

having a capacity of twenty thousand gallons per minute. These pumps were manufactured by Messrs. M. Beatty & Son, at Welland, Ont.

From the reservoir the logs were guided into an immense slide or trough 3100 feet in length, and built after the manner of an immense water spout. This was filled with water from the reservoir, and admitted a log five feet in diameter. Through this trough the logs were floated at the rate of ten thousand per day.

After passing through this slide they reached the long jack ladder. This is 2500 feet in length, built in eight sections, the 1st section being 400 feet long and the remaining seven 300 feet each; and over this ladder the logs were passed one at a time, with marvellous swiftness and steadiness. The elevation in this length is ninety feet. This was the last journey of the logs by artificial means, for, upon reaching the terminus of the long jack ladder, they were projected into a dam 250 feet wide and 35 feet high. Here they were placed in booms, to be finally towed down through Raven Lake, and thence into the lower rivers and lakes tributary to the Trent waters.

The motive power for driving the long haul is a 400 h. p. horizontal turbine water wheel placed near the centre of the haul, driving a counter shaft. From this shaft connections are made with each section of the log haul by means of rope transmission, until the whole are connected together, by which means the endless chain on the haul is driven; and arrangements are so made that everything works simultaneously.

The Company intend to use six warping tugs for towing logs, and are having them fitted up with independent engines and dynamos and an 8000 c.p. arc lamp to enable them to work night and day. The lamp is placed on top of a pole 25 feet in height, and is arranged in such a manner that it will revolve and move at any angle in order to concentrate the light on any point where the men are working on the logs. These tugs were patented and manufactured by Messrs. West & Peachy, of Simcoe, and are used by a great many Canadian lumbermen.

Electricity is also used as signals when requiring to start or stop

the log haul. Electric buttons are placed at intervals along the haul, and when occasion requires it they are simply pressed by the men in attendance, starting or stopping the haul as may be desired.

A few weeks ago Mr. Clark and other experienced engineers made a practical test of the whole work, and most satisfactory results were obtained, notwithstanding the fact that the weather was intensely cold, and ice and snow interfered with the test to a certain extent. However, the engines were started up, the jack ladder moved in unison, the reservoir filled up rapidly, the long log haul responded noiselessly in obedience to the rope drive, and a 30 inch pine log rolled through the various openings until it finally reached the dam. Months of patient toil and labor were thus rewarded, and a path was opened from the waters of Trading Lake to the Trent river.

The turbine water wheel, log haul chains and all gearing and shafting in connection with the jack ladders were manufactured by the Wm. Hamilton Manfg. Company, of Peterborough, Ont.

The rope drives cut a very important figure in this great undertaking, as upon its successful working depended the carrying out to completion of the designer's ideas. Before finally settling matters, therefore the Dodge-Wood Split Pulley Co., of Toronto, were called to the scene, and after going over the ground, submitted their plans, which were accepted by Messrs. Gilmour & Co. This equipment consists of one main drive of 400 h. p. from the water wheel shaft to a main central jack shaft, and a series of seven distributing drives running both ways from centre, dividing the power equally over the entire jack works, something more than 2500 ft. in length. The work, including more than ninety grooved pulleys and sheaves, over two miles of patent transmission rope, all the necessary turned iron spindles, journal boxes, patent slack "take up" carriages, tension weights, etc., was delivered by the Dodge Pulley Co. within the specified time, just ten weeks from date of the order. The laying out of all frame work carrying the drives, as well as the entire erection of drives, splicing ropes and starting up, was under the superintendence of the Dodge Pulley Co., and we believe we are safe in saying that no such extensive piece of rope drive work is to be seen anywhere in America as this.

AUBURN WOOLEN CO.....

PETERBOROUGH, ONT.

MANUFACTURERS OF

FANCY TWEEDS, ETC.

Selling Agents, D. MORRICE, SON & CO., Montreal and Toronto.

TORONTO CARPET MFG. CO., Ltd.

TORONTO

Were awarded Gold Medals at the World's Columbian Exhibition, Chicago, for their

INGRAIN

and ..

"Imperatrix" Axminster

CARPETS

SEVEN QUALITIES OF INGRAINS

Kensington Art Squares, Axminster Mats, Rugs, Squares, Body Border and Stairs.

Esplanade and Jarvis Sts., - Toronto

Robin & Sadler...

MANUFACTURERS OF

Leather Belting

SPECIALTIES

Dynamo Belts : : : Waterproof Belting

2518 and 2520 NOTRE DAME ST., MONTREAL

129 BAY STREET : TORONTO

Penman Manufacturing Co., Ltd.

.... PARIS, ONT.

Manufacturers of...

Hosiery, Shirts, Drawers
Clove Linings and Yarns

Selling Agents: D. MORRICE, SON & CO., Montreal and Toronto.

ROSAMOND WOOLEN CO.

... ALMONTE, ONT. ...

Fine Tweeds, Cassimeres and Fancy Worsted Suitings
and Trousings.

Guelph Woolen Mill Co., Ltd.

GUELPH . . . ONTARIO

Manufacturers of

UNDERWEAR, HOSIERY, WHEEING, FINGERING AND WORSTED YARNS

HAIRDOWN FLANNEL, Etc.

Selling Agents: DONALD FRASER, MONTREAL; E. H. WALSH & Co., TORONTO

WE MANUFACTURE...

BELTS

...For Nothing

that hard work: and, having had Twenty years' experience in the manufacture of Leather Belting, we can make you a Belt equal to any in the world.

Write for Quotations

J. L. GOODHUE & CO.

Manufacturers of

LEATHER BELTING

DANVILLE, QUEBEC. - - Toronto Office: 85 York St.