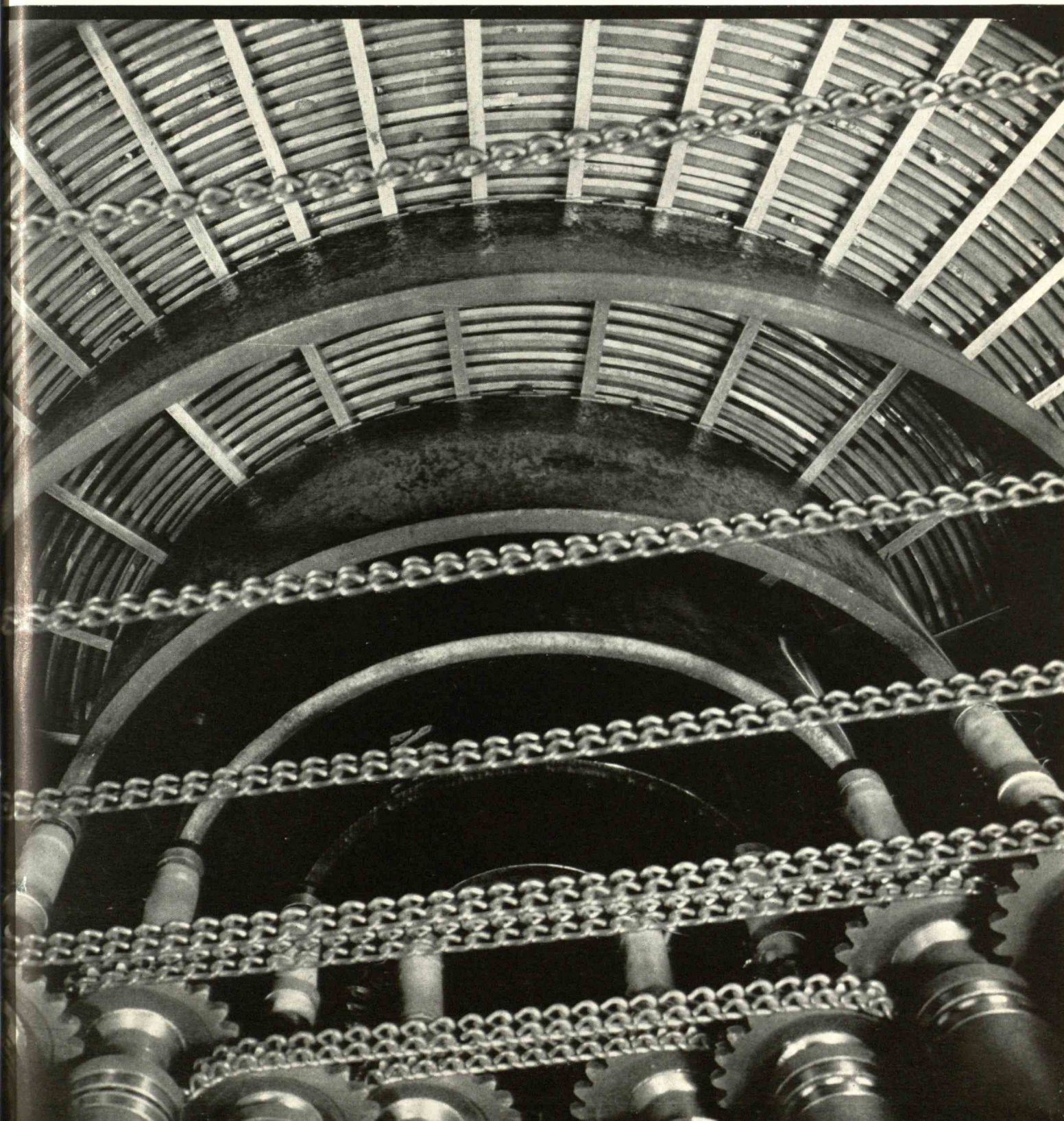
February 1945

TECHNOLOGY REVIEW

Title Reg. in U. S. Pat. Office



AIRCRAFT MASTER
SELECTOR VALVE
Forging
BEFORE MACHINING

THE HARVEY METAL CORPORATION

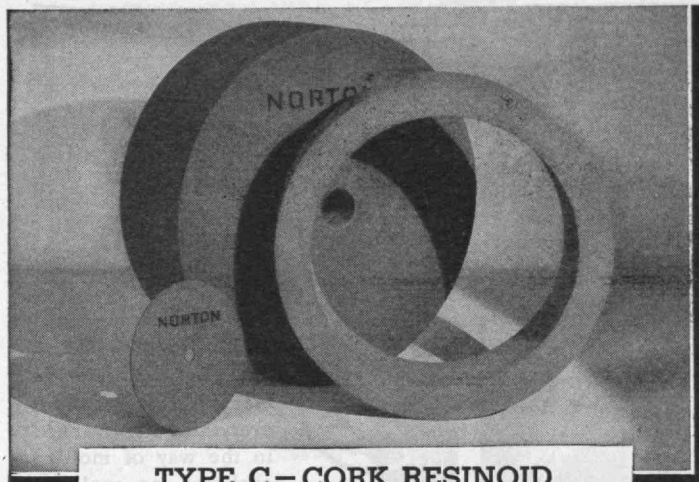
HAROLD B. HARVEY '05 • *Engineers & Manufacturers* • SHERRY O'BRIEN '17

74th STREET and ASHLAND AVENUE • CHICAGO 36, ILLINOIS

FORGINGS IN ALUMINUM • BRASS • BRONZE • COPPER • MAGNESIUM • MONEL • ALLOYS

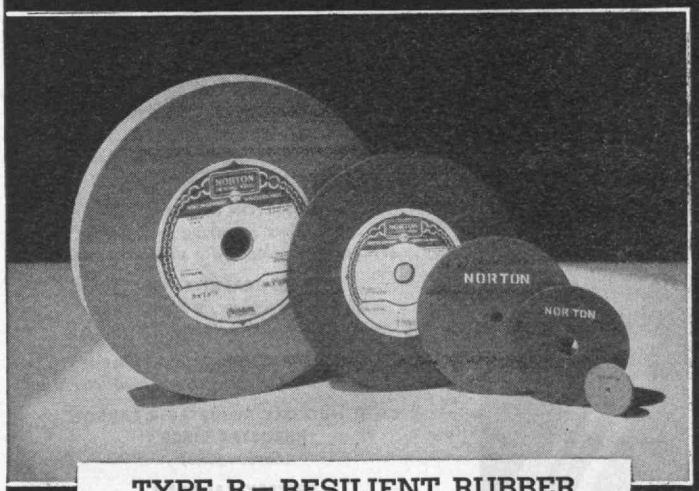
MACHINING FACILITIES

