

M. L. CHASE.

Side-Hill Plow.

No. 7,505.

Patented July 16, 1850.

Fig. 10.

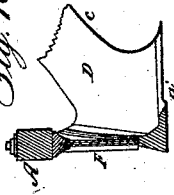


Fig. 9.



Plan view of wings h.g. of mould board.



Fig. 7.

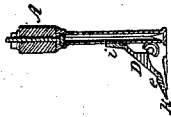


Fig. 5.

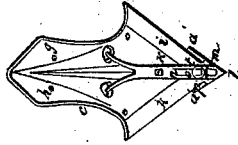


Fig. 4.

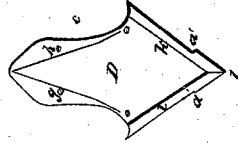


Fig. 3.

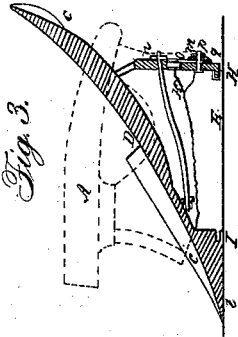


Fig. 1.

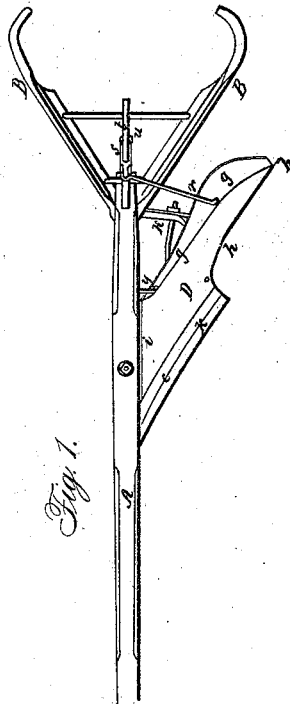


Fig. 6.

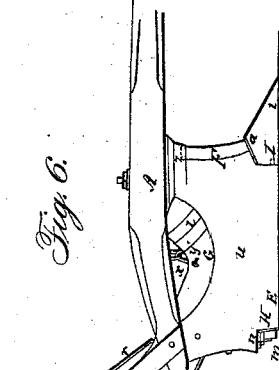


Fig. 8.

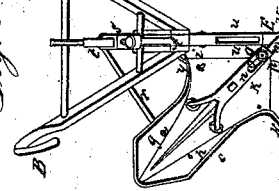
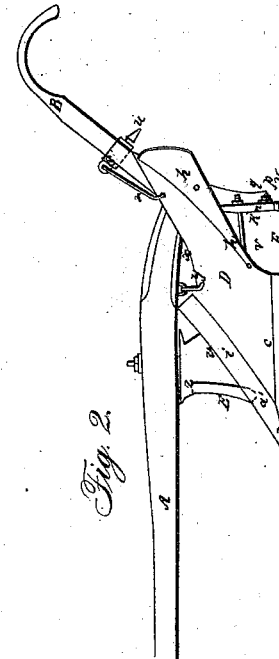


Fig. 2.



UNITED STATES PATENT OFFICE.

MARK L. CHASE, OF FRANKFORT, MAINE, ASSIGNOR TO WILLIAM L. CHASE,
OF BOSTON, MASSACHUSETTS,

IMPROVEMENT IN HILLSIDE-PLOWS.

Specification forming part of Letters Patent No. 7,505, dated July 16, 1850.

To all whom it may concern:

Be it known that I, MARK L. CHASE, of Frankfort, in the county of Waldo and State of Maine, have invented a new or Improved Side-Hill Plow; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 denotes a top view of my improved plow. Fig. 2 is an elevation of the front side of it. Fig. 3 is a longitudinal section of the mold-board and its adjusting-brace. Fig. 4 is a front view of the said mold-board. Fig. 5 is a rear view of it. Fig. 6 is a rear side elevation of the plow. Fig. 7 is a cross-section of the mold-board and plow. Fig. 8 is a rear end view of the plow. Fig. 9 is a horizontal section of the vertical bearing plates or surfaces and the sward-cutter. Fig. 10 is a vertical section of the sward-cutter and the parts by which it is held in place, as will hereinafter be described.

In the said drawings, A represents the tractive beam of the plow; B B, the handles of it; C, the plowshare; D, the mold-board thereof; E, the beam-supporter; F, the sward-cutter. The plowshare is connected or hinged to the lower part of the beam-supporter and so as to be capable of being turned from one side of the plow to the other, or vice versa, as in other side-hill plows, the connecting pivots or bearings being seen at H I in Fig. 6, in which they are represented in dotted lines.

