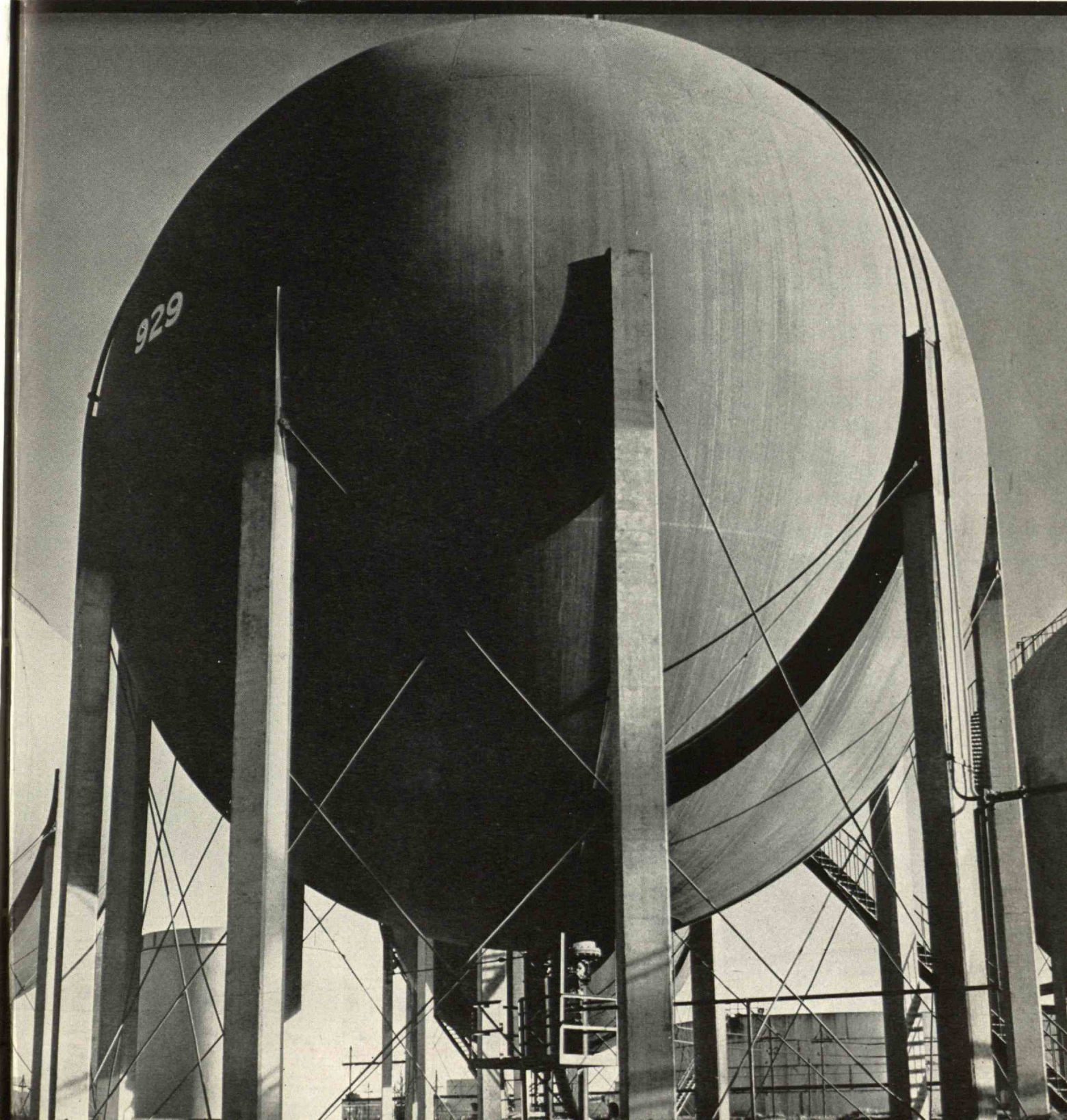


July 1945

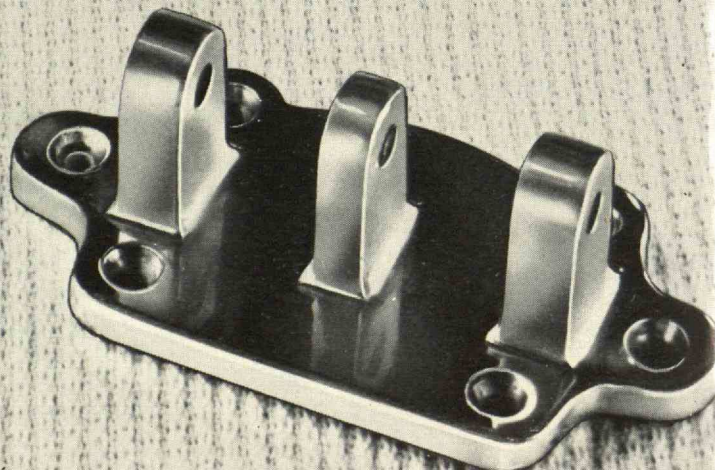
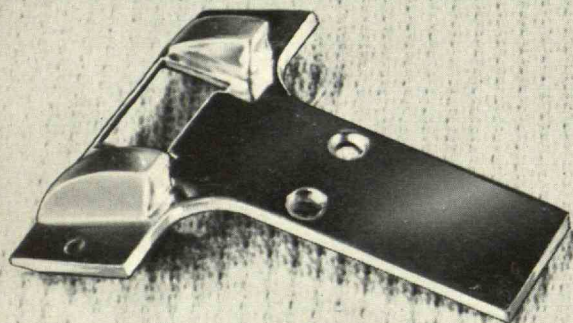
