

(No Model.)

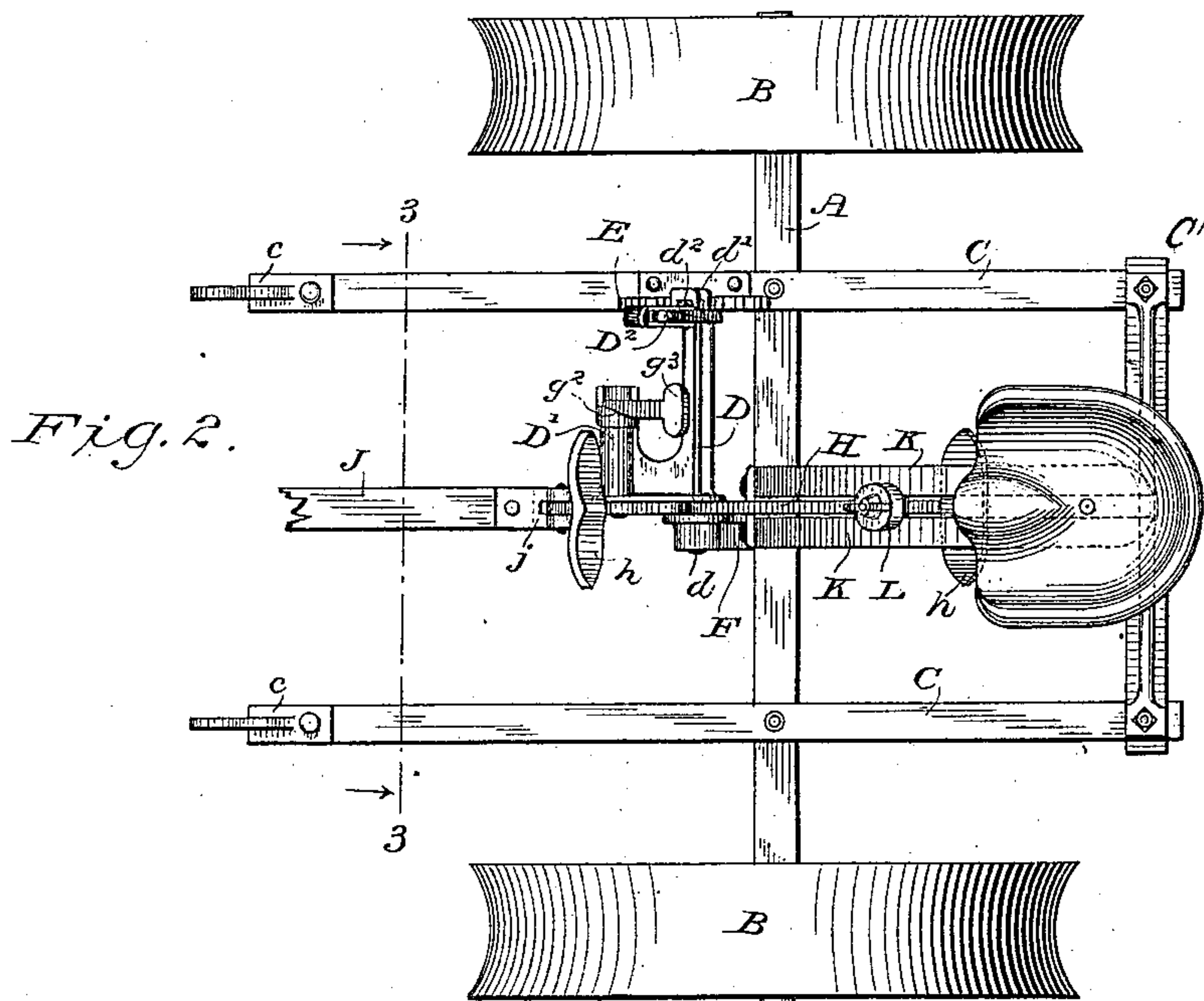