THE TECHNOLOGY REVIEW, February, 1945. Vol. XLVII, No. 4. Published monthly from November to July inclusive at 10 Ferry Street, Concord, N. H. Publication date: twenty-seventh of the month preceding date of issue. Annual subscription $3.50; Canadian and foreign subscription $4.00. Entered as second-class matter at the Post Office at Concord, N. H., under the Act of March 3, 1879.



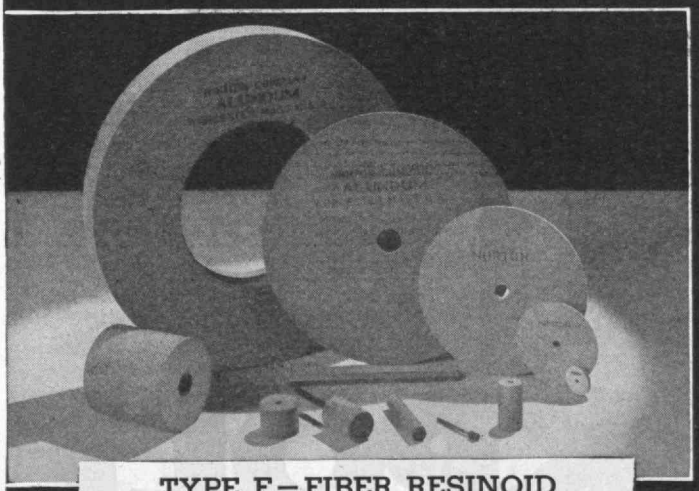
TYPE C—CORK RESINOID

Interested in getting readings as low as 2 micro-inches? Then try these and see what perfection really is. For operation at speeds up to 6000 s.f.p.m.



