

stands the driver, who manages the machine and regulates the cutter with as much ease as he could that of a reaper. The machine is drawn forward and backward in the same track, cutting each time from 2 to 5 inches, until the required depth is attained.

CARE OF TOOLS.—If farmers will examine their tools at this season of the year, they will doubtless find that hired men have brought in ploughs, harrows, and hand tools, and housed them without thorough cleaning. Take the first opportunity to clean them and polish the metallic parts bright, rubbing them afterwards with a little beeswax, grafting wax or similar substance, to protect the surface and prevent rusting. The wooden part of all tools and implements which are at any time exposed to the weather, will last many times longer if well impregnated with oil. The best as well as the cheapest, is crude petroleum, as it penetrates the pores and makes perishable wood like the most durable cedar. In cool weather it will be necessary to warm or heat it to as high a temperature as will be safe before applying, so that it may enter the pores of the wood. With all the smaller tools, such as hoes, spades, rakes, &c., the work may be done in a warm room.—*Country Gentleman.*

DRAWING SCREWS.—Few things, says an exchange, are more vexatious than obstinate screws which refuse to move, much less to be drawn out, and in the struggle against screw driver power, suffer the loss of their heads, like conscientious martyrs, rather than take a single half turn backward from the course they have followed, and from the position they have been forced into. Like obstinate children, they must be coaxed, or tapped pretty hard on the head, according to circumstance; in fact, whoever has a tight, obstinate screw to "draw out," must keep his temper down and his resolution up quite as much to the sticking point as the screw does. If the screw is turned into iron and not very rusty, it is only necessary to clear the head with the wedge of the driver, and let a few drops of oil penetrate to the threads; but, finding that excessive heat or rust has almost fixed the screws immutable, then heat, either by placing a piece of hot iron upon it, or directing the flame of the blow pipe upon the head, and, after applying a little oil, turn out gently; but care must be taken not to let the tool slip so as to damage the nut. If, however, the screw refuses to come out, try to force it back with a blunt chisel, smartly but carefully tapped with a light hammer. But if evidently nothing can dislodge the enemy it is best to cut the head away and drill out the screw. When an obstinate screw happens to be in wood, merely give it a few taps on the head, but if bog in that heat it with a piece of hot iron, when it may be easily turned.

POTATO PLOW.—The *Mark Lane Express* has the following on one of the implements exhibited before the Royal Agricultural Society:—"Corbett & Peck's plow has a single mold board, and has a revolving disc composed of several teeth or tines, which by a simple attachment is fixed to the handles of the plow, and works just behind the mold board, catching the furrow as it is moved by the plow, and tearing it in pieces. As it is fixed to work on an angle to the mold board and to the furrow, the points are deposited on the surface of the pulverized land, and very few fall into the furrow sole, where they would be covered by the next ridge unless gathered immediately after the plow. By this single mold board two-thirds, or nearly all the ridge is turned over and broken up on the mold board side, and the furrow sole left has scarcely a single potato in it. The revolving disc, acting on the whole furrow, at once produced a fine level and broad bed for the potatoes to fall upon. This plow was put to work up in Regent potatoes, the tops of which were ripe, and made capital work. A few potatoes were buried by the mold thrown up by the disc, but there was no scratching at all for the gatherers, and they could gather much more rapidly than after the ordinary plow used in the district. A great merit of this principle is that it is adaptable to any ordinary plow at the cost of £3. The plow with a rotary disc is here shown as one implement, but virtually the invention consists in an apparatus to be attached to a plow, and forming part of its fittings or furniture, like the share or the coulter, but only to be used for special purposes. It will, however, pulverize land winter plowed in ridges, or at the time of plowing, most efficiently."

Breeder and Grazier.

Winter Care of Stock.

It cannot be too often or too earnestly insisted on that shelter and warmth, are essential to the well-being of farm animals during the winter time. Both humanity and self-interest urge this. It is disgraceful to a civilized, not to say Christian country, that so much suffering should be inflicted on poor dumb animals by exposure to the inclement weather, as we are often compelled to witness. Who that has travelled along any country highway, on a cold winter's day, has not seen shivering creatures trying to get partial shelter, and under the lee of a friendly fence, or standing with their backs to the storm, shivering it out as best they may?

Less food will keep stock in good condition if they are comfortably housed. The too common plan of foddering-out-of-doors, distributing hay and straw here and there on the ground, is doubly wasteful. Much of it is trampled under foot, and what is eaten, does the animals far less good than if they got it indoors.

"On the distant prairie" where timber is scarce, and lumber sells at fabulous prices, there may be some excuse for leaving cattle unhoused, but there is none in a well timbered country like this. A rude shelter is better than none. Log-sheds chinked up and covered with slabs or straw are like "good words";—they are "worth much and cost little." But any farmer, possessed of energy, can do better than resort to mere make shift contrivances for sheltering and housing his animals. Or if he resort to these, it will be temporarily, until he can do something more worthy of being permanent. However it is done, let there be no failure in this respect, for neglect here is the most "penny-wise, pound-foolish" policy that can be imagined.

