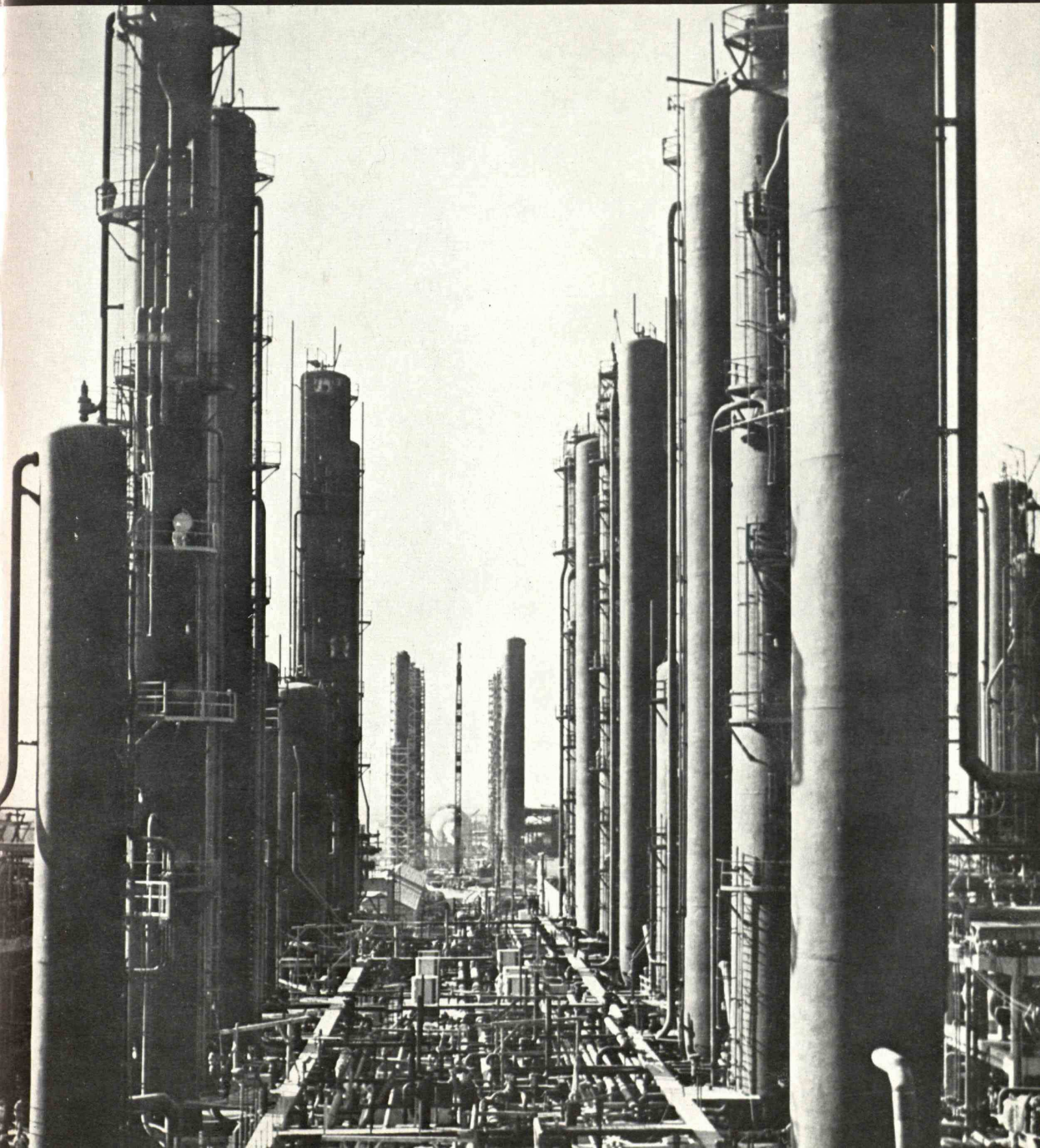


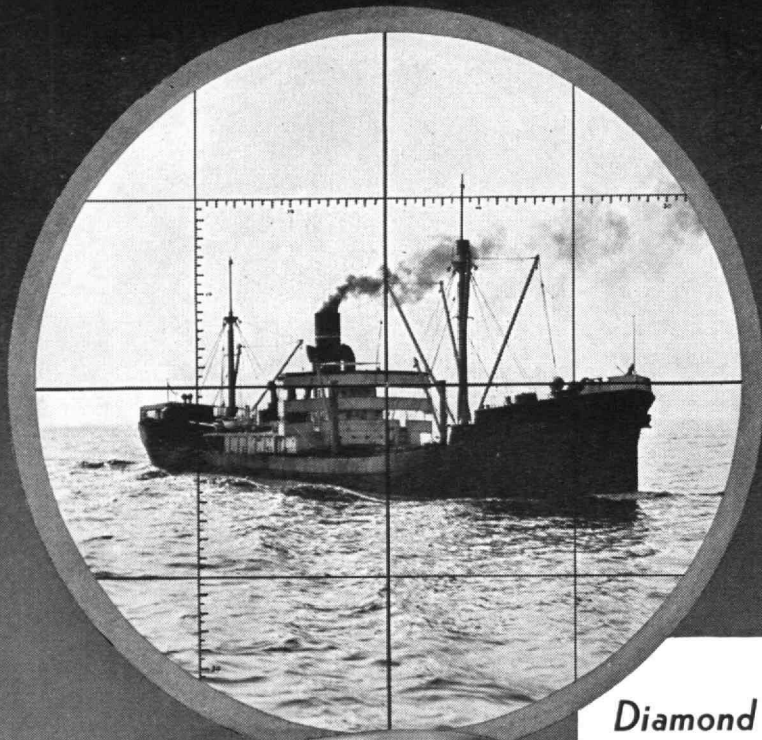
January 1944

TECHNOLOGY REVIEW

Title Reg. in U. S. Pat. Office



NORTON *Diamond Wheels* HELP SINK ENEMY SHIPS



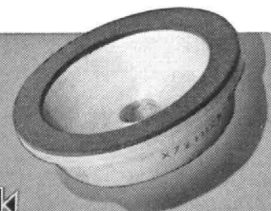
Diamond Wheels Have Put Optical Glass on a Mass Production Basis

The war's sudden demand for thousands upon thousands of lenses and prisms for binoculars, range finders, periscopes and other instruments literally swamped former methods of producing these optical products. The answer—Norton Diamond Wheels now grinding glass in high production, both in roughing operations and to a transparent finish.


In countless applications Norton Diamond Grinding Wheels are meeting the challenge of war.

Norton Company, Worcester 6, Mass.

Behr-Manning, Troy, N. Y., is a Norton Division



NORTON ABRASIVES

A black and white photograph of a man wearing a dark hat, dark goggles, a dark jacket, and patterned trousers. He is sitting on a stool and playing a large, ornate wooden accordion. His expression is serious. The background is a plain, light color.

He was a MASTER MECHANIC

*... an avoidable eye
injury robbed him of
his much-needed skill*

PROTECT YOUR WORKERS WITH AO GOGGLES

In *split-seconds*, injuries to unprotected eyes can cost you the services of workers you have spent years training... workers who are practically irreplaceable today.

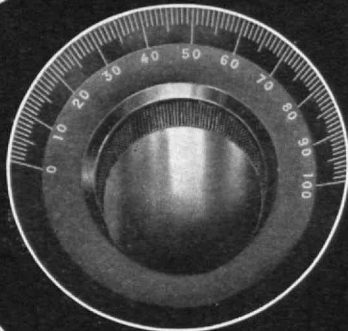
To avoid "Lost-Time-Eyes" in your plant, AO offers a wide line of comfortable, light, cool safety goggles. An investment in AO Goggles is quickly returned in saved manpower, added production, improved efficiency, and decreased costs.

A strong offense is your best defense against eye accidents. Take the initiative in establishing and maintaining a time-and-money-saving goggle program in your plant. Get in touch with your nearest AO Branch... located in all principal industrial cities... or have an AO Safety Representative call at your office.