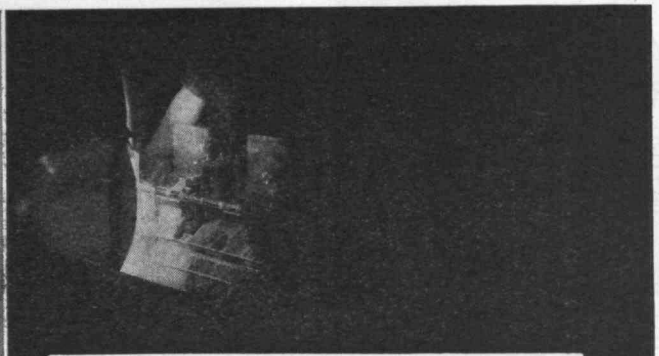
TYPE R—RESILIENT RUBBER

Do you like that s-o-f-t resilient action, where the wheel hugs the work without bump or chatter? Then use these for operation at 3300-6000 s.f.p.m.



TYPE F—FIBER RESINOID

Want to combine a light grind plus a polish in one operation? Use these for operation up to 7500-9000 s.f.p.m.



Announcing NORFLEX! POLISHING WHEELS!

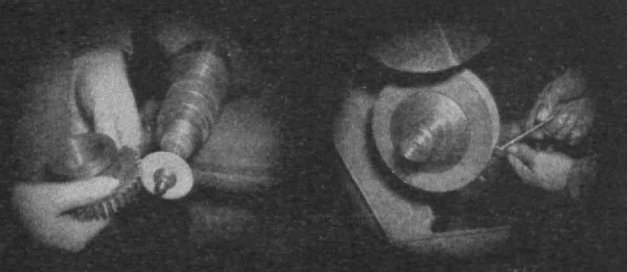
FROM polishing a tap or drill to breaking down corners of sheet stock or removing nicks or burrs from gears and other parts NORFLEX* Polishing Wheels cover the field thoroughly and completely. They come in three types, Cork Resinoid, Resilient Rubber and the latest Norton development—Fiber Resinoid. All three will now be known as NORFLEX* Polishing Wheels—all three develop a high finish.

