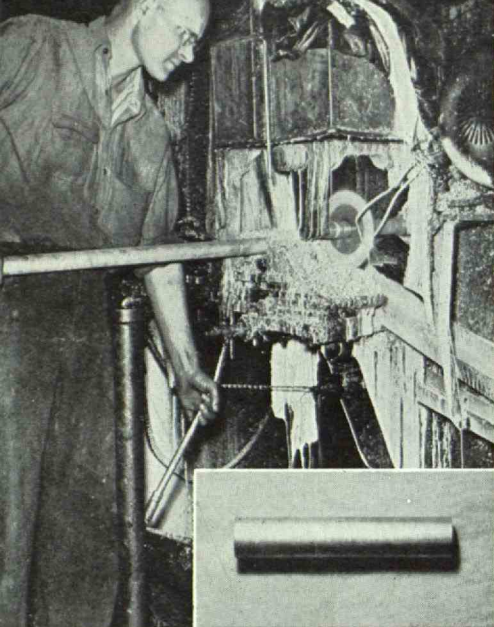


# TECHNOLOGY

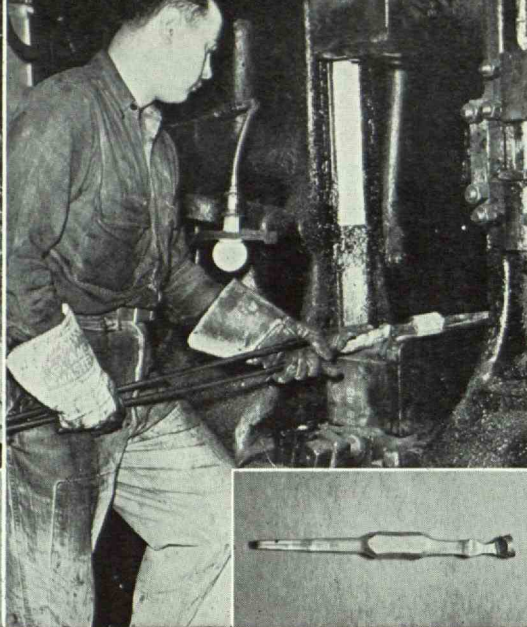
REVIEW *July* 1949



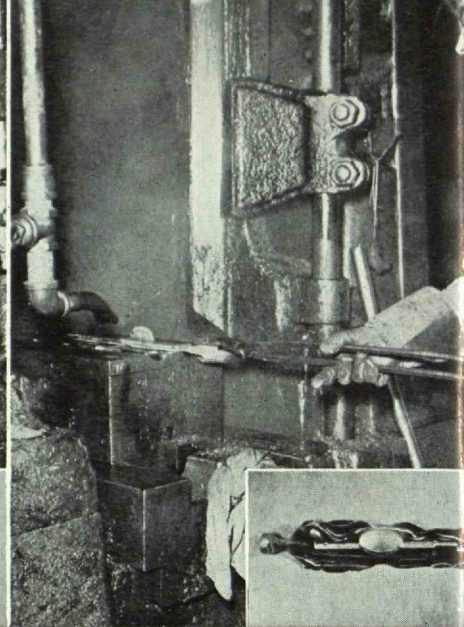




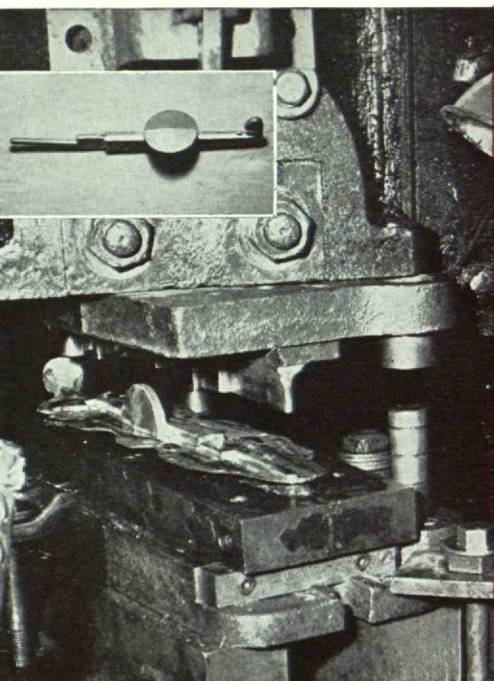
**Cutting Bar**



**Lengthening and Shaping**



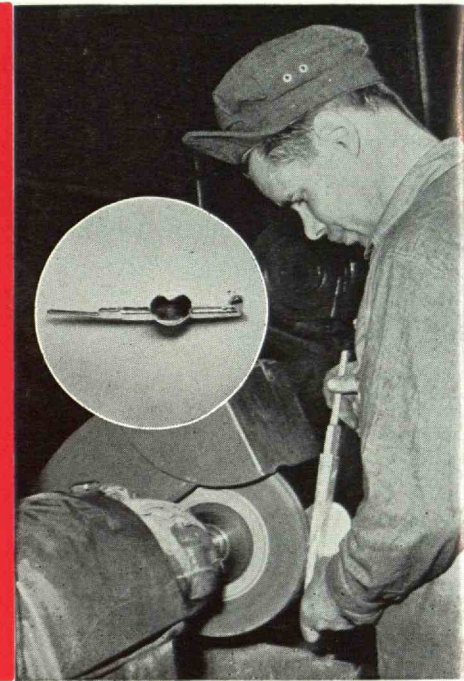
**Shaping to the Die**



**Trimming the Flash**

# **FORGING ALUMINUM**

**into  
Pressure Cooker Tops**



**Finishing and Polishing**

# **The Harvey Metal Corporation**

**HAROLD B. HARVEY '05**

***Engineers and Manufacturers***

**74th Street and Ashland Avenue**

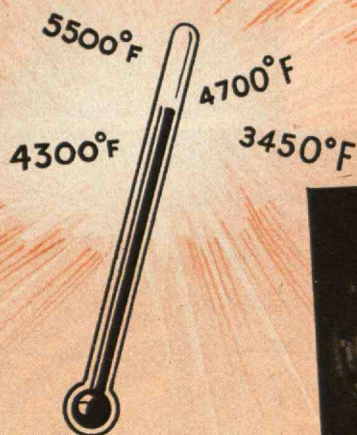
**Chicago 36, Illinois**

**FORGINGS IN ALUMINUM — BRASS — BRONZE — COPPER — MAGNESIUM — MONEL — ALLOYS**

**MACHINING FACILITIES**



# TEMPERATURES *TWICE* THE MELTING POINT OF STEEL!



## Industry Uses These Temperatures Today ... with Norton-Developed Refractories

TEMPERATURES as high as 4300° F. for the sintering of carbides . . . up to 4700° F. in the manufacture of acetylene . . . even up to 5500° F. in certain research projects . . . that's the way industry is using heat today. And to handle this heat it is turning to Norton.

Long the acknowledged leader in the abrasive industry, Norton is also the pioneer in the development of refractories for handling today's super temperatures . . . pure oxide refractories of thoria, zirconia, beryllia, fused magnesia (MAGNORITE\*) and fused alumina (ALUNDUM\*).

Other types of Norton refractories are handling heat for many industries—chemical, metal, ceramic, power generating and gas generating.

\*Trade-mark reg. U. S. Pat. Off.



