

Stop HAMMERING AND VIBRATION IN YOUR BOILER FEED LINES!

Here's how specify **CATAWISSA SINGLE UNION SPRING CONTROLLED CHECK VALVES!**

full view



• Positive Sealing!
• Easy access to all parts!

• Eliminate hammering and vibration!
• Eliminate additional union and nipple!

For boiler feed lines and other applications requiring maximum dependability!

— RECOMMENDED FOR —
400-lb. Working Steam Pressure
800-lb. Pressure AOWG to 150° F.
Tested to 2000-lb.
Non-Shock Hydraulic Pressure

See your industrial supply distributor or
WRITE DIRECT FOR BULLETIN 10-A

CATAWISSA VALVE & FITTINGS CO.
206 MILL ST. • CATAWISSA, PENNSYLVANIA

cutaway view



GET EXTRA LONG LIFE
... Economical operation from
Frederick Centrifugal Pump!

Twenty-nine years ago, Frederick Iron & Steel manufactured its first centrifugal pump... a 6" Double Suction Volute type. Delivered in July, 1919, this pump is still in operation today at the Dominion Coal Co. in Sydney, Nova Scotia. Minor repair parts over the 29-year period have been furnished promptly by Frederick.

Today, Frederick Iron & Steel is manufacturing a complete line of single and double suction, single and multi-stage centrifugal pumps with the same long-lasting quality built into its first unit. When you buy Frederick pumps you're assured of continuous, economical operation from extra long life.

We have among our designs just the centrifugal pump you're looking for. Drop a line to the address below and we'll gladly send you an attractive, illustrated "file-size" brochure on our pumps as well as the name of our factory representative nearest you. Ask for Bulletin 104.

Frederick
ESTABLISHED 1890
IRON AND STEEL, INC.

Dept. P-4

Frederick, Md.

ALSO MANUFACTURERS OF VALVES AND RETURN AIRFLOW MECHANISMS, PUMPS, EXHAUSTS AND AIR COMPRESSORS AND A COMPLETE LINE OF GAS MACHINERY.

Works of the Brooklyn Union Gas Company, describes the equipment installed for proper boiler feedwater control at the plant.

67 ATMOSPHERIC REGULATORS—North American Mfg. Co., Cleveland 8, Ohio. Bulletin No. 18 discusses North American Series 18 atmospheric regulators. Photos, tables and diagrams are included.

68 HEAT EXCHANGERS—Schultz & Koerting Co., 18th and Thompson Sts., Philadelphia 18, Pa. 18-page bulletin No. 12-H presents comprehensive data on single and 3-pass heat exchangers, vapor condensers, U-tube and tank type heat exchangers, Radiant tube exchangers and vent condensers.

69 LIQUID LEVEL RECORDERS—Yarnall-Waring Co., Chestnut Hill, Philadelphia 18, Pa. 4-page bulletin No. WG-1810 gives construction and installation details of the Farway Hi-Lo-Gram recorder.

70 LIQUID LEVEL INDICATORS—Yarnall-Waring Co., Chestnut Hill, Philadelphia 18, Pa. 16-page bulletin No. WG-1812 describes operation, construction and installations of Farway remote level indicators.

71 INDUSTRIAL WATER SYSTEMS—Illinois Water Works Co., 851 Cedar St., Rockford, Ill. 4-page bulletin covers types of Illinois water system units and range of controls available.

Gulf Oil Corp. and Koppers Co. announce signing an agreement under which the two companies will engage in extensive research and development of processes for conversion of coal to gas and liquid fuels. General Braham Somervell and Roy A. Swenard, presidents of Koppers and Gulf respectively, made the announcement in a joint statement: "Gulf has long been a specialist in liquid fuels technology. Koppers has long been a specialist in solid fuels technology. We believe it only reasonable to anticipate that our knowledge in these fields can be combined to develop promising industrial processes for converting solid fuels into gases and liquid fuels."

Empire District Electric Co. has awarded the general contract for construction of a substantial addition to its Riverton power-generating plant to Long Island Power Co. of Kansas City, Mo. The addition, an extension of the existing power house building, will provide space for 30,000-kw turbine-generator with gear and switchboard ordered from Westinghouse Electric Corp. and for a 44-ft condenser and a 300,000-gal. boiler to be provided by Foster Corp. The addition will cost approximately \$4,000,000.

Los Angeles water and power officials have voted a \$40,000,000 bond to build three hydroelectric plants in the River gorge, each with a single 51,200-hp capacity. Raising Long dam 20 ft will increase storage from 183,000 to 315,000 acre-ft.

The city's dept. of water and power took steps recently toward construction of six hydroelectric power plants on the River in the high Sierras east of Los Angeles. The six plants, estimated to cost \$100 million, would have a total capacity of 250,000 kw. Present plans call for construction to begin in 1951; the Owens Valley project is scheduled for completion.

Meet the "DUCTER" Low Resistance Ohmmeter

ONE OF THE "MEGGER" FAMILY OF RESISTANCE MEASUREMENT INSTRUMENTS

Rugged, accurate and direct-reading, the "Ducter" Low Resistance Ohmmeter provides an easy and practical way to test air and oil circuit breaker connections and contacts; cable joints; bus bar and line connections; armatures and series fields of generators, and motors; and low resistance transformer windings. It is also a valuable tool in quality control and for indicating relative strength and conductivity of welded joints.

One man can quickly make resistance measurements down to a millionth of an ohm—in the field! There are no calibrations or adjustments—no even for the voltage of the battery that supplies the necessary test current—and there are no calculations

or charts. The resistance measurement is read directly from the position of the pointer on a scale.

The "Ducter" operates from an external battery or plug-in power supply. On every range it is compensated for outside temperature changes. As a protective feature a cut-out is included in the circuit to prevent application of too high voltage, and very high resistances or open circuits.

Various ranges of "Ducter" Ohmmeters are available to suit your requirements. A complete description, together with circuit diagrams, applications, and specifications are contained in Bulletin 24-25-P. Write for your copy TODAY and learn all about this truly remarkable instrument.

JAMES G. BIDDLE CO.

Electrical & Scientific Instruments

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