

The Use of the Root Pulper Approved.

SIR,—In the ADVOCATE of Dec. 16 ('95), page 501, Mr. A. C. Hallman, of New Dundee, Ont., condemns the use of the root pulper as a waste to "time and muscle." He says: "The root pulper, to my mind, has seen its best days. It is only of value for calves and pigs or some cattle that will not eat whole turnips." Our experience does not, by any means, agree with Mr. Hallman's ideas. I believe the root pulper fills a long-felt want in the economical feeding of stock. We will find that its days are not by any means numbered, but that it has come to stay. It will be agreed on all sides that to have the best results in feeding we must supply a succulent ration of some sort. It is also acknowledged, I think, that for winter feeding roots or ensilage are the two best foods to supply that want. Turnips, we all know, contain a large percentage of water. This water cannot be fed or given to stock in a way that will give better results than having it mixed with the dry feeds. How many are apt to undervalue turnips when viewed in the chemist's table? The same results are seen in the grasses. When the stock are given a free range of good pasture they will thrive much better than they would if fed on the dried grass or hay, no matter how perfectly it has been cured, or how fresh and green the hay is. The water in the grass or turnip is worth more than it would be in the bucket. If turnips are thrown whole into the manger with cut feed and meal, as Mr. Hallman suggests, they will not be eaten along with the rest of the feed; they will either be eaten first or left till the last. When pulped and mixed with the cut feed and meal they help to assimilate the more fibrous and less digestible hay and straw, and in this, more than the nutriment they contain, lies their value for feeding. There will be more thorough mastication also. It may take a little time and muscle to pulp roots. Time is worth something, but muscle ought to be cheap on the farm in the winter. It is a good deal cheaper putting a little muscle into a pulper than keeping it "stored up" on "puffed" horses' legs.

The comfort of the cow in eating is to be looked at also. A cow usually gets enough exercise without chewing hard turnips. This may seem a small matter, but it is worth looking at;—every little item counts. Probably if we did not use the pulper and fed the roots separately the cut feed might last longer; they will not eat as much. That is not the aim, however, of successful stock feeders. We must economize feed, it is true, and not be wasteful; at the same time get them to eat all they can of a properly balanced ration. Let them "gulp" down mixed feed as Mr. Hallman says, but let the feeder see to it that it is properly "mixed," no more being given than is eaten up clean, and there will be no danger of indigestion; the mastication will be all right, the cow muscle will be saved, the horse muscle will not go to waste, and much better harmony will reign all around, with a cash balance on the proper side of the ledger.

Waterloo Co.

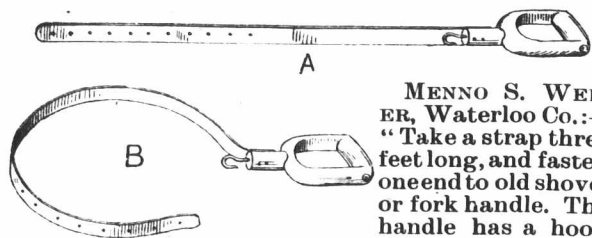
JOHN TAYLOR, JR.

THE HELPING HAND.

P. O. Address Wanted.

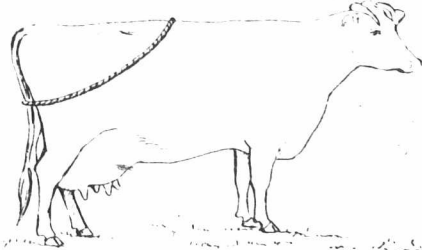
Will Mr. Simeon Snyder, whose article describing a plow slide appeared in this department, Nov. 15th (1895) issue, kindly forward his P. O. address to this office.

A Corn Binder.



in fig. B), and the strap is perforated. Throw the strap around the shock, catching the outer end with the disengaged hand, and draw up as firmly as you wish, fastening it to the hook. The shock can then be easily tied. A shows the strap fastened to the handle, B as thrown around shock ready for fastening.

"TO PREVENT A COW FROM SWITCHING.



"Take a piece of rope at least an inch thick, and about seven feet long. Tie the ends together and place on the cow."

A Handy Farm Vegetable Garden.