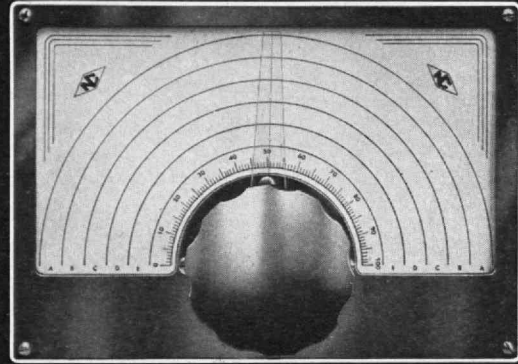
American  Optical
COMPANY

SOUTHBRIDGE, MASSACHUSETTS

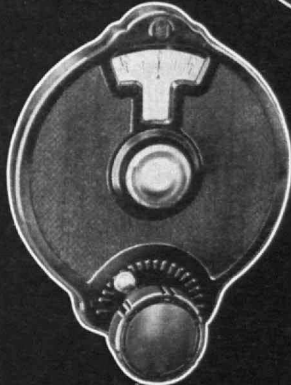
World's Largest Manufacturers of Products to Aid
and Protect Vision



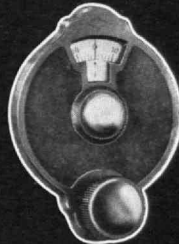
TYPE A
DIAL



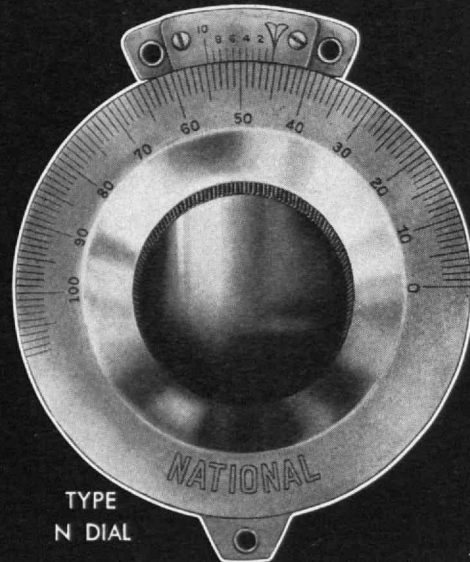
TYPE ACN DIAL



TYPE B DIAL



TYPE
BM DIAL



TYPE
N DIAL



The photograph immediately above shows an installation inside a Pan-American Clipper. National Dials have been a favorite with Pan-American Airways for many years.

TYPE N DIAL—Four-inch diameter with engine divided scale and flush vernier. 5 to 1 ratio.

TYPE ACN DIAL—Designed for direct calibration. Dial bezel size $5" \times 7\frac{1}{4}"$.

TYPE B DIAL—Compact, variable-ratio drive inclosed in bakelite case. Illuminator available.

TYPE BM DIAL—Similar to Type B, but smaller in size and having a fixed ratio.

TYPE A DIAL—The Original Velvet Vernier Dial, an unchallenged favorite for twenty years.

ACCURACY —and VELVET DRIVE

In War as in Peace, National Dials provide the smooth effortless control that makes the operator master of his equipment. Enormous increases in our productive capacity are meeting wartime demands, and National Dials are available with reasonably prompt delivery to users having the necessary priority.

NATIONAL COMPANY, INC.

MALDEN, MASS.





today's signs forecast tomorrow's needs

It will be a changed world. Some may think that the nation's chemical and petro-chemical equipment for war will serve adequately for the needs of peace. But still greater accomplishments are possible. And the inevitable struggle for competitive post-war advantage will certainly develop them.

Good as war-built plants and equipment may be, it is not enough to rest on their pattern. Reconversion or refitting for peacetime requirements calls for study now.

Adding to the experience of a long pre-war career, Badger has learned much during the past three years of handling many construction projects — small and large — for the manufacture of high octane gasoline, synthetic rubber stocks, explosives, and all sorts of chemicals, new and old.

This rich experience is available to you in change-over, modernization or new-plant undertakings. Badger is equipped to handle *everything* — either under sole responsibility or in co-operation with your own organization . . . from process, design and construction engineering, to material procurement, to labor employment and supervision, down to test-run operation. Badger is open for discussions now.