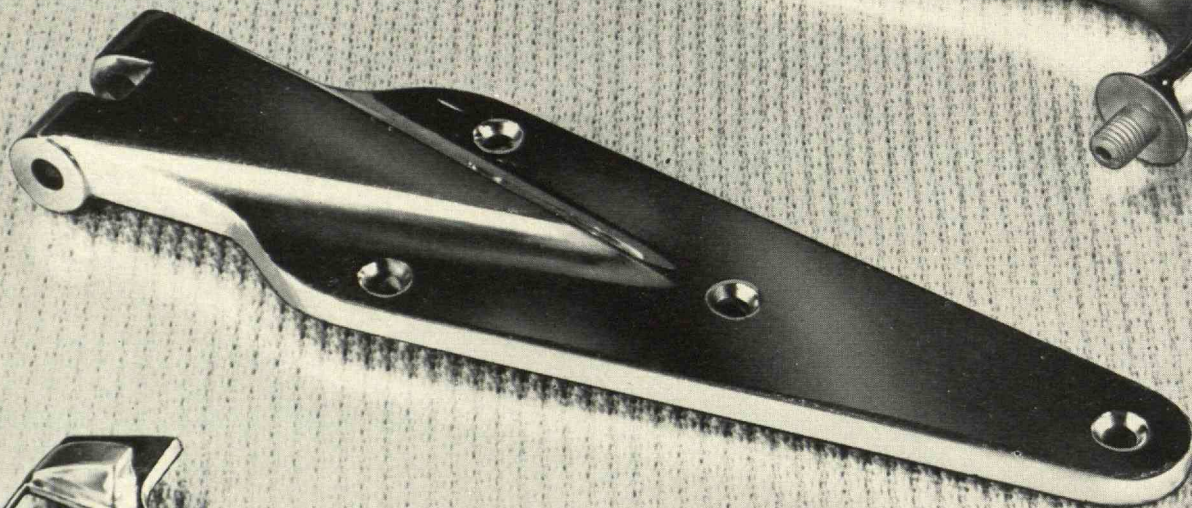
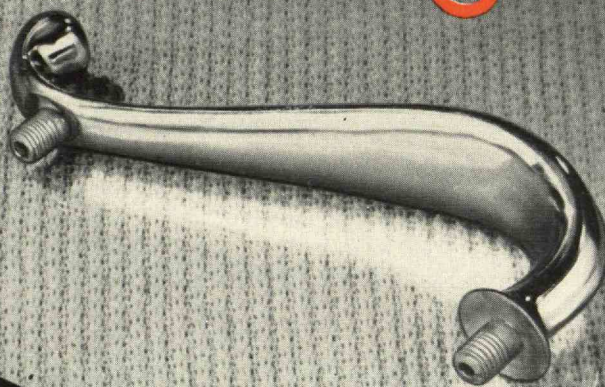
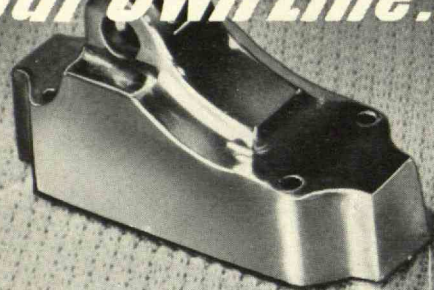
TECHNOLOGY REVIEW

