

*July* 1944

# TECHNOLOGY REVIEW

Title Reg. in U. S. Pat. Office







# Sandee

## MEANS FINE EXTRUDED PLASTICS

★ The name SANDEE has become synonymous with all that is newest and best in Extruded Plastics! For here, highly skilled plastics engineers, working with modern methods and machinery, produce Tubing, Strips, Rods, Tees, and Custom Plastic Sections to the most exacting specifications. SANDEE rigid and flexible plastic extrusions are of *uniform* fine quality. Only the best of tested materials and workmanship are employed. If your war-vital product or postwar plans call for plastic extrusions, be sure to ask for the friendly counsel and cooperation of our long experienced engineers. Deliveries are surprisingly prompt considering wartime scarcities.

ELMER SZANTAY, M. E. '35 - General Manager

SALES REPRESENTATIVES IN 19 PRINCIPAL CITIES

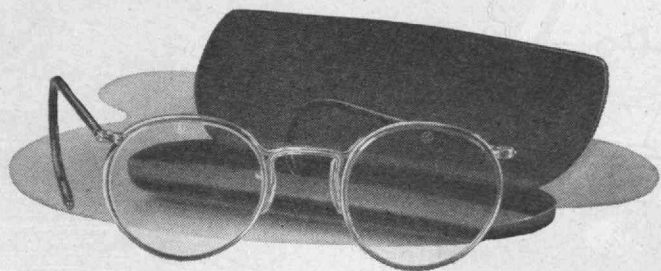
# Sandee Manufacturing Company

3945 NORTH WESTERN AVENUE • CHICAGO 18, ILLINOIS

EXTRUDED PLASTICS AND SPECIAL TOOLS



**A \$1.50 Investment  
that may save you \$1000**



**AO GOGGLES protect  
eyes & man-hours & profits**



This is a pair of AO Goggles.  
Their cost: around \$1.50.  
On one of your skilled workers, they may save you \$1,000 or more... for the eye accidents they help to prevent... *and the trained skill they help to protect.*

They're more than an investment in eye protection. For the price you spend for AO Goggles, you give a worker freedom from fear of injury. You let him concentrate on his job. You help him put in more man-hours. *And you keep production up and costs down.*

  
**American Optical**  
COMPANY  
SOUTHBRIDGE, MASSACHUSETTS

**...CALL IN AN AO MAN—AND KEEP YOUR "PRODUCTION-EYES" PRODUCING**

THE TECHNOLOGY REVIEW, July, 1944. Vol. XLVI, No. 9. 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.

**THIS IS THE VOICE OF FRANCE**



Instead of the silvery Seine — the murky Congo. Instead of well-tended fields and spotless villages — African jungle. Instead of a nation of Frenchmen — a handful of over-worked technicians and hundreds of African natives.

Yet here, three hundred miles up the Congo, is the true voice of France. Here at Brazzaville a gallant group of Free French brought in American equipment and erected one of the most powerful short-wave transmitters in the world. Every hour of the day, the voice of Free France thunders from Brazzaville, speaking in twenty different languages—spreading truth among the conquered peoples of the world—sending bulletins to the Free French fleet.

This tiny outpost is one of the most important voices of France —and Freedom—in the world.

*H.R.O. receivers are standard equipment used exclusively in this station for monitoring and rebroadcasting. Brazzaville is the Voice of France, and these receivers are the Ears of Brazzaville.*



