

having one of these drag harrows as a pattern, make others just as good.

Another implement we should like to see more commonly employed is the chain-harrow. Those who have seen its exquisite work on a drilled crop of potatoes before the plants come through the ground, will know why we are so much in love with its work. And besides taking the place of the old Scotch "saddle drill harrow," which was a comparatively clumsy tool, the chain harrows may be considered as the modern representatives of the old bush or brush harrow, which was, and is sometimes still, employed for brushing in grass-seeds or dressing pasture lands in the spring. The chain harrow is infinitely more efficient than its prototype. It is very useful in gathering together couch after the drags and harrows have brought it to the surface. The way it rolls up the weeds into masses easy to gather and burn is admirable, and no farm should be without one. It varies from simple links to cusped and pointed ones, which successfully tear out the moss from grass land, or pulverise clods if taken over a rough surface at the proper stage of dryness or of moisture. The chain harrow is a capital pulveriser of a cloddy surface, and in this effect resembles the North-country "scrubber," which is not so well known as it deserves to be.

Rollers, too, are not nearly so universally used as they ought to be. In a climate like this, where land dries up so rapidly after a shower, every newly sown piece of land in roots should be rolled down firmly; we do not say with a heavy roller, but with a lightish wooden one, covering two drills at once: if more than two are taken, the chances are that one of the lot, from uneven work, may escape the needed pressure. A heavy iron roller, is indispensable on any farm, as a protection against wireworm, in which case, it cannot be too heavy. As to "clod-crushing," a good down-pour of rain will do more good than the heaviest "Crosskill" or "Cambridges," and in the case of a very obstinate lot of clods in a piece of clay-land, waiting time will prove the most profitable working time.

ROTATIONS.—As a rule, the rotations generally followed in this province appear to us to cover too many years. The rotation pursued at the Trappist-farm at Oka, seems to us to be quite long enough, and, we confess, we should like to shorten it by cutting off one year of the pasture-land. It is as follows:

1st year..... manured hood-crop;
2nd " grain;
3rd " meadow;
4th " do;
5th, 6th, and 7th, year. pasture,
8th " grain.

We should like to have noticed that the first or second year's meadow had received a moderate dose of manure, for we suppose no one now holds the theory that top-dressing meadows, &c., is a waste of manure. The experiments of Mr. Shutt, Professor of Agricultural Chemistry at the Ottawa Experiment farm, showed satisfactorily that the waste of nitrogen, the only wastable constituent of dung, was, in a dressing of ten tons, only, in money value, equal to 34 cents!

Wool.—If, as we are told, the Americans are going to take off the duty on wool, we ought to make pre-

parations accordingly. To this end, we shall find it advisable to give up all our long wools and turn our attention to the larger breeds of short-wools: the Hampshire downs and the Shropshires. For although the long wools yield a heavier fleece, the short-wool's fleece fetches a higher price, and, as mutton-sheep, they are, of course, undeniably superior, so that, taking wool and mutton together, and considering that 5 Downs can be kept on the food required by 4 Lincolns or other long-wools, it would pay the farmer best to keep Downs. As far as we can foretell the future, the proposal in the State to admit wool free and to lower the import duty on barley, opens a very bright prospect to the Canadian farmer. England evidently will not take our barley, and the States' brewers want it badly. Things do look better all round: don't you think so?

SUGAR.—By some peculiar act of heedlessness, a paragraph in an exchange is made to read: "The most flesh forming food is sugar; thin people can't use too much of it; for people can't use too little of it." It should of course be "fat forming." Sugar, containing no nitrogen, cannot form flesh. The writer probably only meant to say that sugar would add weight to the body of the animal fed on it.

THE ARAB.—Many years ago Europeans are said to have tried to find out the secret of the great superiority of Arabian horses, and they could ascertain nothing, unless it was the food—barley. Arabs no doubt feed their horses on "The golden barley of Yomen," as the Emir tells Sir Kenneth of Scotland, as they sit by the "Diamond of the Desert," eating their frugal collation after their escape from the lances of the treacherous Grand-Master of the Templars. But it was tried in England many years ago, and not found to answer, being found to be too heating. Steeped for 48 hours and allowed to germinate slightly, in other words, partially malted, barley loses its injurious effects, and many of the large Norfolk barley growers utilise their tail-barley in this way. The only thing we see against it is that perhaps the excise might view it with suspicion, as calculated to lead to surreptitious distillation.

SHEEP.—A clipping, not from, but in the Vermont Watchman, says, very sensibly, that "sheep, to give the best results need the best care. Both wool and mutton will soon show the effect of neglect." If sheep are well fed for a month and then neglected, the wool will be feeble in resistance at exactly that point in its growth when the neglect began to take effect on the animal. As to the injury done by semi-starvation to the meat, it is clear that regular feeding will in all cases result in a regular addition of tissue; irregular feeding must produce an evil effect on the digestion, and therefore on the general health of the animal, which must affect the quality of the meat.

Cows.—Little, if any, outdoor exercise is needed for milch-cows in winter, although we see, by our exchanges, that some of our neighbours in States hold a different opinion. Water, of the same temperature as the cow-house, should be always before the

cows, so that they can drink at their pleasure. A little crushed linseed will have the effect of brightening their coats wonderfully. If the house is warm enough, carding and brushing daily is good practice; but in a cold cowhouse, we would rather omit it, as it lays the animal more open to the effects of the cold. A well-licked hide seems to us to be sufficient for all purposes, and if a cow enjoys good health, is sensibly fed, and is not tied up too tight, her tongue will save the trouble of carding, or, as we English call it, currying.

