

(No Model.)

3 Sheets—Sheet 1.

W. E. INSLEY & E. H. DUNTEN.

COTTON HOE AND CHOPPER.

No. 333,305.

Patented Dec. 29, 1885.

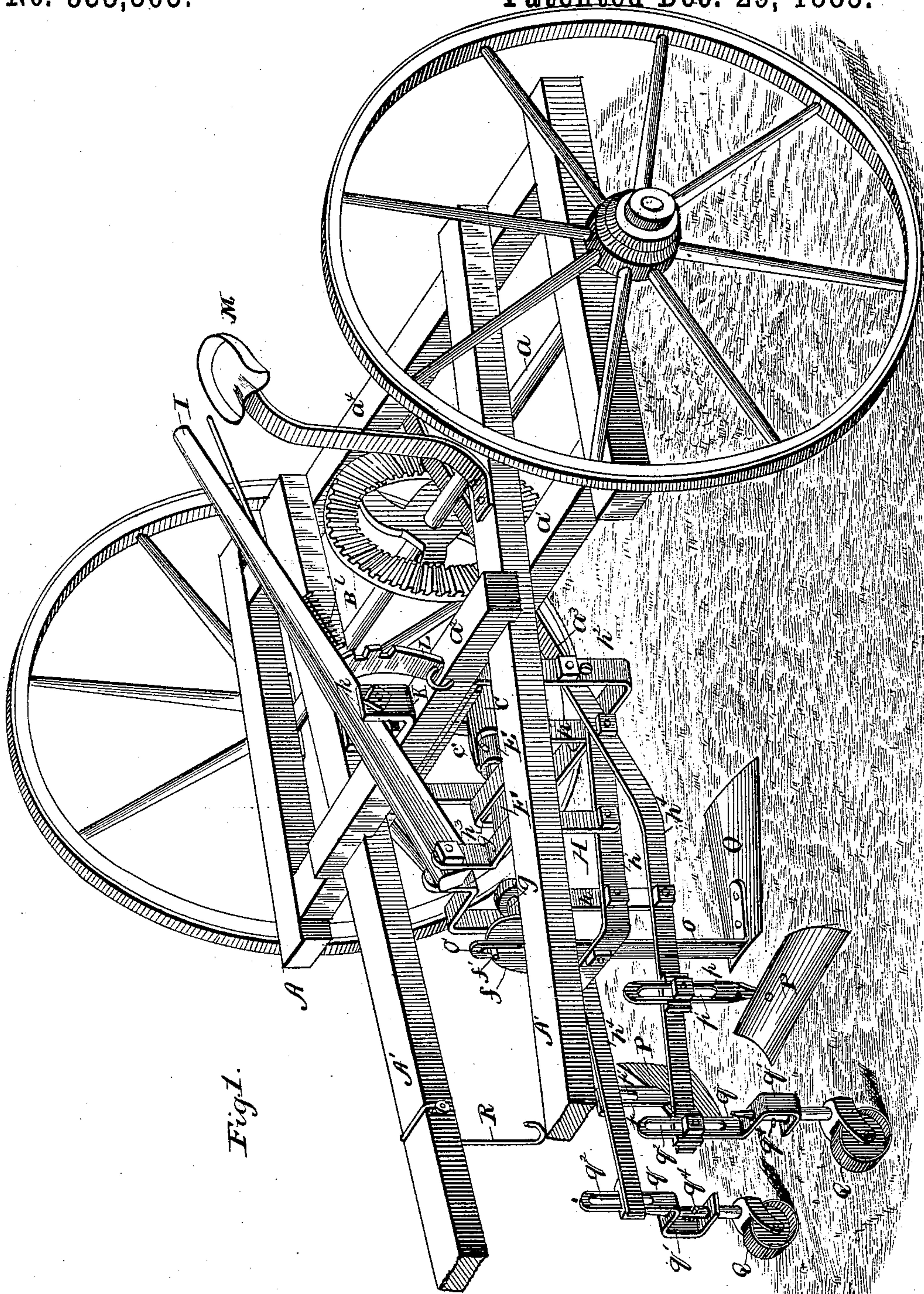


Fig. 1.

WITNESSES

W. I. King.

Jos. A. Ryan.

INVENTOR

William E. Insley.
Edgar H. Dunten.

By Leanne
his Attorney

(No Model.)

