SANITATION IN CONSTRUCTION CAMPS.

The increase in the number of typhoid cases in Toronto—and the suggested cause, the influx of people from fever-infested towns—suggest the necessity and advantage of great care in the camps along the line of great works, as railways, canals, and the opening up of mining camps.

In cold winter weather too often little care is exercised in connection with slops and refuse. All waste is thrown out on the snow, and until the warm spring days come no inconvenience is experienced. But with the spring an epidemic sometimes breaks out, and no matter what the disease it usually is carried to the nearby town. The construction camp employee is a wanderer. A few weeks' work, and then he moves to another camp, or back to the town, possibly carrying with him disease germs, which he may transmit to others.

Sanitary necessities should be provided for camps. Incinerators would prove a good investment for every large contractor for a healthy, comfortable camp means a busy, contented gang, doing more and better work than the nervous, shifting laborer of the unsanitary camp.

CANADIAN MINING INSTITUTE.

The twelfth annual meeting of the Canadian Mining Institute will be held in Toronto during the first week of March. This will be a very interesting convention, as prominent engineers from all parts of Canada and the United States will be present and many very valuable papers will be read.

EFFECT OF ELECTRICAL TRANSMISSION.

The statement is frequently made that water powers have increased in value since it became possible to transmit power electrically. Charles T. Main, mill engineer and architect, Boston, Mass., points out in a recent paper that to be correct the statement should be modified. Since the introduction of electrical transmission many water powers which were before unavailable and valueless have been developed and become of value, and many others will be in the future, but water powers which have been developed and the power used adjacent thereto have, as a rule, not increased in value.

To the generally applied methods of calculating the values of an ordinary water power there must be added one or two steps in the process when applied to the determination of the value of a remote water power which may be capable of development with electrical transmission to some market.

To the cost of the development must be added the cost of the electrical apparatus and pole line to a point where the power is to be used, and this is a large item of expense in long-distance transmission. Usually, also, there must be added to the cost of the physical part of the plant a considerable amount for right-of-way for pole line, legal expenses, and cost of financing the scheme.

To the running expenses must be added the fixed charges for the electrical apparatus and pole line, and the cost of running and maintaining the same.

A correction must also be made for the loss of power in transmission.

A comparison of the cost of producing and transmitting power can be made with the prices which can be obtained for this power to determine if the development has any value, and whether the development is warranted or not. The price which can be obtained for the power depends largely upon the cost of producing power by steam, or in some other way, at the point of delivery.

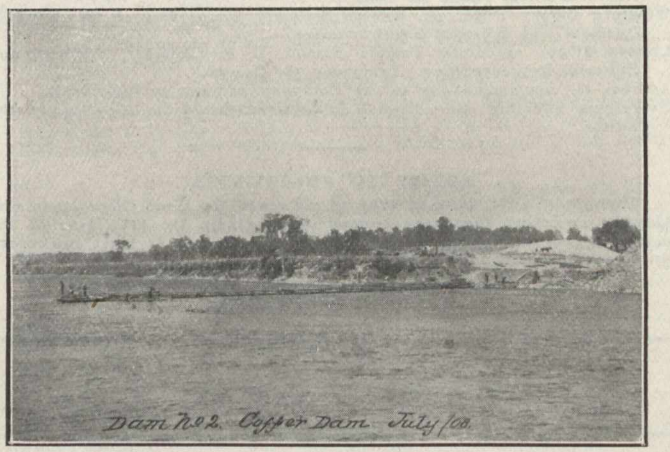
When used for lighting and railways the power is usually exceedingly variable, resulting in a low power factor. The conditions are so variable that it is generally useless to attempt to calculate the comparative cost of power produced by steam under such varying conditions. Each case must be worked out to meet the special conditions of the problem under consideration.

SOME NOTES IN CONNECTION WITH THE CONSTRUCTION OF A CONCRETE DAM ON THE TRENT CANAL.

J. B. Brophy, M.C.Soc.C.E.

In connection with the construction of Section No. 1, Ontario-Rice Lake Division of the Trent Canal, some very interesting and extensive works have been in progress during the seasons of 1908-9, not the least of these being Dam No. 2, situated on the River Trent, about 2½ miles north of its confluence with the waters of the Bay of Quinte, at Trenton.

This dam is quite a formidable piece of work, the total length from the back of the lock wall, on the east side of the



river, to the back of the west abutment being 520 feet. The east abutment consists of two massive walls of concrete,—the longitudinal wall extending from the lock wall westerly 65 feet. The transverse wall, forming the west face of the abutment, extends down stream 61 feet at the foundation level, gradually lessening, by steps, to 31 feet at coping level. These walls are 3 feet wide on top, gradually widening to 12 feet at foundation level. Adjoining the east abutment are two spillways divided by a small pier in the centre, each spillway having a clear opening of 20 feet. These spillways are of solid concrete, the height from foundation level to the top of the spillways (which is the regulated water level in the reach above the dam) averaging 32 feet. The width at the foundation level, including the apron, being 37 feet. There will be 11 piers dividing the balance of the dam into 11 sluiceways, each with a clear opening of 25 feet. Seven of these will have a depth of 12 feet, from the top of the stop-log sill to the regulated water level in the upper reach,—the remaining four sluices will have a depth of 9 feet. The depth, from the top of the stop-log sill of the first 4 sluices, to the foundation level, is 20 feet,—the other 7 averaging 17 feet, and the