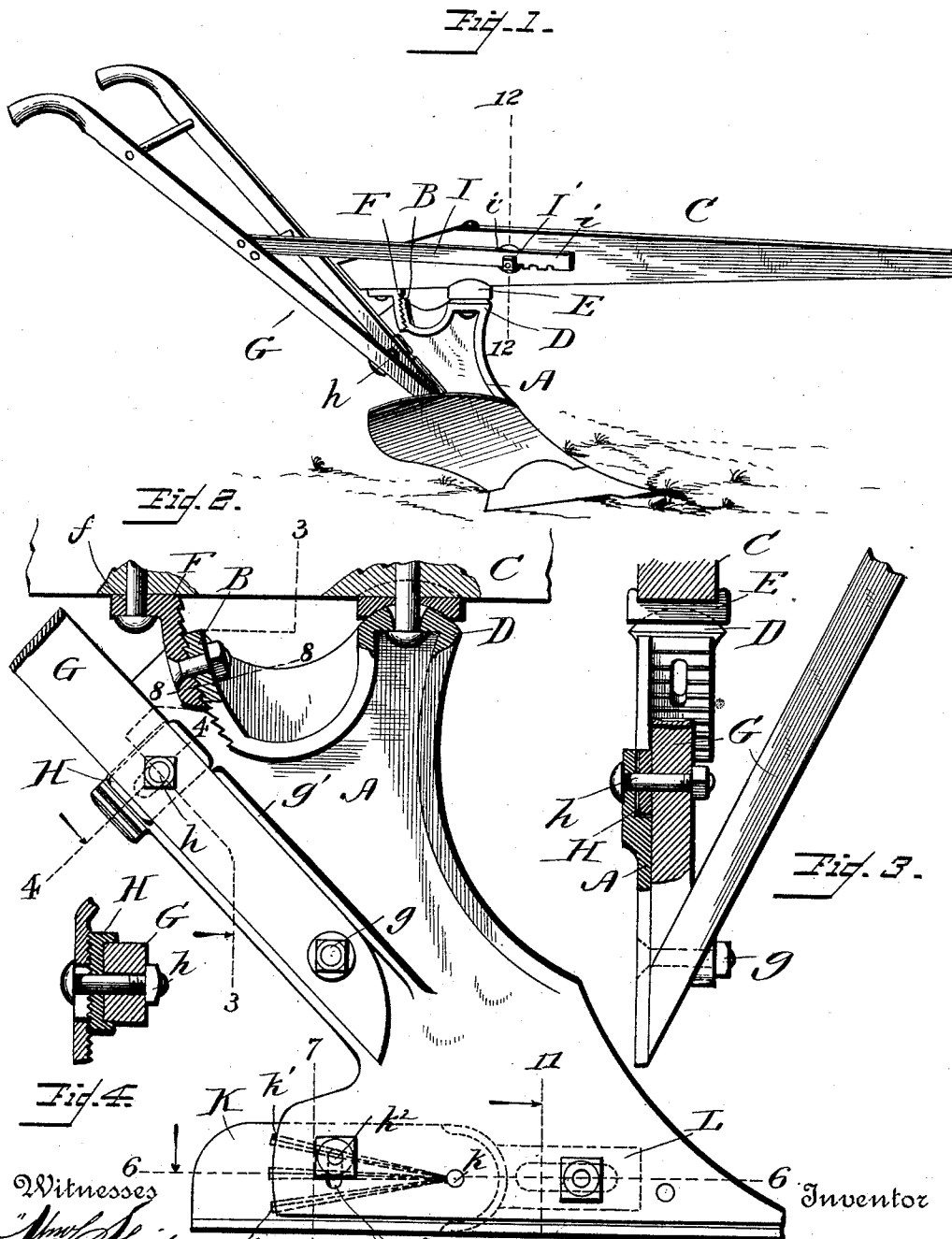


3 Sheets—Sheet 1.

Patented Dec. 22, 1891.



Witnesses

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Van Buren Hillyard?

Inventor

By ^{His} ~~the~~ Attorneys
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(No Model.)