Trade Reg. in U. S. Pat. Office



FINE QUALITY HARDWARE

Your Own Line... Custom Forged



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

This Pair of AO Goggles



Paid for more than a Hundred Others

That's a conservative statement, for the average eye accident costs \$343 for medical expenses and compensation, and safety goggles cost only about \$1.50 per employee. An AO Safety Representative will be glad to consult with your Safety Director and help work out a sound program for lower costs through safer methods.


American Optical
COMPANY
SOUTHBRIDGE, MASSACHUSETTS



Prescription for Precision

Take a drill as thin as a human hair. Bore finer-than-pinpoint holes through Diesel fuel injection nozzles made of steel. Keep those holes uniform in size; make certain that the angle of each of these pore-like passages is exact so that the fuel may be delivered to the cylinders as a highly-combustible spray pattern of the correct size and shape for maximum engine efficiency.

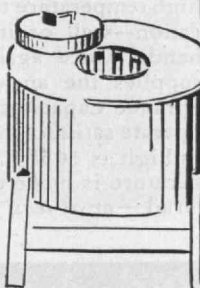
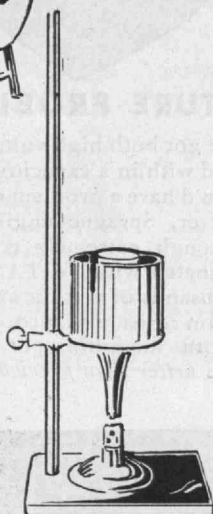
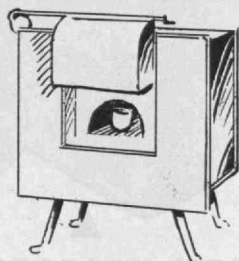
Those are typical requirements of just one of countless specialized tasks at American Bosch. Two factors make such precision possible. One is craftsmanship that has become a tradition. The other is the knowledge and experience necessary to develop fuel injection and ignition equipment that keeps pace with the accelerating evolution of internal-combustion engines. The combination of these twin skills is known as Precision Production for Power. This is the magnet which continues to draw so many of the Nation's engine builders to American Bosch.

