEAD COMPANY IN WARTIME

WITH constant repetition words lose their original impact. The phrase "total war" is an example. Heard again and again in recent years, it has become more familiar and thus less arresting.

Yet no other combination of words so fittingly describes the American scene today. In a very real sense, the energies and enterprises of the world's most powerful democracy have been mobilized totally for one purpose and one objective—war and victory.

Thanks to the nature and diversity of its peacetime goods and services, National Lead Company has been able to join in this historic undertaking and to shoulder a share of the burden—not only in its familiar role as a manufacturer of lead and paint products, but also in numerous other fields of activity vital to the success of the war program.

Mining Needed Metals and Minerals

One of those fields of activity is mining. Long before Pearl Harbor, America's mining industry was changing over from a peace to a war basis. In all parts of the country, production of metals and minerals was increasing.

Long-abandoned ore deposits were being reworked and government encouragement was being given to the development of new mines, particularly if imports could thereby be reduced and the shipping burden lightened.

Joining in this program to speed the output of vital raw materials, National Lead Company has made and is still making several valuable contributions. One noteworthy example is the MacIntyre Development, a large mining project in the heart of New York State's Adirondack Mts. Begun in May, 1941, and completed one year later, this mine will produce annually several hundred thousand tons of ilmenite, a titanium-containing ore previously imported from India, as well as an even larger amount of magnetite iron ore which compares favorably in purity with the famed Swedish ores on which Nazi Germany depends.

Today, titanium extracted from MacIntyre ilmenite is serving war needs as a base for white pigments used in protective and camouflage coatings for battleships, tanks and army canteens. It also enters into the manufacture of

In the sincere belief that the wartime activities of National Lead Company are of genuine interest to all the members of the Dutch Boy family—which includes the distributors and users of Dutch Boy Products, this issue of the Dutch Boy Painter magazine is devoted solely to a description of the Company's Victory effort.

speeded up as early as 1940 when the demands for lead and zinc indicated that serious shortages might develop.

Salvaging Metal from Scrap

Vital as is mine output, mines are not the only source for needed metals. Even in time of peace, refined scrap or secondary metal plays almost as important a part in the supply picture as newly produced or primary metal. Frequently in time of war, secondary metal becomes the major supply source. This is especially true in the case of strategic metals—those which normally

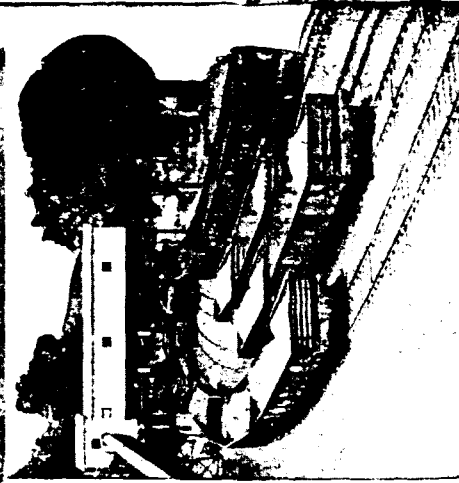
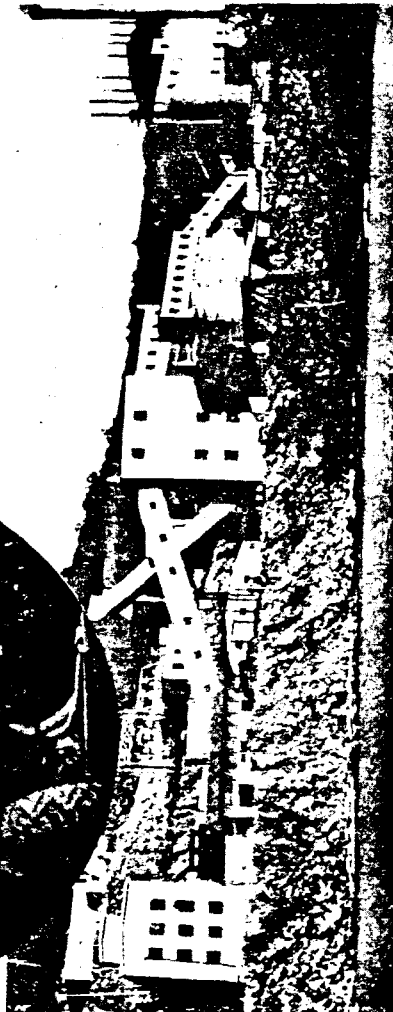
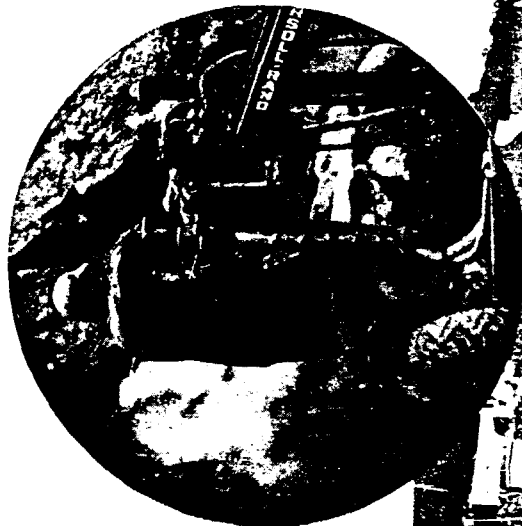
a mine in Madison County, Missouri, earlier this year. Ores from this mine contain lead and copper as well as cobalt and nickel, two metals which are in particularly short supply at the present time. Capacity output will be reached some time this fall following the completion of an ore concentrating mill being built at the mine site.

Additions to the nation's stock piles of important war metals are also being made through the more intensive working of the Company's lead and zinc mines in Missouri, Kansas and Oklahoma. Operations at these mines were

being financed by the Defense Plant Corporation, an RFC subsidiary, will help relieve the country's currently over-burdened sintering facilities.

