

CANADIAN  
**ELECTRICAL NEWS**  
AND  
**STEAM ENGINEERING JOURNAL.**

VOL. VIII.

SEPTEMBER, 1898

No. 9.

**LONG DISTANCE TRANSMISSION PLANT OF  
THE WEST KOOTENAY POWER AND  
LIGHT COMPANY.**

THE falls of the Kootenay river, known as Bonnington Falls, in British Columbia, that have for some long time been an attractive field for the development of power, have now been harnessed and the power transmitted electrically to Rossland, the mining centre of the Kootenays, situated 30 miles distant.

Bonnington Falls is an ideal site for such a plant, the river at this point being 400 feet wide, while the water rushes over a high granite cliff, having a fall of 50 feet. At this point the Selkirk mountains rise to an elevation of over 3,500 feet above the sea level, the altitude of the river itself being about 2,200 feet, and the beautifully snow-capped peaks of the rugged range form one of the many charming and picturesque features that surround this extensive enterprise.

The determination to utilize the water power at Bonnington Falls for the development of power led to the organization of the West Kootenay Power and Light Company, which has installed and is now operating the interesting transmission plant about to be described.

The conception and commencement of the works are

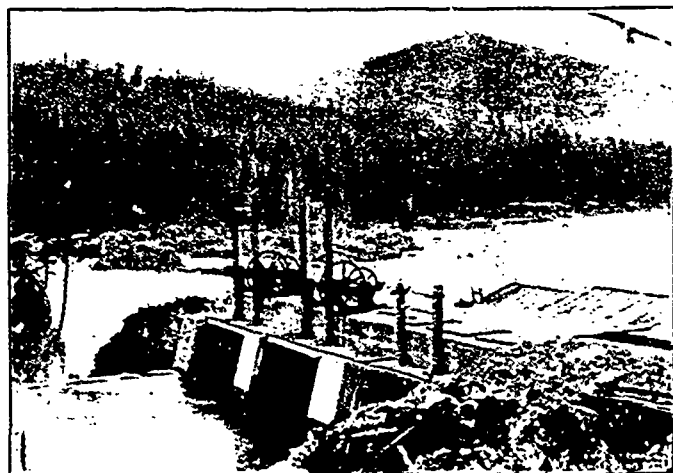


FIG. 1.—CONCRETE DAM, SHOWING HEAD-GATE IRONS.

largely due to the efforts of Mr. Oliver Durant and Sir Charles Ross, Bart., the former as president of the company and the latter as director and engineer, in which capacity he devoted considerable time to the careful study of the engineering and financial problems involved.

The charter was obtained in the name of Patrick A.

Largey, president of the Centre Star Mining and Smelting Company, Oliver Durant, manager, and C. R. Hosmer, manager C. P. R. Co.'s Telegraphs, and was afterwards transferred to the West Kootenay Power and Light Company.

Primary surveys were made early in 1897, but it was July of that year before the location of the plant was

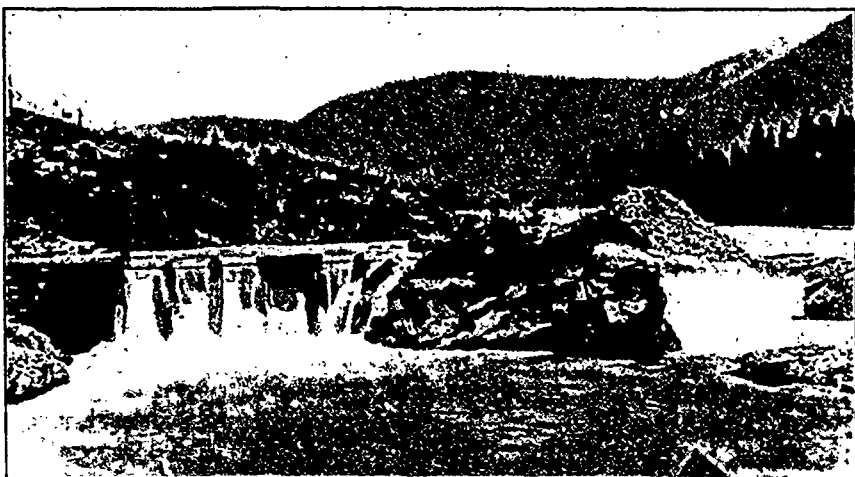


FIG. 2.—WOODEN DAM, SITUATED ABOVE CONCRETE DAM.

definitely settled and actual construction begun. The plans of the company contemplate the ultimate utilization of the entire three falls, which will give 60,000 h.p., the middle fall now being used developing 20,000 h.p.

**POWER HOUSE.**

The power house, shown on following page, is located on the west side of the dam. The foundations are built of cut granite; the walls of brick; the roof is of wood covered with galvanized iron; the station is 40 feet long by 60 feet wide, outside measurement, giving accommodation for two 725 k.w. and one 1,200 k.w. units directly coupled to horizontal water wheels. The height of the building from floor to ridge of roof is 40 feet, thus allowing ample room overhead for the handling of the machinery.

**HYDRAULIC PLANT.**

The dam, as shown in figure 1, extends across the end of the canal for a width of 60 feet. From the south corner of this dam the wing dam extends a distance of 120 feet, this being constructed of concrete, forming one side of the fore bay, which is also shown in figure 1. There is a rack in the fore bay extending the full width of the dam, and the water, after passing through this, enters the penstock, and from the penstock flows to the water wheel casing, which is really a continuation of the penstock flowing from the draught tubes into the tail race underneath the water wheel house.