**NATIONAL COMPANY**

**MALDEN**



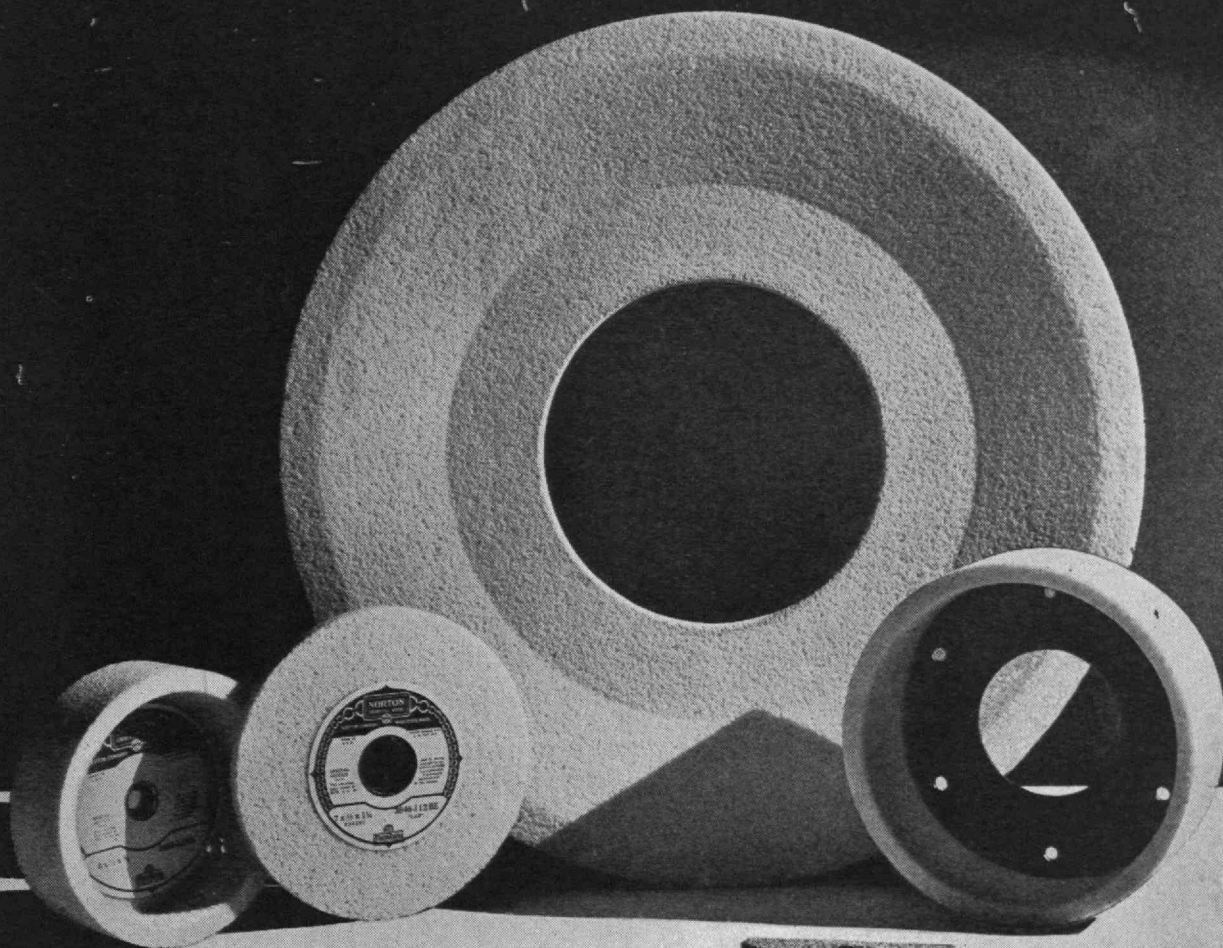
**MASS., U. S. A.**

**NATIONAL RECEIVERS ARE IN SERVICE THROUGHOUT THE WORLD**



# NORTON OPEN STRUCTURE GRINDING WHEELS

*... Up to 24" Diameter Now*



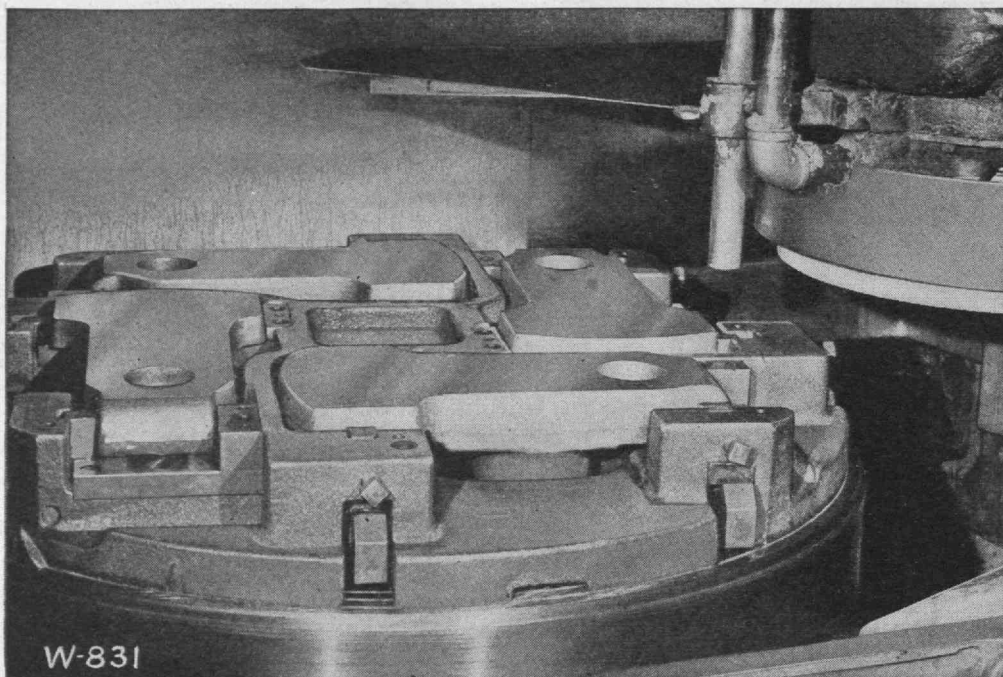
Industry now need not be handicapped by size limitations on grinding jobs that require open structure wheels—where the contact is broad—where the stock removal is especially heavy—where extra coolness of cut is essential.

Norton Open Structure Wheels are being supplied as large as 24" diameter by 4" wide and 20" diameter by 6" wide—and, of course, in all the usual tool room and surface grinding sizes and shapes, including segments.

Norton Open Structure Grinding Wheels and segments are *uniform*—the same grinding action every time—a result of the Norton Controlled Structure process of manufacture.

