

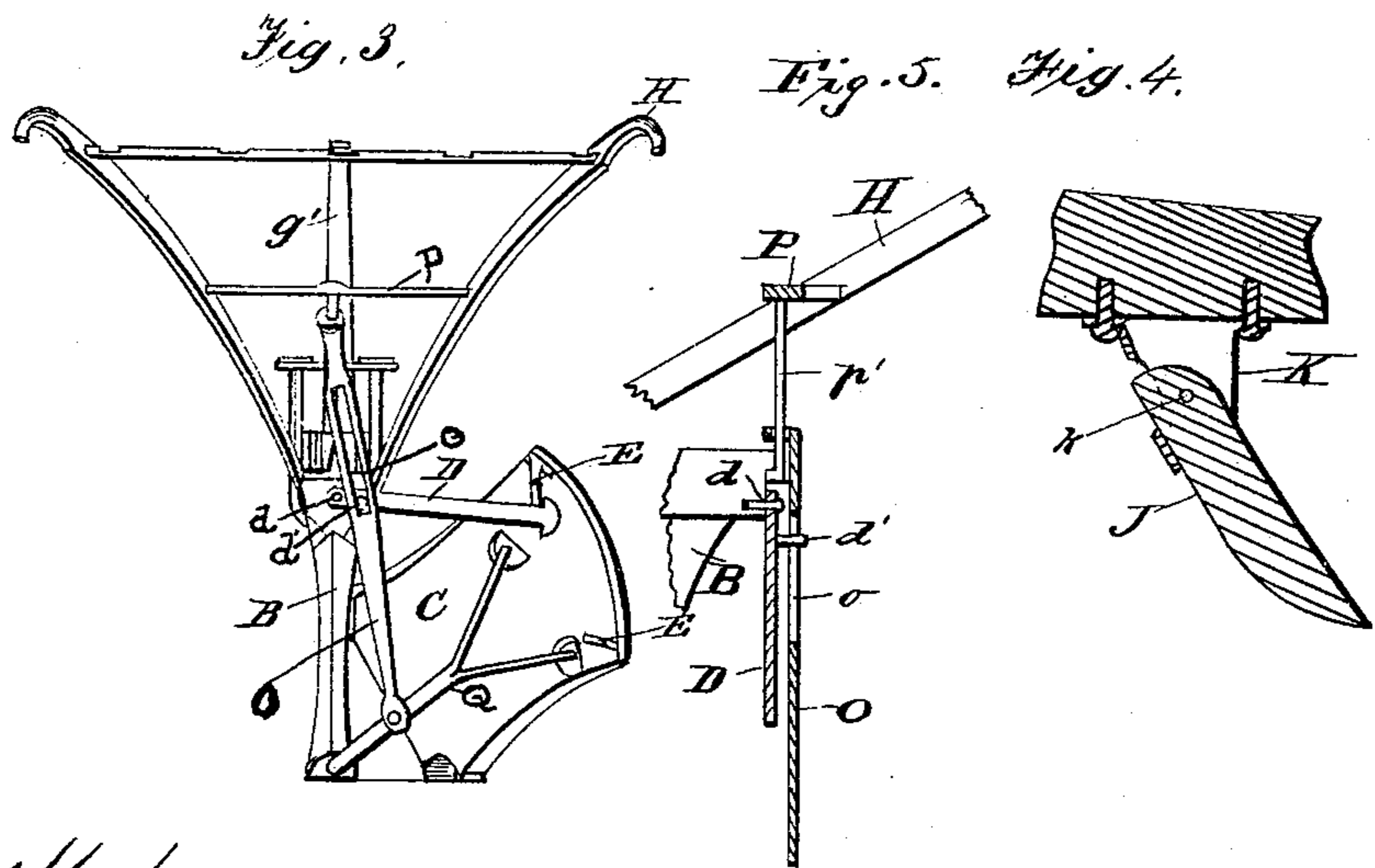
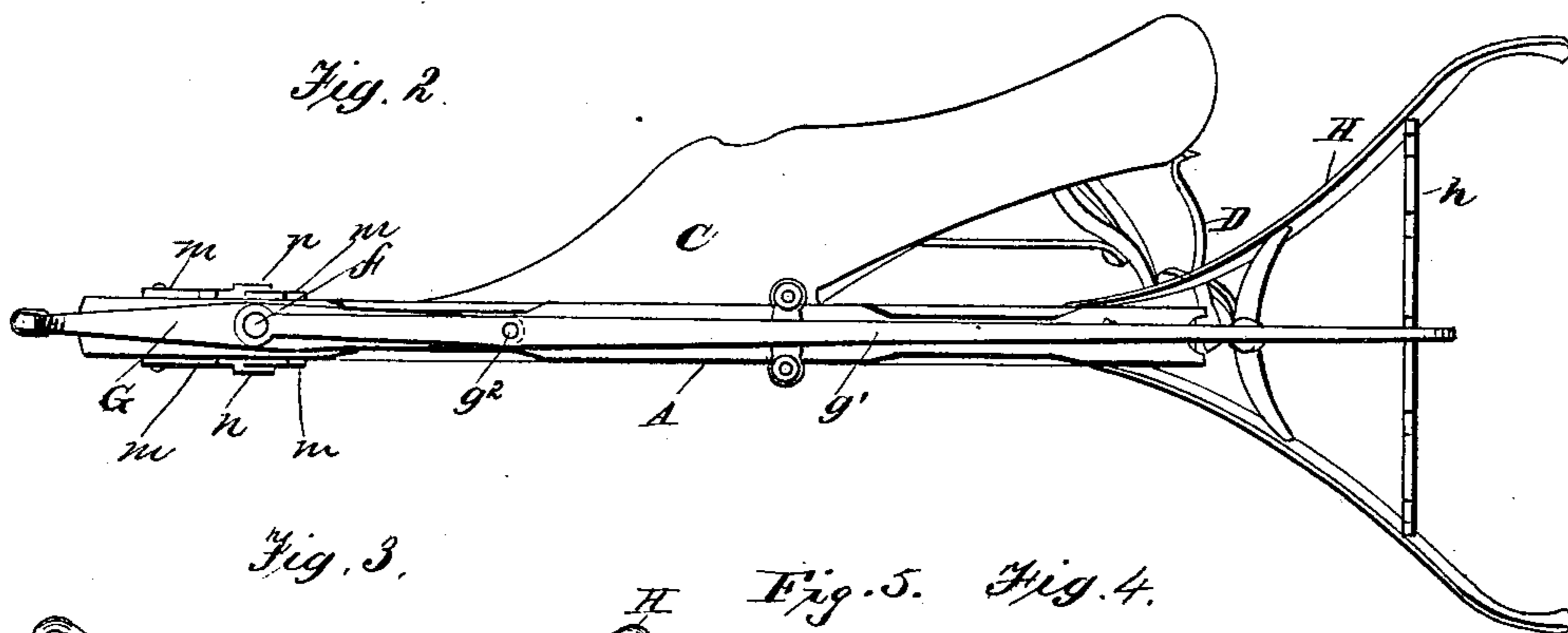