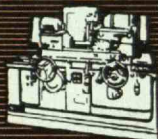
The main Worcester plant of Norton Company—world's largest producer of abrasive products

**NORTON COMPANY • WORCESTER 6, MASS.**

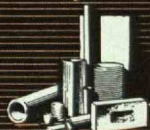
(Behr-Manning, Troy, N. Y. is a Norton Division)



GRINDING WHEELS



GRINDING MACHINES



REFRATORIES



NORBIDE



NON-SLIP FLOORS



LABELING MACHINES

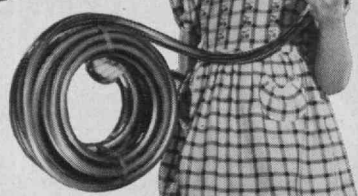


ABRASIVE PAPER  
AND CLOTH . . .  
SHARPENING STONES



# So Light...

## A CHILD EASILY CARRIES 50 FEET WITH ONE HAND!



**S**PECTACULAR LIGHT WEIGHT... small bulk... ease of handling and storing... these are outstanding features of SANDEE Feather-Lite Copolymer Garden Hose! In fact, it is about *one-third the weight of ordinary hose* yet gives full water volume. Here's the kind of gardening ease and economy

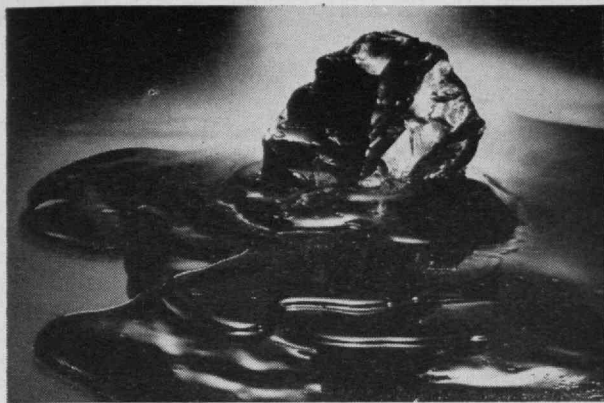
you've long wanted. An extremely tough and *long lived* hose, that resists hottest sun, zero cold, greases, oils, alkalis. And, it won't mildew, rot, crack or peel! Fine brass couplings fit standard outlets and *won't pull off!* You can get it in 3 *permanent* colors... Green, Red, Silver, with *structurally stronger* rib finish. SANDEE Garden Hose is nationally advertised, carries the Good Housekeeping Seal and a written guarantee. See it at your dealer's or write us.

SALES REPRESENTATIVES IN 19 PRINCIPAL CITIES

# Sandee Manufacturing Company

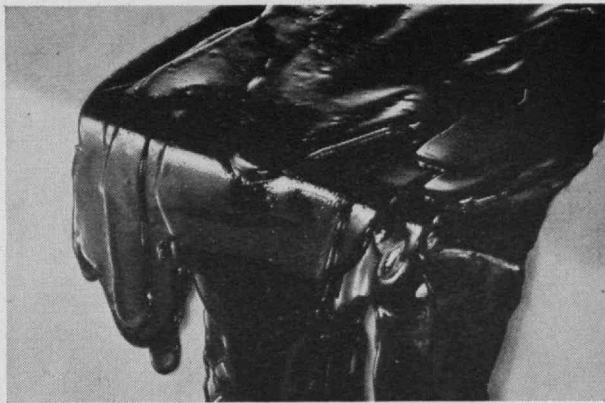
5050 FOSTER AVENUE • CHICAGO, 30, ILL. U. S. A.

WORLD'S LARGEST CUSTOM EXTRUDERS OF PLASTICS



#### **LIQUID COAL** — the oil of the future

*The synthesis of oil from coal and natural gas promises an answer to the alarming problem posed by the rapid depletion of our petroleum reserves. C-E steam generating and heat transfer equipment is importantly identified with this program.*



#### **BLACK LIQUOR** is big business

*C-E Recovery Units save the Kraft paper industry millions of dollars annually by recovering chemicals from the spent liquor of the pulp-making process, and generating steam from the combustible ingredients of the liquor.*

## **Not such strange bedfellows**

#### **PULVERIZING** the materials of industry

*The principles of pulverization developed for C-E Pulverized Coal Systems are used for the efficient reduction to powder of a host of products for home and industry — from foods and cosmetics to plastics and metallic ores.*

#### **SOAKING WET TO BONE DRY** in split seconds

*C-E Flash Drying Systems make many water logged wastes into usable fuel, changing a disposal problem to a profitable operation. So, too, in the process industries many valuable products from which moisture must be removed are dried almost instantly.*



**T**o those of you who associate the C-E trade mark with boilers — for industry, for public utility stations, or for ships — the apparently unrelated processes pictured above may seem to be strange bedfellows.