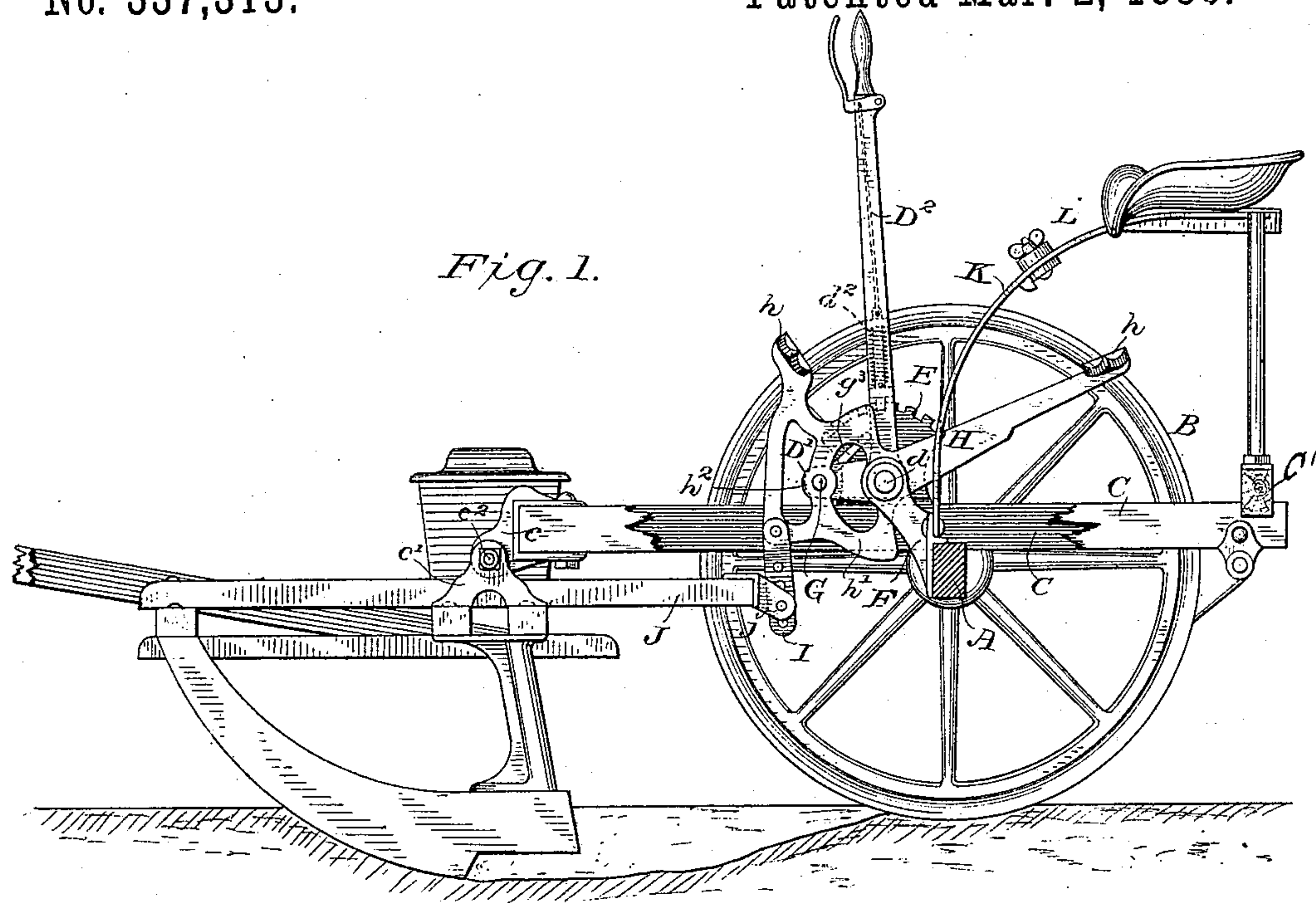
2 Sheets—Sheet 1.

