

April 1944

TECHNOLOGY REVIEW

Title Reg. in U. S. Pat. Office



Building Today For a Better Tomorrow

Somewhere out in the South Pacific, or over in Southern Italy . . . a soldier clad in American khaki lies on his belly in the mud . . . lost from his buddies . . . and hungry as hell. In his kit thank God! . . . he still has a few Ration C Biscuits, enough to keep him alive . . . until. ♡ But here in America, at home most of us, surrounded by smiling, friendly faces . . . and with a comparative abundance . . . we sometimes complain about butter being short, or meat missing from the table..♡ *Why? Because we're all used to so much!* ♡ And, truth to tell, it's only natural for Americans to be grouchy and grumpy when things aren't just so. ♡ That's the spirit of dissatisfaction which drives this nation forward . . . ever forward . . . in search of something better, *and more of it for everyone.* ♡ That's the case with our company this very day. For in addition to baking Ration C

and Ration K Biscuits for our boys on the world's battlefronts . . . we're building for a better tomorrow here at home. ♡ In our several plants, Carr Bakers are carrying on experiment after experiment with many new products . . . while striving to achieve a *new* perfection in our present production. Research laboratories, too, are hard at work for us. *All are perfecting for tomorrow.* ♡ Engineers are planning new ovens, new machinery, new plants . . . and on the drawing boards of America's foremost designers, beautiful and highly functional new packages are taking form. ♡ Yes, even while we are doing our bit to help America speed the Victory and win the Peace... *Carr Bakers are developing tomorrow's better products today.*

