THE CANADIAN THRESHERMAN AND FARMER IS AUG. '10 DIMEN

Some Motor Trials of 1873

When we dig through the musty pages of history and search the records carefully we find that motor contests are by no means new. It is well known that they have been important factors in the development of the traction engine in England for some considerable time but their place on this side of the water has until recently been a negligible quantity.

Recently, however, in going through some old magazines we found an account of a motor trial held at Orange, Jersey, in New just 1873. 37 years ago, and give it to we give our readers at this time as it contains some interesting verv data regarding the performance motor in work. The of a roadd work. matter in digest follows s as follows: The engine and boiler were of the same general dimensions as

the road locomotives. The furnace door was placed at one side of the fire-box, and the reversing lever, throttle handle, and steam gauge were all brought to the same side, the engine driver standing on the frame of the machine which is sufficiently broad and is immensely strong. The tanks for fuel and water were so placed as to be within reach of the driver. The steering apparatus was located at

the side opposite the working gear of the engine, and was operated by the enginedriver's assistant. who finds standroom on side. The ing that whole machine was carried on four large wheels, broad with thread, covering a width total 6 ft. Its weight exerts a compressive force of 5,600 lbs. on each foot width, or 467 lbs. on each inch

The wheels had holes drilled in their faces, like the wheels of the traction engines, in which could be inserted strong spikes for breaking up old roads previous to making repairs, or for loosening the surface previous to metalling new roads.

The preliminary examination of the proposed trial ground and its selection took place late in September, and a half day was devoted to an examination of the engines and of the road-bed. Engine No. 1 was found at Orange, and, after a careful examination had been made of its design and construction, the driver started with it over an awkwardly narrow and winding piece of road, traversing it without apparent difficulty, and going forward and strain, when reversing suddenly. Steerage seemed almost equally easy and precise, whether going forward or backward. A block of wood 6 or 8 in. high, thrown under one forward wheel, was driven over without apparent difficulty or injury to the machine.

After these experiments and the examination of the locomotive were concluded, the party rode over to South Orange, where a and weighing, with their loads, 5,000 and 5,600 lbs. respectively, a total of 10,600 lbs.

This load was drawn up a grade of 10.10 in 100—equal to 533.28 ft. per mile.

The wagon tires were very narrow and much worn, and were observed to cut into the roads somewhat, notwithstanding the thoroughness with which the road-roller had done its work. The driver of



The Flour City 40 H.P. Gas Tractor Pulling an 8 Bottom 14-Inch John Deere Engine Gang

backward at varying speeds, steering with evident ease and accuracy.

The writer then took the place of the driver, and, although the experience was a novel one, found no difficulty in acquiring, in a very short time, such command of the machine that it became evident that but little training would be required to enable any ordinary intelligent mechanic portion of road containing heavy grades was selected for the public trial of the locomotives which had been described. It consisted of a short section of nearly level road, in the village of South Orange, near the railroad station, and of that part of the road, on either side of this nearly level stretch, which ascends from the valley by a moderately heavy grade, on the eastern side, and by a very re-



the engine was a lad without ex-

perience. By putting coal in large

pieces on his fire at the worst

portion of his

route, he caused

from priming, partly in consequence of the low pressure maintained in the boiler, but principally, no doubt, because the boiler had not been in use long enough to thoroughly clean its interior surface. This engine was, therefore, detached, and No. 2, which had been long in use, was taken for the next trial over this same course.

SECOND TRIAL.

A trial was next made of the power of manoeuvring possessed by these engines.

No. 1 was stationed at a part of the road which had not been rebuilt, and where the ground was soft and uneven. The machine turned continuously, for a considerable time, in a circle of 18 ft. radius, crossing the gutter at one part of the course,

and gave no evidence of difficulty arising from any cause. The engine could turn, when required, in a space slightly greater than its own length, by carefully backing and filling.

THIRD TRIAL.

Locontotive No. 2, being attached to the same two wagons used in the first trial, drew up the hill

The Avery 20 h.p. Steam Tractor pulling an eight bett to manoeuvre the locomotive on the most difficult road. The reversing handle, the throttle ond the steering wheel were conveniently located and easily operated. Reversing could be performed promptly, notwithstanding the weight and consequent momentum of the fly-wheel, which, it had been apprehended, might cause loss of time, if not an excessive

a eight bottom 14 in. Cockshutt Engine Gang

markably steep grade on the western side. The road-bed was remarkably smooth, hard and compact.

FIRST TRIAL.

The first trial was made at 10 o'clock, a.m., Oct. 1st, with Engine No. 1.

The load consisted of two waggons heavily laden with stone,