M. E. DOOLITTLE.

CORN PLANTER.

No. 337,313.

Patented Mar. 2, 1886.



Witnesses

Geo W. Young.
N. L. Ballamer.

Inventor

Merritt E Doolittle.

By His Attorneys

Jamies and Sprink

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

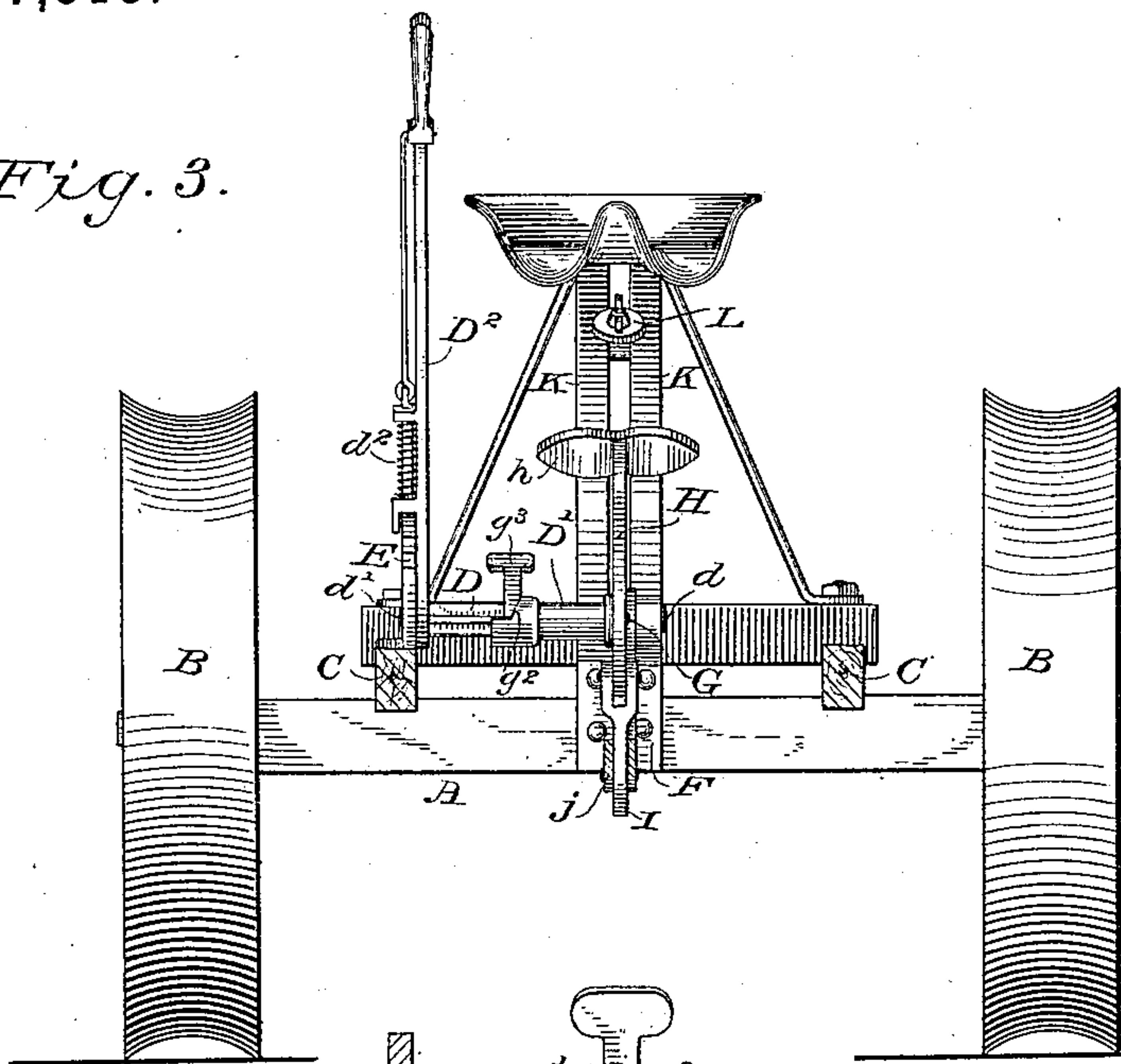


Fig. 5.