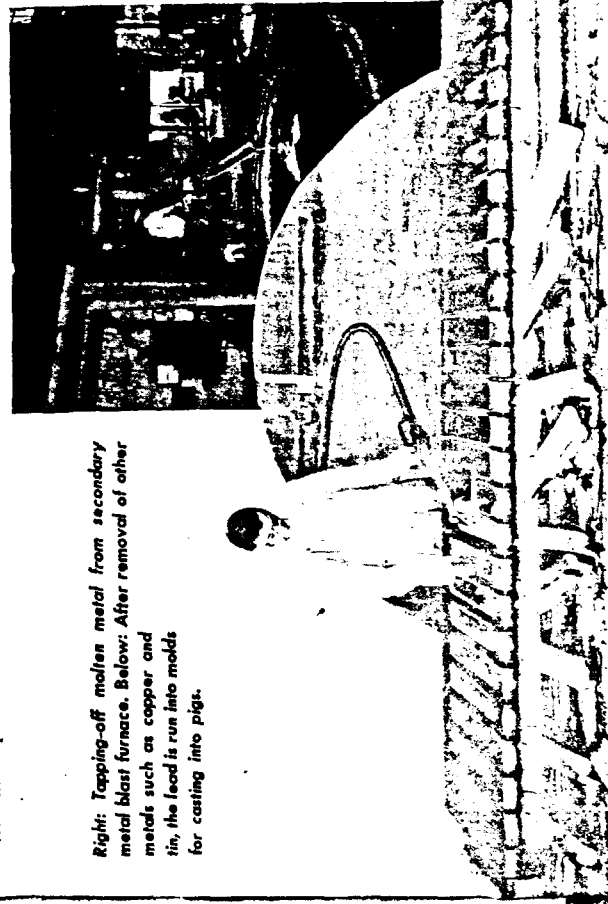
Another Company contribution to raw material needs was the opening of

Left: Wagon drilling at the MacIntyre mine. Center: Mill buildings at the MacIntyre Development, National Lead Company's mining project in New York's Adirondack Mountains. Below: Loading facilities for MacIntyre ore concentrates at North Creek, N. Y., railroad.



ture of paper and other essential war-time products.

MacIntyre magnetite is available to help meet the war-swollen demands of the nation's steel industry. At present, iron ore comes from the Development's mill in the form of a relatively fine concentrate and must be sintered before use at steel-making centers. Soon the sintering—which converts the concentrate into large, porous chunks more suitable for use in blast and open hearth furnaces—will be done at the mine site in a large, modern plant now under construction. The new plant,



Right: Tapping-off molten metal from secondary metal blast furnace. Below: After removal of other metals such as copper and tin, the lead is run into molds for casting into pigs.

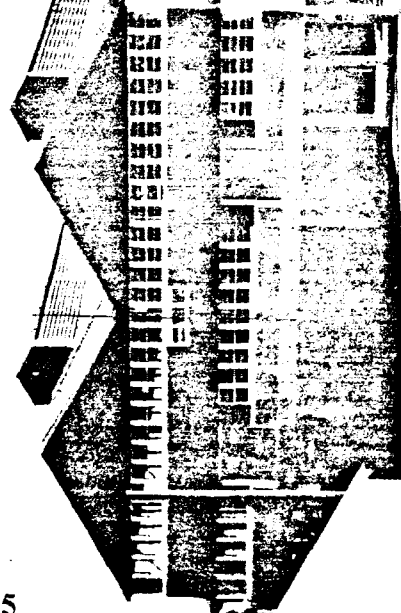
Dutch Boy Painter

come from abroad in the absence of adequate domestic deposits. Among raw materials in this category today are tin which before the war was obtained chiefly from Malaya, and antimony, a metal produced principally in China and used in lead alloys.

As one of the country's largest peacetime buyers and processors of non-ferrous secondary metals, National Lead Company has been able to assist the government in the fullest exploitation of America's scrap resources. For many months past, an ever-faster stream of salvaged tin, antimony, lead and zinc has flowed from its metal-recovery plants to help meet war needs.

Due to its experience in the appraisal of scrap metal, as well as to its nationwide processing facilities, the Company

Magnesium plant in Ohio built and operated by National Lead Company for the DPC.



has been able to relieve government agencies of many of the burdensome mechanics connected with the non-ferrous scrap-recovery program. Since early 1942, it has acted as agent for the Metals Reserve Company in the purchase and treatment of tin and tin-bearing alloys turned in to the government by jewelers in accordance with a WPB directive. Later this agency was extended to cover unused electrolyte metal, a lead-tin antimony alloy, released by printers for war use. More recently authority was given to purchase and process frozen stocks of bab-bitt and type metal for the account of the government.

Production of Magnesium

In addition to mining and metal-processing activities, National Lead Company has made still another contribution to the success of the nation's



metal program, through the construction and operation of a plant for the production of magnesium and its alloys which are needed in the manufacture of aircraft parts, incendiary bombs, tracer bullets and flares.

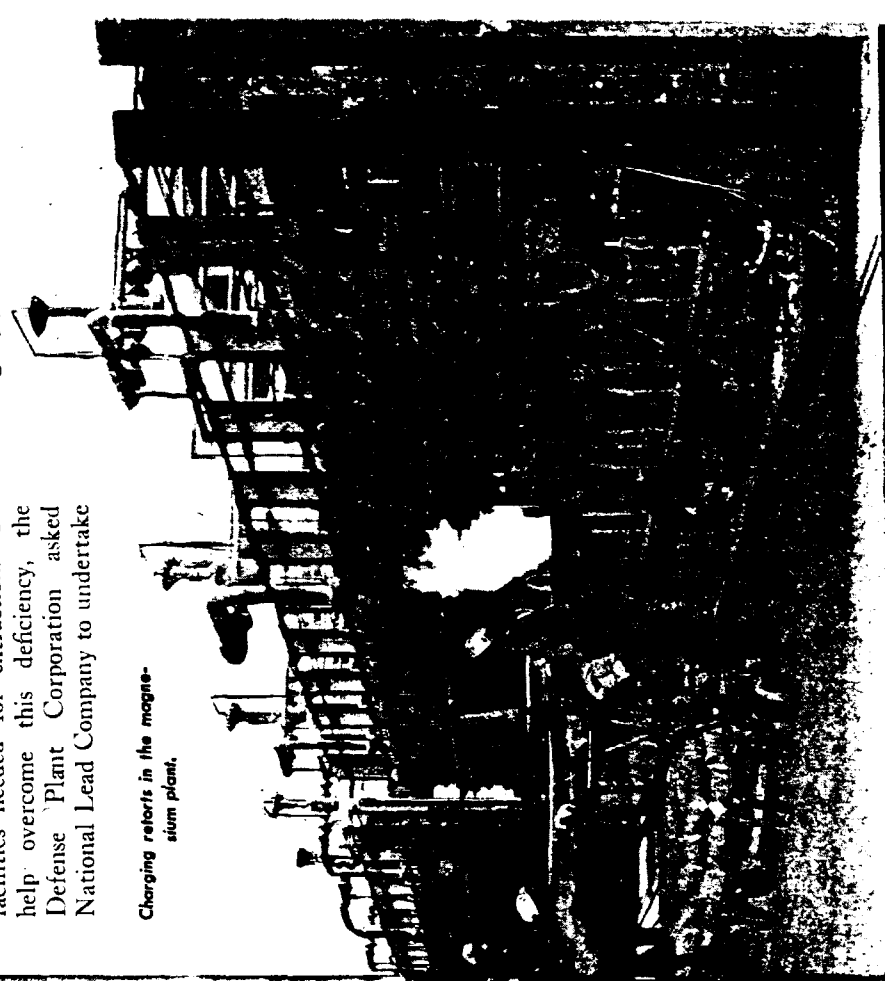
Since the very beginning of America's rearmament effort, magnesium has vied with aluminum for the dubious honor of being the nation's No. 1 critical metal. The virtually "bare-cupboard" status of both metals contributed not to a lack of raw materials containing them but to a deficiency in the facilities needed for extraction. To help overcome this deficiency, the Defense Plant Corporation asked National Lead Company to undertake