J.B. Carr
Class of '16

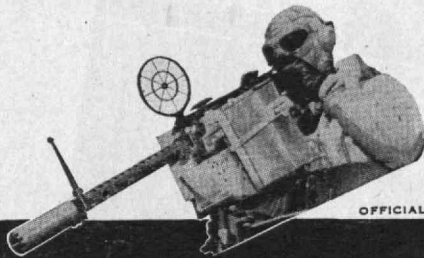
President, J. B. Carr Biscuit Company



J. B. Carr Biscuit Company

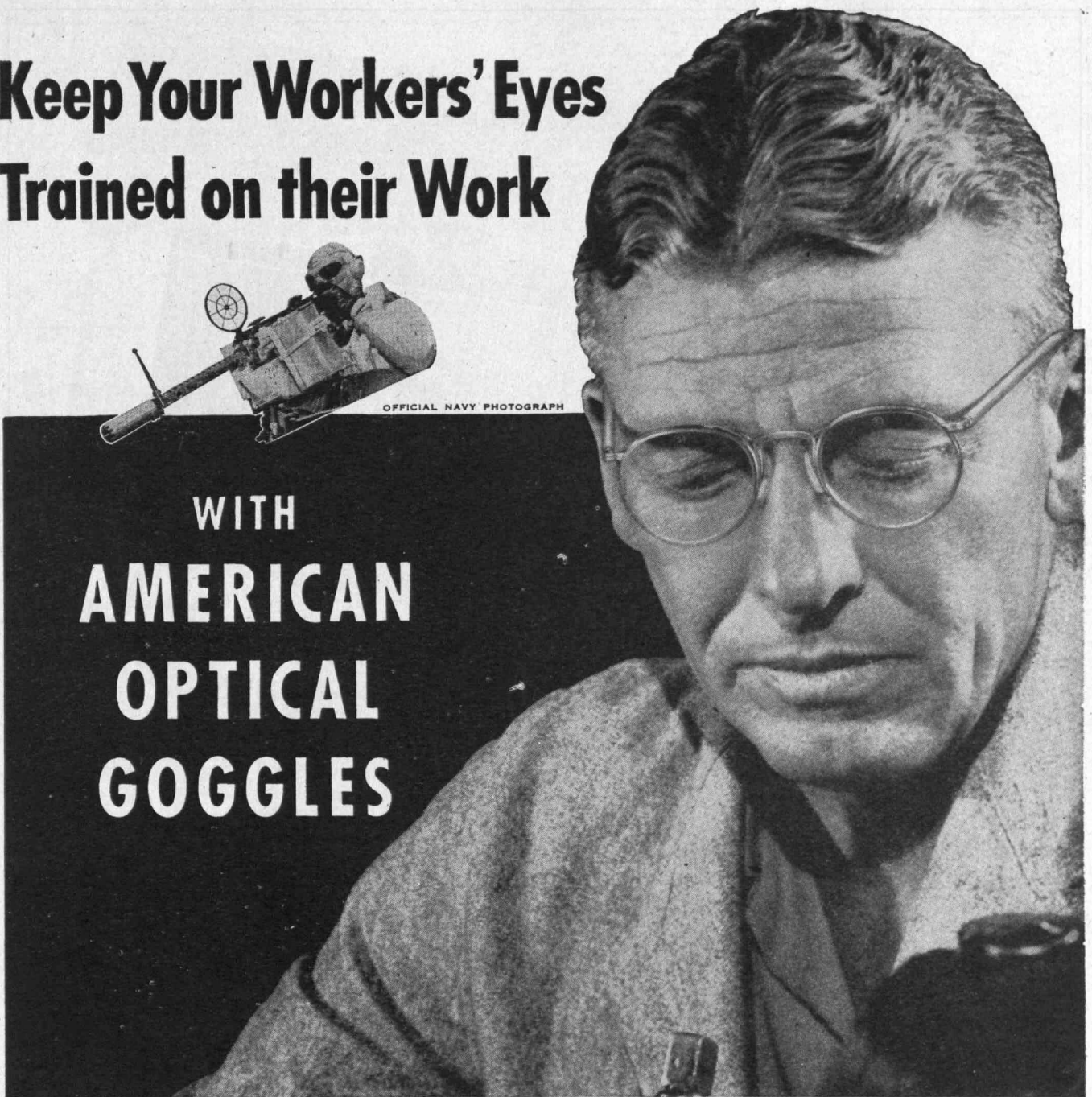
Wilkes-Barre, Pa. • New York, N. Y. • Peoria, Ill. • Greenwood, S. C.

Keep Your Workers' Eyes Trained on their Work



OFFICIAL NAVY PHOTOGRAPH

WITH AMERICAN OPTICAL GOGGLES



We need more than our workers' hands to win this war . . . we also need their *eyes*. Yet, for lack of proper goggles, industrial eye accidents are *still* occurring at an alarming rate . . . *still* costing our valiant fighting men much equipment that they need to smash the enemy.

Put on an offensive now to stop eye accidents in *your* plant. American Optical Company, pioneer

manufacturer of products to aid and preserve vision, offers you the eye protection equipment and complementary services that your plant needs to protect man-power for war-power. AO Goggles are scientifically designed to give maximum possible protection . . . and workers find them comfortable to wear. Have your Safety Director get in touch with the nearest American Optical Branch Office.

American  Optical

COMPANY

SOUTHBRIDGE, MASSACHUSETTS





Where Office Machines can't be coddled Underwood's the choice...

—From Remote African Base Pan American World Airways reports Hardihood of Underwood Equipment.

No Casualties Permitted—Unlike the 407 cities where service facilities are, even in wartime such remote

vacations, they have required remarkably little special attention.

THIS GOES FOR
RADIO RECEIVERS,
TOO

» It's an old tradition for National equipment to do the tough jobs at inaccessible outposts. Long before the war, National receivers had already become the first choice of expeditions to the far corners of the earth.

» Pan American has long used National equipment, and many years of experience with the ruggedness and dependability of National receivers were back of Pan American's choice in the picture shown above.

NATIONAL COMPANY, INC., MALDEN, MASS.



