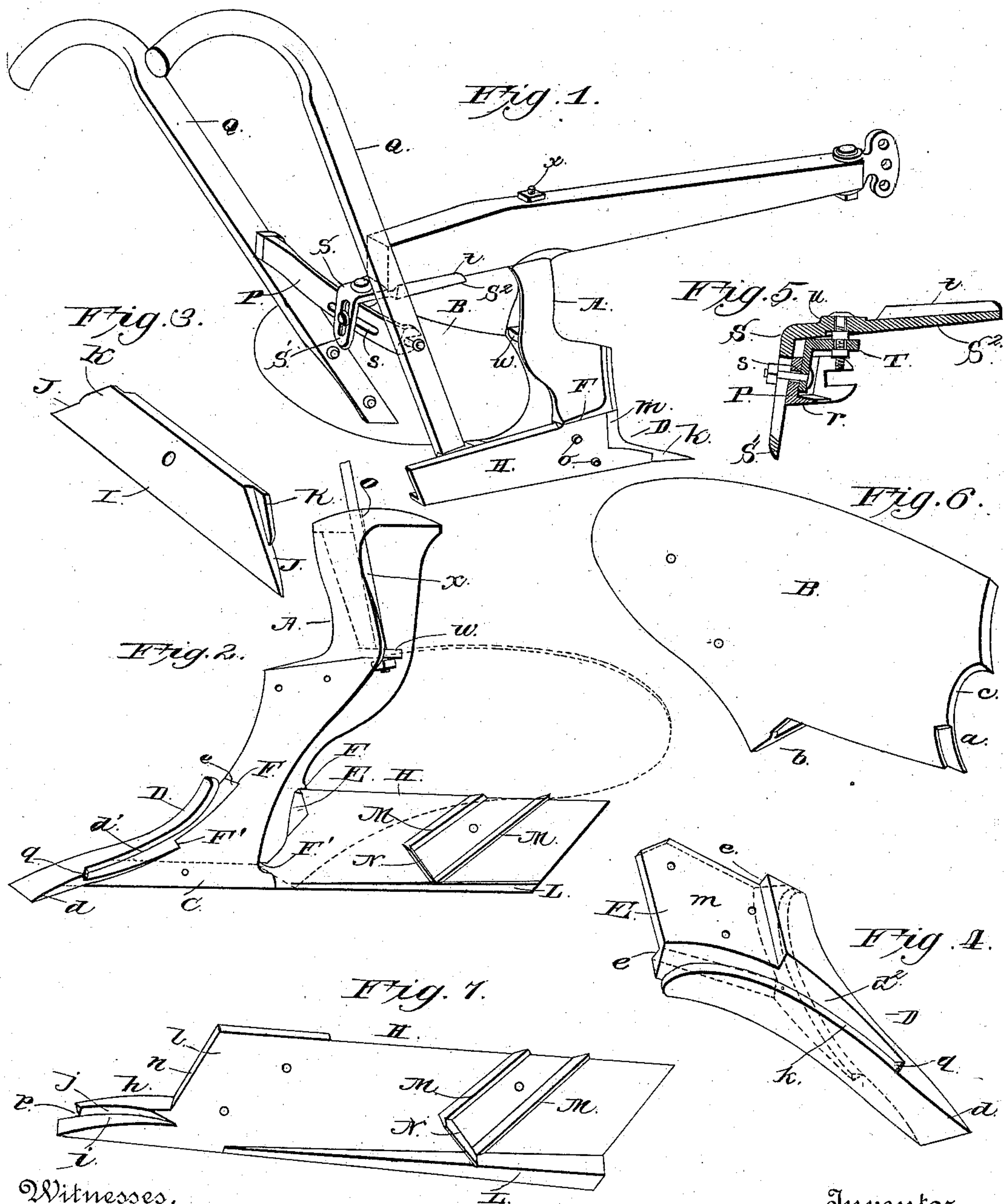


(No Model.)

J. H. FRY.  
PLOW.

No. 382,297.

Patented May 8, 1888.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSEPH H. FRY, OF WASHINGTON, DISTRICT OF COLUMBIA.

## PLOW.

SPECIFICATION forming part of Letters Patent No. 382,297, dated May 8, 1888.

Application filed February 17, 1888. Serial No. 264,318. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. FRY, a citizen of the United States, residing at Washington, District of Columbia, have invented a new and useful Improvement in Plows, of which the following is a specification.

My invention relates to plows; and it consists in the improvements hereinafter described, whereby a plow is produced which combines simplicity and cheapness of construction with durability and efficiency in use, and which will avoid the defects incident to the plows now in use.