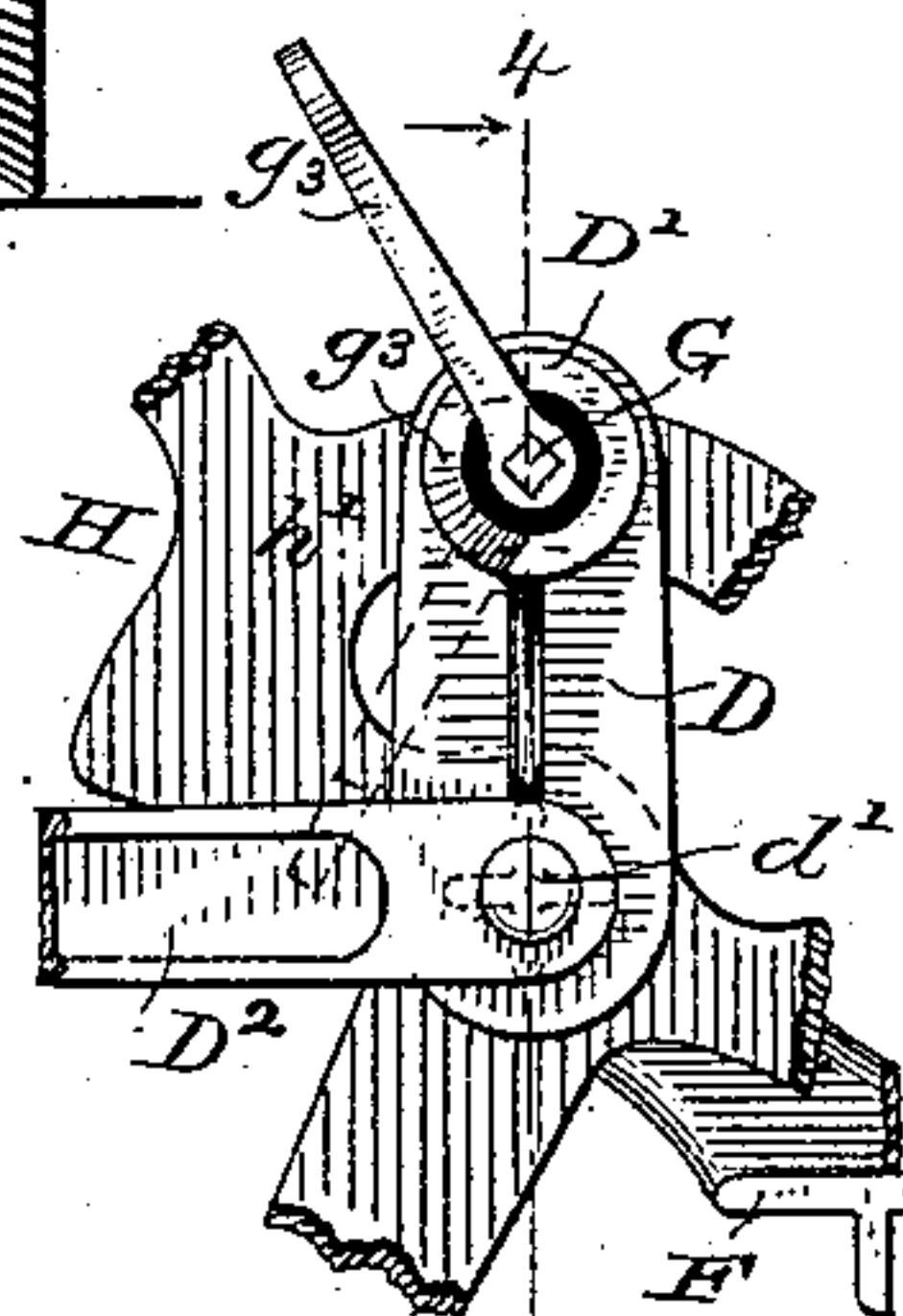


Fig. 6.

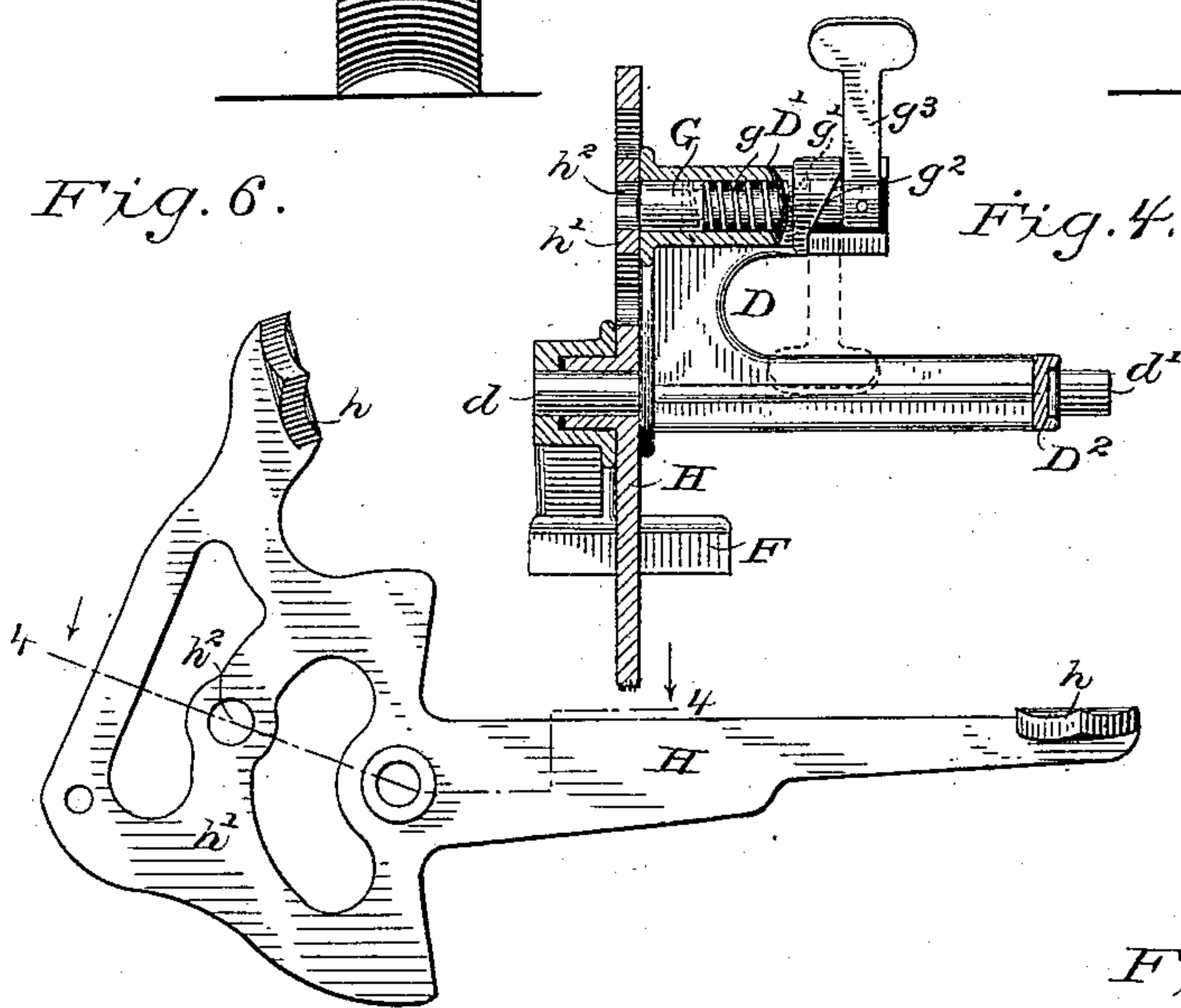


Fig. 4.