NORTON COMPANY, Worcester 6, Mass.  
Behr-Manning, Troy, N. Y., is a Norton Division

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*The advantages of  
BLANCHARD grinding*

★ **Production**

*Adaptability*

*Fixture Saving*

*Operation Saving*

*Material Saving*

*Fine Finish*

★ **Flatness**

*Close Limits*

## ★ **Production**      ★ **Flatness**

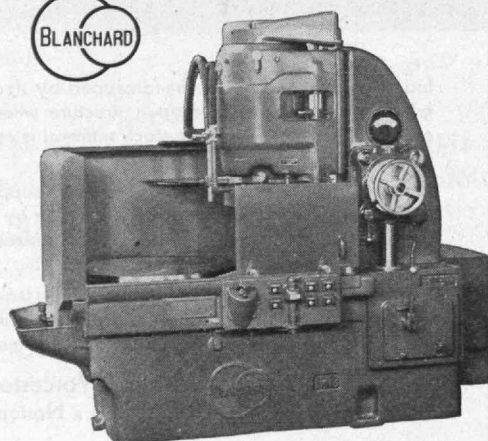
### **Crankshaft Cheeks ground from the rough**

These crankshaft cheeks of tough alloy steel are ground from the rough forging removing .080" stock from the surface at the rate of 12 pieces per hour.

This job is typical of many production jobs in which the Blanchard grinds the first surface on the rough casting or forging, making a dependably flat surface from which all later operations can be located.

*"Put it on the Blanchard"*

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.



