New Inventions.

We have received from Mr. Shirley Going, of Wolf Island, a common wooden water pail, the improvement of which consists in the manner in which the handle or bale is attached. In the pails now in use the eyes are apt to be bent or broken, and often the pails are to be found without handles. Mr. Going's invention consists in an attachment to the side of the pail, thus preventing any projection on the upper edge. The pail can be turned over and used as a seat without injury.—The attention of manufacturers will be drawn to this improvement.

LAMB & WARREN'S SUBSOILER.

During the past month we had an opportunity of seeing Messrs. Lamb & Warren's Subsoiler at work. It was exhibited a short distance from this city, and pulverized the land completely five inches below the bottom of the furrow. All that saw it were well satisfied. The principle on which it operates is a good one, and it was much easier drawn than we anticipated, one team being able to plough a furrow and subsoil at the same time. The land operated on was firmly packed, sandy and loamy subsoil; of course it would require more power if worked on hard clay, and we think the machine would also have to be made heavier and stronger if worked on such soil. The proprietor informed us that he is getting up just such a one as we described.

We feel confident that much good will be done by the introduction and use of this implement. We presume it will be on exhibition and put in operation at the fall shows throughout the country. If an opportunity occurs we would advise you to go and see it work, and you cannot then fail to see its utility and the efficient manner in which it does its work.

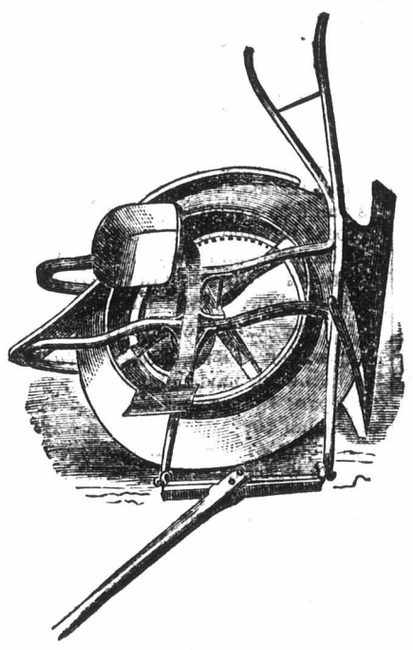
The subsoiling is done by an attachment to the plough in the form of two long cultivator teeth fastened to the beam close to the handles. They can be easily raised or lowered to suit requirements. A small wheel runs on the furrow between the landside and the mould-board. This wheel, it is claimed, causes the plough to run with 200 lbs. lighter draft than it would otherwise do. The wheel is attached to an iron bar, and the bar to the beam.

Subsoiling is a work that has not yet been much practiced in Canada, but must be one of the labors of successful farming, more particularly in the stubborn clayey soils.

NEW AND IMPROVED IMPLEMENTS.

It is really astonishing to see the complete revolution that has taken place by the application of machinery during the past 50 years. If we look at the work that is now done by steam power, we are almost led to wonder however the labor was performed before; the fact is, it was never performed. It must be a source of wonderment to all farmers that remember the old mode of cutting, harvesting and cleaning grain, to compare the dream of the past with the facts of the present age. The above illustration represents another most valuable invention; open ditches are needed and roads must be made. To have a machine worked by four horses, and three, which do the work of a hundred, as this machine is said to be capable of performing, is another wonder.

The certificates below place its powers beyond doubt. Mr. Carter's Tile Ditcher has done much good, but it is destined to increase the productiveness of our soil to an incalculable extent. They are gradually becoming spread over the country.—These open ditchers will be in as great a demand; then there will be Lamb and Warner's Subsoiler to the rescue. With the use of these three machines, many millions of acres of hard, tenacious soils—even swamps, bogs and marches—will be made to become the most valuable. Our common farming lands will, by their use, prevent the great loss from excess of moisture or excess of drouth. These implements should be procured by farmers uniting and forming clubs, as all require them and comparatively few can afford them. County Councils should encourage the introduction of the first machine; the first one in a section teaches the whole section; but there are hard, knotty, stubborn heads that will hammer, pound, and grumble about the cost. The stubborn animals almost make us vexed; they cannot be made to see the immense profits that must result from thorough drainage.



CARTER'S DITCHER.