AMERICAN BOSCH CORPORATION • *Springfield 7, Mass.*

AMERICAN BOSCH

PRECISION PRODUCTION FOR POWER

NEW! Pure Oxide Refractories by NORTON



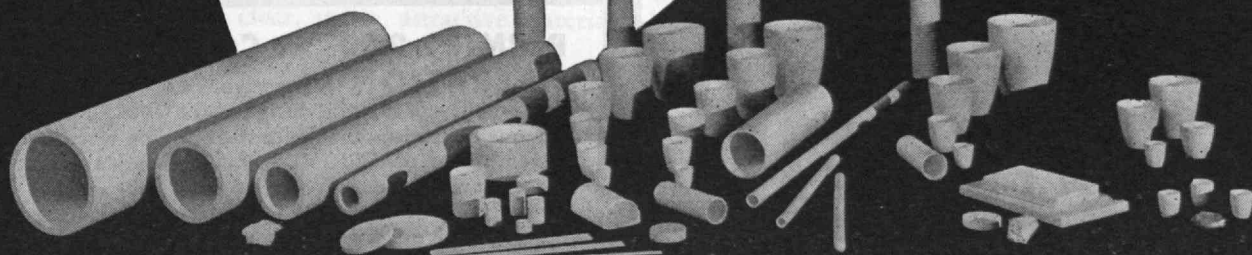
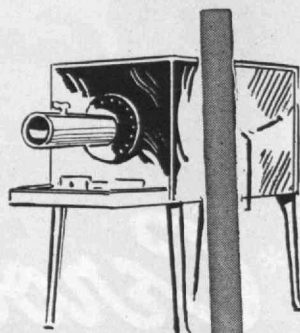
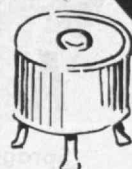
WITH the manufacture of a line of Pure Oxide Refractories, Norton Company is opening new fields for high temperature research. Refractories made from unbonded oxides (of aluminum, beryllium, thorium, magnesium and zirconium) can be used at temperatures up to 2800°C . For more than 25 years, Norton has been pioneering in the development of high temperature refractories: bricks, grain, cements, special shapes; tubes, cores and muffles; laboratory ware.

Pure Oxide Refractories will advance research and development of high melting metals and alloys for industrial progress.

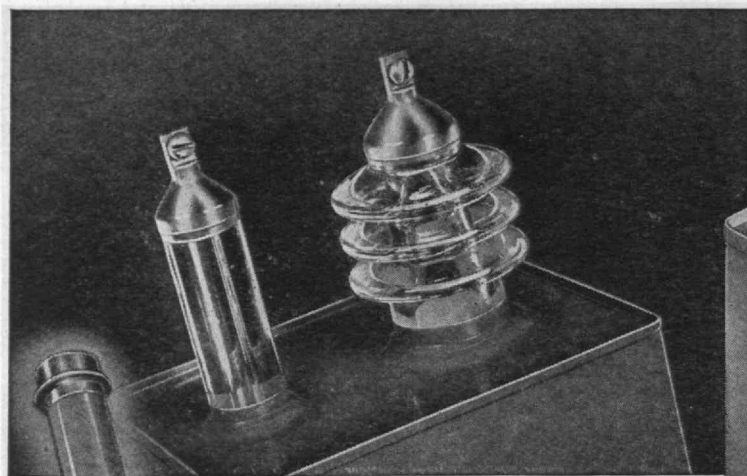
NORTON COMPANY

Worcester 6, Massachusetts

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



NORTON REFRACTORIES



GLASS-TO-METAL SEALS

The old problem of protecting various capacitor and resistor types against leaks and moisture is solved by a unique glass-to-metal seal pioneered and perfected by Sprague. Glass capacitor bushings are sealed direct to the metal container and do not require adjacent metal rings with "matched" coefficients of expansion. On Sprague *KOOLOHM Resistors, the units are encased in glass tubes which are sealed directly to the metal ends. The resulting seals are leak-proof, shock-proof, humidity-proof, and fungus-proof.



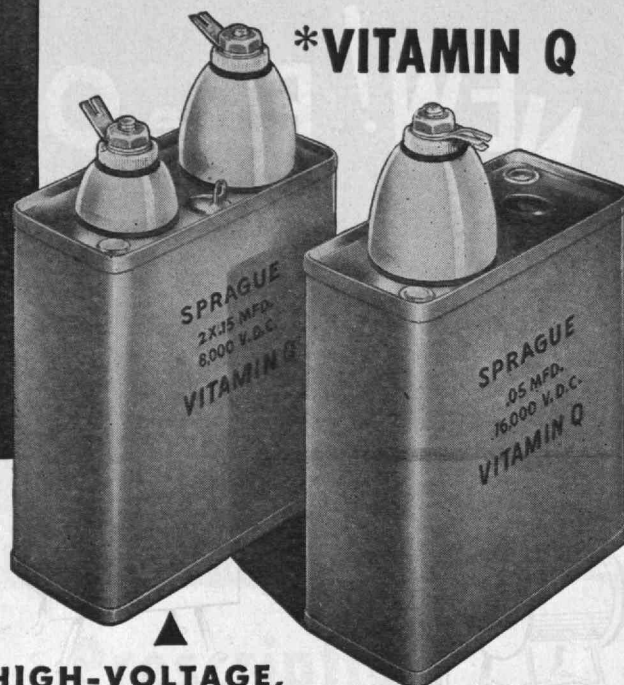
A Step Ahead!

