

(No Model.)

3 Sheets—Sheet 1.

C. A. MASTERSON.
CORN PLANTER.

No. 304,335.

Patented Sept. 2, 1884.

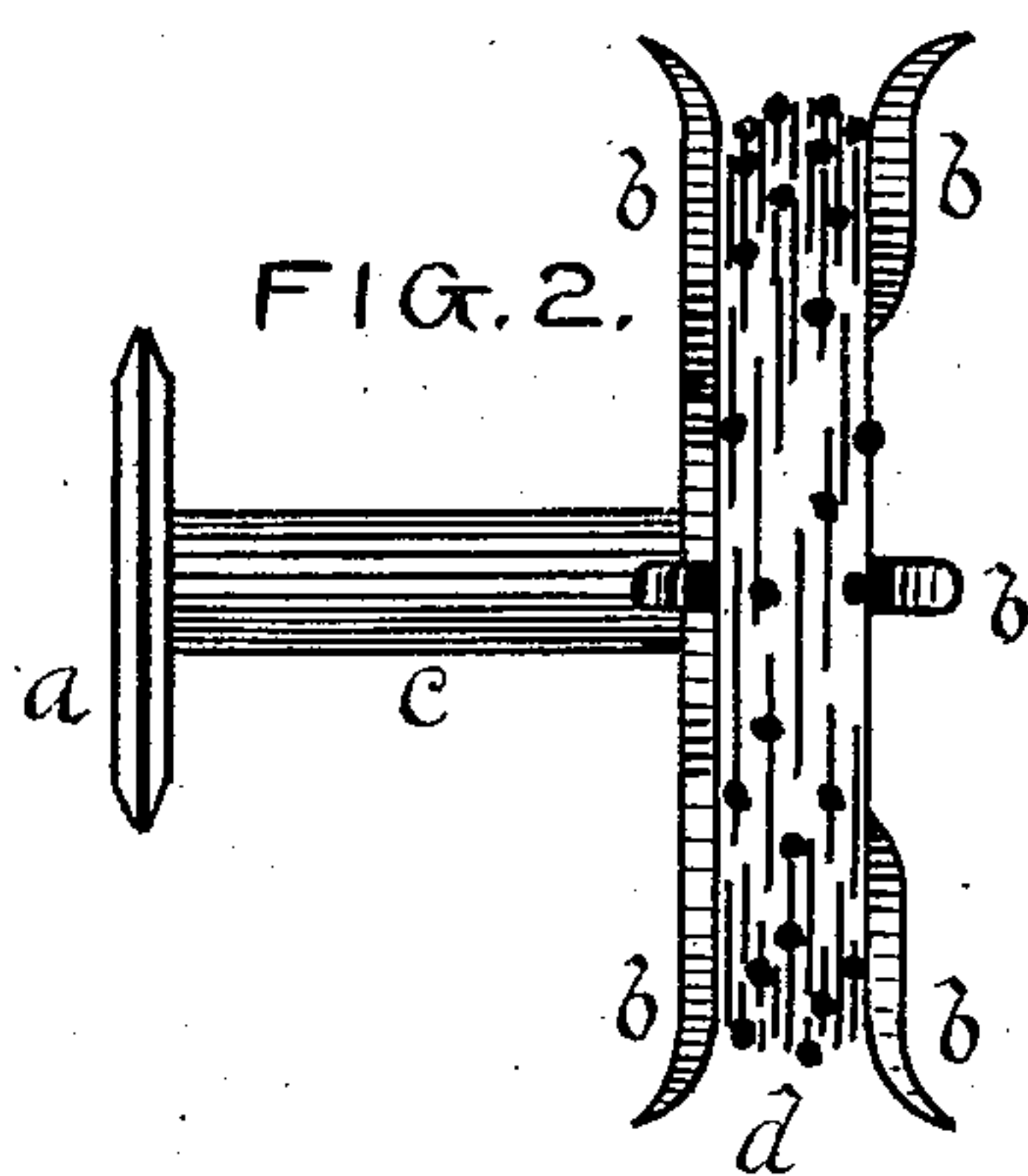
