

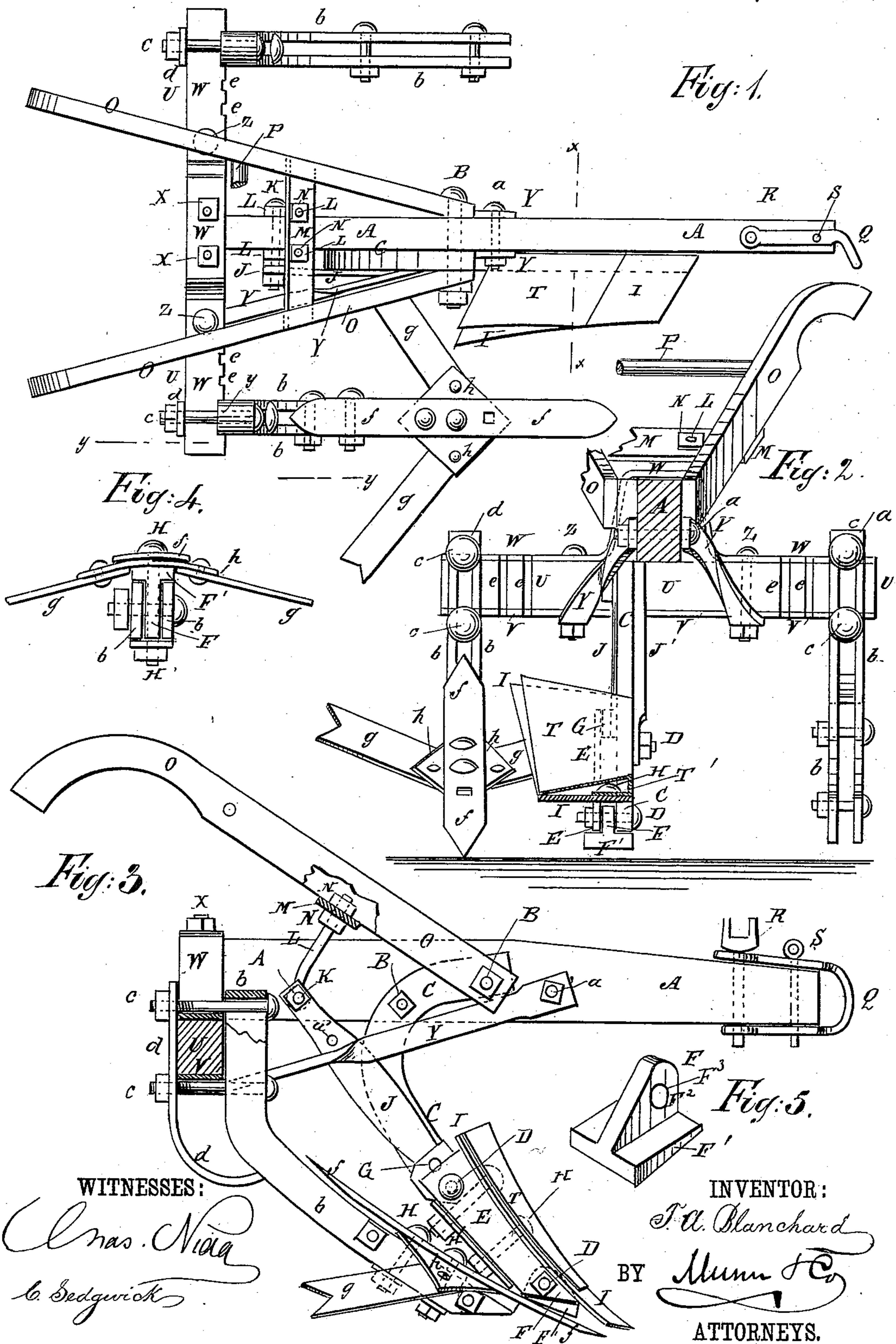
(No Model.)

2 Sheets—Sheet 1.

T. A. BLANCHARD.
PLOW.

No. 312,075.

Patented Feb. 10, 1885.



WITNESSES:

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L. Sedgwick

INVENTOR:

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ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 6.