Sprague engineering progressiveness is no better exemplified than by the three outstanding achievements depicted here. And remember, such developments are only the high spots! Equally important is the fact that similar, if less startling, engineering superiority is evidenced in every one of the hundreds of Sprague Capacitor and *Koolohm Resistor types that are regularly produced. Even small points of departure from the conventional often make a startling improvement in results—and no type or design produced by Sprague is so humble as to fail to receive regular engineering attention in a constant effort to surpass for Tomorrow that which is "best" Today.

SPRAGUE ELECTRIC COMPANY
North Adams, Mass.

SPRAGUE

PIONEERS OF RADIO-
ELECTRONIC PROGRESS



*VITAMIN Q

HIGH-VOLTAGE, HIGH-TEMPERATURE PROBLEMS

SOLVED When you've got both high voltage and high temperature to contend with in a capacitor application—well, ordinarily, you'd have a problem on your hands. Once again, however, Sprague engineering supplies the answer. Although extremely compact, Sprague Capacitors impregnated with *VITAMIN Q operate satisfactorily at thousands of volts at ambients as high as 105° C. Insulation resistance at room temperature is more than 20,000 megohms per microfarad—or at least five times better than previous types!

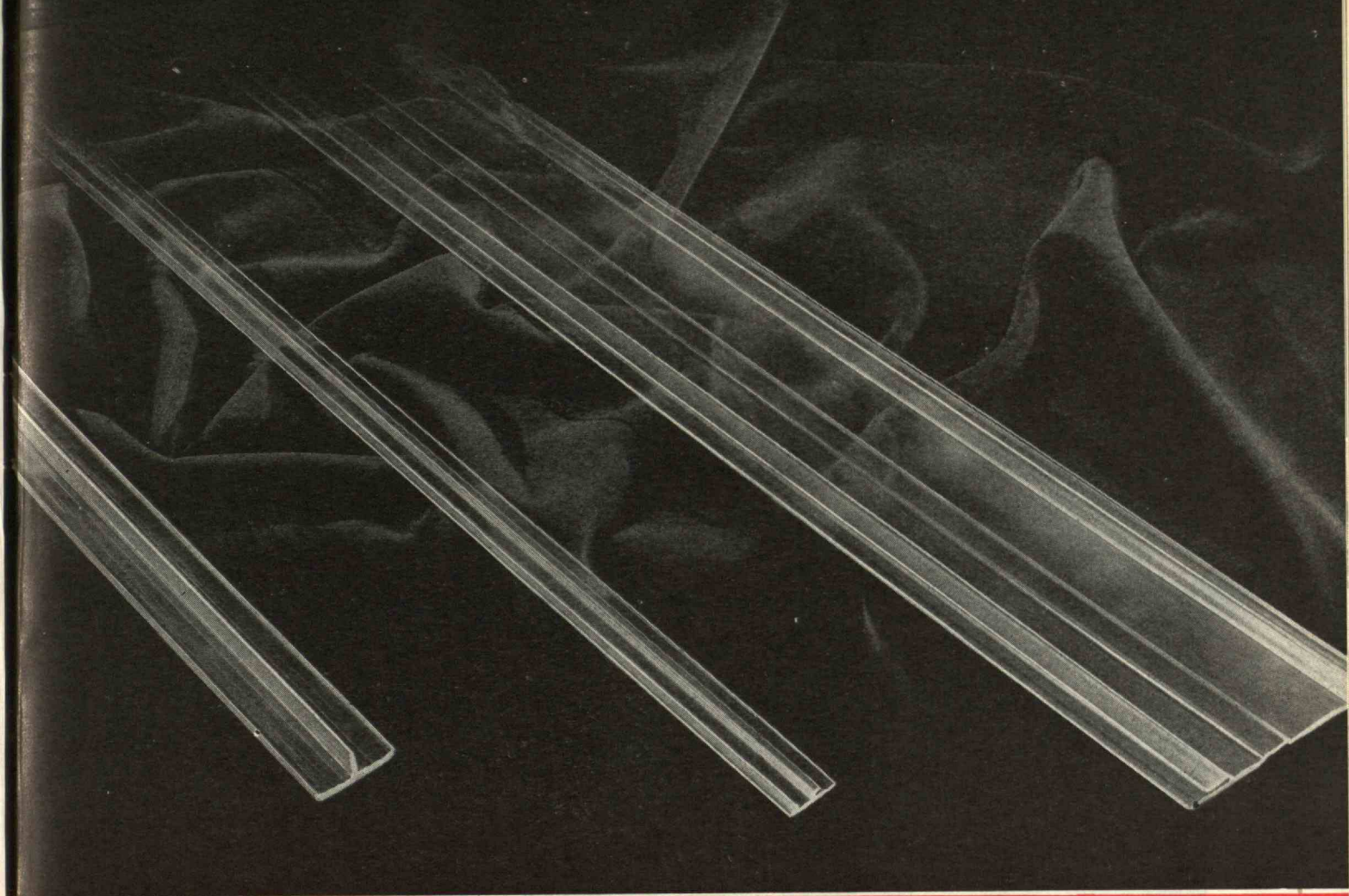


*Ceroc200

PERMITS 200° C. CONTINUOUS OPERATION