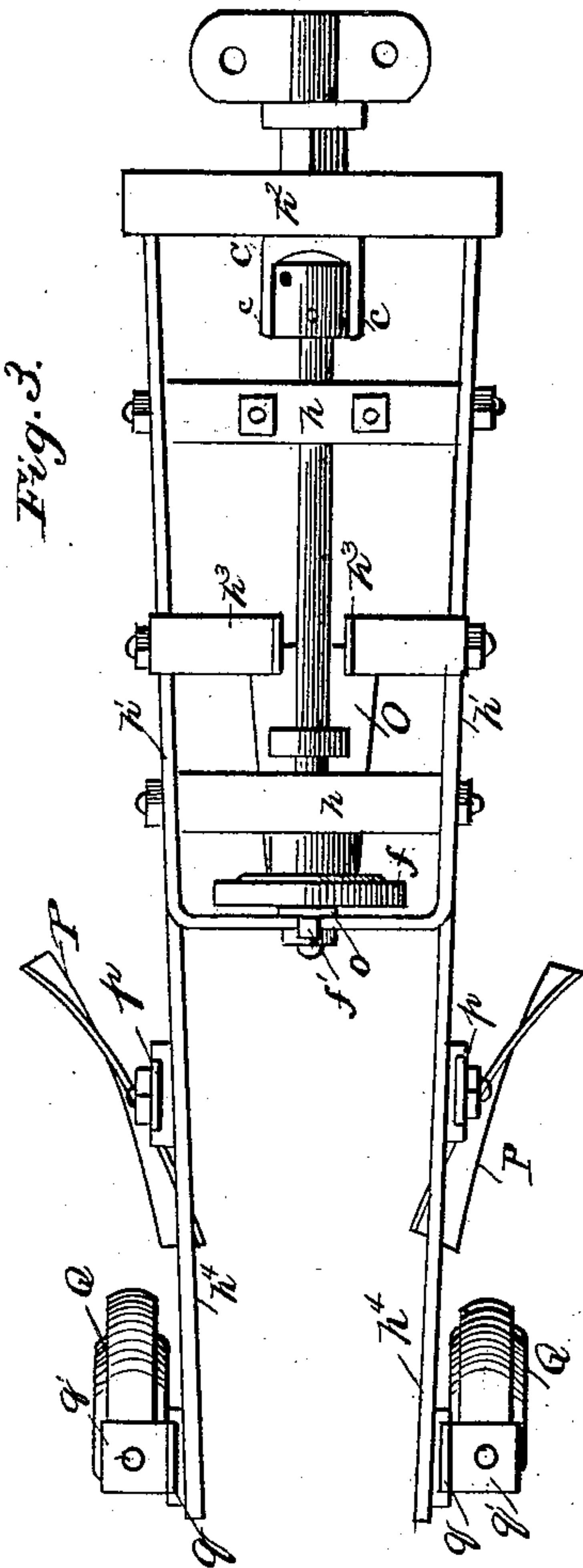
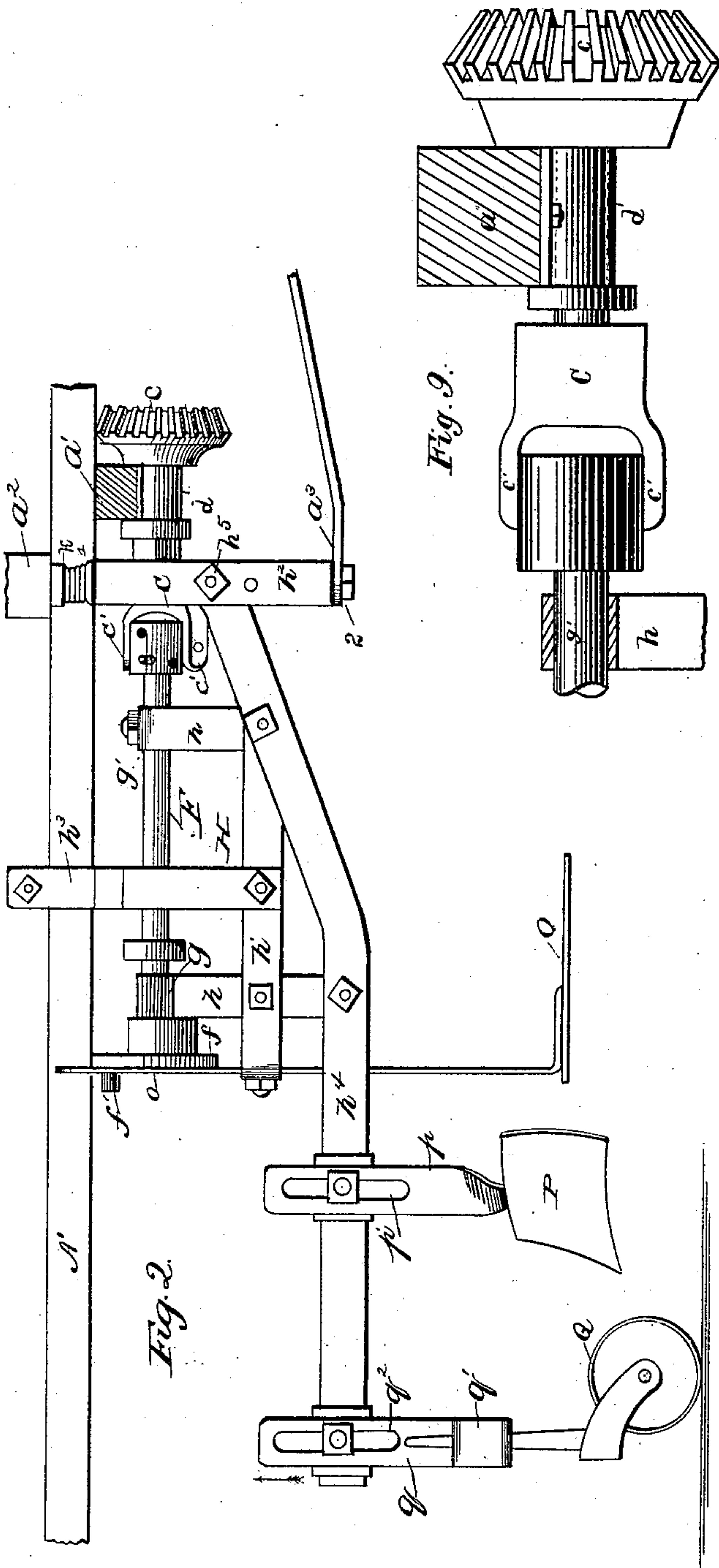
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W. I. King.