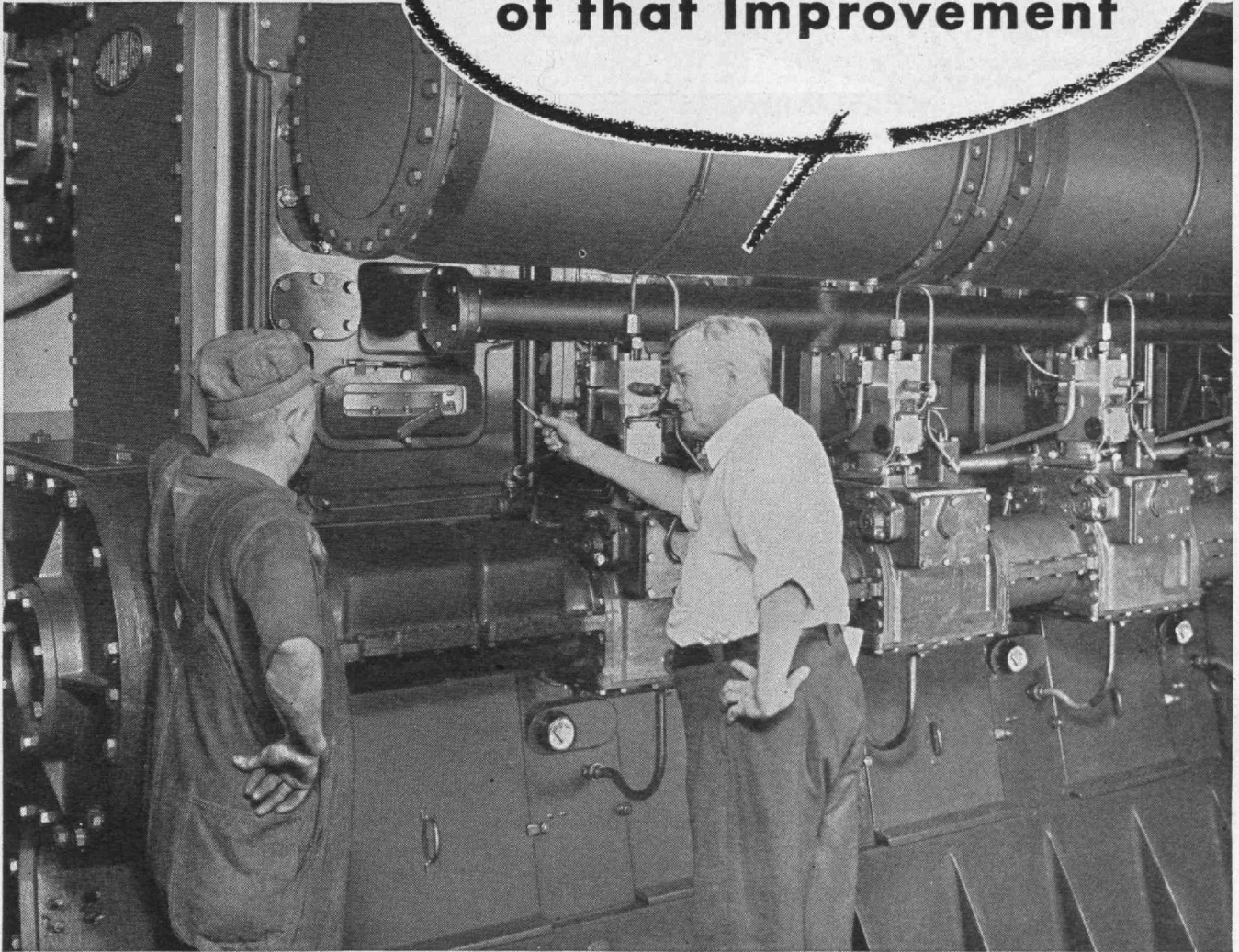
This job being done on the  
No. 18 Blanchard Surface Grinder

*The*  
**BLANCHARD MACHINE COMPANY**

*64 State St., Cambridge 39, Mass.*



**We can all be Proud  
of that Improvement**



"It was just about 15 years ago, Jim, that the first plans came off the Busch-Sulzer designing boards for trunk pistons in big Diesels. Even you fellows here in the shop were skeptical, remember?"