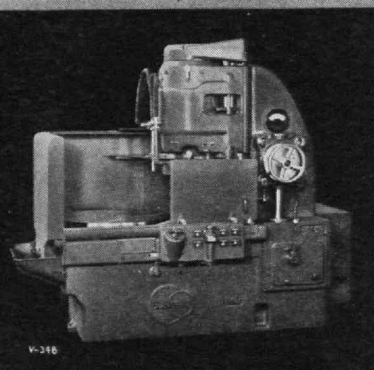
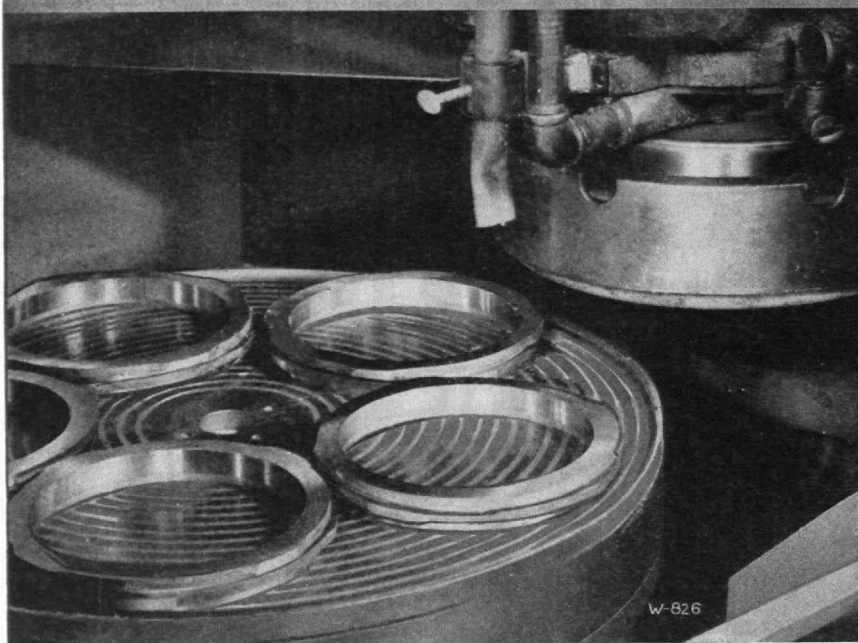
E. B. Badger & sons co.
BOSTON

Est. 1841

NEW YORK • PHILADELPHIA • SAN FRANCISCO • LONDON

PROCESS ENGINEERS AND CONSTRUCTORS FOR THE
CHEMICAL, PETROLEUM AND PETRO-CHEMICAL INDUSTRIES

"PUT IT ON THE BLANCHARD"



Grinding Nickel Steel Cams on the
No. 18 Blanchard Surface Grinder

These nickel steel Cams are finish ground on the
No. 18 Blanchard Surface Grinder.

.040" to .060" of stock is removed from one
side of these cams to limits of $\pm .001$ ". 109 pieces
are produced per hour.

This is only one of the many airplane engine
parts ground on the Blanchard. Some are held in
fixtures; magnetic, hand-clamping or automatic.

Send your blueprints for production estimates.

The **BLANCHARD**
MACHINE COMPANY
64 STATE STREET, CAMBRIDGE 39, MASS.



Send for your free copy of "Work Done on
the Blanchard." This book shows over 100
actual jobs where the Blanchard Principle
is earning profits for Blanchard owners.

CHECK THESE ADVANTAGES OF BLANCHARD GRINDING

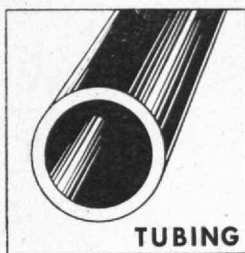
- ★ **Production**
- Adaptability**
- Fixture Saving**
- Operation Saving**
- Material Saving**
- Fine Finish**
- ★ **Flatness**
- Close Limits**

★ Especially
valuable on jobs like
the one illustrated.

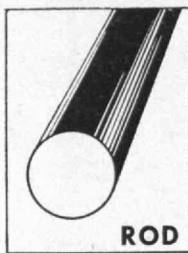
STOCK DIE SECTIONS



TEE



TUBING



ROD

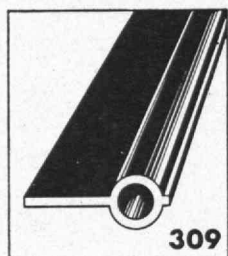


THREAD



HEX

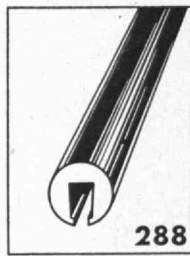
TYPICAL CUSTOM SECTIONS



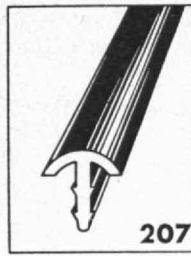
309



307



288



207



167

Sandee

EXTRUDED PLASTICS



Vinyl sleeves in black, clear or N.E.M.A. colors can now be cut to any lengths (from 1/8" to 6 1/2") and IM-PRINTED in one operation! Send for quotations on your needs.

