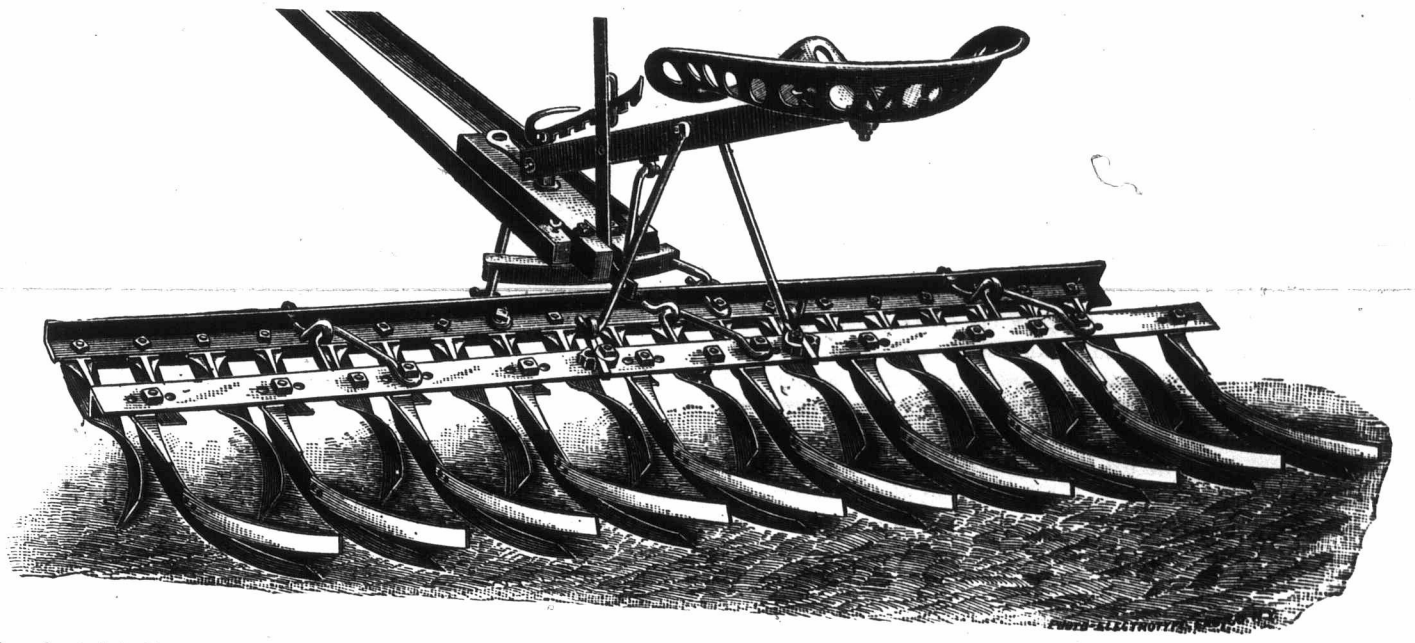
braces, nailing one end to the upper portion of the leg, and the other to the straight edge. The fall of the drain can then be marked on one of the bottles, on the same principle as on the cross-stick in Fig. 2.

The Acme Pulverizing Harrow.

Every year improvements, alterations or new implements are being made, the wish of the enterprising being to procure the best. The stock of implements on a first-class farm is now no small item. To do the work most effectually special implements are now employed. We now introduce to your attention another harrow, clod crusher and leveler which has special merits. The teeth are made of the best steel, are strong and sharp, and are so placed as to cut and turn over the ground at a uniform depth, thus securing an evener growth of the crop. It is considered a most desirable harrow to put in grain in level fall-ploughed land, and to be the best levelling harrow, and an excellent clod crusher. It will cut, break up and kill all weeds. It is claimed to be admirably adapted for use on fall ploughed land, either stubble or sod.



We are in receipt of the catalogue of Nash & Brother, of Millington, New Jersey, in which we see the testimonials of over 2,000 farmers that are using the Acme Pulveriziug Harrow, Clod Crusher and Leveler. They express their highest approval of it, and say that the g ound is better pulverized by it by one rack than by two of the ordlnary harrow.

Notes on Clovers and Grasses.