S. H. SAYRE, Jr.
PLOW.

3 Sheets—Sheet 2.

No. 465,731.

Patented Dec. 22, 1891.

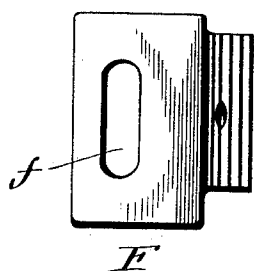


Fig. 4.

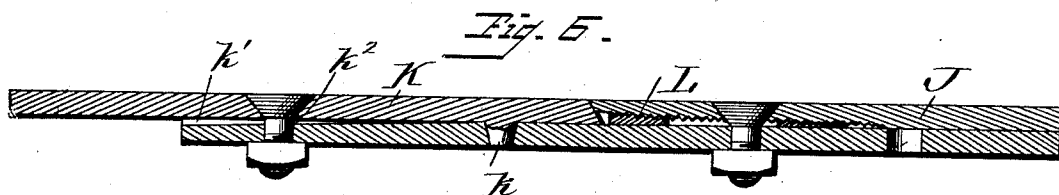
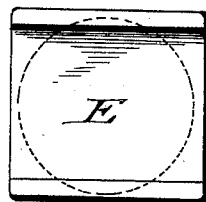


Fig. 6.

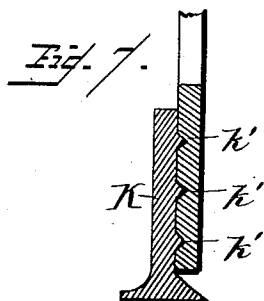


Fig. 7.

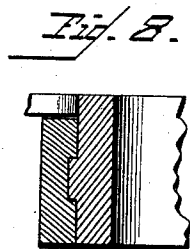


Fig. 8.

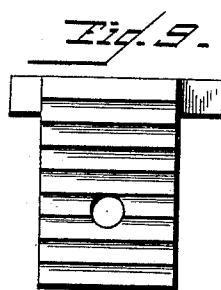


Fig. 9.

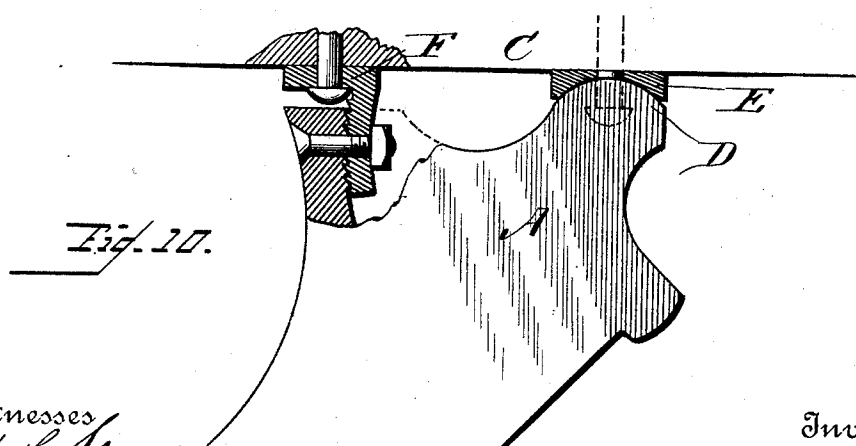


Fig. 10.

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3 Sheets—Sheet 3.

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Fig. 11.

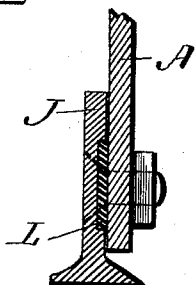


Fig. 12.

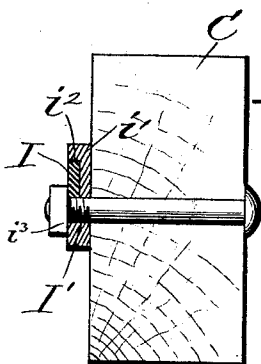


Fig. 13.

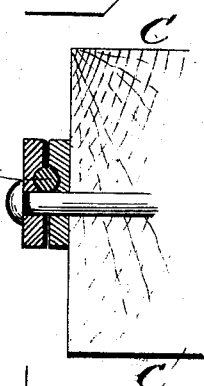


Fig. 14.