Sandee has rapidly become one of America's largest extruders of thermoplastics. Here, every facility is available to render a highly efficient service:

1. Capable, long-experienced plastics engineers;
2. Thermoplastic materials and compounds of every description;
3. Expert tool and die makers;
4. Modern extrusion machines;
5. Exclusive Sandee methods of manufacture;
6. Fine tolerances employed assure meeting exacting specifications;
7. Absolute uniformity of size and finish; and,
8. Surprisingly prompt shipments in the face of difficult war conditions.

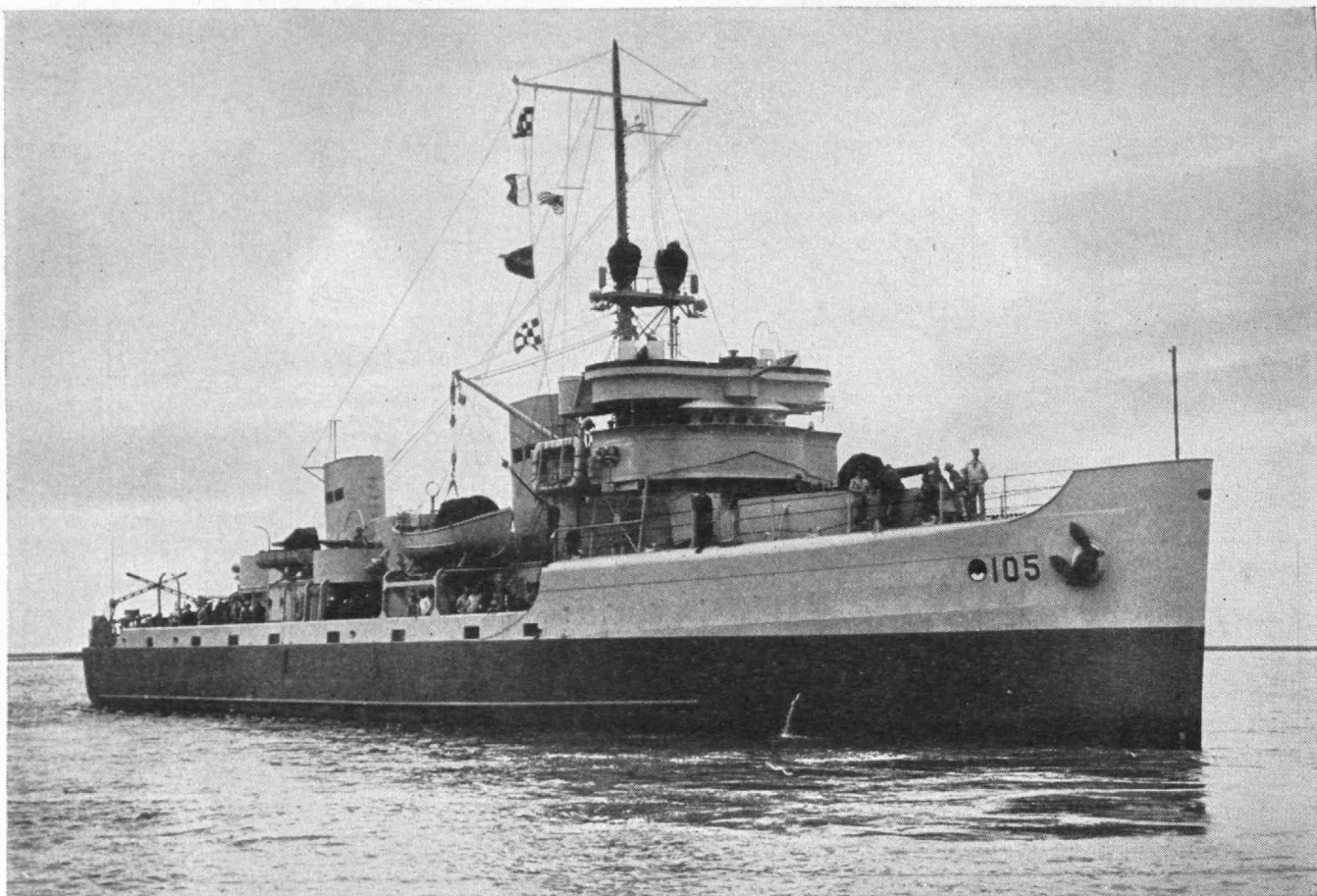
Sandee now serves our country's largest users of extruded plastics. Consult our engineers on your problems. Write today for samples and moderate cost estimates.

