

# ENGINEER'S BOOKSHELF

## REVIEWED IN THIS ISSUE

HEATING AND VENTILATING'S ENGINEERING DATABOOK  
COMBUSTION ENGINEERING  
PRINCIPLES OF JET PROPULSION AND GAS TURBINES  
POWER SYSTEM STABILITY, VOL. I  
ENGINE ROOM Q-AND-A  
CONSTRUCTION ESTIMATES AND COSTS  
CORROSION HANDBOOK  
BOILER FIREMAN'S HANDBOOK  
RESULTS OF PUBLICLY-OWNED ELECTRIC SYSTEMS  
CENTRIFUGAL AND AXIAL FLOW PUMPS  
ELEMENTS OF NOMOGRAPHY  
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SUPERCHARGING THE INTERNAL COMBUSTION ENGINE  
ELECTRIC POWER AND A GOVERNMENT POLICY  
SYNTHETIC PETROLEUM FROM THE SYNTHETIC PROCESS  
RADIANT HEATING

## Heating, Ventilating

HEATING AND VENTILATING'S ENGINEERING DATABOOK. By Clifford Strack. 576 pp. \$14.11, many graphs and charts, cloth. \$7. The Industrial Press, 148 Lafayette St., New York 18, N. Y.

Ten major sections cover the field. They include: heat and moisture in air, fuels and combustion, piping, air handling and ventilation, heating and heat transmission, cooling and air conditioning, motors and drives, contract law, mathematical data and drafting-room practice, terminology.

Emphasis on data needed in actual design rather than on explanatory text for design factors characterizes this book for practical men. Material should prove helpful to engineers, contractors, architects and students.

An added feature is the section on contract law. It discusses many legal phases involving heating, ventilating and air-conditioning jobs and installations.

## Modern Steam Practices

COMBUSTION ENGINEERING. Edited by Otto de Lorenzi, director of Education, Combustion Engineering Co., Inc. Over 1000 pp. 6 1/2 x 9 1/2, over 400 illus., 80 tables, cloth. \$7.50. Combustion Engineering Co., Inc. 200 Madison Ave., New York 16.

Over 80 members of Combustion Engineering Co. contributed to this comprehensive reference and handbook. It deals with (1) methods (2) equipment for fuel-

burning, steam generation and heat recovery.

Descriptions of all equipment by this manufacturer are highly practical and fully explanatory. Much of the early history of design and development for each major form of firing, steam generating or heat recovery unit is provided. Each chapter has down-to-earth, practical data such as recommended fuel-bed thicknesses, proper coal selection, suggested correct draft settings.

There are over 30 chapters ranging from origin and production of coal, fuels for steaming purposes through (1) separate treatments for major fuel-burning methods (2) ASME Boiler Construction Code (3) principal steam-generating designs (4) discussion of feedwater, purification and (5) selection, performance and testing. All this is backed up by an appendix that includes Mollier diagrams, steam tables, and typical coal analyses.

## Jet Propulsion

PRINCIPLES OF JET PROPULSION AND GAS TURBINES (1948). By M. J. Zucrow, professor of gas turbines and jet propulsion, Purdue University. 563 pp.; 659; illus., tables, diagrams. \$6.50. John Wiley & Sons, Inc. 440 Fourth Ave., New York 16, N. Y.

A complete treatment of jet propulsion and gas turbines in aircraft applications, designed for graduate engineering students. Because the manuscript was prepared during the war no classified material is included, but basic treatment is complete despite this security limitation.

Chapter headings include: momentum and energy relationships of fluids, thermodynamics of gas flow, thermodynamic properties of air, airplane-performance calculations, airplane-propeller, gas-turbine power plant, turbo-jet engine, air compressors, turbine characteristics, combustion chamber, rocket motor, high-temperature metallurgy.

## Electric System Stability

POWER SYSTEM STABILITY—Vol. I (1948). By Edward W. Kimbark, professor of electrical engineering, Northwestern University. 355 pp.; 629; illus. \$6. John Wiley & Sons, Inc. 440 Fourth Ave., New York 16, N. Y.

This work on power-system stability is for power-system engineers as well as graduate students. It evolved from lectures by the author in a graduate evening course at Northwestern University.

The work is divided into three volumes. Volume I covers elements of the stability problem, the principal factors affecting stability, the ordinary simplified methods of making stability calculations, and illustrations of the application of these methods in studies on actual power-systems.

Not only is an understanding of power system stability provided but also information on these topics: ac calculating boards, fault studies, circuit breakers, protective relaying, synchronous machine theory, and a step-by-step solution of nonlinear differential equations.

## Engine-Room Practices

ENGINE ROOM QUESTIONS AND ANSWERS. By Alex Higgins, consulting engineer, 150 pp. 8 1/2 x 11, illus., cloth. \$4. McGraw-Hill Book Co. 330 W 42nd St., New York 18, N. Y.

