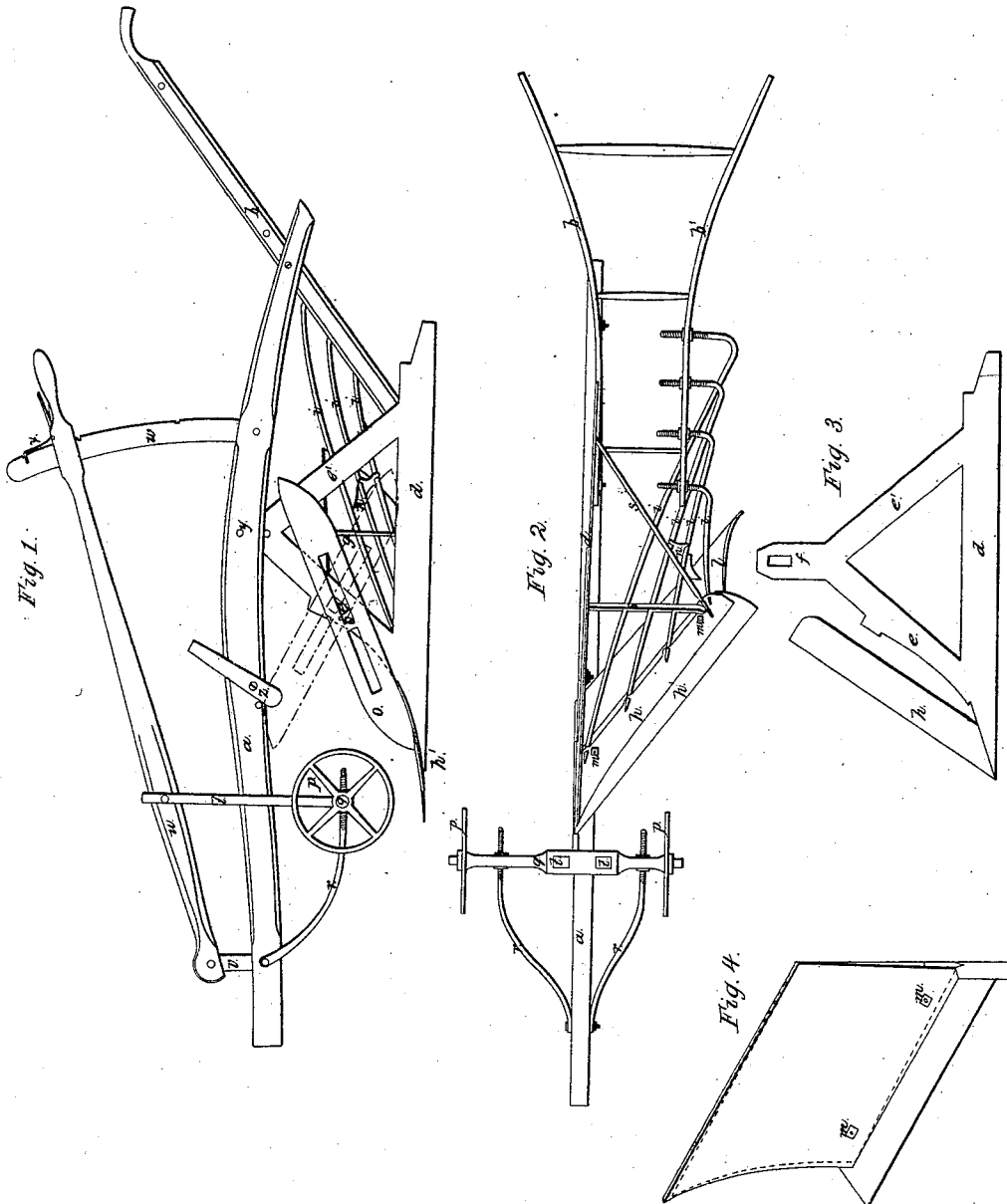


J. M. MAY.

Plow.