Jos. A. Ryan.

INVENTOR

William E. Insley.
Edgar H. Dunten.

By *L. Deane*
his Attorney

(No Model.)

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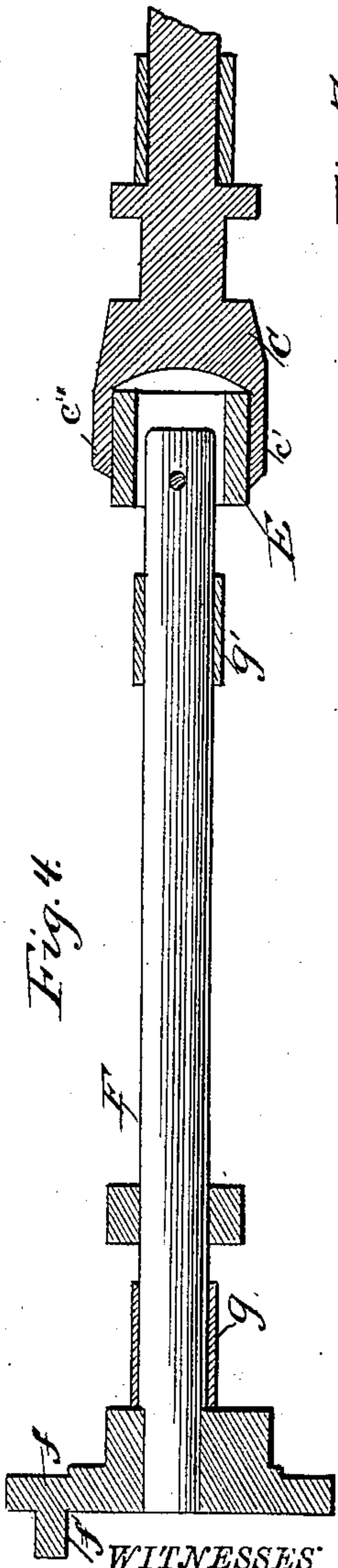


Fig. 4.

