also as director-in-charge of the automatic telephones of China Federal Inc., U.S.A. Prior to his connection with the telephone business he travelled extensively in Africa and the Orient, having served for ten years as a cavalry officer in the Indian army.

The activities of Canadian Telephones & Supplies Limited cover a wide geographical area and involve almost every phase of the telephone equipment and supply business. The company has recently moved to new and larger premises at 284 King St. W., which are more advantageous for carrying on its business. The personnel of the company has also been considerably changed and the engineering department strengthened. Arrangements have also been made whereby manufacture in Canada has been undertaken. The company is also distributors for Automatic Electric Sales Co. Ltd., Chicago; Automatic Electric Co., Chicago; American Electric Co., Chicago; Eugene F. Phillips Electrical Works, Brockville; Alton Battery Co., Alton, England, and other companies.

The annual meeting of the Electric Club of Toronto was held at the Royal York Hotel on the evening of March 27 when the following officers were elected: President, **C. F. Publow,** Hydro-Electric Power Commission of Ontario; past president, **W. S. Ewens,** Sangamo Co. Ltd.; vice-presidents—**J. H. Brace,** Bell Telephone Co. of Canada; **J. M. McHenry,** Canadian General Electric Co.; **McD. White,** Toronto Hydro-Electric System; **W. E. P. Duncan,** Toronto Transportation Commission; secretary, **W. D. Corcoran,** Toronto Hydro-Electric System; treasurer, **F. Francis,** Bell Telephone Co. of Canada; auditors, **H. P. L. Hillman,** Toronto Hydro-Electric System; **Wills Maclachlan,** consulting engineer. The executive committee elected were as follows: **G. W. Austen,** Electric Service League; **G. S. Gray,** Toronto Transportation Commission; **G. A. Brace,** Ferranti Electric Limited; **F. E. Jeffery,** Crouse-Hinds Co. of Canada; **J. S. Keenan,** Canadian General Electric Co.; **A. S. McCordick,** Moloney Electric Co. of Canada; **Osborne Mitchell,** "Electrical News and Engineering"; **A. Powell,** Adams, Powell, Stark Electric Co.; **H. D. Rothwell,** Hydro-Electric Power Commission of Ontario; **J. G. Rogan,** Northern Electric Co.; **A. Thormahlen,** Dominion Motors Ltd.; **J. A. Wenger,** Canadian Westinghouse Co.; **N. Knight,** Bell Telephone Co. of Canada; **M. B. Hastings,** Powerlite Devices, Ltd.; **G. Paton,** C. P. R. Telegraphs; **Geo. T. Dale,** Electrical Maintenance & Repairs Co.; **O. W. Titus,** Canada Wire & Cable Co. Ltd.

Members of the Manitoba Electrical association, Winnipeg, wound up their curling season with the presentation of prizes to winners in their recent bonspiel, at an enjoyable social evening in the Princess restaurant, on March 30. **H. A. Morton,** president, presided over the gathering, and handed the prizes to the winning rinks. The leading rink was skipped by **Fred Malby.** The runners-up were skipped by **Harry Toyer,** and the consolation prize went to the rink skipped by **Jack Steinhof.** The evening was closed with bridge and refreshments.

W. J. Wiggett, president of the Wiggett Electric Company, Limited, 19 Marquette St., Sherbrooke, Quebec, this year rounds out his fiftieth year in the electrical business. Fifty years takes us back a long time in the electrical industry. The telephone was only nine years old. Just four years previous to that date the first electric generator was placed in operation in Canada—a "big" 25 horsepower unit. The same year saw the first arc lamp in Canada. Two years later, in '83, the first effort was made to operate a crude electric railway. We congratulate Mr. Wiggett on the pleasure he must have experienced throughout a half century in watching our wonderful industry develop from nothing to its present predominating and all-important position.

Obituary

Alfred B. Lambe, of the water power branch of the Department of the Interior, Ottawa, and a former president of the Association of Professional Engineers of Ontario, died at his home in Ottawa, on March 14, after a short illness. Mr. Lambe was born in Toronto 62 years ago and was educated in that city and Woodstock, Ont. He was for a time with the Canadian General Electric Co. Ltd. and the London Street Railway. Later Mr. Lambe joined the gas and electric inspection services of the Inland Revenue Department, and a few years ago was transferred to the water power branch of the Department of the Interior.