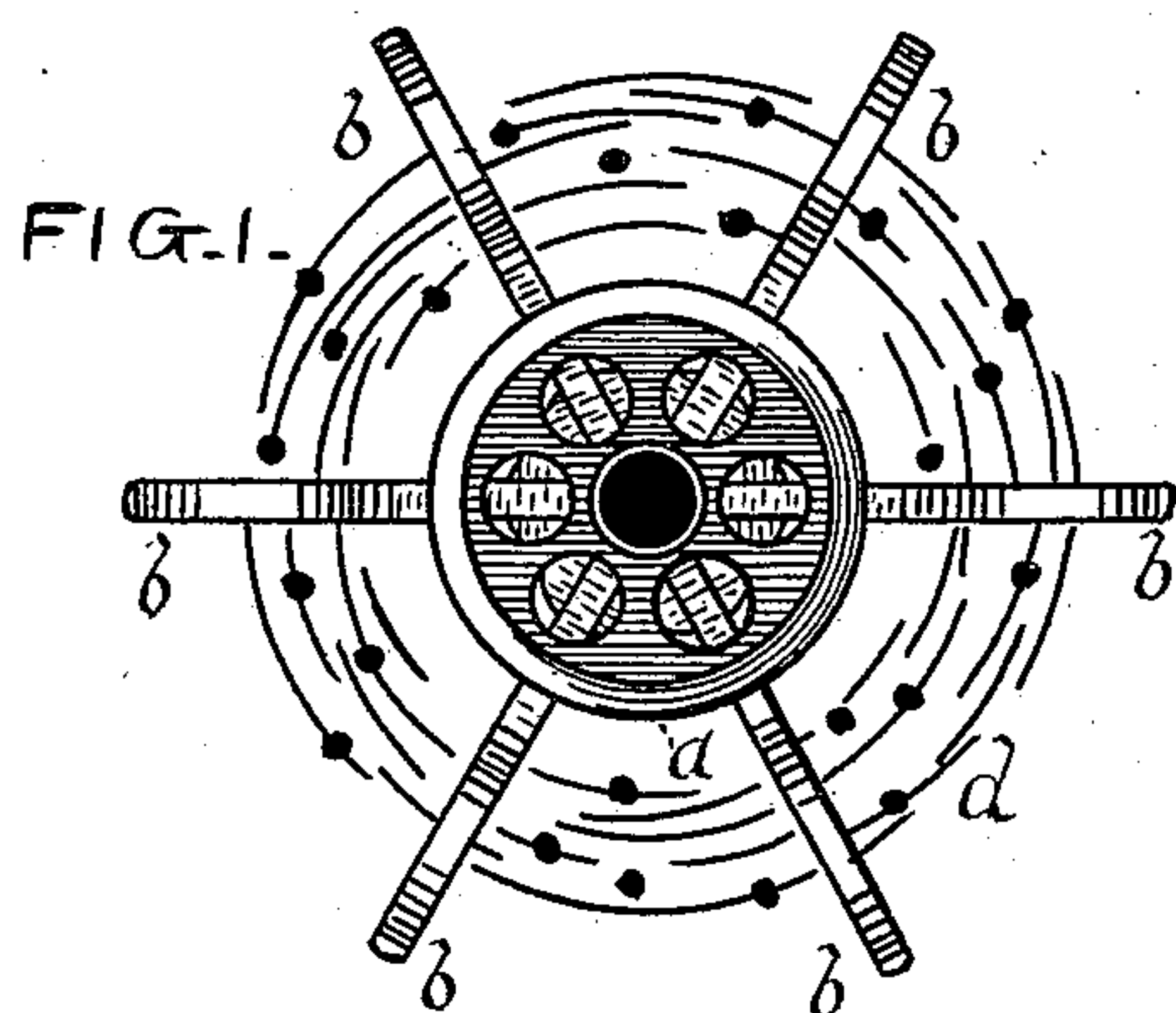
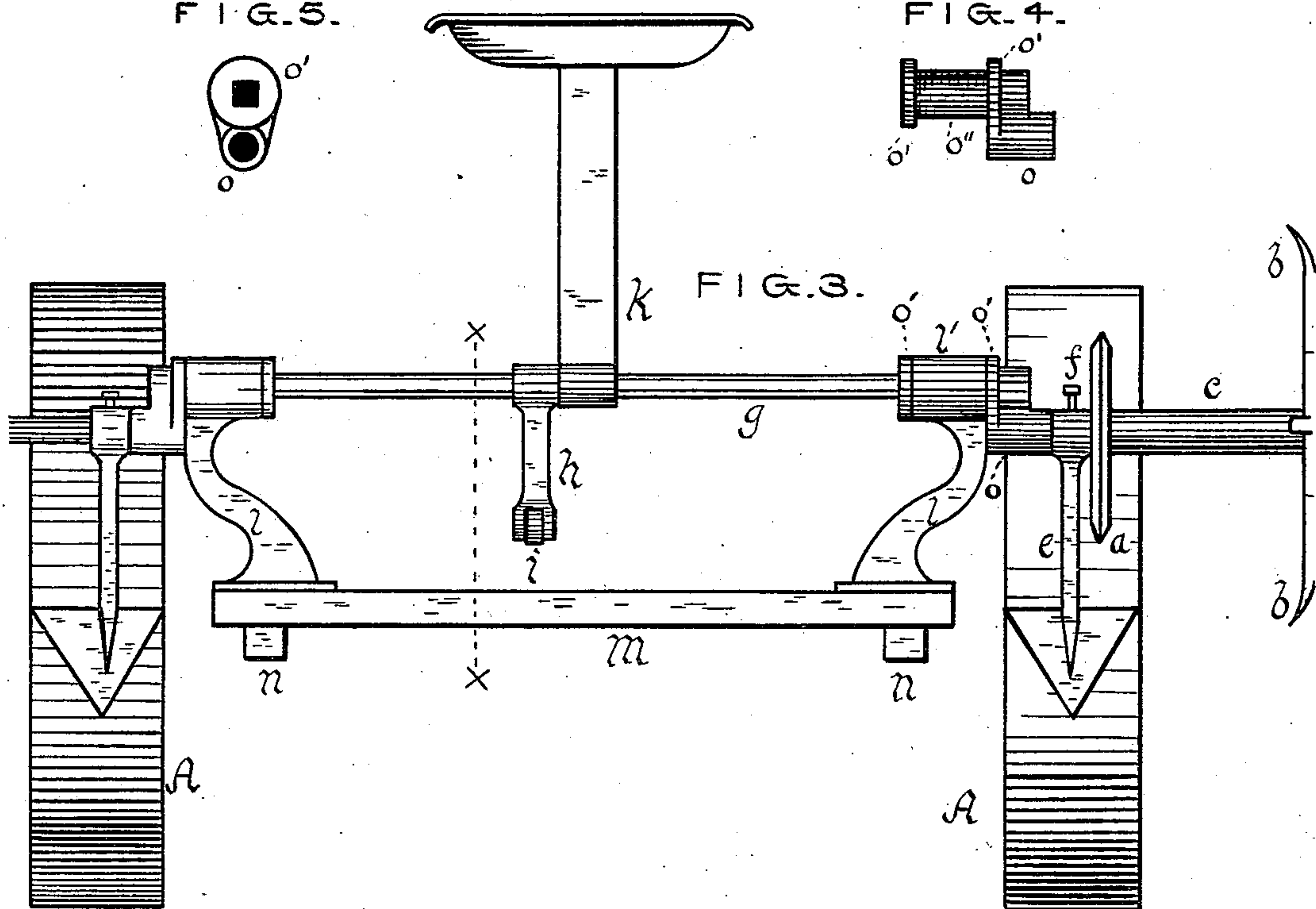
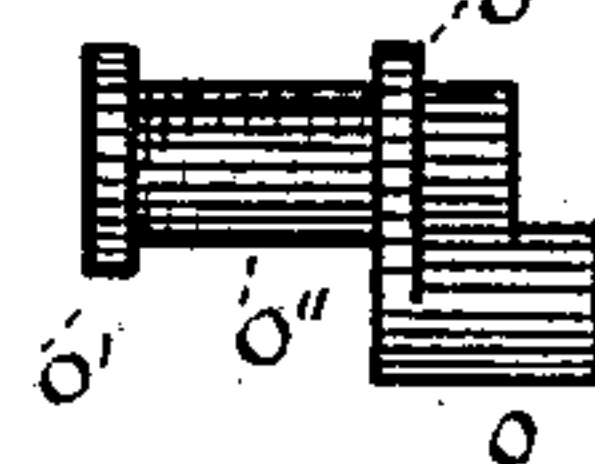


