

# Industrial Notes

**Record Size Electrical Equipment for Los Angeles.**—Two of the world's largest hydrogen-cooled synchronous condensers will be built by the General Electric Co. for the bureau of power and light, City of Los Angeles, to be installed on the receiving end of the 270-mile transmission line from Boulder Dam. These machines will be rated at 60,000 kva, 13,800 volts, 60 cycles. The installation will be an example of one of the standard applications in synchronous condensers where they perform the function of controlling the power factor of the load so that regulation and losses of the line can be held within reasonable values, thereby controlling within limits the voltage of the receiving bus. Hydrogen cooling results in materially reducing windage losses with a corresponding saving in operating expense. The machines will be installed outdoors.

A 60,000-kva hydrogen-cooled frequency converter has also been ordered from the Westinghouse Electric & Mfg. Co. Rated at a capacity far greater than any previously built, the set will be used for interchanging power between the bureau of power and light and the Southern California Edison Co. and will be located at Wilmington, Calif. Initially, the 50 cycle end will be connected directly to a 50,000-kw steam turbine in the Long Beach plant of the Southern California Edison Co., approximately 4 miles distant. This turbine has been assigned to the city for standby service. Later, when the need for such standby service no longer exists, it is the intention to split the frequency changer into 2 units to be used as 60 cycle synchronous condensers on the Los Angeles end of the transmission line from Boulder Dam. The unit will weigh 600 tons and will be fully enclosed for outdoor service.

**Locomotive Plant Nears Completion.**—The construction of the Electro-Motive Corp. plant at McCook, Ill., will be completed about September 15, according to a recent announcement from the builders, The Austin Company. The Electro-Motive Corp., a subsidiary of General Motors Corporation, will manufacture Diesel-electric locomotives, principally for railroads. Orders involving more than \$3,000,000 are already in hand. In the erection of the plant over 2,000 tons of structural steel was electrically welded. Power for the plant will be furnished by one of the latest model Diesel-electric power units designed for locomotive use.

**Empire Sheet & Tin Plate Appointment.**—George L. Gaalaas has been appointed by the Empire Sheet & Tin Plate Co. of Mansfield, O., as sales engineer of the electrical sheet department. For the past 9 years Mr. Gaalaas served as design and sales engineer and manager of the synchronous motor division of the Ideal Electric Mfg. Co.

**Improved Timken Bearings.**—Now being applied to Timken bearings as rapidly as the special equipment required can be

built and installed is a major improvement in surface finish termed "mirror finish." This new finish is infinitely smoother than the standard finish and, according to the announcement, even though the measurements were made with equipment capable of measuring in terms of a millionth of an inch, it is impossible to find a flaw in the new finished Timken bearing surface. To achieve this remarkable uniformity in bearing surfaces, years of experimental work have been required. The "Profilograph," now used in the Timken plant as a gauge of mirror finished surfaces, consists essentially of a fine diamond point which acts as a tracer or detector, moving over the surface of the specimen. To this is connected an optical system which magnifies the movement of the detector. In order to record even the most minute irregularities in the finely ground surfaces of Timken bearings, it is necessary to apply a vertical magnification of 2,000 times to the system.

**Littelfuse Labs. in Larger Quarters.**—Due to increased business in radio fuses and fuse mountings, neon potential fuses, indicators and other new products, the Littelfuse Laboratories moved to larger quarters at 4238 Lincoln Ave., Chicago, on Sept. 1.

## Trade Literature

**Capacitors.**—Bulletin GEA-1584C, 8 pp. Describes Pyranol capacitors for improving power-factor on railway signal-power transmission lines. General Electric Co., Schenectady, N. Y.

**Eye Shields.**—Catalog, 20 pp. Describes industrial head and eye protective equipment; illustrates new and improved products. Chicago Eye Shield Co., 2300 Warren Boulevard, Chicago.

**Transformers.**—Bulletin 320, 6 pp. Describes power, welding, and furnace transformers for standard and special requirements. Pennsylvania Transformer Co., 1701 Island Ave., N.S., Pittsburgh.

**Insulation Testers.**—Bulletin 400, 12 pp. Describes Standco insulation testing sets, including an announcement of the new dwarf megohm which will be available shortly. Herman H. Sticht & Co., 27 Park Place, New York.

**Gearmotors.**—Bulletin 2203, 4 pp. Describes self-contained speed reducers with integral or attached motors which permit lowspeed drives with high over-all efficiency. Eight types are illustrated. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

**Wires and Cables.**—Bulletin RE-1, 24 pp. Describes conductors more generally

used in rural electrification, including copper, bronze, copperweld, composite conductors, etc. Service Entrance and Service Drop Cables.—Bulletin SE2, 16 pp. General Cable Corp., 420 Lexington Ave., New York.

**Transformers.**—Bulletin 1173, 6 pp. Describes distribution transformers, showing in a unique way both exterior and cut-away interior views of type SB transformers for 2,400 volt and 4,800 volt circuits, and type CB transformers for 6,900 volt circuits and higher. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

**Electrostatic Voltmeters.**—Bulletin, 4 pp. Describes new electrostatic voltmeters in flush, projecting, and portable types. These instruments are suitable for direct connection on either a-c or d-c lines, for readings up to and including 3,500 volts, and are entirely independent of wave form, frequency and temperature. Prices are included. Ferranti Electric, Inc., 130 West 42nd St., New York.

**Disconnecting Switches.**—Bulletin 35-B. Gives complete data on ratings, dimensions, operating mechanisms, phase spacings, and insulator characteristics of hook operated and group operated disconnecting switches for rural line service up to and including 34.5 kv. Data is also included on steel mounting frames and cross arm hangers. Delta-Star Electric Co., 2400 Block. Fulton Street, Chicago.

**V-Belt Drives.**—Catalog, 48 pp., and price list. The installation and operation of V-belt drives is discussed and the book has been simplified for use so that any drive can be completely designed and the delivered price determined from this one text. A section on the care of V-belt drives outlines an easy way of checking tensions, and discusses the effect of oil, water, steam, dust, and chemical fumes. The Gates Rubber Co., Denver, Colo.

**Cables.**—Bulletin GEA-1278B, 28 pp. Describes in detail 4 major improvements on paper-insulated cable—compact-strand conductor, paper insulation applied in graduated layers, treatment with carbon-dioxide gas, and hydrogen-processed lead-sheath. In addition the 4 general types of paper-insulated cable—oil-filled, shielded Type H, nonshielded, and Pyranol—are described in detail. Insulation thicknesses and other data are also included. General Electric Co., Schenectady, N. Y.

**Aircraft Instruments.**—Catalog, 12 pp. Describes electrical indicators and other electrically actuated instruments designed for aircraft use, including radio compass indicators and other navigation aids, electrical tachometers, panel ammeters, voltmeters and temperature indicators of both resistance and thermocouple type. Details of the Weston synchroscope, designed to reduce vibration by keeping engine speeds in synchronism in multi-engined planes, is another feature of the bulletin. In addition to electrical and mechanical specifications the catalog contains a group of dimensional drawings to facilitate choice and location of instruments on panels. Weston Electrical Instrument Corp., Newark, N. J.