But to many the C-E flame means some special field of activity like one of those here illustrated, or such others as domestic water heaters, pressure vessels for the process industries, or the drying and incineration of sewage sludge.

The point is that all these seemingly diverse activities have a common kinship in Combustion's primary field — the efficient generation and use of heat. And all benefit by more than 60 years of experience in this field symbolized by the C-E flame.

B-277

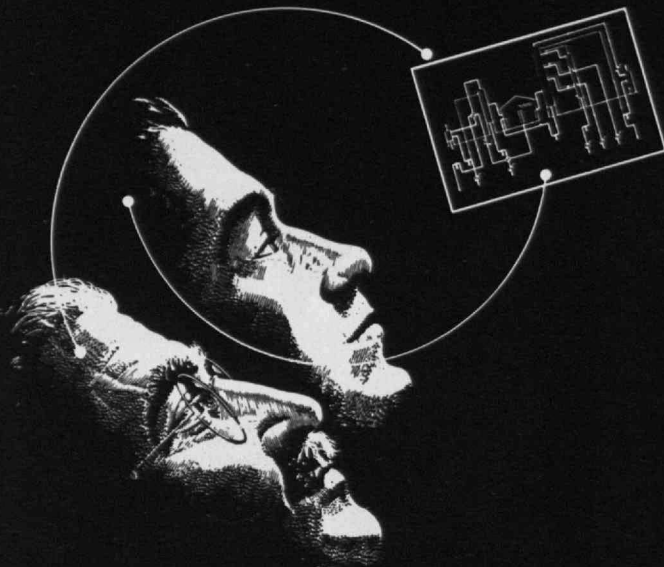


### **COMBUSTION ENGINEERING— SUPERHEATER, INC.**

A Merger of Combustion Engineering Company, Inc. and The Superheater Company

**200 Madison Avenue • New York 16, N. Y.**

**All types of Boilers • Furnaces • Pulverized Fuel Systems  
Stokers • Superheaters • Economizers • Air Heaters. Also,  
Pressure Vessels • Chemical Recovery Equipment • Sewage  
Incineration • Flash Drying Systems • Domestic Water Heaters**



# teamwork

Two types of teamwork play important roles in the engineering and construction of a plant: (1) Internal—within the contractor's own organization, (2) External—between contractor's and your personnel.

Internal teamwork shows up in records of successful accomplishment, a product of experience in working together on job after job. But the extent of external teamwork is more difficult to predict.

In carrying out its contracts, Lummus assumes a responsibility for giving you the benefit of all that your staff can contribute, as well as our own. We do not lean on them for ideas. But neither do we lean away from preferences they express or suggestions they offer. Your Lummus-built plant makes the most of the combined experience of your people and ours.

## teamwork in process development

In the development of improved methods of producing lubricating oil, Lummus has worked in close-knit cooperation with many leading oil companies. Lummus' exclusive pilot plant equipment for lube-oil process development has been employed to explore process alternatives suggested by these customers, supplementing their own research. More than 85 process units for solvent refining and dewaxing have resulted from this work—including the largest lube-oil plant in the world.

## teamwork in plant design

Lummus coordinated its engineering with the requirements and preferences of a leading chemical company—and laid the groundwork for an advanced type of ethylene plant. High yields are being obtained from a wide range of charge stocks. Operating costs are favorable, too.

## teamwork in plant construction

Construction in foreign countries and remote locations calls for a close relationship at the site between Lummus' personnel and oil company field forces. Assignment of men with a thorough knowledge of the region, its customs, laws and labor regulations, helps maintain this local cooperation. Records are maintained in accordance with client requirements for progress reports and cost control.