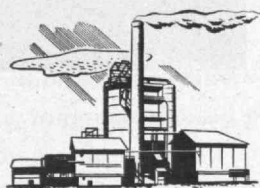
BADGER BRINGS **WIDE EXPERIENCE**

TO THESE MIGHTY WORLDS OF INDUSTRY*

AN ACCEPTED business axiom is that "cumulative experience in interrelated fields creates an extra measure of proficiency in each of them." It applies with special emphasis to the Badger organization. . . . A long, rich and extremely broad experience is one of the reasons Badger is *always constructive*—confident—never held to hidebound rules or traditions—thoroughly capable of engineering new processes,

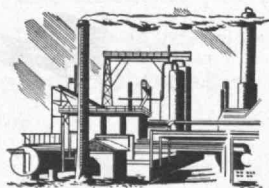
designing new types of equipment, planning and erecting new kinds of plants in the fast-moving chemical, petroleum refining and petro-chemical worlds.

Below are listed some of the various products Badger process engineering and construction services have helped to put into commercial production. *A Bulletin amplifying the scope of Badger activities is available for the asking.*



★PETROLEUM

Aviation Gasoline and all Components • Catalytic Base Stocks • Alkylates • Fractionated Pure Hydrocarbons • Straight Run Base Stocks • Thermally Cracked and Reformed Motor Gasolines • Solvent Refined Lubricating Oils • Solvent Dewaxed Lubricating Oils • Clay Treated Lubricating Oils • Asphalts • All Primary Products from Crude.



★PETRO-CHEMICAL

Butadiene • Styrene • Toluene • Trinitrotoluene • Ethyl and other Alcohols • Acetic Anhydride • Formaldehyde • Nitroparaffines • Chlorinated Hydrocarbons.