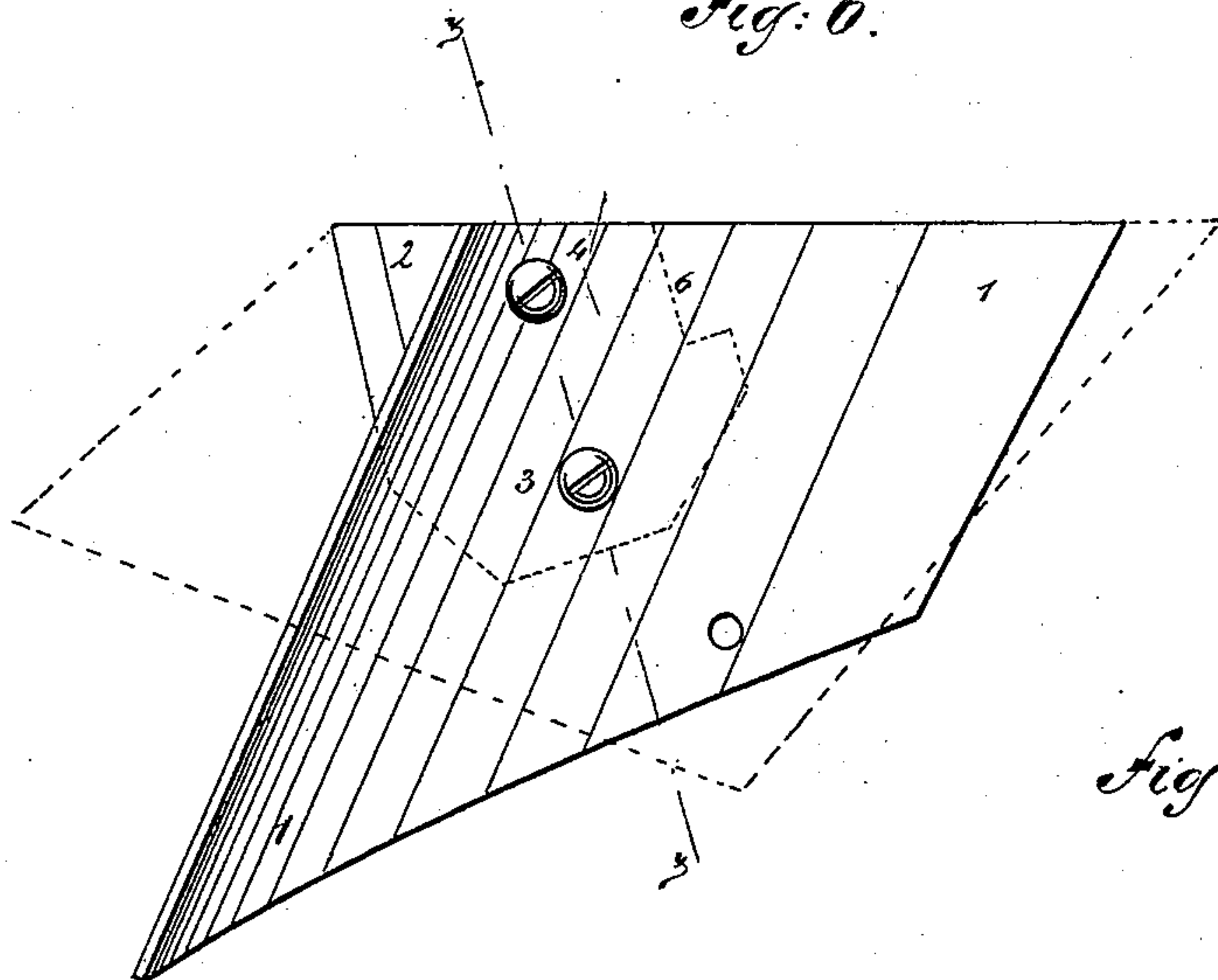


Fig. 7.