No. 4,488.

Patented May 2, 1846.



UNITED STATES PATENT OFFICE.

JNO. M. MAY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. 4,488, dated May 2, 1846.

To all whom it may concern:

Be it known that I, JOHN M. MAY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Plows; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a land-side elevation; Fig. 2, view of the bottom of the plow, and Fig. 3 a representation of the mode of making the land-side-standard and share-bed.

The same letters indicate like parts in all the figures.

In a patent granted on the 2d of May, 1843, to H. H. May, there is a mode described of making the mold-boards of plows for greensward land of a series of rods attached to the share and handles; but as this is only applicable to peculiar kinds of soil, it is important, for the convenience and economy of farmers, that the same plow should also be adaptable to old or fallow lands. With this view I so construct the bed of the share as to adapt it to the reception of a mold-board of the usual form over the mold-board of rods, so that either the one or the other may be used at pleasure; and as it is matter attended with much difficulty to attach the bed of the share, standard, and brace to the landside in a permanent and stable manner when these are made of separate pieces of metal, and as the forging of these in one piece would be an expensive and difficult piece of work, I cut the whole out of a single plate of metal and simply bend over the bed of the share to the proper angle relatively to the landside.

Another part of my invention relates to the guiding of the plow. Wheels have been employed forward of the cutting-edge for the purpose of determining the depth to which the plow shall cut, and so connected with the beam as to enable the plowman to vary and regulate this depth, and I use wheels for this purpose; but I so connect the axle-tree (on which these wheels turn) with the beam, by means of two arms jointed to the beam and passing through the ends of the axle-tree, and

regulated with screws, that they shall vary the direction of the plow by the turning of the screw-nuts, which varies the line of the axle relatively to the line of the landside, and thus guide more toward or farther from the land.

And my last improvement consists in a new form and location of the colter or cutter, whereby important results are produced which cannot be attained by the old mode. This consists in making the colter or cutter with two points and two cutting-edges and bolting it to the landside of the standard, so that the point may be placed on the point of the plow, and thus present a more gradual inclination, and therefore a better cutting-edge, or be thrown up against the beam to cut with the under edge to sever grass, weeds, &c., which lie on the surface of the ground, and which would otherwise tend to choke the plow, this colter being secured to the standard by a bolt passing through a slot in it and another in the standard, not only to admit of readily shifting and setting it, but to regulate the inclination of the cutting-edge.

In the accompanying drawings, *a* represents the beam of the plow, and *b b'* the handles. The landside is formed with a bar, *d*, and from this extend the diagonal braces *e e'*, united together at their upper end, there forming that part of the standard *f* which enters a mortise in the beam, which is there secured by a wedge, bolt, or other means.

The front diagonal brace, *e*, which may in reality be called the "standard," runs up from the share, and its forward edge is fitted to receive the mold-board, and the back one runs down from the standard to the heel, so that these two diagonal braces in reality constitute the standard proper.

For additional strength an iron rod, *g*, is employed extending from the back part of the bed of the share and passing up in a curve to and through the beam inside of the standard, and secured by a key-wedge, *y*, or other means; or the standard, instead of having the part *f* to enter the beam, may extend only up to it, and in that case is secured in any proper or desirable manner to the rod *g*, which is secured to the beam, and thus becomes a part of the standard; and it will be obvious that the triangular piece forming the inner boundaries of the landside and the front and back diagonal

parts, *e e'*, need not be cut out, which will add strength and prevent earth from falling in and clogging the plow.

The bed *h* of the share *h'* extends from the point of the landside, with its forward edge forming an angle with it of about forty-five degrees, and its rear end is sustained by two brace-rods, *s s*, one secured to the middle of the landside and the other to the heel end. The inner edge of this is bent and pierced with small holes to receive the forward ends of the rods *i*, that constitute the open mold-board, and these extend back with proper curves for the turning of the sward, the rear end of each rod being bent nearly at right angles to form the attachment to the off handle *b'* by means of nuts or other known device. The share *h'* is then secured to its bed *h* by any of the known means, and is let into the forward edge of the standard and extends a short distance over the junction of the rods *i* and bed to cover them.