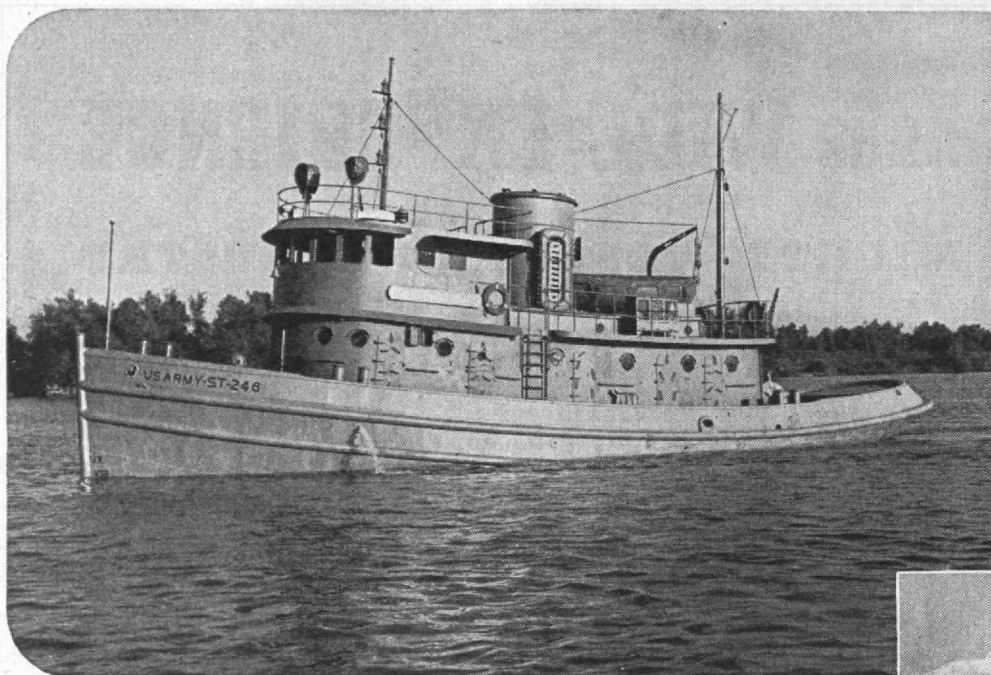
★CHEMICAL

Industrial Ethyl Alcohol, Isopropanol and Higher Alcohols • Methanol, Synthetic and from Wood Distillation • Ethyl Acetate, Butyl Acetate and other Esters • Synthetic Acetic Acid and Acetic Anhydride • Nitrobenzene and other Nitro-Aromatics • Formic Acid and Higher Aliphatic Acids • Carbon Tetrachloride • Chloroform, etc. • Phenol, Cresols, etc., from Tar Acids • Aniline and other Amino-Aromatics • Beverage Alcohol and Spirits • Ethyl Ether and Isopropyl Ether • Acetone and other Ketones • Glycerine and Glycols • Phthalic Anhydride • Styrene • Ammonia • Butadiene • Fatty Acids • Ethyl Benzene • Formaldehyde • Nitroparaffines • Synthetic Phenol • Dibutyl Phthalate • Synthetic Camphor.

E. B. Badger & sons co.

BOSTON . . . EST. 1841

New York • Philadelphia • San Francisco • London

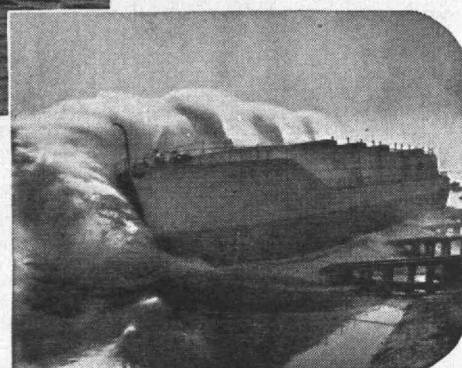


Busch-Sulzer Diesels are being installed in Army towboats, of the type pictured (left), used in securing beachheads. The all-steel lighter (below), launched by a St. Louis shipbuilding concern, will be filled with supplies from transports in the war zones and towed ashore.

She Has Something Else In Tow ...SKILL FOR THE FUTURE

To build engines for towing craft like that pictured here . . . and other engines for the Navy . . . and naval ammunition hoists with watch-like precision mechanism . . . we greatly expanded our facilities and increased our trained personnel by 50 percent within the last 18 months.

May we suggest that you begin now to familiarize yourself with your postwar requirements and acquaint us with them in good time?



For the last three years, our total output naturally was devoted to orders for the Navy, Army, Maritime Commission and projects connected with the war effort. While the need exists, such work will have first call on our full capacity, but when this demand slackens our facilities and our personnel can be devoted immediately to your requirements. Obsolescence and the need for power in new enterprises plus the fact that many Diesel manufactories in other countries have been damaged or destroyed will result in a huge demand for engines. Your inquiry at this time will enable us to plan so that there need be no delay in filling your needs as soon as capacity is available.