In the drawings, Figure 1 is a perspective view of my improved plow. Fig. 2 is a side view showing the wing and mold-board removed. Figs. 3 and 4 are detail views of the wing and point. Fig. 5 is a detail sectional view of the bracket devices for adjusting the beam. Fig. 6 is a rear view of my mold-board. Fig. 7 is a perspective view of the landside.

A designates the standard, which is curved on its share side to form a bearing for the mold-board proper, B, which is rigidly bolted in position. The said mold-board B is cut away at its base to expose the front horizontally-extended portion C of the lower enlarged portion of the standard. The front lower corner, *a*, of the mold-board B is reduced on its rear side, as indicated by Fig. 6, to form a small bearing on the rear side of the board B at such point. The rear lower corner, *b*, of the mold-board is also recessed on its rear side to form a bearing thereat, as indicated in said Fig. 6, and the rear end of said lower portion, C, of the standard is so disposed that access may be readily had to said recess from the front lower portion of the plow. The vertical front edge of the mold-board B is cut away to form a curved bearing, *c*, thereat.

The point D is provided with the lower forward working portion and edge, *d*, the said portion *d* presenting working-faces on its opposite sides. The front face of each working portion *d* is curved to assume the configuration corresponding with the other parts of the plow, and the upper portion of each working-face is cut away at one side, as represented in Fig. 4, to form the upper and lower downwardly-tapering bearing portions *d'* *d''*. The balance of said point consists in an irregular

plate, E, in rear of the working portion, which has perforations for the passage of transverse securing-bolts. The upper edge of the bearing portion *d'* terminates in front of a laterally-extending horizontal shoulder, *e*, on the side of the plate E, while the upper edge of the portion *d''* merges in the horizontal lower edge of said plate E, and its rear end terminates below a similar shoulder, *e*, on the opposite side of the plate E. It will be seen that the front edge of the standard A is recessed in its lower portion, so that it will leave sections of the rear face of the mold-board B projecting beyond such edge, and of such configuration that they correspond in shape with the bearing portions *d'* *d''*. The mold-board face of the standard A has horizontal ribs or shoulders F F', which are formed by recessing the standard, as described. The point is placed in position so that the side of the cut-away portion of the working-edge bears against the front curved bearing of the mold-board, while the bearing portions *d'* *d''* bear against the corresponding projecting portions of the mold-board and landside. The shoulder *e* and the upper edge of the plate E bear, respectively, against the under faces of the shoulders F F' of the standard. The opposite face of the point is provided with an oppositely-extending curved working-face, and having its side (cut-away) portion necessarily reversed relative to the corresponding portion on the other side of the points. The shoulder *e* of said reverse side is located vertically or at right angles to the corresponding shoulder on the other side. These features on the reverse side are indicated by dotted lines, Fig. 4, so that their relative positions will be apparent, and the inclination of such features on both sides is such that when the point is turned over it not only brings the cut-away side to a vertically-curved position, but changes the shoulder *e* from a vertical to a horizontal position.

The front edge of the landside H is shaped to present a horizontally-projecting portion, *h*, provided on its inner face with a longitudinal depression, *i*, contracting toward the rear. The side *j* bears against the face *k* of the point, while the side *l* bears against the face *m* of the said point. The vertically-inclined edge *n* of



the landside H bears against and is flush with the vertically-inclined shoulder *e* of the point-plate. The standard, point-plate, and landside are all provided with perforations in alignment, through which pass bolts *o*, which not only secure the parts in operative position, but firmly connect them together. The upper horizontal edge of the landside bears against the upper horizontal shoulder, F, of the standard.

The form, construction, and arrangement of parts are such that by simply removing the bolts *o* the plate E of the point can be withdrawn from its bearings and reversed, as aforesaid, to change its working-face. The extremity of the projecting portion of the landside is notched, as represented at *p*, to fit an angular portion of the point formed by the base *q* of the curved cut-away portion of the under working-face.

I indicates the independent reversible wing, which, as shown in Fig. 3, consists of an extended plate having oppositely-inclined edges J at each end to bear against the corresponding edge of the cut-away portion of the mold-board and at the side of the working-face of the point. Each inclined edge J is provided with a tongue, K, which tongues are located at the upper corners and are in different planes. The rear tongue, K, enters the recess at the back of the rear lower corners, *b*, of the mold-board, in which it has a bearing, while the front tongue bears in the recess or angle formed by the lower front edge of the mold-board and the base of the curved cut-away edge of the front working-face of the point. By removing the bolts that hold the wing in place the latter can be turned, so as to reverse its faces, with the result of bringing its tongues into the same relative position as before, so that the tongues can be reinserted, as explained.

