

R. B. ROBBINS.
CULTIVATOR.

No. 187,235.

Patented Feb. 13, 1877.

Fig. 1.

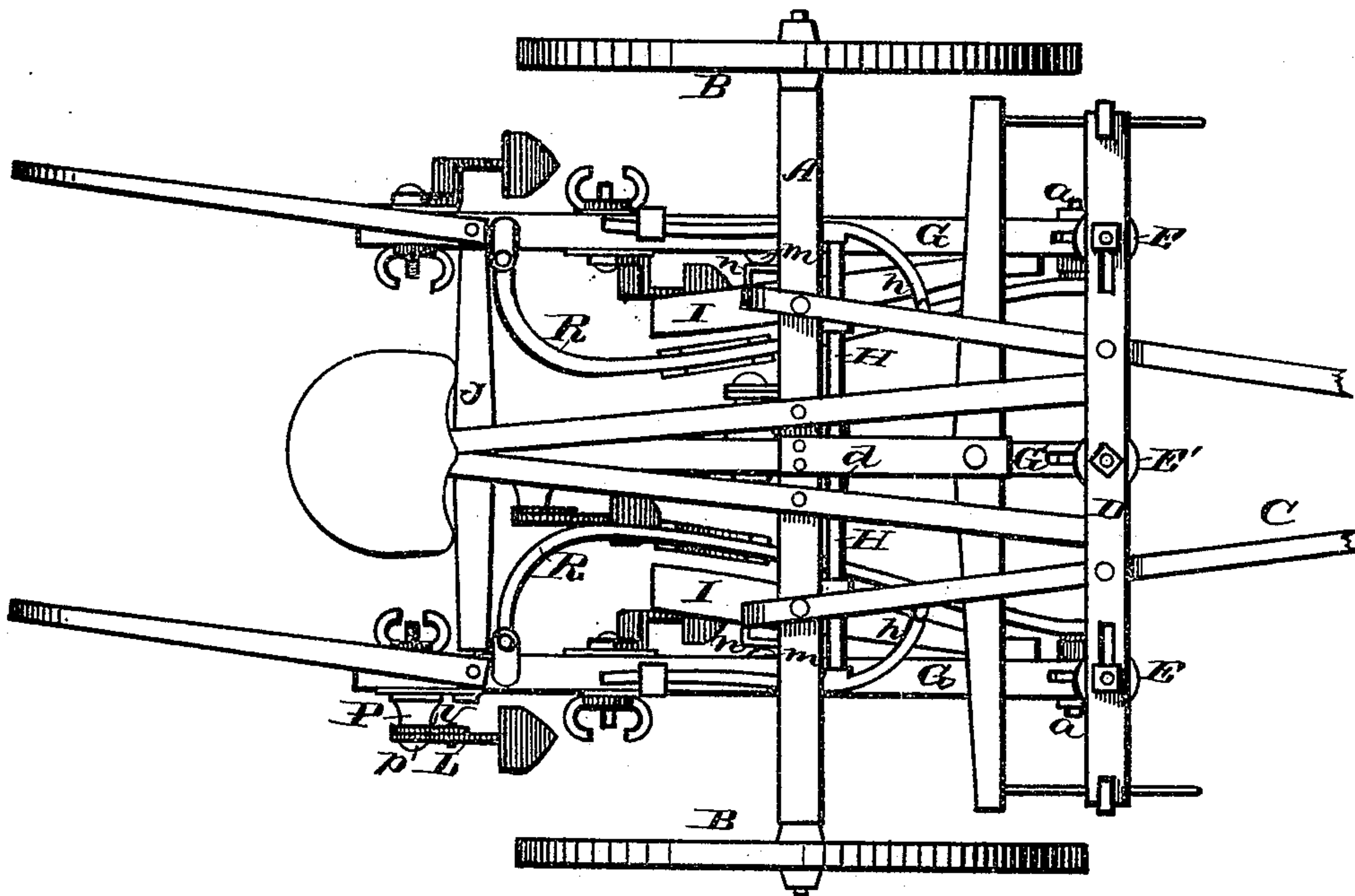
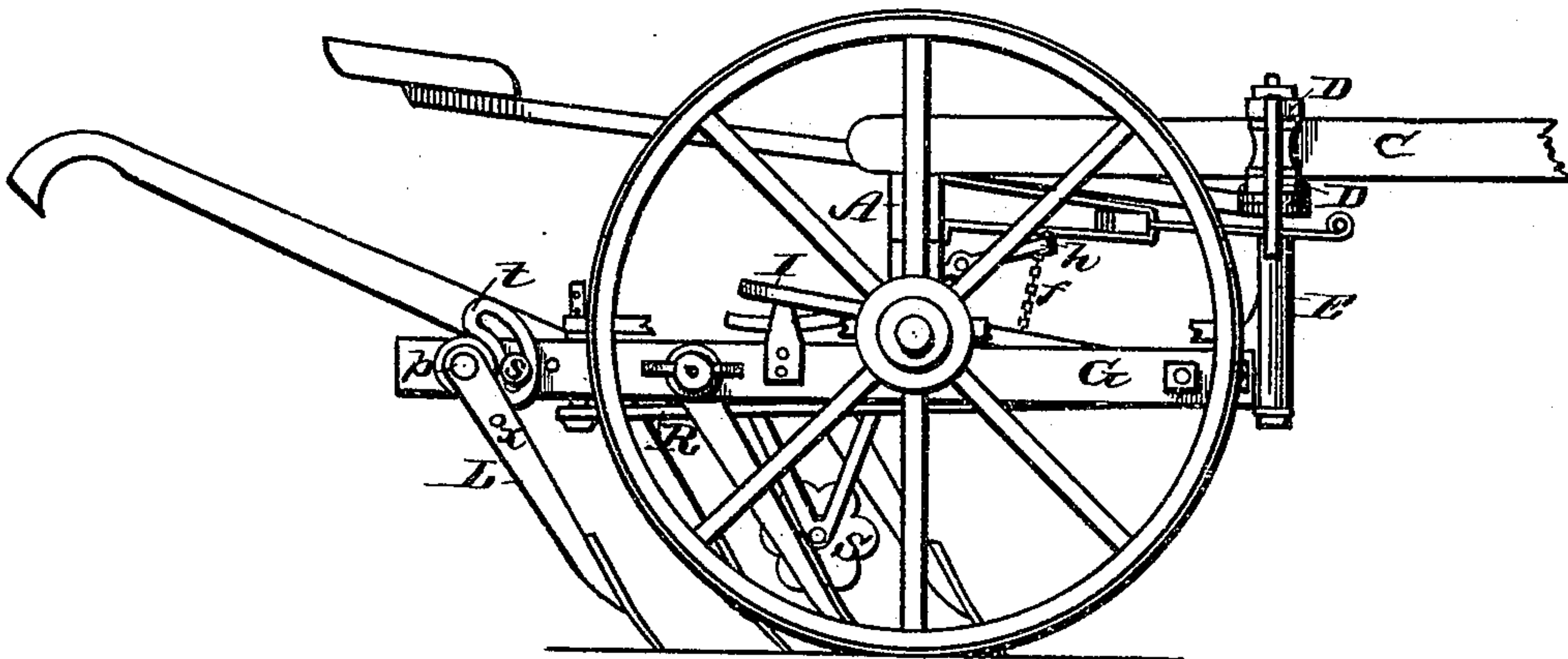


