

(Model.)

2 Sheets—Sheet 1.

A. TSCHOP.
CULTIVATOR.

No. 251,656.

Patented Dec. 27, 1881.

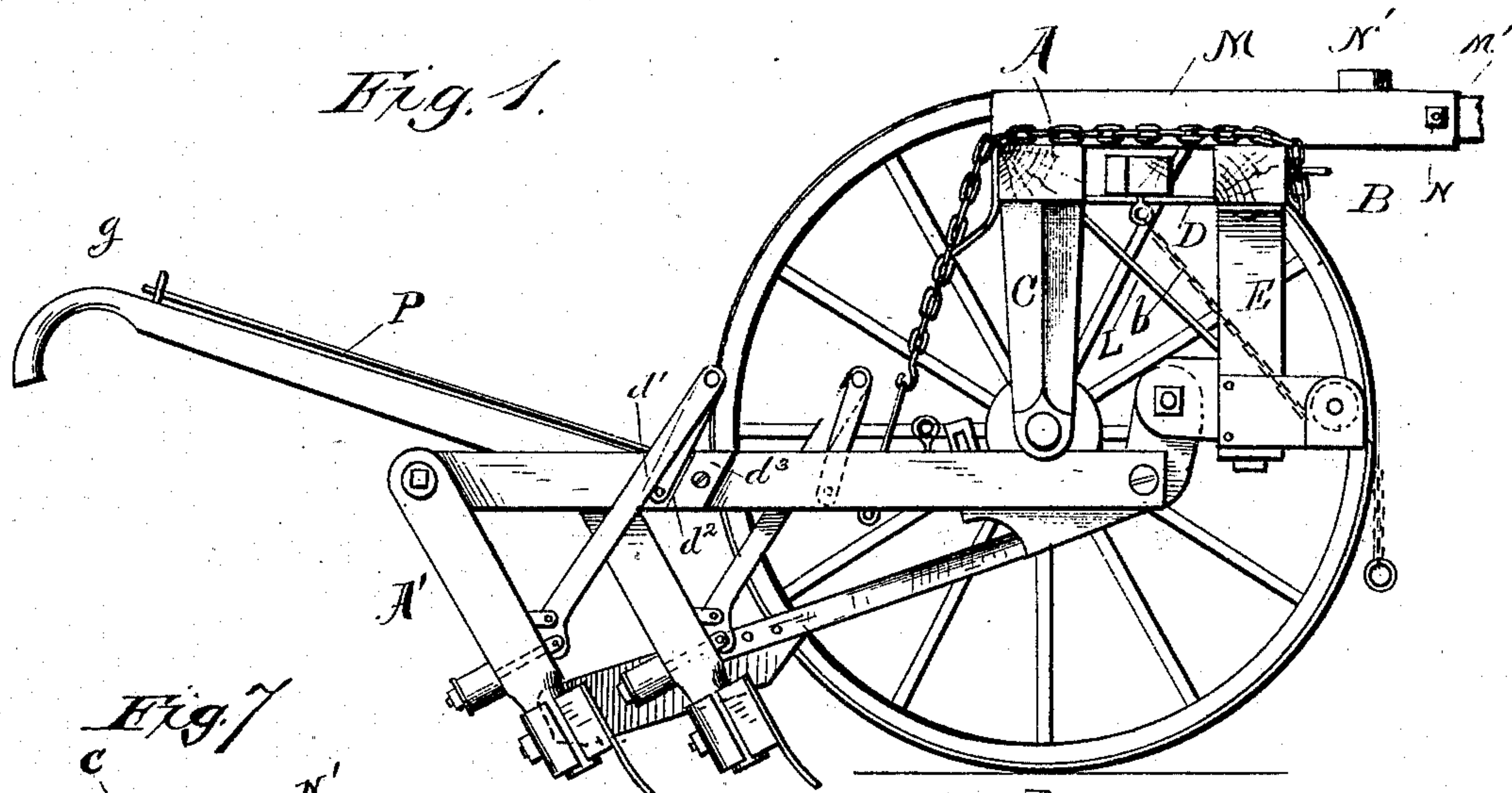


Fig. 7

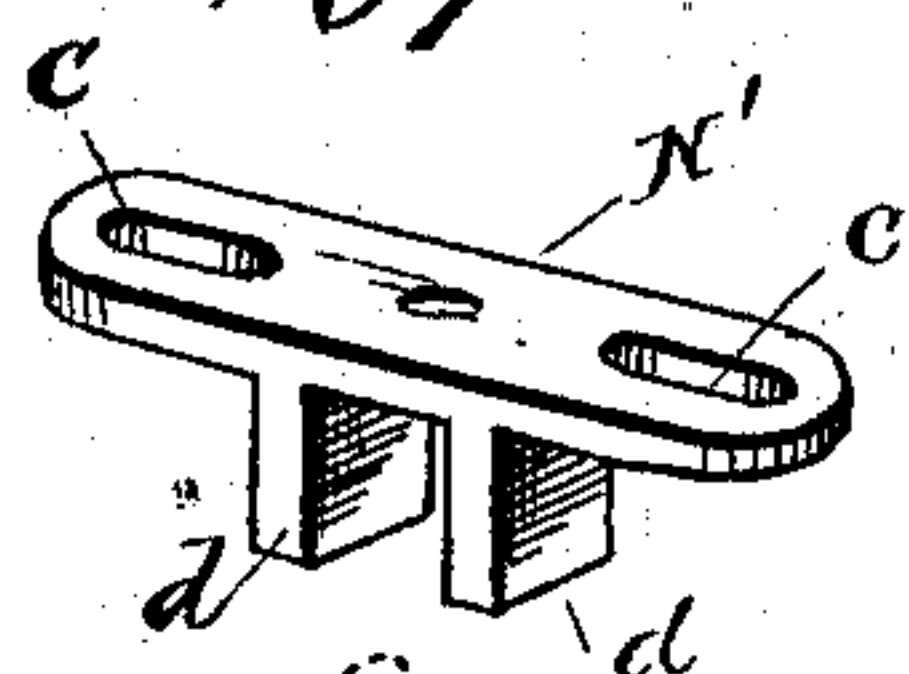
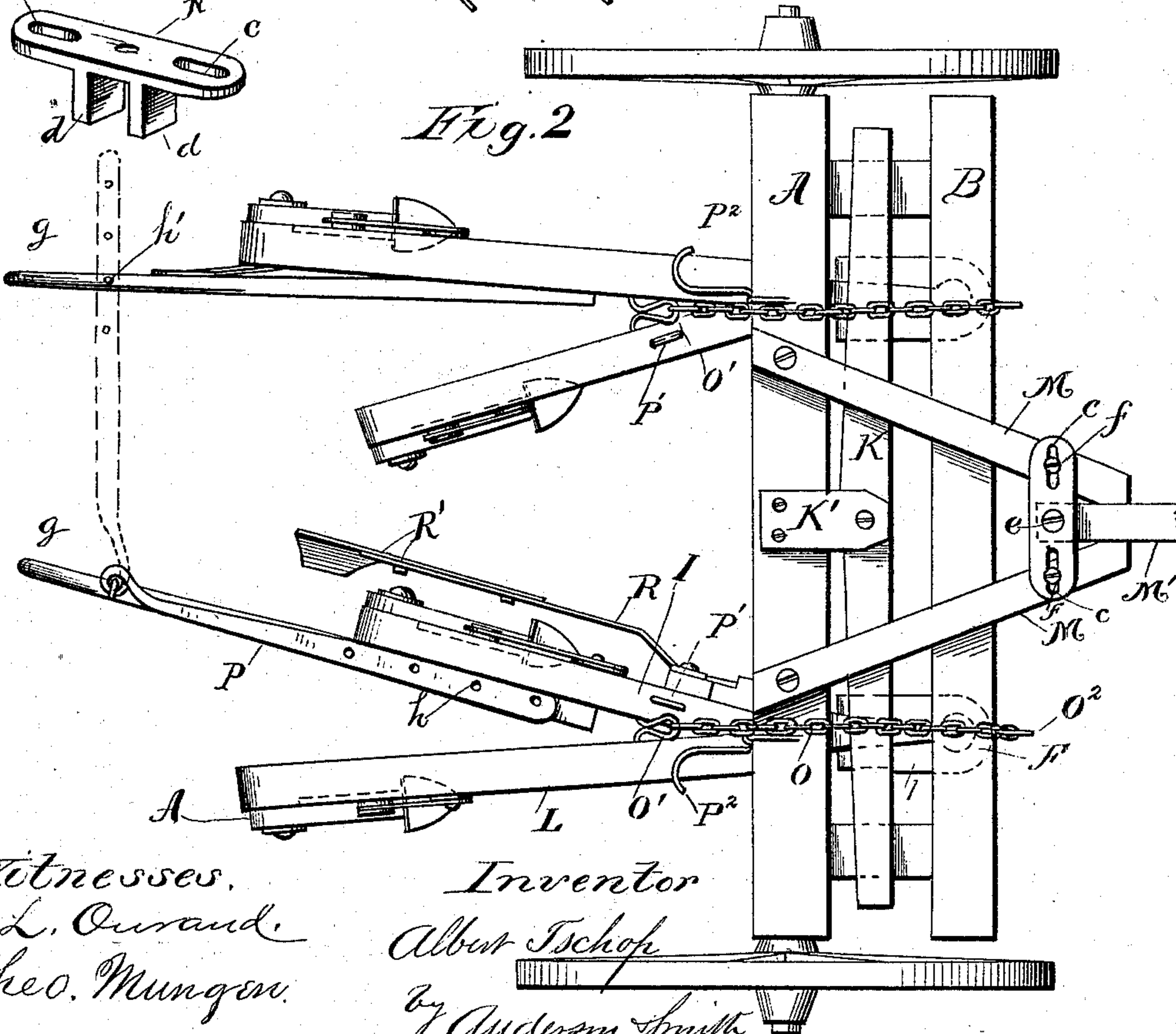