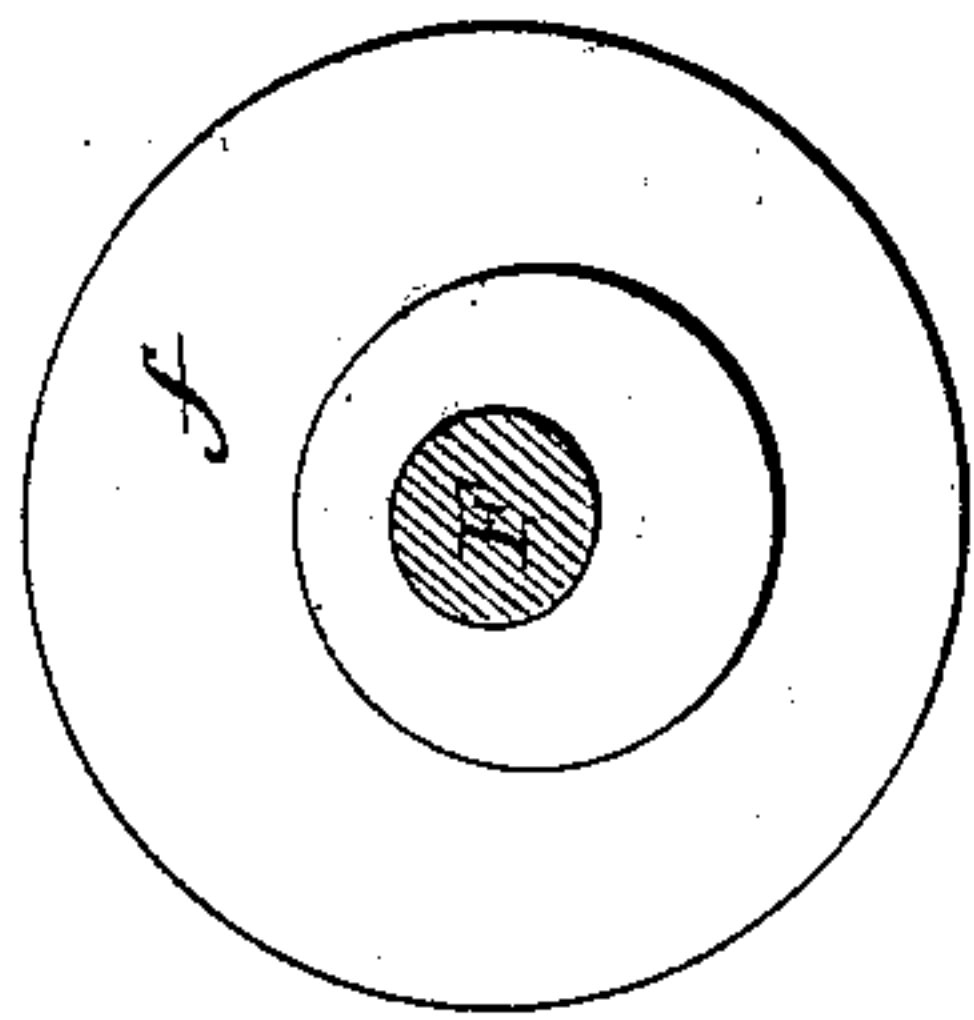


Fig. 7.

