

VALLEY'S RAILROAD FOR LUMBERMEN, ETC.

A railroad of inexpensive construction, and which is designed to be strong and durable, and especially adapted for use in timber lands for getting out logs, or in the neighborhood of mines, for transporting coal, ores, or refuse, is shown in the accompanying illustration. This road, with a carriage particularly designed for use therewith, having a novel and effective style of brake, forms the subject of five patents issued to Mr. John N. Valley, of No. 643 Jersey Avenue, Jersey City, N. J.

The single rail or track of this railroad is supported by hangers from overhead longitudinally-ranging stringers, which are themselves sustained by downwardly diverging pairs of posts or struts set into (or on) the ground, the tops of these posts being let into opposite sides of the stringer, where they are fastened by a bolt. Where the road curves more or less sharply to the right or left, the adjacent ends of the stringer sections are pivotally connected by means of a pair of links and bolts, but where the road is ordinarily straight, the ends of the sections are simply halved and bolted together. The hangers pass centrally through the timber sleeper, each side of the top outer edge of which constitutes the track, and the lower ends of the hangers are screw-threaded, and carry nuts, on which the sleeper rests. This allows the sleeper to be readily set higher or lower on any particular hanger, to regulate the level of the sleeper

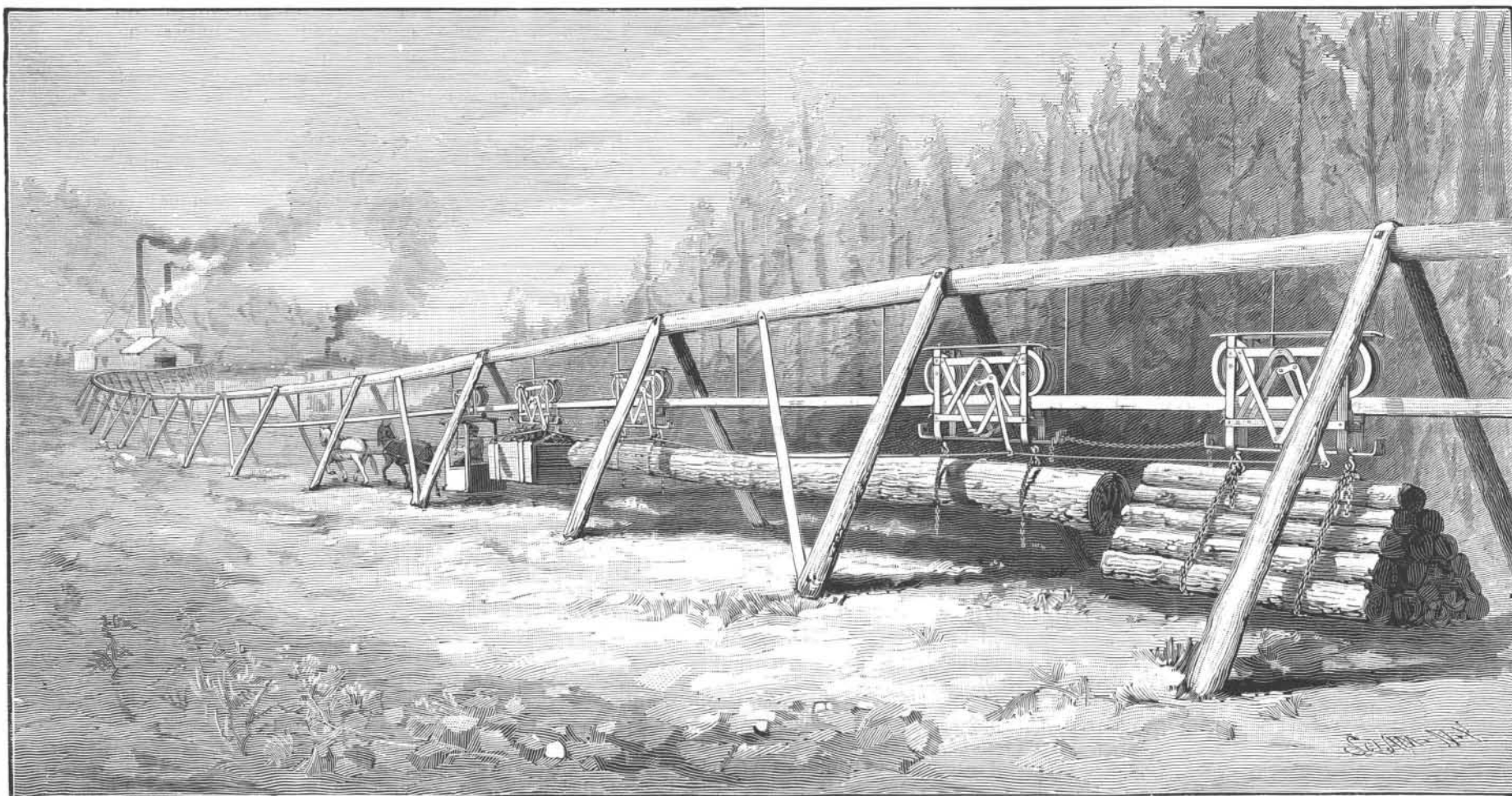
be readily removable for reversing the wheels, as may be desired where the main line of a track is supplied with metal rails, consisting of flat bar iron attached on each side of the top outer edge of the sleeper. In this case the wheel flanges will travel on the inside of the rails, while, with the sleeper alone constituting the track, as would be the case in branch tracks or where the work was light, the wheel flanges would be on its outer side.

