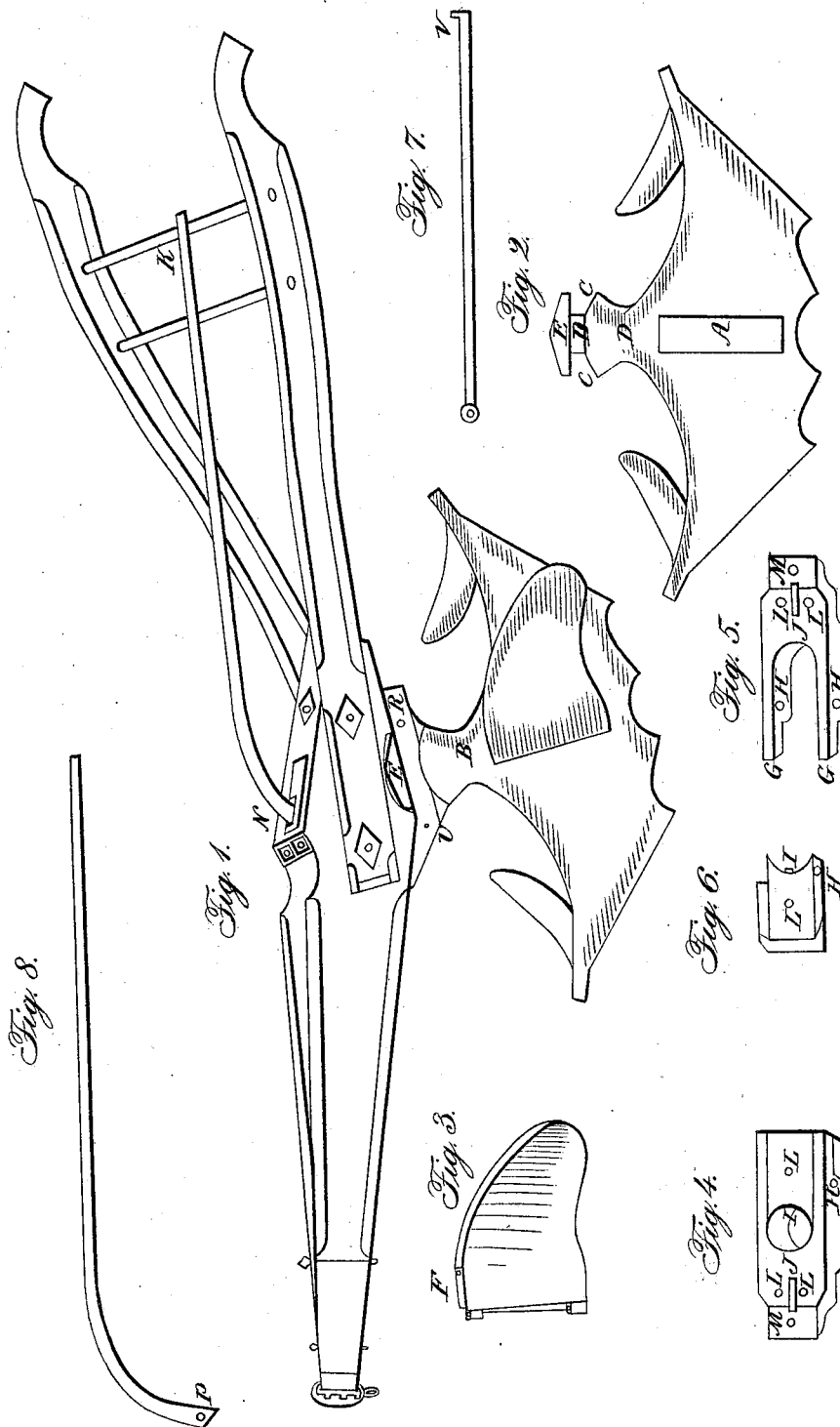


W. H. BABBIT.

Side-Hill Plow.

No. 5,363.

Patented Nov. 6, 1847.



UNITED STATES PATENT OFFICE.

WM. H. BABBIT, OF GREENE COUNTY, PENNSYLVANIA.

IMPROVEMENT IN HILLSIDE-PLOWS.

Specification forming part of Letters Patent No. 5,363, dated November 6, 1877.

To all whom it may concern:

Be it known that I, WILLIAM HARRISON BABBIT, of the county of Greene and State of Pennsylvania, have invented a new and useful Improvement in Hillside or Right-and-Left Plows, which are constructed with two points—one right, the other left—the heels of which are joined, a swinging section to the mold-board, and a revolving beam; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a longitudinal or side view of the points, stationary parts, parts of the mold-board, and sheth; Fig. 3, of the swinging part of the mold-board; Fig. 4, of the collar; Figs. 5 and 6, of the two pieces which compose the collar; Fig. 7, of the strengthening-strap, and Fig. 8 of the lever.

The points of the plow are of the usual form back to the heels, where they are so joined as to form an angle about one hundred and forty degrees of the base of the points. This angle elevates one point forty degrees when the other is horizontal. From this angle, and with the line of the juncture of the points, rises the sheth B, which sheth is solid cast-iron to the top of the head or cap E.

