

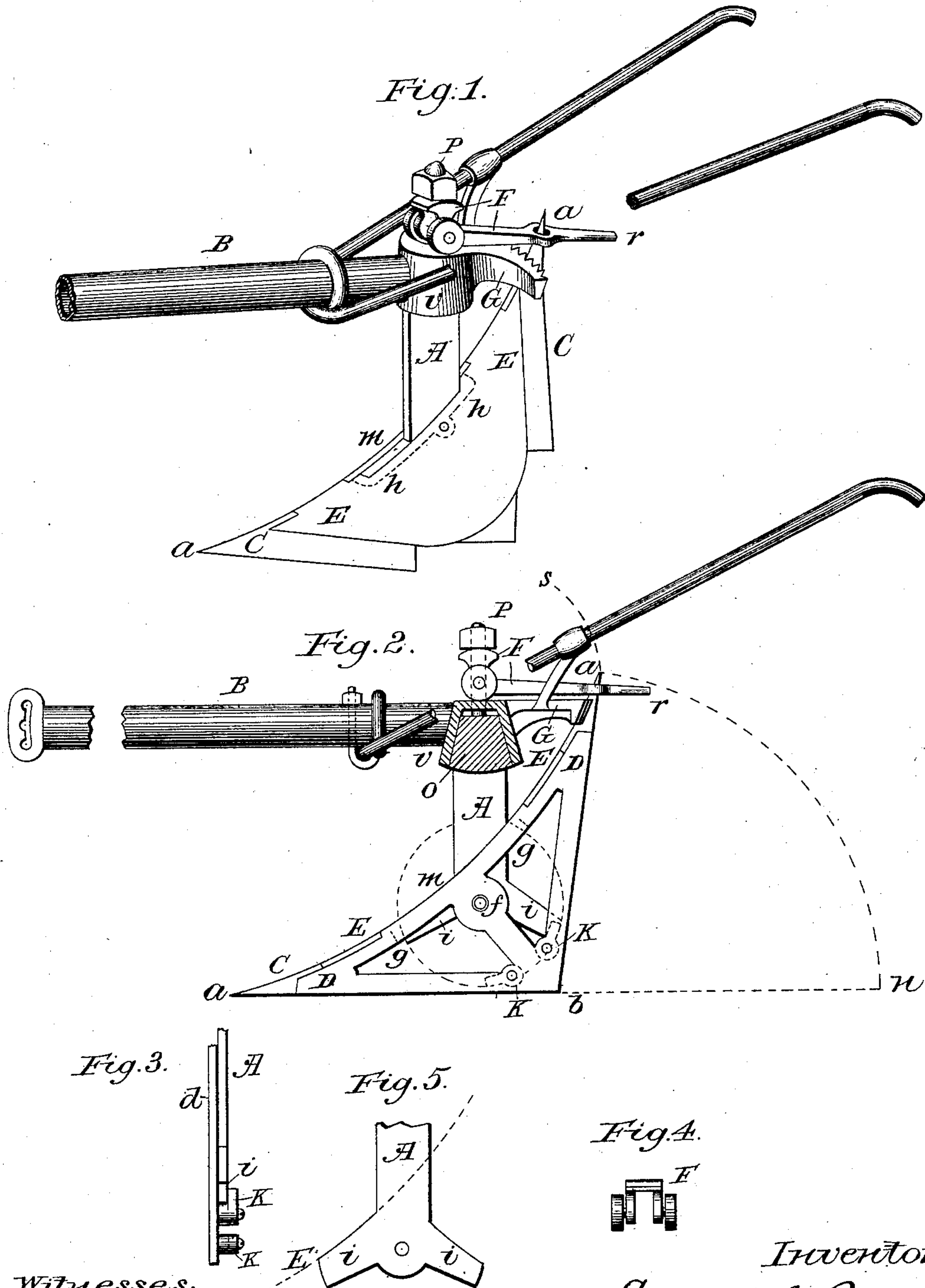
(No Model.)

