drill, and the yield is believed to be from 10 to 15 per cent. *more* than by the usual modes.

Running the drills north and south, also, when practicable, secures another advantage in giving free access to both sun and air, and thus in a great degree checking the tendency to rust.

Hand-drills.

The earliest kind of drill worth mentioning took the form of a hand implement, many of which are still doing excellent service, having been brought to a high degree of perfection. Indeed some of them will perform all the varieties, though, of course, not the quantity of work which can be done by their larger rivals.

Amongst the best of these now in use in Canada are the "Wethersfield," the "Patent Regulator," and the "Planet" seed drills.

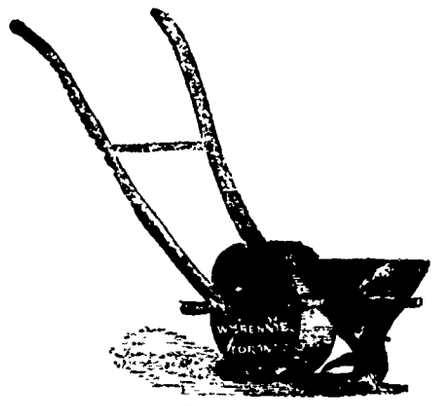

FIGURE 1.

The first of these is simple and cheap, easily operated, and marks its own row; opens the drill; drops, covers, and lightly rolls the earth upon the seed. It also sows any kind of seed with regularity. It is provided with a "marker" for marking the next row. The cover can also be adjusted to cover the seed more or less at pleasure.

The roller leaves a ridge over the seed, and the cast-iron reeds, by which the implement is worked, being of various sizes, may be easily changed for different kinds of seed.

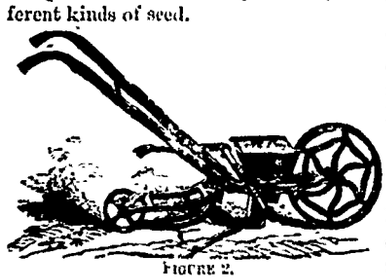

FIGURE 2.

The second of these, the "Regulator," will perform all the work of the other, being specially adapted for turnips, peas, beans, sage, carrots, onions, &c. The seed-conductor being enamelled white on its inner surface, the operator can see at a glance how the seed is being dropped, and thereby prevent any failure in sowing.

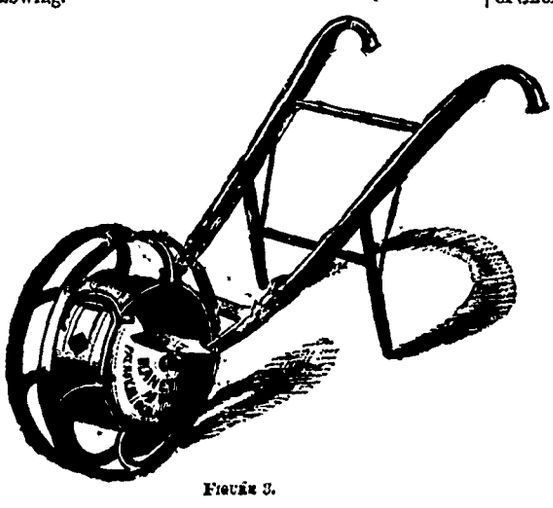

FIGURE 3.

The third, viz., the "Planet Drill," is manufactured in four different sizes, numbered 1, 1½, 2, and 3; the first two holding three pints of seed, although they will work perfectly with a quarter of an ounce. They weigh about 20 lbs., and are very convenient for garden use or for field purposes, when sowing is to be done on a small scale.

No. 2 holds four quarts of seed, yet operates well with half an ounce. It performs all the varieties of work of Nos. 1 and 1½, but on a larger scale; weight about 40 lbs.

No. 3 holds half a bushel of seed, and in addition to its seed-sowing qualities, is especially devised to sow guano and other fertilizers.

Hand Broad-cast Sowers.

"Broad-cast" sowers are also sometimes used, though the advantages they possess over common hand-sowing can be considered only as regards quantity, not quality of workmanship.

FIGURE 4.