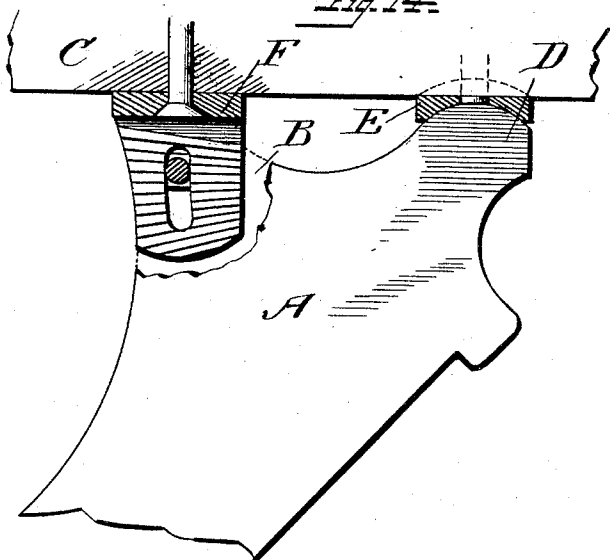


Fig. 15.

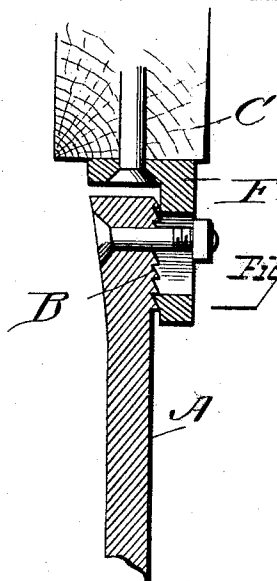
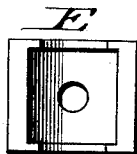
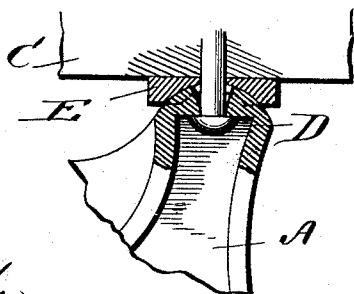


Fig. 16.



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UNITED STATES PATENT OFFICE.

SAMUEL HUNTING SAYRE, JR., OF HAMPTON, VIRGINIA.

PLOW.

SPECIFICATION forming part of Letters Patent No. 465,731, dated December 22, 1891.

Application filed July 8, 1891. Serial No. 398,844. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HUNTING SAYRE, Jr., a citizen of the United States, residing at Hampton, in the county of Elizabeth City and State of Virginia, have invented certain new and useful Improvements in Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to plows, and aims to secure the maximum amount of bearing-surface between the standard-bearing on which the beam rocks in its adjustment and the beam or a seat between the beam and the said bearing at all adjustments of the said beam, and at the same time provide efficient and positive means for securing the other of the two bearings to the beam in the required position. The bearing on which the beam rocks may be either the front or the rear bearing and is circular, and the seat is of corresponding shape to present a uniform bearing at each and every adjustment of the beam. The bearing on which the beam rocks will be designated as the "rocker-bearing" for the sake of simplicity, and to distinguish it from the vertically-adjustable bearing is circular in all directions, forming in effect a ball-and-socket bearing to permit of the vertical and the lateral adjustment of the beam. In some cases the circular bearing may extend in one direction only, as hereinafter will more fully appear.

A further object of the invention is to provide simple means for adjusting the handles and holding them in the desired position in a positive manner.

Another object of the invention is the construction of the landside in separate pieces and having the rear piece pivoted to the standard near its front end, and having the opposing ends of the two pieces circular and correspondingly beveled, whereby the rear piece can be adjusted at its rear end and readily replaced when worn without necessitating the purchase of an entirely new landside.

