(No Model.) 2 Sheets—Sheet 1.

# M. MYERS.

## REVERSIBLE PLOW.

No. 492,821. Patented Mar. 7, 1893.

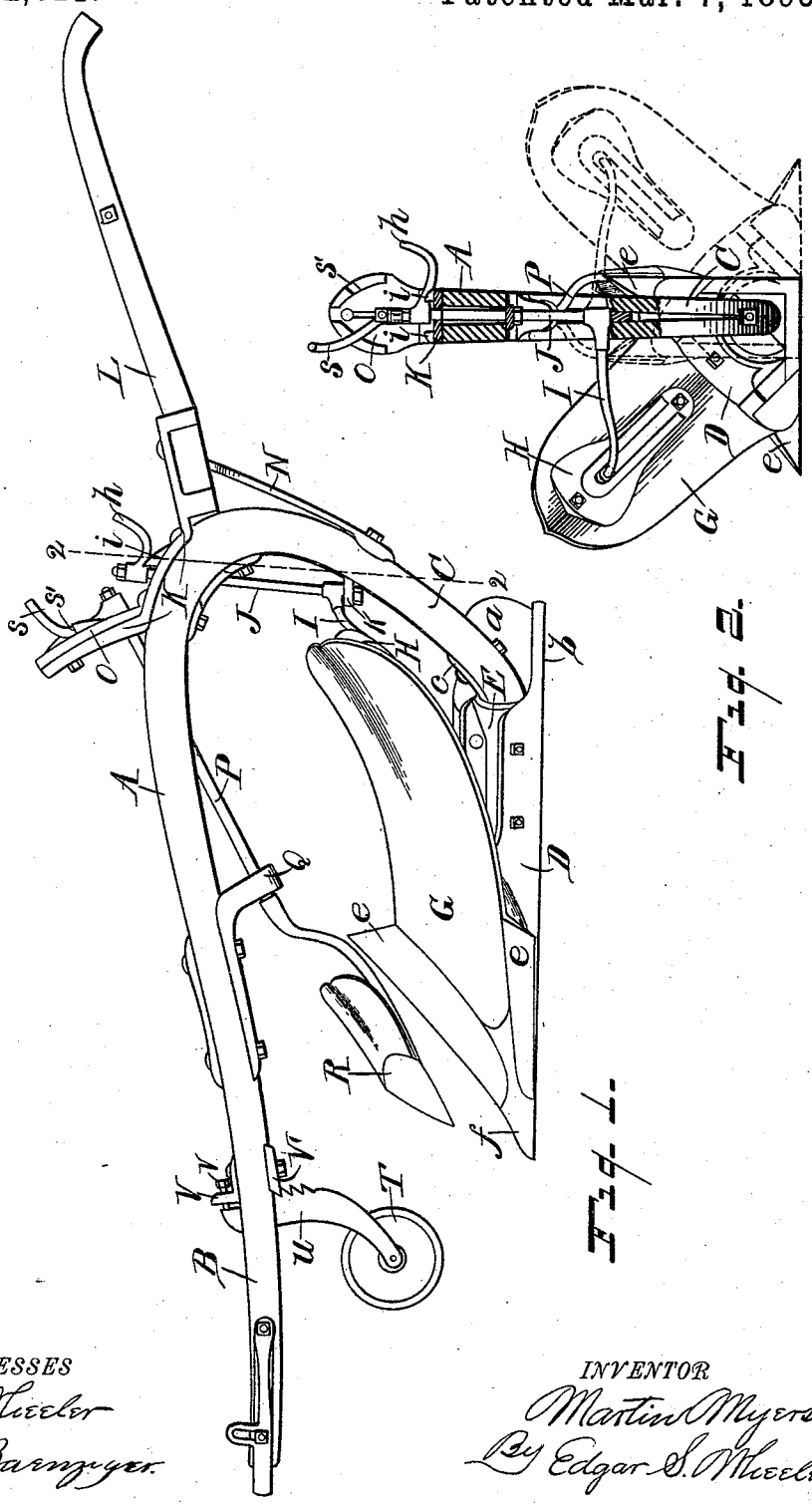

Fig. 2.

Fig. 1.