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REVERSIBLE PLOW.

No. 353,347.

Patented Nov. 30, 1886.



Witnesses:

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REVERSIBLE PLOW.

SPECIFICATION forming part of Letters Patent No. 353,347, dated November 30, 1886.

Application filed September 13, 1886. Serial No. 213,548. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL J. BENSON and ALONZO D. HOLLIS, citizens of the United States, residing at Boulder Creek, county of Santa Cruz, and State of California, have invented a new and useful Reversible Plow, of which the following is a specification.

Our invention relates to certain improvements in the methods and devices used in reversing, adjusting, and securing the necessary movable parts, embracing the beam, standard, and plow proper, together with their usual attachments and these herein specially provided.

The object of our invention is to provide a light, strong, serviceable combined right and left hand plow for general use on side hills and level land, and adjustable laterally where it may be necessary to adjust the plow to the right or left of the line of draft, as for orchard or vineyard plowing. We attain these objects by the means and mechanism described in the accompanying specification and drawings, in which--

Figure 1 is a perspective view of a plow embodying our improvements. Fig. 2 is an elevation showing the landside of the plow, the beam and standard being shown partly in section to exhibit the friction-journal and pivot of the beam. Fig. 3 is a partial end view of the side plate and lower end of standard and stop-lugs. Fig. 4 is a front end view of the looped cam-lever which secures and releases the standard and beam and the plow and the back end of the beam. Fig. 5 is an elevation of the lower end of the standard with curved line, showing surface of mold-board.

Similar letters refer to like parts in the different views.

The plow is double-ended, and rolls or tilts a quarter-turn in a vertical plane and parallel to the furrow. The beam is pivoted upon the standard and swings horizontally to the opposite position, completing the reversal of the plow.

The plow bottom or plow proper, Fig. 2, is supported upon a light open metal frame, which may be more or less than a right angle from *a b* to *b a*. To this frame and the mold-board *E* are attached ordinary plow points or shares at *C*, and the whole secured together

in the usual manner. That part of the side frame, *D*, Fig. 2, forming the hub at *f* and extending to the dotted lines at *g g*, forms the outside wall of the standard-slot *m*, Fig. 1. The inside is formed by a corresponding plate or bracket, (indicated by dotted lines at *h*, Fig. 1,) which is attached to the under side of the mold-board *E* below *h h*. The side and ends of the plate next to the side and edges of the standard coincide with the surface-lines of the slot at *m*, being also attached at the ends to the side plate, *D*. A deep strong slot is thus formed, through which the plow, pivoted upon the pin at *f*, moves freely past the standard while being reversed. The dotted circle below *A*, Fig. 2, describes the length of the slot, the length of the legs of the standard, and the movement of the slot and stop-lugs to and from their opposite points of contact with the standard when the plow is reversed.

The dotted line *s a* indicates the curve through which that part of the loop in contact with the back part of the plow moves to release or secure the plow. The dotted curve *a n* indicates the direction and space the point *a* traverses when reversed. Any movement or position described applies equally to the opposite. (Not shown or described.)

Fig. 5 shows the form of the lower end of the standard, resembling an inverted *Y*. The sides are parallel, and the thickness conforms to the width of the slot.

In Fig. 2 the left leg of the standard, at *g i*, is shown with the thrust on the end between the dotted lines, the upper edge at *m* coming through and flush with the mold-board, and held laterally between the side plate at *g m f* and the inside plate before described. The right leg *i* rests upon the bottom of the open end of the stop lug or clutch *k*, as shown by the dotted lines, Fig. 2, and corresponding end view, Fig. 3.

k k, Figs. 2 and 3, are stop lugs or clutches secured to the inside plate, and open at the side, and alternately receiving and releasing the legs *i* as the plow is reversed. The beam *B* is provided with a suitable socket or bearing, into which is fitted the head of the standard *A*, upon which the beam may swing horizontally.