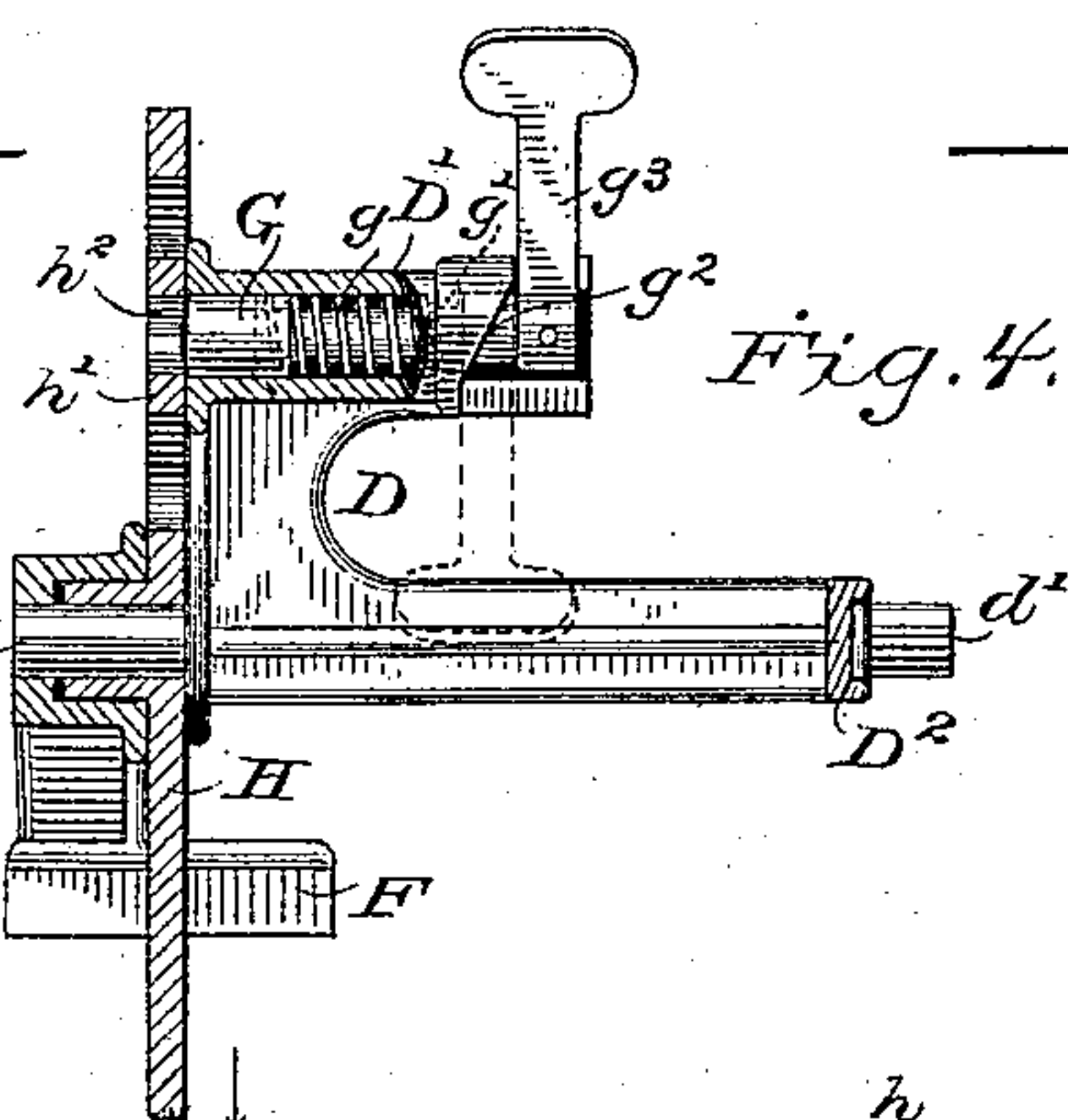


Fig. 8.