On Tuesday we had the pleasure of witnessing the action of Carter's Open Ditcher, Road Grader and Sub-soiler, which was worked on Sydenham-st., Aylmer. The road needed makeing up, and early in the morning the machine, drawn by four horses, was started to work, and soon any person who witnessed its action, could see that the invention would prove to be a great boon to all who needed any kind of work for which it is suitable.

The machine is of simple construction. The main fixture is that of a plow, driven and used in the ordinary manner. Attached to this is a large wheel, which lies on its side and revolving as the plow passes along cutting a furrow, takes the earth form plow and carrying it round the flange of the wheel, drops it in the middle of the road a distance of 7 feet from where it originally lay. Thus the machine on Tuesday cut a ditch on each side of the road to any required depth, and threw the earth into the middle, not in large quantities, but equally distributed across and along the road. In this operation the two machines, which are usually employed on such work was combined in one, and the work done in the same time as any ordinary plow would have taken to cut the ditch. The whole machine worked admirably well, and gave general satisfaction. The inventor, Mr. Carter, was present, as well as a large number of farmers and gentlemen of the surrounding district.

On one half the road the machine cut through heavy sod, and it worked at the same rate as it did on the part most used, and which was gravel. When the machine, after four hour's work, was removed the road, a width of 12 ft., nearly half a mile long had been completely graded up with two ditches cut, and the foundation of the road left intact. By this machine work can be accomplished which would take fully a 100 men to get through in the same time. This machine will not only be of such great advantage for road work, but can be turned to extra benefit on farms, etc., for making open ditches, subsoiling, &c. The earth, as it passes through the machine, is completely pulverized, and dropped so steadily and gradually that it goes through its work far more completely than a spade. This, we know, will be highly beneficial for farmers. It will effectually grade from three quarters to one mile of road per day, and the same amount at least of open ditch.

The machine, we should judge, weighs between 500 and 600 pounds, and the price will be in the neighborhood of $150—a low price, we should think, when taking the capabilities of the machine into account.

Indeed, from the success which has attended Carter & Stewart's Ditcher, it can be seen that this machine will, as it becomes known, prove to be in general demand, and give universal satisfaction.

Farmers' Pic-Nic.

In our advertising columns will be found a notice of the Middlesex farmers' pic-nic. The Queen's Birthday generally finds farmers very busy in finishing their planting and seeding, and Dominion Day is in the haying season. In this section both days are generally devoted to horse racing as the principal amusement, and farmers are often unable to spare time for either of them.

It has been thought advisable to select a time of greater leisure for the farmers, and, accordingly, the farmers' pic-nic has been established, the object of which is to give them a better opportunity for intercourse, exchange of ideas and opinions for the old, and for amusement for the old and young. The locality—Port Stanley, Elgin Co.—is a good one, and many of the farmers of that county generally attend.—Swings, run-a-rounds, a dining shed and other conveniences, such as hot water for tea. A steamboat is generally in attendance to give visitors an opportunity of a sail on the lake, the sight of which will please all that live in the interior of the country.

The farmers' pic-nics that have been held at Port Stanley have given pleasure and satisfaction to those who attended; to many they may appear tame and quiet affairs, but as yet we have not heard one complaint. All appeared to enjoy themselves and returned home greatly invigorated, and, we believe, in some measure improved.

There are generally some short addresses, amusements of various kinds, athletic sports and dancing. The young should have recreation and change; it invigorates the old, and the interchange of thoughts and ideas is often profitable.—We hope yet to hear of a day being set apart in each county for a farmers' pic-nic.

We would say: Go, and take the young folks.

Danger.

THE SMALL POX.

While at Ottawa we went to see a correspondent living about 4 miles from the city, and when we were within a mile of his residence, we stepped to the door of a house close by the road to enquire the way. A girl came to the door with her arms and face spotted all over, and by the stove sat a young lad with the small pox out on his face as red as the fire. Although we have been vaccinated three times, we did not stop to ask any more questions at that establishment.

QUERY.—Would it not be well to have a notice placed on all houses infested by the small pox, and should not our counties have hospitals for the patients? It is our opinion that a united expenditure for that purpose would be a great saving to the country.

Root Growing.

