

Agricultural Intelligence.

Results of Steam Cultivation.

An elaborate report has recently been made in England by Mr. Clarke, on the results of Steam Cultivation in various parts of the country, and on a variety of soils. Mr. Clarke was assisted in his inspection of steam-cultivated farms by a committee of gentlemen appointed for the purpose, and the results of their joint investigations establish most conclusively the great advantage of the new method, both in point of economy and thorough culture. We extract the following particulars from a condensed account of the report in the *Farmer* (Scottish):

Mr. Clarke has taken "medium and light land farms" as the subject of the first section of his report. Although comparatively little of really light soil under steam cultivation was seen by the committee. Beginning with a medium farm of 300 acres arable and 100 acres grass, in Northamptonshire, on which steam tillage was introduced in 1858, he found a reduction of seven horses, representing a saving of £308 a year, or, after deducting the total outlay for a year's steam cultivation, of £181 as the clear annual gain from this source alone of employing steam in place of horse power. Mr. Edwards, the occupier of the farm, stated that "the work is better done, the land is more forward, not so starved, and the crops are better." The texture of the soil is altered, so that it ploughs easier every year. The land is clean, and the root crops heavy. Mr. Edwards reports that he "should not like to farm without steam."

Mr. Francis Sowerby, Aylesby, Lincolnshire, has been using steam since 1859, and while he has been enabled to lessen the number of horses kept by him, "the great thing is that there has been a decided increase in the yield of cropping since the steam cultivator started. The drainage, too, is improved; and the root crops are eaten off with somewhat more advantage." Mr. Clarke states that "from the mere cleansing of one field, Mr. Sowerby considers that he gained as much as £150 in a single year. This forty-acre piece was foul; had it been ploughed it must have become one mat of twich; whereas, treated by the steam-engine"—Howard's set—"it gave a better crop than it had ever produced." Mr. Dring, Claxby, Lincolnshire, finds that the results of steam cultivation on his farms are "better drainage from breaking into the 'sole'; on the better land a greater breadth of corn is grown, and the crops are more productive, from being planted at the proper time and none out of season."

Passing on to the heavy land section, we find that on Mr. Bignell's farm, Bucks, the drainage of cold, stiff clay is decidedly more effectual from the deep stirring of the steam-cultivator; that the high-backed lands are levelled, and yet water does not stand anywhere, "even in the present wet time." On "the Britannia Farms," in the possession of Messrs. Howard, Bedford, Mr. Clarke and his fellow inspectors found a splendid field of mangolds, "one of the few first-class crops we saw," he says, "in all our journey," also magnificent swedes and turnips, "though the particular piece has not been at present drained." Similar testimony is furnished as to the results of steam cultivation in all the stiff clay farms visited. To give but one further example:

"Mr. Holland states, with reference to greater yields, that by his experience, and by comparing notes with other steam-power employers in that locality, he thinks 'it may be said that the increase per acre attributable to steam cultivation may be put at eight bushels per acre.' Mr. Clarke proceeds to say, 'This is remarkable evidence; the steam-plough appears to give Mr. Holland from £190 to £270 a year by saving in tillage labour; it gains him a quarter of wheat, say £2 10s. per acre, over half his farm, or £450; which together amounts to £640, or £720 a year, equivalent to nearly £2 per acre on all the arable land! Then, beyond this, a further profit must accrue from the extra quantity of roots, which feed more live stock."

With such reports of the efficacy of steam cultivation in England, we cannot think it will be very long before some enterprising spirit with the necessary means at its disposal will introduce this efficient power into Canadian agriculture.

Notes on Trade and Agriculture in England.

We extract the following observations on topics of practical interest to the Canadian Agriculturist from the report of a speech delivered recently at the Corn Exchange, by Mr. Worts, President of the Toronto Board of Trade: He described the immense quantities of shipping to be seen at Liverpool, and gave a sketch of the large business done on the docks, and the vast sums daily changing hands there. On the Corn Exchange, he said, he noticed there was very little Canadian grain to be seen. He only noticed a few lots of barley and some Lower Canada oats of very poor quality. This, however, did not surprise him when he remembered that for Canadian grain there is now as good a market nearer home. Canadian oatmeal, he found, was "selling there in large quantities, and at that time at profitable rates. The barrels in which it was shipped sold at two shillings each, which he thought a good price, and he advised Canadians to take advantage, of this, and send whatever products they were shipping to England in barrels. He then referred to his visit to Manchester, and showed that the much talked about decline of the cotton trade had in no way affected this great cotton market, as far at least as externals could be seen. It was increasing, he thought, in wealth and manufacturing interests. He described a few of the cotton mills which he had visited, and explained the colossal proportions upon which they are conducted and worked. He next spoke of his visit to Leeds and of the traction engines now in use in England. In the streets of that city, he said, he saw these engines at work carrying heavy loads, moving as easily and noiselessly as any ordinary waggon, no more notice being taken of them by the public than of any other description of vehicle. He was glad of this, as he had heard it feared by many that the engines would make so much noise and move along with so much difficulty that their use would be prohibited on the common roads of Canada, which some people supposed were intended only for horses. From what he had seen in Leeds, however, he was certain that the engines would not injure any macadamized road, and would in no way inconvenience the ordinary traffic of a street. His announcement that he had purchased a traction engine in England brought down loud applause. He said that in the course of a few weeks he hoped to be able, practically, to demonstrate to the citizens of Toronto the suitability of such engines for the work of this country, as the engine he had purchased would be here by that time, and he would drive it through the streets of Toronto. After speaking of his visit to some cotton mills in Leeds, he next referred to what he saw in Mark Lane, London, which, he said, was to him as a Canadian grain merchant, the most interesting place in the metropolis. He there saw some samples of Russian and Californian wheat. The Russian wheat was, he thought, not so good as the Canadian while the Californian grain was no better than what used to be grown here a few years ago. In speaking of agricultural matters, he said that his native county, Suffolk, and the neighboring county of Norfolk were so highly cultivated and so rich in pasture and arable land that he could compare them to nothing but a beautiful garden. The farmers there, he found, were not at all deserving of the sympathy which it has become the fashion to bestow upon the tenant farmers of England. They were all well off, and could easily raise on their farms forty bushels of wheat to the acre. Fifteen bushels, he said, would pay all expenses of cultivation, leaving the farmer a large profit. This handsome result, he explained, was arrived at by the judicious use of capital on the farms, using the best manures, &c., &c. He could not see why the same results could not be arrived at in Canada, where the soil was naturally as rich as in Norfolk or Suffolk. At the Norwich fair, which he attended, there were 13,000 sheep, all within view, penned up for sale; in quality, however, the animals were no better than those in Canada. He remarked that there were few black-faced Norfolks amongst them, and on enquiry he found that that breed is rapidly dying out. In Norwich he visited the great establishment of Messrs. Coleman, of mustard celebrity. To give an idea of the immense business done by this firm, he mentioned that they pay no less than £10,000 per annum to their commercial travellers alone. He made a thorough inspection of the flouring mill owned by the firm and described the new machinery which he saw in operation there. He then referred to the proposed cheap railways, stating that when in England he had made himself acquainted with all the information on the subject that he could. He expressed in a marked manner his confidence in the system as applicable to the local trade of this country, stating that although affording less facilities than the usual style of railways for the carriage of an enormous