Fig. 2



Witnesses,
F. L. Ouraud,
Theo. Mungen.

Inventor
Albert Tschop
by Anderson Smith
his Attorney

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Fig. 3.

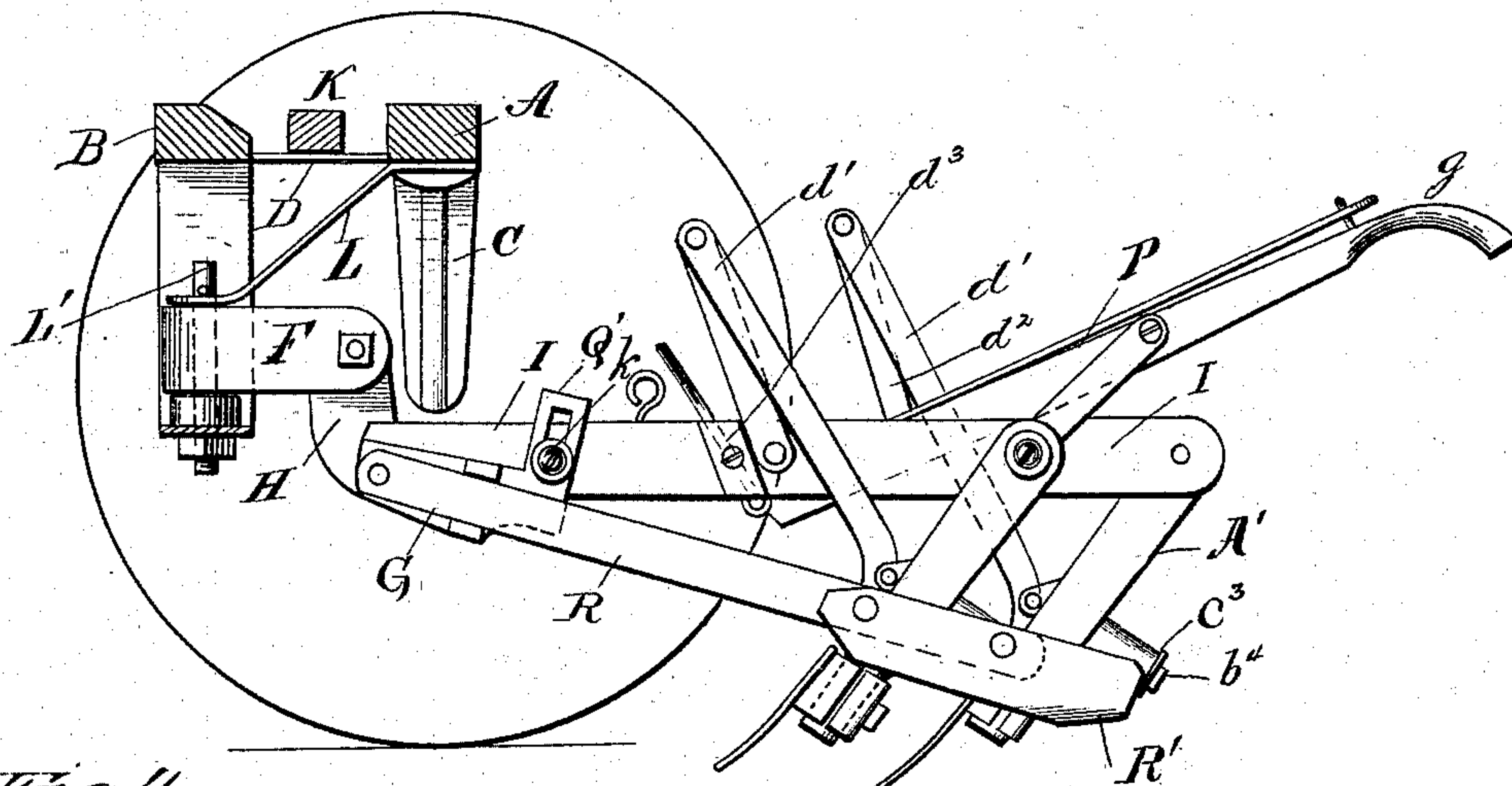


Fig. 4.