The swinging part of the mold-board Fig. 3 is constructed of two opposite winding-plates, through which passes a half-inch iron bolt, at F, on which it swings in the aperture A between the stationary parts of the mold-board Fig. 2. The shoulders C C are about six inches in width, or from point to point and one inch and a half in thickness. The tops of the shoulders C C are of a conical form, and from a line drawn from their points, are elevated about twenty-two degrees, for the purpose of forming an oblique space between the shoulders and the under side of the cap or head E, so that the heel of the collar, hereinafter described, when adapted to this space, will be in the form of a wedge.

From the center of the shoulders C C rises a cylindrical neck or journal, D, three inches in diameter and one inch and a fourth in height. In the convex surface of the neck or journal D are two shallow mortises, on opposite sides,

(not shown in the drawings,) one above each shoulder. These mortises are adapted to and for the reception of the guard I, hereinafter described, as it alternately comes opposite by the reversal of the beam of the plow.

The under side of the cap or head E is a plane at right angles with the neck or journal D seven inches in length, three and a half in width, and one and a fourth in thickness. The ends of the cap or head E are rounded, with a vertical groove in the center of each. The object of these grooves is to receive the lever hereinafter described. Fig. 4 represents a collar, which is adapted to and works on the neck or journal D. The collar is about thirteen inches in length, five inches in width, and the thickness equal to the length of the neck or journal D.

In the front end of the collar is an aperture, J, in which the end of the lever, Fig. 8, works. At the back end of this aperture, in the top of the collar, is an angle of about one hundred and sixty degrees. The object of this angle is to elevate the back end of the collar equal to the elevation of the cap or head E from the base of the points with the top of the front end of the collar horizontal or parallel (when on the neck or journal D) with the base of the front point. This collar, Fig. 4, is made of two pieces, Figs. 5 and 6, so that it may be got on the neck or journal D. In these pieces Figs. 5 and 6 are two semicircles of equal size, one between the front end of the parallel bars G G, Fig. 5, and the other in the front end of the heel-piece, Fig. 6.

In the middle of the semicircle of the heel-piece is a projection, of about one-fourth of an inch, called the "guard" I.

The inside of the collar, for the reception of journal D, is an oblong opening formed of the two semicircles in the pieces, Figs. 5 and 6, the heel-piece, Fig. 6, being so adjusted between the parallel bars G G, Fig. 5, as to separate the semicircles about one-fourth of an inch, or the length of the guard I. The guard I extends the full depth of the collar, and forms about thirty degrees of an arc of a true circle with the front semicircle. The center of the circle, front of the guard I, is also the center of a concave in the under side of the collar, adapted to the conical-formed shoulders C C. The collar is put on the neck or journal D, and

the heel-piece, Fig. 6, securely fastened between the parallel bars G G by means of a tapering bolt, H H.

The beam of the plow is of the usual form and size back about three and a half feet, from which the under side is elevated to the back end sufficient to form an angle on the under side of the beam completely adapted to the angle in the top of collar. The collar is there fastened to the beam by means of three iron bolts. These bolts pass through the collar at the apertures L L L, (shown at Fig. 4,) and up through the beam, with a screw on the upper end of each.

In the beam, above the inside circle of the collar, is an aperture sufficient for the cap or head E to turn or revolve in. The strengthening strap, Fig. 7, is fastened to the front end of the collar by the hook V in the aperture M, and extends forward under the beam to the clevis to which it is attached. The object of this strap is to prevent any backward movement of the collar and to strengthen the beam.

The handles of the plow are equally sprung or inclined, and fastened on the sides of the beam above the collar by means of two iron bolts, which pass through the handles and beam with a screw on the end of each. The top of the sheth B is inclined toward the mold-board side about one-third of the width of the base of the plow. The object of this inclination of the sheth is to give the plow land with the beam parallel with the landside, so as to place the equally-sprung handles on the sides of the beam in a right position for the plowman to walk in the furrow. In Fig. 8 the lever extends from the fastening K, between the handles, through the beam at an aperture, N, into an aperture, J, in the front end of the collar, where the end P works on the fulcrum-pin U.

Now, to explain the action of the swivel-joint on which the beam revolves, suppose the

plowman to raise the lever from its fastening K. This will detach the lever from the groove in the cap or head E. Then, by giving the handles of the plow a slight depression, the collar will balance on the shoulders. The guard I will be detached from the mortise into which it had entered, and the neck or journal D be thrown forward into the true circle front of the guard I, and the beam will be free to revolve right or left with the team. The guard I will confine the neck or journal D to this true circle, and cause a smooth and regular movement (which are its only objects) until it arrives at the opposite mortise, when it is again free to enter, at which moment the lever falls into the groove at the end of the cap or head E. Then suppose the lever to be drawn to its fastening K, it will prevent the front end of the cap or head E from turning, and give the collar R a forward and the cap or head E a retrograde move, by which movement the heel of the collar is forced into the oblique space between the shoulder C and the cap or head E. The firmness of the swivel-joint is increased in proportion to the power and resistance applied to the plow when in motion. The increased firmness is produced by the resistance acting with the lever in forcing the wedge-like heel of the collar into the oblique space between the shoulder and cap or head E.

I do not claim the points, swinging or stationary parts of the mold-board, the handles, lever, or beam of the plow as my invention; but

What I do claim as new, and desire to secure by Letters Patent, is—

The invention and application of the above-described swivel-joint, which connects the sheth of the plow with the beam.

WILLIAM HARRISON BABBIT.

Witnesses:

I. HIGINBOTHAM,
BENJN. JENNINGS.