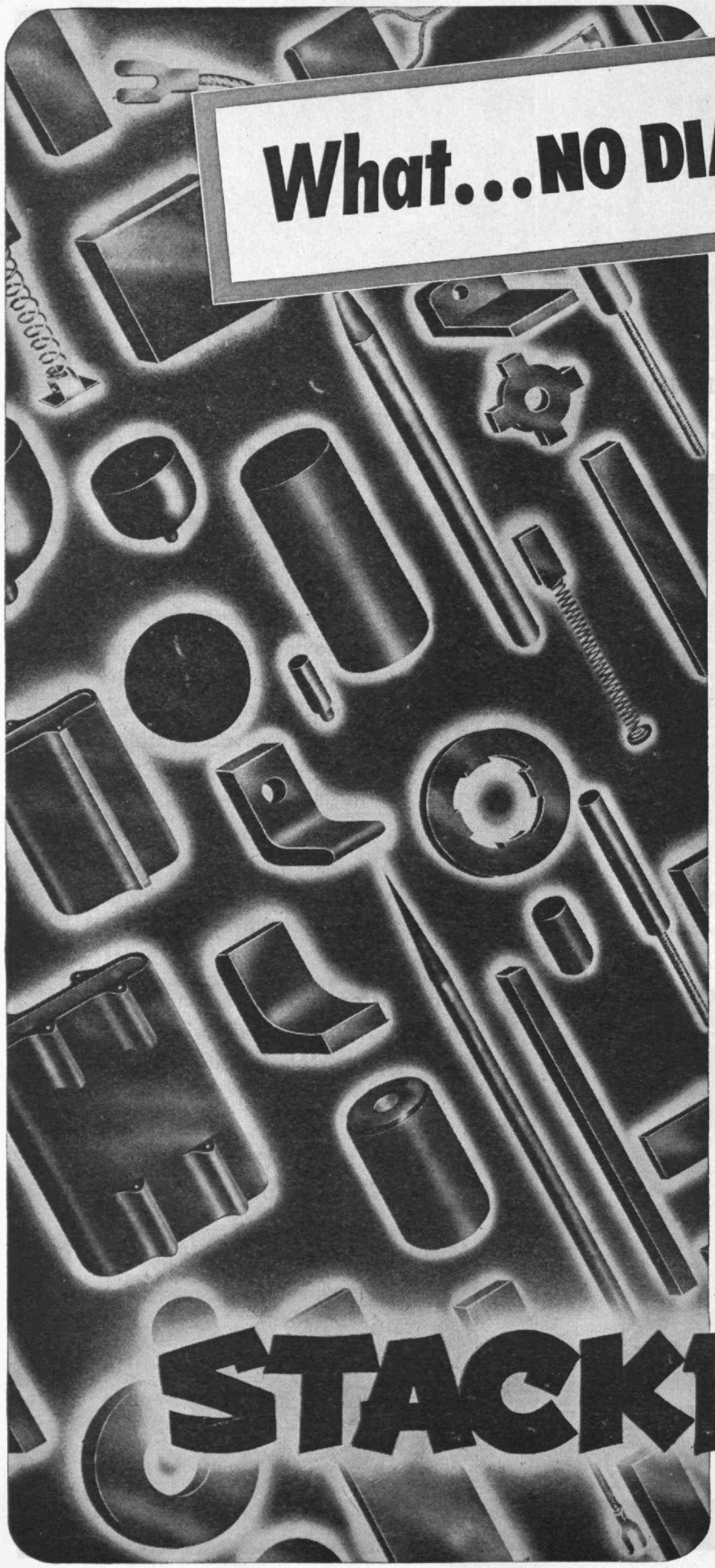
Your Norton abrasive engineer or Norton distributor will give you the complete story on NORFLEX* Polishing Wheels.

*Trade-mark

NORTON COMPANY
Worcester 6, Mass.

NORTON ABRASIVES





What...NO DIAMONDS?

Yes . . . no diamonds—but you can rely on Stackpole for just about everything else you need in the way of molded carbons, as well as graphites, metals, and compositions. The following give some idea of the extent of the Stackpole line:

SMALL MOTOR BRUSHES
The nation's largest producer of brushes for fractional horsepower motors, generators, etc.

BRUSHES FOR ALL ROTATING ELECTRICAL EQUIPMENT
All carbon, graphite, metal and composition types—also rare metal contacts

PACKING, PISTON and SEAL RINGS
For all applications requiring an effective seal between a rotating and a stationary part

SPECTROGRAPHITE NO. 1
High-purity graphite for chemical and metallurgical analysis

POWDER METALLURGY COMPONENTS
Small sizes having special electrical characteristics

CONTINUOUSLY ADJUSTABLE CARBON RHEOSTAT DISCS
(Carbon piles)

BATTERY CARBONS

WELDING RODS, ELECTRODES, PLATES

BRAZING BLOCKS

POWER TUBE ANODES

CHEMICAL CARBONS

CARBON PIPE

CARBON SPECIALTIES, ETC., ETC.

•

Special Electronic Components

FIXED AND VARIABLE RESISTORS
Volume and tone controls, etc.

IRON CORES
Standard and high-frequency types—insulated types, side-molded types, etc.

