

No. 754,568.

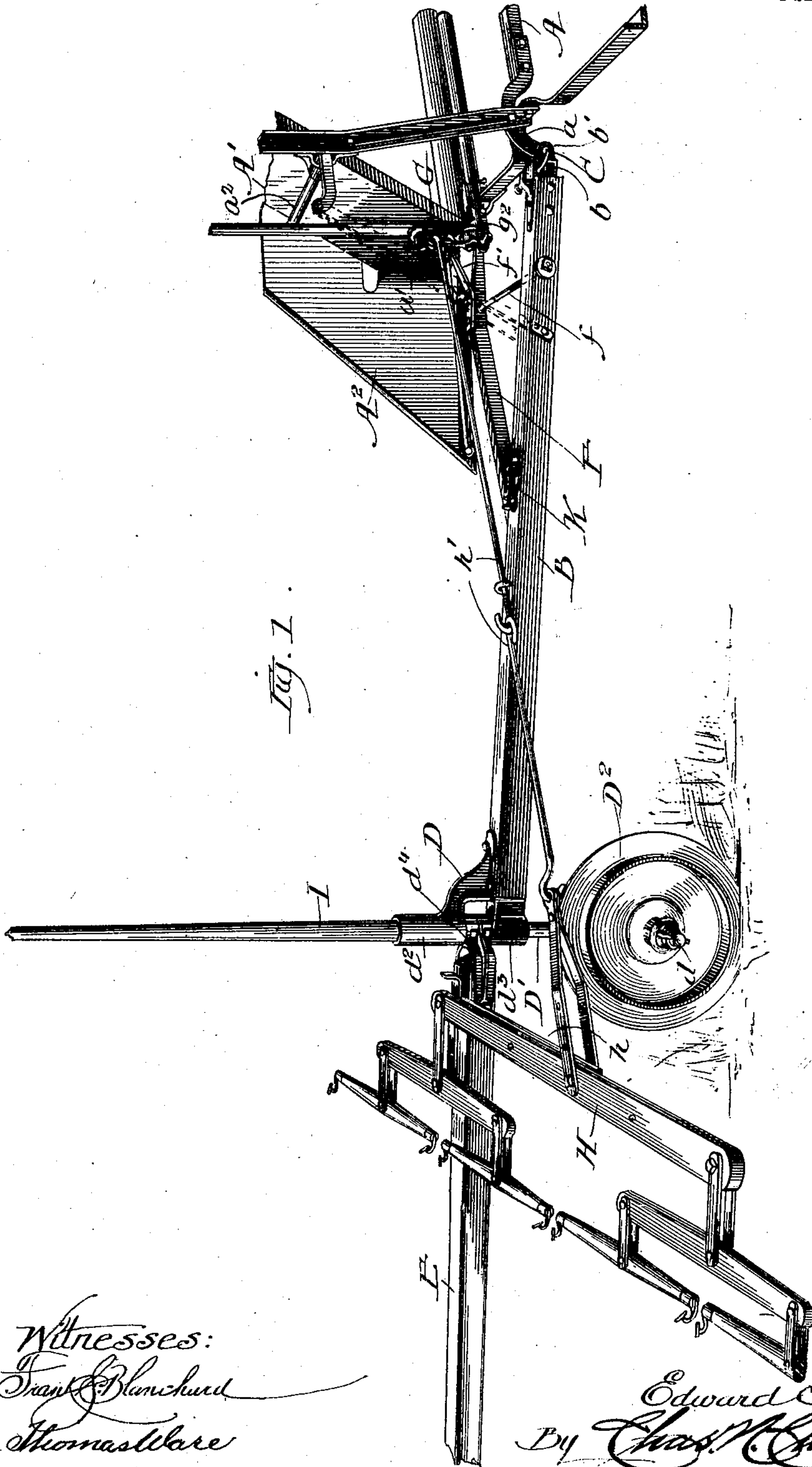
PATENTED MAR. 15, 1904.

E. A. JOHNSTON.  
TONGUE TRUCK FOR HARVESTERS.

APPLICATION FILED SEPT. 14, 1903.

NO MODEL.

