

Rennie, of Toronto, will rank along with that of Cyrus W. McCormick, whose invention of self binders is to-day bringing so much joy to the jaded harvesters of many climes.

This machine, like every other monument of useful invention, is the result of years of patient thought, and a most discouraging outlay, but we have now no doubt whatever that the day of compensation is at hand.

To satisfy ourselves regarding its capabilities we interviewed Mr. Adam Hood, of Hagerman P. O., Markham, a successful and reliable farmer. He was the first who ran the machine in its perfected form, and has probably done more with it than any other man living. On his own farm Mr. Hood has cut twelve miles of drain with the ditcher, and eight miles for other farmers. With it he has cut 200 rods in a day and placed the tiles. The best that he had ever done in a day by hand was 8 rods.

At an exhibition of machinery in New Jersey, June 15th, 1884, he cut 35 rods of ditch inside of 40 minutes, including the laying open with the plough. On the 3d of May, 1884, at Columbus, Ohio, where six ditching machines competed, Mr. Rennie took an easy first. The interest taken in this contest was very great, and after it was over our successful Canadian was lionized by the enthusiastic Americans, who are manufacturing the machine at Newark in larger numbers than they are being turned out in Toronto.

Mr. Hood assured us that the ditching machine would work in any ordinary soil, wet or dry, hard or soft, except a gravelly soil, which, of course, needs no draining. In wet ground there must be sufficient solidity to bear up the four horses working it. In hard pan it is necessary that one or two hands loosen the earth with the pick, and where stones abound these must be thrown out by one or two assistants. In one day he cut 150 rods of drain from which two assistants threw out seven wagon loads of stones.

Mr. Hood is quite sanguine that in a free soil the machine will cut 200 rods in a day, but Mr. Rennie modestly places the average for a day's work of ten hours at say, 150 rods, on his own farm, where the soil is stiffer, one day with another. The comparison then stands thus: The cost of digging 150 rods with the machine, which requires two teams and the operator—\$6, including board, the cost of placing 150 rods of tiles is \$1.50, which sums up to \$7.50, or 5 cents per rod. In soil of the same class an average ditcher will cut the drain and lay about 7 rods in a day, for which the charge is about 15 cents per rod, and board in addition. The depth of the ditches in the calculation is three feet. In this latter case, charging board at 40 cents per day, the cost per rod is 20½ cents. Difference in favor of the machine, 15½ cents per rod. In other words, by using the machine the ditches will be cut and the tiles put in position at an outlay which would only pay for the board of the work-hand. Or looking at it from another standpoint, allowing the board of the work-hand to pay the wear and tear on machine, and interest on money invested, there is still a clear gain of say, 10 cents per rod in favor of every rod of drain cut by the machine. On the twelve miles of drain cut by Mr. Hood on his own farm the saving thus effected has been the handsome sum of \$384, a sum which, according to Mr. Hood's calculation, has been saved in twenty days of the working of the machine. There is also the happy consideration that the farmer can do the work within himself with the aid of the ditching machine, which will still further reduce the outlay.

Mr. Rennie put out the first ditcher by regular manufacture, October 18th, 1882. It went to Park-

hill. The number sold to date (July 8th) is sixty-nine, of which three or four have gone to the United States.

It is certainly matter for thankfulness that a machine of this nature has been invented. Since Canada has been settled, we have allowed our open ditches to denude the whole country of immense stores of fertility, which have gone to feed the fishes on the Atlantic seaboard. Seated upon the elevator ditching machine, the farmer with his own horses can tear apart the bosom of the earth at a minimum of cost and lay down the little channel courses which so charm the surplus waters, that in a few brief years very many of our yeomen shall have put an eternal check upon the perpetual waste of fertility.

THE DRIVE HOME.

From the "Seed Farm" we drove to Mr. Simpson Rennie's, some eight miles distant. It is certainly a beautiful farm, and well worthy of the honors it has received. The mangold drills were as straight as an arrow's course, and everything, even in the minutest details, in exact order, and the crops upon it very fine. A lack of tree-planting along the highway seemed a weak point among so many strong ones.

At this gold medal farm, however, we saw a hedge of Norway spruce surrounding an orchard, which formed a perfect wind-break though but 11 years planted. This hedge, which was a model of beauty, had been trimmed back at nine years and again at ten.

Still homeward bound we called at the very beautiful farm of Mr. George Morgan, of Scarborough, whose out-buildings were simply charming in their neatness, and the fences are unexceptionable. The crops, too, were good, but a meadow that we crossed would stand some more feeding. On the 123 acres comprised in this farm there are 3,500 rods of drain, three feet in depth. Mr. Morgan has reaped a return sufficient to pay the outlay in about two years.