The bottom of the landside is provided with an inward-extending lateral rib, L, which increases in width toward the heel of the plow. The inner face of said landside is provided with vertically-inclined parallel ribs M, which are connected together at their base by a rib, N, the whole forming a bearing for the reception and attachment of the lower end of the handle, which is bolted in position. It will be noticed that the working-faces of both the wing and point are brought into position by simply reversing the faces so that the same lower edge is brought into position at each change of the adjustment, which secures the benefit of the self-sharpening effect of the wear. Further, the construction described avoids the necessity of using the working-edge of either the point or wing as a bearing portion for its respective part.

The upper end or head of the standard is provided with a longitudinally-extended slot, O, and the upper face of said head is curved, so that it can have a variable bearing against the beam, so that the plow can be inclined either at its front, rear, or sides.

A transverse brace, P, is adapted to be lo-

cated horizontally between the handles Q of the plow, and the ends of said brace are right-angled, and slotted to enable the variable adjustment of said brace relative to said handles. The rear side of said brace is provided at its lower end with a horizontal flange, *r*. The vertical portion of the brace is provided at one side with a horizontal slot, *s*.

S refers to an angle-bracket, which has a vertical portion, S', to bear against the front face of the brace. The horizontal portion S<sup>2</sup> of the bracket is extended under the beam, and is provided on its upper side with parallel ribs *t*. A central bolt-opening is formed on the forward part of the portion S<sup>2</sup>, and has arranged adjacent thereto an inclined nipple, *u*. A small angle clamping-plate, T, is arranged under the horizontal portion S<sup>2</sup> of the bracket and in rear of the brace P. The vertical portion of this angle-plate is provided with a square perforation to receive the square portion of a threaded securing-bolt, which is inserted through the slots in the brace and the vertical portion S' of the bracket. The horizontal portion of the angle-plate receives the lower end of a bolt which passes the nipple *u*. The inclined nipple provides for clamping the beam to the bracket at any inclination to secure the proper adjustment of the standard relative thereto.

From the foregoing it will be seen that my improved plow is not only useful and efficient in its purposes, but is extremely simple and durable in construction, and can be produced at a very small cost.

I am aware that prior to my application it has been proposed to make a reversible wing provided with securing-tongues, and I do not, therefore, broadly claim the same.

In the construction alluded to the plate forming the wing was extensively recessed on its opposite sides, and the arrangement of tongues was such that the rear tongue took under the bottom edge of the mold-board.

A transverse web, *w*, is located in the rear part of the standard, and is provided with a vertical perforation for the passage of the securing-bolt *x*, which pierces the beam and extends through the elongated slot in the head. This construction and arrangement adds to the strength of the standard, since the greatest strain received by the same is in an upward direction, which in my construction is resisted by the bolt *x*.

I claim—

1. In a plow, the combination of a standard, a mold-board secured to the standard and having its lower edge cut away and provided with a recess, *b*, a point secured to the standard and recessed to receive the front edge of the mold-board and provided with the grooves *d'* *d''*, and a wing having plane upper and lower edges, and having its ends inclined in opposite directions, and provided with tongues engaging, respectively, the recess *b* and the angle formed by the mold-board and the point, as set forth.

2. The combination, with the mold-board,



of the standard having said board secured thereto, the forward edge of said standard being recessed in its lower portion to leave vertical portions of the board to project therefrom, and a reversible point provided with opposite working-faces having a common edge and furnished on opposite sides with bearing portions or grooves  $d'$   $d^2$ , to bear against the projecting portions of the mold-board, as set forth.

3. The combination, with the standard provided with the horizontal shoulders  $F$   $F'$  and the mold-board secured to the standard, of the reversible point having the shoulders  $e$  and the recessed portions  $d'$   $d^2$ , and the landside having its end provided with the shoulder  $n$  and the recess  $j$ , to engage the shouldered and recessed portion of the point, as set forth.

4. The combination of the beam, the handles, the brace-bar adjustably secured to the handles and having a longitudinal slot, a bracket having a horizontal portion provided

with ribs  $t$ , fitted to the beam, and having a vertical slotted portion overlapping the brace-bar, an angle-plate bearing against the bracket, and the brace-bar and bolts securing the parts together, as set forth.

5. The combination of the handles, the brace-bar  $P$ , adjustably secured thereto and having a longitudinal slot,  $s$ , and flange  $r$ , an angle-bracket,  $S$ , having a horizontal portion,  $S^2$ , for the beam, and a vertical slotted portion,  $S'$ , overlapping the brace-bar, an angle-plate,  $T$ , resting against the brace-bar and the horizontal portion  $S^2$  of the bracket, and suitable securing bolts, as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOSEPH H. FRY.

Witnesses:

J. H. SIGGERS,  
H. F. RILEY.