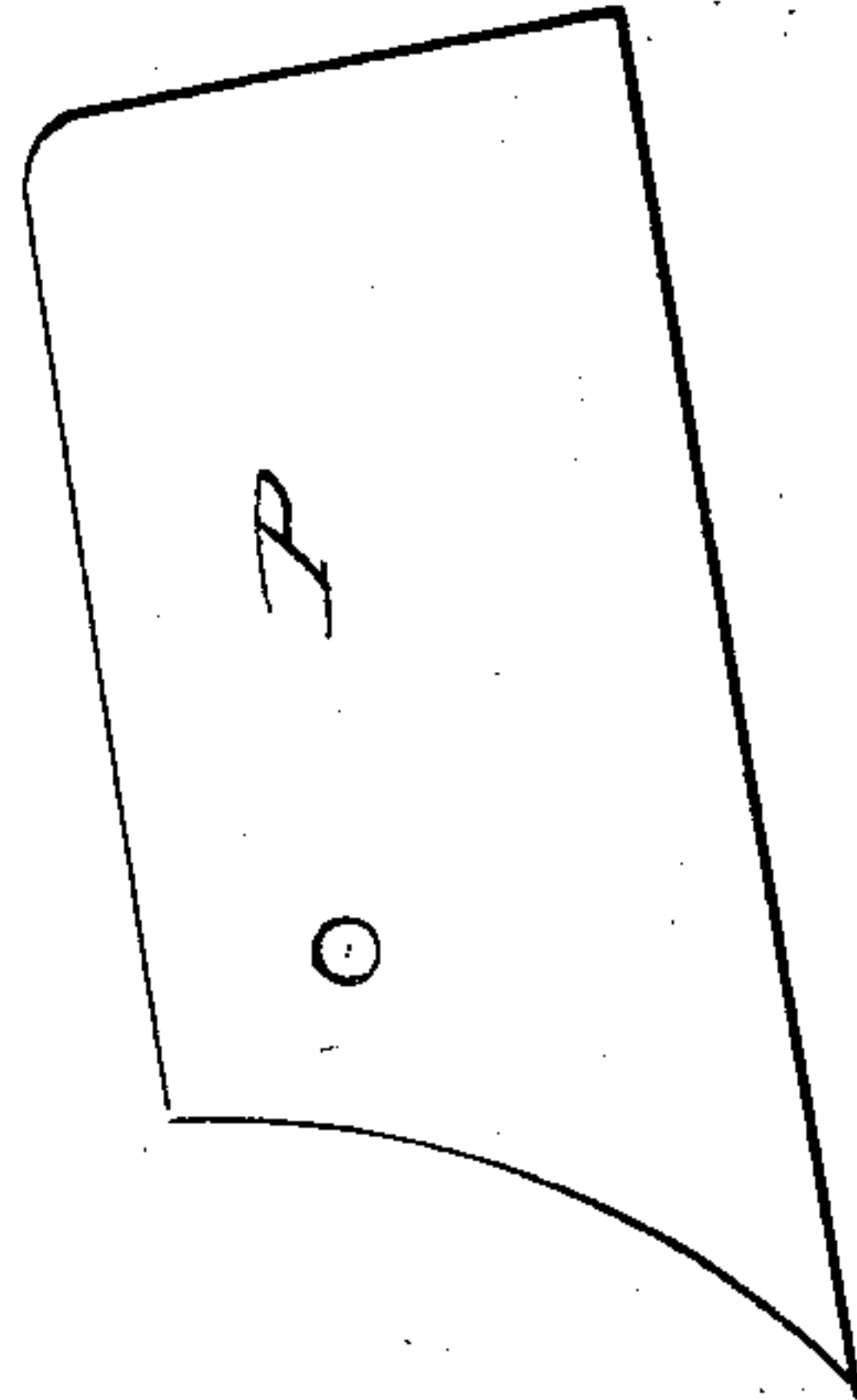


Fig. 8.