W. S. Ewens, sales manager, Sangamo Company Ltd.; retiring president, Electric Club of Toronto.

C. F. Publow, Electrical Engineering Dept. H.E.P.C. of Ontario; president Electric Club of Toronto.

W. D. Corcoran, power engineer, Toronto Hydro-Electric System; re-elected secretary, Elec. Club of Toronto.

NEWS of the TRADE

The Editor will gladly furnish further information on any of the items mentioned below.

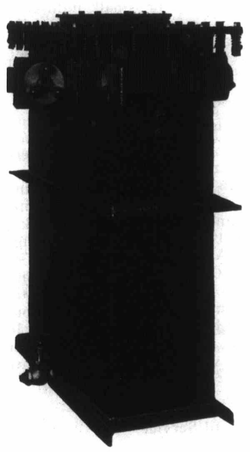
Westinghouse Type LV Autovalve Arresters

An effective arrester should reduce the surge voltage and at the same time absorb a sufficient amount of the transient energy to prevent hazardous reflections. Westinghouse engineers state that an arrester of low impedance will reduce the surge voltage to a low value, but if a disturbance originates between two arresters of zero impedance and no energy absorption, the disturbance as it backs in both directions along the wire, will be reflected with reversed polarity from both arresters.

The Westinghouse type LV Autovalve lightning arrester is built to effectively take care of all harmful over-voltages. It not only reduces the voltages, but also absorbs a large percentage of the energy of the waves.

C. G. E. Mine Type Transformers

C-G-E mine type transformers are usually built for special applications. One recently built for a coal mine in Nova Scotia had to meet the following requirements: (a) explosion proof; (b) flame proof; (c) flood proof; (d) water-tight connectors had to be made to lead covered armour protected 3-conductor cable; (e) limiting dimensions.



The explosion feature was taken care of by making a very strong reinforced tank having the cover held on by bolts that have the nuts screwed up against springs. These springs, along with a wide flange on the top of the tank give the flame proof feature. If an explosion occurred the top would raise, letting out the gases and as they pass out over the wide flange they are cooled below igniting point. The illustration shows a Type H.T., Form HCCR, 75 kv.a., 2200-500 volt, 60 cycle, 3-phase mining service transformer showing trifurcating box to take an armour protected lead covered three conductor cable.

M. A. N. Diesel Engines

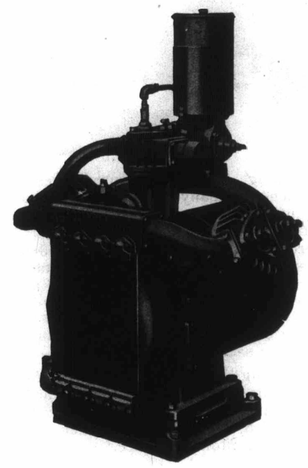
H. M. Tainsh & Associates, located at 23 Scott St., Toronto, announce that they have been appointed representatives for Maschinenfabrik, Augsburg, Nurnberg, A. G., manufacturers of M. A. N. diesel engines. The first diesel oil engine was made, we believe, by this company and their immense manufacturing facilities, together with continuous research, has enabled them to retain pre-eminence. These engines are made in two and four cycles, single and double acting types, covering a wide range of power. It is claimed that there is no purpose for which diesel engines are used that cannot be suited by an M. A. N. engine. Approximately 300 of these engines are turned out of the factory monthly.

Sangamo Induction Type Phase Shifters

A recent pamphlet by Sangamo Company Limited describes the Sangamo induction type phase shifters. A phase shifter offers the simplest method of obtaining various power-factors and artificially creating conditions similar to those under which meters operate in service. These phase shifters are very suitable for any testing laboratory, particularly for the testing of watthour meters, both single and polyphase.

A New and Better Air Compressor

An outstanding addition to their extensive line of air compressors was recently placed on the market by the Canadian Ingersoll-Rand Company. It is known as the motor compressor. Two-stage, air-cooled, com-



plete with "built-in" induction motor, air-cooled intercooler and fan, the Motorcompressor is an extremely compact outfit. It can be installed almost anywhere, inside or outdoors, absence of water cooling eliminating the freezing hazard.

The rotor of the "built-in" motor is carried on the compressor shaft, while the motor frame is bolted directly to the crankcase. Coupling and motor bear-