BUSCH-SULZER BROS.—DIESEL ENGINE COMPANY
SAINT LOUIS



AMERICA'S OLDEST BUILDER OF DIESEL ENGINES

**BUSCH-
SULZER**
ST. LOUIS

RIGID PLASTIC SECTIONS

Extruded by

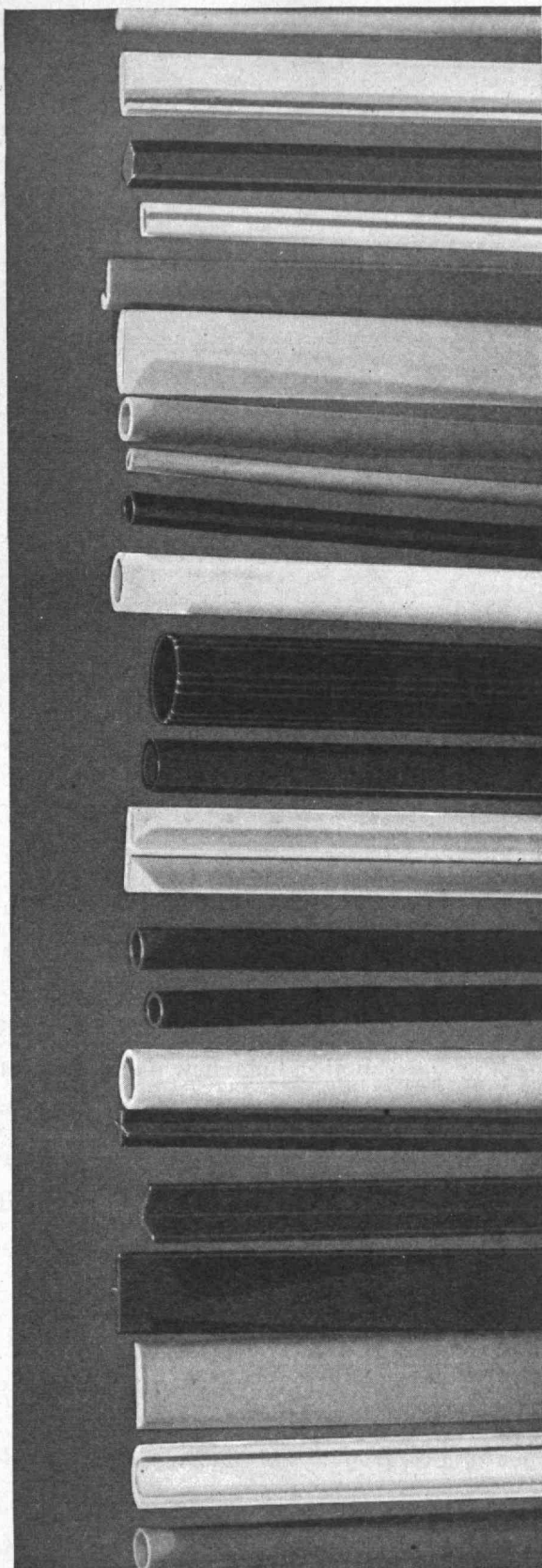
Sandee

*I*F uniform high quality and strict adherence to exacting specifications are required in the rigid extruded plastic sections you need, it's a job for SANDEE! For, here, every modern facility is available to produce better extruded plastic products:

1. Expert tool and die makers
2. Skilled, long-experienced plastics engineers
3. Thermoplastic materials and special Sandee compounds of every description
4. Modern extrusion machines
5. Exclusive, better methods and machinery
6. Prompt delivery

SANDEE Rigid Sections are constantly finding new uses, new opportunities to effect impressive economies in weight, labor, finishing, fabricating as well as add greater utility to many products. Submit YOUR extruded plastic problems to our engineers. Ideas, suggestions, samples and cost estimates incur no obligation.

