

The Ontario Board of Health recently approved the plans for the village of Hintonburg, which is putting in a system of sewage; for Mount Forest and Port Colborne, which are putting in waterworks; and Rat Portage, which is also constructing waterworks and extending its sewage system.

The James Cooper Mfg. Co., Limited, Montreal, has just secured an order for an additional plant for the Regina Gold Mine, Limited, of Rat Portage, consisting of duplex cross compound condensing Ingersoll-Sergeant piston inlet compressor, ten drills, battery of boilers, pumps, heaters and all necessary connections to install plant complete. The first shipment in this contract has now gone forward.

Thompson & Co., Sherbrooke, Que., have agreed to install, in Lennoxville, a system of waterworks. The water will be taken from Haskell Hill, about half a mile distant. The reservoir will have a capacity of 400,000 gallons, and will be about 125 feet above the town. The contract will have to be finished within eight months from the date of the signing of the contract. There are to be twenty hydrants placed in the streets for fire purposes. A number will be placed in and about the buildings and grounds of Bishop's College.

The James Cooper Mfg. Co., of Montreal, has completed shipment of contract for complete mining plant entered into with the Montreal-London G. & S. Dev. Co., to equip the Dufferin property, at Salmon River, N.S. This plant consists of a duplex cross-compound condensing Ingersoll-Sergeant piston inlet air compressor, eight drills, battery of three boilers, one 50 horse power and one 40 horse power Lidgerwood link motion and friction double compartment shaft hoisting engines and all necessary piping and connections to install plant complete ready for operation.

Some important experiments were recently made in the Workman Engineering Building, at McGill University, by Profs. Adams and Nicholson, of the Faculty of Applied Science. They consist of taking filings or turnings of brass, copper, tin and other metals, and by means of pressure, securing therefrom solid bars of metal, differing very little in appearance and strength from castings. The machine used in these experiments brings to bear upon the filings and shavings about 78,000 lbs. pressure to the square inch, and this has the effect of welding them into a solid bar of metal.

The Canadian Photo-Engraving Bureau is extending its premises, having leased another flat in the building in which it is located, at 16 Adelaide St. West, Toronto, and is now making extensive alterations and improvements in it. Part of this extra flat will be used as an office, giving them greatly increased accommodation, and the balance as a photo department. It is their intention to establish a first-class photograph department, fully equipped for all kinds of commercial photography, such as landscapes, buildings, interiors (daylight or flashlight), and articles of any kind. The combination of the photograph gallery with the photo-engraving business, is a good one, and will be a great advantage to those having cuts to be made, where the photos have to be taken from the article or building.

Prof. Callendar, who has just resigned from the staff of McGill University, has designed a platinum electrical resistance thermometer, capable of measuring temperature to the ten thousandth part of a degree. The extreme delicacy of the instrument makes it a valuable aid in securing accurate observations of the temperature of lake and river water, during the various seasons of the year, as no thermometer is available for such minute measurements. A long series of observations of the temperature of the St. Lawrence has been made this winter by the McGill professors, in all of which the new instrument has been used. By its aid it has been found that the greatest deviation that takes place in the winter during the ice-forming period, is only about one thousandth part of a degree. Prof. Callendar's invention is, undoubtedly, of great interest to the scientific world.

The Wm. Hamilton Mfg. Co., Peterboro, Ont., has recently completed the engines for a large stern-wheel steamer, for J. A. Mara, Vancouver, B.C. The wheel is 19 feet in diameter with buckets 9 feet long, which take a dip of 30 to 34 inches; on either side of the wheel the cranks are placed. The crank shaft is a steel forging 10 inches in diameter and 24 feet long. The engines are aft on each side. The boiler is placed well forward, about 70 feet from the engines. The engines run 30 revolutions

per minute, and the boiler pressure will be 160 lbs. The power developed is calculated at 2,300 h.p. Speed, 18 miles per hour. The cylinders are 17 inch and 6 foot stroke. The connecting rods are 24 feet from crosshead to the crank pin, and are built up of plates. From the head of the cylinders to the outside of the paddle wheel will be 48 feet. The boiler is of the locomotive type, 62 inches in diameter, by 7 feet long. In the barrel are 212 inch tubes, 14 ft. long. The furnace is 7 ft. by 5 ft. by 6 ft. high inside. The Hamilton Company has now in hand a duplicate set of these engines, building to the order of the C.P.R., for one of their boats running from Vancouver to Fort Wrangel.

Of interest to engineers throughout Canada is the advent of a new company known as the Canadian Chemical Compound Co. The principal promoters are A. M. Wickens, E. J. Philip, D. J. LeRoy and Richard Jeffrey, all of Toronto. The new company will manufacture boiler compounds, of which it has three special brands, suited for waters of different character. As the public may well be sceptical of the virtues of a patent medicine which claims to cure all diseases, so engineers may doubt the efficacy of any one boiler compound which claims to be suitable for waters of every locality. The Canadian Chemical Compound Co. not only has three different brands suited to the waters of most localities in Canada, but they undertake in exceptional cases to prepare special compounds where the water is heavily charged with any unusual foreign element. The three special brands will, however, remove scale from almost any class of water, and leave no injurious effect on the boilers. Messrs. Wickens and Philip have long made a study of this subject, and anything that they would place on the market will be received with confidence by steam engineers of Canada, among whom they are so well known. The new company has issued a very neat booklet, which will be sent free from its offices in the Temple Building, Toronto.

## Electric Glashes.

The Vankleek Hill Electric Company, Limited, has received an Ontario charter for incorporation.

The electrical pumping plant in the Perth, Ont., waterworks is reported to be giving complete satisfaction.

The Canadian General Electric Co. has sold to Alex. Dobson, of Beaverton, Ont., a standard 20-K.W. Edison dynamo.

The Rathbun Co., Deseronto, is building a freight motor for the Longue Pointe section of the Montreal Island Belt Line Railway.

Larkin & Sangster, contractors, Iroquois, Ont., have purchased from the Canadian General Electric Co., a 35-light arc dynamo with lamps.

The Canadian General Electric Co. has put in the last of the four 4,000-light single-phase alternators ordered by the Toronto Electric Light Co.

The Halifax Tramway Company has installed two 5,000-light monocyclic alternators from the works of the Canadian General Electric Company.

The Canadian General Electric Co. is furnishing to the Linde British Refrigerating Co., Montreal, two 50 h.p. and one 15 h.p. Induction motors.

The British American Corporation, Vancouver, B.C., has ordered a 100-light dynamo, with search lights and engine, from the Canadian General Electric Co.

The Canadian General Electric Co. has closed a contract with the corporation of Port Arthur for a railway car body equipped with G.E. 1,000 motors.

The Consolidated Electric Co., Victoria, B.C., is preparing to develop a large amount of power at Goldstream near the city. The plant will cost about \$100,000.

The B. C. Bullion Extracting Co. has made a contract with the Canadian General Electric Co. to supply a 100 horse-power synchronising motor, and a 50 horse-power induction motor for their works, which are about a mile and a half from Rossland, B.C.