A popular method of renovating a worn out soil is by means of green manuring. It can only be profitably practiced in light sandy soils and heavy soils which are deficient in vegetable matter. The best time for plowing under is just before the time of flowering. In England the crops used for the purpose are buckwheat, rye, white mustard, rape, vetches and clover.

The best crop for green manuring is the one that will take the most nutriment from the atmosphere and from the subsoil. These offices are best filled by red clover and lucerne. A dry season and a drained soil are best, for then the vegetable matter decays more rapidly, which process is prevented in a water-logged soil. Green manuring is preferable to summer fallowing for the reason that in the latter the nitrates are lost, while in the former they are preserved in the surface soil. The covering of the soil with clover helps to kill the weeds, and sometimes a cereal crop may be grown at the same time.

There is a broad difference between clovers and grasses, the former belonging to the leguminous or pod-producing plants, which also include beans, peas, lupin, etc. They are all very rich in nitrogen or flesh-forming constituents. They are a sort of scavengers, and eat food which no other plants will touch. Like hogs, they are not very dainty in their diet. Hence we find that a piece of land, after a crop of clover is taken off, is often richer for other crops, especially wheat, than it was before. It is firmly believed by some of the best authorities that leguminous plants take in nitrogen from the atmosphere through the leaves, which other plants cannot do, and investigators are now hard at work settling the question.

The clovers and grasses best suited for this Province are timothy, red clover, alsike, red top, meadow foxtail, orchard grass, lucerne, meadow fescue, besides our native grasses. There are a few other excellent grasses which do well in some localities, but all should be tested thoroughly in each locality before any large quantity be sown.

Some agricultural writers and authors of seed catalogues do more harm than good in telling some farmers how much seed they should use per acre. This cannot be got at without first weighing the farmer's intelligence and then the conscience of his seedsman. The farmer who does not take a first-class agricultural paper is just as likely to buy weed seeds as anything else, and if they happen to be mixed with a few grass or clover seeds, they may be too old to germinate. But such an assortment is cheap, and the farmer buys it in order to save money. The condition of his soil, of course, corresponds to the seeds used. Our advice, therefore, is : Sow from 5 lbs. to 5 bushels per acre, bearing in mind that the farmer who sows upon his estimate of his own intelligence, is sure to sow too thin.

Stock, as well as land, requires a change of food, and no change can be better than a variety of grasses and clovers. Is a concentrated diet required, it can be obtained in early cut, well-cured clover; is a bulky food in demand, it i furnished by the coarser grasses. But bulkiness and concentration are governed more by the time of cutting and manner of curing than by variety.

There is a great deal of talk about sowing a "nurse" crop with the grasses. It is said to protect the young shoots from the piercing rays of the sun. This may work on the same principle by which a patient should take medicine so long as he remains in ignorance as to how he can maintain his health by natural means. Protection always weakens, and besides a general purpose soil is just as bad as a general-purpose cow. You can change the chemical and physical character of your soil from year to year to suit your rotation, but you can't make two or more crops gro v on the same soil and at the same time with the best results.

Marl as a Fertilizer.

Prof. Kedzie, of the Michigan Agricultural College, has filled a blank which will enlighten many of the farmers of Canada, as well as those in his own State. We have received frequent inquiries with reference to the value of our marl beds, but not having an analysis, we have not been able to give substantial advice. Prof. Kedzie has analyzed several specimens sent to him from different counties in Michigan, and it is not likely that our marls differ much from these in their chemical composition. Marls are valuable in proportion to the percentage of carbonate of lime and magnesia which they contain, but in one of the specimens in the table subjoined there is a small percentage of phosphate of lime, which is exceedingly valuable as a fertilizer.

TABLE OF ANALYSIS OF MARLS IN DIFFERENT COUNTIES IN MICHIGAN.

	Berrien County.	St Joseph County.	Lenawee County.	Otsego County.
Carbonate of lime	79 60	56.16	90.00	80 00
Carbonate of magnesia	4 54	6.00	2.00	2.50
Oxide of iron	1 43	1.05	.....	.....
Clay and sand (insoluble in acid)	13.00	36.79	5.50	16.00
Organic matter	1.43	.....	2.50	..
Phosphate of lime	.....	.....	.....	1.50
	100.00	100.00	100.00	100.00