4 SHEETS—SHEET 1.



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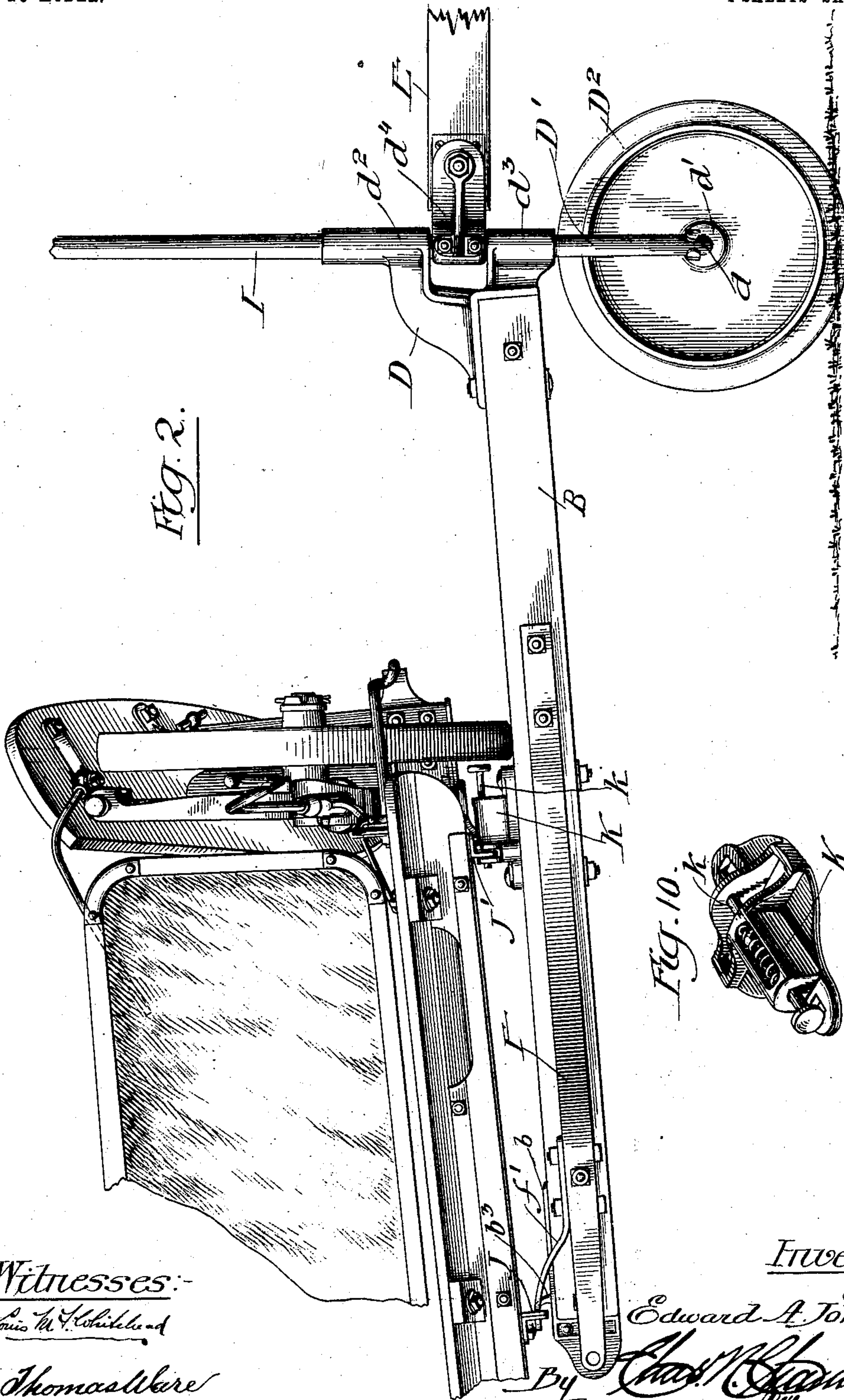
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4 SHEETS—SHEET 2.



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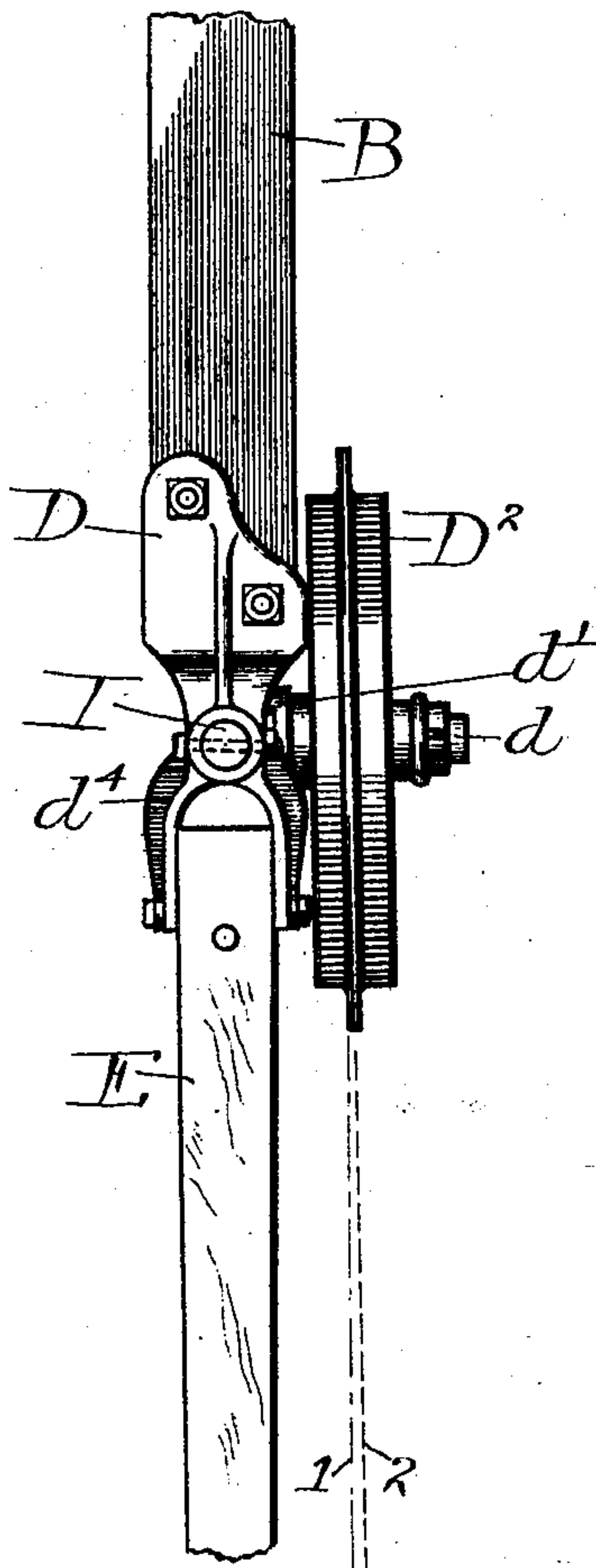


Fig. 4.