Dutch Boy Painter

the construction and management of a magnesium plant. Similar invitations to help expand production facilities were also extended to several other companies.

In response to this request, a suitable plant site was selected in northern Ohio where there are extensive deposits of dolomite, a magnesium-bearing limestone. Ground was broken in July, 1942, and within four months a pilot plant was in operation. Within less than eight month's time, the main plant was brought into production.

During 1943, this producing unit



Charging retorts in the magnesium plant.

Dutch Boy Painter

which utilizes the ferro-silicon process of reduction, together with other facilities being built under the government program, will raise the American output of metallic magnesium to a point 100 times higher than the 1939 level.

Aid to Oil Well Drillers

As is evident from the foregoing, the Company's activities in the field of raw materials center chiefly around metals and metal-containing minerals. However, an important National Lead Company division is contributing indirectly through its products and services to the increased production of another vital but non-metallic raw material—petroleum. Called the Baroid Sales Division, this unit helps serve the needs of oil well drillers who are seeking to boost output by tapping new oil sources.

Baroid products—known as “drilling mud” control materials—include various carefully processed minerals and chemicals. They are used to regulate the specific gravity and other important characteristics of the fluid or “mud” which the operators of rotary drills employ in drilling.

A “mud,” which has been adapted to sub-surface conditions with the proper control materials, performs several important functions. Basically it lubricates the drill, carries away cuttings

and facilitates the movement of the drill pipe. Also, by means of its weight and gel-like nature, it checks the tendency of loose formations to slide into the hole, reduces the hazard of blow-outs due to oil or gas pressure and limits water intrusions in the well. Baroid products are important to the drill operator for they promote safer, faster and more economical drilling.

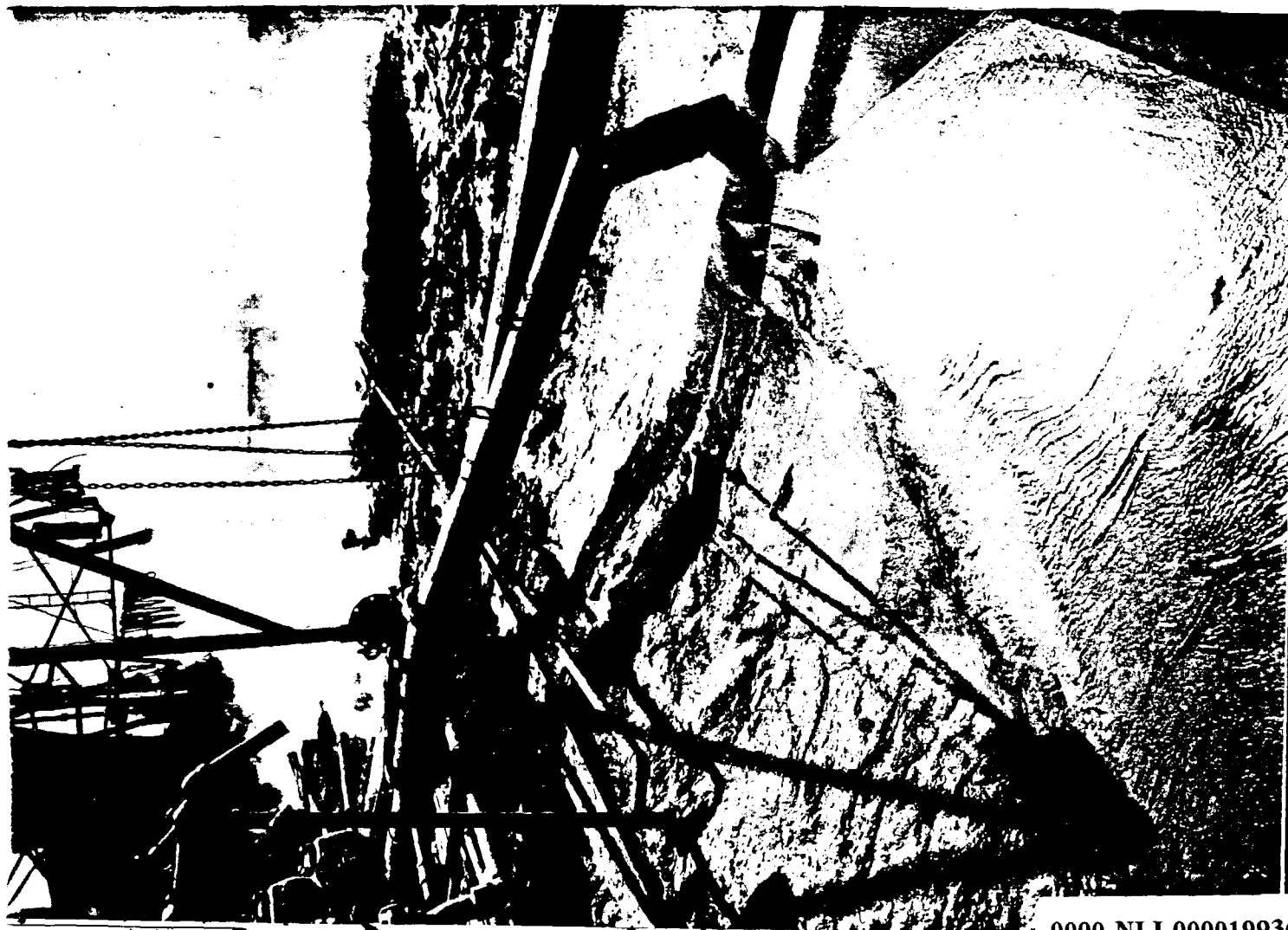
As a service to its customers, the Baroid Sales Division maintains a technical laboratory service “on wheels.” Trained Baroid engineers, each in a car equipped with testing apparatus, operate throughout active oil fields assisting in the efficient and economical use of Baroid products. In addition, the Division offers a unique “well logging service” designed to aid the driller in determining the presence or absence of oil, gas or salt water in the various formations encountered while drilling, and of accurately logging the depths and thicknesses of such formations.

