

March 1946

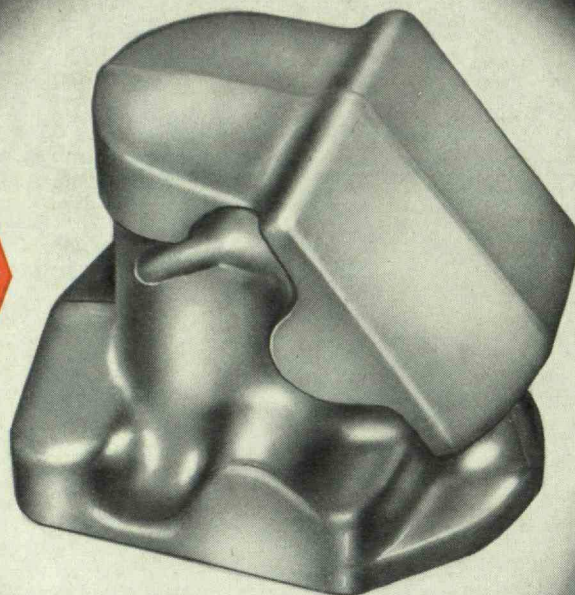
TECHNOLOGY REVIEW

Title Reg. in U. S. Pat. Office

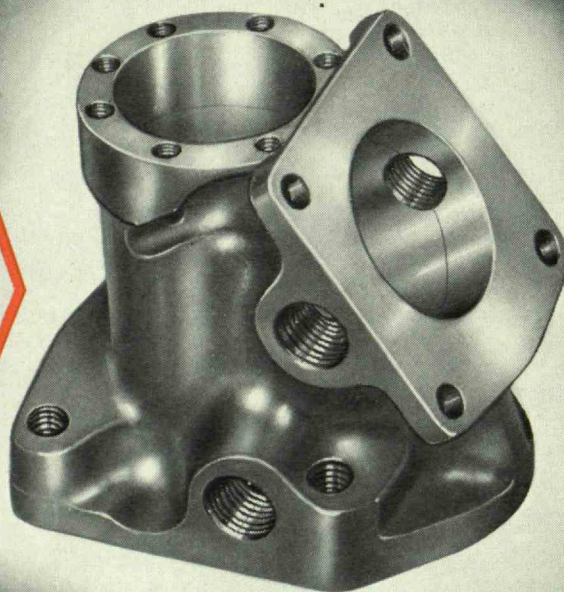


NON-FERROUS FORGINGS

QUALITY-FORGED



MACHINE-FINISHED



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

COSTS GO UP *when* THESE GO OUT

AO SAFETY GOGGLES SAFEGUARD THE EYES OF INDUSTRY

EYES are *expensive* targets, for a single eye injury can cost more than \$1000 in compensation and medical care.

Perhaps your plant has never had to pay a four-figure claim. Yet — unless you have an adequate eye protection program — so called minor eye accidents are probably adding materially to your costs. (It is estimated by the Society for the Pre-

vention of Blindness that eye injury costs average \$5.00 per shop worker per year.)

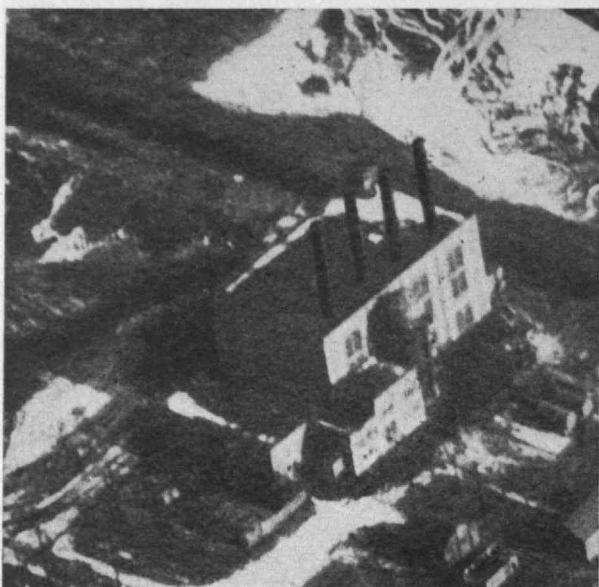
Ninety-eight per cent of eye accidents are preventable — by providing your workers with properly designed safety goggles — at a cost of only about \$1.50 per worker. Why not let your nearest AO Safety Representative help you work out the details for a real eye protection program *now*?