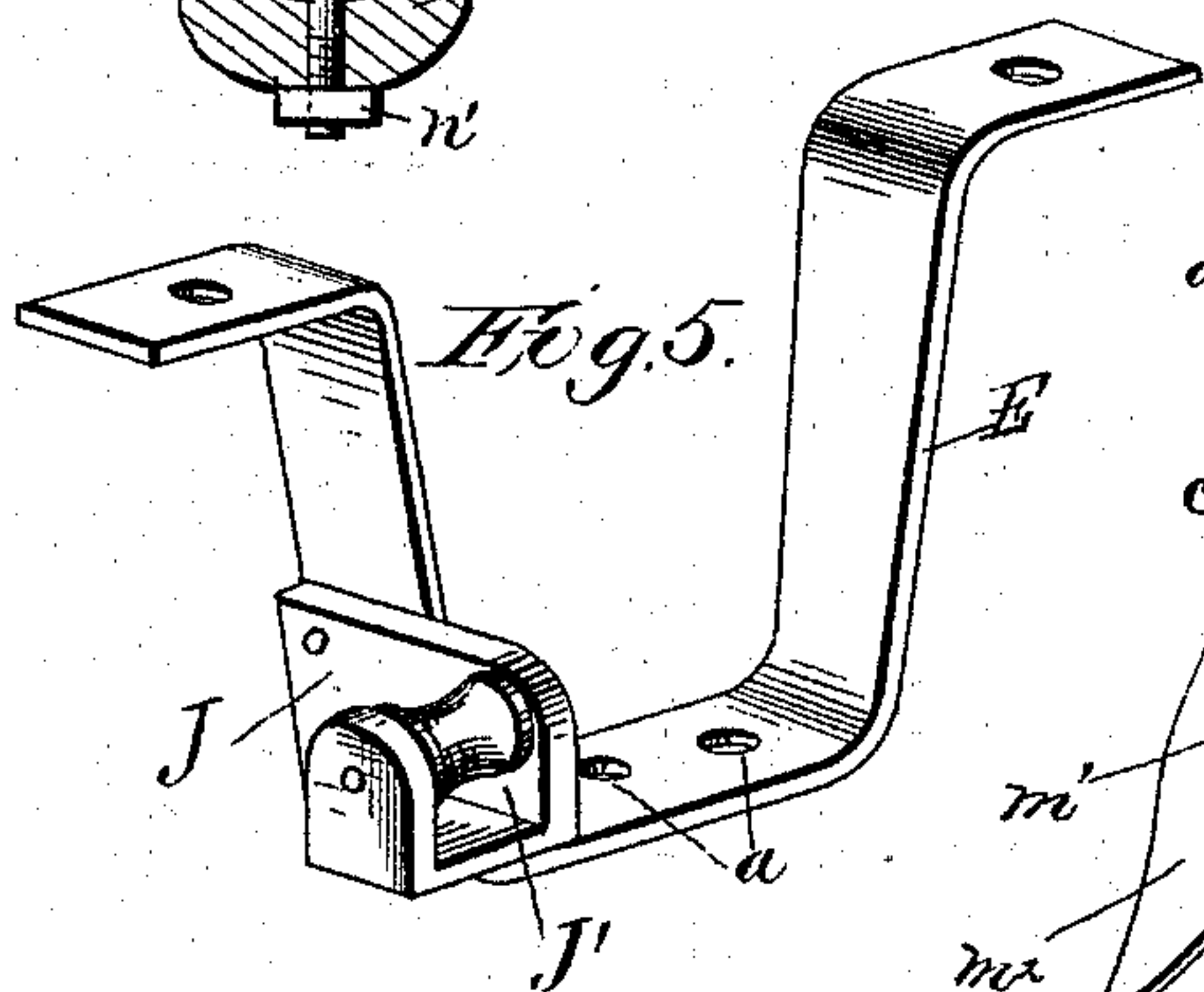