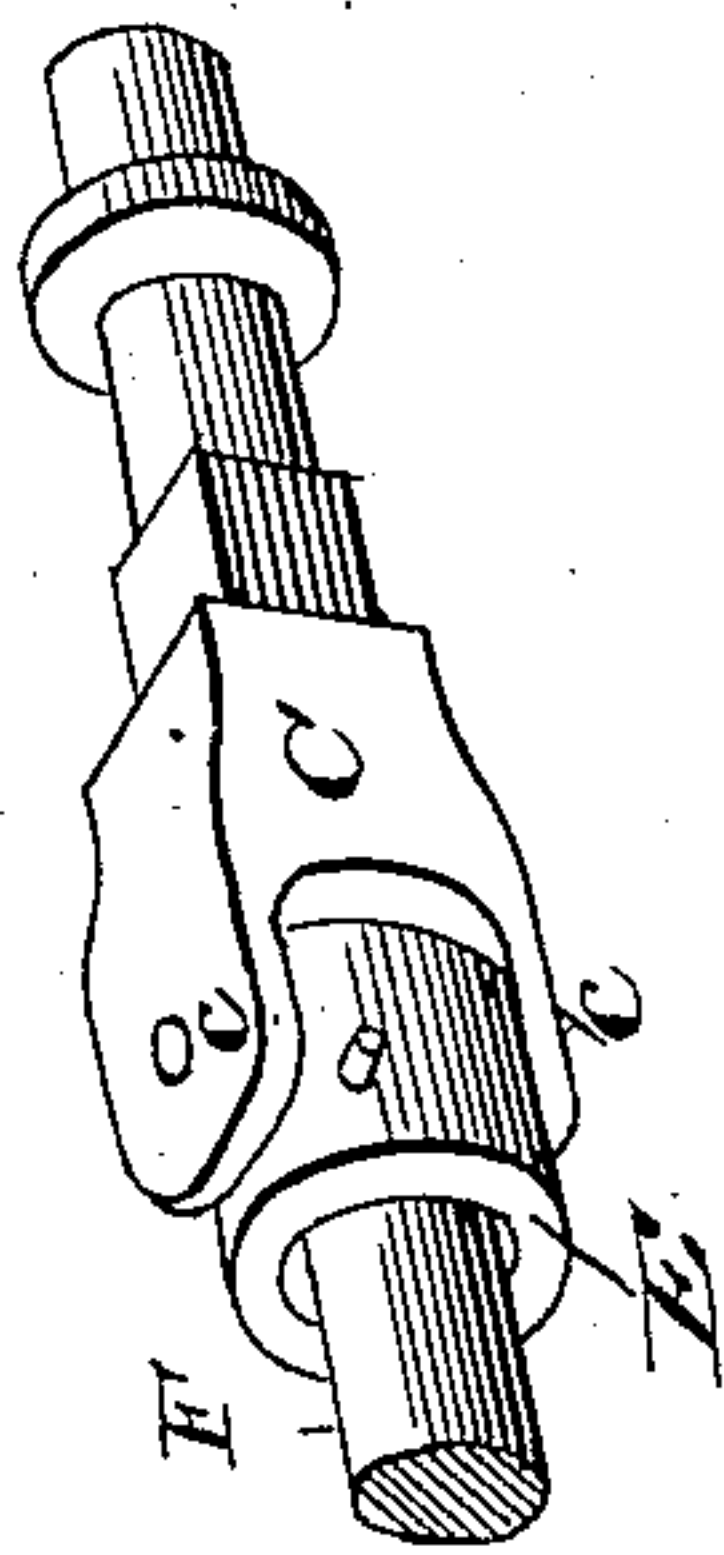


Fig. 6.

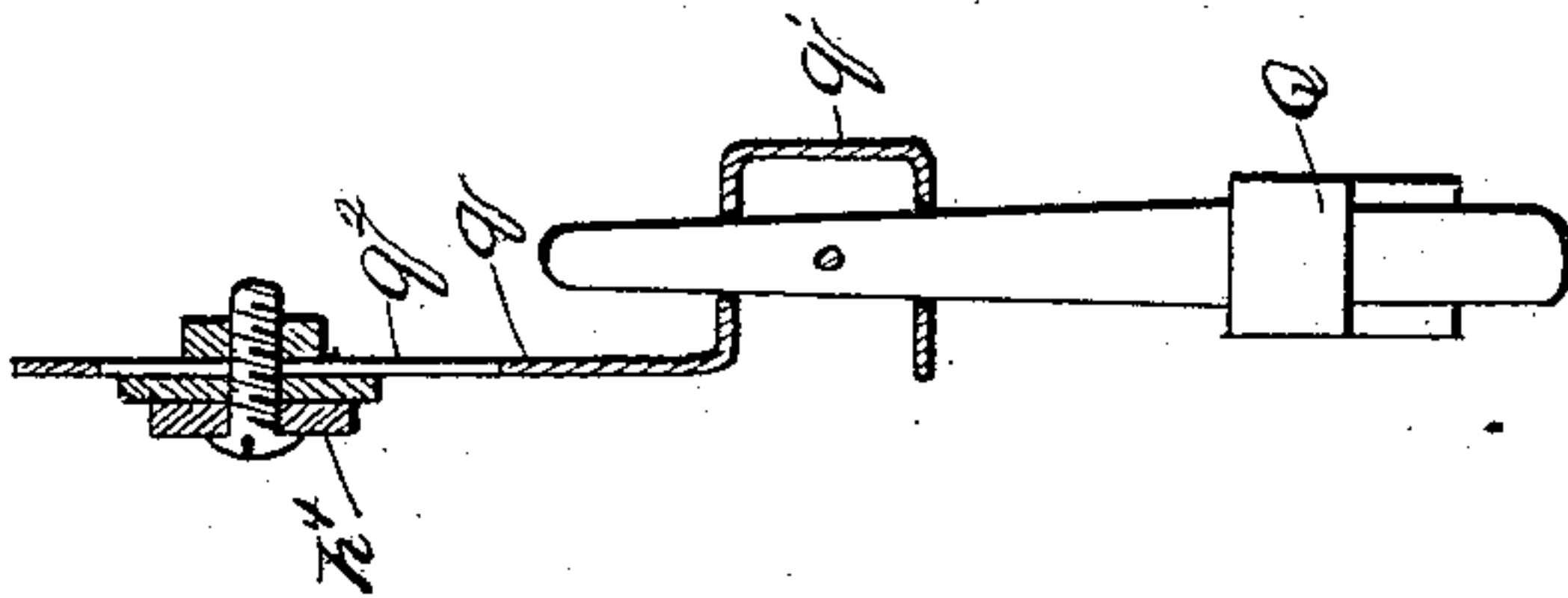


Fig. 5.

