

WIRE ROPE TOWAGE ON THE DANUBE.

We are indebted to *Engineering* for the following notes and the accompanying engraving illustrative of the system of Wire-Rope Towage recently introduced on the Danube, under the auspices of the Imperial Austrian Danube Navigation Company:—

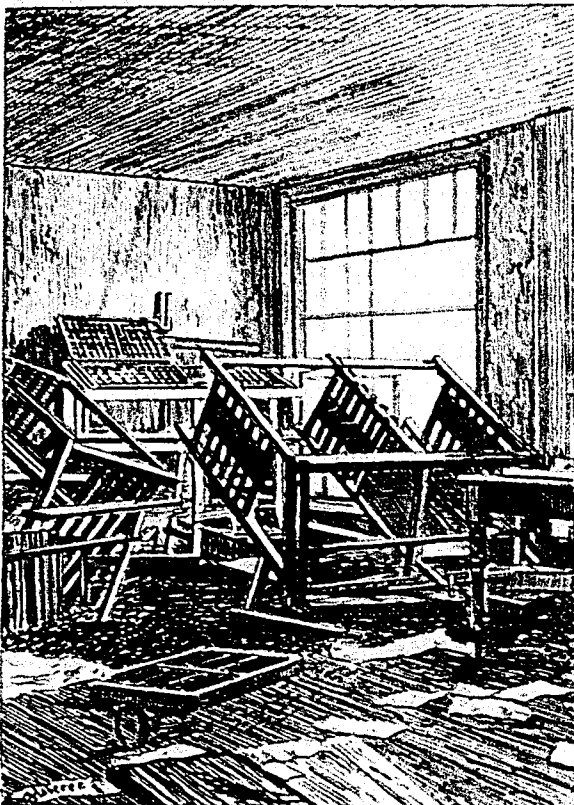
"The application of Fowler's well-known clip pulley, for the purpose of propelling boats by means of a fixed wire rope, is gradually extending on Continental rivers and canals. After the first experiments made at Leeds, by Baron O. de Mesnil, and a series of trials, during the following years, on the Erie, and Hudson, and Delaware canals, in America, several lines were successfully established in Belgium and France. Although some of them, owing to circumstances wholly unconnected with the mechanical problem of wire-rope navigation, have at the present moment ceased to work, the operations connected with this novel application of steam power are daily growing in extent and importance.

"As a first step for the extensive introduction of the system on the Danube, the Imperial Austrian Danube Steam Navigation Company caused the construction of a powerful tug of 50 horse power nominal, after the designs of Mr. T. Schwarz, the present managing director of the Central Towing Company, at Cologne. A general description of this vessel will recall the principal features of O. de Mesnil's and M. Eyth's patents.

"The 'Nyitra' (see engraving on the opposite page) is a flat-bottomed iron vessel of a total length of 133 ft.; beam, 24½ ft.; and depth of hold, 7½ ft. It is provided with two false keels, and has a large rudder at the bow as well as at the stern, each rudder being separately governed by a wheel placed near the centre of the boat.

"As on most rivers with rapid currents, it is intended to use the wire rope on the Danube only for towing up stream.

THE MANITOBA RIOTS.



THE COMPOSING ROOM.

The tug is therefore provided with twin screws of 4 ft. 2 in. diameter, worked by two separate vertical engines placed near the bow, and supplied with steam by the same boilers, which also work the clip-drum machinery.