**THE LUMMUS COMPANY**  
420 Lexington Avenue, New York 17, N. Y.

**LUMMUS**

CHICAGO—600 South Michigan Avenue, Chicago 5, Ill.  
HOUSTON—Mellie Esperson Bldg., Houston 2, Texas

The Lummus Company, Ltd.

525 Oxford St., London, W-1, England

Société Française des Techniques Lummus  
39 Rue Cambon, Paris 1er, France

Compañía Anónima Venezolana Lummus  
Edificio "Las Gradillas"  
Esquina Las Gradillas, Caracas, Venezuela



designs and builds with **teamwork**

Economy

Resourcefulness

Fulfillment

Perspective

Technique



A SYMBOL OF QUALITY

*The Cabot symbol is your guarantee of  
product reliability and dependable service*

# CABOT



*It Stands for*  
**CABOT CARBON BLACKS...**

laboratory developed and controlled  
to fill specific needs in the rubber,  
ink, paint, varnish, lacquer, plastics,  
and paper industries.



*It Stands for*  
**CABOT CHARCOAL...**

prepared for use in the  
metallurgical, chemical,  
poultry, and tobacco curing  
industries.



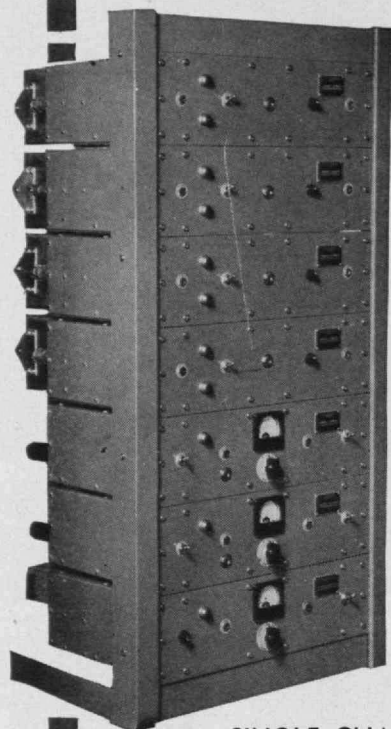
*It Stands for*  
**CABOT PINE PRODUCTS...**

destructively distilled to meet  
technical requirements of the  
rubber, cordage, and paint industries.

## FSDR

### FREQUENCY SHIFT DIVERSITY RECEIVING EQUIPMENT

The National FSDR equipment has been designed to incorporate all the latest advances in automatic radio telegraphy. It is made expressly for use by communication companies, government services, shipping companies, airports, and others requiring the latest, most efficient equipment for receiving radio signals and converting them into electrical impulses which, in turn, key automatic terminal equipment. The National FSDR is now extensively used by the far-flung network of the Tropical Radio Telegraph Company and the Civil Aeronautics administration and similar departments of other countries. All report excellent results. The FSDR equipment consists of an FSR Receiver, FSL Limiter, and an FSK Keyer. Use of multiple FSRs and FSLs makes possible space diversity, frequency diversity, or both. Operation is extremely simple requiring only throwing of AC power switches. All units have a self-contained power supply designed to operate from 115 to 230 volts, 50/60 cycle supplies. Our engineers will be glad to recommend specific installations to suit your requirements.