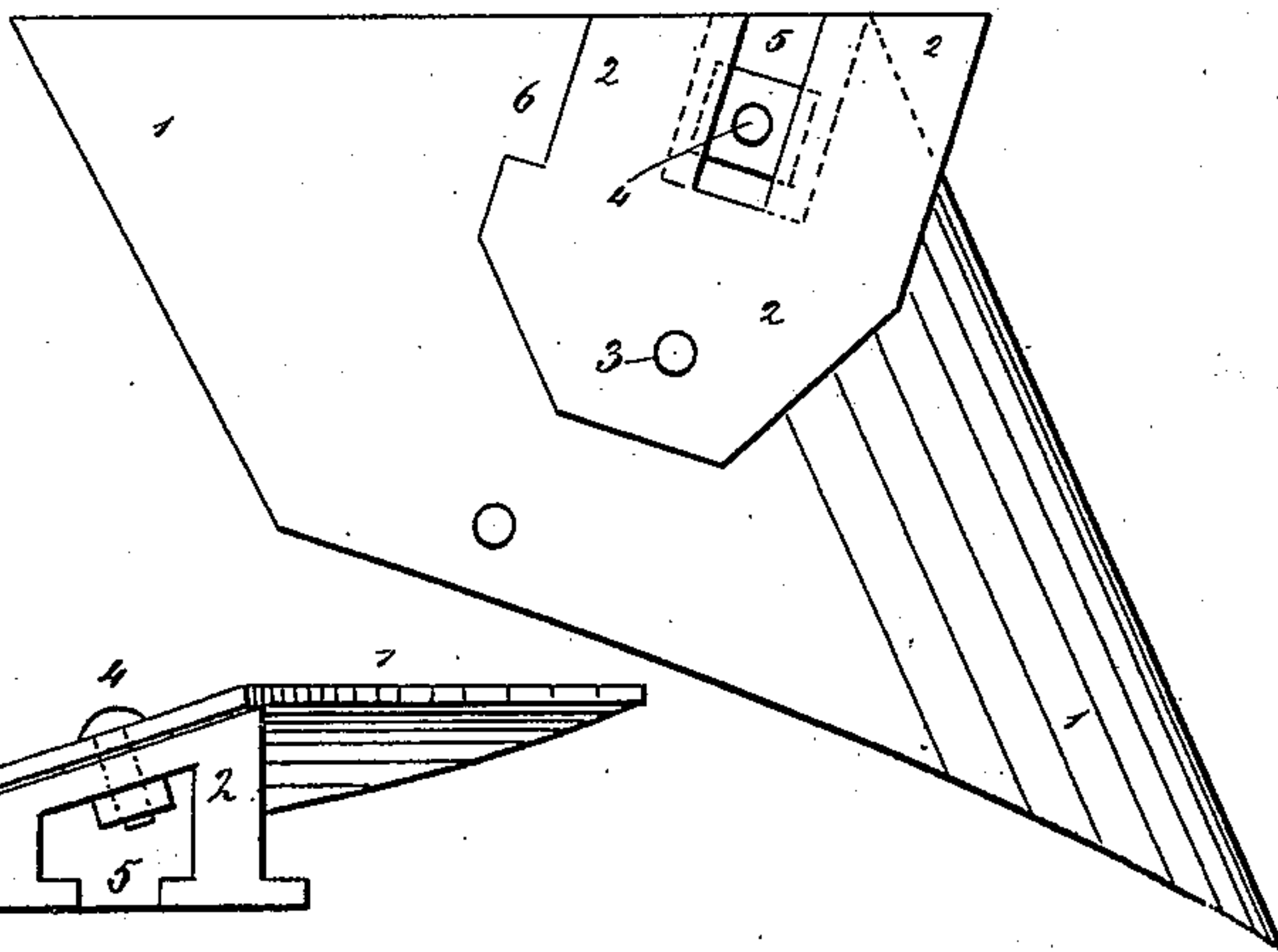


Fig. 8.