WITNESSES

W. I. King.

Jos. A. Ryan.

INVENTOR
William E. Insley.
Edgar H. Dunten.
By *L. Deane*
his Attorney

UNITED STATES PATENT OFFICE.

WILLIAM E. INSLEY AND EDGAR H. DUNTEN, OF LAPEER, MICHIGAN.

COTTON HOE AND CHOPPER.

SPECIFICATION forming part of Letters Patent No. 333,305, dated December 29, 1885.

Application filed September 23, 1885. Serial No. 177,863. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM E. INSLEY and EDGAR H. DUNTEN, citizens of the United States, residing at Lapeer, in the county of Lapeer and State of Michigan, have invented certain new and useful Improvements in Cotton Hoes and Choppers, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a perspective view of the present device. Fig. 2 is a side elevation of the forward part of the frame which carries the hoes and chopper, showing this frame swiveled at its rear in the carriage-frame. Fig. 3 is a plan view of the same. Fig. 4 is a detail view showing shaft and connections that operate the chopper. Fig. 5 is a detail view of the caster and its connection with forward part of the frame carrying the hoes, &c. Fig. 6 is a detail showing the connection between the shaft operated by the gear on the carriage and the shaft operating the chopper; Fig. 7, a detail in section showing the disk which operates the chopper as attached eccentrically to its shaft; Fig. 8, a detail of one of the hoes; Fig. 9, a sectional detail to show the bearing and support of the short shaft.

This invention belongs to that class of devices known as "cotton hoers and choppers;" and the novelty in the present instance consists in the construction and combination of the several parts of the machine, whereby a very useful and durable device is produced, simple in structure, economical in cost, and very durable under all ordinary conditions of use, as will now be more fully set forth and explained.

In the accompanying drawings, A denotes the carriage proper, to and upon which are attached the operative parts. The gear-wheel B on the wheel-shaft a meshes with the beveled pinion c of the short longitudinal arm C in front of it. This arm is suitably held in bearings d , attached to the under side of bar a^2 of the frame of the carriage. The forward end of this arm is bifurcated at $c' c'$, and between these bifurcations is swiveled the sleeve E, inside of which sleeve is fixed the inner or rear end of the longitudinal shaft F, which thus comes about centrally in the frame. This shaft is mounted in bearings $g g$ on the strips $h' h'$, bowing upward from the side bars,

$h h$, of the metallic sub-frame H. By means of its rear rectangular part, h^2 , this frame is swiveled at its upper side on bolt K, passing through the bar a^2 of the frame, and on its under side, at 1, on the supporting-bar a^3 , inwardly extending from the rear bar, a^4 , of the frame, to which its outer end is attached. This connection enables the front part of the frame H to be readily turned to the right or left on these swivels by means of the hand-lever I, which is pivotally fixed at its forward end to the upwardly-extending metal strip h^3 of the frame H, while at a short distance from its forward end it is pivoted in the bifurcated top k of the swivel K on the frame A. Thus this lever can have free right-and-left movement. The strips h are pivoted to the frame H, which allows free vertical play of the lever in the up-and-down movement of the frame H. By means of the curved rack-bar L, attached to and so as to rock on the bar a^2 of the carriage-frame, just to the rear of the pivotal attachment of the lever and the spring-catch i , underneath the lever, the lever may be easily locked in any desired horizontal position. This lever is in convenient reach of the driver when mounted on the seat N.

