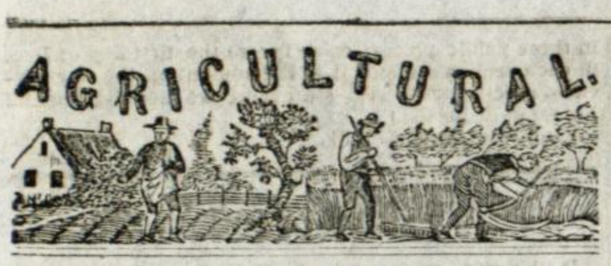

WINTER.

When gusts of wind, with rain and sleet,
Wildly against the casement beat;
Past creaking signs the tempest roars,
And lazy maids let slam the doors;
Then down the chimney puffs the smook,
And nature yields to winter's yoke.

When horses' hoofs, well shod with steel,
Clang on the frozen earth a peal,
And shooting stars attract the eye,
And nothern lights shine flamingly;
Then winter with its woonderous might,
Bridges the rivers in one night.

When young men stamp to warm their toes,
And purple turns the drunkard's nose;
When girls are wrapt in endless shawls,
And slippery roads give hurtful falls,
Then winter's snowy mantle's spread,
A coverlet on nature's bed.

When kine are huddled in the yard,
And muddy lanes turn crisp and hard,
When frost hangs white upon the beard;
And limbs are numb, and eyes are bleard;
Then, for the badly clad and poor,
Cold Winter makes the fires roar.

When deep snow cakes beneath the feet,
And chilblains itch with burning heat;
When starving birds the homestead seek,
And robin's voice is low and weak,
Then sloppy roads, and dripping eaves,
Tell that cold winter shortly leaves.

[From the Country Gentleman.]

O'RIELLY'S AMERICAN TERRACULTOR.

On the 7th instant, several gentlemen were invited to witness at Rochester the operation of a new machine for loosening and pulverizing the soil, which has been constructed under the care of Henry O'Reilly; Esq., widely known for his energetic and successful labors in extending the lines of telegraph throughout the United States. This machine combines the essential features of Evans' Rotary Digger with Vernam's improvement on spading machines, and its object is a deep and thorough pulverization of the soil, not by simply inverting, as with the plow, but forking it up, and tearing it to pieces down to a depth of eight or ten inches.

The trial was made on the grounds of Ellwanger & Barry, two miles south of the city. The soil was a medium loam, free from stone, and the ground had borne a crop of carrots, which had been harvested some time previously. The surface was uneven, and the soil wet by the abundant rains. The machine was entirely successful in its operation, and reduced the soil to a condition quite similar to that of spading or forking, except that it did not invert it, but scattered and intermixed all portions promiscously.

We need not describe minutely the machine, but shall merely point out the principle of its operation. The cut which we (the *Country Gentleman*) have given, would convey a tolerable impression of its appearance, if the seed box behind (with its compartments) were entirely removed, and the heavy box frame were replaced with a lighter one. A series of endless chains are furnished with projecting teeth, like harrow teeth, and by revolving on drums or cylinders, pass around with the same velocity as the horses move onward. The teeth, which are about ten inches long, are thrust down into the soil by the machine, and remain there without moving until the moment they revolve around a low cylinder or roller behind. The short turn which the chains make in passing around this roller, causes the projecting teeth to sweep round in a larger circle, and thus to move three or four times as fast at this point as the chains which hold them. As a necessary result, this increased motion tears the soil to pieces and tosses it backwards.

The machine had been made very heavy in order to guard against breakage on its first trial. The manufacturers are confident that all necessary strength may be given, even if the whole weight were reduced 800 pounds, making it about a ton and a half, instead of nearly two tons, as it now is. It was drawn by six horses, although but four had been used. It pulverized handsomely a strip of land forty inches wide at each passing, and would consequently go over an acre in an hour, at a speed of two and a half miles an hour, if the team could endure it. When the horses walked rapidly, a portion of the earth was thrown off behind two feet high; when they walked slowly, it was thrown only a few inches. The pulverization was, of course, more complete in the former instance. The soil was left as loose as it could lie, the whole motion being to raise it, instead of pressing it down, as with a harrow, or crowding it into a mass as in plowing.