The Needs of War Industry

More highly publicized than raw material problems, and thus more familiar to the average American, is the manufacturing phase of the nation's war program—the actual production of guns, tanks, planes, ammunition and other military supplies and equipment.

In the early days of the war, plant conversion and construction were the dominating features of the manufacturing phase. Everywhere new fac-

Left: “Drilling mud” flow line, a familiar sight in oil well drilling operations. Mud, properly controlled, serves a number of purposes in drilling.



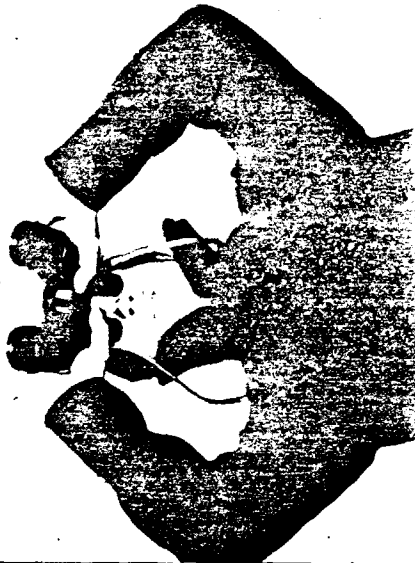
ories and new shipyards were being rushed to completion. One by one, manufacturers of automobiles, refrigerators, radios, vacuum cleaners and other durable goods were changing over from peace to war production.

It is interesting to note that, during those first dramatic and exciting war months, a large and important section

of American industry did not convert—simply because its facilities were already adapted to the needs of the nation at war. Prominent in this group were those industry suppliers whose products are basic materials, essential to production whether for peace or for war.

It is as a basic material producer that National Lead Company has been and is sharing in the production phase of the war effort. Just as for years past, the Company has been one of industry's chief sources for products made from lead and numerous related materials,

Left: There is lead, in the form of oxide, in the lens glass of this sailor's binoculars. Lead, which here is invisible, adds to the density of glass, thus increasing its refractive index and magnifying power. Below: Routine testing of the electrolyte in a submarine storage battery. Lead in tremendous quantities is used in storage batteries with which all trucks, tanks, planes and ships are equipped.



so now it provides industry with those same goods wherever they are needed in manufacturing for war.

Lead Goes to War

Noteworthy among these products because of the large tonnages involved are antimonial lead and the oxides, litharge and red lead—essential materials in the manufacture of storage batteries. All three types of lead form the active element of a battery. Immersed in an acid electrolyte, this leaden "heart" takes up and discharges electricity by chemical means.

As man's most practical movable source for electrical current, lead-acid storage batteries play a surprisingly widespread part in military operations. They are used in every tank, truck and jeep, on every bomber, fighter and patrol plane, on battleships, destroyers and submarines.

The versatile litharge and red lead fill another interesting war need—as ingredients in the lens glass used in bomb and gun sights, submarine and tank periscopes, height and range finders, field glasses and telescopes. Lead adds to the density of glass, thereby increasing its refractive index and power of magnification. Lead-containing lens glass is of obvious importance in a war when combat may and frequently does take place at horizon ranges.

Uses for the Company's alloys of lead appear in many unsuspected places

Below: Machinist mates checking mammoth twin diesels aboard U. S. Navy submarine. Lead alloys are widely used as bearing linings in diesels and other types of engines. Right: The lead used in modern small-arms military ammunition is not exposed as it was an earlier cartridge. It now takes the form of a slug within the outer jacket of the bullet.

—Official U.S. Navy Photos



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in war goods production. Its babbitts are being employed by builders of all types of military equipment to line engine and other machinery bearings. Its lead-tin solders serve to fasten wiring in electrical instruments, generators and similar apparatus as well as to seal moisture-proof, air-tight food containers. Other lead alloys are used as corrosion-resistant metallic coatings or for die-casting many military items.

Equally broad in scope are wartime applications for specially fabricated lead shapes. Products in this category

range from huge cast weights for holding submarine nets rigid, to small intricately formed bits of lead for the delicate balancing of gliders and plane propellers. Of special interest is a lead slug produced for the makers of rifle and machine gun bullets.

Paint Pigments and Vehicles

Another group of Company products filling war production needs consists of pigments and vehicles for protective and camouflage coatings. The pigments include most of the important types employed in the formulation of industrial paints and finishes. They are: the titanium-base pigments—titanium dioxide, lead titanate, and titanium dioxide in combination with barium and calcium; as well as the familiar lead-base pigments—white lead, red lead, lead chromate and basic lead sul-

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phate. Also included are natural and chemically produced color pigments, barytes and whiting. For use with these pigments, the Company crushes, refines and processes linseed oil, one of the most important paint vehicles.

Tools of Production

Not all materials the Company furnishes industry in wartime emerge as integral parts of military equipment. Some major products play supporting, though nonetheless important, roles in the production process.