T. W. L., Bruce Co.:—"Every farmer's family should have all the vegetables and small fruits they can use, and if the work is done in the right time, and in the right way, the time will never be missed. Take a quarter of an acre (330 feet long

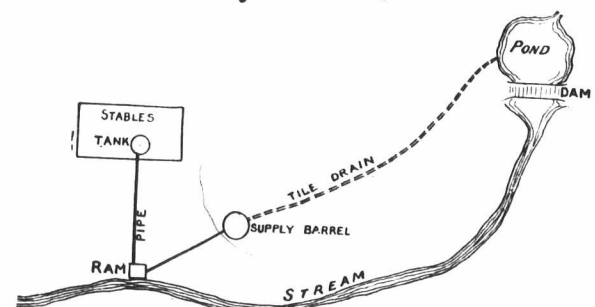
by 33 feet wide), manure and cultivate thoroughly—you cannot do either too well. Then plant next spring the following: 3 rows raspberries (2 red and 1 black), 2 rows strawberries, 2 early potatoes, 1 early corn; 66 feet each of carrots, beets, parsnips, lettuce, spinach, making 1 row; 1 row onions, 1 row beans, 1 double row for watermelons, cabbage, tomatoes, celery, citrons. All rows the same distance apart, and nearly all the work done with the horse-hoe.

"FARM GARDEN, ONE-QUARTER ACRE, 330 FEET BY 33 FEET, ROWS 30 INCHES APART.

1	Raspberries, red
2	"
3	Black Cap
4	"
5	Strawberries
6	"
7	Potatoes, early
8	"
9	Corn
10	Beans, plant twice, two weeks between
11	Carrots, 66 ft.
12	Beets, 66 ft.
13	Parsnips, 66 ft.
14	Lettuce, 66 ft.
15	Spinach, 66 ft.
16	Onions, two varieties
17	Watermelon, Cabbage, Celery, Citrons. This is a double row.

"Good manuring, good cultivating, good seed, result, a good garden."

A Hydraulic Ram.



R. C. ALLEN, Northumberland Co., Ont.:—"It is not generally known among farmers that a hydraulic ram may be made to furnish a constant supply of water sufficient for the stock on a large farm, provided the stables are not located too far from even a very small stream, having a few feet of fall in the vicinity of the buildings. A ram consists of an air-chamber (not larger than an air-chamber of a hand force-pump), one leather valve and one brass valve, which, properly constructed, will last longer than pump valves. It will furnish a constant stream, varying in size according to the number of feet the stables are above the ram, and the amount of fall there is in the stream. Some distance up stream a small dam is required to insure a supply of water at all times, and to protect the mouth of the supply drain from ice in winter. In making a dam, a part of the head required to work the ram is obtained. More head is obtained by means of a pipe or tile drain along the bank of the stream from the dam to a supply barrel. If tile is used, the drain must not have more than six inches of fall in 50 yards. It should enter the supply barrel, which serves as a settling well for sand, at about a foot from the bottom. From the center of the barrel is a 1½-inch gas pipe to the ram (not less than 50 feet distant). The end in the barrel should be protected by a fine wire hood to prevent any foreign substance from stopping valves of the ram. The ram should be placed as low down near the edge of the creek as it will work in freshet time, a short tile drain returning waste water to the stream. That which goes to the stables may be conducted in a 3-inch or 4-inch gas pipe to an elevated tank as high as the water is required. The tank must be placed where it will not freeze. An overflow-pipe can be conducted to watering trough in any suitable place, said pipe having connection with a stop-cock at the bottom of tank, by means of which the tank can be emptied at pleasure into the trough. Overflow from trough may be carried away by tile drain. All tile, supply barrel, ram, and pipes must be sufficiently under ground to escape frost. A ram can be bought and put in for less money than a well can be dug, bricked or stoned up, and pump purchased. It will do its own pumping, and do it day and night the year around. It will not get out of order as often as a pump, there not being as much machinery about it, and if it does stop a touch will start it again. I have recently put in a hydraulic ram for a prominent farmer in this locality, which works very satisfactorily. I consider it a very handy as well as a labor-saving and inexpensive contrivance for obtaining a constant supply of fresh water in a farm yard. Shovelling snow, chopping ice, and driving cattle to a creek for water in a raging blizzard should be by-gone methods of watering stock among our progressive farmers."

Norfolk Reformer (daily and weekly):—"The Thanksgiving number of the FARMER'S ADVOCATE, London, is a particularly fine issue, and reflects the highest credit on the enterprising publishers. The FARMER'S ADVOCATE is among the very best papers of this class, and it is not surprising that it is growing in popularity."