Many types of electrical equipment can now be designed for 200° C. continuous operation, thanks to the Sprague wartime development of *CEROC 200, a flexible ceramic (inorganic) insulation for copper, nickel, and other types of wire. Smaller equipment can be designed to do bigger jobs. *CEROC 200 dissipates heat rapidly and has an extremely good space factor. You'll be hearing a lot about *CEROC 200 in days to come!

*Trademarks Reg. U. S. Pat. Off.



NOW YOU CAN SPECIFY **POLYSTYRENE** FOR FINE EXTRUDED PLASTICS

**Sandee "S" Compound
Most Dimensionally Stable of
All Thermoplastic Materials**

Sandee research has scored again! Tubes, rods, strips, and custom sections of POLYSTYRENE have now been developed to a degree of perfection unapproached in the history of extruded plastics! This clear, stable, attractive material

offers many superior advantages heretofore unobtainable in extruded plastic sections. Of all our rigid thermoplastics, SANDEE "S" Compound (Polystyrene) possesses the highest Dielectric Strength, lowest Specific Gravity, lowest Dielectric Constant, lowest water absorption. It is tough and can be extruded in intricate shapes to closest tolerances. Sandee "S" Compound is destined to become an outstanding general purpose material, in the field of plastics extrusion. Currently it is available only for war applications. If you can apply this remarkable material to your profit and advantage, we suggest discussion of your requirements with our capable engineers. May we send you a comparative data sheet?

