

THE HELPING HAND.

Plow Cleaner.

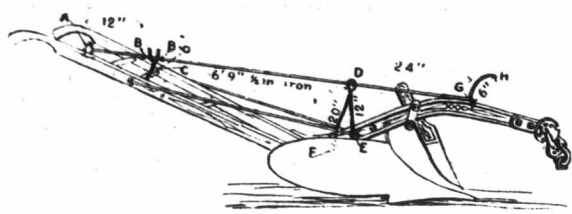


FIGURE I.

The accompanying engravings illustrate a plow cleaner in use on the Central Experimental Farm, Ottawa, and which the farm foreman, Mr. John Fixter, to whom we are indebted for the photos and description, says the plowmen would not be without, especially in plowing long stubble or strawy manure. It is also very handy for knocking a stone from between the plowpoint and the point of the colter. The long arm is made of $\frac{1}{2}$ -inch round iron and the one described is 6 ft. 9 in. from A to G, and moves freely within the circle at D, which is supported by two iron braces, one (12 inches high) fastened on the plow beam at E, and the other (20 inches high) fastened to the inside of moldboard at F. From G a semicircular shaped prong extends

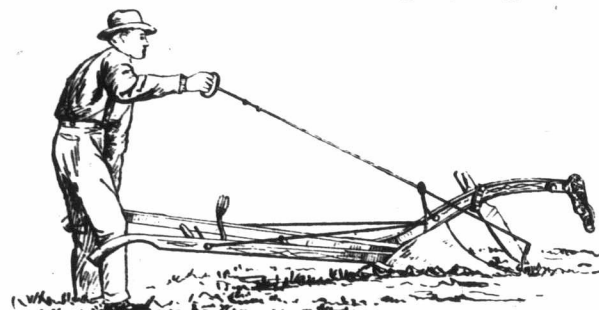


FIGURE II.

some 6 inches to H. From D to G is 24 inches. C is an upright iron about 6 inches high, split, spur-like at top, and in which the long arm of the cleaner rests. The two round knobs B B, $3\frac{1}{2}$ inches apart, are to prevent it slipping backward or forward. A is the circular handle, grasped by the hand of the plowman. Fig. 1 shows the plow with cleaner lying on it at rest, and fig. 2 in the act of knocking out a stone, for which the horses have to stop and the plow is raised at the front; but the man does not need to go from between the handles. A bunch of stubble or straw is shoved out similarly, but can be done without stopping the plow.

POULTRY.

Sunlight and White Plumage.

Exhibitors of white fowls should bear in mind the effect of sunlight upon white plumage. Such birds as are designed for the autumn and winter exhibitions should be cooped or penned where they are shielded from the strong glare of the midday sun, and where they cannot wallow in any clayey soil. A clean dust bath of sand and ashes is best for health and looks. The penning should begin with the growth of the feathers after moulting. The yellowish tinge given by a strong light will be found almost impossible to remove after once appearing; and there is no time when the plumage is more susceptible to change of color than in the early stages of growth, while the feather is yet soft. The difficulty of cleansing soiled plumage is well known; and with a very little ordinary care and precaution the necessity of this measure may be spared. —Poultry.

Shade is one of the requisites too often overlooked in farm poultry yards. Especially is it needful in the hot glare of summer sunshine. Plenty of low bushes and trees should be provided for the birds. We were very much struck with this feature about the yards of Wm. McNeil, a poultryman of continental fame in the showings, on the occasion of a recent call at his place in London, Ont.

Fattening Turkeys.

Successful Rhode Island growers as a rule feed their turkeys from start to finish on northern white flint corn, which they grow themselves. They take great pains to use nothing but well-seasoned old corn, because they have found that new corn causes bowel trouble, which is more to be feared in a turkey than any other fowl, and is liable to be fatal. Diarrhoea seems to be more prevalent among turkeys than any other disease, and a bird that gets sick is very apt to die. Foraging in a field of green oats may give them diarrhoea and cause much loss.

Turkeys not only like northern flint corn best and fatten best on it, but it makes their flesh more tender, juicy and delicious. That given the little ones is coarsely ground and mixed with sweet or sour milk, or made into bread that is moistened with milk. This is gradually mixed with cracked corn, which, when they are about eight weeks old, is fed clear or mixed with sour milk. In the fall whole corn is given.