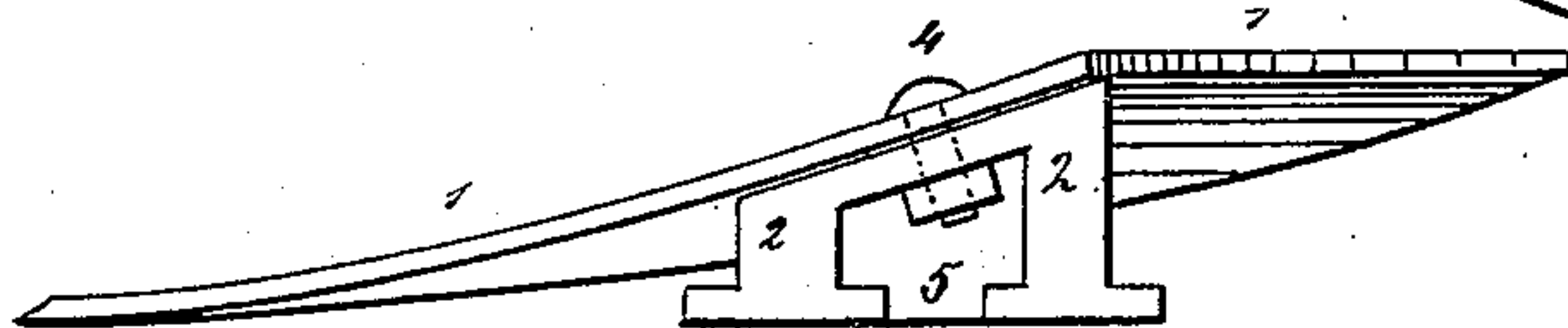
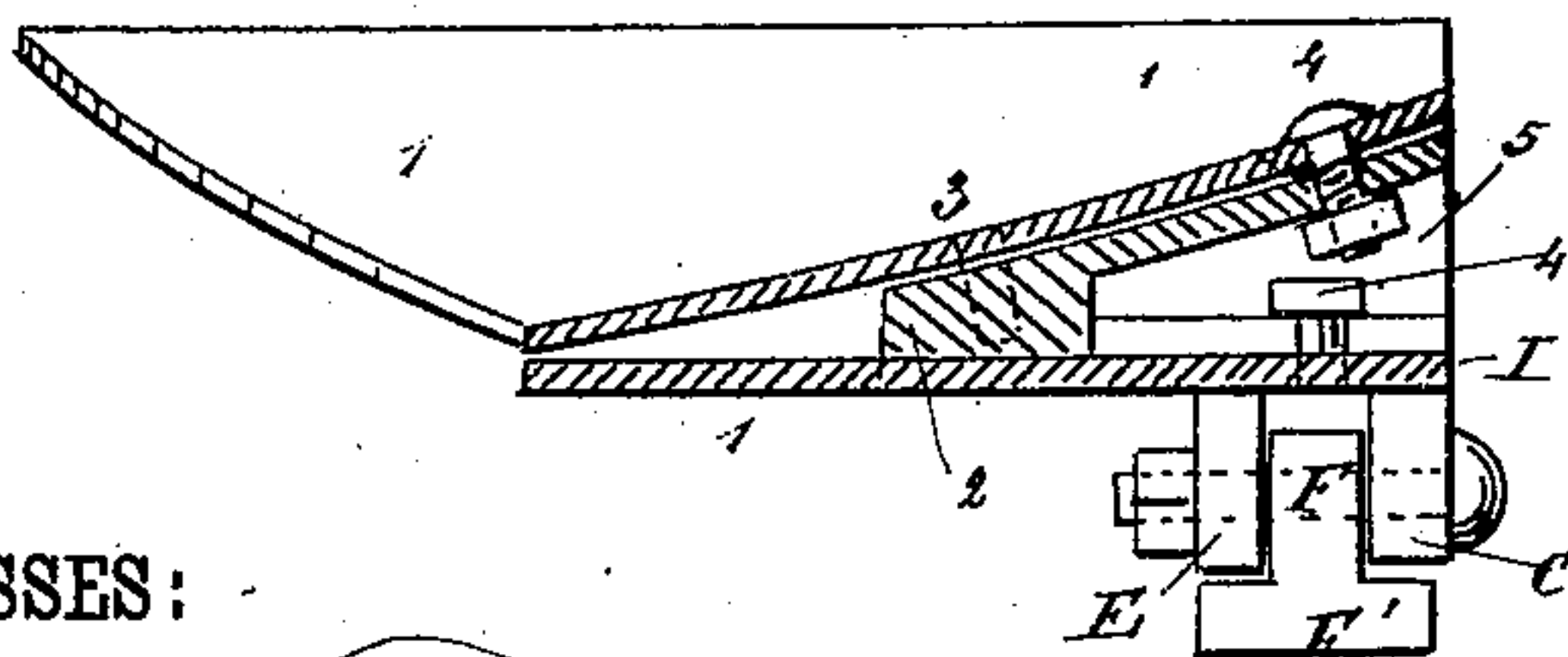


Fig. 9.