American  Optical

COMPANY

SOUTHBRIDGE, MASSACHUSETTS

Safety Division

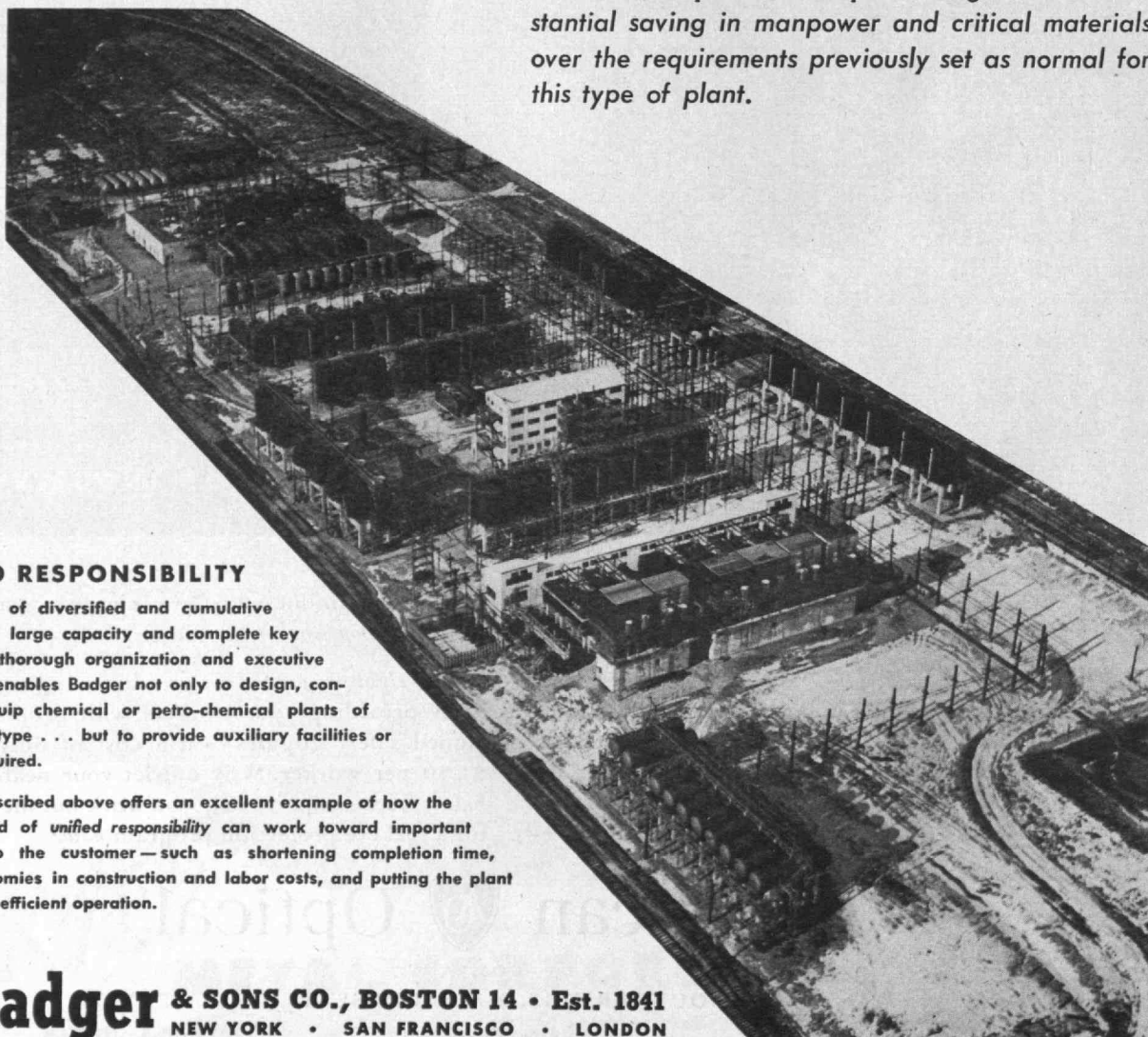


"CITY BY BADGER"

As Architect-Engineer-Manager for engineering, procurement, installation and construction, Badger built this complete 8000-acre explosives plant in co-operation with various military departments of the Government.

Not only the plant itself (process houses, storage, steam and electric power-plant and distribution systems) . . . but roadways, railroads, shops, dormitories, administration buildings, lighting and telephone systems—and a water system large enough for a city of a quarter-million—were Badger-engineered.

The project, ready for operation the day the first unit was completed, was put through with a substantial saving in manpower and critical materials over the requirements previously set as normal for this type of plant.



• UNIFIED RESPONSIBILITY

It is the sum of diversified and cumulative experience; of large capacity and complete key personnel; of thorough organization and executive control—that enables Badger not only to design, construct and equip chemical or petro-chemical plants of any size and type . . . but to provide auxiliary facilities or utilities as required.

The project described above offers an excellent example of how the Badger method of *unified responsibility* can work toward important advantages to the customer—such as shortening completion time, effecting economies in construction and labor costs, and putting the plant into early and efficient operation.

E. B. Badger & SONS CO., BOSTON 14 • Est. 1841
NEW YORK • SAN FRANCISCO • LONDON

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

Are You Taking Full Advantage of these Newest *NORTON* Developments?

HERE are five recent developments of the Norton research laboratories. Each of them means better grinding for you — more production, lower costs, or both.

Get in touch with your Norton abrasive engineer or Norton distributor at once if you are not already using

57 Alundum Wheels for cylindrical and centerless grinding and for tool grinding