ELMER SZANTAY, M.E. '35, GENERAL MANAGER

Sandee Manufacturing Company

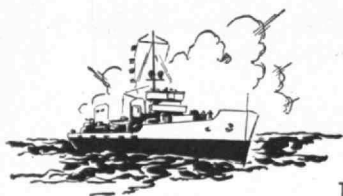
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EXTRUDED PLASTICS AND SPECIAL TOOLS



AM-105 U. S. S. PIONEER

She Has Good Stuff in Her



She has to have. The U.S.S. Pioneer is one of our Navy's mine sweepers.

Cruising around in quest of enemy mines keeps a sailor on his toes.

Naturally, he feels confident when he knows he can rely on his ship.

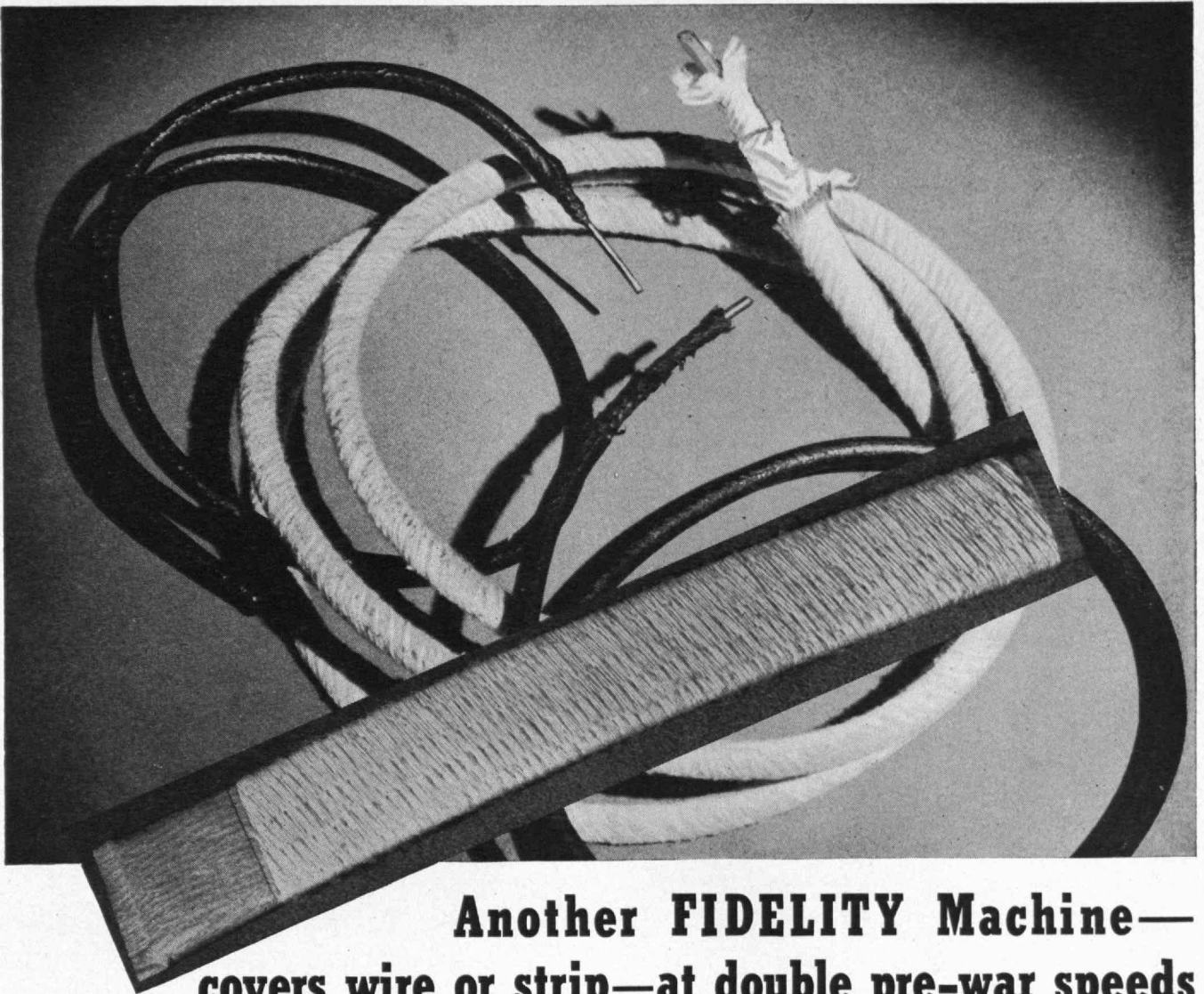
We're proud to say that the U. S. S. Pioneer is propelled by Diesel engines—made by the same Busch-Sulzer skilled workmen who are turning out precise ammunition hoists for the Navy's 5"/38 caliber guns . . . and engines for other naval and army craft, as well as engines for the U. S. Maritime Commission. Until this war program is completed, we can accept orders of high priority only for engines from 450 to 3600 horsepower.