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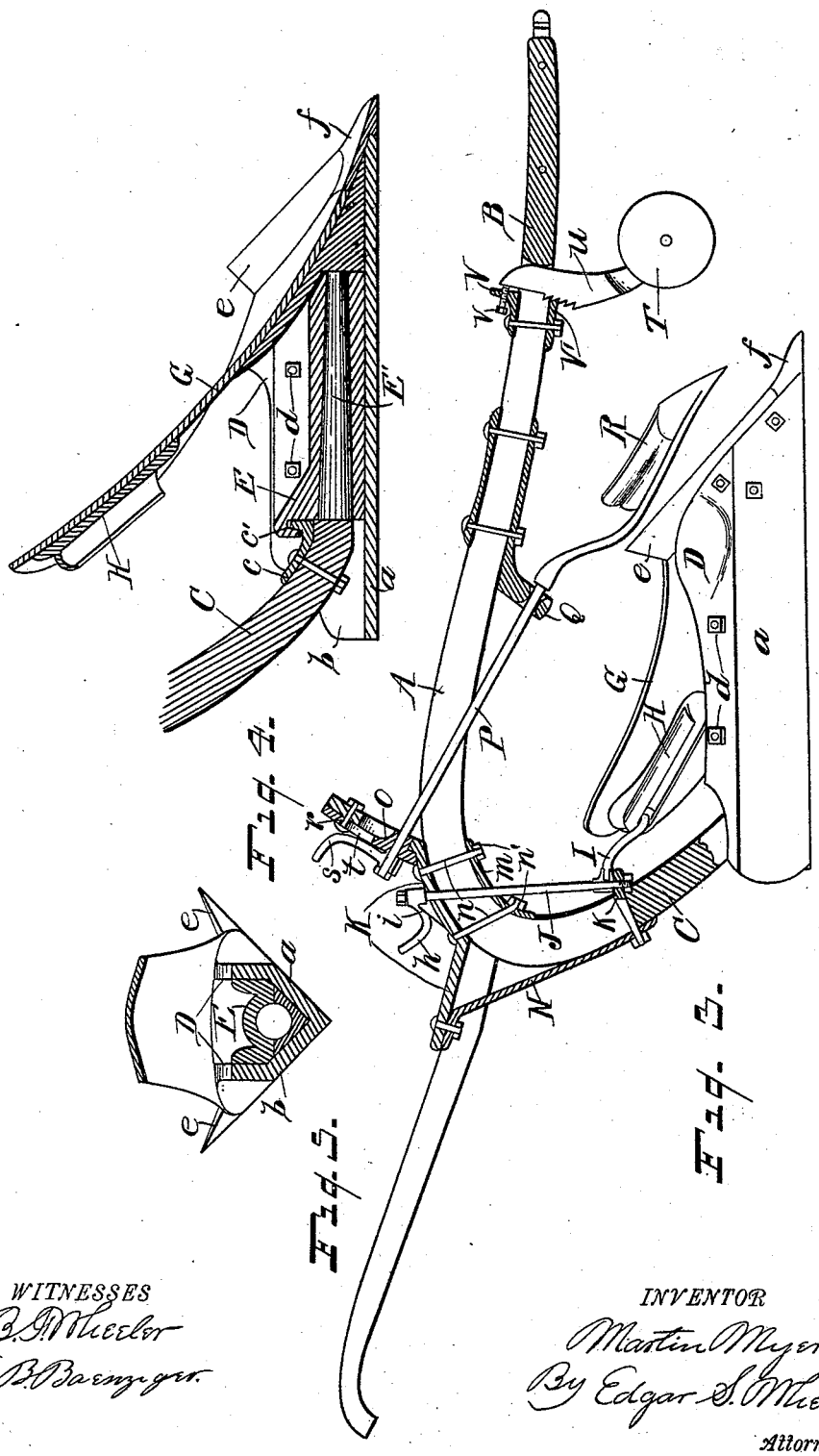

Fig. 4.



Fig. 5.

Fig. 3.

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# UNITED STATES PATENT OFFICE.

MARTIN MYERS, OF MUNDY, MICHIGAN.

## REVERSIBLE PLOW.

SPECIFICATION forming part of Letters Patent No. 492,821, dated March 7, 1893.

