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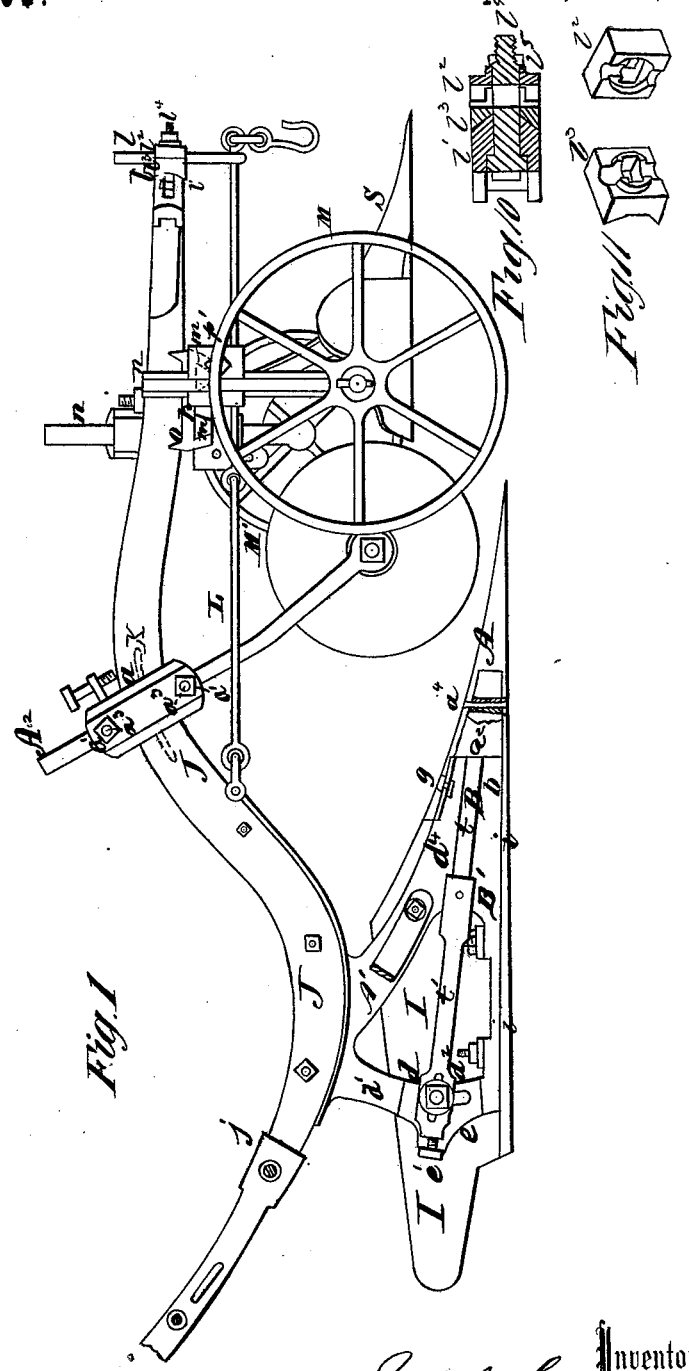