Highly practical questions and answers on engine-room practices include design, construction and operation of (1) steam engines (2) turbines (3) engine-room accessories.

The book is prepared specifically to help students for operating licenses and certificates. Diagrams and sketches, selected with this end in mind, tie in closely with the text.

Over and beyond its highly practical turn, the book is an admirable reference handbook for engine equipment and operating procedure.

## Construction Costs

CONSTRUCTION ESTIMATES AND COSTS (1947). Second edition. By H. E. Paine, professor of civil and structural engineering, University of Wisconsin. 653 pp. 6 x 9; illus., tables. \$6. McGraw-Hill Book Co. 330 W 42nd St., New York 18, N. Y.

Primarily for practical men who study methods of estimating construction costs, this second edition has brought up-to-date the industry costs as they existed in 1946. Many illustrative estimates enable clear understanding of the principles.

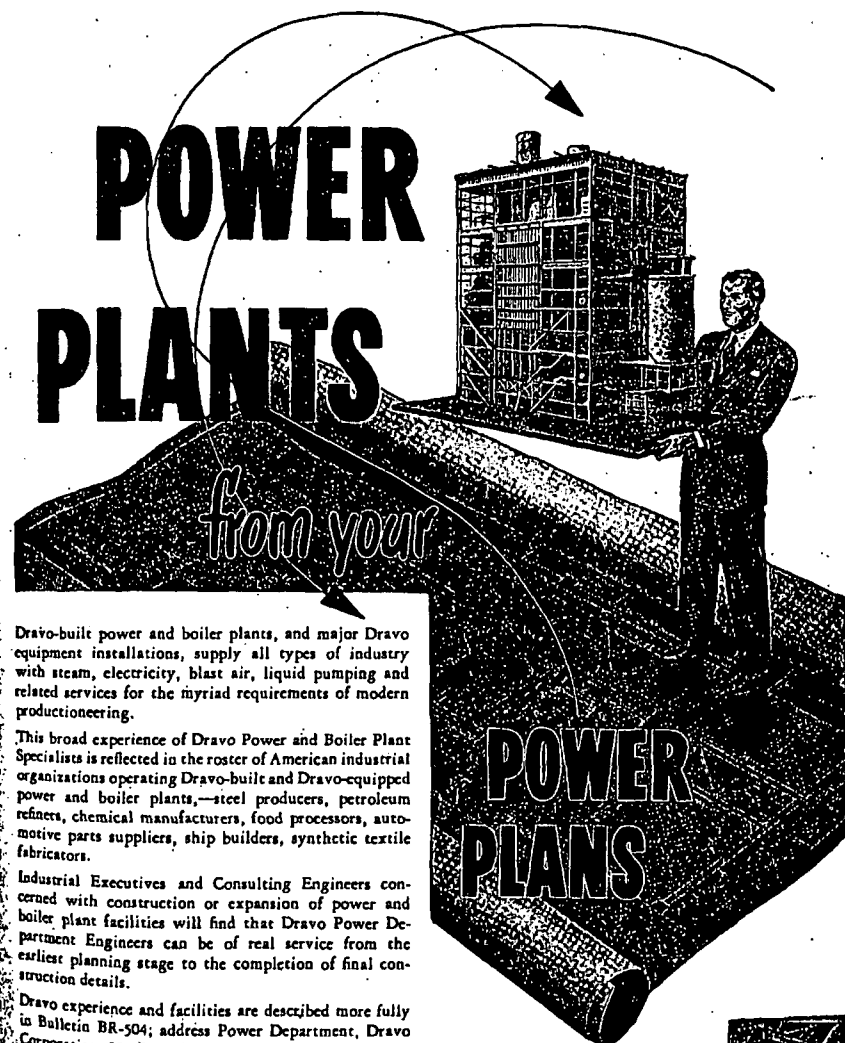
Chapter headings are: estimating in general, handling and transporting materials, excavation, piling and bracing, concrete masonry, waterproofing, wood construction, structural steel, roofing and flashing, painting and plastering, heating and air conditioning, plumbing, electrical work, painting, papering and glazing, heavy machinery, construction plant and equipment, overhead and profit.

## Metals Corrosion

CORROSION HANDBOOK. Edited by Herbert H. Uhlig, associate professor of metallurgy, Mass. Institute of Technology. 1221 pp. 5 1/2 x 8, cloth \$12. John Wiley & Sons, Inc. 440 Fourth Ave., New York 16, N. Y.

In 1942, The Electrochemical Society aware of the tremendous national exposure from corrosion of metals, created the organization within itself, known as the Corrosion Division. One of the division's objectives was to sponsor a handbook bringing together for the first time the

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