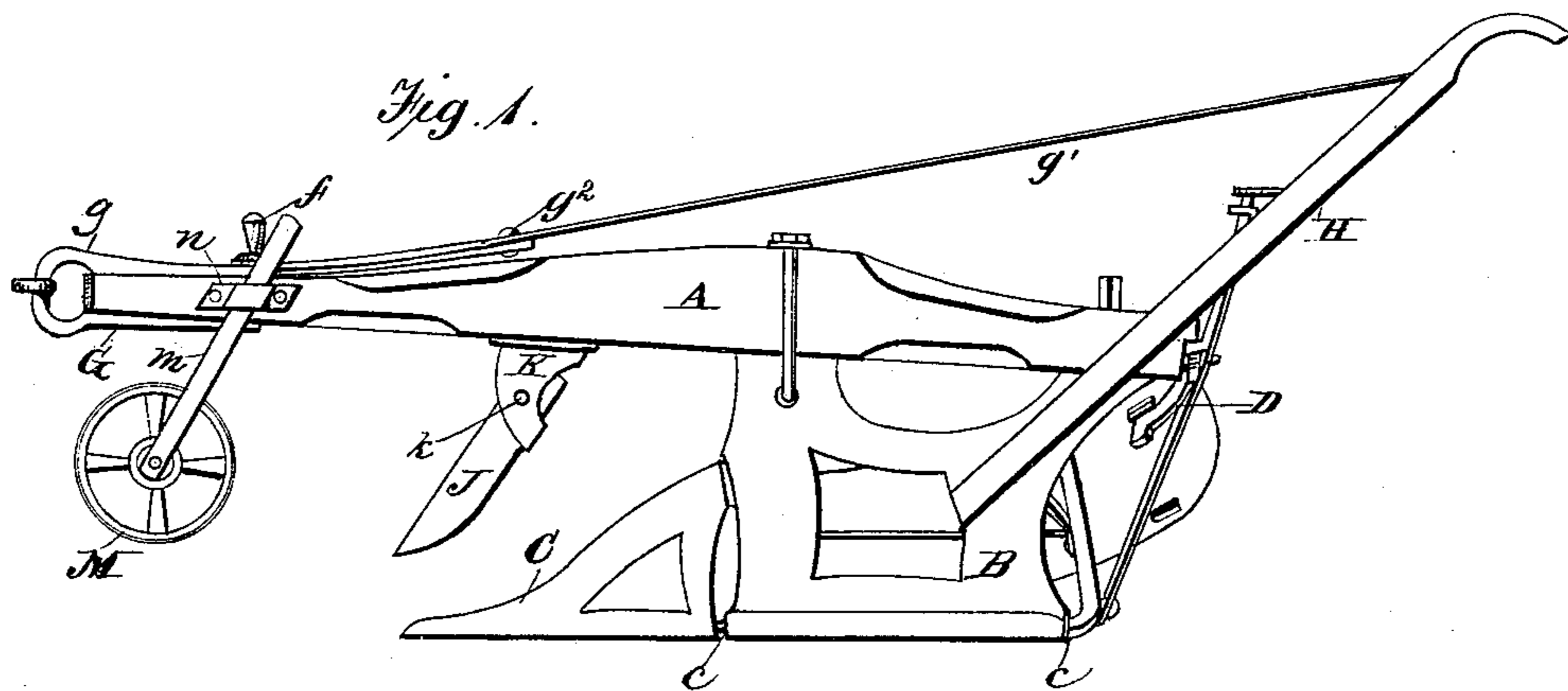
(No Model.)