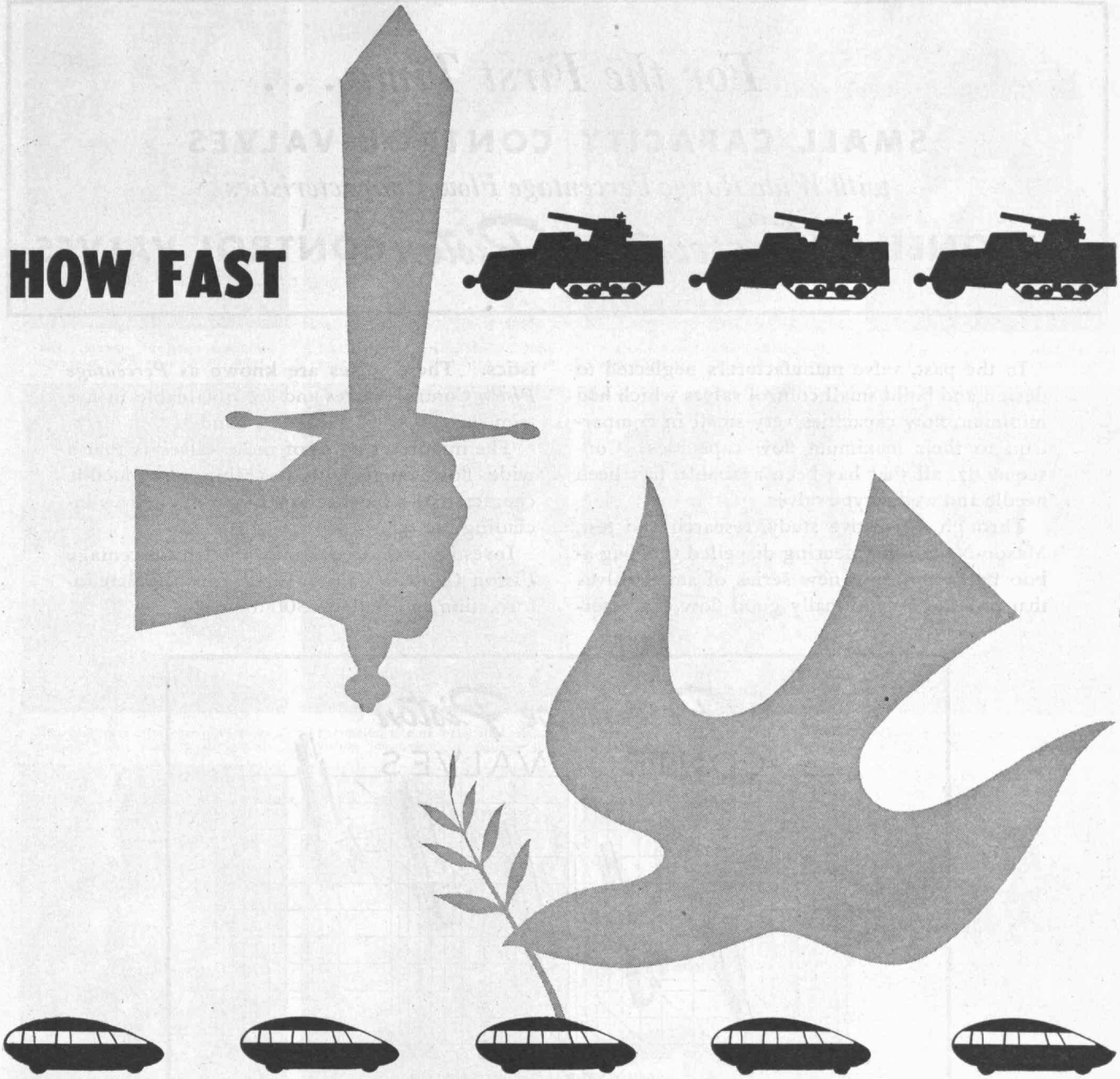
SWITCHES
Inexpensive line, slide, and rotary-action types.

WRITE for details on any product.

STACKPOLE

CARBON CO.

ST. MARYS, PA.



HOW WELL

• War has its emergencies which call for industrial production SPEED — often "at any cost."

• But peacetime industry has its *competition* — and that calls for EFFICIENCY of the highest degree.

• There must be no waste, either in plant construction or in plant operation.

• "Not *how fast* but *how well*," will be the order of the era in which dollars will again mean something.

• Consider the engineering skill and know-how that Badger has accumulated throughout the pre-war and war years. This experience has become increasingly valuable to concerns contemplating new ventures, plant modernization, or additions to present refining or manufacturing facilities.

• Badger's care with details and over-all planning can mean worth-while savings in both investment and operating costs . . . savings which should ultimately prove of definite sales advantage.