OUR ENGRAVINGS.—After seeing the portrait of the shorthorn cow, taken from "Hoard's Dairyman," and comparing it with the portrait of the Dairy-shorthorn, 1st prize at the London Dairy show, no one can feel surprised at the comparatively disgraceful exhibition the American shorthorns made of themselves.

By the bye, the editor of the "Country-Gentleman" evidently does not understand that there are two kinds of shorthorns in England (see his remarks on the engraving p. 14), one kind, the Bates, Booth, &c., pedigreed stock, in most cases incapable of providing milk for their own calves; the other, the unpedigreed Dairy shorthorn, the favorite farmer's cow in almost every county in England. A good tour through the dairy-districts of that country would enlighten some of the American writers considerably.

SHORTHORN-HEIFERS AT CHICAGO.—Mr. Val. Fuller, who is always fair in his judgments, speaks thus of the Chicago Heifer-test:

THE CHICAGO HEIFER TEST.—The last dairy test at the world's fair was for two-year-old heifers. The butter was estimated by analysis of milk on the basis of 80 per cent. oil for pound of butter. A fixed price was set per pound of estimated butter—40 cts. The object was to demonstrate the profits of the breeds at an early age.

The Jersey had won all along the line against the Guerneys and Short-Horns in the three preceding tests, in which the Guerneys had been their closest competitors, but the Guerneys did not participate in this heifer test. From the foregoing statement it would at first appear an easy victory for the Jerseys, and on the strictly dairy basis, leaving out increase in live weight, they had an easy victory, but in the test as it was, it is a marvel they won at all. This test included not only butter but by-products, and increase in live weight was credited at 4½ cts. per lb. Again, the average price of butter in the former tests was 45 to 46 cts. per lb. The Short-Horn heifers went into the test thin, and for 21 days they gained the unprecedented average per head of 3.04 lb. per day, against 1.02 lb. for the Jerseys, so the Jersey babies had to make out of butter and solids not fat (at 2 cts. a pound) over 9 cts. a day to equal their larger competitors. Had the test been a prolonged one, the Short-Horn heifers could not have maintained the same ratio of increase and kept up their flow of milk, as it is an impossibility for a cow of any breed to put the fat on her back for a great length of time and maintain the flow. But in this instance the Short-Horns—be it said to their credit, from their breed standpoint—did both, speaking in the highest terms of their characteristics of fattening and the excellent handling they had.

The amount of daily increase in live-weight is enormous, very seldom realised by the most skilful feeders on the most perfect bullocks, and is another proof, if proof were needed, that the heifers in question, like all the rest of the shorthorns at Chicago, were not Dairy-shorthorns at all.

CROSS-RIDING FOR WOMEN.—Such is the curious heading of an article in the Cultivator, which, being translated, means: Riding on cavalier. A few women in England, we hear, have taken to it, but we do not think it will ever take the place, even with the hounds, of the graceful side-seat. The writer of the paragraph very properly objects to the use of the word to ride being used to designate sitting in a carriage; its primary meaning is not so, but to sit upon a horse; and he quotes that much talked of but little read "Faerie Queen: "

"And lastly came cold February, sitting
In an old wagon, for he could not ride."

"And," he adds, "only the few cultured people distinguish between riding and driving." Alas! Macaulay, Thackeray, and Dickens, all of whom were cultured people, use the words "riding in a carriage." In our younger days, it was decidedly a sign of ill-breeding to do so, but now, it seems to be permissible, though to our ears it is most unwelcome.

DEBT.—A most unwise thing for a farmer to incur, is debt, except for the purpose of draining his land. On this subject, read Mr. Wm. Ewing's lecture on Farming in general and draining in particular, delivered at the Farmers' Congress, held at Quebec last January, and now in print in both French and English.

CLIPPING HORSES.—Mr. Charles Wood, a leading veterinary-surgeon in the States is, like the writer, a strong advocate for clipping horses. We remember well when a boy seeing the grooms strapping away at our brothers' hunters for a couple of hours before they could get them dry. Then came the shaving—really, with a razor—then clipping was invented, and half-an-hour after the return from the run, the hunter had been fed, watered, dressed, clothed, and was at ease for the rest of the night. In England our five teams of plough-horses were invariably clipped, and did all the better for it; but we should not clip farm-horses here unless their stables were much warmer, their clothing much more plentiful, and their attendants much more careful than they usually are. After clipping, it is a good plan to singe the coat over lightly once a month, as far as appearance goes, as the hair of most horses grows irregularly, and soon begins to look rough. A tube, with a broadish burner, attached to a gas-pipe, soon effects the job.

THE ADVANTAGE OF CLIPPING HORSES.—We have no hesitation in placing ourselves on record as an uncompromising advocate of the practice of clipping, says Charles R. Wood, a prominent veterinary surgeon, in the American Horse Breeder. He asserts that clipping is no more an outrage on nature than is domestication, and that the former is made necessary by the latter. Some who speak on the subject try to make a point by asserting that the horse that has been clip-