FIG. 5.



FIG. 4.



Witnesses.
W. J. Walker
P. B. Sparks

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By L. P. Graham atty.

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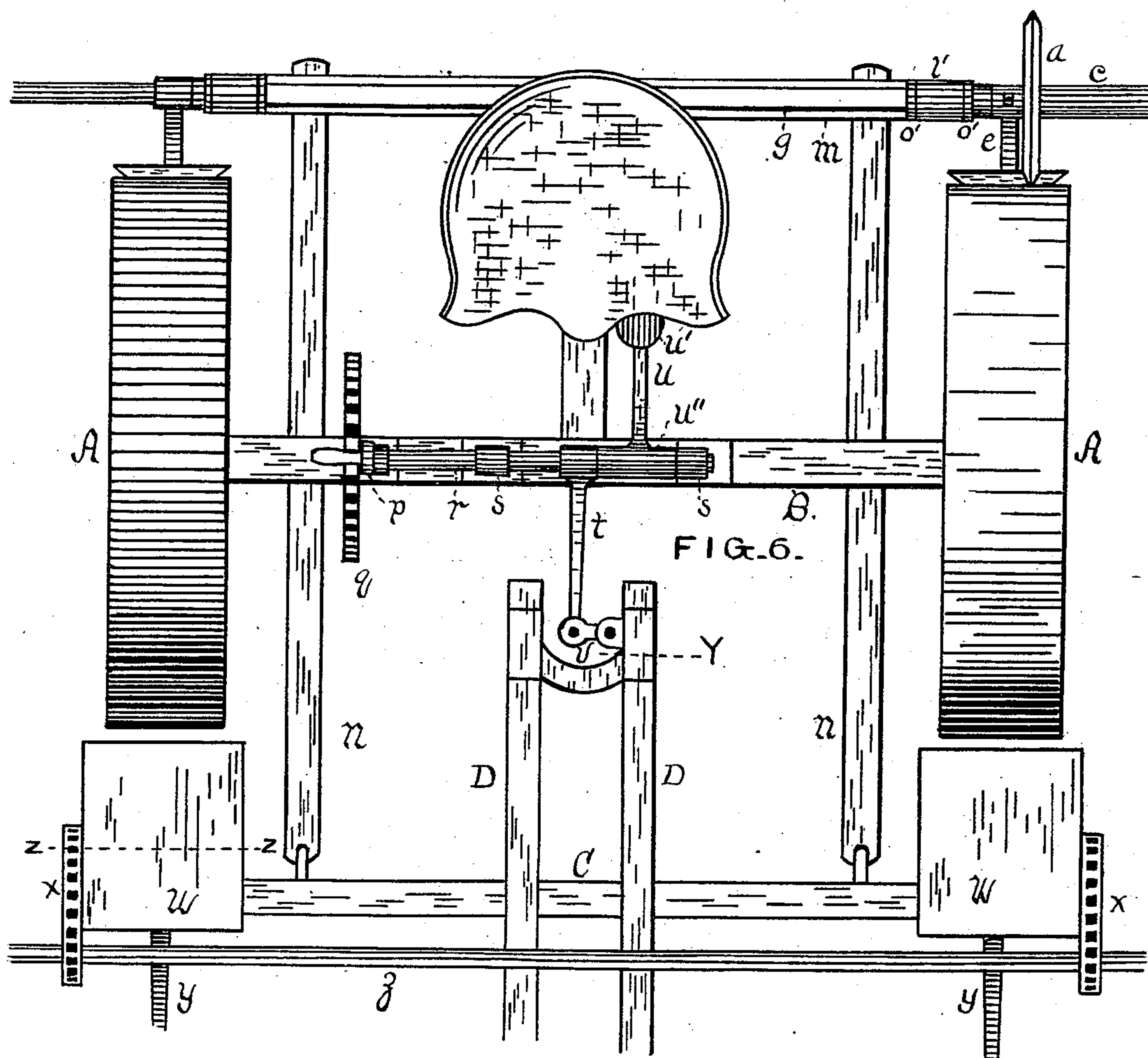


FIG. 8.