B-5 Resinoid Wheels for foundry and weld grinding

Vitrified Bonded Diamond Wheels for carbide grinding

Open Structure Wheels when an especially cool cutting action is necessary such as surface grinding and tool grinding

Norflex Wheels for deburring and polishing operations.

NORTON COMPANY

Worcester 6, Mass.

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

57 ALUNDUM
GRINDING WHEELS

B-5 RESINOID
GRINDING WHEELS

VITRIFIED BONDED
DIAMOND GRINDING WHEELS

OPEN STRUCTURE
GRINDING WHEELS AND SEGMENTS

NORFLEX
POLISHING WHEELS

NORTON ABRASIVES

Helping those who help the sick



Delicate machines that draw revealing pictures of heart action... lamps that kill germs... electron microscopes, many times more powerful than optical instruments, that enable physicians to explore new worlds in bacteriology... machines for treating deep-seated infections by short

wave... cool, shadowless light for operating rooms...

These, and the developments pictured on this page, are a few of the many contributions of General Electric engineers and research scientists toward helping those who help the sick. *General Electric Company, Schenectady, N. Y.*



Operations by electricity. Surgeons are now overcoming many difficulties in certain types of operations with electrosurgery. Among the advantages of electro-

surgery: it shortens operating time, lessens bleeding and shock, lessens the chance of infection, and speeds healing with a minimum of scar.

Helping fight TB. To quote the United States Public Health Service: "Tuberculosis can be eliminated as a public health problem in a measurable time if we use the x-ray to locate every case in the population... and if we provide adequate facilities and personnel to isolate and treat infectious cases." The cut-away picture above shows a mobile unit which can bring chest inspection facilities to schools, industrial plants, and outlying districts far from hospitals. For it, General Electric engineers have designed and built compact x-ray equipment so efficient that as many as 60 people per hour can be examined.