Winter Feed for Sheep.

From a recently published paper on the above subject, by J. J. Mechi, we extract the following items of interest to breeders:—

"The proper qualities, quantities and admixture of food have much to do with the health and progress of animals. The nitrogenous and carbonaceous should bear due relation to each other. Food may be too rich, too poor, too nitrogenous, too glutinous, too laxative, or too astringent. Clean wheat will kill a horse if fed alone, but if fed with the chaff and straw in which it grows, it is healthy. He seldom loses a lamb or ewe in parturition, for they are fed on the mixed principle. He carefully avoids mangolds before lambing, and feeds sparingly of turnips. He rarely gives roots to his breeding animals before parturition: they contain so much common salt, potash and soda. Twenty-eight pounds of turnips, with their tops on, contain $\frac{1}{2}$ oz. of common salt, the same quantity of mangolds, with the tops, contain $1\frac{1}{2}$ oz. of salt; both have also a large quantity of potash and soda. He quotes Mr. Robinson, a noted veterinary surgeon, as saying, that when breeding ewes are fed large quantities of turnips, abortion is apt to result. This applies with greater force to mangolds. Mr. M. feeds at all times mixed food, keeping sheep and lambs both fat; selling his lambs this year at 12 months old for 73 shillings each. They are cross bred Lincolns and Down sheep. He closes with the pithy remark that 'Fat sheep make fat crops.'"

The Curry-comb and Brush.

Many stables are innocent of these things, and the occupants of them never get a rub-down except when there is something dirty to rub off. Are farmers generally aware that a curry-comb costs but ten or fifteen cents, and that its use on a horse or cow daily, not only improves the animal's looks, but its condition as well? By loosening the hide, opening the pores, dislodging insects, dandruff and dirt, great benefit is done. Moreover the use of these things carefully and judiciously, helps to render animals more docile and manageable, to foster

acquaintance with them, and secure influence over them. All rough, harsh use of the curry-comb should be avoided. Some animals are sensitive in the skin, and must be curried very gently. Others, like some human beings, are ticklish in certain places, and must be treated accordingly, kind tones as well as gentle motives must be employed. The tempers of dumb brutes, as well as those of human beings, can be improved or spoiled by good or bad usage. The curry-comb and brush may be made most useful in securing attachment, and grateful, kindly tempers, in addition to health and polish of appearance. Therefore, let no day pass without bringing them into busy requisition.

Clean Stables.

Cleanliness is as necessary to the health and comfort of the inferior creation, as it is to the health and comfort of man himself. Hence all stables where animals are housed, should be kept scrupulously clean, not only by the removal of droppings daily, but by the use of absorbents and deodorizers, such as dry swamp muck, gypsum, sawdust, and chaff. The strong smell pervading many stables is an unfailing index of neglect. How can animals enjoy sound health, if condemned to breathe foul, impure air? Besides this consideration, there is the important one of economizing and preserving every fertilizing material, whether solid, liquid, or gaseous, for future application to the land. These substances are too precious to waste any of them. The escape of odor is a proclamation of waste, and should at once be heeded, and effectually guarded against.

A Good Jersey Cow.

The Jerseys are working their way into favor as family pets and butter cows. They are accustomed to kind treatment and plenty of food in their native island, and their true place seems to be in the village and its suburbs, or places where but one or two cows are kept, rather than upon the farm in large herds. A small fifteen-sixteenth grade heifer, sold two years ago from Poquonnoc Farm, has made a remarkable record. She is one of the smoky-fawn animals, with dark points, now in fashion, whose comeliness is thought by some to damage the milking qualities of the breed. Since she came into the hands of her present proprietor, she has had the run of a good pasture in summer, and some extra feed in the stable. The present season, at four years old, she is making over two pounds of butter a day, of the finest quality, such as is very properly called gilt-edged, and would sell at \$1 a pound in the city markets. She would be called a handsome cow of any breed, and yet her beauty does not seem to be incompatible with rich milk and plenty of it.

Another Virgin Milker.

Bell's Messenger, London, Dec. 1st, copies from the *Country Gentleman*, the account of Mr. Parke's milk-giving Jersey heifer that had never been bred, and adds:—

"This Transatlantic story of Jersey precocity has its corroborative similes in the Short-horn history of the Old World. One of them came under our own observation some years since. Nosegay (Herd Book xiii., p. 474), a red and white Nonpareil heifer by the late Mr. Richard Booth's Duke of Buckingham (14128), was calved on the 24th of May, 1857, and, in the summer of 1858, although up to that time her companions had been all of her own sex, began to make a display of dairy properties. As the season was hot, and 'garget' rife among the dairy cows of the district, it was thought necessary to draw her udder daily to relieve and cool the system. The repetition of this process developed in time the milking resources, and for some weeks the heifer gave from half a pint to a pint of milk each day, as much as her owner cared to have taken from her. There was every reason to believe that a much larger yield might have been induced. Nosegay never bred, and on being slaughtered at an early age was found to be malformed, or sexually deficient, as is often the case in 'freemartin' heifers. She was not a twin."