The advantages of this machine, as they appeared to us at the time, are:

1. It throws the soil up and loosens it thoroughly, instead of pressing it down as in harrowing, etc.

2. It forms no subterranean crust, as is always done by the sole of the plow, and the tread of horses' feet in the furrow.

3. The teeth clear themselves completely of all obstructions, and cannot clog, in consequence both of the centrifugal force which they give to the soil, and by their sudden expansion asunder as the chains pass around the lower cylinder.

4. Its working is not attended with the heavy friction between the sod and mould-board always existing in plowing.

5. By taking a wider sweep of land at each passing, a single land is able to direct a larger quantity of work daily than by the use of the single plow.

6. Should culture by steam be adopted at some future time, the use of this machine would be equally adapted to this force, and would not be liable to the imperfect work which the gang plow attached to the moving engine has hitherto made.

On the other hand a prominent drawback is the great weight of the machine—now about two tons, but capable of being reduced to one and a half tons, by lessening unnecessarily heavy portions. We are inclined to the opinion also that both its cost and its weight might be still more reduced by making the drums much smaller, and the endless chains shorter; for we see no advantage in such a large series of teeth standing immovably in the soil at once, the only efficacious part of their working being at that point where they pass the lower cylinder.

Further experiment will be needed to determine the relative cheapness of this mode of pulverizing the earth as compared to plowing. In the experiment which we witnessed, the teams would have worked separately and plowed as much ground, to nearly an equal depth, and with the same ease; but when the machine is reduced in weight as proposed, the results may be much more favorable.

The point which appears to us especially to need further investigation, and which would determine more or less its future value, is:

1. The relative force of draught required (by using the dynamometer) to draw the machine when the teeth are out of the ground or not working, and again with the pulverizing process going on—in order to determine the *actual force* needed to cultivate a given depth and breadth as compared with the same work done with the plow. This is a very important point to ascertain, and has an essential bearing on the economy of the forces. If the power of the wedge in the plow is more than overbalanced by the friction of the weight on the sole, and of the sod on the mould-board, rotary cultivation should be sought as the most economical of labor, independently of the other advantages we have mentioned.

This machine cannot work on stony ground—its weight and complexity, (and consequent cost,) appear to be the prominent objections. We think, however, these might be greatly lessened; and we are not sure but that when perfected it may become the very best machine yet devised, especially in connection with steam power, for the culture of the prairies and great farms of the west. At all events, the thanks of the entire country should be awarded to Henry O'Rielly for his enterprize and energy in this effort to find an improvement on the mode of pulverization, which has now remained essentially unchanged for thousands of years.

Three Vermont Farmers.—One man in Richford has 900 acres of improved land, and besides summering and wintering 19 horses, 85 cows, 120 other cattle, and 55 sheep, bought in the spring of 1859, 120 head of cattle, pastured them through the season, sold them in the fall, and received $500 net for pasturing. He also had one and a half acres planted with French or Osier willow—cut from the same six tons of green, equal to two tons peeled and dried. Cost of peeling and drying 2 cents per pound—worth in market from 5 to 2½ cents per pound. Another man in Sheldon has 300 of improved land, and besides wintering 10 horses, 21 cows, 2 oxen, 32 other cattle and 225 sheep, sold last season $650 value of horses, $600 value of cattle, $400 value of wool, $75 value of sheep, and $50 value of hay and other produce. A man in Enosburgh has 330 acres improved land, and besides wintering $1,090 value of live stock, sold $2,500 value market cattle, raised upon his farm.—[Springfield Rep.

Mulching Strawberries with Straw.—W. Petrie, of Pittsburg, states that the best mulching for strawberries is cut straw. It keeps the berries perfectly clean, and if put on thick enough it will keep down the weeds, keep the ground moist, and prevent the runners from catching. He haul s the straw out to the fields in bundles, and takes a good straw cutter along, with two men to cut the straw and two boys to carry it on in baskets. The straw should be cut short—the shorter the better—and spread on top of the plants quite thick, and the rains and winds will work it down under the leaves, and the fruit stems will shoot above the straw. This mulching should be done just before the fruit stems shoot.

We have no doubt that cut straw makes a very reliable mulch, and for field culture it is perhaps better adapted than any other substance; but for garden beds where the space occupied is comparatively small, there is nothing to compare to tan.—[Telegraph.