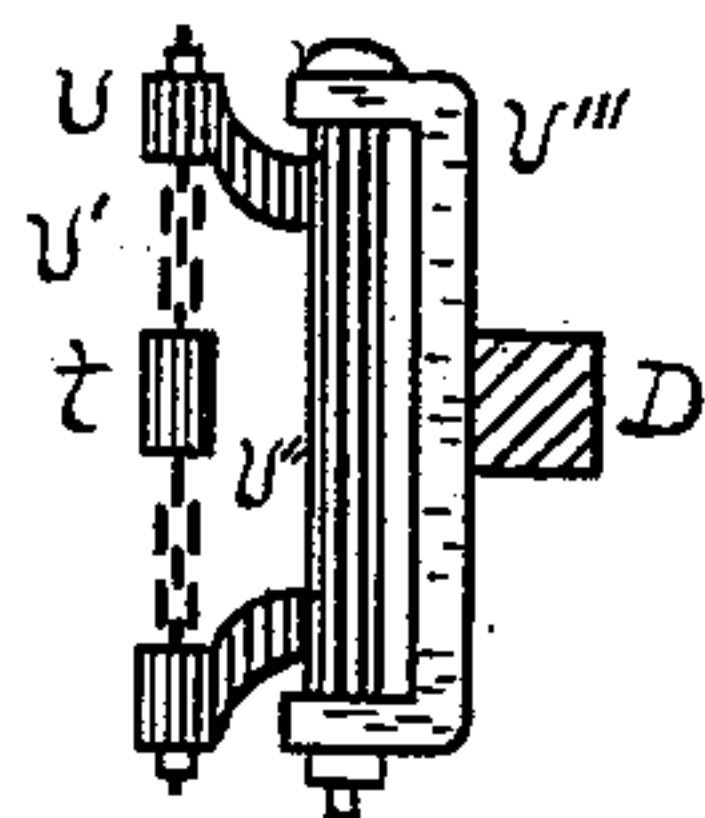
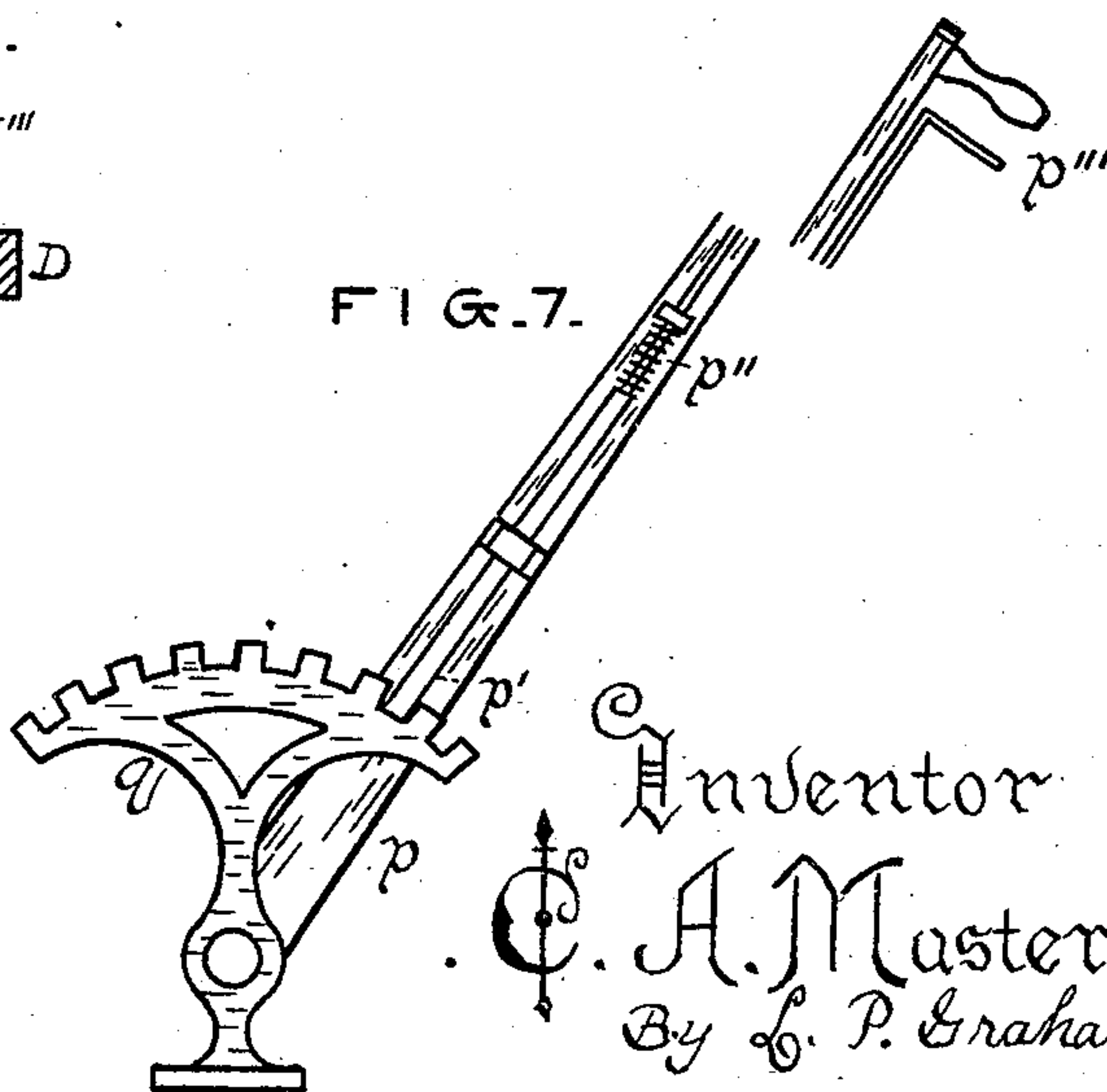


FIG. 7.



WITNESSES.

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(No Model.)

3 Sheets—Sheet 3.

C. A. MASTERSON.

CORN PLANTER.

No. 304,335.

Patented Sept. 2, 1884.