The improvement consists of the novel features and the peculiar construction and combination of the parts which will be herein-

after more fully described and claimed, and which are shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a plow embodying my invention. Fig. 2 is a side view of the standard, showing the bracket for the adjustable bearing and the cap for the rocker-bearing in section. Fig. 3 is a rear view of the upper portion of the standard, parts being broken away to show the cap and the means for adjustably connecting the handle with the standard. Fig. 4 is a section on the line 4 4 of Fig. 2. Fig. 5 is a top plan view of the cap and the bracket, showing the relative arrangement of the top of the standard. Fig. 6 is a horizontal section on the line 6 6 of Fig. 2. Fig. 7 is a cross-section on the line 7 7 of Fig. 2. Fig. 8 is a cross-section on the line 8 8 of Fig. 2, showing a tongue and groove between the meeting faces of the standard and the bracket. Fig. 9 is a front view of the bracket. Fig. 10 shows the rocker-bearing in the rear. Fig. 11 is a cross-section on the line 11 11 of Fig. 2. Fig. 12 is a cross-section on the line 12 12 of Fig. 1 and a front and edge view of the recessed washer. Fig. 13 shows a modified form of brace-rod and fastening means for the same. Fig. 14 shows a modified form of fastening means between the adjustable bearing and bracket. Fig. 15 is a front view of the adjustable bearing shown in Fig. 14. Fig. 16 shows a modified form of rocker-bearing and cap-plate.

The standard A is provided at its upper end with two bearings B and D, to which the beam C is secured. One of the bearings D, either the front or the rear, is curved on top in the arc of a circle and fits a corresponding seat on the under side of the beam, which is preferably provided in the cap-plate E, which is secured to the said beam. The adjustable bearing B curves on the arc of a circle of which the center of the rocker-bearing D is the center or approximately the center. The rocker-bearing and its corresponding seat in the cap E may curve in one direction only, as shown in Fig. 16, or in all directions, as shown most clearly in Figs. 2, 3, 10, and 14, forming a ball-and-socket bearing. In Fig. 16 the cap and standard turn together in the lateral adjustment of the standard, whereas in the construction having the ball-and-

socket bearing the cap is fixed relative to the beam and the standard turns only in the vertical and lateral adjustment of the said standard or beam, which in effect is the same thing.

5 The bracket F, secured to and depending from the beam, has a lateral adjustment relative to the beam, being secured thereto by a bolt which passes through the transverse slot *f* in the top of the said bracket. The opposing sides or meeting faces of the bracket and the adjustable bearing B are roughened or provided with mutually interlocking teeth to secure positive engagement between them and prevent accidental slipping. The preferable form of bracket is curved. Obviously the bracket may be straight, as also the bearing B, (see Figs. 14 and 15,) and the interlocking teeth will radiate from the center of the rocker-bearing.

20 The handles G are pivoted at their lower ends to the standard by the bolt *g*, and are adjustable at their upper ends to and from the perpendicular, being held in the required position by the bolt *h*. The plate H, having flanges at its end, which overlap and embrace a portion of the front and the rear edges of the handle, is provided with teeth to mutually engage with corresponding teeth on the opposing side of the standard, the latter being recessed to receive the said plate. Normally the front edge of the handle bears against flange or shoulder *g'*, and to admit of the required adjustments the lower edge is cut away, as clearly shown in Fig. 2. The brace-rod I between the handles and the beam strengthens the handle, especially the handle nearer the mold-board. This brace-rod I is adjustable and may be adjustably connected at either end with handles or beam. Fig. 13 shows the rod round and clamped between two washers. In Figs. 1 and 12 the rod is flat and provided with a series of notches *i* in one edge, which are engaged by the bolt I'. The wear-plate *i'* has a recess or seat *i²* in its side to receive the rod I, the nut on the bolt I' holding the rod I in place.

The seat *i²* is of a sufficient depth to permit the bar I to come flush with the exterior side of the wear-plate, whereby the nut *i³* will obtain an equal bearing upon the said bar I and the wear-plate *i'*.