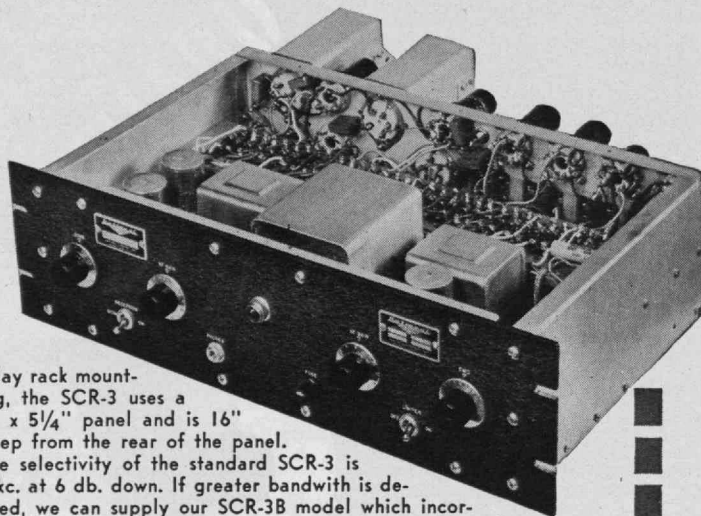


## SCR-3

### SINGLE CHANNEL RECEIVER

The SCR-3 is a single-channel superheterodyne receiver with a self-contained power supply which may be operated from either 115 or 230 volts 50/60 cycle AC supplies. It is designed to operate on frequencies from 1.8 — 25 mcs. Two tuned R. F. stages insure a favorable signal-to-image ratio varying from approximately 55 db at 25 mc. to 90 db at 1800 kc. Pre-tuned R. F. circuits, a crystal-controlled oscillator, carrier operated noise suppression (C.O.N.S.), and automatic volume control allow the operator to devote his full time to message handling. For C. W. reception a special low-drift voltage regulated oscillator assures proper tuning over long periods of time. Designed for standard

relay rack mounting, the SCR-3 uses a 19 x 5 1/4" panel and is 16" deep from the rear of the panel. The selectivity of the standard SCR-3 is 4 kc. at 6 db. down. If greater bandwidth is desired, we can supply our SCR-3B model which incorporates a variable I. F. having sharp, medium, and broad positions ranging from 4 to 8 kc. at 6 db down. The crystal-controlled oscillator employs an oven-type or standard crystal dependent upon the severity of operating conditions. The SCR-3 Receiver is fungus-proofed to retard the harmful effects of humidity characteristic of tropical climate.



## NAC

### NATIONAL VHF RECEIVER

The NAC Receiver has been designed to satisfy the needs of airlines, small private airports, and other interests requiring a compact tunable VHF rack mounted receiver. The NAC is a superheterodyne, superregenerative receiver utilizing a self-contained speaker. The receiver can be used separately or as a converter with any conventional superheterodyne tuning to 10.7 mcs. This, in addition to offering increased sensitivity, makes all features of the associated receiver usable on VHF. The standard model covers frequencies from 112-153 mcs. However, coil ranges covering specific frequencies between 27 and 250 mcs. are available on special order. The NAC operates from a National SPU-5886 power supply which is designed for 115/230 volt, 50/60 cycle supplies. If portable operation is desired, either the National 686S vibrator power unit (6 volt) can be supplied or a standard 6-volt battery and B batteries supplying 135 to 180 volts may be used.



WRITE FOR  
GENERAL CATALOG

Export Department  
invites foreign inquiries





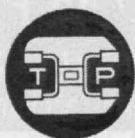


## **Without a Dollar of Capital Investment you can add 1500 machine tools to your plant**

Capital investment in seldom-to-be-used machine tools can be avoided if you use Taft-Peirce as a part-time-part of your own production lines. Here you will find more than 1500 machine tools of virtually every variety — and the highly skilled personnel to operate them. Whatever you need — from a single simple part to difficult and complex mechanisms in quantity lots — can be produced for you *right* and *right on schedule*.