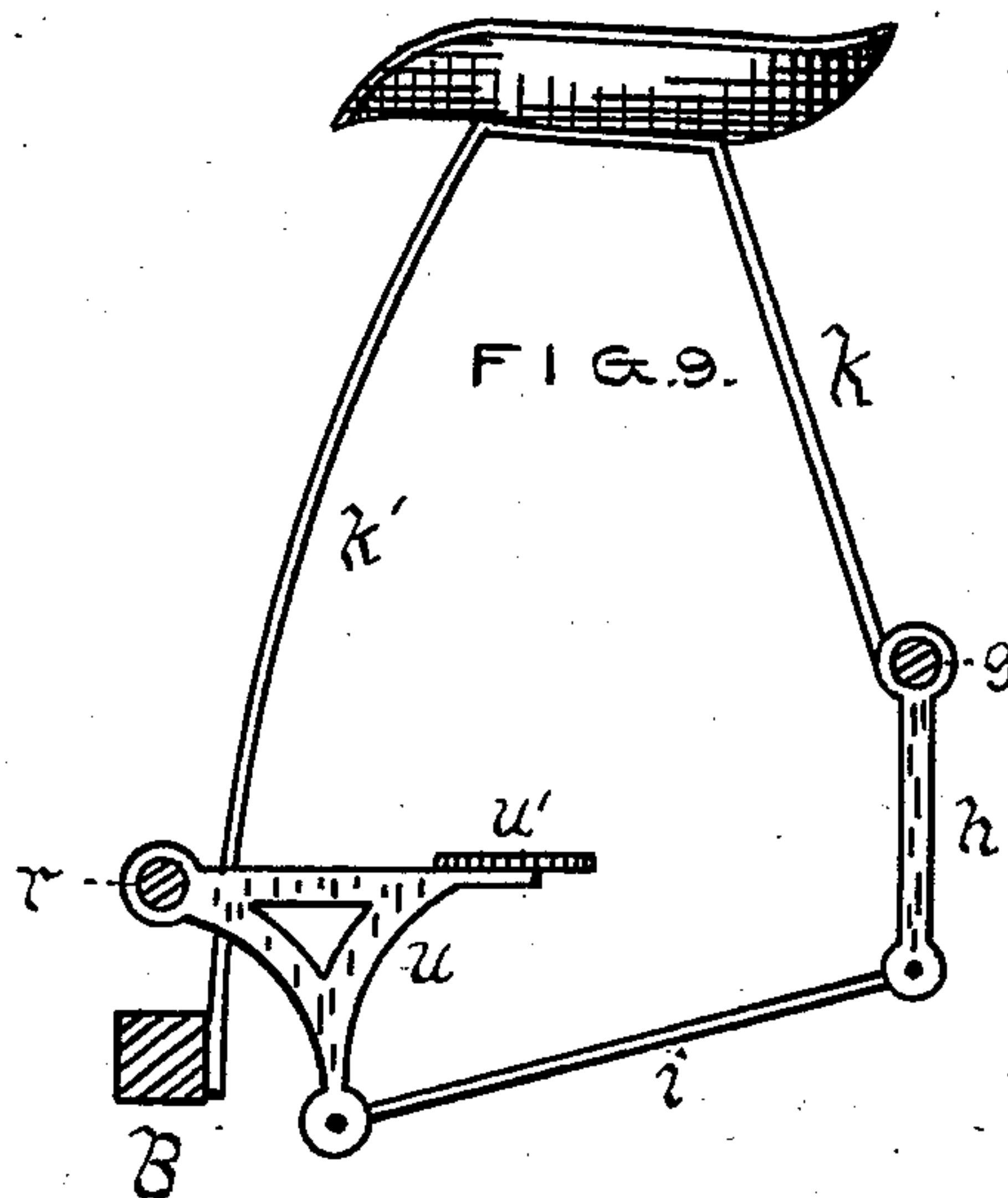


FIG. 11.