through traffic, such as that from the great West over the New York Central line, they were yet, he found amply sufficient to accommodate the wants of any local trade in Canada. During his stay in England he had conversations with eminent engineers; among others with Sir Charles Fox & Sons, who stated that it was generally erroneously supposed that because the railways were cheap they were necessarily flimsy. This, he was assured, was the reverse of the fact. Those lines already constructed in Australia, Norway and elsewhere being, he was assured, as well built as complete in their outfit, and as effective for the purpose for which they were required, as any rail ways in England.

Agricultural Department of the Paris Exposition.

A WRITER in the *North British Agriculturist* thus speaks of the Agricultural display at the Paris Exhibition:—

At the Champ de Mars, under separate roofs, are to be seen, either in a complete form, or as models, the systems of agriculture adopted in many different countries—from the north of Russia to the sunny clime of Egypt. From America are shown many labour-saving machines, mowers, reapers, and horse-rakes; some of these machines are so carved, painted, and gilded, as to satisfy the visitor that they were intended only for show. Comstock's horse or steam digger or spader was shown at work at Billancourt, and it wrought tolerably well—a model being exhibited here. The Americans also exhibit steel forks, axes, spades, and shovels, all excellent—being very superior to English-made ones, from their lightness and strength. In this department I saw also one of the newest "ideas" in machinery—a hand-hoe which records the number of strokes which the labourer using it gives the soil. There was also a capital display of single-furrow and turn-wrist ploughs; this latter is the simplest and most efficient implement of the kind yet constructed. Mechanists may learn much from the American manufacturers—everything they make is so constructed as to be of the least complicated form, for effecting one particular object. They have great advantages over English manufacturers in making machines of wood, as they possess the finest timber, although the price of the best descriptions is considerable. Their wheel carriages, and every machine for rapid movement, combine lightness with strength. I am satisfied, from what I have seen of American agricultural implements, that were English manufacturers to study them thoroughly they would derive many useful hints from them. It is, I think, a great pity that a complete display of their implements and machines could not be had in Scotland; for although they are not exactly suited to our needs, yet with certain alterations they would suit us better than those of many English makers.

In the English machine and implement department which occupies a large shed in the Champ de Mars there is a considerable display of steam cultivating apparatus. Messrs. Fowler & Co., J. & F. Howard and Ransomes & Sims, have all excellent stands. Messrs. Howard show their new reaping machine—a model of which Mr. James Howard brought from the United States. Judging from its appearance in the exhibition, I think it will not be easily overpowered by any kind of crop being adapted alike for light, indifferent, and heavy crops.

In the Russian and other Continental departments, it is quite apparent that many implements and machines in use in these countries are borrowed. Even Finken's plough, driven by water, is copied. This invention of a Perthshire schoolmaster was first shown in operation in that county. Messrs. Fowler having acquired the patent, it is embodied in the steam ploughs manufactured at Leeds. There is a curious display of straw-cutters, turnip-slicers, and corn-bruises copied more or less correctly from English machines; many thrashing machines, some consisting simply of a drum and shaker, though in form differing little from Meikle's. Of the various machines for dressing grain, those in the French department are worth noticing. It is quite evident that the long rotary screens of which Ransomes and Sims produce such a quantity, are copies—such machines have long been in use in France. Many of the French machines are excellent, separating and sizing the grain with very apparent success.

No section of rural operations is unrepresented in the French department. The simplicity and cheapness of the French-made implements and machines are points in their favour; but assuredly none of those I looked at would in Scotland be even compared with the better descriptions made in England. At Billancourt, all the different agricultural implements and machines can be inspected with great freedom; and certainly the English manufactured articles com-

Mr. Timens, of West Salem, Marion Co., Ill., has sold his crop of strawberries of forty acres of land for \$50,000.