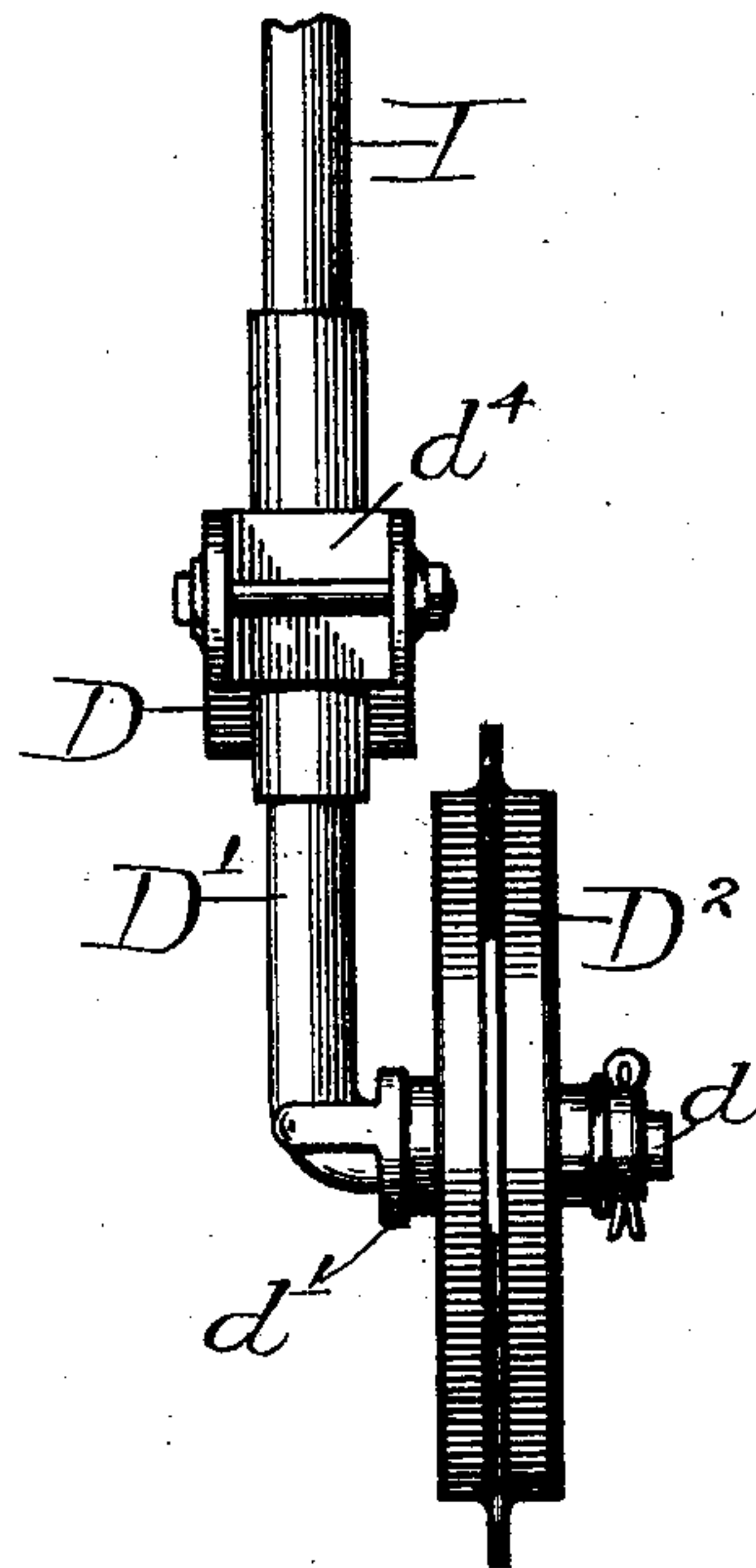


Fig. 3.