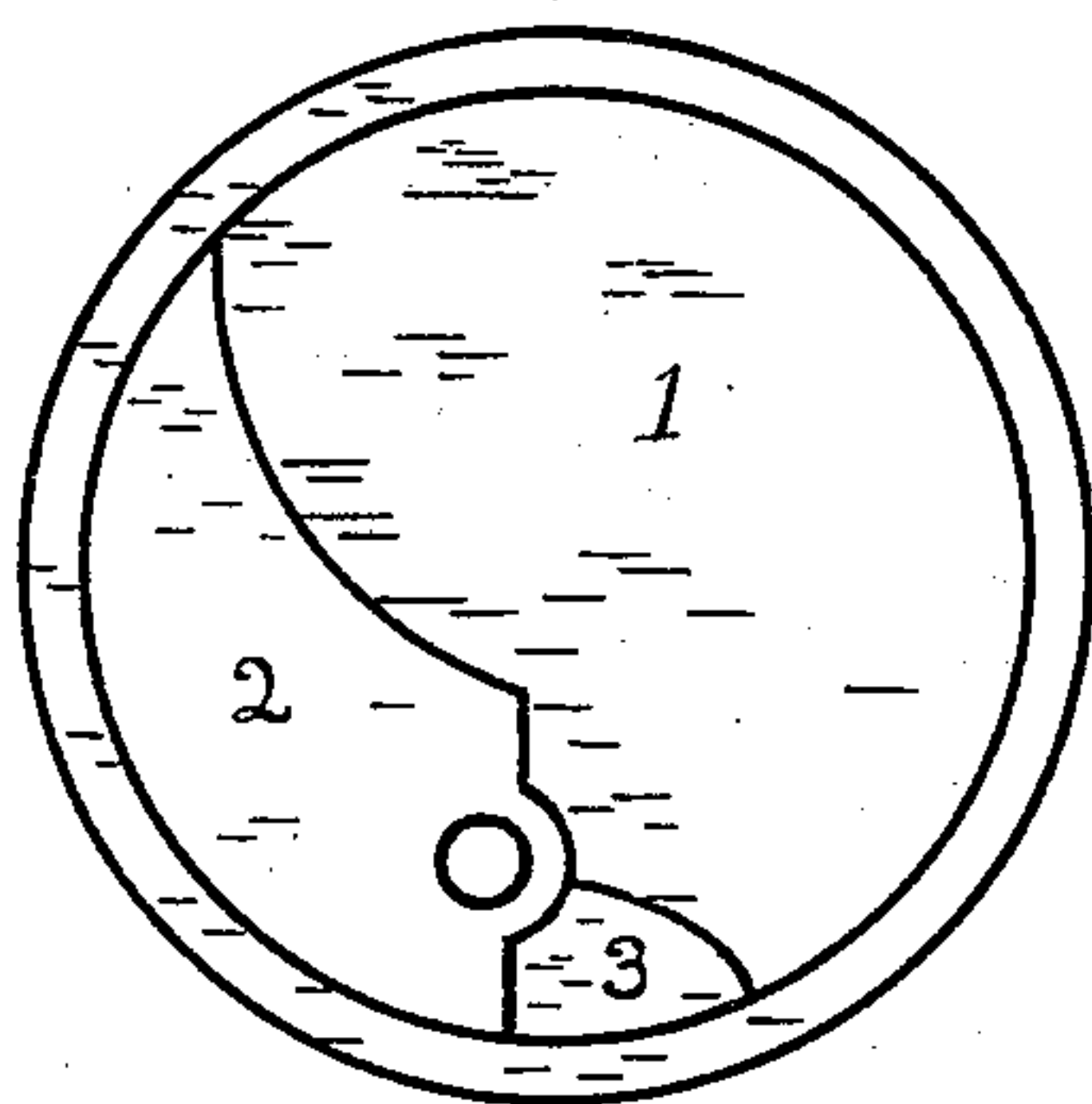


FIG. 10.

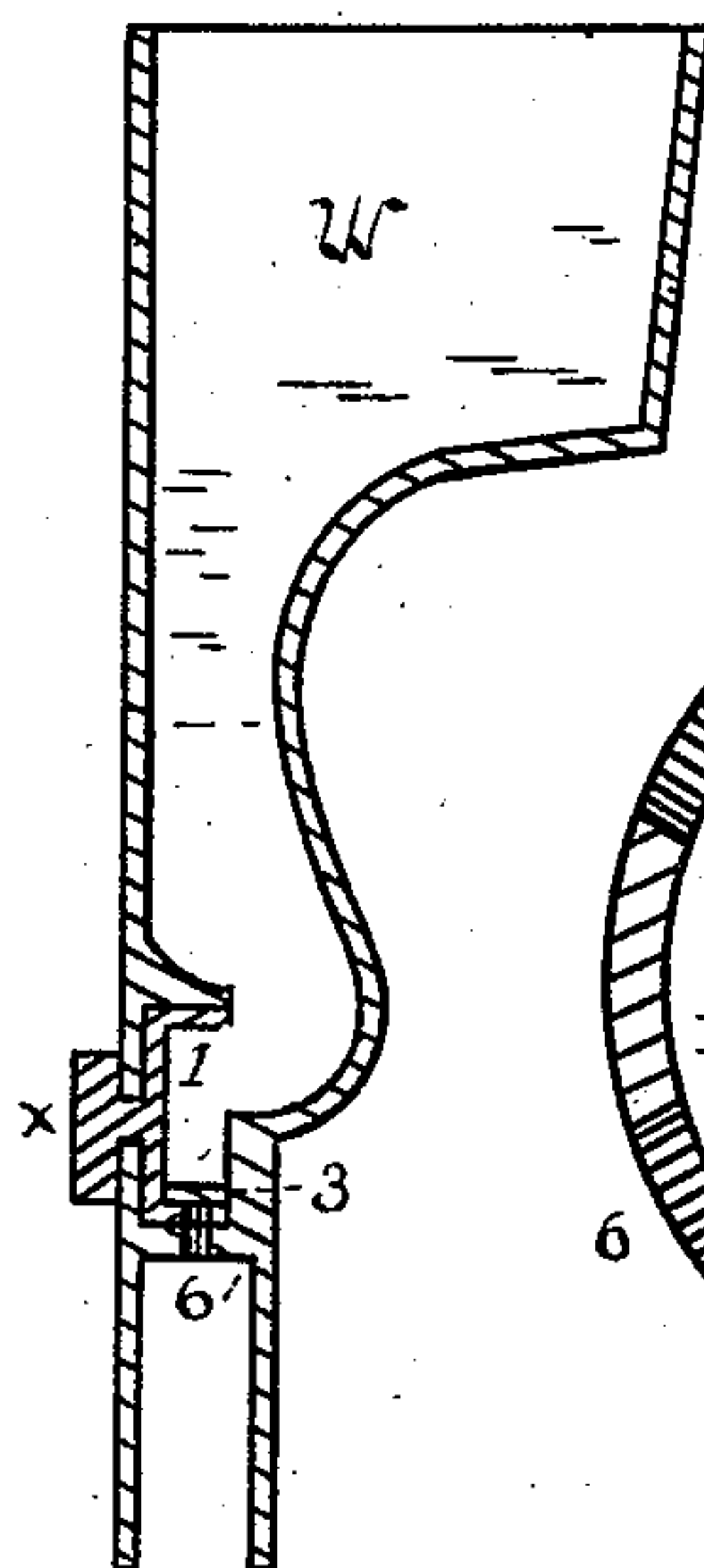
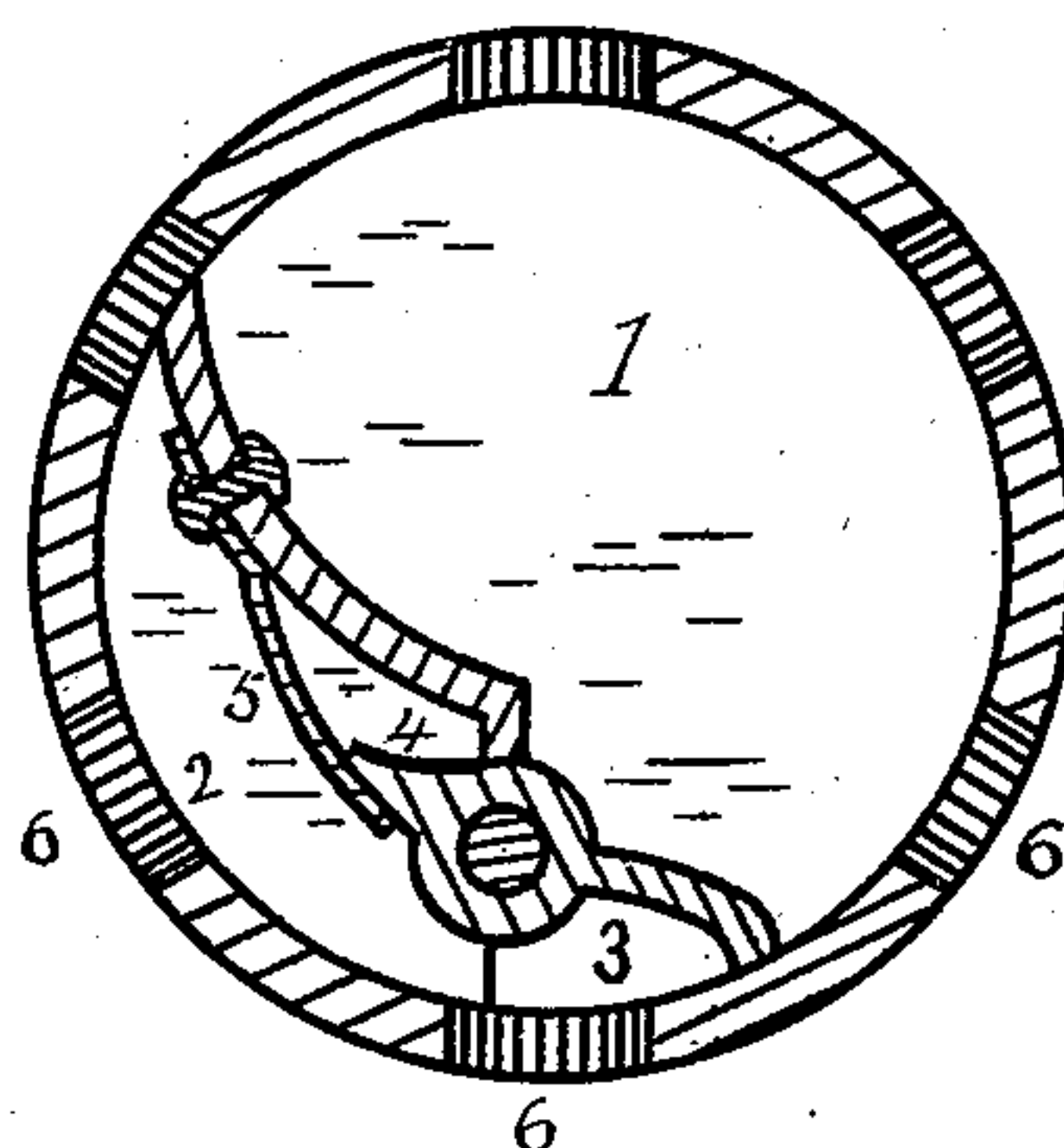