Nightfall, which brought the happy husbandman back to his rest, shut out the vision of this rich region long before we arrived, as all sublunary pleasure seekers do, at the place of starting.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Horse Breeding.

In urging our farmers to breed their mares with more regard to value of the produce, and to its peculiar testing, than is the ordinary custom, we have pointed out the demand in the American market for carriage and saddle horses. The number of these animals purchased every year in Canada by buyers from Boston and New York is only limited by the number to be picked up here. If we do not have to welcome buyers from the wealthy western cities, such as Chicago, it is because in that section of the United States thoroughbred stallions have been used on ordinary mares, and a native supply is at hand to fill the demand of the moneyed classes for horses of neither agricultural nor trotting capacity. The Kentuckians supply Cincinnati, and even Philadelphia, with half-bred horses for saddle and carriage purposes, and it is a most profitable industry for the horsemen of that State. But in the New England States the use of thoroughbred stallions has long been confined to the horses of the few millionaire racing men who breed for the turf, and they have to go elsewhere when looking for an ordinary medium priced half-bred animal, not of trotting pedigree. The reason that Canada is an excellent field for the buyer in search of a gentlemen's horse is that for many years past thoroughbred stallions have been dotted about

the country, not very thickly, it is true, but in sufficient numbers to get us a name for the production of half-bred hunters. All thoroughbred sires are not equally impressive, but we cannot call to mind one that has not left in his circuit some desirable representatives, eagerly snatched up by the caterers for the foreign market, or Canadian hunt clubs. A few that we remember have been able to get good sellers out of any kind of mare; notably Jack the Barber, Predictor, Vicksburgh, Don Juan, and latterly old Terror has done yeoman's service in the ranks, besides siring more racers than any of his predecessors. A little more development in this direction would be attended by correspondingly increased receipts. At the present moment there is a great scarcity of "ride and drive" horses, every sound young horse known to have been got by a thoroughbred sire going off like hot cakes, either to American buyers or to the patrons of the saddle in Montreal or Toronto. We do not say that the breeding of heavy horses is not as profitable an undertaking, and attended with less risk and even a surer demand; but we do say that hundreds of the mares now put to itinerant Clyde or Shire stallions might be put to the thoroughbred sire with a better prospect of success. A cart mare to a cart sire; but if you could avoid an ill proportioned mongrel—that is to say, a low priced colt—do not use the heavy hairy-legged horse upon your ordinary road mare. Grade upwards and put her to the best cross for all general purposes, the thoroughbred or blood sire. We should like to see more of these animals brought into the country; not racing weeds, but sound great strapping sixteen-handers, found a little slow for racing, with the strength and substance to carry a man weighing over 200 lbs. They can be got for less money than they cost as yearlings. The farmers' sons of Yorkshire, and some other counties in England, have all of them a liking for a bit of blood, for they know that if the hit is a lucky one they will be able to sell to some representative of the moneyed class at a high figure, while in any case the colt will be one otherwise available for light agricultural work. Our own young farmers are too often led away by local prejudice to go for speed, forgetting that there is nothing cheaper than moderate speed in the shafts: and that phenomenal speed is seldom attained. There is absolutely no trade value to the minute between the time of a 3½ minute horse and a 4½ minute horse—and the great majority of trotting-bred animals range between those points. Unless maximum speed can be got out of a trotter he is soon relegated to the cheap buggy class, after having been tolerably well ruined in the effort to ascertain his capabilities. But the young farmer can drive—everybody thinks he can drive—whereas the chances are he feels himself anything but an artist in the saddle. Therefore he patronises the trotting sire, and in nineteen cases out of twenty raises a cheap buggy horse not heavy enough for farm work, nor fast enough for the trotting track, and not eligible as a "ride and drive" animal, which will always fetch from \$250 to \$300 for use in a city. Anybody can see in teams coming into our market towns on a Saturday dozens of exactly the mares to put to a thoroughbred sire, and which should be put to him in preference either to a Clyde or a trotting stallion; presuming that it is the owner's desire to make money out of the colt, and to regulate his horse-breeding by the same considerations that affect his choice of this or that wheat, or his preference for one variety of grass seed over another. To emphasize our advice we will endeavor to characterize the mare. She shall be one with no hereditary unsoundness of wind or limb: with well sprung ribs, and a level belly-line; with clean legs and feet; weighing over eleven hun-