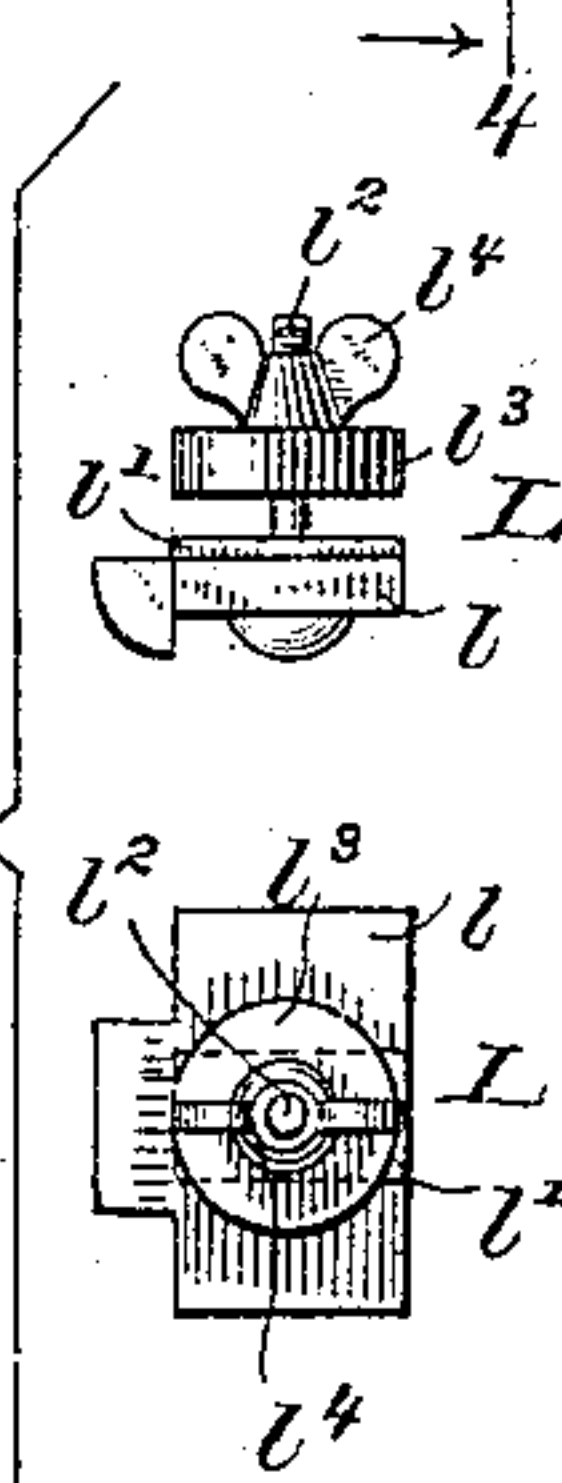
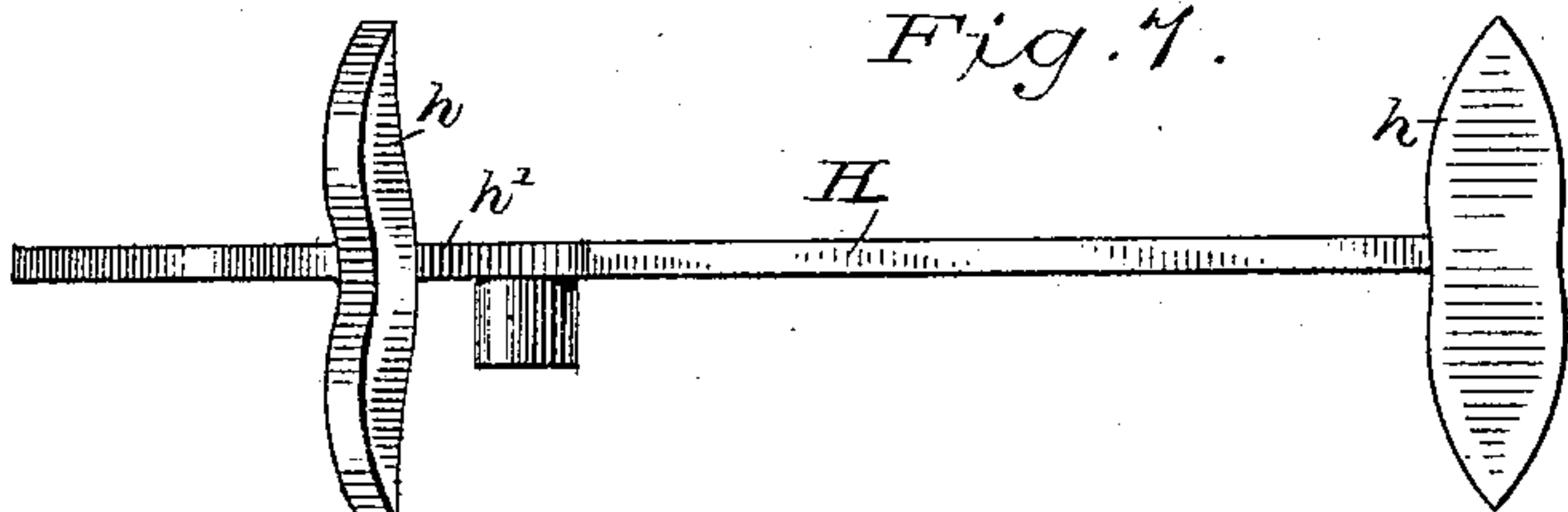


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

MERRITT E. DOOLITTLE, OF TROY, OHIO, ASSIGNOR TO THE BEEDLE & KELLY COMPANY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 337,313, dated March 2, 1886.

