

# Agricultural Implements.

## Horse-Hoes.

The very injurious effects of weeds, as experienced by every practical farmer, render any remarks regarding the necessity of a good horse-hoe needless at this time of day

Even where there are no weeds, the use of this implement in merely shaking up or scarifying the soil between the ridges of growing plants, cannot be over estimated; for science has now fairly proven that the free admission of the sun's rays and of atmospheric air is almost as essential to a healthy growth as the soil itself.

There are various implements of this class already in use in Canada, generally, or with few exceptions, on a limited and somewhat cheap scale, and although each of these appears to answer its purpose pretty well, yet we would fain hope that the time is not far distant when we shall see a most decided improvement both in the style and use of this important implement of husbandry:

The horse-hoe, as its name indicates, is of course intended to supersede the hand-hoe and its uses may be defined as follows:

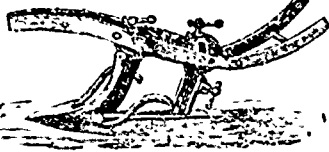


FIG. 4.

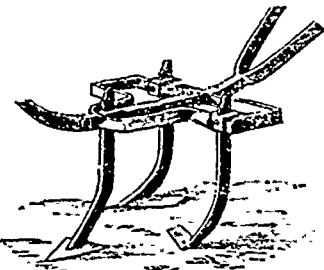


FIG. 6.

2nd. To thoroughly stir up and loosen the soil about the roots of plants or grains in order to admit the sun's rays and the oxygen of the atmosphere.

A very good and cheap implement of the kind, which answers the purposes of both a weeder and a scuffler is now very much in use amongst our farmers. It is adapted admirably for turnip, potato and cornfields, and is drawn by one horse. (See Fig. 1)

It consists of a central longitudinal wooden beam, into the top of which a pair of plough handles are fixed for guidance; and to each side of it a side beam or wing is hinged, the whole having somewhat of the A harrow appearance. It is provided with three different ploughs, one fastened to the central beam near the front, and one to each wing, and these ploughs are reversible, so that by one trip the weeds are uprooted and thrown into the centre between the rows, and by a second, with reversed side ploughs, the soil is placed up to the roots of

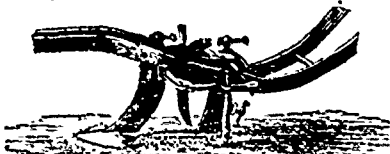


FIG. 3.

plants, equally as well as this could be done with a regular plough. The depth of dig is also regulated by a wheel in front of the implement, and the side wings

may be expanded to any required width for the ridges.

Another, and still more serviceable implement than that just described, is the "Iron Universal Plough" which by slight alterations may be used in three different ways, viz:

1st. As a Double-Tom or Ridge Plough, used for opening and closing the land in ridge-work, at any distance where the manure is deposited, also for setting out lands for common ploughing, opening surface drains, or as a moulding plough for moulding up root crops, peas or beans. (Fig. 2.)

2nd. As a Horse-Hoe or cleaning plough, the mould-board and heel-piece, or back part of the frame,

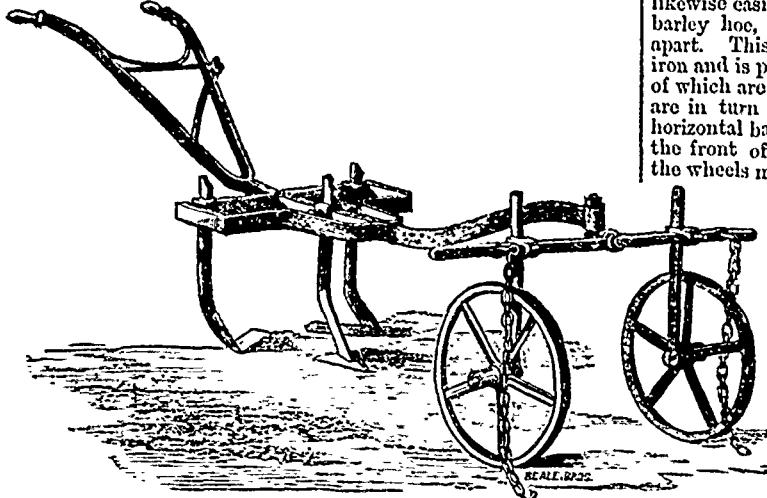


FIG. 5.

being removed, and two frames which shift to any width, with a share in front, and two curved cutters being attached, it forms a perfect horse-hoe, the share cleaning the bottom of the furrow, while the hoes shave the sides of the ridges. If required also to be used as a Scarifier for bean rows, potatoes,

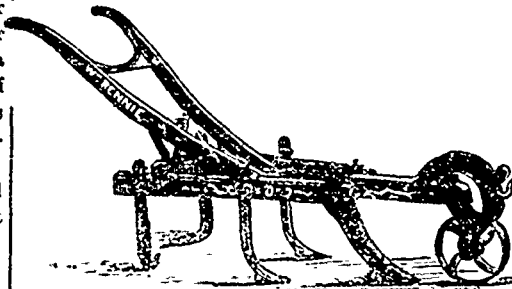


FIG. 1.

etc., flat hoes can be substituted for curved cutters. As the hoe-frame will expand about 3 ft. 6 in., it will allow two flat hoes to be used on each side. (Fig. 3.)