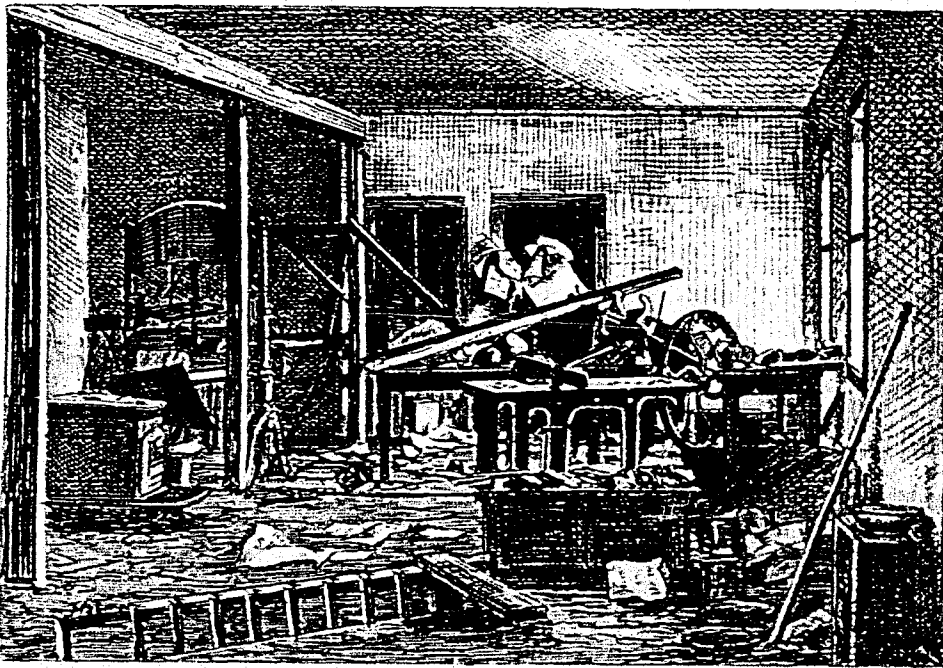
"The boilers are placed between the clip-drum engine and the screw engines. They are two in number, of a type very commonly employed on river steamers, and scarcely calling for particular description.

"The total displacement of the boat, when ready for service, amounts to about 200 tons; the draught is 3 ft. 9 in., the immersed midsection 74 square feet. Besides the machinery, weighing 42 tons, boilers weighing 32 tons, and coal bunkers holding 10 tons, it contains nothing but the usual accommodations for captains, engineers, and crew, and the necessary fittings and contrivances for attaching barges, &c.

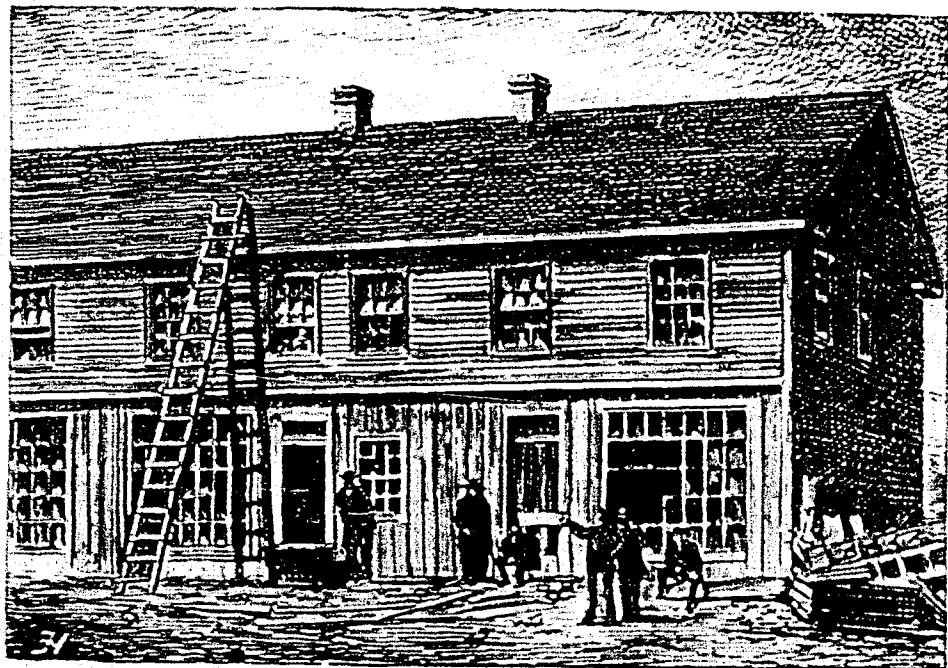
"On September 2, 1871, the 'Nyitra' started from her anchorage, towing, by means of her auxiliary screws, three barges to the place where the rope, previously immersed, had to be picked up. It was caught up by a grappling anchor, and fixed to the side of the boat, an operation which lasted from 7.5 to 7.44 a.m. Six workmen were required to place it over the guide pulleys and the clip-drum, which was done in 49 minutes.