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UNITED STATES PATENT OFFICE.

THOMAS A. BLANCHARD, OF APPLING, GEORGIA.

PLOW.

SPECIFICATION forming part of Letters Patent No. 312,075, dated February 10, 1885.

Application filed March 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. BLANCHARD, of Appling, in the county of Columbia and State of Georgia, have invented certain new and useful Improvements in Plows, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1, Sheet 1, is a plan view of my improvement, illustrating the arrangement as a triple plow, parts being omitted. Fig. 2, Sheet 1, is a sectional front elevation of the same, taken through the line *xx*, Fig. 1. Fig. 3, Sheet 1, is a side elevation of the same, parts being broken away, through the broken line *yy*, Fig. 1. Fig. 4, Sheet 1, is a view of the lower end of one of the side standards and its attachments. Fig. 5, Sheet 1, is a perspective view of one of the adjustable wedge-blocks. Fig. 6, Sheet 2, is a plan view of my improved mold-board. Fig. 7, Sheet 2, is a view of the rear side of the same. Fig. 8, Sheet 2, is an edge view of the same. Fig. 9, Sheet 2, is a section of the same, taken through the line *zz*, Fig. 6, and shown attached to a plow-plate.

My invention relates to improvements in plows; and it consists in the peculiar construction and arrangement of parts, as hereinafter more fully set forth, and pointed out in the claims.

A represents the plow-beam, to the right-hand side of the rear part of which is secured by two bolts, B, the forwardly-curved upper end of the standard C.

To the right-hand side of the lower part of the standard C is secured by two bolts, D, a short bar, E, placed parallel with the said part of the standard. Blocks F G are interposed between the ends of the bar E and the standard C, to form a space or slot to receive the bolts H, that fasten the plow-plate I to the said bar E and standard.

H' (see Fig. 3) is a plate forming the bottom of the space between the bar E and the standard C, which plate H' is provided with holes for the passage of the bolts H, which also pass through holes in the plow-plate I. The block F is reversible, and is made with a wedge-shaped plate, F', as shown in Fig. 5, to the

inner face of which is secured a lug, F², provided with a hole, F³, through which the lower bolt D passes, and may be adjusted to cover the lower ends of the standard C and bar E, and serve as a shoe to protect the said ends from wear, as shown in Figs. 2 and 3; or the block F can be adjusted to bring the plate F' to the forward side of the lower ends of the standard C and bar E, as shown in Fig. 4, to raise the point of the plow. The block G is made with one or more holes to receive the upper bolt D, and with two or more faces at different distances from the said bolt-holes for the plow-plate I to rest upon, so that the said block can be adjusted to raise and lower the upper end of the said plow-plate, and thus give it the desired pitch. The upper bolt D also passes through holes in the lower ends of two braces, J J', placed upon the opposite sides of the standard C. The upper ends of the braces J J' are secured to the plow-beam A by a bolt, K. One of the braces, J, has its edges sharpened to adapt it to serve as a root-cutter, and has a second bolt-hole, *a'*, (see Fig. 3,) formed through it, so that when said brace is to be used as a root-cutter its upper end can be detached from the bolt K and placed upon the rear bolt B, so as to raise the cutting-edge of the said brace above the forward edge of the standard C, so as to cut the roots as the plow is drawn in beneath them. When one edge of the root-cutter J becomes dull, the said root-cutter can be reversed and the other edge used. The bolt K also passes through eyes formed upon the lower ends of bolts L, the upper ends of which pass through holes in the plate M, and have nuts N screwed upon them above and below the said plate M. The ends of the plate M are secured by screws or bolts to the lower sides of the handles O, so that the said handles can be adjusted higher or lower by turning the nuts N up or down upon the said eye-bolts L. The rear parts of the handles are connected by a round, P, and the forward ends of the said handles are secured to the opposite sides of the plow-beam A by the forward bolt B. With this construction, when the bar E is upon the right-hand side of the standard C, and a turn-plow plate is secured in place, the whole of the plow-plate will be at the right-hand side of the plow-beam, so that

the sod will pass off the plow-plate without touching the plow-beam, and the plow will not be liable to become choked. By adjusting the upper end of the plow-plate forward the sod will pass off without touching the standard, and the plow will do clean work.