M. R. HUBBELL.

PLOW.

No. 329,834.

Patented Nov. 3, 1885.



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UNITED STATES PATENT OFFICE.

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PLOW.

SPECIFICATION forming part of Letters Patent No. 329,834, dated November 3, 1885.

Application filed November 12, 1881. Serial No. 45,691. (No model.)

To all whom it may concern:

Be it known that I, MYRON R. HUBBELL, of Wolcott, in the county of Lamoille and State of Vermont, have invented certain new and useful Improvements in Reversible Plows; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of a plow constructed in accordance with my invention. Fig. 2 is a top plan view of the same; Fig. 3 an end view, and Fig. 4 a sectional view taken longitudinally through the colter; and Fig. 5 is a view of a detail showing the manner of pivoting the rod for throwing the latch.

Similar letters of reference in the several figures denote the same parts.

This invention relates to improvements in that class of plows known as "reversible plows;" and it consists in certain novelties of construction which I will now proceed to describe.

In the drawings, A represents the beam of the plow; B, a standard secured centrally to the rear end of the beam and forming the "landsides;" C, a reversible mold-board pivoted centrally to the lower end of the standard, as seen at *c c*, and adapted to be swung up into working position on either side of the beam and to be locked by the engagement of a locking-bar, D, with one or the other of lugs E E on the inner side of the mold-board, as shown.

D represents a bar pivoted at *d* to the standard, with the two shoulders or catches at its free end for co-operating with the lugs E E on the mold-board, and near its other end with the pin *d'*, adapted to co-operate with a slot, *o*, in the rod O. The end of the rod O is bent over and provided with a perforation, and is adapted to slide upon the rod *p*, secured at one end to the cross-bar P and at the other to the plow-standard, as shown in Fig. 5. The lower end of the rod O is pivoted to the bifurcated rod Q, whose inner end is pivoted to the standard at *c'*, and whose outer ends are connected to the mold-board C, as shown.

The operation of the shifting of the plow will now be readily understood. When the

driver desires to reverse the mold-board, he simply disengages the latch D from the lug E, and raising the handles swings the board to the other side of the standard. At the same time the rod O, attached to Q, moves to the other side, the perforated end of the rod O sliding on the rod *p* allowing the necessary longitudinal movement, the pin *d* in the slot *o* moves the bar D to the other side in position to be locked in engagement with the corresponding lug on the under side of the mold-board.

The feature of reversing the latch or locking bar at the same time the mold-board is operated is an important one, as in the old-style reversible plows it was necessary to remove the hook from one side by hand, swing it over to the other side and re-engage it.

G represents a clevis secured to the forward end of the beam and composed, first, of a part, *g*, shaped like the ordinary clevis, except that its upper arm is extended back some distance beyond the pivot or securing bolt *f*, and, secondly, of a part, *g'*, consisting of a bar reaching back between the handles H H and adapted to engage with a series of notches in the cross-bar *h*, which connects the handles. The part *g'* is held at its outer end by the pivot or securing-bolt *f*, and it is connected to the part *g*, or clevis proper, by a rivet, *g*², or other connection, as shown.