One of the most interesting of these is the fiery chemical reagent, sulphuric acid. In highly concentrated form, as oleum, sulphuric acid is essential in the manufacture of high explosives. Without it, there could be no gun-cotton, no smokeless powder, no T.N.T. Not a peacetime National Lead Company product, oleum production was undertaken in 1941 at the request of the government. Subsequently facilities were expanded until today the Company is one of the largest producers.

Another noteworthy product plays a vital role in the production of American warplanes. Called Kirksite "A," it is an alloy of zinc with small percentages of other metals.

Easy to cast and machine, yet with exceptional hardness, it is an ideal die material for forming or cutting aluminum alloy, stainless steel and other types of thin-gauge sheet metal. When used in place of steel for die purposes—a

Left: Gun crew cleaning 6-inch guns after firing practice. Note camouflaging of guns—dark paint on top surfaces, light paint below. Inset: Sailors repainting side of aircraft carrier. Mt. National Lead Company's oleum is employed in the making of explosives used in such powerful devices of destruction as the anti-submarine path charge which produced this "geyser".

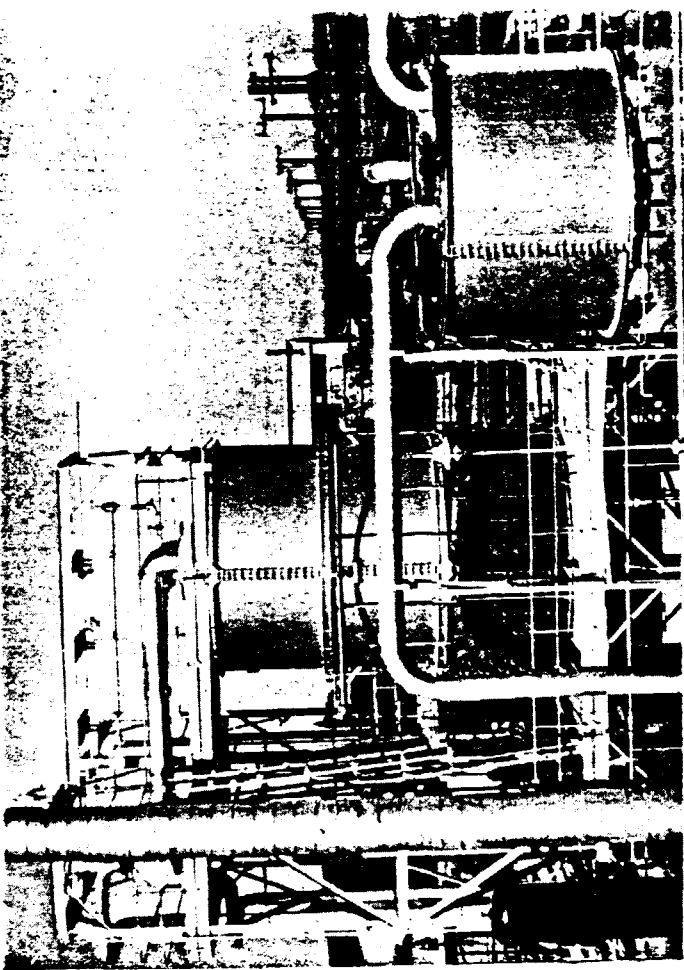
—Official U. S. Navy Photos.



industry. Introduced in 1939, it is used exclusively today by every aircraft manufacturer west of the Mississippi and 90 per cent of those in the East. Its contributions to speed and greater design flexibility in plane manufacture cannot be adequately measured.

Other products serving important production needs are lead sheet, pipe, valves, pumps, fittings and special lead-lined and lead-covered apparatus. Equipment of this type is resistant to the attack of many industrial acids, especially sulphuric, the most widely employed. Among those in war industry using lead for acid-handling are munitions makers, oil refiners, chemical manufacturers, steel fabricators and many others.

To meet the needs of the large wartime sulphuric acid user—notably producers of T.N.T. as well as manufacturers of synthetic rubber and high octane aviation fuel—the Company designs and installs special apparatus for the recovery and concentration of



Acid-recovery equipment at an oil refinery. National Lead Company has installed similar equipment in plants making explosives, aviation fuel and synthetic rubber.

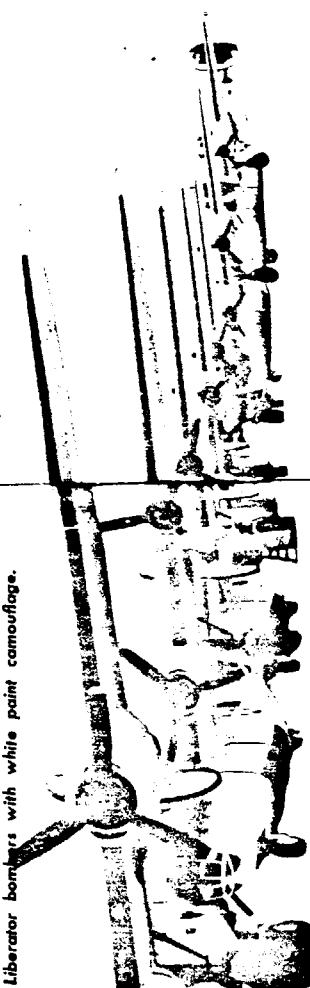
acid from waste products. The equipment consists of large concentrators which utilize a special patented vacuum recovery process. Not only are substantial quantities of acid thereby made available for further war use, but the disposal of corrosive spent acids—a difficult and costly problem even in

peacetime—is efficiently and satisfactorily handled.

Subsidiaries Aiding the War Effort

Many firms associated with National Lead Company are also making important contributions to the war production program. Noteworthy among these is a subsidiary, manufacturing precision-built babbitt-lined bearings for diesel and similar heavy duty engine types used on submarines and other naval units. This company has

Left: Thin-gauge sheet metal parts for warplanes are stamped out in huge quantities in powerful presses fitted with Kirkite "A" dies. Below: Snowbirds—Liberator bombers with white paint camouflage.



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received an Army-Navy E for its superior production achievements.

Other affiliates are producing chemical compounds, pigments and related materials which enter into the manufacture of war equipment used on land, on the sea and in the air.