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

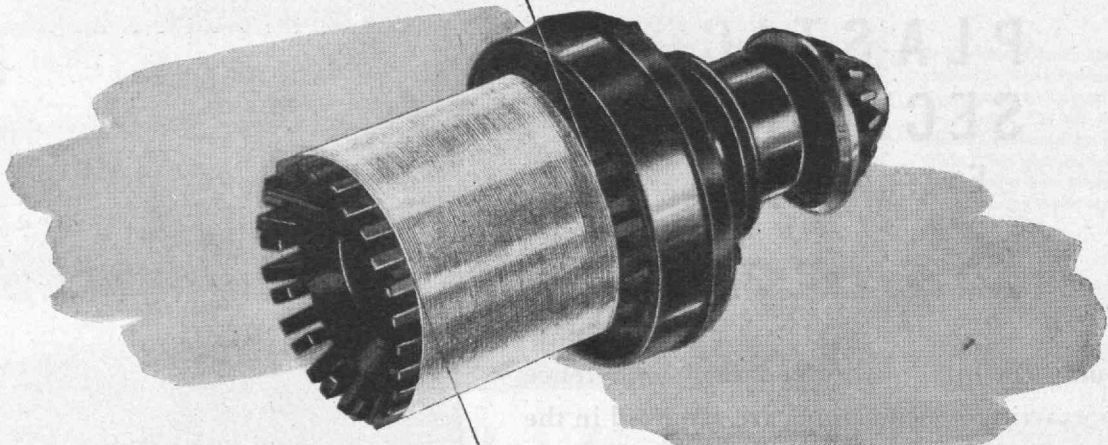


Sandee Manufacturing Company

3945 NORTH WESTERN AVENUE • CHICAGO, ILLINOIS

EXTRUDED PLASTICS AND SPECIAL TOOLS

A "LITTLE THING" ...



... BUT, OH MY!

Above is pictured the famous "Advancing Reel", a development of Industrial Rayon research and invention.

Just as an acorn makes a giant oak, this ingenious little reel built a huge new plant with intricate machines, blocks long.

- It gave the rayon industry a new standard of quality, "Continuous Process" Rayon Yarn. The yarn made by this new production method is so relatively knotless and free of broken filaments, that the cloth woven from it dyes evenly without streaks or filling bands, even in the difficult flat tones. And mill efficiency, on which profits depend, soars with the use of this trouble-shooting yarn.

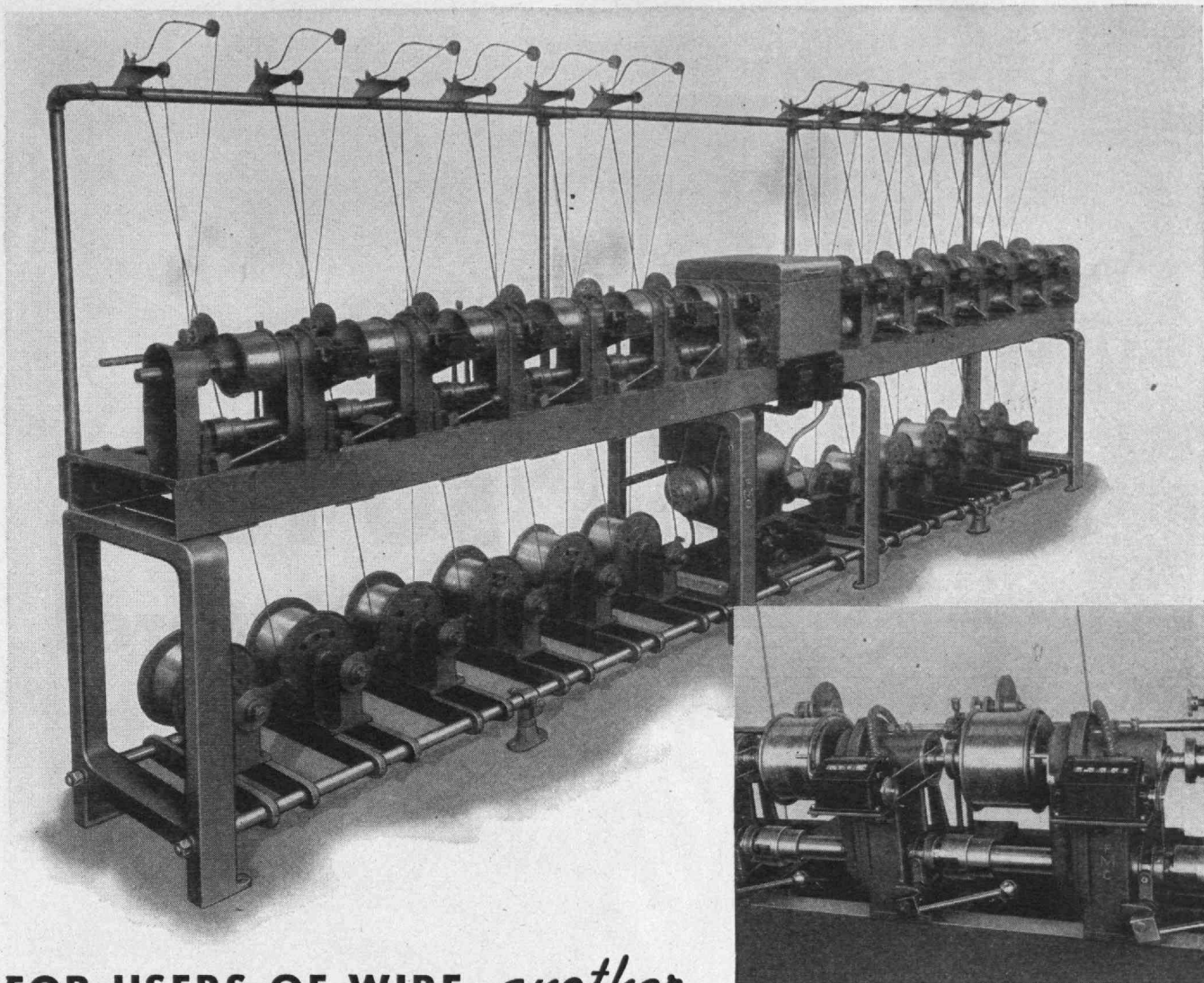
The development of the "Continuous Process" is typical of a company which has long recognized that its greatest assets are not in just plants and inventories, but in the skill and acumen of its engineers and technicians—the men whose genius makes for textile progress.