Fig. 1

Fig. 2

Fig. 3

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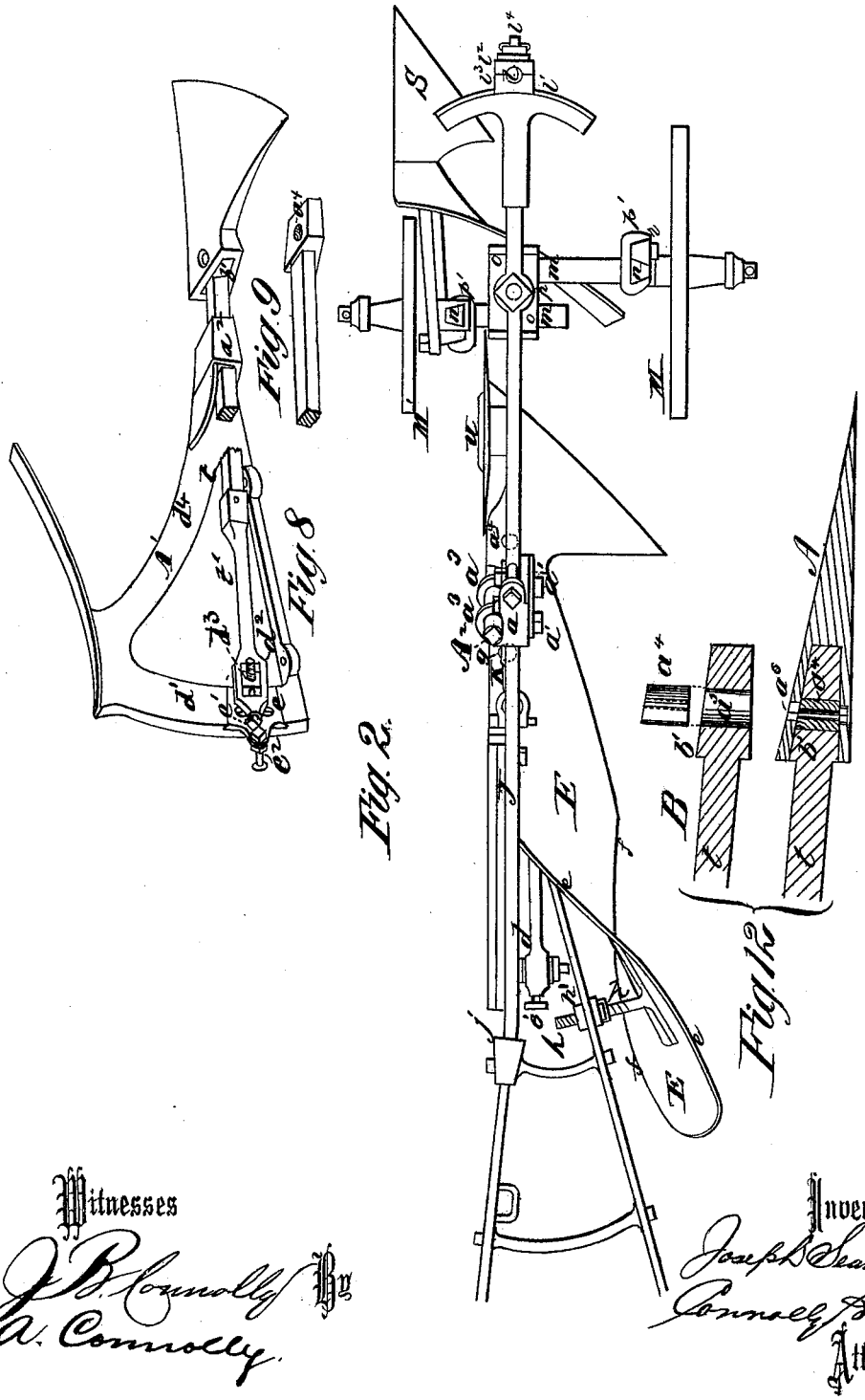

Fig. 2.

Fig. 9

Fig. 8

Fig. 12

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Fig 3

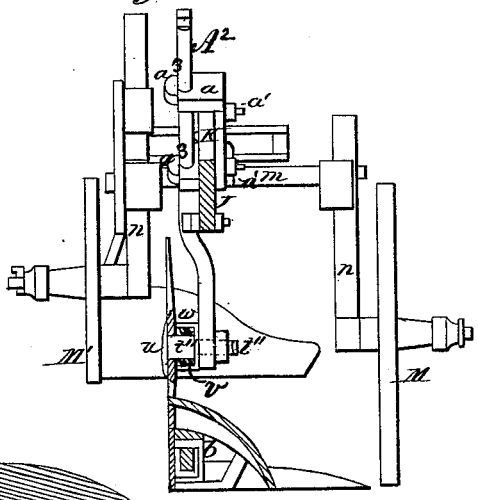


Fig 5

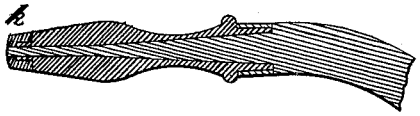
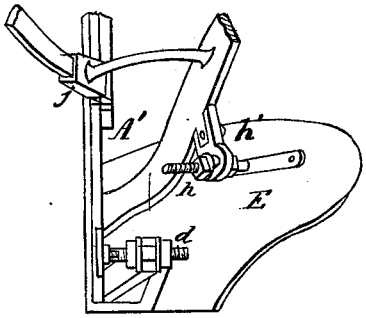


Fig 4



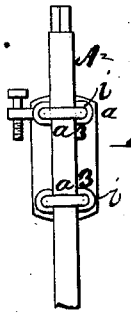


Fig 6.

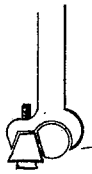


Fig 7

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UNITED STATES PATENT OFFICE.

JOSEPH SEAMAN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **195,406**, dated September 18, 1877; application filed April 13, 1875.