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

SALES REPRESENTATIVES IN 19 PRINCIPAL CITIES

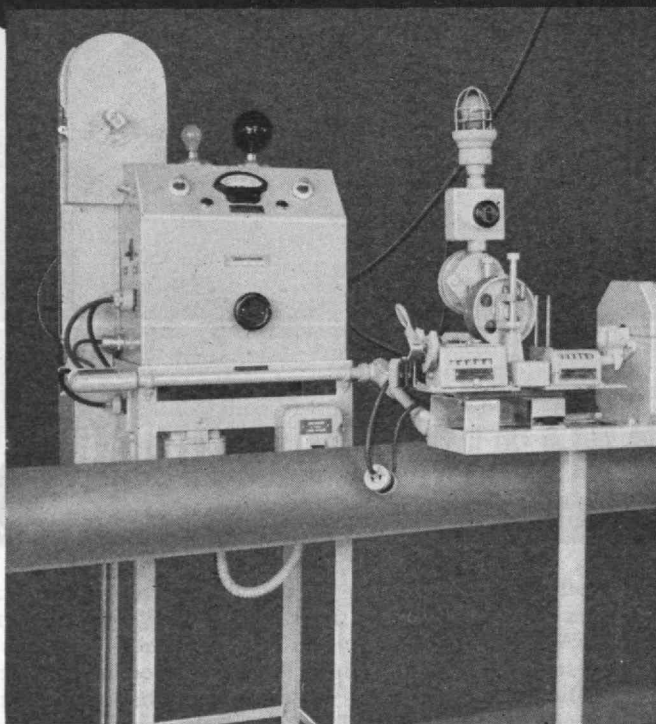
Sandee Manufacturing Company

3945 NORTH WESTERN AVENUE • CHICAGO 18, ILLINOIS

EXTRUDED PLASTICS AND SPECIAL TOOLS



SPARK-TESTING, MEASURING AND RECORDING EQUIPMENT FOR USE ON CONTINUOUS VULCANIZING AND PLASTIC EXTRUDING MACHINES



**EXCLUSIVE
FEATURE**

**GUARANTEED TO MEET ALL
NAVY, SIGNAL CORPS, UNDERWRITERS',
CANADIAN, BRITISH AND RUSSIAN
SPECIFICATIONS FOR SPARK-TESTING.**

OTHER EXCLUSIVE FEATURES:

- 1** Records number of insulation faults in each reel as a permanent record on a paper tape.
- 2** Gives positive lamp signal to indicate whether each reel, as it is finished, contains any faults, or has been subjected to an interruption of power on the sparker.
- 3** Indicates total faults, reels and footage produced each day or shift.
- 4** Gives lamp and buzzer signal, as end of a predetermined length is reached on each reel.
- 5** Can be adapted to initiate an automatic change-over from one take-up reel to the other at a definite length.
- 6** Maintains maximum sparker-fault-circuit sensitivity without adjustment of any kind for varying wire and atmospheric conditions.

Send for specification sheet.

JAMES L. ENTWISTLE CO.

43 CHURCH ST., PAWTUCKET, R. I.

WORLD'S LEADING MANUFACTURER OF SPARK-TESTING EQUIPMENT



CHUCKING MACHINE EFFICIENCY 89.6%

Each time the ticking sound of a watch movement is heard, important phases of life begin and end. Whether it be in the form of a service-man's watch or in the delicately assembled timing device of an anti-aircraft shell, time must be accurate and dependable. Making good time for the past eighty-eight years, the U. S. Time Corporation of Waterbury, Connecticut, has devoted their entire experience and effort since Pearl Harbor supplying precision-built instruments of war.

The clockwork in the fuse body of an ack-ack shell governs the instant of explosion. A flaw in the manufacturing of this timing device or the brass fuse body in which it rests could result in a major catastrophe. To assure perfection, the first and second operation on the fuse body has been produced

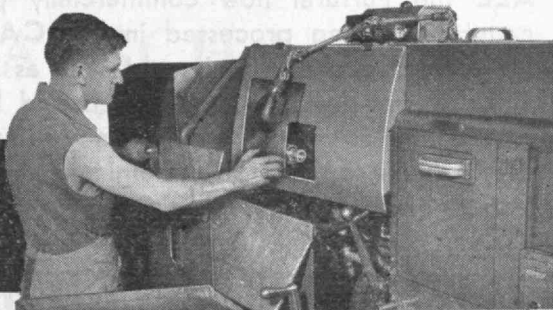
for the past three years on a battery of Model 656 New Britain Multiple Spindle Automatic Chuckers. The leaded brass forgings are machined at the rate of 237 fuse bodies per hour per machine, with carbide tip tool life running 2500 to 3000 pieces per grind. This machine performance, coupled with competent personnel and an organized inspection requiring 36 gauging operations, has made it possible to achieve the unheard of machine efficiency of 89.6% . . . This story is but one of the many New Britain case histories of the present war effort . . . superior productivity that can automatically be the tip-off to your winning peacetime manufacturing battles . . . quickly and economically. Consult with our Sales-Engineer in your area or, should you prefer, communicate direct.