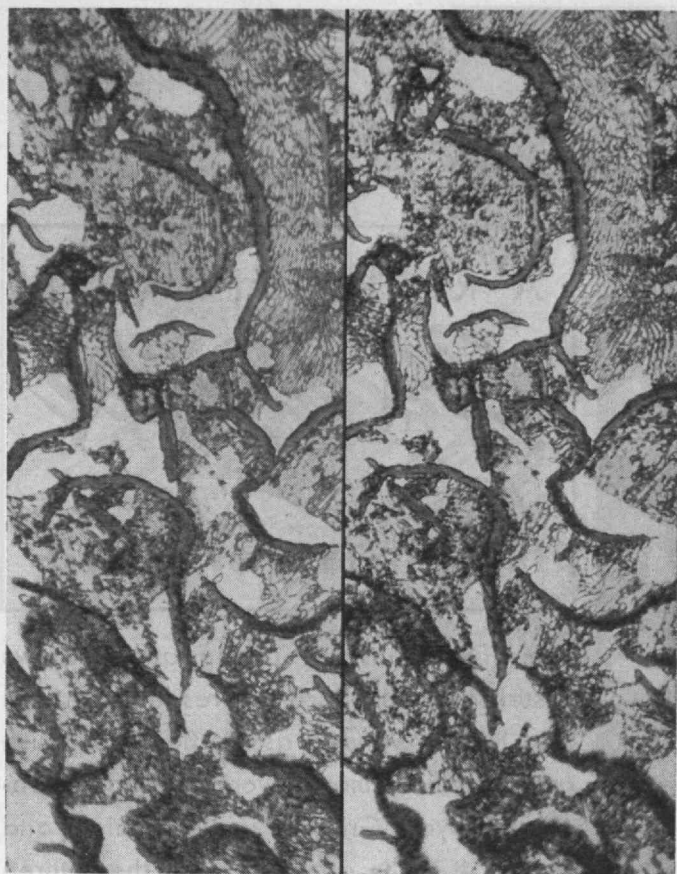


Machine-made fever. Fever heat helps nature's defensive organisms fight off some diseases. Under the leadership of Dr. W. R. Whitney in the General Electric Research Laboratory, G. E. developed inductotherm machines for hospitals and doctors to produce artificial fever electronically.

More Goods for More People at Less Cost

GENERAL ELECTRIC

952-648-211



Comparative Photomicrographs of Cast Iron

Left Field, Taken with uncoated 4mm., 0.95 N.A. Apochromat — Flare 20%
 Right Field, Taken with Balcoted 4mm., 0.95 N.A. Apochromat — Flare 4.9%

