

**PUBLIC OPINION AND THE RAILWAYS.**

The present depression in Great Britain reduced the railway earnings to such a degree that some radical curtailment of expenses had to be made. On certain roads this reduction in expenses was effected by the managers entering into an operating agreement whereby each road discontinued certain train service, each agreeing to run certain trains at certain hours instead of both running trains through parallel districts at the same hour.

British papers commented favorably upon the arrangement, and the public generally lauded the management for their wisdom in meeting the situation.

Had such an agreement been entered into between roads on this side of the Atlantic there would be a perfect storm of protest and the management branded as tyrants and law-breakers.

Fairer consideration should be given by the public to the problems which confront the railways. Too frequently we expect for one fare the accommodation provided for four. In equipment and roadbed American roads compare favorably with British roads, and we should consider more kindly the suggestions of the management in connection with expense reduction.

**EDITORIAL NOTES.**

In this issue we commence a series of articles on "The Design of Canal Diversion Weirs on a Sand Foundation," by Mr. W. G. Bligh, M. Inst. C.E. Mr. Bligh is author of a book on "The Practical Design of Irrigation Works," and has spent several years in Public Works Department of India.

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The Japanese Government has decided to refrain, as far as possible, from purchasing foreign material for Government works. At the present time influential Japanese merchants are making inquiries for the purchase of iron or engine works with the object of manufacturing materials required by the Government.

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In the current number of the "Monetary Times," Toronto, there appears an interesting article on "Irrigation in Southern Alberta." Certain sections of the article we have republished, for it gives one a clear idea of the necessity for and the commercial advantages to be secured by means of irrigation in Western Canada. There will be in Canada a large field for the engineer expert in irrigation matters.

**STORAGE BATTERIES.**

Apropos of the discussion at the Nottingham Conference of Municipal Engineers originating upon Mr. Taylor's paper on Storage Batteries, the "D.P." Battery Company, Limited, of Bakewell, send us the following figures as an adept example of the saving resulting from the installation of one of their batteries after the station has been erected and running some years.

The comparison of working has been kindly furnished by the electrical engineer-in-charge. A Diesel oil engine was the motive power, having a guaranteed consumption of .468 pounds per B.H.P. hour at three-quarter load.

The following figures show the actual working results:  
 Nov., 1906—10.2 units were generated per gallon without battery.

Nov., 1907—12.3 units were generated per gallon with battery.

Thus the installation of the battery enabled an increase of 20 per cent. in the output on the same consumption of fuel.

|  |                    |
|--|--------------------|
| Nov., 1906—Total units generated=24628 | } Without battery. |
| Pounds of oil consumed=22718           |                    |
| Nov., 1907—Total units generated=24516 | } With battery.    |
| Pounds of oil consumed=18198           |                    |

Thus the consumption of fuel was reduced by 24 per cent. on practically the same load.

Fuel consumption on average of four months' working, viz., November to February inclusive:

- .580 pounds per B.H.P. hour without battery.
- .474 pounds per B.H.P. hour with battery.

The reduction in the average consumption thus shown is 22.15 per cent.

These figures are striking, but are by no means the actual measure of economy effected, for the installing of a battery is followed by a reduction in the wages sheet, stores supply, etc. It is further evident that in designing a generating plant to meet the circumstances of a fluctuating load such as has to be provided for in power stations, factories, mines, iron works, and similar undertakings, the initial outlay can be considerably minimized by the equalizing of the load by means of a battery.

**SEPTEMBER LAKE LEVELS.**

The United State Lake Survey reports the stages of the Great Lakes for the month of September, as follows:

| Lakes—                   | Feet above tide water New York. |
|--------------------------|---------------------------------|
| Superior .....           | 602.79                          |
| Michigan-Huron . . . . . | 581.26                          |
| Erie .....               | 572.72                          |
| Ontario .....            | 247.14                          |

Since last month, Lake Superior has fallen 2¼ inches. Lakes Michigan and Huron have fallen 5¼ inches, Lake Erie has fallen 5 inches, and Lake Ontario 9¾ inches. The large fall in all the levels of the lakes has been due to a drought of unusual persistence, rainfall being almost entirely lacking.

**ERROR OF WATER METERS.**

In connection with the many tests made in various boiler plants with the object of determining the conditions of every-day operation and how increased economy could be obtained, the Coal Department of the Arthur D. Little Laboratory, Boston, have had occasion to calibrate several water meters. In one instance a hot water meter read 55 per cent. too low, another read 30 per cent. low when passing 136 cubic feet per hour, and 36 per cent. when passing 102 cubic feet per hour. On account of the slip and leakage most of the meters read too low, but one case was found where a meter read 13.6 per cent. too high. Even with a calibrated meter the results are questionable on account of the varying error at different rates of flow and the non-uniformity of feeding the boiler.

**WHEN YOU FIND THE AUTHORITATIVE ENGINEERING PAPERS OF GREAT BRITAIN AND THE UNITED STATES QUOTE FREQUENTLY FROM THE CANADIAN ENGINEER YOU MAY REST ASSURED THERE IS A REASON FOR IT.**