The landside is composed of two pieces J and K, the piece J being fixed as regards vertical adjustment and the piece K pivoted at *k* and vertically adjustable at its rear. The meeting ends of the pieces J and K are beveled and curved on the arc of a circle having the pivot *k* for its center. The interlocking ribs and grooves *k'* between the meeting faces of the part K and the standard radiate from the pivot *k* as a center. The bolt *k²* passes through slot *k³* in either the part K or A. The part K, being subjected to the greatest wear, needs to be replaced oftener than the piece J. The latter is worn slightly, and when a new piece K is placed in position, and that the working faces of the pieces J and K may

be flush, the piece J is adjusted laterally by means of the wedge L, which is seated in a recess formed in either the piece J or the standard A. The meeting faces of the wedge and the seat are roughened to hold the wedge in the adjusted position.

It is desirable in some instances to let the web of the standard project in the rear of the rear bearing to form a guide with the bolt which connects the said rear bearing with the bracket F, thereby securing the advantages derived from the use of the tongue and groove, as shown in Fig. 8 of the drawings. This construction is most clearly shown in Fig. 2 of the drawings.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a plow, the combination, with the cast-metal standard having formed therewith two bearings D and B, of the bearing D, being convex on its top end and the bearing B being convex on its outer face, the two convex surfaces having a common center, a cap-plate secured to the under side of the beam and having a concave seat to receive the convex bearing D, the bracket F, concave to receive the bearing B, and means for adjustably connecting the bearing B with the said bracket F, substantially as and for the purpose described.

2. In a plow, the combination of the beam, a cast-metal standard having formed therewith two bearings D and B, the bearing D being convex on its top end and the bearing B convex on its exterior side, both convex surfaces having a common center, the cap E, having clips to embrace the sides of the beam and having a concave seat in its under side to receive the convex bearing D, a single bolt to secure the bearing and the cap E to the beam, a bracket F, concave on the side, which forms a seat for the bearing B, means for laterally adjustably securing the said bracket to the beam, and means for vertically adjustably securing the bearing B to the said bracket, substantially as described.

3. In a plow, the combination, with the beam, the standard, the handles pivotally connected at their lower ends to the standard, and means for adjustably connecting the landside-handle with the standard at a distance from the said pivotal connection of the handles with the said standard, of a brace I, adjustably connecting the mold-board handle with the said beam, a wear-plate having a seat or recess in its exposed side to receive the said bar, a bolt passing through the said wear-plate and extending into the said recess or seat and adapted to engage with notches formed in the edge of the said bar, and a nut constructed to screw upon the said bolt and bear equally upon the said bar and wear-plate, substantially as and for the purpose described.

4. In a plow, the combination, with the standard having a recess near its upper end and having a transverse slot, and the handles

pivottally connected at their lower ends with the said standard and vertically adjustable at their outer ends, of a plate H, having lips to embrace the edges of the landside-handle and constructed to enter the said recess in the standard and come flush with the side thereof, and the bolt *h*, connecting the standard, plate, and landside-handle together, substantially as described.

10 5. In a plow, the combination, with the standard having a recess near its upper end, the handles pivottally connected at their lower ends with the said standard, a plate H, having lips to embrace the edges of the land-
15 side-handle and constructed to enter the said recess in the standard and come flush with the side thereof, and the bolt *h*, connecting the standard-plate and landside-handle together, of the brace-rod I, pivottally connected
20 with the mold-board handle at one end and having a series of notches in its edge near the other end, a wear-plate having a recess or seat in its outer side to receive the said rod, a bolt passing through the beam and wear-
25 plate and entering one of the said notches in the bar, and a nut adapted to screw upon the

said bolt and bear equally upon the rod and the wear-plate, substantially as and for the purpose described.

6. In a plow, the combination, with the standard, of a landside made in two pieces, and means for adjusting one of the said pieces laterally to bring the working faces of the parts of the landside in the same plane, substantially as set forth.

7. In a plow, the combination, with the standard, of a landside made in two pieces, the rear piece being pivoted at its front end and having a beveled and circular joint between the meeting ends of the two pieces, mutually interlocking ribs and grooves between the standard and the pivoted part of the landside, radiating from the said pivot, and means for adjustably connecting the rear end of the rear piece with the standard, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL HUNTING SAYRE, JR.

Witnesses:

GEO. W. KING,
H. L. HARWOOD.