BAUSCH & LOMB

BALCOTED

METALLURGICAL

OBJECTIVES

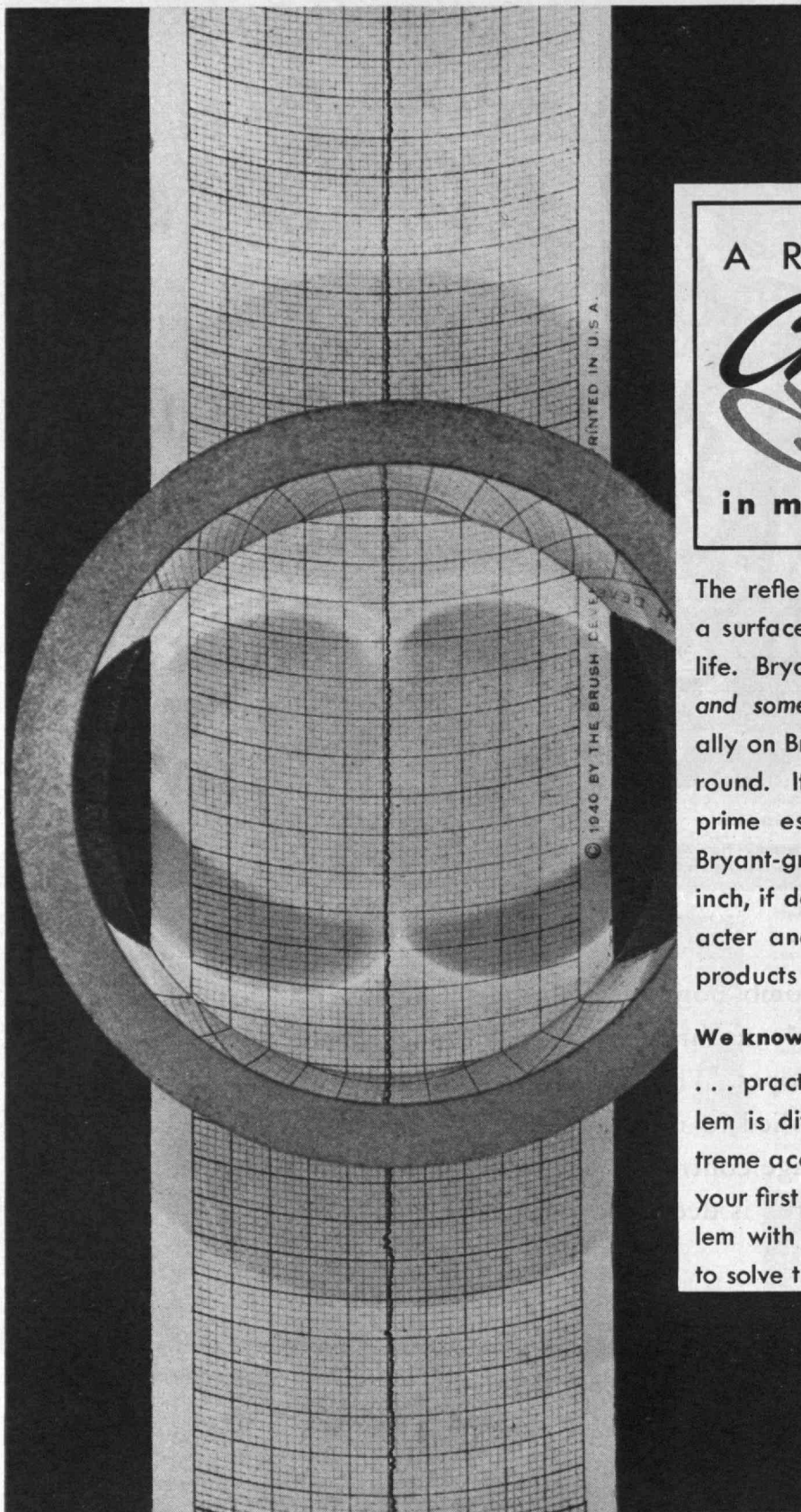
Bausch & Lomb now offers the metallurgist the advantage of Balcote surfaced objectives for his metallurgical microscopes. This revolutionizing lens surface treatment applied to metallurgical objectives provides improved image contrast and shorter photographic exposures. "Flare" is decreased; light transmission is increased.

This is of particular advantage where the metallurgist must work with specimens of low reflectivity and long tone range. For complete information write Bausch & Lomb Optical Co., Rochester 2, N. Y.

BAUSCH & LOMB

ESTABLISHED 1853





A REFLECTION OF

Character

in millionths of an inch

The reflection in the bushing, at left, shows a surface finish which assures long bearing life. Bryant Grinders assure fine work finish *and something more*—work ground internally on Bryant Grinders is also straight and round. It is the combination of these three prime essentials that gives character to Bryant-ground parts—in millionths of an inch, if desired. These essentials give character and long life to the assemblies and products which you manufacture.

We know your problem is different

... practically every internal grinding problem is different, but when you require extreme accuracy or high production, or *both*, your first step should be to study your problem with a man who makes it his business to solve them. Your first step should be to—

Send for the Man from Bryant!