Application filed June 6, 1892. Serial No. 435,628. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN MYERS, a citizen of the United States, residing at Mundy, in the county of Genesee, State of Michigan, have invented certain new and useful Improvements in Reversible Plows; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in plows; and especially to that class known as "reversible" or "hillside" plows, and consists in a certain construction and arrangement of parts, whereby the mold-board or plow proper and its accompanying colter or jointer may be shifted at will to form a right or left hand plow, as desired, for purposes that are obvious and need no special mention. The essential features of which are hereinafter more fully set forth and claimed in particular.

The object sought in my invention, being to embody in a single plow the advantages of both right and left hand plows, in such manner as to combine simplicity and utility in its construction and operation, and render possible, with the exercise of ordinary skill, its rapid and successful manipulation.

To this end my invention consists in the combination and arrangement of the parts and mechanism illustrated in the accompanying drawings. in which;—

Figure 1 is a side elevation of my improved plow, as it appears in the capacity of a left hand plow. Fig. 2 is a rear elevation partly in section, on dotted line 2—2 of Fig. 1, showing by dotted lines the shifted position of the parts. Fig. 3 is a longitudinal central vertical section through the plow beam, the saddle, mold-board, plow point and share being in elevation. Fig. 4 is a central vertical longitudinal section through the mold board, saddle and its journal-box and parallel bearing on the lower end of the beam. Fig. 5 is a central vertical cross-section through the mold-board, saddle and journal box mounted therein.

With reference to the letters on the drawings, A is the plow beam or frame which consists of a single piece of metal or timber so bent or curved near its center as to cause the ends thereof to stand at suitable angles to form the horizontal draw-beam B and vertical standard C of the plow, and is vertically divided through a portion of its longitudinal center to accommodate the attachment of certain operating parts hereinafter more fully explained.

D is the plow saddle, having the two landsides *a* and *b* that extend at right angles to each other from the base thereof, and secured between and to the adjacent faces of said landsides by means of the bolts and nuts *d* is the journal box E, that receives the tapering journal E′ on the lower end of the standard C, and forms the bearing on which said saddle is adapted to tilt or rock. See Figs. 4 and 5.

The journal E′ is held from disengagement with the box E, by means of the segment *c* that is bolted to the standard C, and has an upwardly projecting lug *c′* that enters an annular recess formed in the under face at one end of the upper half of the box E, allowing said box to rotate thereon, but preventing the withdrawal of the journal except by removing the upper half of said box, as clearly shown in Fig. 4. Mounted on the forward end of the saddle by means of suitable bolts or rivets are the plow-shares *e*, plow-point *f* and duplex mold-board G, the latter being formed with a central longitudinal ridge or raised portion on its upper face to form and divide the double inclined sides of said board, and also has fixed in suitable manner to its under face, the slotted box or guide way H, in which one end of the horizontally swinging arm I is adapted to travel when motion is imparted to it through the vertical shaft J mounted in a suitable bearing *k* on the standard C. To the lower end of which said arm is rigidly connected, its upper end extending through or between the sides of the frame A and carrying the crank or hand lever *h*, by which said shaft is rotated to swing the arm, and shift the mold-board and saddle from right to left,

or reverse, as desired, said parts being locked in either position by engaging the lever *h* with one of the two studs *i* that project in the path thereof from the plate K. See Figs. 2 and 3.

The plate K is mounted on the upper curved portion of the frame A, and secured thereto by bolts *n* that pass through or between the adjacent faces of the sides of the frame and receive the bearing-plate *m* and nuts *n'* on the lower ends thereof. See Fig. 3. The rear end of said plate is provided with depending flanges that receive the handle bars L of the plow, which are supported and secured thereto by the brace rod N, the lower end of which is secured to the standard by a nut on the end of the stem of the bearing K, its upper end being bolted to the plate K and provided with shoulders that bear against the under face of the handle bars. The forward end of the plate K projects upward in the arc of a circle and carries an adjustable bearing plate O, in which one end of the inclined shaft P is journaled, the opposite end of said shaft is also journaled in a hanger Q depending from the beam B, and carries on its extreme lower end the double sided jointer R, which, through the rotation of said shaft by its hand lever *s*, is reversed or shifted to correspond in position to the mold-board of the plow, and is locked in the desired position by engaging the lever *s* with one of the depressions or notches *s'* in the face of the bearing plate O. See Fig. 2.