Instead of making the mold-board with a transverse curve, as it is usually constructed, I make it practically straight or flat on its face in a transverse direction and in a longitudinal direction—that is, from heel to point of the share. I curve it with a slight curve, according as the nature of the ground under various circumstances may require. The mold-board may be slightly curved from side to side; but I consider the straight form as the best. I, however, consider a slight departure from the straight form as but a colorable variation of my improvement, or one productive of no practical change. I therefore make use of the words “practically flat” as expressive of the character of the transverse shape of my improved mold-board.

The wings *g h* of the share are planes, each of which is made to depart from the mold-board at an obtuse angle and in such a manner that when the plow is horizontal or on level land the outer one may always stand about at right angles to the horizon.

The front of the mold-board is bounded by the two knife-edges, *i k*, one of which has one side horizontal, while the other has its corresponding side vertical, and they both terminate on the front in the point or nose *l*.

The rear or back brace, K, instead of being a solid bar, as it is usually constructed, is made in two parts, *m n*, which are made to lap on one another. Through one of them, *n*, a slot, *o*, is cut and made to receive a screw, *p*, which is fastened to the part *m*, and has a clamping screw-nut, *q*, adapted to it in such manner as to enable a person to readily clamp the two parts together and to lengthen or shorten the brace-bar at pleasure, and by so doing to regulate the pitch or inclination of the plowshare. As the upper part of the mold-board is always supported by a hooked bar, *r*, it becomes necessary that this bar also should have some adjustment, by which it may be readily adapted to support the share under any angle or pitch of inclination. For this purpose the said bar is jointed to a slide, *s*, made to move up and down upon the center bar, *t*, and to be capable of being confined in any position on the said center bar by means of a clamping-screw, *u*.

The side-hill plow as ordinarily constructed has its plowshare jointed to a horizontal base-bar, which is connected to the plow-beam by two supporters or bars, the whole being so arranged as to leave a large open space between them, through which space the earth falls from the back side of the plow, and not only falls into the furrow, but presents considerable obstruction to the forward movement of the plow. The said opening or space is in my improved plow filled up entirely or to such a height as may be necessary to not only overcome the difficulties above stated, but at the same time to present a large bearing-surface against the earth to enable the plow to resist the pressure created by the earth against the mold-board. For such end I make my plow with two broad bearing-surfaces, *v w*, each of which answers for a resisting-surface when the plowshare is

in the opposite side of it. I am aware that a level-land plow has been made with such a resisting-surface applied to its share; but never to my knowledge has a side-hill plow been made with two of them so combined with the share as that one of them can always be used in connection with it in whichever side of the beam the share may be. The open space x is for the purpose of enabling a person to pass the hook y either to one side or the other of the beam, as occasion may require.

The sward-cutter F may be made of cast-iron, and with an angular recess back of its edge, made to lap on or receive an angular front part or edge of the bearing-surface plate or plates, or what is usually termed the "beam-supporter" E . The upper end of the sward-cutter is inserted upward in a recess formed in the bearing z of the beam-supporter. While the lower edge or end of the sward-cutter rests on a shelf-shoulder or recess, a' , made in the plowshare, and at such an angle as will not only support it, but prevent it from getting out of place while the plow is in operation, the sward-cutter made and supported in such manner is much better able to withstand the pressure to which it is subjected, both rearward and laterally, than it is when made and applied to the beam in the usual manner, in which case it is supported only by the beam, from which it projects and into which it is fastened. In my plow it has a lateral support, which prevents it from being broken off or injured by lateral pressure or blows of stones—an accident which often occurs to the sward-cutter when it is applied to the beam in the common way and has no back and lateral supports.

By making the plowshare in the above-described manner it will require a less tractile

force to operate the plow than is usually consumed. The nose or point of the plow, made as seen in the drawings, or with a point something like that of a bayonet, enters the ground with ease, displaces but little earth, makes its way, and enters the furrow wedge like, at the same time forcing the dirt off laterally, which, rising up the plane of the mold-board, is finally turned off by it.

My mold-board, by being made as above specified, naturally extends so high and has its wings so arranged as to render it useful for level-land plowing, the common mold-board of the side-hill plow, made with curved wings—that is, curved laterally—not being so well adapted for such use.

What I claim is—

1. The combination of the adjustments of the hooked bar r with those of the main brace K , whereby the pitch of the mold-board may not only be increased or diminished, but the proper support of the upper part of the plowshare be maintained under any angle of pitch, all as specified, the same also admitting of a change of the mold-board—viz., the substitution of one larger or smaller.

2. The above-described peculiar construction of the sward-cutter with its groove to receive the sharp edge of the landside, in combination with the notch in the landside of the share for receiving its lower end, and the notch or shoulder in the upper part of the sheth for receiving its upper end, substantially as specified.

In testimony whereof I have hereto set my signature this 11th day of February, A.D. 1850.
MARK L. CHASE.

Witnesses:

ISAAC F. RANKIN,
ARCHIBALD JONES.