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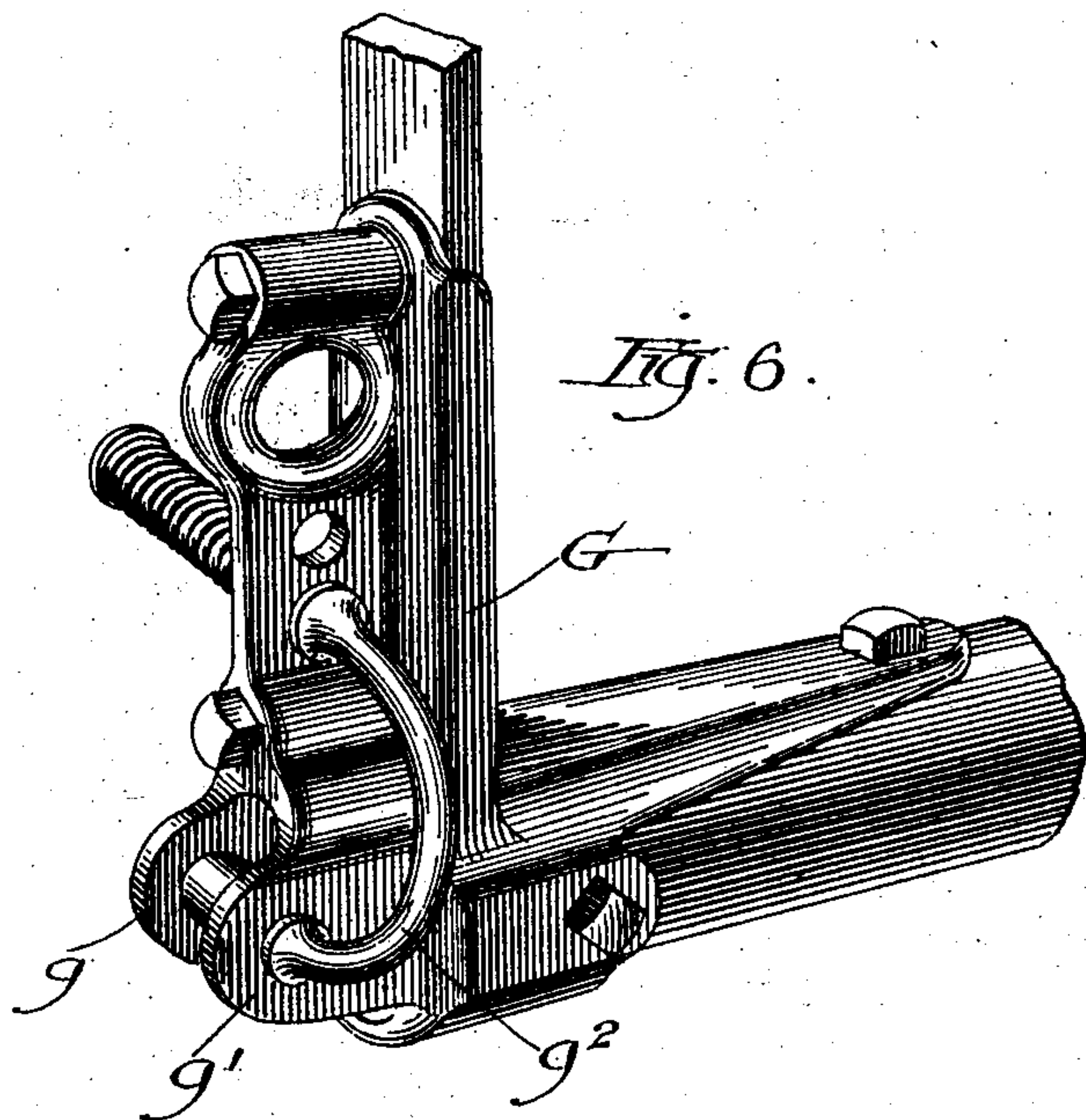


Fig. 6.

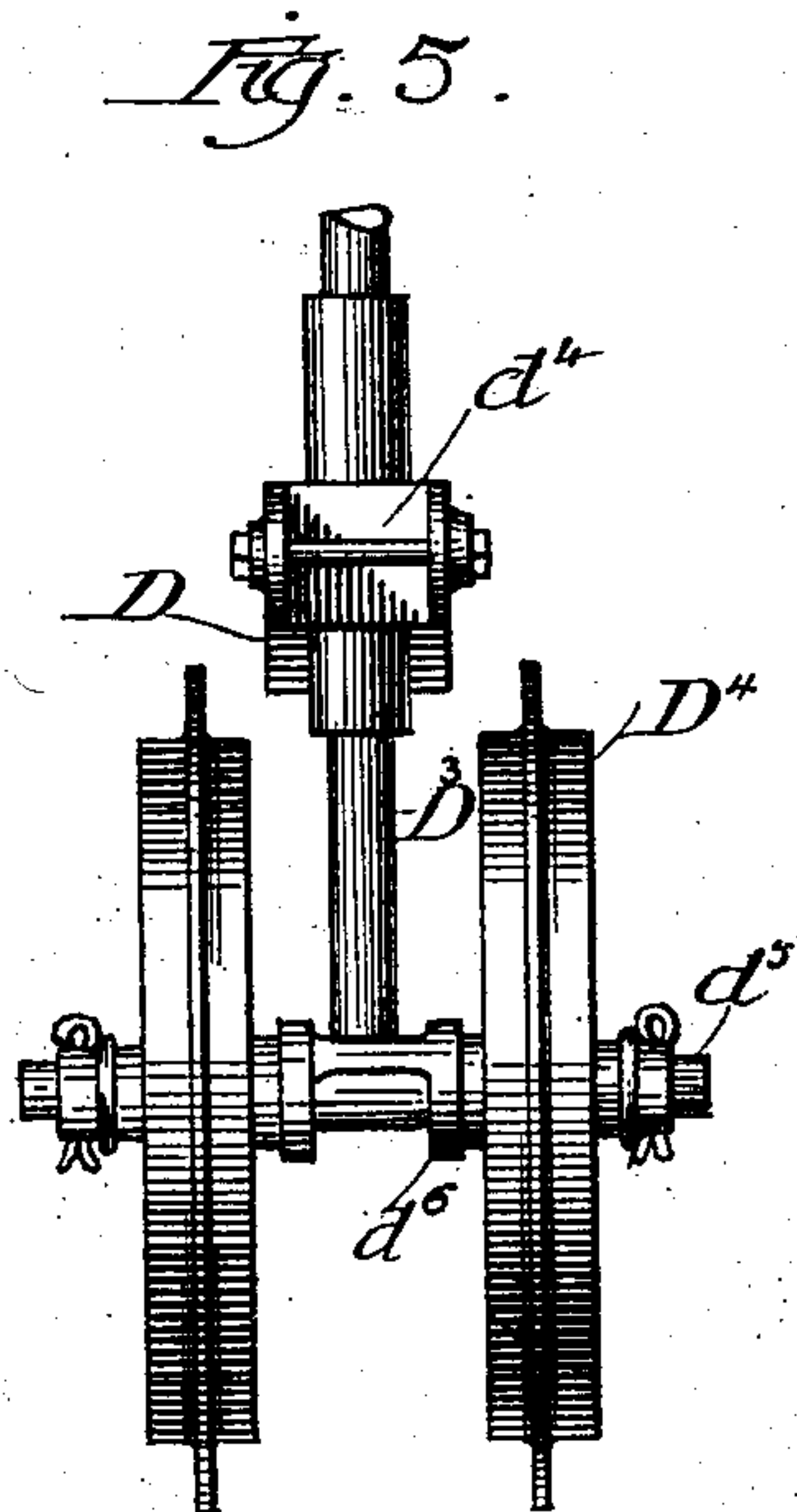


Fig. 5.