"These operations took far more than the ordinary time, in consequence of one of the buoys which marked the position of the rope having been broken loose. The tug, also, with the three barges in tow, was difficult to handle, whilst the rope, laying at the particular spot very much across the river bed, had to be pulled from underneath it. At former trials, on the 22nd of August, the same operation took only 25 minutes; on the 28th of August, 22 minutes; on the 1st of September, 15 minutes. At the trial trip on the 3rd of September, which was undertaken solely to ascertain the steering power of the vessel, the picking up of the rope took 8 minutes, and the

(See Page 250)

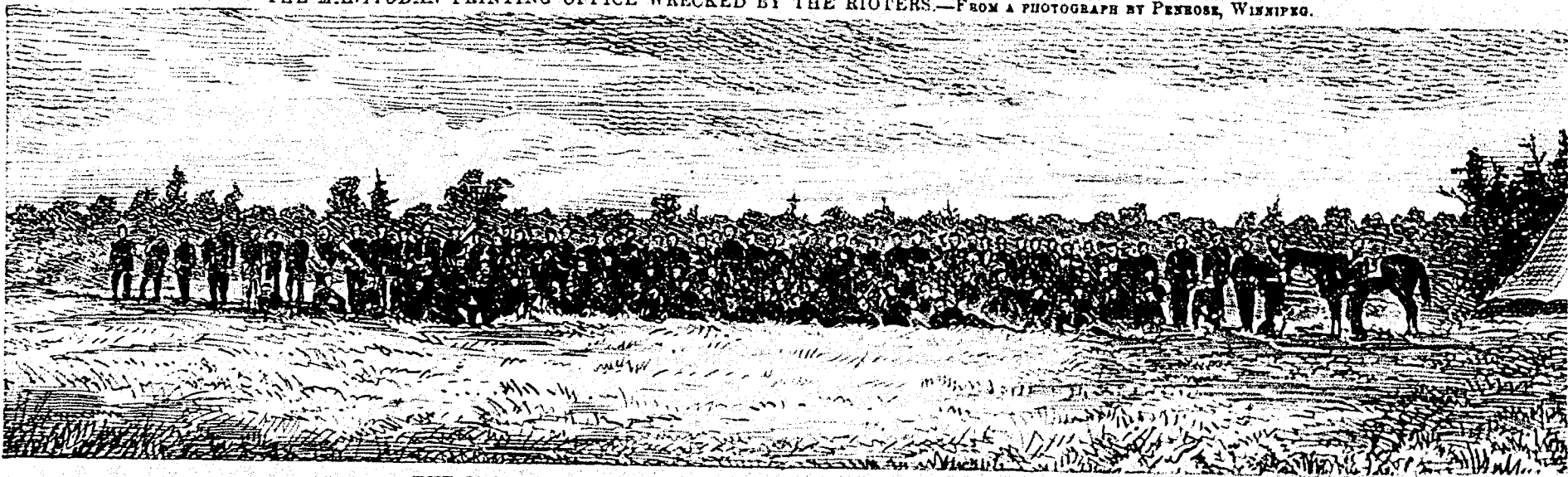


THE PRESS ROOM.



EXTERIOR VIEW.

THE MANITOBA PRINTING OFFICE WRECKED BY THE RIOTERS.—FROM A PHOTOGRAPH BY PENROSE, WINNIPEG.



THE PROVISIONAL BATTALION ON PARADE.—FROM A PHOTOGRAPH BY PENROSE.



CAMP OF THE PROVISIONAL BATTALION.—FROM A PHOTOGRAPH BY PENROSE