E. B. Badger & SONS CO.

BOSTON 14 EST. 1841

NEW YORK • PHILADELPHIA • SAN FRANCISCO • LONDON

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

For the First Time . . .

SMALL CAPACITY CONTROL VALVES

with Wide Range Percentage Flow Characteristics

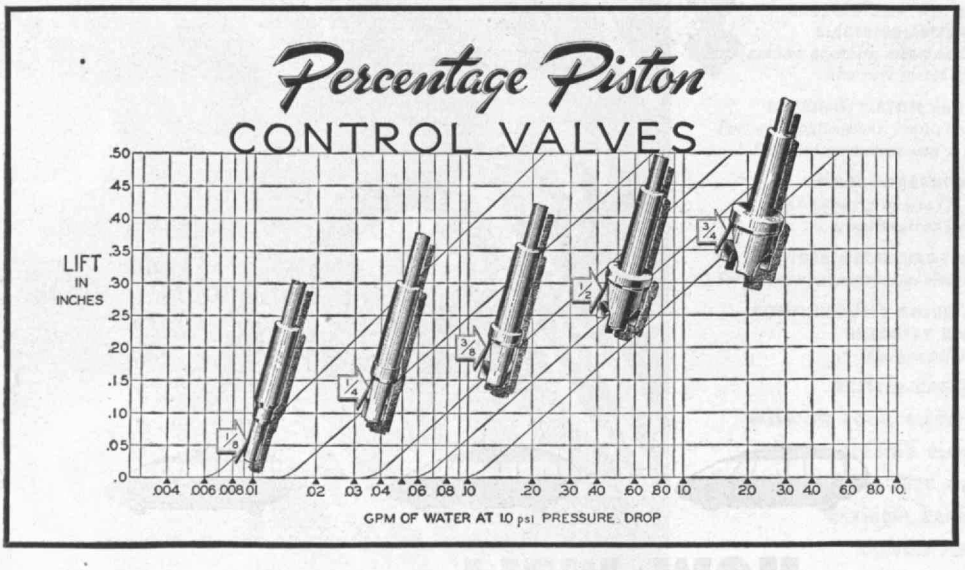
MASONEILAN *Percentage Piston* CONTROL VALVES

In the past, valve manufacturers neglected to design and build small control valves which had minimum flow capacities very small in comparison to their maximum flow capacities. Consequently, all that has been available has been needle and wedge type valves.

Through exhaustive study, research and test, Mason-Neilan Engineering dispelled this bug-a-boo by designing a new series of small valves that provide exceptionally good flow characteristics. These valves are known as *Percentage Piston* Control Valves and are obtainable in five trim sizes — ¾", ½", ⅜", ¼" and ⅛".

The important point of these valves is that a wide flow range with desirable reproducible characteristics has been obtained in all sizes including the ⅛".

Investigate these new Masoneilan Percentage Piston Control Valves. Write for complete information and Bulletin 300 today.



FEATURES

● A family of five trim sizes — ⅛", ¼", ⅜", ½" and ¾".

● The ports on all size plugs are milled in special fixtures for accuracy and reproducibility.

● Special design of the plug and the seat ring permits excellent flow characteristics over flow ranges of the same magnitudes obtained in larger valves.

● High Lift — All sizes have a ½" lift.

● The orifice diameter purposely has been held to a minimum to reduce the errosive effect of high velocity fluids and to reduce the leakage flow when operating near the seat.

● Single seated design insures tight shut-off.

● The extra large standard diaphragm motor used with this series of valves has an effective area of 46 square inches. This in combination with the high lift gives an exceptionally responsive unit.

● In addition to the standard air-to-close superstructure, a new simplified superstructure is available for air-to-open action.

● Trim size is interchangeable and conversion is accomplished by merely replacing the plug and seat ring.

● Standard trim is type 304 (18-8) stainless steel. Hardened stainless steel, bronze, monel or other special metals are also available.

● Body materials — Bronze, cast iron, cast steel, forged steel or alloy steel are standard.