Q is the clevis, the arms of which are secured to the upper and lower sides of the forward end of the plow-beam by the pins R S. The forward part or bend of the clevis Q is bent to one side, so that when a turn-plow is used, by placing the pin S through or at the left-hand side of the arms of the clevis, the line of draft and the line of resistance will coincide and the plow will be drawn forward squarely. When a center-pointed plow-plate is to be used, the bar E is placed at the left-hand side of the standard C, which brings the center line of the plow beneath the beam A. In this case the pin S is withdrawn, the clevis Q is swung to the left, and the said pin S is inserted in the plow-beam at the right-hand side of the arms of the clevis, which brings the point of draft attachment into the center line of the plow, giving a straight draft.

Upon the plow-plate I is placed a mold-board, T, the edge of which, at its lower end, and plowed land side, fits snugly against the face of the plow-plate I. The mold-board T at its land-side edge may be bent downward at right angles, and then bent inward at right angles, and the flange T' thus formed can be so shaped as to fit upon the face of the plow-plate I, and slotted to receive the bolts H, so that the said mold-board can be held securely in place by the said bolts; but I prefer to construct the mold-board, as shown at 1 in Figs. 6, 7, 8, and 9, wider at one end than at the other, and with a wedge-shaped block, 2, beneath its land-side part. The wedge-shaped block 2 is secured at its inner part to the mold-board 1 by a bolt, 3, and at its outer part by a bolt, 4. Two holes are formed in the opposite side parts of the mold-board 1 to receive the bolt 4, so that by removing the said bolt the block 2 can be swung from one side to the other of the said mold-board, to adapt the mold-board to be used with its wide end or its narrow end upward, as may be desired.

In the outer end of the wedge-block 2 is formed an inwardly-extending T-groove, 5, to receive one of the bolts H, so that it may be held in place upon the plow-plate I by one or the other of the said bolts.

In the outer part of one or both the side edges of the wedge-block 2 is formed a shoulder, 6, to receive the other bolt H, so that the said mold-board 1 can be moved up as the plow-plate I wears. With this construction, by using the mold-board with its narrow end upward, the furrow-slice will be turned edgewise, and by using the said mold-board wide end upward the furrow-slice will be turned fully over.

Against the lower side of the rear end of the beam A is placed the center of the upper side of the cross-beam U.

Upon the lower and upper sides of the cross-beam U are placed facing-plates V W. The middle part of the upper facing-plate, W, is arched to pass over the rear end of the beam A.

X are bolts which pass up through the cross-beam U and plates V W at the opposite sides of the beam A, so as to firmly secure the cross-beam U to the beam A. The cross-beam U is further secured to the beam A by the braces Y, the rear ends of which are secured to the cross-beam U by the bolts Z passing through the said braces and cross-beam and the plates V W. The forward ends of the braces Y are secured to the beam A a little in front of the handles O by a bolt, a, passing through the said braces and beam.

b are the side standards, each of which is formed of a bar of iron bent into U form, and then bent forward edgewise at a little distance from its top or bend, to give a suitable inclination to its lower part, while its upper part remains vertical to fit against the forward side of the cross-beam U, where it is secured in place by bolts c, placed above and below the facing-plates V W, and passing through the space or slot between the arms of the standard b, and through a yoke, d, placed against the rear side of the cross-beam U and the rear edges of the said facing-plates V W. The yoke d is extended downward and is curved forward, so that its lower end will rest against the rear side of the standard b, and serve as a brace to the said standard. The rear edges of the upper parts of the standards b rest in grooves e in the forward side of the cross-beam U and in the forward edges of the facing-plates V W, to prevent the said standards from having any lateral movement. Several sets of grooves, e, are formed in the cross-beam U and facing-plates V W, to receive the standards b, so that the said standards can be adjusted farther apart or closer together, as may be desired.