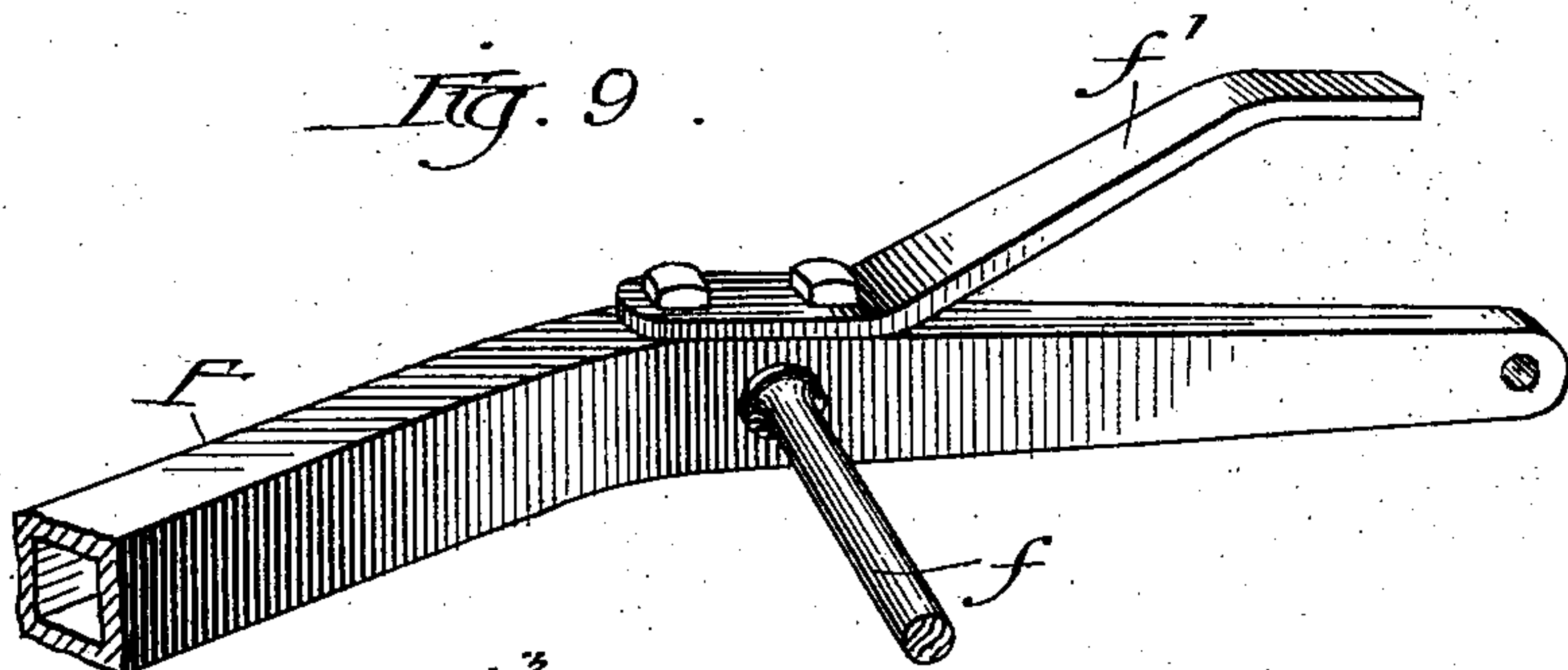


Fig. 9.