Turkeys which can be given full liberty from the first on a dry pasture lot, and after a few weeks allowed to roam and roost wherever they

choose, thrive the best if they escape accident or enemies. Two turkey-hen mothers and their broods will then generally join forces apparently for mutual protection from hawks and other enemies. Where they cannot be given full liberty they should be given fresh grass pasturage daily, and milk curd, corn gluten and wheat, as well as corn, to take the place of insects. Great pains should be taken that they are not overfed, and that they are given as much liberty for exercise as is possible. The brood may be prevented from leaving a certain field by shingling the mother turkey, so she cannot fly over the wall or fence. This, however, places her at the mercy of dogs.

After June 1st those at full liberty are usually fed but twice daily. They are hunted up and fed in the fields, that they may stay away from the farmyard and outbuildings. Many give the turkeys no food from August 1st until cool weather; they get their own living until they come up from the fields in September or October. We know of cases where those not fed in either August, September or October, but fed well in November, have been larger and plumper at Thanksgiving time than lots fed the season through. The principle seems all right. Doubtless those to be marketed in August and September, if fed corn right along will be plumper and mature earlier, while those allowed to get their own living during the three months will exercise more and secure more nitrogenous or growing food, and grow larger frames. Much depends, however, upon the range, the quantity of insects, and the number of turkeys that run on it. Some fields will support more turkeys than others. The number of turkeys may be so large as to almost exterminate in two or three seasons the insects upon which they feed.

Turkeys that have been fattened soon grow thin if not killed when "fit," and do not fatten readily for some time. The grower must use some judgment as to whether he should feed them grain all through the summer and fall months. —S. Cushman in Farm Poultry.

VETERINARY.

Preventing Milk Fever.

Mr. Geo. Jackson, of Indiana, a Jersey breeder who had lost some 20 odd cows within a few years from milk fever despite the best available veterinary skill and the most careful nursing, describes in the *Breeders' Gazette* the treatment which "at once and forever" checked the disease, for in the herd of 50 breeding cows not another case appeared in the six or seven years before closing out the business. His treatment is as follows:

"A pound of Epsom salts, an ounce of ground ginger, a pint of black molasses, all dissolved in about three pints of warm water, given the cow as a drench, beginning ten days or two weeks before expected parturition and repeated as often as required to produce and prolong a gentle but decided purge, did it for me when all else had failed, and thenceforth no veterinary advice was ever needed or sought for milk fever, as there has since been no case of milk fever to treat. The old saw that 'an ounce of prevention is worth a pound of cure' never applied with greater force than it does to this very subject; it was the bridge that carried me safely over, and I have nothing but praise to say of it.

"A number of post-mortem examinations made by the surgeons in attendance developed conclusively that a great deal of the trouble was traceable to the failure of the third stomach, or 'manifold,' to work properly. This organ was impacted with hard, dry material in a partially digested condition, as brown and devoid of moisture as though baked in an oven; no passage through it, either natural or mechanical, was within the possibility. It was too late for the purge to be effective and it became only a matter of how long the animal would continue to live and suffer, for death within a short time was certain. The other serious development was a badly-congested brain, which if not checked or relieved ended in apoplexy. To counteract this, however, always proved to be easier than to restore the impacted stomach to its natural functions. A loose condition of the bowels at such a time is all-important; and if this is brought about solely by the food in quantities necessary to produce the effect, too much blood will accumulate in the system, overtaxing and clogging the circulatory machinery, that will end in paralysis of the brain, which is equivalent to total collapse and ends all hope; hence the necessity of artificial purging.

"I have known cows due to calve come in from the pasture with paunches filled with grass, their bowels literally as loose and free as water, which within thirty-six hours, parturition having occurred, were dead with milk fever in spite of all that could be done for them. A violent reaction in the shape of costiveness had set in, causing fever and inflammation of the bowels and of the manifold. Injections and drenches were then of no avail; it was too late; no passage through the bowels could possibly be brought about, and death was the inevitable issue.