Steeping Barley Before Sowing.—A writer in the *Homestead*, recommends that seed barley should be steeped before sowing, in a solution of copperas or blue vitriol, the same as is often done for wheat, says it has the effect of giving it a rapid start, and make it come up strong and dark colored. He thinks the benefit equal to ten extra loads of manure per acre.

Farm Implements and Machinery.

The following from the *Country Gentleman*, on simplicity in the structure of farming implements and machinery, and the selection of such as can be worked by a farmer with what force he may have at his command, without hiring or borrowing, is worthy the consideration and the attention of many farmers in Utah, especially the remarks in relation to thrashing machines. We are not particularly in favor of thrashers of any kind, and those larger, cumbrous, complicated concerns, that require ten or twelve horses and as many men to run them, if labor saving, are far from being *expense* saving machines, and the sooner they go out of use the better:

During the more leisure season of winter, farmers will find it advantageous to examine, repair and improve all their implements and machines. It is in these that agricultural progress has been most strikingly marked within the last twenty years; and the cultivator who does not keep pace with the improvements made, is wasting a valuable element of success. There is less danger of imposition in this direction, than in some others, for a year's use will establish the character of any machine. A knowledge of the principles of machines, added to the experience which every observing farmer should possess, will enable him in most cases to judge with a good deal of certainty before hand, on the value of a new invention.

There are two points that should be always kept before the farmer's eye, when making any provision of this kind. The first is simplicity of structure. A simple machine is cheaply bought, easily managed, not easily deranged, and quickly restored to repair. Other things being nearly equal, always buy the simplest machine. The crowbar is a fine illustration—simple, efficient, used by any one, valuable for many purposes, and never out of joint. The great difficulty in replacing the plow with any other cultivating machine, is its great simplicity. Complex husking machines have all given place to old fashion appliance of thumb and finger, armed sometimes with huaking thimble or peg, but oftener without. Automaton gates have cost thought and money, but most farmers will prefer the simple latch and gate moved by hand.

The greatest advantage derived from machinery, is where the powerful muscles of horses are made to accomplish what before was done by the weaker force of man—as in the mowing and thrashing machine; or where the slow manipulation of fingers with no expenditure of strength, is changed to a greatly increased rapidity of the same work by mechanical combinations, instances of which occur in the garden drill and the sewing machine. Some complexity is here necessary, and is admissible when great speed is gained, but when a machine works but little faster than the unassisted hands, it may be discarded, as a universal rule, unless extremely simple.

2. The second point to observe in providing farm machinery, is to select such as each farmer can work with his own unborrowed forces. A thrashing machine, for example that requires six or eight horses to drive, one half of which must be hired or borrowed for the occasion; or six or eight hands to man it, one half of which must be collected through the neighborhood, before a sheaf can be thrashed, is an inconvenient machine, troublesome, and not at all economical. If the farmer has but two horses and two hands, he should procure a thrasher which they can work. He has then complete command of his own operations, and can, on any occasion, for a day, half-day, or less, set his machine to work, when he wishes a supply of grain for seed or for bread, or staw for his cattle. Many spare or stormy days may be advantageously occupied where such a convenience as this is always at hand. The two-horse tread-mills of Emery, Pease, Wheeler, and others of Albany, and the two-horse lever-powers of Hildreth of Lockport, and others, will be sought by those who farm on a moderate scale, and would do it quietly, comfortably, and economically. The farmer's wife will not complain of being relieved of boarding a number of hands required to man a ponderous ten-horse thrasher, nor will he himself get the fidgets so often, in seeing all his collection of men standing idle, while a broken cog is undergoing repairs.

Tan Bark for Potatoes.—This subject is brought before the farmers of England, by a communication in the *Mark Lane Express*. Mr. B. Bamford claims thirty-five year's experience in this matter; and has issued a pamphlet giving his method of using it, which is briefly stated in the following: He does not cut his potatoes for setting, but sets them whole, and the largest he can select. The rows are thirty inches apart, and the potatoes are put nine inches from each other in the row. The land is plowed only eight inches deep, treads the manure firmly in the furrows, puts in the tubers, and covers them in with tan refuse, nine inches deep instead of earthing up. In this way he reports that in 1857 he raised 675 bushels of potatoes—not a rotten one among them—to the acre, with nothing but waste tan as a covering. This is of great importance, the tan refuse being of little or no value, and if it be put to so important and advantageous a use as in this case, it should be widely known and practiced.

