

4629—March 31—Authorizing the G.T.P. Railway to construct, maintain, and operate a branch line or siding leading from and adjacent to its main line, at West Fort William, Ont.

4630—April 16—Authorizing the C.P.R. to construct its railway across the highways at mile 20.74 and mile 20.61, between Lots 5 and 6, Concessions 6 and 7, in the Township of Albion, County of Peel, Ont.

4631—April 16—Authorizing the Windsor, Essex & Lake Shore Rapid Railway to open for the carriage of traffic that portion of its line of railway between the town of Kingsville and the town of Leamington, Ontario, a distance of 8.7 miles.

4632—April 16—Authorizing the C.P.R. to construct its railway across the highways at mile 19.85, between Lot 3, Concession 7, Township of Albion, County of Peel, and Lot 34, Concession 11, Township of Vaughan, County of York, Ont.

4633—April 15—Authorizing the G.T.R. and C.P.R. to operate their trains over the crossing in the village of Lennoxville, P.Q., without being brought to a stop.

4634—April 16—Authorizing the C.P.R. to construct its railway across highway in the Township of Brant, County of Bruce, Ontario, at mileage 30.77 on the Walkerton & Lucknow Railway.

4635—March 27—Amending Order No. 4165, dated December 26th, 1907, in re location of Niagara, St. Catharines and Toronto Railway Co., in the city of Brantford, Ontario, from the fifty-sixth and one-quarter mile to the fifty-eighth and eighty-two one hundredth mile.

4636—April 21—Approving location of the Canadian Northern Ontario Railway through the townships of Ferguson, McKellar and Hagerman, District of Parry Sound, Ontario, mile 0 to mile 18, from Waubamik, north-easterly, to Whitestone Lake.

4637—April 22—Approving revised location of the Grand Trunk Pacific Railway from Surprise Lake, mile 150, to the junction with the National Transcontinental Railway at Pelican Lake, at mile 199.56, Province of Ontario.

4638—April 22—Authorizing Welland County Telephone Co., Limited, to erect, place, and maintain its wires across the track of the Grand Trunk Railway at Rosehill Station, in the county of Welland, Ontario.

4639—April 22—Authorizing the Bell Telephone Co. to cross with its wires the track of the Grand Trunk Railway at public crossing, 300 yards east of Waubaushene Station, Ontario.

4640—April 22—Authorizing the C.P.R. to reconstruct bridge No. 84.1 on its Toronto section.

4641—April 22—Authorizing the C.P.R. to reconstruct its bridge No. 79.4 over Quartz Creek, mountain section.

4642—April 22—Authorizing the C.P.R. to reconstruct bridge No. 93.9 on its Shuswap section.

4643—April 22—Authorizing the C.P.R. to reconstruct its bridge No. 1.2 over the Illecillewaet River, Arrow Lake branch.

4644—April 23—Authorizing the Canadian Copper Co. to carry its wires across the track of the Manitoulin and North Shore Railway Co. at Creighton Mine, Copper Cliff, Ontario.

4645—April 24—Authorizing the C.P.R. to reconstruct its bridges at fourteen different points in the Provinces of Alberta, British Columbia and Quebec.

4646—April 24—Authorizing the C.P.R. to construct spur to and into the premises of the Maple Leaf Flour Mills Co., Kenora, Manitoba.

4647—April 24—Authorizing the C.P.R. to divert the highway in lot 33, concession 1 S, township of Bentinck, county of Grey, Ontario.

4648—April 24—Authorizing the town of Sudbury to carry its electric light wires across the track of the Canadian Pacific Railway Co.

4649—April 24—Authorizing the Canadian Northern Ontario Railway to open for the carriage of traffic that portion of Hutton branch of its line from Sudbury Junction North to Moose Mountain, Ontario, a distance of 27.74 miles.

4650—April 24—Authorizing the Canadian Northern Ontario Railway to open for the carriage of traffic that portion of the Garson spur of its line from a point on the Hutton branch to the Mond Nickle Mines, a distance of 3.6 miles.

4651—April 24—Authorizing the Canadian Northern Ontario Railway to open for the carriage of traffic that portion of its main line from the C.P.R. Co.'s crossing near Romford to Sudbury, a distance of 10.05 miles.

#### THE DESTRUCTION OF ARCH BRIDGES.

Mr. Duncan Scott, in a paper read on April 6th before the Society of Engineers, England, gave an account of the destruction of some of the bridges on the L. and N.W.R. The author commenced with the Oxleys and Broughton widening, which was about three and a half miles long, and was carried out at a cost of £50,000. The blowing up of Lightfoot Lane Bridge, consisting of three brick arches, was chosen for description. Holes were "jumped" in the haunches and crowns of each arch, the former being charged with 224 oz. and the latter with 192 oz. of "tonite." In addition, holes were "jumped" in the backing over the piers, and charged with 240 oz. of the same explosive. Instantaneous fuses were fixed to the charges, grouped together, and fired by time fuses, care being taken to prevent the charges exploding before their time. Before charging the holes, both main lines were blocked, and the rails, sleepers, etc., removed for safety. Both lines were blocked at 12 o'clock noon, and opened again between 4.30 and 5 o'clock p.m. The crown shots in the centre arch were the first to explode, followed some twenty seconds later by the crown and haunch shots of one of the side arches. A few seconds later the crown and haunch shots of the remaining side arch exploded, and then the shots in the top of the pier, which completed the destruction of the arches. One road was opened after 2½ hours' work and the other road 1½ hours later; 95 men were engaged. The cost of destroying this bridge was £200. About 30 yards to the west of the bridge is situated a chimney 100 feet high, but no damage was caused to it by the explosion. A widening near Clifton and Lowther, which was one mile long, was carried out at a cost of £8,500. In this case the arch to be removed was a masonry one, with a span of 30 feet. Holes were "jumped" in the crown, and charged with 9 oz. of gelignite, the rest of the work being carried out in a similar manner to that in connection with Lightfoot Lane Bridge, the roads in this case being blocked from 10.20 a.m. till 3.37 p.m.

A brick arch bridge of 20 feet span was also intended to be blown up at Preston, but the explosions were not successful, and the arch was finally removed by hand. Some of the prices given were of interest, as they are typical for work in the North of England. In cases where explosives cannot be used, the author said, the simplest method was to erect centres under the arches, which can then be removed by hand, and if the headway is too small to allow of centres, ribs could be formed of boards bolted together, bent and wedged up to take the form of the soffit of the arch. Altogether a very interesting paper on the subject was contributed.

The Milroy-Harrison Company of 66 Richmond Street East, have been appointed agents for "Novo" high speed steel, drills, etc., in the Province of Ontario, and will carry stock of these goods in Toronto. William Abbott, of Montreal, represents the manufacturers of this steel for Canada.

A party of 35 McGill engineering students left on April 25th for a tour of the mining countries of the West. Dr. John Porter, professor of mining and metallurgy at McGill, will be in charge of the party. They will stop first at Copper Cliff, and visit the mines there, after which they will proceed to the coal mines of the Crow's Nest Pass, and spend the balance of their time in the mines of the Kootenay district. The McGill men will travel by the Canadian Pacific, by special car.