Meeting Essential Home Front Needs

A third important phase of the nation's war program relates to vital home front needs. Foremost among its objectives is the uninterrupted supply of materials and products essential to a sound, albeit lean, civilian economy.

The difficulties which hamper wartime satisfaction of even basic civilian needs are obvious. Certain raw materials, formerly considered necessary

and even indispensable, become suddenly unobtainable. Others, suitable as substitutes, frequently require new procedures in use. Where no substitutes exist, they must be invented.

Utilizing the facilities of its research laboratories and the experience of its technical staff, National Lead Company has been able to render substantial assistance to many civilian buyers in the solution of wartime problems where lead or an allied material is involved.

Replacement Solders

A noteworthy example is that of solder. As a standby of both the plumber and the mechanical engineer, solder has numerous important and necessary uses. Telephone, telegraph and power companies, among others, consume



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large quantities for making electrical connections and for sealing splices in lead-covered cable.

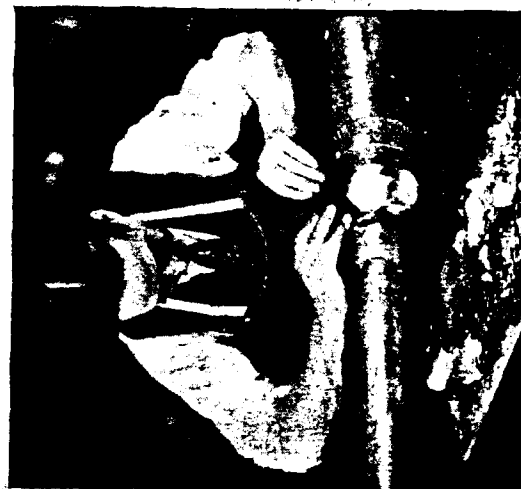
Solder is a tin-lead alloy, normally containing from 25 to 50 per cent of tin. Shortly after the outbreak of war, restrictions were imposed which forced a sharp reduction in the tin content of solders used for non-war-production purposes. Government authorities urged that tin not only be conserved carefully in solder but that its use actually be eliminated wherever possible.

To assist civilian users dependent on solder, National Lead Company's research laboratories undertook the formulation of suitable alternate low-tin and tinless alloys. Since no single composition could be expected to serve all the varied uses to which solder is put,

a broad range of alternates based on lead in combination with other metals was developed. At the same time, new types of fluxes, which were necessary for the effective use of the new compositions, were devised. During the past year, many essential civilian solder needs have been met satisfactorily with these non-critical solders and fluxes.

Lead-Base Babbitts

Tin conservation also posed problems for users of another tin-containing alloy—babbitt. The latter is an anti-frictional metal, containing anywhere from a small fraction to more than 80 per cent tin, and used to line sleeve, thrust, pillow-block and other types of bearings. It is widely employed in most industrial machinery. Especially large and important users are the railroads



Wiping a soldered joint on a lead-covered telephone cable.



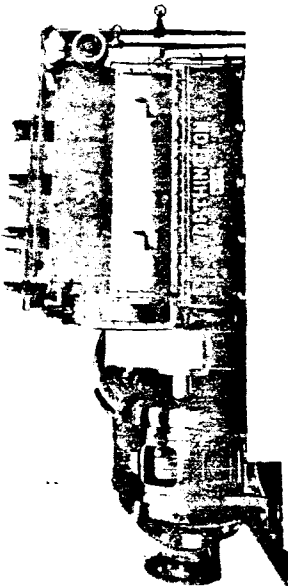
Soldering top seam on a gas meter.



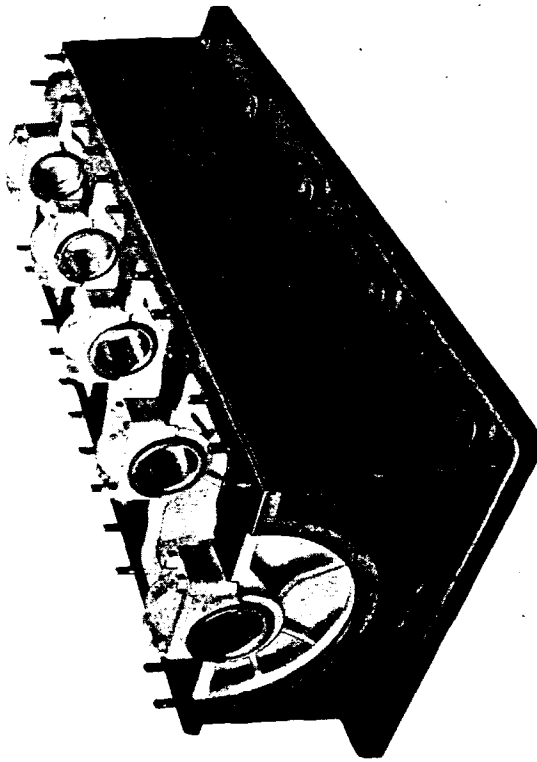
Soldering a strap wire on a crossbar switch in a telephone installation.



Wire solder is employed in soldering electrical fuses.



Left: 120-horsepower diesel engine direct-connected to a generator.
Below: Base of engine pictured at left, showing babbitt-lined main bearings.



in the equipment of which babbitt is a standard bearing lining material.

Fortunately for the general user, National Lead Company's technical staff had developed some years before the war a lead-base babbitt which, despite its low tin content, has many of the characteristics of the highest grade tin-base babbitts. Known as Perfection Anti-Friction Metal, it is a copper-hardened alloy similar to the lining metal employed in recent years in automobile engine bearings. Perfection

Metal, now widely employed as a replacement for the unavailable tin-base babbitts, has proved itself a boon to many mill and factory machine shop operators.