"We sure were Boss—and so was the industry when we built the biggest trunk-piston Diesel on Earth."

"But these big fellows have proved themselves year in and year out, Jim. We can honestly say that we have built Diesels that built Busch-Sulzer's reputation."

Busch-Sulzer Diesels are simple, dependable and long-lasting. In improving its product constantly for over 45 years, America's oldest builder of Diesel engines has striven always for simplicity of design. As a result, a Busch-Sulzer Diesel offers maximum continuity of operation with a corresponding minimum of time lost on inspection and maintenance.

Busch-Sulzer offers single-acting two-cycle engines up to 8000 BHP in one unit. Busch-Sulzer also has a complete line of four-cycle en-

gines in sizes 225 BHP to 1500 BHP, in super-charged and un-super-charged types, suitable for marine or stationary use. A request on your letterhead will bring particulars.



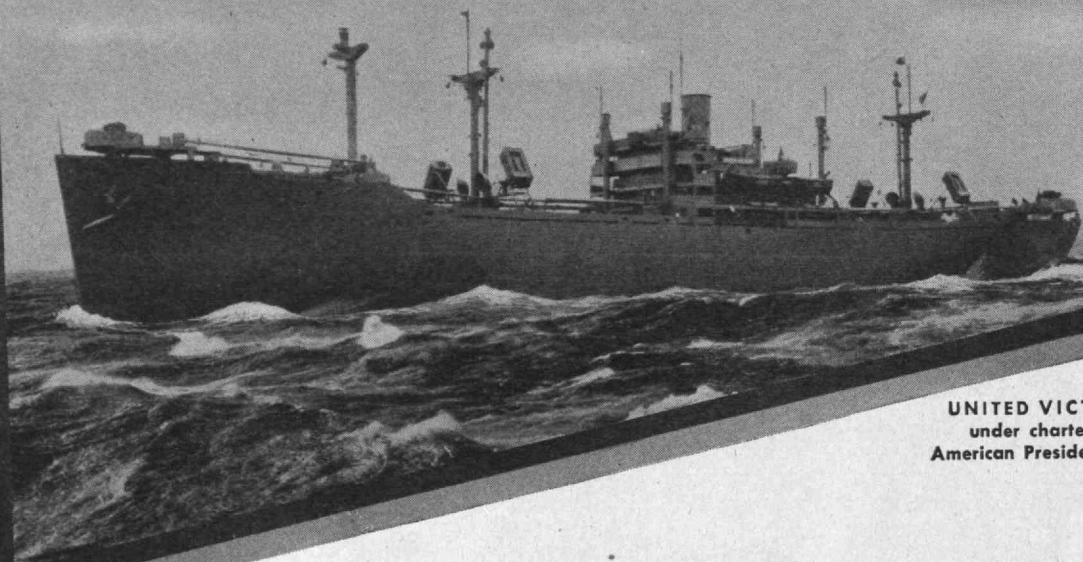
**BUSCH-  
SULZER**

ST. LOUIS

**BUSCH-SULZER BROS.—DIESEL ENGINE COMPANY • SAINT LOUIS**

**AMERICA'S OLDEST BUILDER OF DIESEL ENGINES**

# *first of the Victory Ships*



UNITED VICTORY  
under charter to  
American President Lines

## **...backbone of America's Maritime Future!**

Speedier, more efficient than their predecessors, the famous Liberties, the new VICTORY Ships are coming down the ways.

Incorporated in their design and construction is the knowledge gained from the building of the greatest cargo and Naval fleet the world has ever known.