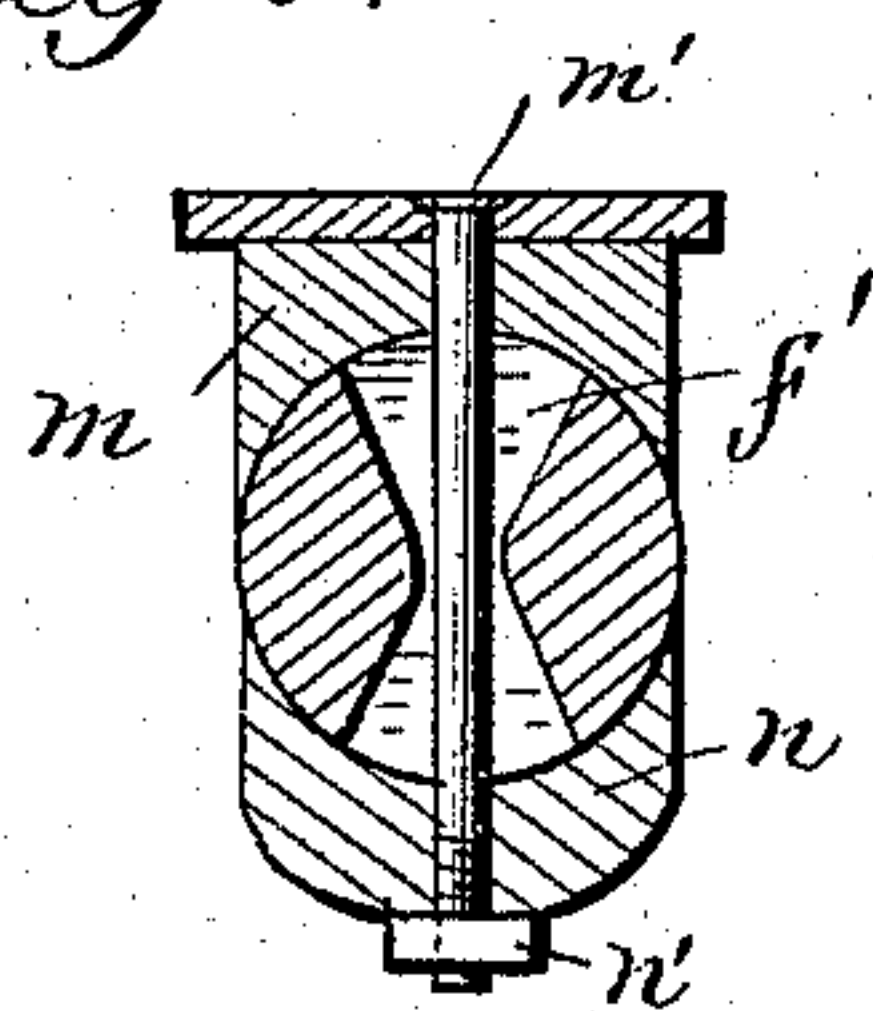