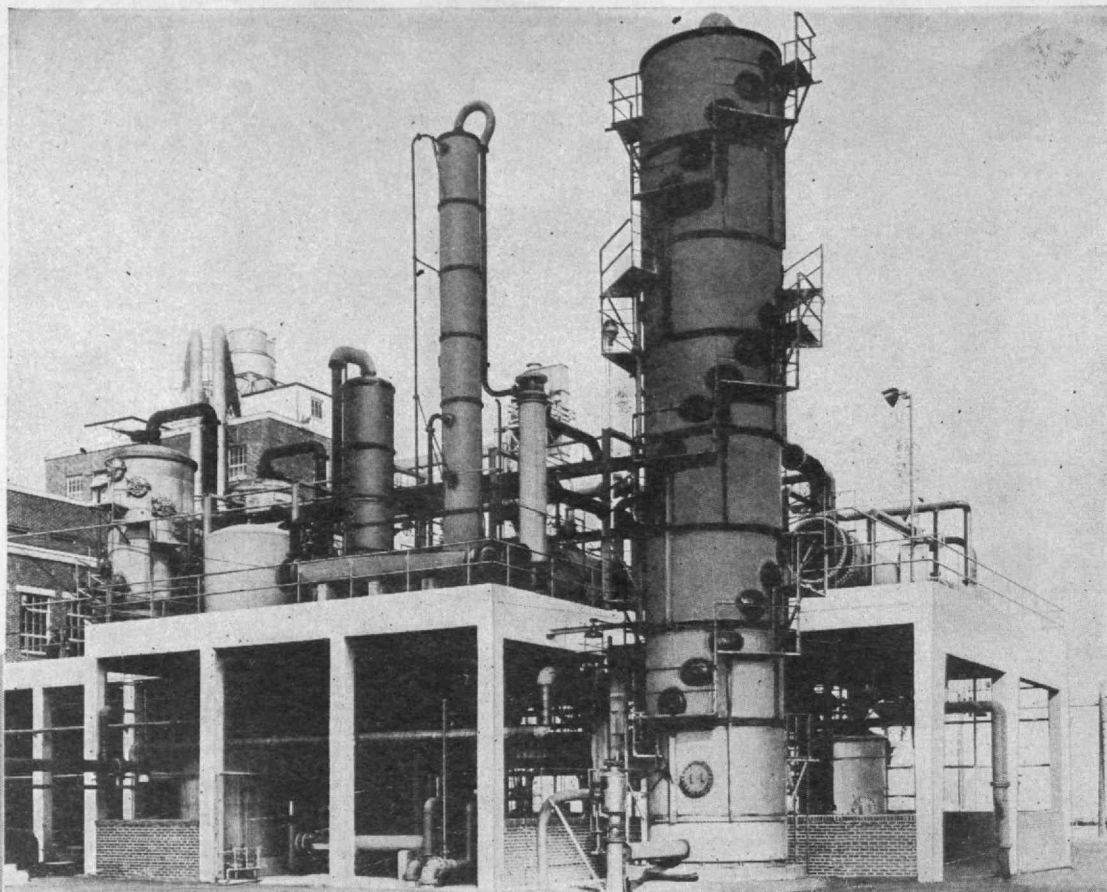
NEW BRITAIN AUTOMATICS

THE NEW BRITAIN MACHINE COMPANY

NEW BRITAIN, CONNECTICUT

New Britain-Gridley Machine Division





FURFURAL RECOVERY PLANT

operated by **THE Q. O. CHEMICAL CO.**

as Agent for RUBBER RESERVE CO.

Designed
and Built by

VULCAN

FOR years Furfural has been one of the most extensively used selective solvents for the refining of lubricating oils. A new demand — war created — for the processing of butadiene from petroleum for synthetic rubber production necessitates large additional quantities of Furfural for use as the selective solvent.

ALL the Furfural now commercially produced in this country is being processed in **VULCAN** designed and fabricated recovery equipment such as illustrated above. This unit was designed, engineered and built by Vulcan in record time to meet the emergency requirements — a further example of **Vulcan's** pre-eminence in the highly specialized chemical engineering and process equipment field.

Engineers and Fabricators of

DISTILLATION EVAPORATION EXTRACTION

**PROCESSES
and EQUIPMENT**

THE VULCAN COPPER & SUPPLY CO., CINCINNATI, OHIO