Fig. 2.



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Fig. 3.

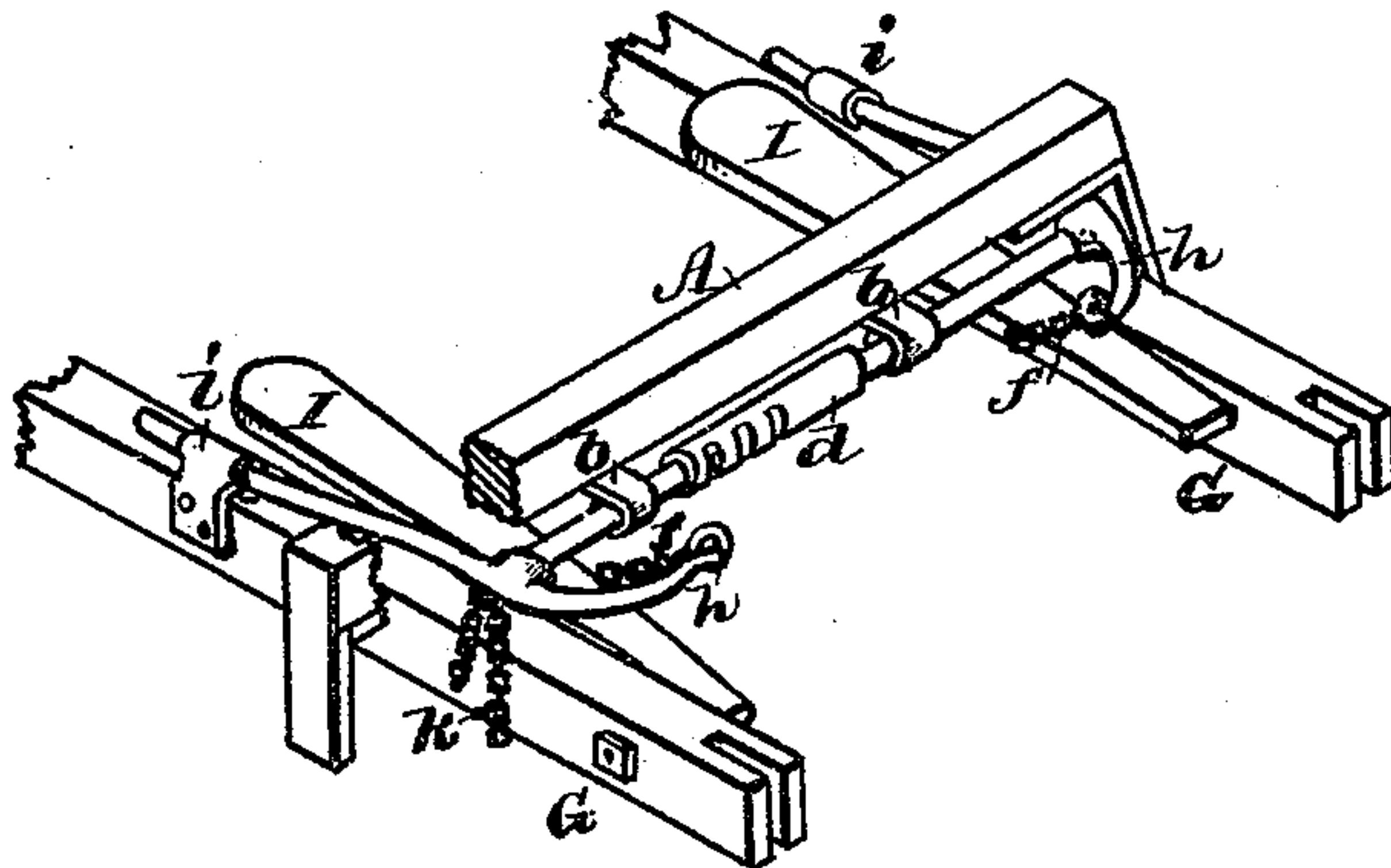


Fig. 5.

