Power station; foundations and buildings complete with interior work and fittings.....	12,000.00
Staff house and miscellaneous	4,000.00
Equipment in power station, consisting of hydraulic and electric equipment sufficient to deliver 1,000 h.p. in Banff, together with all subsidiary machinery, such as governors, switching, piping, fittings, etc...	35,000.00
Transmission line complete, total length about 7½ miles, capable of transmitting 1,000 h.p.	11,000.00
Distributing system in and around Banff, comprising receiving station and shop, step-down transformers, town wiring, street fixtures and transformers, the whole leading up to all lighting connections but no lighting	17,000.00
New street lighting system complete, including 60 five-cluster lamp sets and posts, and 250 bracket lamps on poles, together with underground wiring for clusters	10,000.00
Total	$124,000.00
Add for contingencies, engineering supervision and inspection, 12 per cent., say.....	14,000.00
	$138,000.00

Annual Cost of Operation.—Assuming that (as if for a private company) the funds for the construction and installation of these works were raised by a debenture issue, say, of $140,000 at 5 per cent. to be retired in 30 years, and that the principal and interest is repaid in thirty equal annual instalments. The annual costs of operation and maintenance of the plant throughout will be approximately as follows:—

I. Overhead Charges:

1. Yearly instalment of principal and interest, based on foregoing....	$9,100.00	
2. Maintenance account, being an amount set aside yearly against major repairs, renewals and reasonable extensions, 2½ per cent.	3,250.00	
		$12,350.00

II. Operation Charges:

1. Salary, superintendent and general office expenses (within park office)	$2,200.00	
2. Wages of operators at power station	3,000.00	
3. Supplies and minor repairs chargeable to income	1,250.00	
		$ 6,450.00
Total annual cost		$18,800.00

If the foregoing annual cost of operation and maintenance is placed against the total amount of power capable of being delivered by the plant in Banff, viz., 1,000 horse-power, the annual cost per horse-power (24 hours per day) laid down in Banff is approximately $18.80. It is to be noted that steam-generated electric power laid down in Banff in the same manner as hydro-electric, using the usual types of engine under ordinary economic commercial conditions, would, on the same basis, in our opinion, cost not less than $50 per horsepower per year, even with cheap coal nearby.

AN ICE COFFERDAM.

THE following practical application of the idea of using ice as a cofferdam in connection with construction work during the winter in climates where low temperatures prevail is cited by Lieut.-Col. Chas. L. Potter, Corps. of Engineers, U.S.A., in "Professional Memoirs" for June, 1914. On a previous occasion the writer had attempted to employ the same method in connection with the construction of the foundation for a small light in shallow water at Lake Memphremagog, but the time had been too limited to effect the freezing. The attempt described below, however, was quite successful, and should contain a suggestion or two for those who have work of a like nature to do in times of low temperatures.

The United States dredge "Warroad" was repaired at Kenora, Ont., in 1912. After being put in the water, a leak showed on one side about 3 feet below water-line. It was not bad at the time; the dredge was needed for work; and the leak was allowed to go. On the laying up of the dredge for the winter of 1913-14, it was decided to try the ice cofferdam method to repair the leak, which was giving considerable trouble.

Owing to the possible necessity of replacing an entire plank, the work was done on a much larger scale than proved to be necessary. On January 25th ice was 18 inches thick in Warroad Harbor. A trench was made 20 feet long, 3 feet wide and 12 inches deep alongside the dredge. Thereafter each day, when the thermometer had been below zero the night before, 1 inch of ice was cut out of the bottom of the excavation. Days when the thermometer was not higher than + 15 degrees during the entire day, there were taken out 1½ inches. After each day's work a small hole was bored to a depth of 5 inches, and dry wooden plugs kept near to plug the holes in case the bit broke through, but it never did. The rate of cutting and the means of insuring a thickness of 5 inches in the bottom of the trench were determined by the custodian of the dredge, as he had no instructions except to get down to the leak. It is probable that he might have gone down somewhat more rapidly, but he was present every day in care of the dredge and there was no occasion to hurry. Parties harvesting ice at that time found that their ponds, left open at night, were frozen about 2 inches during the coldest nights. During the operation, the maximum daily temperatures ranged from + 30 degrees to — 15 degrees and the minimum from + 6 degrees to — 47 degrees. Only once was the minimum above zero, and the maximum was below zero for five consecutive days.

On February 24th—exactly thirty days—there was a trench 20 feet long, 3 feet wide, and 34 inches deep, with 6 inches of ice in the bottom. The thickness of ice in the vicinity was 24 inches. So we had gone down 10 inches below the bottom of normal ice; we still had 6 inches under us; and had uncovered the leak 34 inches below water-line.

The repairs amounted to nothing more than cleaning out a small split in a plank and caulking it.

Mr. H. R. MacMillan, Chief Forester of the province of British Columbia, recently made the announcement that a deal in standing timber in the neighborhood of Fort George has just been carried out by the Government sale to Mr. H. N. Sereth, of the Riverside Lumber Company, of Calgary, of 32,000,000 feet of lumber at the following prices:—Douglas fir, $2.54 per 1,000 feet; spruce, $1.07 per 1,000 feet, and cedar, $1.06 per 1,000 feet. The total value of the timber reaches $37,000, the purchasers to cut this within the next two or three years.