Application filed October 28, 1884. Serial No. 146,688. (No model.)

To all whom it may concern:

Be it known that I, MERRITT E. DOOLITTLE, a citizen of the United States, residing at Troy, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in corn-planters of the class employing a main frame mounted upon wheels, combined with a runner-frame in front, the two frames being so connected that the planter may be used either as a flexible or rigid machine at pleasure.

It consists in connecting the runner-frame to a foot-lever pivoted on a horizontal shaft on the main-frame, about which it may rock to raise or lower the runner-frame, or to which it may be locked by a spring-bolt. The shaft is mounted in suitable journals on the main frame, and provided at its outer end with a hand-lever, which also may be used to raise or lower the runner-frame, (when the foot-lever is locked to the shaft,) or it may be locked in any desired position by detent and rack, as usual.

It further consists in an adjustable depth-gage so arranged on the seat bow or support as to be within easy reach of the driver, and to lie in the path of the rearward extension of the foot-lever, limiting its range of movement, and consequently the depth to which the runners may penetrate the soil.

In the accompanying drawings, which illustrate so much of a corn-planter as is essential to a proper description of my invention, Figure 1 is a side elevation, one wheel being removed and the frame partly broken away to show more clearly the special features of my improvement. Fig. 2 is a plan view of the main frame, omitting the runner-frame; and Fig. 3 is a front elevation of the same, partly in section, on the line 3 3 of Fig. 2. Fig. 4 is a plan view of the horizontal shaft, with its spring-bolt socket, the foot-lever, and one of the journals partly in section on the lines 4 4 of Figs. 5 and 6. Fig. 5 is a view in elevation of the end of the shaft, with its spring-bolt and toe-

piece and part of the hand-lever, and showing a portion of the foot-lever adjacent thereto. Fig. 6 is a side elevation, and Fig. 7 a plan view, of the foot-lever. Fig. 8 shows detailed views of the depth-gage.

The axle A of the main frame is supported at its ends by the usual concave covering-wheels, B, and has secured upon it the side-bars, C, these bars being connected and braced at their rear ends by a cross-piece, C', and provided at their front ends with metallic clip-pieces c. These clips are securely bolted to the bars, and have ribs or flanges projecting from them, forming depending ears, which take into suitable clips or castings, c', in the runner-frame, pivot-bolts c² uniting them to form hinge-joints at these points of connection.

At a suitable distance in front of and above the axle is a casting, D, provided with cylindrical ends or trunnions d' d, which are journaled, respectively, in a segmental ratchet-stand, E, attached to one of the side bars, and in a supporting-bracket, F, secured to and springing from the axle A, near its middle. This casting constitutes the shaft of the lever system, and carries near its outer end, next the ratchet-stand, a lever, D², provided with a spring-detent, d², which takes into the notches of the ratchet to lock the lever and shaft against rotation. Near its inner end the casting extends forward and terminates in a socket or chamber, D', for the reception of a spring-bolt, G. A spring, g, coiled about the reduced shank of this bolt, bears at one end against the bolt-head and at the other against an internal rib, g', in the bore of the chamber, and tends to project the bolt from the socket. At its outer end the shell of the socket is cut away to form an incline, g², against which a latch or toe-piece, g³, upon the shank of the bolt bears. The bolt may be drawn against the thrust of its spring entirely within the chamber and held there by throwing the toe-piece to the position shown by full lines in Figs. 4 and 5, or may be projected therefrom by moving the toe-piece back to the dotted position shown in these figures. A foot-lever, H, is pivoted on the trunnion d of the shaft-casting, and is provided with suitable foot-pieces, h h, and a

quadrant or guard, h' , in which at any proper point is a bolt-hole, h^2 . This lever may be rocked independently of the shaft-casting, or it may be locked thereto by the spring-bolt G, engaging with the hole h^2 in the quadrant. It is flexibly connected at its forward end by a link, I, to a bar, J, which is rigidly secured to the runner-frame, and, extending back a proper distance, is provided at its rear end with a metallic clip, j , to which the link I is also pivoted by a bolt passing through the clip and any one of the holes which permit of adjusting the point of attachment. The quadrant or guard h' on the foot-lever lies against the face of the shaft-casting, and plays directly in the path of the locking-bolt G, preventing its outward movement until the bolt-hole h^2 in the quadrant is brought to register with it. The rearward extension of the foot-lever plays in a slot or guideway formed by two curved parallel bars, K K, which spring from the axle and constitute the seat-bow. Upon this bow is mounted an adjustable depth-gage, L, which consists of a plate or block, l , having a guide-rib, l' , upon its upper surface, which fits the slot between the bars K. A bolt, l^2 , passes through the gage-block, and is provided with a washer, l^3 , and thumb-nut l^4 , by which the gage may be clamped upon the bars at any suitable point.