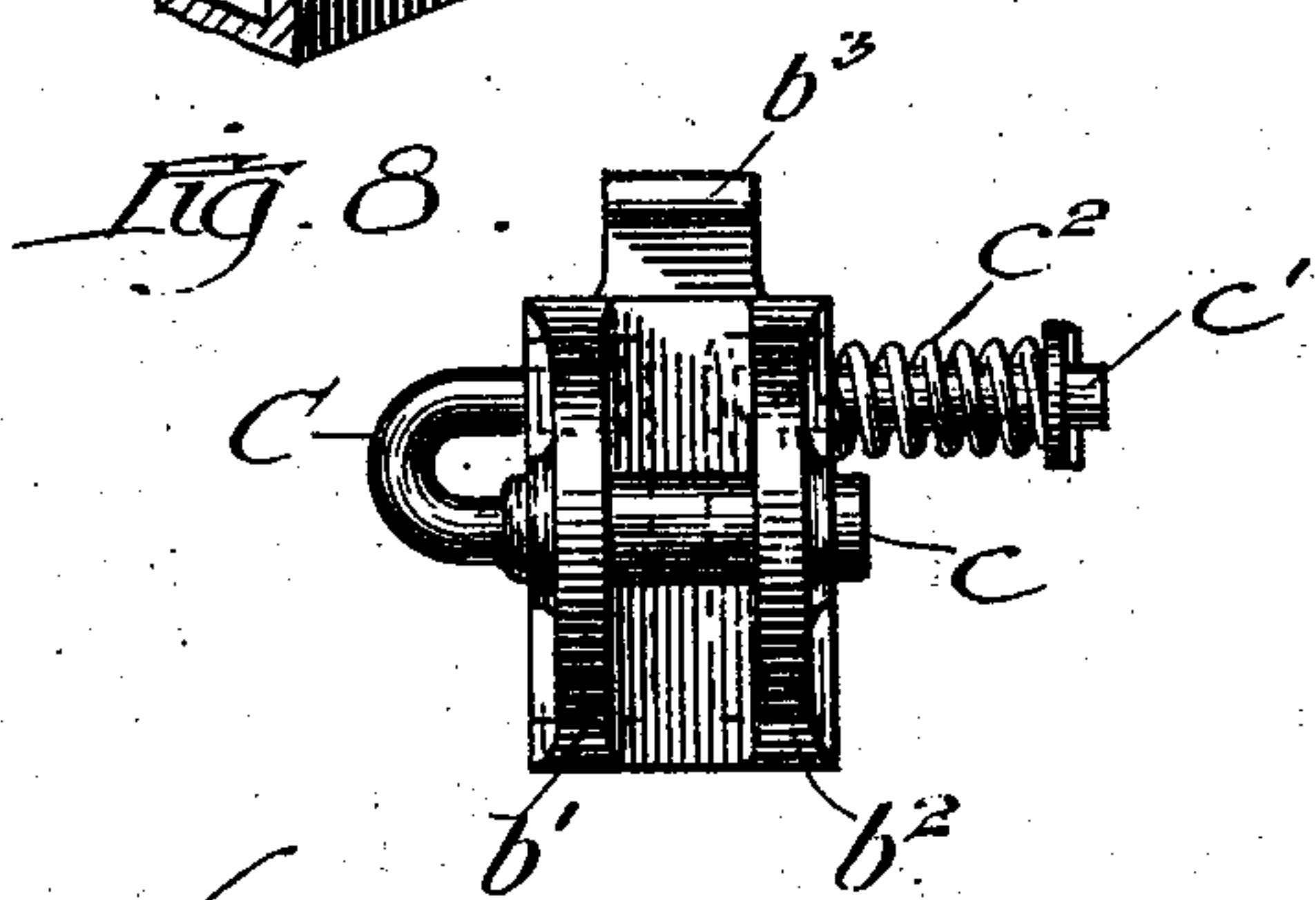


Fig. 8.

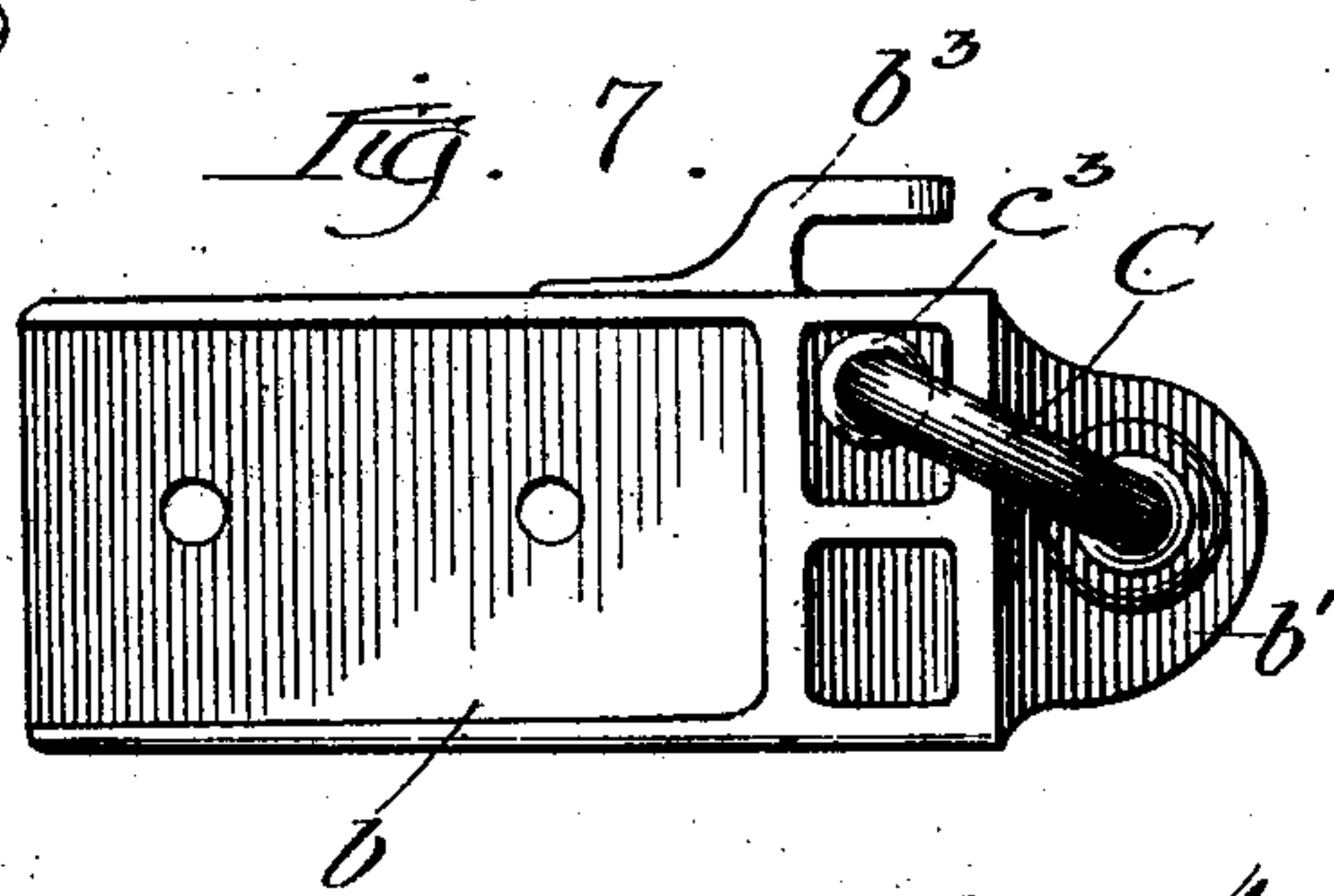


Fig. 7.