Instead of making the clevis in separate parts it may be made all in one piece. I prefer, however, to make it in separate parts, as then the part *g*, or clevis proper, can be a malleable casting and the bar *g'* easily attached to it. The bar *g'* being held in position by the clevis-bolt *f* at one end and by the notches in the cross-bar *h* at the other end, and the connection between it and the clevis proper, *g*, being intermediate between the ends of the said bar *g'*, less sidewise play of the bar is permitted than if the clevis were made in one piece.

Another advantage arises from making the clevis in parts—namely, that the bar *g'* may be dispensed with and the clevis proper, or part *g*, used as an ordinary clevis.

With my improved clevis the driver, without leaving his station at the handles, can shift the clevis from right to left, or vice versa, each

time the mold-board is reversed, so as to cause all the furrows to be cut of equal width. The bar *g'* of the clevis springs down into the notches in the cross-bar *h*, and cannot be dis-
5 placed except by raising it positively out of said notches.

It will be observed that the standard of my plow is arranged centrally of the beam, so that whether the mold-board be shifted to one side
10 or the other said standard will form a smooth straight landside in line with the beam, and also in line with the cutter or colter *J*. Of course this arrangement of the standard in line with the beam would be impracticable in a
15 reversible plow unless the adjustable clevis were employed, and it is therefore when combined with such adjustable clevis that I regard the arrangement as specially valuable. The cutter or colter *J* is so hung as to allow it to
20 swing forward and upward when the plow is drawn backward, and also to allow stones to pass between its point and the point of the plow without throwing the plow out of the ground. I preferably hang it in a metal socket,
25 *K*, secured to the under side of the beam, as shown in Figs. 1 and 4. This socket is perforated laterally for the passage of a pivotal bolt, *k*, and is open at its front, so as to permit the cutter to swing upward. An advantage
30 is gained in supporting the cutter below the beam, as by so doing the bar *g'* of the clevis is permitted to run straight back to the handles without a bend in it, which would otherwise have to be made if the shank of the colter ex-
35 tended up above the beam, as commonly. At the forward end of the beam is a wheel, *M*, mounted on a bearing between guide-bars *m m*, which pass up through sockets *n n*, secured to
40 guide-bars do not in any way interfere with the movement of the clevis to the right or left. They are somewhat inclined, and their lower ends project forward, from which it follows that when the wheel is lowered it is also car-
45 ried forward, and thereby better steadies the plow than it would if it moved straight down or swung back, as is usually the case. When the wheel is lowered, the forward end of the beam is raised and the downward draft on the
50 end of the beam is increased, and if the wheel did not move forward, as in my invention, the leverage on the beam would be increased and the plow would be raised too far out of the ground. When the plow is running deep and
55 the wheel is moved back, more weight is thrown upon the wheels and the friction on the bottom of the plow is diminished.

I am aware that it has been proposed to construct reversible plows with a latch for secur-
ing the mold-board mounted upon a telescopic 60 rod, one end of which is attached to the standard and the other to the mold-board, so that when the board is reversed the latch is reversed also; but this device is not nearly as practical
nor as secure as mine, as the latch does not 65 connect the board directly with the standard, which is the most stable portion of the device, as mine does.

I claim as my invention—

1. In a reversible plow, the combination, 70 with the standard, of the mold-board pivoted thereto and adapted to be swung on either side of the same, the automatic latch or locking device consisting of the locking bar or latch
pivoted to the plow-standard and having the 75 pin and the bar connected to the mold-board and provided with the slot with which the pin on the locking-bar co-operates, whereby when the mold-board is reversed the latch is also
automatically reversed, substantially as de- 80 scribed.

2. The combination, with the mold-board pivoted to the plow-standard and having the
lugs or projections *E*, of the locking-bar *D*, 85 provided with the pin *d'*, and the bar *O*, having the slot *o*, with which said pin co-operates, substantially as described.

3. The combination, with the mold-board pivoted to the standard, of the locking bar or
latch provided with the pin, and the bar *O*, 90 sliding on the rod *p*, and having the slot *o*, with which the pin on the locking-bar co-operates, substantially as described.

4. In a reversible plow, the clevis, consist-
ing of the two parts *g g'*, both said parts being 95 held by the clevis-pin, and the part *g* being riveted or otherwise secured to the part *g'* between the ends of the latter, substantially as described, for the purpose specified.

5. The socket *K*, having the lugs for attach- 100 ing it to the under side of the plow-beam, the open front, and the cross-bar at the back, against which the back of the cutter rests, in combination with the cutter *J*, pivoted within the socket by the cross-bolt *k*, substantially as de- 105 scribed.

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

MYRON R. HUBBELL.

Witnesses:

ARTHUR G. GUYER,
A. M. KELLEY.