FIG. 12.



Witnesses.
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atty.

UNITED STATES PATENT OFFICE.

CARSON A. MASTERSON, OF DECATUR, ILLINOIS, ASSIGNOR OF ONE-HALF
TO FRANK. M. GADDIS, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 304,335, dated September 2, 1884.

Application filed November 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, CARSON A. MASTERSON, a resident of the city of Decatur, and State of Illinois, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

My invention relates, mainly, to the reeling device for the check-row wire, to the device used to raise and depress the runners, and to the device used to drop the corn, all of which will be hereinafter set forth in detail and specifically claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is an end view of the check-row-wire reel, and Fig. 2 is a side elevation of the same. Fig. 3 is a rear elevation of the rear extremity of a corn-planter, showing the arrangement of the reel with relation thereto. Fig. 4 shows a preferred construction of the reel-shaft crank in side elevation, and Fig. 5 is an end view of the same. Fig. 6 is a plan of a corn-planter, showing the position of my devices thereon. Fig. 7 shows the lever and ratchet used to elevate and depress the runners, and Fig. 8 shows the device used to connect the lever with the frame of the runners. Fig. 9 is a side elevation of the seat-support and the treadle used to operate the wire-reel, showing transverse parts in section on dotted line *xx*, Fig. 3. Fig. 10 is a vertical section of the seed box and dropping mechanism on dotted line *zz*, Fig. 6. Fig. 11 is a face view of the drop-wheel, showing the general arrangement of the cut-off with reference thereto; and Fig. 12 is a central vertical section of Fig. 11 on a line parallel with the ends thereof.

a is a friction-pulley provided with a beveled edge, as shown.

b is the reel, which is constructed in a form not materially different from that in general use.

c is a tubular shaft, on which both reel and pulley are rigid.

d shows the wire in position on the reel.

e represents scrapers for cleaning the wheels. They are secured to shaft *g* by means of set-screws *f*. Reel-shaft *g* forms a crank at *o*; and I prefer to construct this crank separately, and in substantially the form shown in Figs. 4 and 5.

h represents an arm rigidly attached to shaft

g, and provided with a rod, *i*, that connects with a treadle, by means of which said shaft *g* is operated.

k shows the seat-support.

l l are brackets that support shaft *g*.

m is a bar of the planter-frame, to which brackets *l l* are secured.

n n are also a part of the planter-frame.

As shown in Figs. 4, 5, crank *o* consists in a pair of bearings suitably connected, the upper bearing being square, while the lower bearing is circular.

The above-mentioned device not only adapts itself to the square end of *g* and to the round end of the extension on which the reel operates, but also furnishes a bearing at *o'* for brackets *l l'*. The rims *o' o'* prevent longitudinal misplacement of the crank in the brackets; but, if preferred, the inner rims may be dispensed with and the outer rims of each crank be relied on to maintain the correct position. When the inner rims are dispensed with, the cranks can be readily slipped into position in the brackets; but in that case said cranks must be secured to the shaft *g*.

p represents a lever provided with a sliding catch-rod, *p'*, which is held in contact with segmental ratchet *q* by means of spring *p''*, and which is peculiar only in terminating at right angles to its general direction in such a position relative to the lever-handle that the pressure of the hand in operation will tend directly to raise the catch-rod from contact with the ratchet, (see *p'''*.)