To all whom it may concern:

Be it known that I, JOSEPH SEAMAN, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Plows; and do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved plow, with mold-board removed to show underlying parts. Fig. 2 is a plan view. Fig. 3 is a transverse sectional view through share and beam behind the wheels. Fig. 4 is a rear-end elevation of mold-board and land-side. Fig. 5 is a longitudinal central section of the upper end of one of the handles. Fig. 6 is a side view of colter standard and keeper. Fig. 7 is a detail view. Fig. 8 is a perspective view of the plow-frame. Fig. 9 is a perspective view of forward position of share-lever. Fig. 10 is a vertical longitudinal section through head of plow-beam, and through devices for securing clevis-pin and adjusting the draft. Figs. 11 are perspective views, showing in detail the blocks between which the clevis-pin is held. Fig. 12 shows sectional views of share and share-lever and the use of the wooden plug.

This invention has relation to that class of wheel-plows in which the beam is supported upon adjustable wheels forward of the share, and the land-side, mold-board, and point secured to a skeleton frame, from which they are separately detachable.

The improvements consist in the novel construction, combination, and arrangement of parts, as hereinafter described and claimed.

Referring to the accompanying drawings illustrating my improvements, J represents the beam. A^1 designates the plow-frame, consisting of a skeleton casting, flanged and attached to the under side of the beam J, and constructed with an inclined or tapering forward extension, d^4, and an upright standard or brace, d^1. To this frame are attached the land-side I and mold-board E by bolts, which will allow these parts to be separately detached when worn or injured, and others substituted.

The frame A^1 is constructed with a lateral tapering projection, a^2, (shown clearly in Fig. 8,) having a central longitudinal aperture or mortise for the passage of the share-lever B, which is the medium of connection between the share A and the frame-standard d^1. The share A is separate from the mold-board and land-side. A recess in its rear end is formed to receive the corresponding or wedge-shaped head b' of the share-lever, and the share and lever are secured together by means of a vertical bolt or pin, a^6.

To obviate the difficulty of fitting new shares to the lever on account of the holes in the two failing to coincide, the hole in the head of the lever is made larger than that in the share.

When a share is to be fitted to the lever, a suitable plug or block, a^4, is inserted in the hole a^5 formed to receive it, and its ends cut off even with the surfaces of the lever-head b'. The head b' is then inserted in the recessed part of the share, and the position of the bolt-hole marked on the block. The lever is then removed from the share, and a hole bored through the wooden block or plug at the point indicated, after which the lever is replaced and the bolt a^6 inserted through the coinciding holes of the share and plug, and fastened by means of a nut on its lower end.

The object in having the share attached to the lever B is to allow the vertical or lateral pitch or inclination of said share to be regulated by adjustment. For the purposes of such adjustment the lever at its rear end is connected to the standard d^1 by a suitable laterally and vertically adjustable coupling, d, which comprises a dovetailed adjustable plate, e, fitting a recess in the standard, and having a segmental slot for the reception and movement of a bolt, a longitudinally-slotted enlargement, d^2, at the end of said lever, a rectangular block, d^3, fitting and movable in the lever-slot, a bolt passing through the slots and rectangular block, and a pair of nuts on the bolt and on opposite sides, respectively, of the lever. A bolt, e^1, passing through the end of the share-lever, and bearing against the rectangular block d^3, is added to the coupling, so as to draw the share close to the plow-frame through the longitudinal adjustment of the lever. The plate e is secured to the frame A^1 by means of bolt and nut e^2, Fig. 8.

To provide for the proper arrangement of the share-lever with its wedge-shaped head in relation to the mortised projection at the point of the frame A^1, said lever is made in two sections, one of which has a socket to receive the end of the other, which is secured therein by means of a pin, as shown at B′.

This construction of the share lever is rendered necessary on account of the enlargement of its ends, which are wider than the mortise or aperture through the part a^2. This aperture will not admit of the passage of either of these enlarged ends. Hence the lever is made in two sections, $t\,t'$. The section t is attached to the head b', and is passed through said mortise or aperture from the front, and afterward coupled to section t', as shown.

The mold-board (indicated by letter E) is attached at its forward end to the frame A^1 by a bolt at g, while its rear part is connected to the right handle of the plow by means of the mold-board, stay, and coupling $h\,h'$, said coupling being adjustable laterally.

The left handle of the plow has a socket, j, in its lower end, which receives the rear end of the beam J. The hand-pieces of the handles are of turned wood, provided with metal caps k, which serve not only as bars, but also to keep the wood from splitting.

a represents the colter-keeper, formed with a socket, i, at each end, to receive the eye-bolts a^3, through which the colter-standard A^2 passes. These eyebolts, passing through the keeper, are secured thereto by nuts, a^1.

