

resist the evil effects of alternate freezing and thawing during the winter months. Both grass and clover are hardly enough to resist safely any low temperature that is possible to occur, if that temperature is steadily maintained. But a very moderate degree of cold alternated with warm spells is ruinous to meadows. The alternate contraction and expansion breaks off the roots of the grass, and draws the tap roots of clover entirely out of the ground. Many acres of sod are thus so loosened in a few alternate days of sunshine and nights of frost as to be readily rolled up like a carpet, and whole fields of clover eaten bare before winter present a surface covered with roots lying loosely upon the surface. This is the consequence of the fatal mistake of pasturing in the fall. A farmer had better have given away half his stock or borrowed the means of buying extra feed than have made this mistake.

Just at the present time it will amply repay the farmer to consider the condition of his meadows. The young clover from which the protection of the foister crop has just been removed is weak and helpless. To turn stock upon it is sure destruction. Even pigs, calves or lambs will destroy where they bite. But sheep or horses will destroy everything, for they will leave no part of a field untouched. It will be far better to give the young clover a liberal dressing of plaster to aid its growth. Not, as is wrongly asserted by some agricultural writers, that the plaster will attract moisture—that it cannot do any more than the soil itself may. For gypsum as used upon our fields has already all the water chemically combined with it that it can appropriate. It is the calcined plaster that is anhydrous and combines with water. And as it is doubtful in what way plaster acts upon the clover, and as it must enter into solution before it can act in any way, and then only by the roots, the theory that it helps the clover by absorbing water is not to be relied upon. But that it helps the young clover is undoubted, and aerefore it may be profitably applied.

But the negative, but not therefore inefficient, help of carefully preserving it from injury by pasturing, will be found of the greatest service, even if the positive aid of a fertilizer be not forthcoming. Where well established meadows bear a heavy aftermath, moderate pasturing may be permitted. But great watchfulness must be exercised that it be not overdone. The droppings to the stock should also be spread and not allowed to smother the grass which it covers. At any rate ample covering should be left upon the surface to prevent the ground from thawing during a few warm sunny days in the winter, as it is then that the damage is done. If the fall should continue dry, there will be little growth and caution may be profitably exercised from this time forth.—*A Penn. Farmer, in N. Y. Tribune.*

A Frost-Proof Corn in England.

It would be strange indeed if we should be indebted to England for a variety of corn hardy enough to resist severe frosts. A statement is, however, published in the English papers that "Cobbett's thousand-fold acclimated Indian corn" has been successfully adapted to the cool and variable climate of England, in which heretofore our corn could not be grown or ripened.

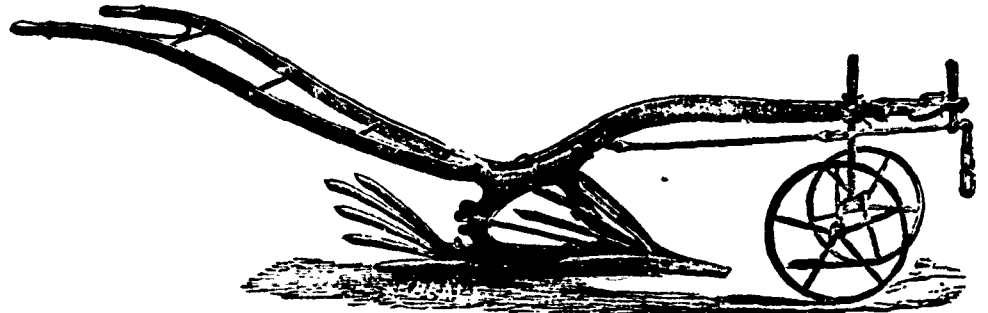
William Cobbett will be remembered as the English liberal agitator who for some time had his residence upon Long Island. His son, William Cobbett, has long been endeavoring to introduce the growth of corn into England, and now it seems that he claims to have succeeded. We learn that upwards of three acres of this acclimated corn is now growing at Houndslow, near London, and that it has successfully withstood some severe frosts with great hardihood, and is now very promising. If our neighbors in the East have really produced a frost-proof corn so prolific as is made to appear by the sounding title given to it, and which we have quoted, it will go to shake our faith in our permanent dependence upon Europe as a market for our surplus crop of this cereal, and, on the contrary, cause us to look thither for a supply of seed of so valuable a plant. But we are somewhat doubtful as to the truth of this statement.—*New York Weekly Tribune.*

How MUCH TIMOTHY-SEED—A correspondent of the *Rural World* writes:—"I sow on good land one peck, on poor land one and a-half to two pecks, for the reason that on good land the seed will stool more, and if the seed is good and the land in good condition, a good stand will be secured from one peck, and the first crop will not have to be allowed to become dead ripe, that the seed may scatter to help out the stand that ought to be had from the seeding. Many farmers practise this plan, but it is poor economy. The liberal sower will reap liberally."

Agricultural Implements.

A Potato Digger.