The lever *p*, above described, is rigid on shaft *r*, and arm *t* is also rigid on the same shaft. Then, arm *t* being connected with the frame *D* of the runners, it follows that a forward throw of the lever *p* will depress said runners, while a backward throw will have a contrary effect.

The device shown in Fig. 8 connects arm *t* with the runner-frame in such a manner that said arm and frame can each have a considerable amount of independent motion in every direction on a horizontal plane.

v is a shaft provided with lateral extension *v* and pivoted in vertical frame *v'''*.

The arm *t* is connected with extensions *v* by means of chain *v'*, and frame *D* is shown in section on dotted line *Y*, Fig. 6.

The pivoting-shaft with its extensions and

the vertical chain, suspended as shown, combine to furnish arm *t* with the independent motion necessary to its perfect operation.

w w are the seed-boxes.

5 *z* is the check-row rod, which is intermittently rotated in one direction by the action of the check-row wire, and which is connected with the drop-plates of the seed-boxes by suitable gearing, *x*.

10 *y y* show the runners of the planter, constructed in the customary manner.

B C are transverse bars of the planter-frame, one acting as an axle for the wheels *A A* and the other as a support for the seed-boxes.

15 Brackets *s s* and ratchet *q* furnish bearings for shaft *r*, and treadle *u* is loosely journaled on said shaft at *u''*.

Fig. 9 shows the arrangement of treadle *u* with relation to the reel-shaft *g*, and also the construction of the seat-support *k k'*.

1 in Figs. 10, 11, and 12 represents a vertical disk provided with an annular rim or projection, and connected by suitable gearing with the check-row bar. The annular rim of disk 25 1 is perforated at regular intervals, and is so located in the bottom of the seed-box that the grain is readily admitted through its open face. A peripheral casing prevents the corn from passing through the perforations of the rim, except at one point at the lowest extremity of the casing, as indicated at 6' in Fig. 10, and this point is covered by a cut-off, 2 3, as shown. The perforations 6 are to be of the correct size to receive the right number of grains for a hill, and to this end the thickness of the rim may be varied when necessary. The cut-off consists in two parts, one of which, 3, is the actual cut-off, while the other, 4, is a casing for the rear end of 3 and its operating spring. 40 The cut-off 3 consists in a top casing of substantially the configuration shown in Fig. 12, and which, with its two side casings, forms a receptacle for the corn that forces its way into the same. Casing 2 is of the same width as 45 the rim of the drop-plate, and entirely occupies the space therein indicated by its outline in Fig. 11. This casing, which is rigid with the downward extension of the seed-box, furnishes a pivotal bearing for cut-off 3 and a place for the unobstructed operation of projection 4 and spring 5. The seed-boxes *w*, as shown in Fig. 10, terminate in the interior of the annular drop-plates, thus insuring a constant supply of grain thereto. In operation, 55 the drop-plates are rotated in a direction opposed to the projection of the cut-off, and the corn contained in the perforations of the rim is carried under said cut-off and permitted to escape through the opening indicated in Fig. 10. The pivotal adjustment of the cut-off is to avoid crushing grains that from their oblique position on the edges of the perforations, or from other reasons, have a tendency to force their way under said cut-off, and the hollow 65 receptacle therein is to receive such grains and permit their subsequent escape without interfering with the effectiveness of the drop.

The reel is operated by pressing on treadle *u u'*, which, through rod *i* and arm *h*, causes the shaft *g* to partially rotate and carry the edge of pulley *a* against the planter-wheel *A*. 7c

The operation above described is carried into effect whether it is required to wind up the wire or regulate the tension in laying out the same, only that more pressure is ordinarily 75 required in the former process.

The object of the beveled edges of pulley *a* is to enable the said pulley to force its way through the dirt which scrapers *e* may not be able to remove, thereby insuring constant and 80 direct contact with the metallic surface of the planter-wheel, and consequently a competent supply of friction. Where friction-pulleys with even a moderately-broad surface are used on planter-wheels, their tendency is to pack 85 the dirt firmly against said wheel and form an anti-friction surface on which the pulley will slip.

The arrangement of my reel and pulley on a tubular shaft makes practical their ready attachment to all arrangements of shafts, no matter by what means leverage is brought to bear thereon. 90

I am aware of the concave-faced pulley used to impart the motion of the planter-wheel to a check-row-wire reel that is shown in patent to G. D. Haworth, No. 277,030, May 8, 1883. I am aware, also, of the fact that friction-pulleys and check-row-wire reels have been mounted on the same shaft, as disclosed in 95 Patents No. 286,218, October 9, 1883, to Geo. W. and F. P. Murphey, and No. 262,608, August 15, 1882, to Andrew M. Munson, and therefore lay no broad claim to the same.

I claim—

1. The combination, with a check-row-wire reel adapted to be operated by friction from the planter-wheel, of a friction-pulley rigid with said reel, and beveled to an edge on its periphery, as and for the purpose set forth. 105
2. The combination, in a device for elevating and depressing the runners of a corn-planter, of a bent lever, *p s t*, a shaft, *v''*, pivoted in a vertical frame, *v'''*, and provided with lateral arms *v*, and a chain, *v'*, connected with the arms *v*, and adapted to furnish a point of attachment for the bent lever *t*, as and for the purpose set forth. 110
3. The combination, with a vertically-rotating annular drop-plate provided with perforations to measure and discharge the grain, of cut-off 3, adapted to be operated by a spring, 5, in casing 2, and provided with a cavity to receive and permit the escape of grains that force their way under said cut-off, as set forth. 115
4. The combination, in a detachable reel for check-row wire, of reel *b*, tubular shaft *c*, and friction-pulley *a*, as shown and described. 125

C. A. MASTERSON.

Attest:

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FRANK. M. GADDIS,
PETER HALMBACHER.