As a result, they meet the requirements of the Armed Forces for fast ships to deliver troops and supplies to every theater of the war, and are destined to become the backbone of our peacetime Merchant fleet.

The list of their names reads like a roll call of the Allied Nations: United Victory,

the first to be completed, was launched after only 55 days on the building ways and was followed by the Czechoslovakia Victory, China Victory and the Poland Victory. The first four ships\* were all delivered well ahead of schedule.

Deep in their hulls, and in many of those to follow, are powerful Combustion Engineering Boilers, giving them the speed and reliability so vitally needed to make them truly the ships of Victory.

\*United Victory, Czechoslovakia Victory and Poland Victory — built by Oregon Shipbuilding Corporation, Portland, Oregon. China Victory — built by California Shipbuilding Corporation, Wilmington, California. A-783



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## Check List of Uses of the B&L Precision Refractometers

**Fuel Oil & Gasoline Lubricating Oils** Quality control in blending operations; visual check of octane rating.

**Food Processing** Determination of solids—a short cut in analytical procedures.

**Sugar Refining** Determination of sugar content of syrups; quantitative determinations of dextrose and levulose.

**Paint & Varnish** Maintenance of proper proportions of oils and solids.

**Plastics** Determination of refractive index.

*To control quality of finished product and quality of ingredients in Soap and Fats, Cosmetics, Synthetic Rubber, Glass, Ceramics, Beverages, Baking, Waxes, Pharmaceuticals, and in water supplies.*



## Where Can You Use a Precision Refractometer?

Will there be a place in your post-war operations where a B&L Precision Refractometer can help you do a better job . . . or, if you are doing essential war work, is there a place where you could use one to advantage now?

The B&L Precision Refractometer is an instrument of permanent accuracy and superior design. Operation is simplified by the small quantity of liquid required, quick temperature regulation and by a minimum of moving parts. The absence of compensator and bearing errors enables readings to 0.00003 for the C, D and F lines,

giving both index and dispersion values. Of vital importance, too, is the permanent responsibility of the maker. When and if repairs are needed you can always be sure that Bausch & Lomb will still be in business to furnish the parts or service you need.

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ALBERT C. SHERMAN, JR. '14

## THE TABULAR VIEW

**Unbidden Guests.** — Too much of the work which man does goes for the support of ubiquitous and ingenious beasts who have been his fellow travelers for many generations. Discussing these unbidden guests (page 543), CHARLES H. BLAKE, Associate Professor of Zoology at the Institute, explains also some of the steps constituting a proper campaign for control of them. A graduate of Technology in 1925, Professor Blake has been a member of its staff since 1924.

**Oil Finders.** — Requirements for petroleum, the reserves available to meet them, and methods of prospecting to augment those reserves are recounted from the point of view of firsthand experience in the field (page 546) by ROLAND F. BEERS, President of the Geotechnical Corporation. Dr. Beers, an Alumnus of the Institute as a master of science in 1928, received the doctorate last year. He has made many geophysical surveys for oil companies and is a thoroughgoing student of the subject.

**True Teaching.** — The rightful aims of education are analyzed (page 549) from a new point of view in an essay drawn from an address delivered by B. EDWIN HUTCHINSON at a meeting of teachers and industrialists in Detroit. A member of the Institute Class of 1909, former President of the Alumni Association, and term member of the Institute Corporation, Mr. Hutchinson is chairman of the finance committee of the Chrysler Corporation.

**Southward.** — From NEILL JAMES, whose earlier reports of vagabonding have pleased Review readers, comes an account (page 551) of some of the interesting sights which travelers of the future along the Pan American Highway may expect to see. Miss James is at present at work in Mexico.

*The Review is not published during the summer months following July. This issue, therefore, concludes Volume 46. Number 1 of Volume 47 will be published on October 27 and dated November. Readers who bind their copies are reminded that if they possess nine issues of Volume 46, their files are complete. An index to the volume will be ready on September 30 and will be supplied post free upon request.*

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