Fig. 5.

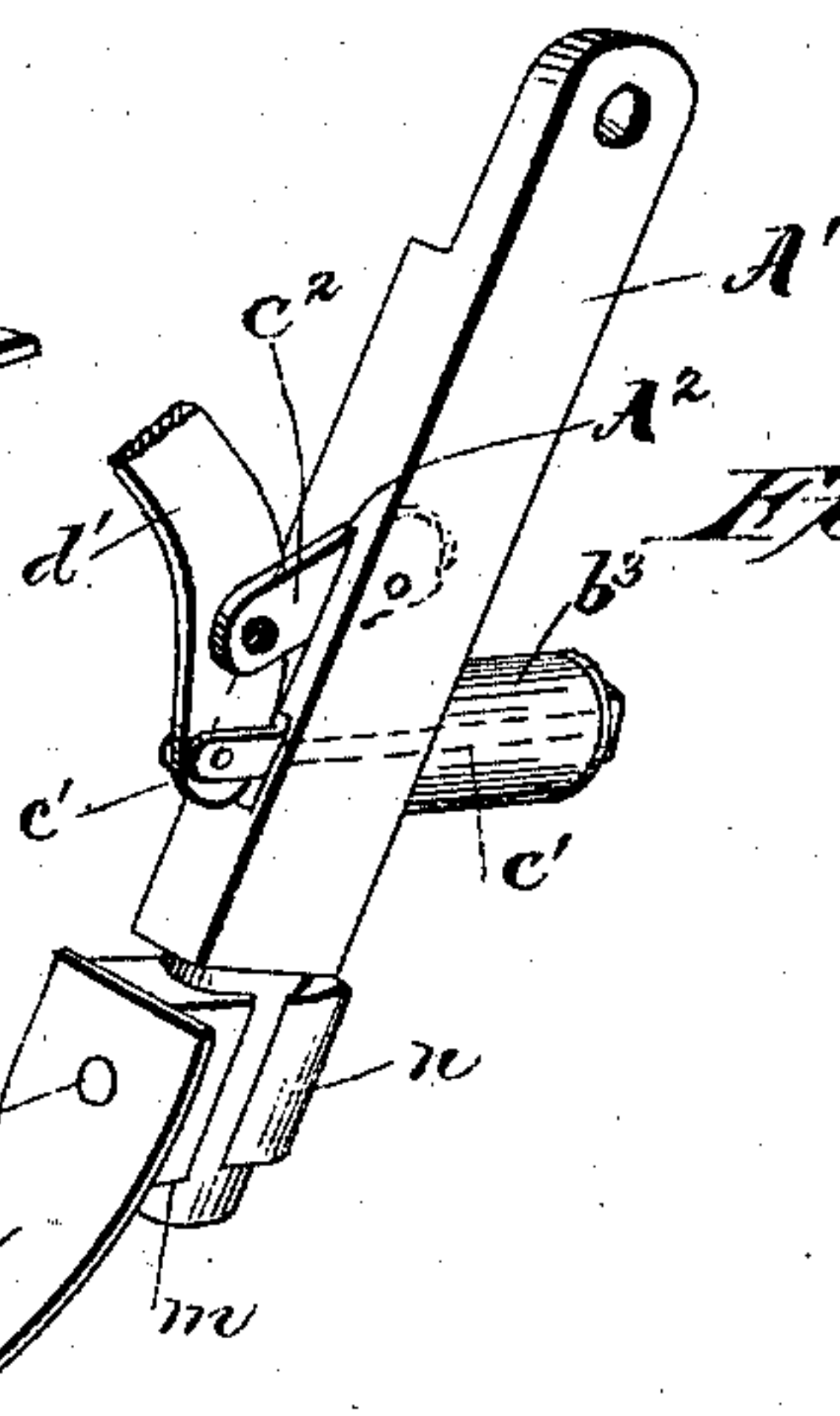


Fig. 6.

Witnesses,
H. L. Ourand
Theo. Mungen.

Inventor,
Albert Tschop,
by Anderson Smith
his attorney

UNITED STATES PATENT OFFICE.

ALBERT TSCHOP, OF HARRISBURG, PENNSYLVANIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 251,656, dated December 27, 1881.

Application filed September 30, 1881. (Model.)

To all whom it may concern:

Be it known that I, ALBERT TSCHOP, a citizen of the United States, residing at the city of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented new and useful Improvements in Corn-Cultivators; and I do hereby declare the following to be a clear and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a side elevation of my improved corn-cultivator, the rear supporting-wheel being removed. Fig. 2 is a plan view. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a cross-section through the foot of one of the plow-standards. Fig. 5 is a perspective view of one of the hangers to which the plow-beams are pivotally connected. Fig. 6 is a perspective view of one of the plow-standards and a portion of the mechanism by which it is converted into a slip-standard, and Fig. 7 shows the slotted cross-plate and bracket by which the tongue is made adjustable between the hounds.

This invention has relation to corn-cultivators; and it consists in the novel construction and arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Referring by letter to the accompanying drawings, A designates the rear, and B the front, cross-beam of the cultivator-frame, the beam A being supported on the angle-irons C, carrying the journals for the supporting-wheels, and the beam B being secured upon arms D, extending forward from the angle-irons C. From the beam B, near each end, hangers E depend, and are perforated at *a* in their lower portions to permit the adjustment of the swiveled jaws F, to which the points H of the plow-beams I are vertically articulated, to be made when desired. To the outer sides of