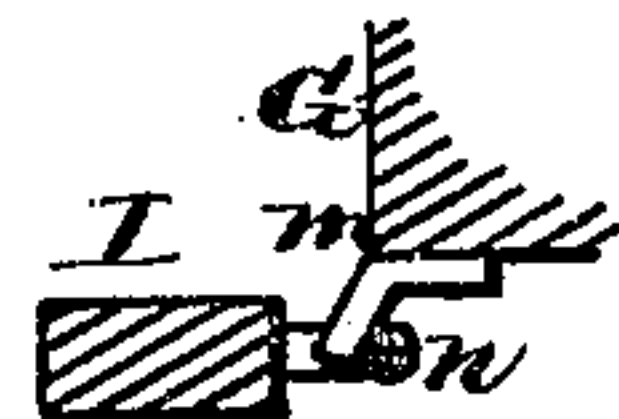


Fig. 4.



Fig. 6.

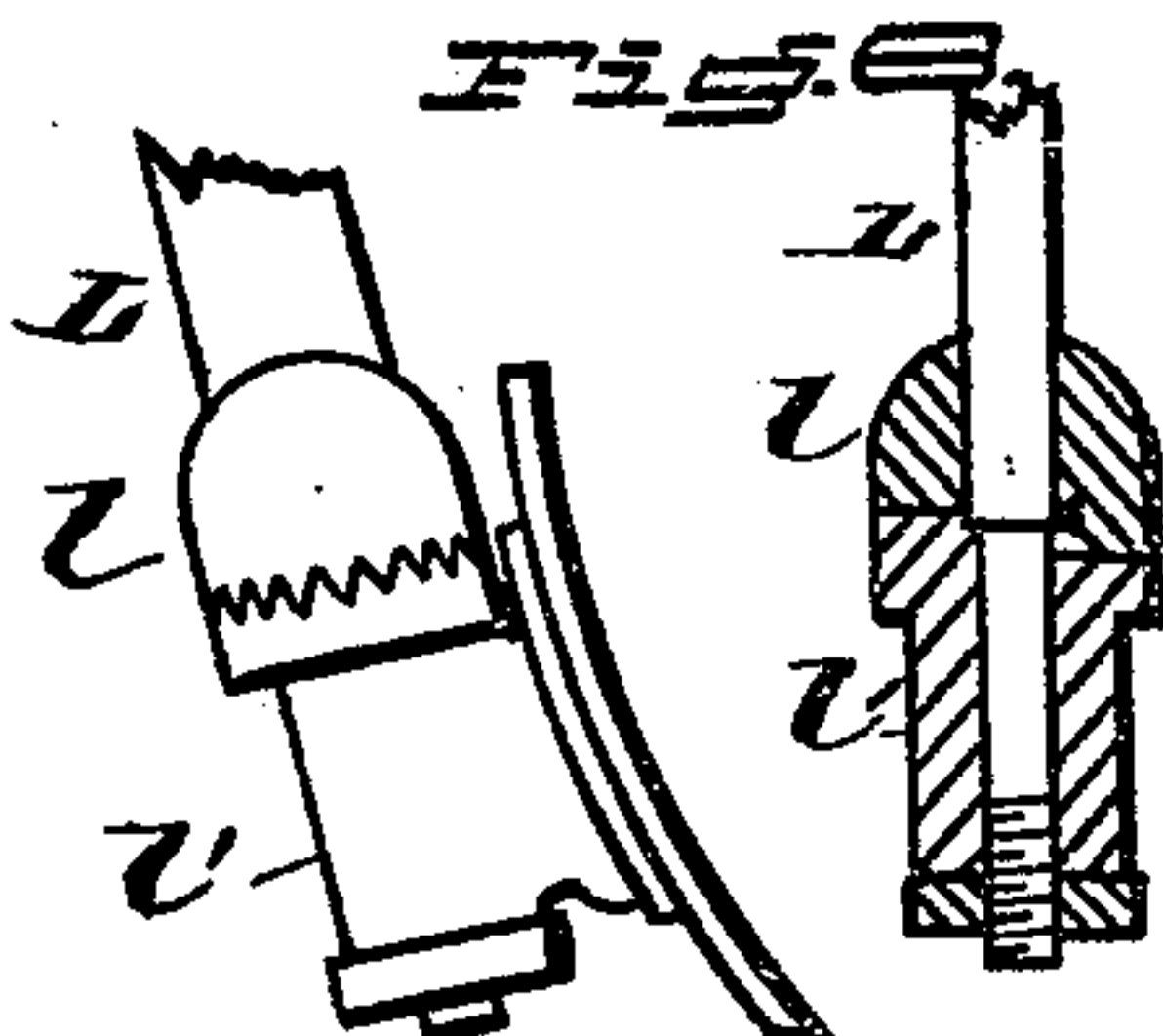


