

independently locked on or off and shifted with the section of discs to which they belong. Each scraper works on an independent spring, and always fits tightly against the disc. The principal uses of this implement are cutting turf, and pulverising and levelling the ground after ploughing, but it is equally well adapted for breaking up the land after the corn crop has been taken off, which cannot be done with a toothed harrow. For this purpose the British farmer generally uses a rigid-tooth cultivator, while the Canadian farmer uses a disc harrow, which answers also for ordinary harrowing purposes.

Another kind of harrow, but only adaptable for use in light soil, is the chain harrow, made of a series of steel links.

*Sowers, Plate 1.*—The ground, being broken and level, is ready for the reception of the seed. The earliest method of sowing was to carry the seed in a receptacle, scattering it broadcast by the hand, and some fell on good ground and yielded a crop, while some fell on bad ground and was lost. In our day, however, the chances of thus losing seed are reduced to a minimum by mechanical devices. For different purposes, seed is sown in different ways—broadcast, and in rows, or drills. Machines for both methods are shown; the broadcast seeder by the Massey-Harris Co., and the drill by the Noxon Co. Such seeds as corn, peas, beans, barley and some others are, as a rule, sown in drills, while grass seed, clover, and sometimes corn, are sown broadcast. There are two varieties of drills—the hoe and the shoe. The seed is contained in a box, from which it passes to the ground through a series of tubes, at the bottom of which are the open hoes or shoes. The hoe-drill hoes a channel through the ground by means of diamond shaped points, the seed passes into this channel and is covered by the earth falling back on it. The shoe-drill has a row of steel runners with V-shaped bottoms which are curved upward at the points in a form resembling a shoe. These sharp bottomed shoes cut furrows through the earth into which the seed passes, and short drag chains attached to the rear of the shoes throw a loose covering over it. Grass seed may be sown from the drills by replacing the hoes with "scatterers," which, instead of