"It will be seen, therefore, that a lax condition of the bowels of itself is not sufficient in every case to insure safety; for if it is the result of the food supply, the difficulty is not overcome but rather aggravated, for the reasons stated; and while

to a certain extent it is possible to control the condition of the bowels and the system generally by the food, it is not to be relied upon solely as a safeguard against milk fever. Careful and judicious feeding a few weeks before calving and a week after is a powerful aid in the right direction, but it all failed of its end for me unless supplemented by mild purgation produced by the salts. This thins the blood, cools the system, and prevents a tendency to fever and inflammation.

"I have found this course the only absolutely safe one to follow, and have noticed that when the bowels were working freely at the time of calving, as a consequence of the purgative, no case of milk fever ever followed; while on the other hand those that were attacked with it and died before the preparatory system was introduced, all without exception gave unmistakable evidence of severe costiveness, which it is fair to presume could have been overcome and corrected had proper measures, afterwards used, been employed in time.

"Free evacuations from the bowels, a low laxative diet, comfortable surroundings, and freedom from excitement, and if all the dangers of an attack of milk fever are not entirely removed they are infinitely lessened. The treatment will save the lives of more cows at the time of calving than all the combined skill of the best veterinarians and the most approved remedies known if the case is left unattended until the symptoms of the malady have become apparent. In a large proportion of instances no warning of the approach is noticeable, and when it comes very little relief can be given.

"For some reason or other young cows with first and second calves seem to be exempt from the disease and it is very rare that an attack comes to a cow before she is five or six years old; after that the dangers increase each year."

GARDEN AND ORCHARD.

Modern Fertilizing of Orchards.

BY E. E. FAVILLE, DIRECTOR OF THE NOVA SCOTIA SCHOOL OF HORTICULTURE.

(Continued from page 341.)

The source of our fertilizers comes in two general ways, known to us as natural and artificial fertilizers. In the former are the solid and liquid excrements of animals, refuse vegetable matter, composts, muck, peat, marl, and green crops when intended for turning under. As to exact proportions of plant food these natural fertilizers may contain is unreliable, for barn manures vary greatly, depending upon the kind of animals, their age, food and litter used, fermentation and exposure to rain causing loss in drainage, thus producing an unbalanced food ration, apt to be too high in nitrogen, causing an abnormal wood growth liable to injury by extreme cold in winter, making poor fruit food for shipping, with bad keeping qualities. Weeds are also disseminated largely through farm manures. Extravagant application is liable to result in using two loads of manure where one would suffice. Although the value of stable manure is an uncertain quantity, yet where strong barnyard manure may be obtained cheaply and applied judiciously, followed by thorough cultivation, it adds humus from the litter and tends to give lightness and warmth to cold, clayey soils.

The analysis of domestic manures by chemists and experiment stations shows a wide range of fertility in a ton of yard manure, ranging from 8 to 15 lbs. of nitrogen, 6 to 10 lbs. of potash, 4 to 8 lbs. of phosphoric acid in well-prepared yard manure.

In all orchards where manures from different animals are used the greatest care should be exercised in not overfeeding the plants. A very unique method is employed in the large fruit sections of Germany in the utilizing of both liquid and solid manures, which are deposited in tanks, and at different periods of the season carted on to the soil and placed in holes one foot deep, three to a tree, about five feet from the trunk. Of the green crops grown for manures, the clovers, peas, and buckwheat are chiefly employed. The first two are highly recommended, and should be sown after cultivation ceases in the spring, turning them under in the fall. These plants are the so-called "nitrogen collectors," which if sown occasionally add sufficient quantities of nitrogen and humus. The chief value of buckwheat sown in the same manner as the nitrogenous plants or legumes is to break up the fertilizing ingredients and furnish additional humus to the soil. Every orchard should have a compost heap for the reception of refuse material, where all rubbish from the orchard may be dumped throughout the season.

The artificial fertilizers are either complete, containing the three elements, nitrogen, potash, and phosphoric acid, in large or small quantities, or incomplete, containing one or two of the three constituents. As a commercial ingredient, nitrogen comes chiefly from nitrate of soda, and should be applied as a top dressing after the spring rains have ceased, harrowing it into the ground. In young orchards and in treating nursery stock this product may be used for forcing growth or where no other nitrogen feeder is applied. An application of from 100 to 150 lbs. per acre is a liberal dressing and suitable in most cases. Among small fruits this compound is often of great value where trees and plants are liable to drop their foliage; a