The bearing plate O is made adjustable vertically on the plate K, to raise or lower the upper end of the shaft P and cause the lower end thereof carrying the jointer R to enter the soil the desired depth. The bearing Q, in this operation, forms a fulcrum on which the shaft P swings, and the plate O carrying the upper end thereof is locked to the plate K by a nut on the bolt *r* that passes therethrough and through the slot *t* in said plate, as clearly shown in Fig. 3.

T is the trailing wheel journaled in the lower end of the bifurcated standard *u*, that is supported in the beam B, at a point in advance of the jointer, and is adjustably locked thereon by means of the set screw *v* that passes through the L-shaped plate V and bears against the inner edge of said standard at a point above the frame, causing the rear edge thereof to bear against the beam and force the lower inner edge against the plate V', the beveled edge of which receives one of a series of teeth or notches formed in the edge of the standard *u*, thus firmly locking the standard thereto and permitting the same to be adjusted to regulate the depth of furrow.

Heretofore, plows of this class have been constructed with reversible mold-boards journaled on a horizontal axis, and adapted to swing beneath said axis and the stationary land-side, thus necessitating the raising of the plow in the operation of shifting or swinging the mold-board, which is caused to travel a distance of three fourths of the arc of the circle in which it swings, whereas, in my improved plow the mold-board swings above its axis, or between said axis and the plow beam, while the land-side (which is double sided) swings beneath the axis and forms a fulcrum on which the mold-board rocks, and only describes one-fourth of the arc of a circle in its movement from side to side, thus enabling a more rapid adjustment of the mold-board, obviating the raising of the plow or the withdrawal of the journal or beam in making such adjustment.

From the foregoing description it will be apparent that a plow of such construction will be comparatively light, strong and cheap, and possess the requisite features of utility to render it universal in the capacity of an implement for tilling the soil under all ordinary conditions and circumstances. The reversible feature of the plow, enabling a large acreage to be plowed transversely, obviating the objectionable "dead furrow."

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

1. In a plow, the combination of the beam, the hanger depending therefrom, the jointer shaft fulcrumed in said hanger and carrying the duplex jointer on the lower end thereof, the circularly adjustable plate mounted on the beam and having the upper end of the jointer shaft journaled therein, whereby said plate may be adjusted in the arc of a circle to raise or lower the jointer to regulate the depth of furrow, the shifting lever attached to the upper end of said shaft, and adapted to engage a lug on the adjustable plate to lock said lever when shifted, substantially as specified.

2. In a plow, the combination of the beam and standard, the horizontal journal on the lower end of said standard, the saddle having the right angled landsides formed on the base thereof and carrying on its forward end the plow point, shares and mold board, the two part journal-box secured to said saddle for the reception of the journal on the standard, the lug projecting from the standard that is engaged by the over-hanging flange on the upper half of the journal box whereby the journal is held from disengagement therewith.

3. In a plow, the combination of the duplex beam and standard, the V-shaped saddle having the duplex landsides formed thereon and carrying the duplex point, share and mold-board, said saddle journaled on the standard, the vertical shaft journaled in the beam and carrying a swinging arm that engages with the mold-board, and means for swinging said arm to shift the plow, substantially as specified.

4. The combination of the beam and standard, the saddle carrying the point, share and mold-board, the latter having a way in the under face thereof, said saddle journaled on

the standard, the vertical shaft carrying the operating lever at its upper end and having a swinging arm at its lower end that engages in the way in the mold-board, substantially as specified.

5. In a plow, the combination of the divided beam and standard, the duplex point, share and mold-board journaled on said standard, the plate K mounted on the beam the handles attached to said plate, the jointer and its shaft, said shaft passing between the sides of said beam and having its upper end journaled in said plate, the vertical shaft also passing between the sides of the beam and journaled in said plate, said shaft carrying a swinging arm having engagement with the mold-board; and means for actuating said shaft, substantially as specified.

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

MARTIN MYERS.

Witnesses:
GEO. E. TAYLOR,
HOWARD E. TAYLOR.