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# UNITED STATES PATENT OFFICE.

EDWARD A. JOHNSTON, OF CHICAGO, ILLINOIS, ASSIGNOR TO INTERNATIONAL HARVESTER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

## TONGUE-TRUCK FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 754,568, dated March 15, 1904.

Application filed September 14, 1903. Serial No. 173,101. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD A. JOHNSTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tongue-Trucks for Harvesters, of which the following is a specification sufficiently clear and exact to enable those skilled in the art to which it appertains to make and use the same.

The invention relates in general to harvesters and in particular to tongue-trucks in which the wheels are mounted in a supplemental tongue and guided by the tongue proper connected therewith. It has for its object to provide an efficient, simple, and cheap truck of the class in which the tongue proper is connected to the supplemental tongue through the intermediacy of the steering-post, in which the steering-post is integral with the axle for the wheel, and in which the plane of revolution of the steering-wheel forward of the axle is inclined stubbleward of the line of advance, to provide means whereby the draft devices may be mounted upon the tongue proper and be connected directly with the main frame of the harvester, and to provide means for quickly and easily removing the truck from in front of the machine and securing it to the end of the platform for transportation over roads or elsewhere or returning it to its normal position.

Other improvements in the details of construction will also be pointed out in the following specification.

Referring to the drawings forming a part of this specification, in which like characters of reference designate like parts, Figure 1 is a perspective view of the tongue-truck, showing enough of a harvester to show the manner of attaching it in front of the machine for use in the field. Fig. 2 is a side elevation of the truck, showing it attached to the end of the platform for transportation over the roads. Fig. 3 is a front elevation of the truck-wheel, showing the manner of mounting it in the bracket secured to the end of the supplemental tongue. Fig. 4 is a plan view of the

truck-wheel and the means for mounting the same, showing the deflection of the wheel from the line of advance. Fig. 5 is an elevation of an alternative construction, showing the manner of mounting two truck-wheels instead of one. Fig. 6 is a perspective view of the draft-bracket, which is secured to the main frame and forms a part thereof, which provides means for attaching the brace of the supplemental tongue and also means for connecting the draft-rod of the equalizer when mounted as shown in Fig. 1. Fig. 7 is a side elevation of the tongue-iron, which is provided with means for connecting the supplemental tongue with the main frame when mounted as shown in Fig. 1 and means also for engaging the platform when mounted as shown in Fig. 2. Fig. 8 is an end elevation of the part shown in Fig. 7. Fig. 9 is a perspective view of the end of the supplemental-tongue brace, showing the means for engaging a portion of the platform when mounted as shown in Fig. 2. Fig. 10 is a perspective view of the clip secured to the supplemental tongue, which is provided with a spring-bolt to engage a portion of the platform when the truck is mounted as shown in Fig. 2.

Referring to Fig. 1 of the drawings, A represents a portion of the main frame, A' the front elevator-board, and A<sup>2</sup> the inside divider, of a harvester. Secured to a medial longitudinal member on the main frame is the draft-iron *a*, to which the supplemental tongue B is pivotally connected by means of the tongue-iron *b* and the U-shaped spring-bolt C. The usual link *a'* (shown in dotted lines in Fig. 1) connects the tilting-lever rock-shaft *a*<sup>2</sup> and the supplemental tongue for the purpose of maintaining the harvester in the desired position relative to said tongue. This tongue-iron is provided with two rearwardly-projecting ears or lugs *b'* and *b*<sup>2</sup>, between which the draft-iron *a* is received, and a projection or hook *b*<sup>3</sup>, which will be referred to later. One member of the U-shaped spring-bolt C passes through holes in the ears *b'* and *b*<sup>2</sup> and a corresponding hole in the draft-iron *a*, thereby connecting these members, and is enlarged to



give the necessary strength. The other member,  $c'$ , passes through a hole in the tongue-iron a little to the rear and is provided with a coil-spring  $c^2$ , which reacts between the tongue-iron and the washer secured to the end of the bolt for the purpose of holding it in its normal position. To prevent the spring from drawing the bolt too far into the tongue-iron or from drawing it in diagonally, so as to make the parts bind, which would cause the bolt to be worked out eventually and make it difficult to draw it out when desired, a collar  $c^3$  is secured to the bolt on the opposite side from the spring. This spring is so proportioned that when the bolt is withdrawn to disconnect the tongue-iron from the draft-iron the spring is completely compressed, when the end of the enlarged member  $c$  is withdrawn into the ear  $b'$ , thus preventing the bolt from being completely withdrawn from the hole.

To the opposite end of the supplemental tongue is secured a bracket D, which provides a bearing for the steering-post  $D'$ , which is substantially vertical. This steering-post is deflected at its lower end substantially at a right angle, and thus provides an axle  $d$ , upon which the wheel  $D^2$  is journaled and held in proper position thereon by suitable means. A collar  $d'$  is placed on the axle adjacent to the post and prevents the wheel from wearing the latter, which would weaken it. This collar is preferably made replaceable. When mounted, the wheel is placed on the stubble side of the post, so that the natural tendency of the wheel to run stubbleward overcomes a portion of the side draft. To the steering-post  $D'$ , between the two members  $d^2$  and  $d^3$  of the bracket D, is secured a steering-iron  $d^4$ , to which the tongue proper, E, is pivotally connected, so as to move in a vertical plane only relative to the truck-wheel. This steering-iron is secured to the steering-post in such a manner that the plane of revolution of the wheel forward of the axle is inclined a little stubbleward of the line of advance (shown by the dotted lines 1 and 2 in Fig. 4) to increase the tendency of the wheel to run in that direction for the purpose above stated. In the alternative construction (shown in Fig. 5) the steering-post  $D^3$  is provided with two axles  $d^5$ , oppositely disposed substantially at right angles thereto, upon which the wheels  $D^4$  are journaled and held in proper position by any suitable means. The collars  $d^6$ , preferably replaceable, serve the same purpose as the collar  $d'$  serves, as given above.