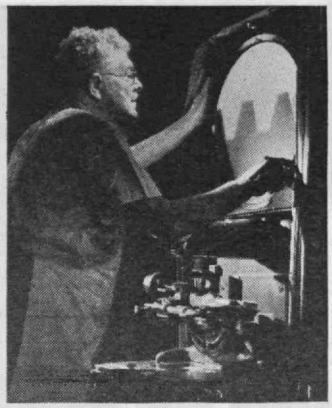
● Body design — Globe or angle type bodies, tapped ½", ¾" or 1" are standard.

MASONEILAN

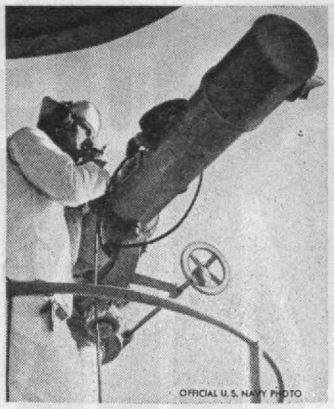
MASON-NEILAN REGULATOR COMPANY

1196 Adams Street, Boston 24, Mass., U. S. A.

New York Philadelphia Pittsburgh Toledo Chicago Tulsa Atlanta St. Louis Houston
Los Angeles San Francisco Mason Regulator Co. of Canada, Ltd., Montreal, Canada



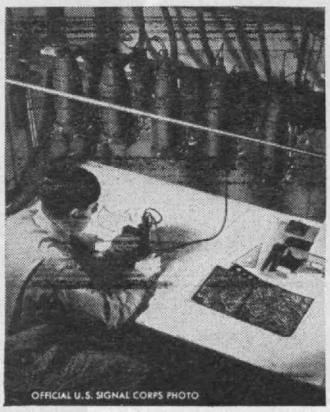
B&L Contour Projector magnifies tiny gear with accuracy to .0001"



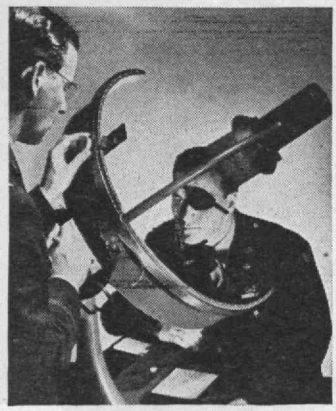
B&L Range finders enable U. S. Navy gunners to hit a ship 17 miles away

Precision aerial camera photographs enemy territory with B&L lenses

Bomber navigators use B&L Sextant to plot course by sun, moon, stars



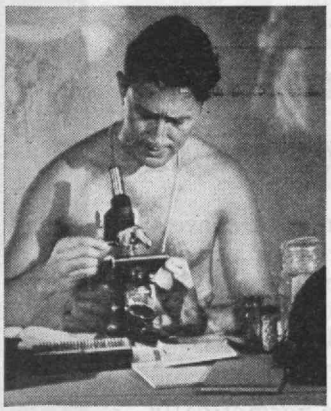
B&L Multiplex Projector plots topographic maps from aerial photos



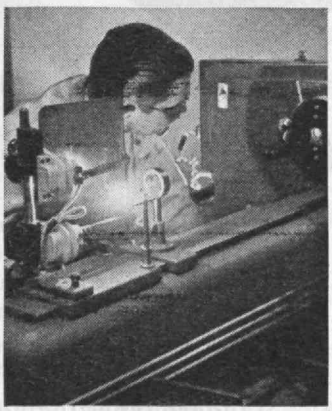
Perimeter, one of many B&L vision testing instruments in military use

B-29 fliers, too, wear B&L Ray-Ban anti-glare glasses on Tokyo air raids

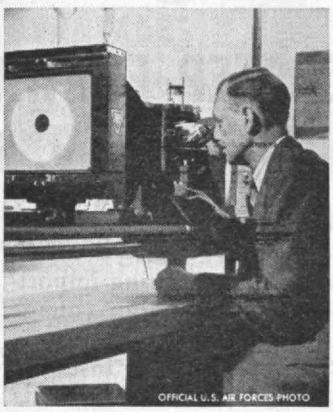
Coast Guard officer on convoy duty scans horizon with B&L Binocular



Medical Corps uses B&L Microscopes



B&L Spectrograph for metal analysis



B&L Research Metallographic Outfit

The B&L Anti-aircraft Height Finder

Here Are the Eyes of Victory

Allied might is rolling up a smashing record of individual victories that point to ever-more-imminent *total* victory.