The colter keeper or clamp embraces the beam J. The latter is formed with a rib or cleat, K, against which the colter-standard impinges, and which allows the standard to be adjusted to a true position, said rib or cleat serving as a fulcrum upon which the standard turns.

l represents the clevis-pin, adapted to move vertically as well as laterally. Said pin passes through a vertical aperture formed by two channeled blocks, $l^2\,l^3$, one of which has a recess in its inner surface to coincide with and receive a re-enforcement on the opposing surface of the other, whereby the two are held in close and invariable relation. These blocks have through their centers a horizontal rectangular aperture, through which passes a shouldered bolt, l^4, perforated for the passage of the clevis-pin, and formed with a head impinging against the inner surfaces of the flanges formed on the segmental head-piece l^1 of the beams J. These flanges are produced by channeling the posterior portion of the segment in the direction of the curve and cutting a slot through the curved wall. The face of the segment above and below the slot is beveled, as shown. The block l^3 is recessed to correspond with the bevels, and is brought in close contact therewith by means of the bolt l^4 and its nut l^5. By reason of the described arrangement of the parts $l\;l^1\;l^2$, &c., the clevis-pin may be adjusted vertically or laterally, and by this means the draft indicated by rod L, connecting clevis-pin, and draft-beam regulated to suit all requirements.

M M′ represent the wheels. These are supported by beveled standards $n\,n$, which are adjustable in recessed blocks p' on the ends of horizontal sliding arms or bars $m\,m$. The standards $n\,n$ are held in place by beveled wedge-block r, secured by bolts to and in the recesses of the blocks p', beside and in close contact with the standards. By sliding the standards $n\,n$ the wheels may be adjusted vertically. Lateral adjustment is effected through the bars $m\,m$, which pass through the dovetailed recess in the under side of a block, o, secured by a vertical bolt to the beam J, and are held in place by a wedge-block, p, supported also by said vertical bolt.

The large wheel M is intended to run at the bottom of a furrow, level with the share, and gage the width of the cut. The small wheel runs on the unplowed land, and gages the depth of cut.

S represents the skim-colter, which goes in front and clears the way for the land-wheel, throwing any rubbish that may be lying on the surface into the furrow, so as to be covered up by the succeeding "flag." The skim-colter is attached to a standard, which is held in place by the same bolt that holds land-wheel and standard to the wheel-slide, said colter-standard being slotted for the passage of the bolt, and provided with a mortised head for the passage of standard n. The skim-colter is thus made vertically adjustable.

t'', Fig. 3, designates a stud whereon the wheel-colter revolves, a broad cap, u, being a part of said stud, and serving to steady the blade on the land-side. The other end of the stud is made fast to the colter-standard.

V is a bush fixed to the blade to make a longer bearing, and W is a cap covering the same to keep the dirt out of the journal.

With reference to the form of standards $n\,n$, it is to be observed that they are not necessarily beveled on both sides, as shown in Figs. 1 and 2, but may be rounded and beveled on one side only, as shown in modification, Fig. 7.

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

1. The frame A^1, having the elongation d^4 and brace or standard d^1, and constructed with the longitudinally-mortised lateral projection or shoulder a^2, adapted to receive the vertically and laterally adjustable share-lever B, and allow the same vertical and lateral movement for adjusting the share vertically or laterally, substantially as shown and described.

2. The combination, with the frame A^1, having the longitudinally-mortised shoulder or projection a^2, of the laterally and vertically adjustable share-lever B, supporting the share A, and coupled to the frame at its rear end by the coupling d, substantially as shown and described.

3. In combination with the frame A^1, having the mortised shoulder a^2, the share-lever B, having the head-piece b', and made in two separable sections, coupled at B′, substantially as shown, and for the purpose specified.

4. The share-lever or supporting-bar B, having the head-piece b' fitting a socket in the share, and provided with a wooden plug inserted in the bolt-hole for the reception of the share-bolt a^6, substantially as described.

5. The horizontal wheel-slides m m and vertical wheel-standards $n\,n$, beveled as shown, in combination with the beveled recessed block O and the correspondingly-beveled recessed blocks or keys secured by bolts or pins to the beam J and slide-heads p', respectively.

6. The combination, with the land-wheel M′, of the skim-colter S, arranged in front of said wheel, and attached to the wheel-standard, substantially as described and shown.

7. In combination with the draft-rod L and clevis-pin l, the segmental slotted and beveled head-piece l^1, slotted bolt l^4, and adjustable clamping-blocks l^2 l^3, substantially as shown and described.

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