Eccentrically or otherwise on the forward end of the shaft F is a disk, f , having in its forward face a crank-pin, f' , which pin is adapted to play in the vertical slot o' in the upper end of the arm o of the chopper O. This chopper has free lateral or right-and-left movement when the arm o is actuated, as hereinafter described, as said arm o is pivoted to the fore part of strip h' , which strip also forms the side bars before referred to. The chopper O is a blade of suitable construction, so attached to its arm that its position is generally horizontal to the ground, but its lateral or horizontal movements, caused by the rotation of the shaft F through the gear-wheel B on the carriage-axle, will of course be on the line of an arc of a circle. This chopper is so placed that its line of movements, as above described, is past the space between the hoes P, which are placed a little distance in front of it—one on each side of the frame H. These hoes are made of metal and curve outwardly and rearwardly. By means of their upwardly-extending arms p they are attached to the side bars, h^4 , of the frame H. They can be verti-

cally adjusted by means of the slots p' in the upper ends of these arms p by bolts and nuts and rigidly secured in any desired vertical position.

- 5 At the extreme forward end of the frame H are secured on either side the two casters Q by means of pieces q , downwardly extending from the ends of bars h^4 of said frame H. These casters are suitably swiveled in the bent part q' of lower ends of said pieces q , and as said pieces at their upper ends, by means of slots q^2 and nuts q^3 , can be adjusted up or down at pleasure and fixed in any desired position, so the casters can be raised or lowered.
- 5 These casters on the front end of the frame co-operate with lever I in making the right-and-left movements of the frame H before spoken of. The caster-arms are so fitted in the lower bent ends, q' , of pieces q that they
- 0 will have considerable scope for automatic vertical movement, the range of movement being controlled by the pin q^4 , which passes through each part of the caster-arm which comes inside said bend.
- 5 That part of the frame H—viz., bars h^4 —to which the hoes and casters are attached, are adjustably pivoted at their rear ends, h^5 , in the sides of the square part h^2 of the frame H, so that the forward end of this frame will have
- 0 automatic and free vertical movement on said pivotal connection.

The link R on one of the thills A' is used to hold up the frame H as in going to or returning from the field.

- 5 In the operation of this device the hoes will very thoroughly loosen the soil and the chopper will thin out the cotton. As the cotton is usually sown in drills, this work when done by hand, as was in former times the custom,
- 0 is very slow, tedious, and expensive.

- In the operation of devices of this description it is of very large consequence that there should be easy means for moving the hoes and chopper to the right or left, as the driver of
- 5 the machine may see it to be necessary in order to reach the thickest growth of weeds, &c., or from any like reason. Such means are admirably provided in this device, as has been above described; also, the automatic rising and
- 0 falling of the casters is a feature of very large value, as it enables the frame to adapt itself easily to the uneven surface of the ground.

- While there is now shown a frame for carrying the operative parts made in several
- 5 pieces, it is obvious that the mere detail of this construction can be changed in many ways without departing from the nature and scope of the invention above described.

I am aware that geared shafts, jointed and

cranked, are not broadly new in devices of this general description for actuating a hoe or chopper.

Having now described this invention, what we consider new, and desire to cover by Letters Patent, is—

1. The combination of the lever I with the frame H, swiveled at its rear in the carriage-frame, and in which is mounted the horizontal shaft F, operated as described, and which is provided with the horizontally-operating chopper O and the vertically-adjustable hoes P, substantially as set forth.

2. The combination of the frame H, swiveled at its rear end to the frame, having hoes and choppers, and operated by lever I, with the casters Q, automatically and vertically adjustable, substantially as described.

3. In a cotton-chopper, in combination with the main frame, a swiveled sub-frame having an automatic vertical movement and movable horizontally, and provided at its forward end with casters vertically and automatically adjustable, substantially as described.

4. In a cotton-chopper, substantially as described, a frame carrying the hoes and chopper provided with casters at its forward end, positively and automatically adjustable in manner set forth, whereby the forward end is capable of an automatic rising and falling movement.

5. In combination with the carriage A and the swiveled frame H, the gear-wheel B, and the arm C, having pinion c and bifurcated end c' , with the sleeve E, the shaft F, having disk f , provided with eccentric pin f' , the chopper O, and the pivoted vibrating arm o , substantially as and for the purposes set forth.

6. In combination with the frame H, the vertically-adjustable hoes, one on each side, the vertically-adjustable casters, and the chopper at the rear of the hoes, having a free right-and-left movement across the space between the hoes, substantially as shown and described.

7. In combination with the frame H, as described, swiveled at the rear at its upper and lower side in the frame of the carriage, the swiveled lever I, having spring-catch i , and the rack L, substantially as and for the purposes set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM E. INSLEY.
EDGAR H. DUNTEN.

Witnesses:

FRANK MILLIS,
FRANK MCNAMARA.