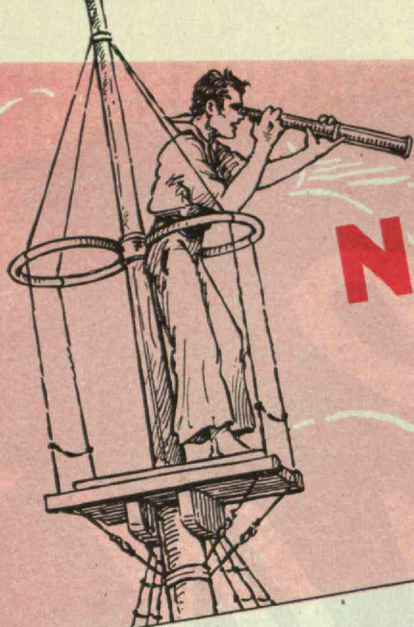
◀ This bushing, with hole ground in a Bryant Grinder, was checked for surface accuracy. The chart line shows deviation. Distance between vertical lines represents one-millionth of an inch.

BRYANT



BRYANT CHUCKING GRINDER CO.

SPRINGFIELD, VERMONT, U. S. A.



NEW HORIZONS

Scientific advances, stimulated by the exigencies of war, have provided new horizons for practically every industrial enterprise. But, with each advance comes new problems, new "bugs" that must be eliminated before tomorrow's products can be successfully produced and marketed.

ACUSHNET *Precision-Molded RUBBER Parts & Products*

Not the least problem confronting manufacturers is the selection of basic material best suited for vital parts in the assemblies of their products.

Improved methods and skill in compounding synthetic and natural rubber have made possible the molding of parts and products with the exact properties needed to control "weak link" conditions.

We are expertly staffed and well equipped to precision-mold parts or products in any quantity by compression, injection or transfer methods.

In step with every technological advance, ACUSHNET'S Engineering and Laboratory Staffs will design the part or product needed to control your particular difficulties or meet exactly your specifications. Our entire research, designing and production facilities are at your disposal at any time. When writing, please include complete information or samples.

Acushnet **PROCESS CO.**
New Bedford, Mass., U.S.A.
Precision-Molded RUBBER Parts & Products



The above group of molded rubber parts only partially indicates the diversity and range of our precision production. If it can be molded of rubber—ACUSHNET will mold it!

BUILD THEM IN *Your Own Equipment*

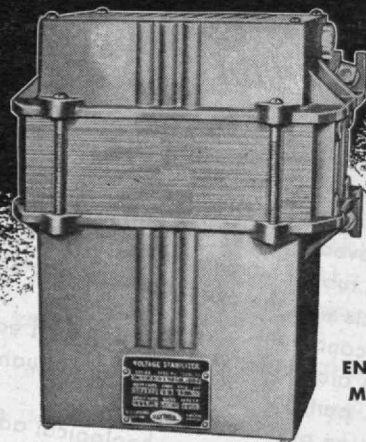
Raytheon Voltage Stabilizers

INCREASE SALABILITY!

When you build-in a Raytheon Voltage Stabilizer—or offer it as an accessory—you are adding an effective sales feature to your own equipment.

It stabilizes fluctuating voltage to within $\pm 1/2\%$. Thus it improves the operation, boosts performance, steps up the accuracy of wide varieties of electrical equipment.

Inquire. There are three models to suit your installation or design requirements . . . cased, uncased or endbell. And if desired, Raytheon engineers will design special stabilizers to meet the individual requirements of your design. Write for Bulletin DL 48-537.



ENDBELL
MODEL

Get these principal operating advantages:

- Control of output voltage to within $\pm 1/2\%$.
- Stabilization at any load within rated capacities.
- Quick response. Stabilizes varying input voltage within 1/20 second.
- Entirely automatic. No adjustments. No moving parts. No maintenance.

RAYTHEON

RAYTHEON MANUFACTURING COMPANY
Waltham 54, Mass.
ELECTRICAL EQUIPMENT DIVISION

Excellence in Electronics