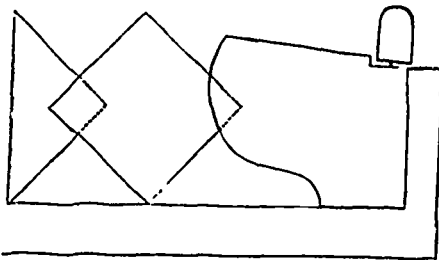


degrees, after long and patient experiments, and not founded on the theory of what a plough ought to be, the shape of the mould-board was attained by trial and error, and corrected and altered according to the suggestions of the ploughman who held the plough. At length the implement cut its furrow-slice of the dimensions of 13 inches deep, by 12 inches broad,

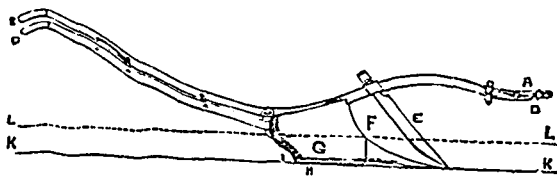


Tweeddale Plough furrow.

and, clearing its way as it went with perfect ease, was pronounced to have attained the contemplated end.

In general, the plough packs the furrow-slice too tightly against its neighbour, but the Tweeddale plough leaves it loose and pulverised, permitting air, rain, and frost to enter and do their work freely during the open season; and, when spring arrives, the grubber passed across the ridges draws out the root weeds which the plough has eradicated, and renders their subsequent desiccation easy. This is a far better practice than cross-ploughing, which, cutting, as it does, the root weeds into lengths, renders them less facile of destruction.

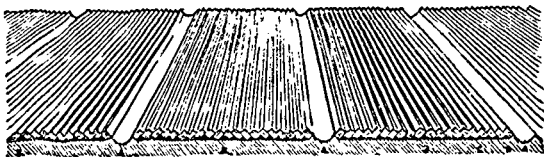
As the Tweeddale plough requires three powerful horses to work it, I fear it will be some time before it is introduced



Scotch Plough

into this country. The Scotch iron plough must then still be considered our best implement, though the two-wheeled ploughs of Howard, Busby, &c., are more perfect workers where there are no stones.

It is of no small importance that the land intended for fallow should lie in the right form all the winter. It should be as carefully ploughed, and the water furrowing as strictly

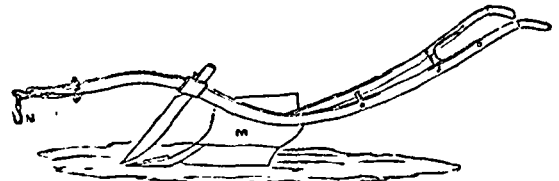


Well ploughed ridges.

attended to, as if it were intended to grow a crop. There is a difference of opinion as to the width of ridges. My own idea is emphatically this—on heavy land, with an impervious subsoil, nothing would tempt me to make my ridges of a greater width than eight feet, and I should have the harrows constructed to cover the whole ridge, and the horses yoked to the whipple trees in such a fashion that they should walk in the open furrows, (I speak of course of sowing time) and never set a foot on the ploughed land, except in turning at the headlands.

The position that the ridges should occupy is easily settled—up and down the greatest fall—except in the case of a very

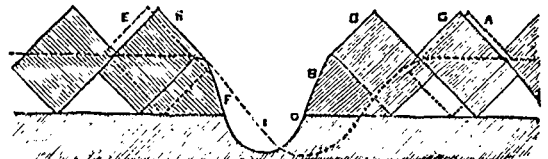
steep incline, when they should slant across the fall, both to ease the horses in their work, and to avoid the too rapid rush of water from the spring thaw and the subsequent rains. In ploughing the last furrows of ridges—*crumb*, or *hint-end* furrows—I cannot sufficiently recommend the practice of put-



Tweeddale Plough—land side.

ting the horses *atrip*, or one before the other. This need not be done till the day's work is nearly at an end, and probably a boy will be wanted to drive the team, as it is of great importance that these furrows should be well laid up, and not, as is too often seen, allowed to lie loosely scattered in the open furrows.

There should, it is hardly necessary to add, be cross water-furrows drawn after the ploughing is finished, and they should



A good water furrow.

be numerous, particularly in the hollow places, and on side hills. I hope in the next number of this journal to continue this subject, and to treat of the cultivation to be pursued in the opening of the dry season in early spring.

JENNER FUST.

ON CROSSING.

There is now no doubt that an immense good has been produced by the well managed system of crossing which has so long obtained in England. At first, the principle upon which the practice was based was little understood; but of late the more violent attempts of the earlier breeders have been avoided, and the more natural, and therefore the more sensible course has been pursued. However it has always been, and still is the rule to, in the country phrase, "put the best atop," i. e. to employ nothing but thorough-bred males.

It would be clearly absurd, in attempting to improve our flocks and herds by crossing, to lose sight of the fact, that the progeny must find ready for them food suited to their wants. There are many situations where a high-bred stock cannot be maintained as a *breeding* stock, continued crossing cannot in these cases be followed out, for eventually the whole herd, or flock, would become like the thorough-bred parent, and utterly unfit for their locality. Thus to keep on breeding from Shorthorn bulls and Canadian cows, on the poorer clay soils of this province, would be most injudicious. The first cross, or perhaps the second, is all that should be attempted, the breeding heifers being still kept true to the parent stock, until the improvement which we all so earnestly long for takes place, and the land becomes fit to support a superior class of animals. As for the notion that exist that, if a large sire be put to a small dam the foetus will be so large that the mother will be unable to bring it to the birth, we attach no weight to it, the foetus being always in proportion to the matrix which contains it. There may be perhaps a little extra trouble in its pro-