Something new in the shape of a potato plough has recently come into general use in many parts of England, and has been found to save much time and money. The implement resembles in many respects an ordinary plough, but the mould-board, instead of being a solid plate, is made up of several iron strips converging from a common point of intersection. As the ground is raised over them it crumbles and falls in between them, thus throwing the potatoes out on the surface. Again, should any escape the fore-prong, another set is arranged something like a spray behind the mould-board by which the soil is again sifted. The following cut illustrates the digger:



With a pair of horses, three to four acres of potatoes can be raised in a day; it leaves fewer in the ground than when dug by hand, and raises the roots without bruising or scratching the skins. For earthing up potatoes, it will be found a better implement than the ordinary ridging plough, as it throws the earth lightly on to the plants, and the draught is easier. It may readily be converted into a ridging plough by adding a pair of breasts.

Treble-Action Turnip Cutter.

At the recent Provincial as well as the Central and many of the local Fairs this year, amongst the various agricultural implements exhibited was one by Mr. John Watson of the Ayr Agricultural Works which, from the very general attraction it caused, deserves, we think, something more than a mere passing notice. The machine in question was a treble-action turnip cutter for the purpose of preparing that article of food for sheep, and it derives its name from the fact that by a very simple change in the box-bottoms and a reversal of the crank-action, turnips may be cut in three different ways, from the simple slicing to fine pulping. The machine itself is made wholly of iron, except its supports, which are of strong hard-wood. It is small enough to be handy for removal from place to place. Its knife-cylinders, or, in plainer terms, the iron wheels in which the cutters are fastened, are two in number, one at each end of the crank-shaft, and of course both revolving inside the box. The peculiarity of the box is its bottoms, of which there are also two, both hinged below, and adjusted so as to lean as it were with their tops against the sides of the box. In this way either of them can be folded over so as to rest against the side opposite, and thus change the direction of the "feed." As an ordinary slicer, turnips are fed in the usual way; the knife or cr., set in motion, and the work is accomplished. By simply reversing this motion the roots, instead of being sliced, are cut into about half-inch strips, just suitable for sheep. The next change is made by emptying the box, folding over the bottoms and thus altering the feeding direction, so that the turnips fall towards the opposite side of the box, and thus come under the influence of the third set of knives, which are fastened, and resemble the points of a series of 3 chisels, in the

opposite cylinder. The effect now on the turnip is to thoroughly pulp it. These movable bottoms are cast-iron plates, and the only objection we heard offered in connection with any portion of the machine even by rival manufacturers, was that they were possibly too weak—a defect which could be remedied at once by casting them a shade or two thicker. The treble action cutter is an English machine, just imported by Mr. Watson, who is also, we understand, having two other English implements of different classes brought across the Atlantic. Energy like this cannot be too highly commended, and it is to be hoped that Mr. W. will meet with the encouragement he deserves at the hands of the Canadian farmer. In the case of the machine just described we feel assured his success is secured.

A Combined Grain Harvester and Thresher.

The *Brandon (Wis.) Times* gives the following interesting account, which illustrates how time and money are often spent in perfecting an ingenious invention, but one which can never come into general use:—

When we first settled in Wisconsin twenty-three years ago we remember of hearing among other wonders of this great "out west" that there was a machine out on Green Lake prairie, that cut and threshed the wheat at one operation and delivered it in the bag ready for the market. This machine was in operation on the farm of Hiram Moore, in the town of Green Lake, the past week, and naturally attracted a large number of visitors, from fifty to one hundred going there each day while it was running. Mr. Moore has been at work on this machine upwards of forty years, and now considers it perfected. He has spent at least \$40,000 in his experiments on this machine, and forty of the best years of his life. His zeal in perfecting his great idea of a model harvesting machine led him to neglect to take out patents on separate parts thereof as they were perfected, which has resulted in pecuniary loss to him and in enriching others. There is no doubt but Hiram Moore was the inventor of the scalloped sickle, that made a fortune of twenty-five million dollars for Cyrus McCormick. Mr. Moore was the inventor, but McCormick got the patent and made the money. A number of our citizens visited Mr. Moore's farm a few days since, and from them we get the following description of this mammoth harvester:—

The machine weighs about five tons, but can be drawn by one span of horses when out of gear. It is drawn by 16 horses; when in operation cuts a swath 12 feet wide. It has cut forty acres per day, and cuts and threshes about 100 bushels per hour. It only takes eight men to manage the machine and put the grain in the granary ready for market. Those who have witnessed the operation of the machine say that it does its work perfectly in every respect, cutting and threshing the grain as well as it can be done in any other way. The machine is perfectly manageable, and can be raised and lowered to cut the grain at any desired height from the ground. The sickle differs from those in common use on reapers, in that it is in a semicircular form. From the sickle the grain is carried by an apron to the threshing cylinder, whence it is discharged into a large circular wire screen some five or six feet in circumference, where the wheat is separated from the straw and chaff. Another apron under this catches the grain and takes it to the fanning apparatus; it is raised by a short elevator and delivered into the bags. The machine can be built for about \$1,000, and the cost will probably operate against its being extensively used. There