As the open mold-board is not adapted to all kinds of soil, particularly old or fallow lands, I adapt the upper surface of the share to the reception of a mold-board, *l*, of the usual form, which is secured to the share and held by screw-bolts *m m*. The cutting-edge rests on the diagonal brace or standard *e*, and the other or wing end is supported by a brace, *n*, attached to the under side of it and resting on some of the bars *i* of the open mold-board.

The holes through which the bolts *m m* pass are a little elongated, either in the mold-board or in the share and bed, to admit of sliding the landside edge of the mold-board a little from the landside, as represented by dotted lines in Fig. 4, to form a recess for the lower edge of the colter *o*, (the point of the colter being notched in the share,) which runs back obliquely, and is secured to the standard part of the landside by means of a bolt, *o'*, which passes through a slot in both, (the one in the standard being indicated by dotted lines,) so that more or less inclination may be given to the colter, or to admit of placing it in the situation represented by red lines in Fig. 1, the point resting against the under side of the beam and within the steady-piece *z* projecting from the beam; the object of this position being fully explained above. This colter is made with two points, that it may be reversed when dull or worn. As either of the points wear it may be pushed out to the extent of the slot and then reversed. This, as well as all the other cutting parts, I make of steel.

For the purpose of regulating the depth of cut I employ two wheels, *p p*, the hubs of which run on an axle, *q*, attached to two arms, *r r*, that run forward and are jointed to the beam and pass through the ends of the axle, and are there tapped and provided with a nut on each side of the axle, by the turning of which the line of the axle relatively to the beam may be changed at pleasure; and from this axle two standards, *t t*, extend up (one on each side of the beam) to a lever, *u*, to which they are

jointed. This lever is connected with and has its fulcrum in the upper end of a standard, *v*, beyond the axle, and the rear end is mortised to embrace and move on a sector, *w*, projecting from the beam near the handles, this lever being provided with a spring-catch, *x*, which takes into notches in the rear edge of the sector, to secure the lever, and consequently the wheels, at any elevation desired to regulate the depth to which it is desired the plow should cut.

The manner of making the landside, the bed of the share, and the standard and brace in one piece is as follows, viz: I take a piece of sheet metal and cut it out, leaving a straight piece, *d*, which forms the landside. From one end of this the diagonal piece *h* is separated from the part *e*, and when bent over forms the bed of the share, and the union of the two the point. The rest of the plate is cut out to form the diagonal standard *e* and the diagonal brace *e'*, and the extension of the two forming the part *f*, that enters the beam. In this way these various parts are made of one single piece of sheet iron or steel, at less cost and of greater strength than if made of separate pieces united in the usual manner.

From the foregoing it will be obvious that the mold-board for old or fallow land may be secured over the open mold-board in any desired manner, whether to the share or the share and mold-board, being in one piece directly to the bed or it may be embraced between the share and bed. In short, any mode of securing the one mold-board to the other may be adopted at pleasure, although I have described that which I deem the best. It will also be observed that the landside and standard may be cut from a single piece of plate metal in any form desired, and that I do not confine myself to the precise figure represented so long as the landside and what constitute the essential part of the standard are made in one piece. It will also be observed that my improvement in the colter is equally applicable to cast as to wrought metal plows.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Making the landside, the bed of the share, and the standard all in one piece of sheet metal, cut out in the manner herein described, so as to afford greater stability and to reduce the cost of construction.

2. Making the colter with two points and two cutting-edges, and secured to the landside of the standard to admit of reversing end for end and inclining the forward point up or down, for the purpose and in the manner described.

3. Connecting the axle-tree of the guide-wheels with the beam by means of adjustable arms to afford a means of directing the plow, as herein described.

JOHN M. MAY.

Witnesses:

C. W. M. KELLER,
A. P. BROWNE.