The way in which American industry supports its fighting men is astounding our allies and confounding our enemies. In the production of war materiel, industry and science have cooperated to make our hard-hitting forces the most completely equipped in the field.

Optical science has made and is making its contribution to this production record.

In fire-control—in aerial reconnaissance—in improving the vision of fighting men and production workers—in inspection instruments that make possible the precision our weapons demand—optical science provides the "Eyes of Victory."

Because Bausch & Lomb was prepared with manufacturing facilities (including its own optical glass plant) and a personnel trained and experienced in optical science, an otherwise certain shortage in vital optical equipment was averted.

As long as American men are fighting, Bausch & Lomb will continue to center its efforts on military needs. After that, Bausch & Lomb knowledge and capacity will again be devoted to making life better through optical science, optical instruments and optical methods.

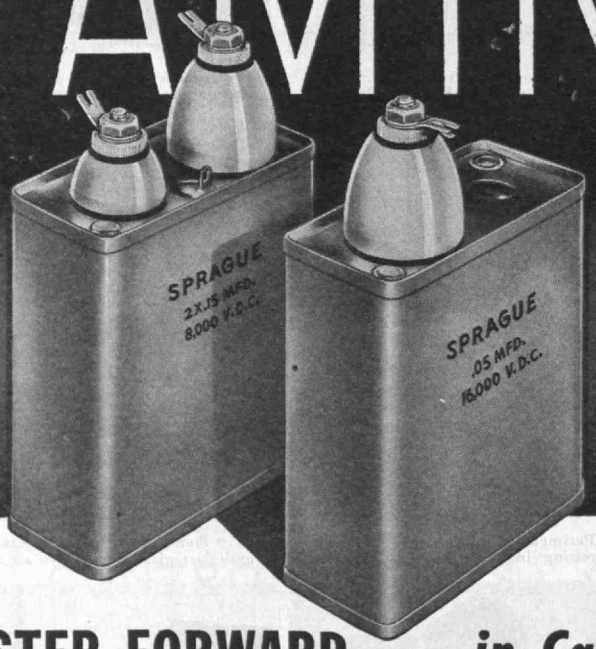
BAUSCH & LOMB

OPTICAL CO., ROCHESTER, N. Y.

EST. B&L 1853

Makers of Optical Glass and a Complete Line of Optical Instruments for Military Use, Education, Research, Industry and Eyesight Correction and Conservation

SPRAGUE VITAMIN-Q*



A BIG STEP FORWARD . . . . *in Capacitors for High Temperature, High Voltage Applications*

Vitamin Q impregnant, pioneered and perfected by Sprague, has resulted in capacitor developments of far-reaching importance for high temperature, high voltage applications. Although extremely compact, Sprague Type 25P Capacitors, for instance, operate satisfactorily at thousands of volts *at ambient temperatures as high as 105° C.* Moreover, their leakage resistance at room temperature is *20,000 megohms ÷ microfarads*—or at least five times higher than that of previous types.

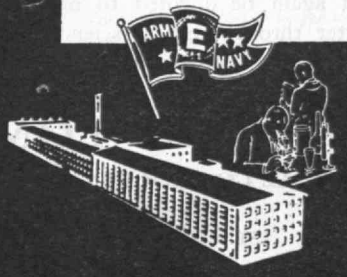
Sprague Vitamin Q impregnated Capacitors retain all of the virtues of conventional oil-impregnated capacitors throughout the extreme range of + 105° C. to —40° C. Used where high temperature is not a factor, they result in materially higher ratings for a given size.

Standard types include hermetically sealed rectangular metal container units in styles for 95° C. and 105° C. continuous operation, and in d-c rated voltages from 1000 to 16000 V. Other types include Type 45P hermetically sealed in glass shells with metal end caps.

SPRAGUE ELECTRIC COMPANY, North Adams, Mass.

(Formerly Sprague Specialties Co.)

*TRADEMARK REG. U. S. PAT. OFF.



SPRAGUE CAPACITORS KOOLOHM RESISTORS