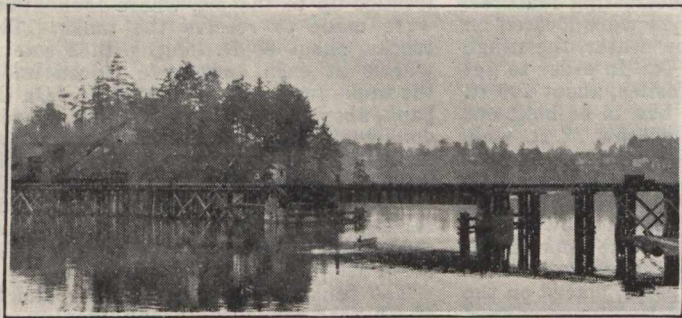


Rolling Lift Bridge on Canadian Northern Railway at Victoria.

A single track, deck girder, rolling lift bridge across Selkirk Water, Victoria, B.C., for the Canadian Northern Pacific

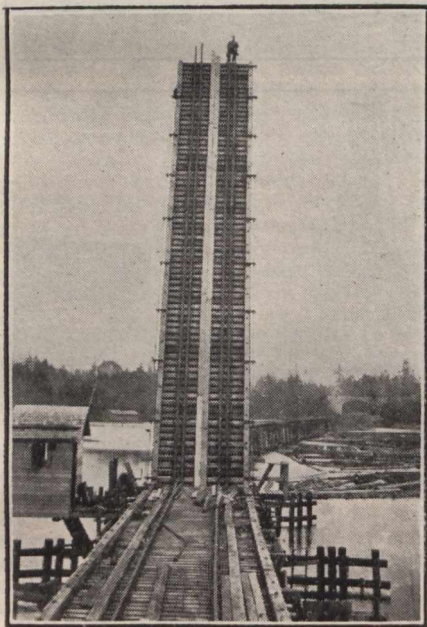
Cook, Resident Engineer, C.N.P.R., Victoria. The cost, including interlocking, was about \$21,000.



Canadian Northern Ry., Rolling Lift Bridge over Selkirk Water, Victoria, showing bridge closed and also in full open position.

Ry., has been completed recently. The length, centre to centre of end bearings, is 77 ft. From base of rail to high tide, 13 ft., from base of rail to low tide, 23 ft. There is a clear channel of 70 ft., and at low tide 16 ft. headroom. The substructure is of concrete.

The counterweight is composed of concrete and steel punchings, averaging 271 lb. a cu. ft., aggregating 55 cu. yards. All is below the deck and as the bridge rises the counterweight descends slowly to the concrete pit provided. The bridge is operated by hand power and so ar-



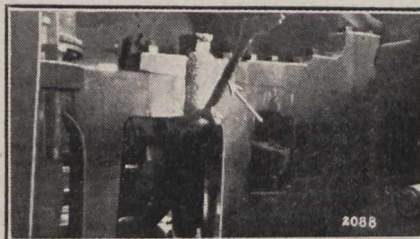
Canadian Northern Ry., Rolling Lift Bridge at Victoria, in full open position.

anged that an electric motor for operation can be attached when desired. The machinery forms a small percentage of the weight and is considered highly satisfactory. One man can raise or lower the span in about three minutes.

The whole layout is arranged with a view to duplicate the span for second track when required. The bridge was designed in accordance with Dominion Government specification, class heavy loading, under the direction of W. P. Chapman, M.Can.Soc.C.E., Engineer of Bridges, C.N.R., Toronto, by the Scherzer Roller Lift Bridge Co., the erection being done under the supervision of E. F.

Thermit Welding on Michigan Central Railroad.

We have made a great many Thermit welds on locomotive frames in the Michigan Central shops at St. Thomas, Ont., and in every case they have proved successful. While we have endeavored to obtain photographs, it has been difficult to obtain good ones. I would like to call attention, however, to the accompanying illustration of my last weld, made on Nov. 3, on locomotive 7540, which was electric welded on the lower rail, and after breaking again at that point finally caused the top rail to break also. Both these fractures were then welded by the Thermit process, using 125 lb. of Railroad Ther-



Thermit Weld on Locomotive Frame.

mit. This repair was accomplished without keeping the locomotive out of service more than four days.

Another difficult weld which we were called upon to make was on one of our largest freight locomotives, the break being 5 x 14 in., and located just back of the right cylinder. We removed 1 in. from the butt of the main cylinder in order to provide room for a riser. This weld was made six months ago, and has given satisfactory service ever since. We find our Thermit welds not only satisfactory, but money savers as well.

Workmen's Compensation in Alberta.

In connection with the Workmen's Compensation Act passed by the Alberta Legislature, it is stated that by an arrangement with the railway labor unions, it has been decided that the act will not apply to railway employees, but that their case will be dealt with next year.

Government Railway Employees.—The Minister of Railways informed the House of Commons, Mar. 27, that 20,917 persons were on the Canadian Government Railways pay rolls on Dec. 31, 1917, of whom 1,901 were on steamships and car ferries, and 480 were on military service.

Value of Different Sizes of Coal for Locomotives.

Until recently nearly all coal used on locomotives was mine run, i.e., the entire unscreened product of the mines. In the past few years, however, increasing quan-

tities of screened lump coal have been used in locomotive service. This increase in the consumption of lump coal has been due partly to the belief that lump coal, when burned on a locomotive, produces enough more steam than mine run coal to compensate for its greater cost. Special considerations, such as the desire to lessen the amount of smoke formed, have also led in some instances to the use of lump coal, which is generally believed to require less skill in firing than mine run coal. The introduction of mechanical stokers for locomotives has resulted in the use of increasing amounts of various sizes of screenings. Thus far there has been little use of such sizes as egg, egg run, and nut coal on locomotives, although traffic and market conditions occasionally make it feasible and desirable to use them.

The relative values of several sizes of coal for locomotive use have not been well understood, since most laboratory and road tests have been made with mine run, or occasionally with lump coal, and the data are inadequate and conflicting. A series of tests to determine the value of different sizes of coal has been conducted by the University of Illinois Engineering Experiment Station under a co-operative agreement with the International Railway Fuel Association and the U. S. Bureau of Mines. A mikado locomotive, weighing 142 tons, belonging to the B. & R.O. Rd., was used, the tests being made in the locomotive laboratory at Urbana. The results are published in bulletin 101, entitled, "Comparative tests of six sizes of Illinois coal on a mikado locomotive." Copies may be had without charge by addressing the Engineering Experiment Station, Urbana, Illinois.

The Reid Criminal Libel Case.—When this case, which was taken against Sir William D. Reid, formerly President, Reid Newfoundland Co., by a Newfoundland politician, came before the local magistrate at St. John's, Nfld., recently, it was dismissed, as no case was made out. Action was taken subsequently by indictment before the Supreme Court, and at the sittings in April, the grand jury threw out the bill. The Chief Justice, in instructing the grand jury, stated that, if they found that the letter sent by Sir William Reid to Lord Shaughnessy, did not mean what the indictment said it meant, they could not bring in a true bill, but if they found that the words of the letter were libellous in themselves, they could bring in another bill.