*Reg. U. S. Pat. Off.

CLEVELAND, OHIO • New York Office: 500 Fifth Avenue

(306)



FOR USERS OF WIRE, *another*
FIDELITY MACHINE that
MULTIPLIES MANPOWER

*Every winding head equipped with large-figure
footage counters, conveniently located for
inspection and control by operator.*

This double-end, screw traverse FIDELITY Wire Spooling Machine is a high production unit. It winds wire at the rate of 600 to 700 feet per minute per spool. On the 12-head machine illustrated, this totals about one and one-half miles per minute. Allowing time for changing spools, this makes possible the winding of 600 or more miles per 8-hour shift.—Accommodates spools up to 9 1/4" diameter.

Adjustable automatic tension device also applies brake to supply spools in case of wire breakage or stoppage of machine. Lateral and diagonal adjustments compensate for variations in width of flanges and size of spools.

Variable speed controls permit winding spools of different diameters at the same linear wire speed.

This same machine built in units handling 4-6-8-10 and 12 spools.

FIDELITY'S comprehensive line of wire winding and wire covering machines is described in a new 20-page catalog. Write for it.



Buy **BONDS**
to Bring the Boys
Down the Home Stretch

Intricate. Automatic Precision Machines
FIDELITY MACHINE COMPANY

3908-18 FRANKFORD AVENUE

PHILADELPHIA 24, PA.



350 FEET of the future!

You're looking up the "dangle angle" of a Nylon Glider Towrope!

Such a rope... slender, only 11/16" in diameter... recently towed a loaded cargo glider 3500 miles across the Atlantic. Think of it! A tremendous step was taken into the *future* that day... a future to which Plymouth's knowledge and facilities for rope making will greatly contribute.

Right now, our prime job is to build up the stockpiles for our fighting men... of both Nylon and natural fiber ropes. But with the return of peace, Plymouth Cordage will be prepared to again serve industries with its full line of cordage products featuring Plymouth Ship Brand Manila Rope and including Sisal Rope and cordage, Binder Twine and the famous line of Plymouth Strong-Tie Tying Twines.



PLYMOUTH

THE ROPE YOU CAN TRUST

PLYMOUTH CORDAGE COMPANY, North Plymouth, Massachusetts
and Welland, Ontario. *Division Offices:* New York, Chicago, Houston, San Francisco.
Warehouse Stocks: New York, Boston, Philadelphia, Baltimore,
Houston, Chicago, San Francisco.