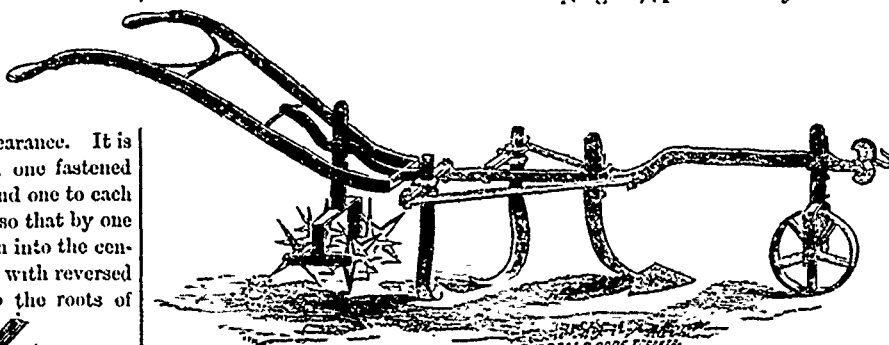


FIG. 8.

3rd. As a Skeleton or Broad Share Plough, a 14 in. or 18 in. share being used and small mould-boards, or, if preferred without the mould-boards, prongs may be used. In the former case it will effect good trench ploughing, in the latter it will break up the soil and leave it in the best state for pulverization. Or if it be desired merely to cut up weeds, the large broad share only may be used without prongs. As a skele-

ton plough a large single-winged share is to be used either with or without prongs. The entire weight of this implement in any of its forms, averages about 2 cwt. The above is of English origin and designed for one or two horses. (Fig. 4.)

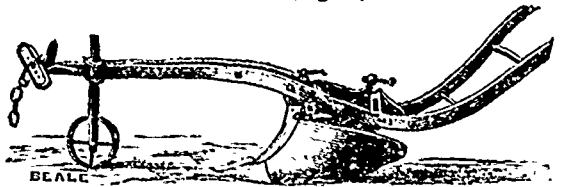


FIG. 2.

Another excellent article of its class, also of English manufacture originally, is the "Universal Steerage Horse-hoe" (Fig. 5), which is adapted for hoeing one row of beans, potatoes, turnips, &c., and likewise easily convertible into a four-row wheat or barley hoe, taking the rows at about nine inches apart. This implement is made entirely of wrought iron and is provided with two front wheels, the axles of which are fastened to two vertical iron rods, which are in turn fastened above, so as to slide along a horizontal bar which is fixed on a swivel just below the front of the beam. By means of these slides the wheels may be made to approach or separate from one another to suit the width of ridge. The wheels are likewise sufficiently high to carry the frame over young plants without injury.

A universal joint is fitted in the centre of the front bar, upon which the implement swings, so that when hoeing on uneven ground the same depth is ensured in the hollow as on the flat or hill-side.

The centre hoe also slides along the centre beam, and may either precede or follow the side hoes; also, when used on adhesive soil, the hoes can be placed farther apart to prevent

clogging; and, if the soil is very hard, two grubbers can be fixed to the front bars of the frame to break up the crust and assist the hoes in working. (Figs. 6 & 7.)

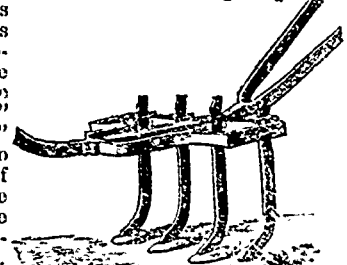


FIG. 7.

In the various implements thus far described we have made use of the words "prongs" or "ploughs" as applicable to those parts of the horse-hoe which enter the ground and uproot the weeds. We might, instead, have called them "tynes," as some designate those which, instead of curving forward, turn inward, and cut along the ground horizontally at any required depth.

In the cases given, moreover, all the principles thus far put into practice are fully brought out, as regards horse-hoes.

There is just one other idea which we might mention, one which has been deemed a great improvement by some farmers who have seen it tested,

and that is the addition of a revolving toothed hoe, which is sometimes attached immediately behind the tynes. The object of it, as will readily be seen, is to effectually bring the weeds to the surface, and thus facilitate their wilting and withering by exposing them wholly to the rays of the sun. This idea is, we think, a most important one, for it is the sad experience of but too many agriculturists, that

after all their weeding, grubbing and scraping, the ever noxious weeds are only too ready to take root again, unless every fibre is separately killed dead. An illustration of this implement is seen in Fig. 8.

Wood is 7 to 20 times stronger lengthwise than transversely.

Melted snow produces about one-eighth of its bulk of water.

At a depth of 45 feet, the temperature of the earth is uniform throughout the year.