Any desired kind of a plow-plate can be secured to the lower ends of the standards b by the bolts H, and supported and adjusted by the blocks F G, as hereinbefore described.

In the drawings one of the standards b is represented as being provided with a two-pointed scooter, f, sweeps g, and a diagonally-arranged square plate, h. The bolts H pass through the scooter f, the plate h, and the space or slot between the arms of the standard b. The sweep-plates g are bolted to the lower sides of the side angles of the plate h, with their inner ends between the said plate and the standard b, the said ends of the sweep-plates g being recessed to receive the lower bolt H, so that the said sweep-plates will be held securely in place. The said parts of the plate h are inclined to the rearward from the center toward the side angles to give the sweep-plates g a suitable rearward inclination. With this construction the scooter f and the sweep-plates g can be detached, sharpened and replaced without affecting the position or set of the said sweep-plates, the plate h not requiring to be sharpened, and being liable to very

little wear. With this construction, the scooter *f* can be adjusted to enter the ground to any desired depth without affecting the position of the sweep-plates *g*. With this arrangement 5 shown and described, the center plow will open a furrow and the side plows will form a list.

When the plow is to be used for breaking land, one of the standards *b* is detached from 10 the cross-beam *U*. By removing the bolt *a* and loosening the nuts of the bolts *X* the cross-beam *U* can be slipped off the rear end of the beam *A*, leaving a one-plow stock. By taking off the clevis *Q* the arch of the upper facing-plate, *W*, can be slipped down the beam 15 *A* to the forward ends of the handles *O*, the bolt *a* can be passed through the braces *Y* and a hole in the forward part of the beam *A*, and the nuts of the bolts *X* tightened. The side 20 plows will then be in advance of the center plow, so that the side plows will form a ridge and the center plow will open the said ridge to receive corn or other seed.

Various other adjustments can be made, as 25 the work to be done may require.

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

1. The combination, with a slotted plow-standard having its lower end beveled, of the 30 reversible wedge-shaped spacing-block *F*, provided with the apertured lug *F*², and a bolt for securing the spacing-block in place, substantially as shown and described, whereby 35 the block serves the threefold purpose of a spacing-block, a shoe for the lower end of the standard, and a means for changing the inclination of the standard, as set forth.

2. In a plow, the combination, with the 40 standard *C*, bar *E*, bolts *D*, plow-plate *I*, plate

H', and bolts *H*, of the reversible spacing-block *F*, having wedge-shaped foot-plate *F'*, provided with a lug, *F*², having a bolt-hole, *F*³, substantially as shown and described.

3. In a plow, the combination, with the 45 plow-plate *I* and its fastening-bolts *H*, of the reversible mold-board *1*, made wider at one end than at the other end, and having a shoulder, *6*, the reversible wedge-block *2*, having T-groove *5*, and bolts *3*, *4*, and *H*, substan- 50 tially as herein shown and described, whereby the said mold-board will be securely held, and can readily be applied, detached, and reversed, as set forth.

4. The combination, with the plow-stand- 55 ard *C*, the bar *E*, and the fastening-bolts *D*, of the spacing-blocks *G F*, substantially as herein shown and described.

5. In a plow, the combination, with the standard *C* and beam *A*, of the reversible cut- 60 ting-brace *J*, having its upper and lower edges sharpened, and provided with end holes, and hole *a'* and bolts *B K D*, substantially as shown and described, whereby the cutting-edges of the root-cutter can be reversed and the latter 65 raised and lowered, as set forth.

6. In a plow, the combination, with the cross-beam *U*, the facing-plates *V W*, having grooves *e*, and the standards *b*, of the bolts *c* and the plates *d*, having their lower ends 70 curved forward, substantially as herein shown and described, whereby the said standards are secured adjustably to the cross-beam and its plates and will be firmly supported, as set forth.

THOMAS A. BLANCHARD.

Witnesses:

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A. S. HARDIN.