BUSCH-SULZER BROS.—DIESEL ENGINE COMPANY
ST. LOUIS

AMERICA'S OLDEST BUILDER OF DIESEL ENGINES

**BUSCH-
SULZER**
ST. LOUIS



Another FIDELITY Machine— covers wire or strip—at double pre-war speeds

Not only the bottle-neck of wire insulation, but other similar ones in covering round or flat rods of metal, plastic or other materials with cotton, linen or other fibres, have been removed by FIDELITY SINTRA Machine. In some cases, output was upped as much as 300%.

Still restricted to war production applications, these FIDELITY Machines will ultimately contribute just as effectively to peace-time manufacturing. If you face this kind of problem, either now or when competition returns, it is probable you can get a quick solution at FIDELITY.

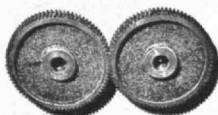
Whatever the problem, if it indicates a need for a special-purpose machine of the automatic, precision type, you can start preparing for the day of transition now by bringing it here where a skilled and experienced engineering staff is backed up by unusual shop facilities.

FIDELITY has designed and built a wide variety of machines for many purposes. This experience and the manufacturing equipment available are described in an interesting, well-illustrated book.

BUY MORE BONDS



Designers and Builders of Intricate, Automatic Precision Machines

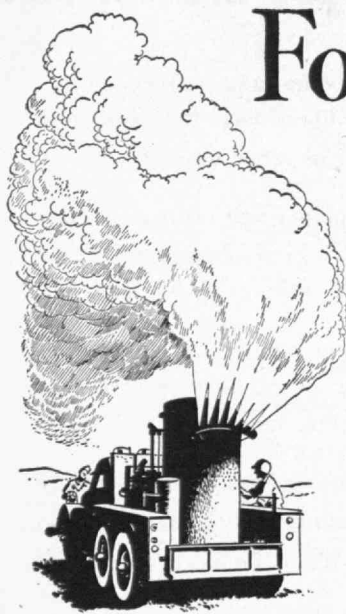


FIDELITY MACHINE COMPANY

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Foothold *in a Fog*



Smoke Generator in Action

192,000 employees of General Electric are buying over a million dollars of War Bonds every week.

Good weather is bad weather for an invasion.

When American troops land on enemy beaches, it's often under cover of a friendly life-saving "fog."

American scientific and engineering ingenuity provided the equipment for our forces to make their own special invasion weather. For the "fog" is produced artificially by mobile smoke generators which blanket whole areas in an impenetrable white mist.

Months ago, the National Defense Research Committee enlisted the help of General Electric research scientists in developing an improved smoke generator for the Chemical Warfare Service.

Nobel prize winner Dr. Irving Lang-

muir and his associates evolved a new principle of smoke generation, upon which the Standard Oil Development Company designed and built the equipment. The smoke it produces is harmless; it doesn't even soil clothes. But it does keep our troops and their movements from the sharp eyes of enemy aircraft.

This smoke generator, which according to reports has saved lives in Allied landings wherever it has been used, is another example of American industry's research and engineering and manufacturing skill. Producing superior weapons for our troops today, these same resources will be available for all the American people tomorrow in building a better world. General Electric Co., Schenectady, N. Y.

GENERAL  ELECTRIC

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—"The World Today" news, every weekday 6:45 p.m. EWT, CBS.