This carriage is also provided with a special form of brake, in which the brake shoe extends longitudinally just beneath the track, at the inside of the carriage, and is suspended from a brake lever fulcrumed on the V-shaped brace of the carriage. Vertically extending diverging arms, formed integrally, are bolted to the shoe at their lower ends, the upper end of the arms, at the point of union, being pivoted to a bent portion of the brake lever. The brake shoe is angular, and is adapted to bear against the bottom and one side of the track sleeper. On the inner side of the carriage, opposite the brake shoe, is a beveled surface, whereby, as the brake lever is thrown to bring the shoe against the bottom of the track, the beveled surface of the carriage will cause the shoe also to move laterally, and press likewise against the side of the track.

The construction covered by these several patents admits of considerable modifications, as may be called for on account of the varying nature of the ground in different sections, or the amount and kind of service

have been tried in Alaska, and both have yielded remarkable crops. I was surprised not to find anywhere among the white traders and missionaries any hot beds, for the use of which the climate seems to be particularly adapted. The summer season is short in months, but in point of hours of sunshine it is equal to about six months of our summer. By the gift of the midnight sun, Providence has intended at least a partial equalization for the benefit of the poor Alaskan.

The tundra land is a dreary moor which frames the western shore of Alaska. It consists of deposits made by the great streams, the Yukon, Kuskokvium, and Nushagak, through the ages. All these streams are full of driftwood and sediment, and are gradually building new territory out into Behring Sea. The tundra is, therefore, practically delta land, consisting of a stratum of sunken and interlaced water-logged driftwood, covered with silt or clay on which a layer of peaty vegetable remains, forming a foundation for the endless moss. Throughout this immense plain of "made" land there are pools and lakes and dead rivers which are inhabited during the summer by millions of ducks, geese, and cranes, who have developed in that regions the great breeding ground of the world. The numbers of these aquatic birds which are seen on a summer trip through the tundra are simply beyond comprehension. I myself have seen the sky as black with geese as if a swarm of locusts were descending, and I have also enjoyed the peculiar sport of hunting



AN ELEVATED RAILROAD AND LOG CARRIER FOR LUMBERMEN'S USE, ETC.

and the track rail, by simply screwing the hanger nuts up or down. The hangers are also preferably connected to the stringer by screwing their threaded upper ends into the stringer, thus allowing the hangers to be adjusted higher or lower in the stringer, to supplement the vertical adjustment of the sleeper and rail by the hanger nuts, to level or grade the track.