these hangers E arms J are secured, and project slightly forward therefrom. In the jaws of these arms J pulleys J' are journaled. Between the cross-beams A and B an evener, K, is pivoted between arms K', extending forward from the beam A. From the ends of this evener chains *b* depend, and are passed beneath the pulleys J', to which chains the single-trees are to be

attached. Braces L extend forward from the under side of the beam A to the pin or bolt L', on which the jaws F are swiveled, are perforated, passed over the points of the bolts, and are secured by pins passed through eyes near the points of the bolts, as shown.

Hounds M are secured upon the beams A and B, and between their forward ends the tongue M' is secured by the rod N and a cross-arm or bracket, N', slotted, at *c*, near each end, and provided with studs *d d* and a central threaded hole for the screw *e*, which is driven into the tongue to hold it to place. Screws *f f* are driven through the slots *c c* into the hounds, and when it is desired to deflect the tongue either to the right or left to change the line of draft these screws *f f* may be loosened to permit the necessary deflection, and then again tightened to hold the tongue to its adjustment.

The plow-beams diverge rearwardly from each other, and one is longer than the other, as is usual in this class of cultivators. They have handles *g g*, secured to the inner or shorter plow-beams. One of these handles is provided with a hinged perforated bar, P, and a pin, *h*, and the other a pin, *h'*, whereby the handles may be connected and disconnected at pleasure. Chains O are secured to pivoted looped arms O' between the plow-beams, and are connected with pins O², projecting from the front of the beam B, for permitting vertical adjustment of the plows. Eyes P' are provided on the shorter beams to engage hooks P², secured to the cross-beam A, for supporting the plows in an elevated position when transporting the implement to or from the field.