The planter may be worked in the usual manner, either as a rigid or a flexible machine.

When it is desired to lock the two frames, so as to form a rigid machine, the foot and hand levers are locked together by the spring-bolt G, and the desired depth of cut or penetration of the runners is secured by means of the hand-lever, which may be rocked to the proper position for this purpose, and there held by its detent engaging the rack. If, while working under these conditions, it should be necessary to momentarily free the runners to permit them to ride over an obstruction, or to force them into a depression in the soil, it may be accomplished without disturbing the position or set of the hand-lever by retracting the spring-bolt G and releasing the foot-lever. This can easily be done by the driver operating the toe-piece g^3 of the bolt with his foot, and does not necessitate the use of his hands, which may be otherwise employed in the management of his horses. When thus released, the foot-lever is free to rock on its pivot; or it may be controlled by the driver with his feet on the foot-blocks h , and the runners elevated or depressed at will. When the obstruction is passed, the machine may be restored to its former rigid condition and depth of cut by again locking the foot-lever to the shaft-casting. To accomplish this, the driver with his foot throws the toe-piece g^3 back, which permits the spring to act upon the bolt, projecting it forward against the guard h' , which checks its further advance until the hole h^2 is brought opposite the bolt, which enters it

and prevents further independent movement of the foot-lever.

The driver may, if he wishes to, elevate or depress the runner-frame by means of the hand-lever when the foot-lever is locked to it. This may often be desirable, as for very hasty action, or when a hard lump of soil is encountered, which requires greater power to cut through or penetrate than can be put upon the runners by foot-pressure alone.

When the machine is to be used continuously in the flexible condition—that is, with the foot-lever unlocked from the shaft-casting—the depth-gage L may be set to limit the movement of the foot-lever, and consequently the depth to which the runners may penetrate the soil. The gage, being upon the seat-bow and in front of the seat, is very accessible, and can easily be changed by the driver without his stopping the machine or leaving his seat.

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

1. The combination of the main frame of a corn-planter, a hand-lever mounted thereon, a foot-lever connected to the runner-frame and mounted on the main frame concentrically with but independently of the hand-lever, and a spring-bolt reciprocating in a guideway parallel to the axis of the levers, and provided with a toe-piece for detachably connecting the hand and foot levers, when desired, substantially as hereinbefore set forth.

2. The combination of the main frame of a corn-planter, a shaft-casting pivoted thereon, a hand-lever rigidly fixed to the shaft and provided with a rack and detent for holding it in position, and a foot-lever pivoted on the shaft and connected by a link on the runner-frame with a bolt mounted in a guideway in the shaft-casting, to lock the foot-lever to said casting, when desired, substantially as hereinbefore set forth.

3. The combination of a shaft-casting, D, formed with a bolt chamber or recess, D', a spring-projected bolt lying in the chamber, and a foot-lever pivoted on the shaft and provided with an apertured quadrant or guard lying in the path of the bolt, which quadrant checks the outward movement of the bolt until the aperture is presented to it, substantially as hereinbefore set forth.

4. The shaft-casting D, formed with a bolt-chamber, D', having an inclined end portion or face, a bolt and suitable ejecting-spring within the chamber, and a toe-piece or latch secured to the outer end of said bolt, which, bearing against the inclined face, is adapted by partial rotation to retract the bolt against the thrust of its spring, substantially as hereinbefore set forth.

5. The combination of the main frame of a corn-planter, a foot-lever pivoted thereon and connected to the runner-frame, and an adjustable gage mounted on the seat-standard and

lying in the path of the foot-lever, to limit its movement, and through it the depth to which the runners may penetrate or cut the soil, substantially as hereinbefore set forth.

- 5 6. The combination of the main frame of a corn-planter, a slotted seat support or bow, a foot-lever pivoted on the main frame and having one of its extensions playing in the slot in the seat-bow, and a depth-gage which crosses
10 said slot, and may be clamped at any point

along the bow, to limit the movement of the foot-lever, substantially as and for the purpose hereinbefore set forth.

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

MERRITT E. DOOLITTLE.

Witnesses:

GEORGE S. LONG,
THEO. SULLIVAN.