The carriage designed for use with this railroad is U-shaped in cross section, with upwardly ranging sides supporting the wheels at their upper ends, the frame substantially consisting of two yokes braced and connected together. At or near the top the yokes are connected by side bars bolted or riveted to the legs, and near the bottom they are connected by a tie band extending horizontally entirely around the carriage. At each side the yokes are further braced by two oppositely disposed V-shaped braces, while from near the bottom of the carriage a cross brace extends downwardly and inwardly toward the center, where it has a horizontal central part on which is bolted a longitudinal drawbar, the upturned ends of which extend beyond the carriage and are adapted to act as buffers, while they are provided with eyes to receive coupling bolts, by means of which several cars may be connected together. To the bottom of the carriage two or more depending hooks are secured for suspending the load, these hooks having each a threaded shank to receive a nut by which the hook is secured in place. At the top of the carriage are longitudinal bars, bent downwardly and outwardly at their ends, and, should the carriage become slightly displaced laterally, the curved ends of these bars will strike the hangers or suspension rods, thus righting the carriage on the track. The axles of the wheels are in the form of bolts, in order to

required. The structure and cars may also be made of metal and wood in such manner as to be serviceable for the transportation of passengers.

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Alaska.

The timber line on the mountains seems to me to be remarkably high, and the shrubbery, grasses, and mosses occupying still higher regions afford splendid pastures in the summer for moose, caribou, ibex, and mountain sheep, and in the winter even supply food for immense herds of wild reindeer.

The river valleys of Alaska are usually wide and rolling, and covered with interminable forests of birch, spruce, willow, poplar, cottonwood, and some of the smaller varieties of needlewood. Throughout these primeval timber lands the soil consists in the summer time of a thick, spongy layer of moss and lichens fairly soaking in moisture. The closely woven vegetation has for centuries made it impossible for the sun to dry out this peaty soil, and the moisture retained makes the land unfit for agriculture. I have found in several instances, however, large tracts of timber land through which forest fires have raged, and in which the peat has been burned out. The ashes and the sandy soil under the moss and lichen, mixed through the ages with rich humus from decayed vegetation, in such cases, produced perfect tangles of wild flowers. The density and variety of Alaskan vegetation, its quantities of wild flowers and berries, argue in favor of agricultural possibilities. It is true that from two to five feet below the surface one may strike at all times a layer of solidly frozen ground, yet the same fact has been shown to obtain with the great wheat fields of Manitoba and the Northwest Territory. Only potatoes and turnips

wild geese with a club. The tundra moss is liberally mixed with a moss-like plant, bearing a blue berry, which geese and ducks consider a rare delicacy. It seems to me that some profitable industries might be derived from the existence of these huge breeding grounds.

Everywhere in Alaska is secured every year a magnificent output of land furs, not to be surpassed. There are mink, marten, land otter, white, red, black, and silver-tipped foxes, beaver, porcupine, Arctic hare, black, brown, red, and silver-tipped bear, gray timber wolves, marmot, ground squirrel, muskrat, ermine, wolverine, and probably some varieties have been omitted in the list. The annual catch of seal and sea otter is generally known. The salmon canning industry of Alaska is being rapidly developed, there being over twenty established canneries in the territory at the present time. Yet there are many other pursuits which may be and which will be followed to advantage.—A. B. Schanz, in *Frank Leslie's Illustrated Newspaper*.

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The Electric Light in Dentistry.

We now have the electric light to aid us in our dental operations, and I find by its use I can discover imperfections in cavities I have prepared that had previously escaped my attention. Why? Because the electric light gives a paler white light, and it is more intense than daylight. This is particularly so in that form of decay known as the white decay. You may prepare the cavity with the ordinary care, having it seemingly perfectly dry, and a magnifying glass will show you no imperfections, but with the aid of the electric light you find them.—Dr. Pruyn.