Fig. 8.

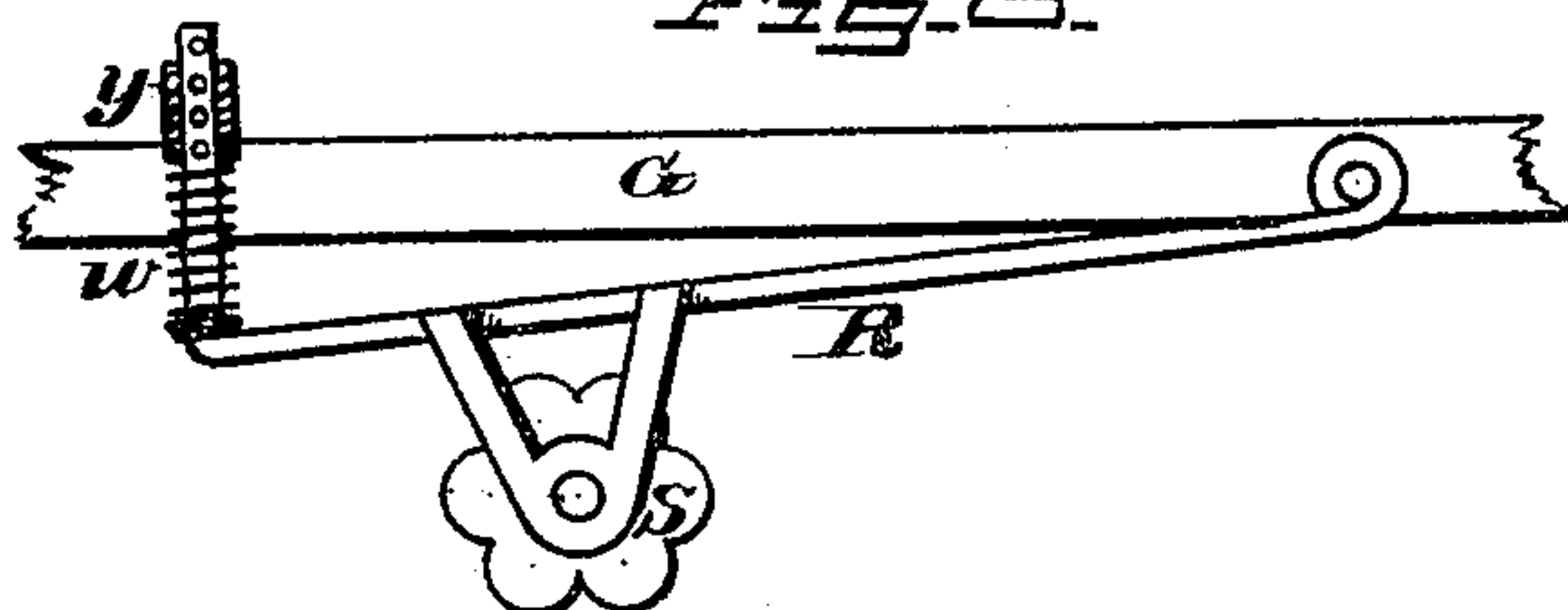


Fig. 10.

Fig. 9.