Experience in Raisng Potatoes.

Mr. G. P. Serviss, of Montgomery county, N. Y., in a communication to the *Country Gentleman* and *Cultivator*, says:

Some three or four years ago, I planted about a quarter of an acre of potatoes, with a view to try experiments. They grew finely, and when the potatoes were about half grown, and before I could discover any appearance of the disease, I cut off the tops of two rows close to the ground. About two weeks later I saw that the tops of those that had not been cut began to show signs of dying. I then cut off the tops of a number of rows, leaving the remainder to take the course of nature. The result at digging time in the fall was, the two first rows spoken of above, had not a rotten potato in them. The rows that had their tops cut off some two weeks later, were nearly all rotten, and so were those left to take the course of nature.

But this is not all. This last spring I planted about an acre with June potatoes, as early as the ground would admit. They grew finely, and I anticipated a good crop. They were nearly ripe, when the news came from different parts of the town that potatoes were rotting very much. So feeling a little suspicious about mine, I took a hoe and went through the potatoes to examine them; I dug about a dozen hills, one here, and another there, and so on through the whole, and finding them all sound, covered them up again where I dug them. But not many days after I found my potatoes were rotting as bad as my neighbors. I then let them take nature's course till late in the fall, when the digging found them two-thirds rotten, except those doxen or fifteen hills that were detached from the vines at the first examination, which were all sound with a very few exceptions. Now this fact is conclusive that had I dug my potatoes, or even detached them from the vines, at the time I made the first examination, I should have saved the most of them.

There are various opinions as to the cause of the potato rot; but let it be produced by what it may, by the atmosphere, or by an insect, as is thought by some, or from some other cause, certain it is that the tops are first attacked, and then the potatoes. And there is but little doubt in my mind as to its being good policy to detach the potato from the vine as soon as the first symtoms of the disease appears, let them be in what state of perfection they may be.

Now my opinion is, that if farmers would get the earliest varieties of potatoes, and make a practice of planting them (not in the moon) in the ground as early in the season as possible, thereby giving them time to mature, or nearly so, and then detach them from the vines as soon, or just before being attacked by a diseass called the potato rot, (which seldom makes its appearence in this lattitude much before Aug.,) there would be thousands of bushels of potatoes saved which under the present general system of arrangement are lost.

Bedding for Cattle.—All stock that is fastened in stalls should have bedding of some kind. A bed of loam or sand is better than timber of any kind; but when cellars are made under the stalls, plank floors are wanted—and these should be covered with something more compact than straw.

Sawdust is a good article for bedding, and when it is nigh by it is more convenient than loam, as it is lighter and may be procured when loam is frozen. Sawdust alone is not valuable as manure, but as a retainer of the excrements of cattle, it is a good article for vegetable growth.

The feet of horses must not rest on dry planks. The forefeet in particular, should be kept moist, that the hoofs may hold the nails better. When a farmer keeps but one horse and has room enough, he may have a stall ten feet square, with no floor but the natural soil. Then throw on any kind of straw or litter, enough to keep his horse clean, and the stable need not be daily or weekly cleaned out; but a good lot of such manure may be found under the horse. It will not heat in case he stands on it—since no air can come to it.—[Ploughman.

New Mode of Grafting.—The French are practising a new method of grafting, a knowledge of which may prove valuable to American horticulturists, inasmuch as it can be performed at any season of the year, when sound matured buds can be had, whether the sap is in a flowing state or not. It is performed by removing a small piece of bark and wood, leaving a smooth and flat surface, to which a similar piece containing the bud, which is to form the future tree, is fitted, which is sealed over immediately with collodion. This forms a strong, impervious cuticle, which secures a free circulation of sap on the approach of warm weather and a perfect union of the parts.

Hints on Shingling.—Mr. Emerson, of Hollis, Mass., says that shingles soaked in a thin whitewash made with brine water, will last much longer than when nothing is used. No matter how wide the shingle is, he would not place the nails more than two inches apart. If nailed near the edge, and the shingle is green, shrinking causes it to split. If the shingle is dry and becomes wet and swells, the nail if on the edge is crowed out of its place. He does not drive the nail quite in, but leaves sufficient to keep the shingle that covers it, sufficiently elevated to allow of the circulation of air and rapid drying.