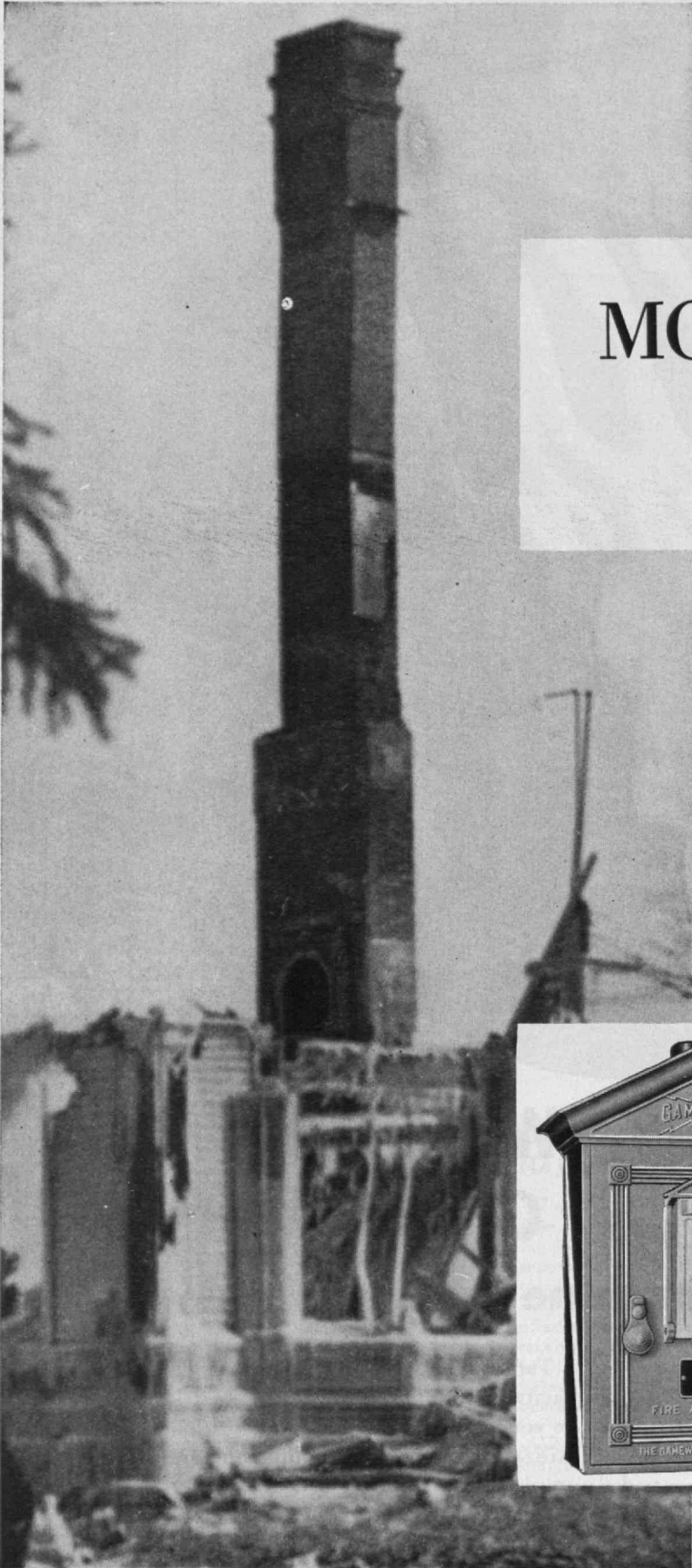
Taft-Peirce supplements the production capacity of countless American industries. It can be your key to more uniform workloads, better utilization of your own equipment, and steadier employment.

The complete story of Taft-Peirce facilities and experience is contained in the illustrated booklet "Take It To Taft-Peirce." Write to: The Taft-Peirce Manufacturing Company, Woonsocket, Rhode Island.



**For Engineering, Tooling, Contract Manufacturing**

**TAKE IT TO TAFT-PEIRCE**



# A MONUMENT TO NEGLECT

## Fire Destroys Property

When property is destroyed by Fire, the community and everyone in it loses — Yet the community may protect itself against loss of wealth — and income — by keeping the fire losses low. There will always be fires — the problem is to extinguish them while they are small.



## YOU Can Help

By urging your city government to provide adequate fire alarm box distribution. Prompt alarms reduce the fire loss and protect income.

F. B. Philbrick '18, *President and Gen. Mgr.*

E. J. McCarthy '20, *General Sales Mgr.*

# THE GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASSACHUSETTS

IN CANADA: NORTHERN ELECTRIC COMPANY, LTD., MONTREAL