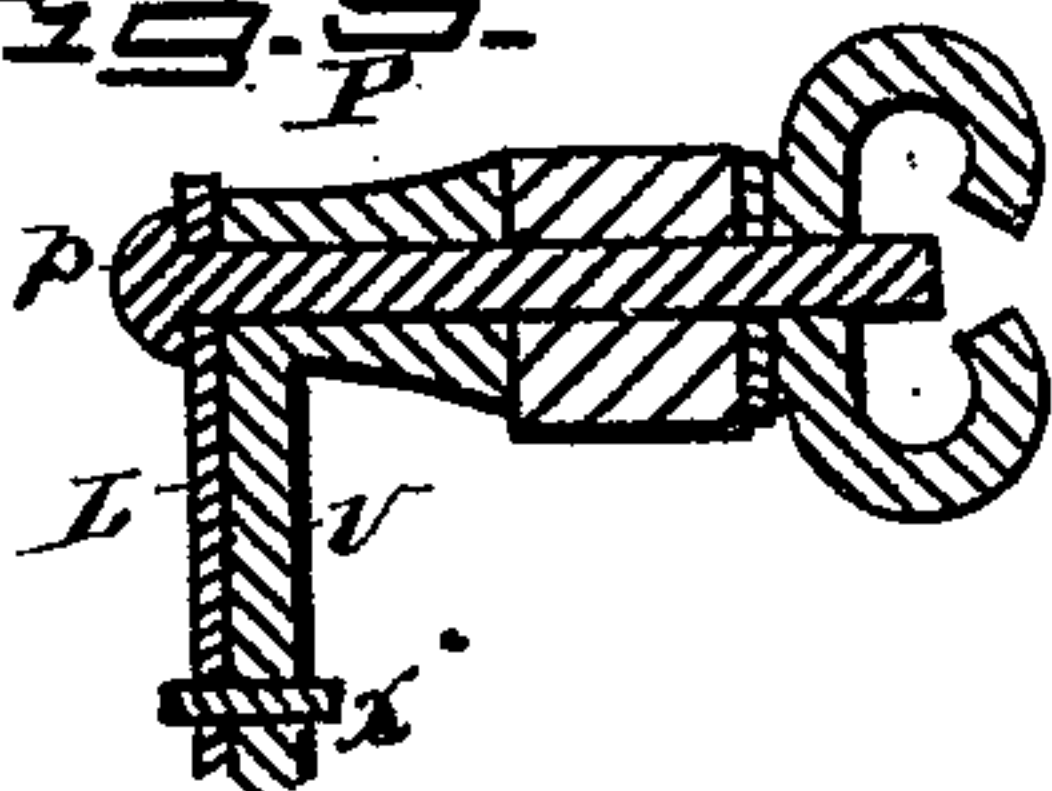


Fig. 7.



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UNITED STATES PATENT OFFICE.

RICHARD B. ROBBINS, OF ADRIAN, MICHIGAN.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 187,235, dated February 13, 1877; application filed May 22, 1876

To all whom it may concern:

Be it known that I, R. B. ROBBINS, of Adrian, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Cultivators, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a cultivator, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a plan view. Fig. 2 is a side elevation. Figs. 3 and 4 are detail views of the rocking rod. Fig. 5 is a detail view of a device for swinging the frame. Figs. 6 and 7 are views of coupling for shovel. Fig. 8 is a detail view of rotary shield. Figs. 9 and 10 are views of device for attaching the legs to the beams.

A represents the axle-tree, provided at its ends with the usual angular spindle-arms for the attachment of the driving-wheels B B. O is the ordinary split tongue, attached to the axle-tree, and provided, a suitable distance in front thereof, with top and bottom cross-bars D D. These cross-bars are provided with one central pendent arm, E', and two similar side arms, E E. The central arm E' is stationary in the cross-bars, while the side arms E are adjustable laterally by means of slots in the cross-bars, for the purpose of changing the width of the cultivator. These pendent arms are provided with different holes for the attachment of the cultivator-beams at any desired height, to regulate the depth at which the plows are to work. G G are the cultivator-beams, attached to the side arms E E. The front ends of these beams are slotted, and pass over the arms, to which they are pivoted by bolts a.