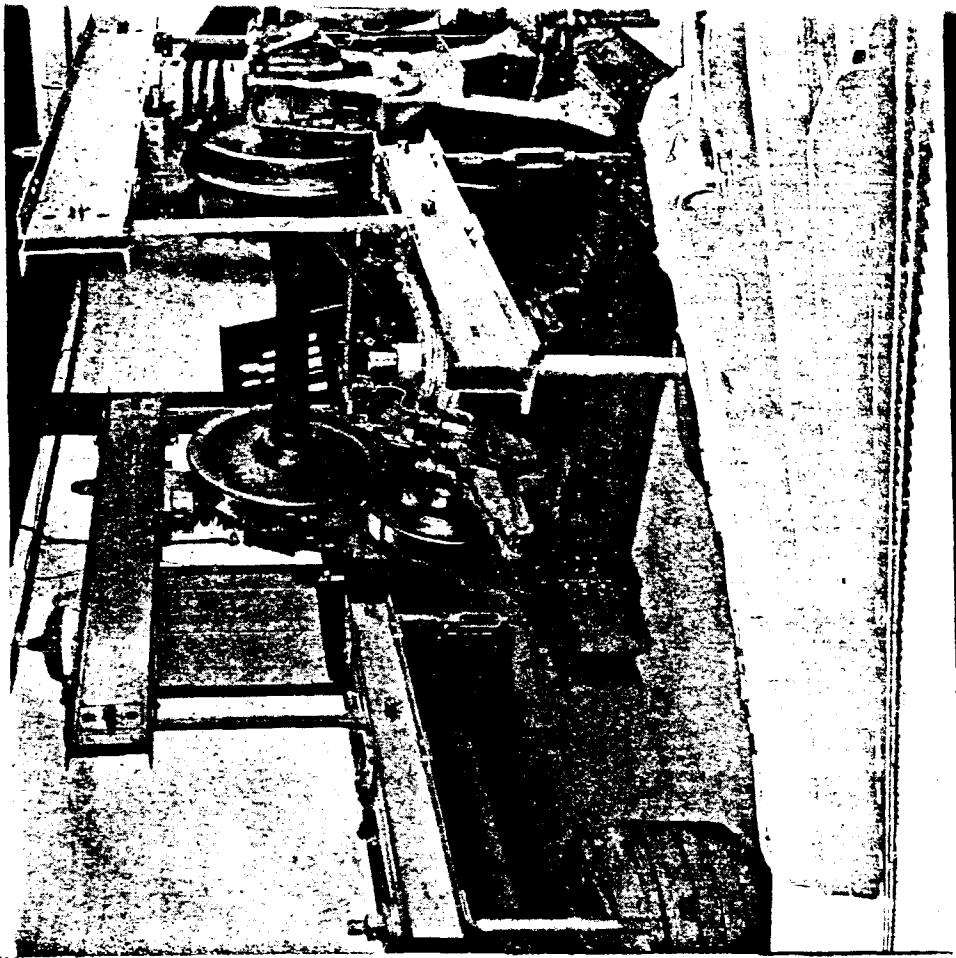
Serving the railroads in the solution of their special wartime babbitt and other bearing problems is a unit of National Lead Company, the Magnus Metal Division. With knowledge gained through its many years of experience in the construction and servicing of railroad bearings, the Magnus

Division had also developed before the war a lead-base lining metal with unique characteristics. Known as Satco, it has been found particularly well-suited to the severe bearing metal service encountered in many types of modern, high speed, rolling stock. Due to Satco's greater resistance to deformation and softening under heat and pressure, Satco lined bearings function

perfectly at temperatures which cause failure in many bearings lined with other metal types.

The wide use that is currently being made of Satco in the lining of railway car journal bearings, truck and trailer brasses, crossheads, hub-liners and inserts in driving box bearings is an assurance that vital railroad bearing needs can be and are being met without heavy

Journal bearing testing machine installed in the Depew plant of Magnus Metal Corporation, for making tests on journal boxes and wheel assemblies. Machine may be operated at speeds up to 90 miles per hour under full journal load.



Dutch Boy Painter

pany's most valuable contribution to the home front has been the uninterrupted production of its two famous paint pigments—Dutch Boy White Lead and Dutch Boy Red Lead.