One of these, called "Cahoons," consists of a light sheet-iron frame-work, surmounted by a hopper or common canvass bag, which will hold between one and three pecks of seed. The implement is suspended by a strap from the operator's neck, and retained in its position by another round his waist. The grain falls through an opening between the hopper and frame-work, (which can be lessened or widened to graduate the quantity per acre), and the discharge takes place through a flanged spout which is rapidly rotated by turning a crank. The seed is thrown forwards and sideways to a distance of from 10 to 20 feet from the operator.

A good grass seed-sower of this character is made of a long wooden box, partitioned off into sections of from one to two feet, and is operated by a small lever handle which is easily regulated to sow any desired quantity of seed per acre. See Figure 5.

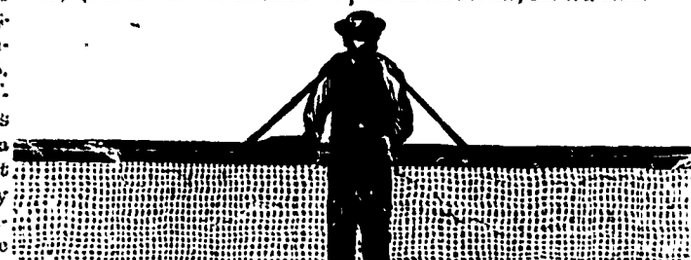

FIGURE 5

It is suspended by straps which cross over the shoulder and is borne against the breast. All these implements are easily obtainable from most manufacturers throughout the country. Hand implements were soon followed by horse drills, the main objection to which was that for a time at least, they were applicable to the sowing of only certain kinds of seed. An erroneous impression prevailed that an implement which could sow one kind of grain well, should sow all others equally well, with the same distributor.

Experience however soon demonstrated this idea to be impracticable—that whilst a drill might sow wheat or rye, for which it was specially adapted, uniformly and well, it failed utterly when used with peas, corn, and the other coarser grains;—often crushing or breaking the seed—whilst no reliance could be placed upon its uniformity of work. This defect however, as we have already noticed, has now been most completely remedied, so that by the internal arrangements of the implement itself, and by other attachments it will in fact sow anything.

Horse Seed-drills.

Several different styles of the horse seed-drill have been in use both in this country and the United States, with varying success; amongst which may be mentioned the iron cylinder drill with brush drop—an implement which not many years ago took a leading position. Yet, like nearly all its contemporaries it was essentially deficient and open to censure upon certain important points. For example, it gave no positive assurance that the seeding of coarse grains was performed with accuracy, either as to the quantity distributed per acre, or the uniformity of distribution. It was faulty in its liability to become worn in such manner as to sow irregular and excessive quantities of seed; and it performed with but little satisfaction the seeding of spring grains—one of the most important requirements of a good drill. Improvements upon the "iron cylinder" followed each other rapidly after the invention of the "double distributor" and the adaptation of other attachments to the grain drill, so that it has now become in fact the most important implement that can be used on a farm. But our space is already filled, and we must reserve a full description of the various horse-drills for our next number.

How to Select a Good Plough Share.

How common it is in ploughing times to hear such complaints as this; "That last share lasted no time; it just *wore* away to nothing," and "my shares *crumble* away before they are half worn out." Well my friend in the first case your iron was too soft, and in the second, far too hard.

Now there are three ways of picking a good share. 1st, by sight; 2nd, by feel; and 3rd, by sound. Have you got a good share now? If so, mark it; break it when you are done with it, and note its *colour*; or suspend it and strike it with a hammer noting its *sound*, and select your next one accordingly, In a hard share the iron is much *whiter* than in a soft one. This is a rule:—the whiter the iron is the harder the share, and *vice versa*. Again, the ringing sound of shares when suspended and struck, varies over several full musical notes. So, if you know anything of music, you can select your share by your tuning fork. This gives us another rule, viz: the sharper the ring, the harder the metal, and *vice versa*.

Another unfailing method is by the feel,—thus: select the *thickest* part of the share, and run your finger over the surface of the implement at that place. If the metal is hard you will perceive an evident *lack* or *hollow* over the *thick* part; if not hard, this hollow will not be observed.

In selecting a share by sound, the ring should correspond with that of a steel saw blade.

☞ Hay-mows should always be well ventilated; and unless ventilation is otherwise provided for, hay barns should not be battened.