In bearings b b on the under side of the axle-tree is placed a rocking rod, made in two parts, H H, jointed or connected in the center by means of a sleeve or coupling, d, so constructed as to allow either part to turn independently of the other. The coupling d is fast on the inner end of one part, and the other part of

the rod has a lug, e, which enters a longitudinal slot in the sleeve, and from thence passes into either one of a series of transverse slots, as shown. By this means the operator is enabled to raise either side of the swing frame or beams, they being connected to the ends of the rocking rod by means hereinafter described.

By means of the joint-rod and the sleeve or coupling d the operator is also enabled to couple the beams any desired distance apart, and when coupled together, by moving either one of the beams laterally in cultivating small plants, the other one will follow.

To the inner side of each beam G, at the front end, is pivoted a foot-lever, I, which is, by a chain, f, connected with the front end of an arm, h, secured on the end of the rocking rod H, while the rear end of said arm h enters a loop, i, secured to the beam G. The depth is regulated by a chain, k, connecting the rocking rod with the beam, as shown. This construction gives the cultivator an independent motion from the main frame.

To connect it to a field or fallow cultivator, I place between the rear ends of the beams or swing-frames G a cross-head, J, in the usual manner, said cross-head being secured to a center beam, G', which is attached at its front end to the stationary pendent arm E.

On the inner side of each beam G is a projection, m, and on the adjoining side of the foot-lever I is a loop or staple, n, for the purpose of fastening the beams or swing-frames up out of the ground.

Thus, in operating the machine, the driver places his foot on the lever, and bears down until the frame or frames are raised, and then, with an outward push, locks the foot-lever and the frame together, and this holds it until released.

L L represent the legs, fastened to the beams by means of bolts p, passing through them and through spools P, used for blocking out the legs. This spool is, at its inner end, provided with a slotted flange, t, held to the beam by a bolt, s, whereby the angle of the leg may be changed at pleasure. At the outer end the spool is provided with a flange or arm, v, which extends down along the leg, and connected thereto by a safety-pin, x.

Near the lower end of the leg L is attached a serrated wrist, *l*, which engages with the upper serrated surface of a sleeve, *l'*, to which the cultivator-tooth is attached. The leg L passes through the center of the wrist *l* and sleeve *l'*, which are held in place by a nut or other suitable device upon the lower end of the leg. The object of this device is to facilitate the ready adjustment of the tooth at any desired angle.

To the front end, on the inner side of each beam G, is pivoted a rod, R, carrying the rotating shield S. This rod is curved, as shown, and its rear end bent vertically upward, and provided with a means for adjustment, by which the rotary shield may be raised to ride free of the ground, and is surrounded by a spiral spring, *w*, and passes through a perforated lug, *y*, on the beam, whereby the shield is enabled to give perpendicularly in case it strikes a stone or other hard substance.

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

1. The jointed rocking rod H, in combination with the beams or swing-frames G G and

levers I I, with their connections, substantially as and for the purposes herein set forth.

2. The combination of the beam G, with projection *m*, and the lever I, with loop *n*, for locking them together, as set forth.

3. The adjustable rod R, having its rear end bent vertically upward, and perforated, as shown, in combination with the lug *y*, beam G, spring *w*, and shield S, substantially as shown and described.

4. The combination of the leg L and serrated wrist *l*, slotted to receive the leg L, with serrated sleeve *l'*, attached to the tooth or blade, and held in place by a nut on the lower end of the leg, substantially as shown and described, all constructed, arranged, and operating to facilitate the ready adjustment of the tooth to any desired angle.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

RICHARD B. ROBBINS.

Witnesses:

JAS. F. DUHAMEL,

H. B. BROWN.