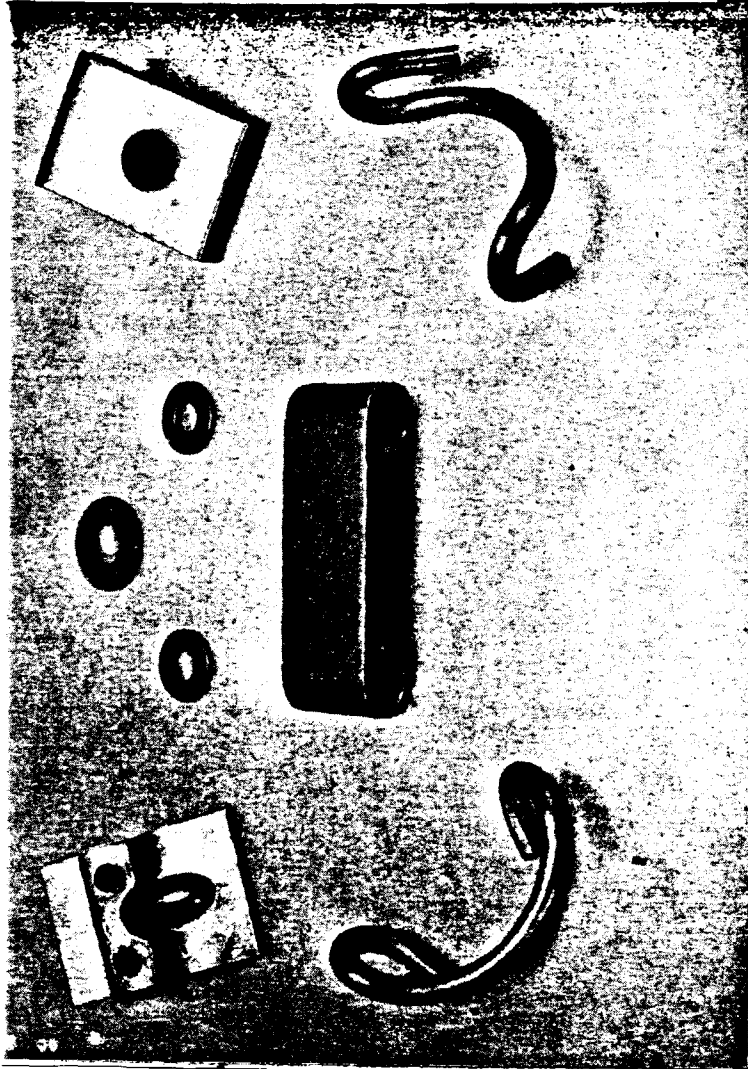
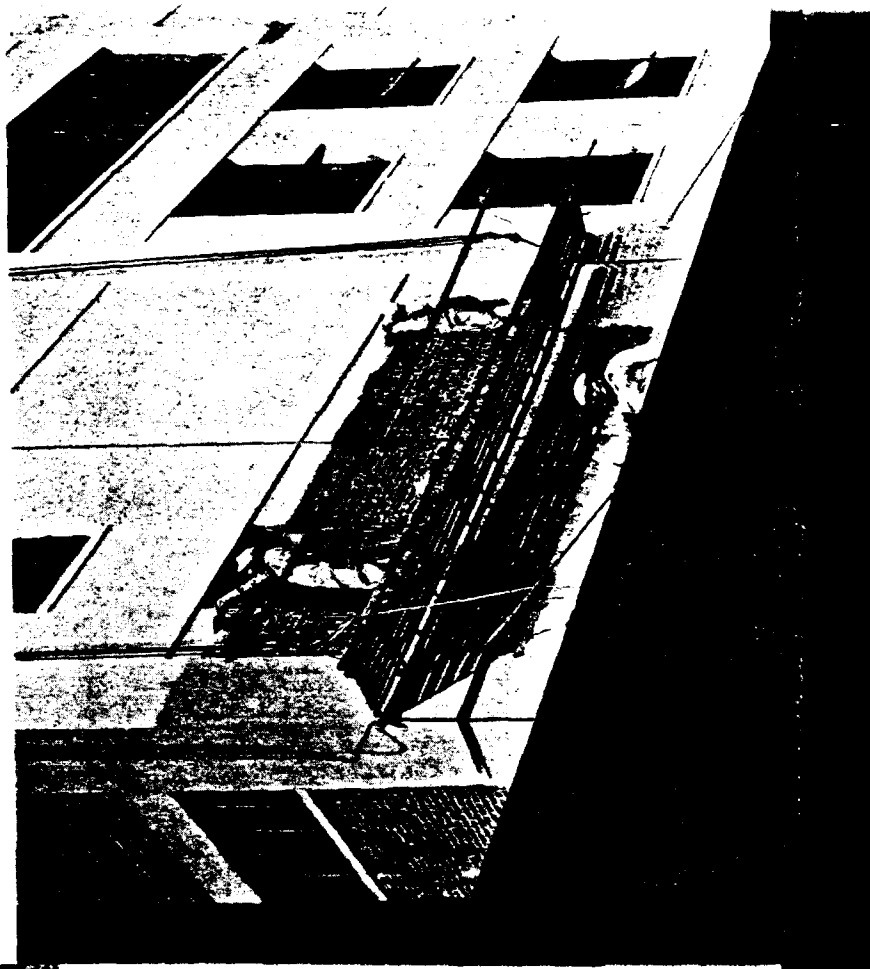
Undramatic though it may be, the service white lead, red lead and other paint materials perform is of incalculable value to a nation at war. Paint provides the only practical answer to the problem of rust and decay. If there were widespread neglect of painting, buildings and equipment would deteri-

quick-drying linseed oil. Known as "710," the new oil is designed to help relieve the acute shortage of synthetic resins and other fast-setting paint vehicles. The oil has attracted considerable general interest since it has the distinction of being the first 100 per cent pure linseed oil to possess quick-drying properties.

White Lead and Red Lead

Important as are solders, bearing metals, metallic coatings and paint vehicles, perhaps National Lead Com-

White lead paint plays a vital part in the upkeep and weather proofing of all types of buildings—brick, stucco, concrete and stone, as well as frames—on the home front.



Pole line hardware with hot dip pure lead coating, produced by Western Electric Co. The use of lead in place of other metals releases zinc, tin, chrome, etc. for war purposes.

withdrawals from the nation's precious stockpile of tin.

Lead Alloy Coatings

Wartime restrictions also created problems in the steel industry where large quantities of tin and zinc are normally consumed for metal coating purposes.

To meet the need for a satisfactory non-critical coating material, National Lead Company's technical staff developed a series of lead-base alloys containing in the neighborhood of 95 per cent lead and less than 2.5 per cent tin. To-

day, alloys of this general composition are being used successfully in many applications as alternates for tin-plating and for zinc galvanizing. In addition, in many instances, they are replacing high-tin lead coatings such asterne and solder which have long been used in the hot-dip coating of metal parts.

Quick-Drying Linseed Oil

In the paint field, National Lead Company has made a noteworthy contribution to the solution of a wartime problem through the marketing for paint manufacturers' use of a new



orate rapidly and soon might become unusable. The repairs necessary to return them to service would interfere seriously with the war effort by draining off materials and manpower needed for more direct war purposes.

With full appreciation of this fact, government agencies such as the Federal Housing Administration have stressed on numerous occasions that necessary maintenance painting should not be neglected. On the contrary, it has been made abundantly clear that to paint where paint is needed is the patriotic duty of every citizen responsi-

ble for the upkeep of property—whether it be a home, farm building, factory, bridge, storage tank or any other similarly irreplaceable structure.

Today, Dutch Boy White Lead and Red Lead are helping homeowners, engineers and maintenance officials everywhere to discharge this responsibility. In doing so, these famous products are also carrying on a tradition which dates back generations—in fact to the birth of the nation. For pure white lead and pure red lead paints have protected America's home front during every war since the Revolution!

This story of "National Lead Company in Wartime" has, of course, confined itself almost exclusively to the material aspects of the Company's war effort. This is so because it may be taken for granted that the employees of the Company, like the people who make up the concerns which distribute and use Dutch Boy Products, are doing their personal bits to help win the war—regularly buying war bonds; conserving critical materials; salvaging scrap metals, waste paper and kitchen fats; suppressing loose talk; donating blood to the Red Cross; and supporting campaigns accessory to and vital to the war effort.

Finally, the Company takes pride in the 1420 blue stars in its Service Flag—a pride that is tempered with sorrow in contemplation of the ten gold stars honoring our associates whose contribution to Victory meant giving all . . . forever.

*They're fighting
harder than ever*



are YOU buying

**MORE WAR BONDS THAN
EVER?**

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