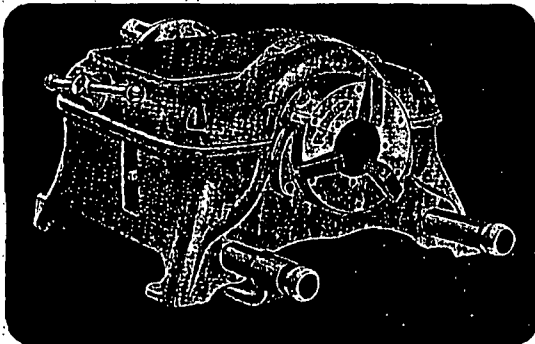


Push-button Muscle

The tough little brute of a work-saver when you've got pipe to thread, cut or ream

RIGID

"400" Portable POWER-DRIVE



It's light weight!

● The last word in easily portable power to turn your pipe for threading, cutting, reaming with your hand tools—quickly pays back its cost in saved time and work. Capacity $\frac{1}{4}$ " to 2" but acads of power even for geared tools to 12". RIGID design 3-jaw chuck, 6 pinions, one always handy. Self-centering workholder in rear. Sealed-in lubrication—no oil to spill. Famous RIGID "guts" in it—scores of thousands in use. Try it, buy it—at your Supply House.



Portable Stand

THE RIDGE TOOL COMPANY • ELYRIA, OHIO



More TECHNICAL BRIEFS

same as the steam load from day to night. The growth of electric load has, however, been such that the summer peak of one year is the same as the following winter peak.

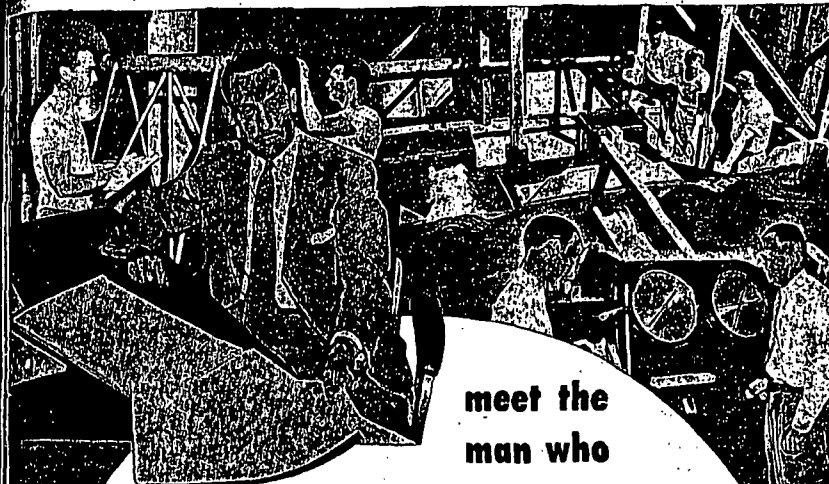
In the past 20 years, the increase in electrical use has been much greater than the increase in steam demand. Steam use has been doubling about every 15 years and, during this same period, the electrical use has been doubling about every 11 years. In common with the rest of the country, the manufacturing plant has been going through a period of rapid mechanization.

In the past 30-year period, the operating pressure of the boilers has been raised successively from 135 psi to 260 psi to 800 psi, in order to obtain increasing amounts of power from the steam output. The steam temperature of the newest boilers was increased from 750 F to 825 F to obtain a 6% increase in power. We are currently studying the possibility of 1400 psi and 900 F for the next addition to capacity. Incidentally, our acceptance of higher pressure and temperature follows, generally speaking, by 10 years its use by the utilities. We are not in the power business as such and we do not feel justified in pioneering in metallurgy or radically new boiler and turbine designs.

In adding new capacity, available space for expansion has been an important consideration in design. Surrounded on all sides as we are by a plant manufacturing sensitized products, we are forced to budget the space in order to reserve room for future installations. Consideration of the cost of steam distribution, operating labor and duplication of auxiliary equipment dictates that we develop on present sites as long as possible. This lack of space has caused us to build high power houses, and to place our fan and piping systems above the boiler.

Lack of space has been of a somewhat deterrent to utilizing some of the outdoor and semi-outdoor features which many of the newer plants have. In this regard, it has been our feeling that high speed equipment in elevated locations should be housed for ease of operation and maintenance. On the ground, this equipment would be satisfactory in the open.

To save space as well as to reduce unit installation and operating labor costs, we are currently studying the possibility of larger-sized units. There are a considerable amount of replacements to be made over the next 10 to 15 years. With new load and with contin-



meet the man who

Predetermines Performance of MARLEY COOLING TOWERS

He is Donald R. Baker, who directs Marley cooling tower performance-research and testing. Mr. Baker and his staff of associate engineers have changed the standard of measurement for cooling tower rating from a yardstick to a micrometer. Their achievements offer a very tangible benefit to every Marley customer: the assurance that all Marley cooling towers will meet or surpass specified design performance.

Positive predetermination of cooling tower performance is the result of more than a decade of effort by this Marley research group. The project has required the cumulative knowledge of many specialized engineering skills possessed by members of this department. Their approach has been both scientific and practical. Every theory developed has been proven in the Marley cooling tower test plant—industry's first and always the most complete installation of its type. Services of independent research and test organizations have been used liberally to further prove the practicality of every effort.

The published results of Marley test research are available through Marley engineering sales offices in 50 cities.

Just ask for Technical Bulletin R-52-P10.

Other Marley research projects: WOOD DETERIORATION AND PRESERVATION, CORROSION OF METAL, PROTECTIVE COATINGS, METALLURGY, LUBRICATION AND OTHER OPERATIONAL PROBLEMS. MATERIALS SELECTION literature or information available on all subjects.