At a meeting of the Hamilton township Farmers' Club, held last month at Cobourg, the subject of root growing was freely discussed. We abridge a report of their observations:—

The land intended for root crops should be wheat or oat stubble, ploughed deep in the fall, ploughed again in the spring, and the land made as fine as possible by harrowing, cultivating, and rolling; then plough again immediately before sowing. Then drill thirty inches wide, and draw manure, about thirty cart loads to the acre, putting the manure in heaps in every third drill, and spreading it evenly in the bottom of the drills. This leaves the manure immediately under the roots of the turnip. Run the drill plough in every other drill so as to half cover them; then take about 300 lbs. of salt and 200 lbs. of plaster to the acre, mixed, and put it on the top of the manure by hand. Then run the drill plough so as to cover all up. Sow turnips from 14th to 20th of June. In sowing, take a seed plough and fasten it behind a light roller, sowing one drill up and another down, moving the drill from side to side at each end, so as also to roll the drill you are sowing and the one you have sown, sowing about three lbs. of seed to the acre. Turnips should be thinned as soon as possible, so as to keep the weeds down. A one-horse cultivator should be run between the drills before thinning.

In the cultivation of Mangold Wurtzels I would not advise any person to try to grow them on very light land, unless they have an unlimited quantity of the best manure. What has been said about the cultivation of turnips will apply very much to Mangolds also, except that you are surer of a crop if they are sown by hand in small holes ½ of an inch deep and about one foot apart, and then covered in lightly. Mangolds should be sown about the 14th of May.

Land intended for carrots should be treated much in the same way as for turnips, except that it should be manured in the fall. A good plan to add to the length of the carrot is to drill the ground, then subsoil in the bottom of every drill; then split the drills so as to cover up the part subsoiled, thus having the carrots sown directly over where subsoiled. This will allow them to go deeper into the ground.

More labor and care is required in the cultivation of root crops than in the cultivation of any of our other crops, but when we see the improved state of our land after them, the increased amount of feed for our stock, and the more valuable manure in consequence of feeding roots, we must admit that we shall be amply repaid for all our care and labor, nor can we see how any man can be a successful farmer unless he grows a large root crop.

Others did not approve of putting the manure in drills for turnips. They thought that if the manure was put on the land and well ploughed in and mixed with the soil, it would do better, not drying up so much, and the young turnips standing the drought better.—Putting the manure in drills under the seed answered well in the old country, where it was the system practised by good farmers, but here the drought is more severe, and green sod, manured and ploughed in the fall, and then wrought to a fine tilth in the spring, does well for turnips. It leaves the ground rich and moist, and it retains the moisture. Some make the drills for turnips 28 inches apart, for carrots 18 inches. Some put in less seed than 3 lbs., but if the seed all grows and escapes the midge, much less seed will do, but it is safer to sow much than to sow sparingly.

When planting Mangold Wurtzels it is well to soak the seed twelve hours before planting, as it will make them come up quicker and better. Mangolds ought to be taken up a little earlier in the fall than turnips, as they make their growth earlier and are easier hurt by frost. They should be kept in a dark place. They keep very well.

Miscellaneous.

A block of land containing about 5,000 acres, near Salmon River in Victoria county, has been laid out and set apart by the government for the emigrants expected from Sweden. The situation is convenient to the River St. John, as well as to Grand Falls. The sod is excellent, and when this tract of land is intersected by the Rievere Du Loup Railway the settlers will have ready access to the best of markets.

The Hon. Surveyor-General and the Hon. Geo. White have been at Grand Falls on business connected with this matter, and have advertised for tenders for the construction of two log houses, 25 x 60 feet, for the accommodation of the expected emigrants. The buildings are to be completed in the month of June, about which time the Swedes are expected, the number for whom accommodation is provided for being about two hundred. The new comers will be landed at the mouth of Salmon river, whence it will be but a short distance to their temporary shelter.

In Montreal they are projecting the making of a tunnel beneath the St. Lawrence, from the city to St. Helen's Island, from which, by a short bridge, communication can be had with the southern bank of the river. They propose that the tunnel be 32 feet wide, with double tracks, for rail cars and a carriage way. The *Witness* says that the present time seems specially suitable for the undertaking, seeing that the Northern Colonization Road, which is to be a link of the Northern Pacific will absolutely require a free communication with the United States, and the Lower Provinces.