An adjustable bracket, Q, is pivoted near the front ends of the shorter plow-beams on their inner faces, and has a slotted arm, Q', through which a set-screw, *k*, is passed to bind the bracket to its place. This bracket Q carries a curved arm, R, which extends rearwardly therefrom, and has at its rear end a fender, R', at the side of the plow to prevent the smaller plants from being covered by the dirt.

The standards A' are shouldered at their upper ends and pivoted to the rear ends of the plow-beams. A short distance below their middles the standards A' are provided with vertical recesses A², and these recesses are bored through to the rear of the standards A', as

shown in dotted lines in Figs. 1 and 6, to receive a short rod, c' , pivoted to the lower end of lever d' , having its fulcrum in the outer end of a link, c^2 , pivoted in the recess A^2 . The upper end of the lever d' is pivoted to a shorter lever, d^2 , the lower end of which is pivoted to the outer face of the plow-beam some distance forward of the rear end of the plow-beam, and a stop, d^3 , is provided immediately in front of the shorter lever d^2 , and presents an inclined face to said lever d^2 . This stop is to prevent the levers d' and d^2 from moving too far forward when returning to place after having been extended under circumstances hereinafter explained.

The bolt c' (shown in dotted lines, Figs. 1 and 6) projects beyond the rear faces of the plow-standard sufficiently far to receive an elastic spring, b^3 , preferably of rubber, which is slipped upon the projecting end of the bolt b^2 , and is pressed up against the rear face of the standard by a nut, b^4 , screwed on the end of the bolt, a washer, c^3 , being interposed between the nut and the spring. This system of levers, bolt, and spring will hold the pivoted standard to place as long as the plow works in the ground only, but when an obstruction is met that would be sufficient to break a plow rigidly secured to the beam the elastic spring will yield and permit the levers to be extended, thus permitting the standard to be moved back until the plow-point slips over the obstruction, when the spring will force the standards and levers back to their normal positions.

The foot of the plow-standard is round for a short distance from its point, and has a bolt-hole, f' , made through it from front to rear, said bolt-hole, when the rounded foot is taken in cross-section, being the shape of an hour-glass from the front to the rear face of the standard. A plano-concavo block, m , perforated to receive the bolt m' , covers the front of the bolt hole or slot f' . The bolt m' is first passed through the hole in the plow-point m^2 , then through block m , and the slot f' , and projects beyond the rear of the plow-foot, where it receives a concavo-convex clamp, n , which

is held thereon by a nut, n' , the object of this construction being to permit the plow-point to be adjusted to either side of the standard or to any intermediate point between its extreme adjustments, so that the dirt may be thrown as desired. These adjustments are accomplished by loosening the nut n' and using the bolt m' as a lever to move the block m , carrying the plow-point, and the clamp n upon the rounded foot to the desired position, and then again tightening the nut to hold the plow to its adjustment.

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

1. In a corn-cultivator, the combination, with the cultivator-frame A B, of the hounds M, secured thereon, the tongue M', bolted loosely between their forward ends, and the slotted bracket N', provided with the studs d d , secured to the hounds and tongue by the set-screws f f , and the screw e , substantially as specified.

2. In a corn-cultivator, the combination, with the plow-beams I and the pivoted standards A', recessed at A^2 and bored through for the rod c' , of the rod c' , link c^2 , elastic spring b^3 , nut b^4 , washer c^3 , and the lever d' , pivoted at its lower end to the link c^2 and rod c' and at its upper end to the shorter lever d^2 , the latter being pivoted to the plow-beam I in the rear of the stop d^3 ; substantially as specified.

3. In a corn-cultivator, the plow-standard A', having the rounded plow-foot provided with the slot f' , in combination with the perforated plano-concavo block m , bolt m' , plow-point m^2 , the concavo-convex clamp n , and the nut n' , substantially as specified.

4. In a spring cultivator-tooth, the combination, with the beam and standard or tooth, of the bent lever d' , pivoting-link c^2 , rod c' , spring b^3 , lever d^2 , and stop d^3 , substantially as shown and described.

ALBERT TSCHOP.

Witnesses:

J. FRANKLIN REIGART,
C. C. DUNKEL.