P is a bolt or stud secured to the head *O* of

the standard A, and passes through a hole in the top of the beam B, thence upward between the jaws and through a hole in the arched cap of the looped cam-lever F, and terminating
 5 with a nut or jam-nuts to adjust the strain on the cam. Forming the back extension and a part of this cam is a looped lever-handle, *r*, which releases the plow-point at *a* from the quadrant G when lifted, or secures them when
 10 depressed. The cam may be used with or without rollers. In case of dispensing with them, the outside of the cam at F, Fig. 2, could be solid, with similar outlines, the rear extension of the beam terminating in a notched
 15 quadrant, G, the radius of which is equal to the distance between the center of the pivot O and the engaging corner of the plow, allowing for depth of notches when the plow is in working position. The quadrant is used partly
 20 as a brace to resist the direct strain and the lateral or twist strain of the plow, and partly to set the plow either in the direct line of draft or to one side or the other, as may be required, the face of the quadrant being properly marked
 25 for this purpose, and the notched portion (of the quadrant) corresponding with the corner of the plow may be solid or attached to the beam, as desired.

A wooden or other style of beam may be
 30 used by a suitable modification of the designated parts.

Operation: Assuming the plow has reached the end of the furrow, as shown, the operator lifts the handle *r* over the point *a* and allows
 35 the beam to tip forward free of the notched quadrant G, meantime the team walking around and swinging the beam to the opposite position, which, when reached, the team may move forward, or a push on the handles will
 40 roll or tilt the plow upon the corner at *b* to *n*, as shown on the dotted line *a n*. The beam is now swung back and the plow is entered in the proper notch in the quadrant, when the looped lever F *a r* is dropped over the point
 45 at *a* and pushed hard down, which secures the plow in the notches in the quadrant G and the standard in the friction-journal *v o*.

Having thus shown and described our invention, what we claim as new, and desire to secure
 50 by Letters Patent in a reversible plow, is—

1. The combination of a rotating plow-beam with the pivotal standard A, and the double-pointed tilting plows C, pivoted on the lower end of said standard, with a movement of substantially a quarter-revolution in a vertical
 55 plane parallel to the landside-plate D, substantially as and for the purpose specified.

2. The double-pointed tilting plow C, having substantially a right-angled frame, D, attached to which are the stop-lugs *k* or equivalents, and the mold-board E, provided with shares or points at C, and with a slot and brackets, as at *m h h*, and pivotal bearing at *f*, in combination with the pivotal standard A, and a rotating plow-beam, substantially as and for
 65 the purpose set forth.

3. The pivotal standard A, having a friction-bearing and pivot for the beam, as at *v o*, and tension-bolt, as at P, the flattened and forked lower ends conforming to the sides and
 70 ends of the mold-board slot, and coming flush, as at *m*, and conforming to the surface of the mold-board E, in combination with the double-pointed tilting plow E C, the frame D, and the stop-lugs *k*, and engaging the sides and ends
 75 of the slot, the pivot *f*, and the rotating beam, as at *v o*, substantially as and for the purpose set forth.

4. The notched quadrant G, in combination with a rotating beam, the pivot and friction
 80 bearing, as at *v o*, the cam and looped lever F *a r*, the pivotal standard A, as described, and the double-pointed plow E C, having slot, as at *m*, and a landside-plate, D, having stop-lugs
 85 *k*, supporting and secured to the mold-board E, bracket at *h h*, and pivot-bearing at *f*, said plow-point engaging with the notched quadrant, as shown near C, substantially as and for the purpose specified.

5. The combination of the looped lever and
 90 cam F with the plow C, quadrant G, stud and nut at P, rotating beam B, friction-bearing and pivot *v o*, and pivotal standard A, the whole arranged and constructed substantially as and for the purpose described.

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