Secured to the supplemental tongue on the side adjacent to the cutting apparatus of the harvester is a brace F, which extends outward therefrom a suitable distance and is secured thereto near its end by a tie-bolt  $f$ . This brace is made unusually strong and rigid in order to permit the use of a single truck-wheel. It is evident, however, that a second wheel might be provided if found necessary

without departing from the spirit of the invention. To do so would only be necessary to provide an axle on the opposite side of the post, as shown in the alternative construction above described. Secured to the brace F is the projection or finger  $f'$ , to which reference will be made later.

The draft-bracket G, secured to and forming a part of the main frame, is provided with the ears  $g$  and  $g'$ , between which the brace F is received and by which it is connected thereto by means of the U-shaped spring-bolt  $g^2$ . This spring-bolt is made precisely like the spring-bolt C and operates in the same manner and performs the same functions.

Mounted upon the tongue proper and pivotally connected thereto at one end is the bar  $h$ . The draft-equalizer H is pivoted to this bar at its center of draft and is connected at the same point with the draft-bracket G by means of a draft-rod  $h'$ , formed of a series of links. By this means the draft of the team is transmitted directly to the main frame along a diagonal line the lateral resultant of which is overcome by the truck-wheel which engages the ground.

Since the machine is not turned immediately when the horses are turned, there is danger of the reins being caught and entangled with the reel when the team is turned toward the cutting apparatus. To prevent this, a post or standard I is mounted upon the supplemental tongue, preferably in a socket formed in the bracket D, which holds the reins in their proper alinement.

When now it is desired to remove the tongue-truck from the front of the machine for the purpose of connecting it with the outer end of the platform or any other purpose, it is only necessary to pull the spring-bolts C and  $g^2$ , so that the shorter enlarged ends are disengaged from the draft-iron  $a$  and the brace F, respectively, and to unhook the links of the draft-rod  $h'$  from each other and from their connection with the draft-bracket G. To connect the truck to the outer end of the platform for transportation, it is only necessary to insert the fingers  $b^3$  and  $f'$ , secured, respectively, to the tongue-iron  $b$  and the brace F, into the holes provided in the usual angle-iron J, secured to the bottom of the platform, which for this purpose may be made slightly heavier than it would otherwise be. The clip K is secured to the supplemental tongue to maintain the truck in its proper position and is provided with a recess or opening into which the outer platform-sill  $J'$  is received. It is also provided with a spring-bolt  $k$ , which is adapted to engage the outer sill in a similar manner in which the spring-bolts C and  $g^2$  engage the draft-iron  $a$  and the brace F, respectively. In this manner the truck is readily and quickly detached from the front of the machine and attached to the outer end of the platform, or vice versa, when desired.



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

1. In a tongue-truck for harvesters and like machines, the combination of a supplemental tongue, a supporting-wheel pivotally mounted therein, a tongue proper connected with said wheel for controlling it, and a draft-equalizer mounted upon said tongue proper and connected at its center of draft with the machine by means other than the supplemental tongue.

2. In a tongue-truck for harvesters and like machines, the combination of a supplemental tongue, a supporting and steering wheel or wheels pivotally mounted therein, and a tongue proper connected with said wheel or wheels so that the plane of revolution of the latter forward of the axle thereof is inclined stubbleward from the line of advance.

3. In a tongue-truck for harvesters and like machines, the combination of a supplemental tongue pivotally connected with the machine, means for maintaining said tongue and machine in the desired relative position, a steering-post pivoted in said tongue, an axle integral with said post which extends stubbleward therefrom, a supporting and steering wheel journaled on said axle, and a tongue proper secured to said steering-post.

4. In a tongue-truck for harvesters and like machines, the combination of a supplemental tongue pivotally connected with the machine, means for maintaining said tongue and machine in the desired relative position, a brace rigidly secured to said tongue also pivotally connected with the machine, a steering-post

pivoted in said tongue, an axle integral with said post which extends stubbleward therefrom, a supporting and steering wheel journaled on said axle, a tongue proper secured to said steering-post so that the plane of revolution of said wheel forward of the axle thereof is inclined stubbleward from the line of advance, and a draft-equalizer mounted upon said tongue proper and connected at its center of draft with the machine by means of a draft-rod.

5. In a harvester, the combination of a grain-receiving platform, a tongue-truck formed of a supplemental tongue, a supporting and steering wheel pivoted therein, and a tongue proper connected with said wheel for controlling it, and means for connecting said tongue-truck with the outer end of said platform and longitudinal therewith.

6. In a harvester, the combination with a grain-receiving platform having the bar J and the bar J', of a tongue-truck formed of a supplemental tongue having a rigid brace, both of which are provided with means for engaging the bar J, and the former with means for engaging the bar J', a supporting and steering wheel pivotally mounted in said tongue, and a tongue proper connected with said wheel for controlling it.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD A. JOHNSTON.

Witnesses:

P. W. HAZELTON,  
JAMES J. BERKA.