DAIRY.

More Light Yet Needed on the Apportioning of Cheese Factory Dividends.

SIR,—The explanation given by Prof. Dean on this subject, in your issue of December 16th (1895), was timely and very much needed. I think I may safely say that not one out of every ten patrons of factories understand the division of moneys by the butter-fat system. The mathematical problems given by the Professor should make the matter plain to all who have a knowledge of fractions. The scientific problem is very plainly put also, and may be readily seen by many who are not very scientific farmers. I would just here remark that I think there is no better way of giving general information on farm subjects, and no better medium can be employed for conveying the results of experiments carried on by scientific and practical men to those who are ready to profit by them, than through the columns of the FARMER'S ADVOCATE. I do hope that the last statement made by the Professor will be carefully read, and that it may forever silence those croakers who still advocate the old quantity system of dividing by weight of milk alone. The quality system is approved by all the Professors, and the aim of all experiments should now be to get at the very fairest method of working under this system. I would like to ask the Professor and others some questions as to the best way of handling the tester in cheese factories. I suppose the plan adopted by most factories is that known as the composite test. It does not seem to be a very fair way of doing, viz., to take a small quantity of each patrons milk each morning, then to take the sample for testing from this mixed sample, as kept in sample bottles; but I fear there is a difficulty right here, viz., in getting a fair sample of the milk from this bottle. Does the chemical substance added to the milk keep the cream from rising in the bottle, or does it just keep the milk sweet? If a separation has taken place, something more than even a thorough shaking of the bottle will be needed. I would think, in order to thoroughly mix the sample. The richer the milk is the more complete the separation, and thus I see a disadvantage to richer samples. The milk is drawn into a very small opening in the pipette, and the thinner part of a sample would be sure to rush in if not thoroughly mixed. Is it customary to set the sample bottles in hot water in order to thin the milk before shaking? This would make some extra trouble, but as it determines the amount of money that each patron shall receive, it surely demands great care. I fear that there is sometimes trouble in getting fair samples from these bottles.

I do think that unless great care is taken under the composite plan, that a better way might be to let cheesemakers take a sample for testing from each can, as it comes to factory, say, twice or three times per month, these days to be known only to himself and to be changed so that no patron could ever know the testing days, and thus be tempted to bring a better quality on these days. This would do away with much trouble to cheesemakers in taking and keeping samples, and in most cases, I believe, would give as good results, if not better, than the other plan. If you want to hold the patrons of cheese factories together great care is needed in the division of the moneys, as we cannot have union in any line very long without "fair play." It does seem to me that those having rich milk are not likely to get too much "fair play" anyway. The little Jersey cow has had to keep bawling to her bigger sisters for "fair play," and rejoiced at the birth of the "Babcock Tester," the best friend she ever saw. The pooling system of division was robbery to those putting in rich milk, and under that system many a dollar must have gone into the wrong pocket. Now, Prof. Dean has made the science of this matter so plain in his article that he cannot blame any practical farmer for being presumptuous when he freely expresses his mind on the subject, even though he may differ from himself in the matter, as I believe his aim is to make this matter so plain that every farmer, if possible, may form his own conclusions. It is the farmer's purse-strings that are effected by it, and that alone should make us look into the subject.

I look at the three methods of paying for milk this way: First, the old way—supposes all milk to be alike and pays for it on this basis, simply by weight. Prof. Dean's plan pays for milk according to the weight of cheese made from it, or according to weight of casein plus weight of butter-fat; and supposes casein and fat to be of equal value. The third plan pays according to weight of fat in milk, and supposes butter-fat to be the substance in all milk which should determine its value; and I really believe it should. If butter fat and casein in milk were inseparable, and thus only of value in cheesemaking, the second plan might be fair; but such is not the case. Butter-fat has a market value of its own, and a much greater value than casein, on account of its two-fold market; and we are forced to pay market value for an article when we buy, whether it pays for our purpose or not. Butter-fat is worth from 18c. to 30c. per lb., while casein would only be worth from 3c. to 5c. at most, but where mixed with a greater weight of butter-fat is sold in cheese at from 8c. to 10c. per lb. But does it follow that because a mixture of two ingredients makes an article that sells at a given price, that we buy these ingredients at same price? For example: Pea meal at \$20 per ton and bran at \$12 per ton