

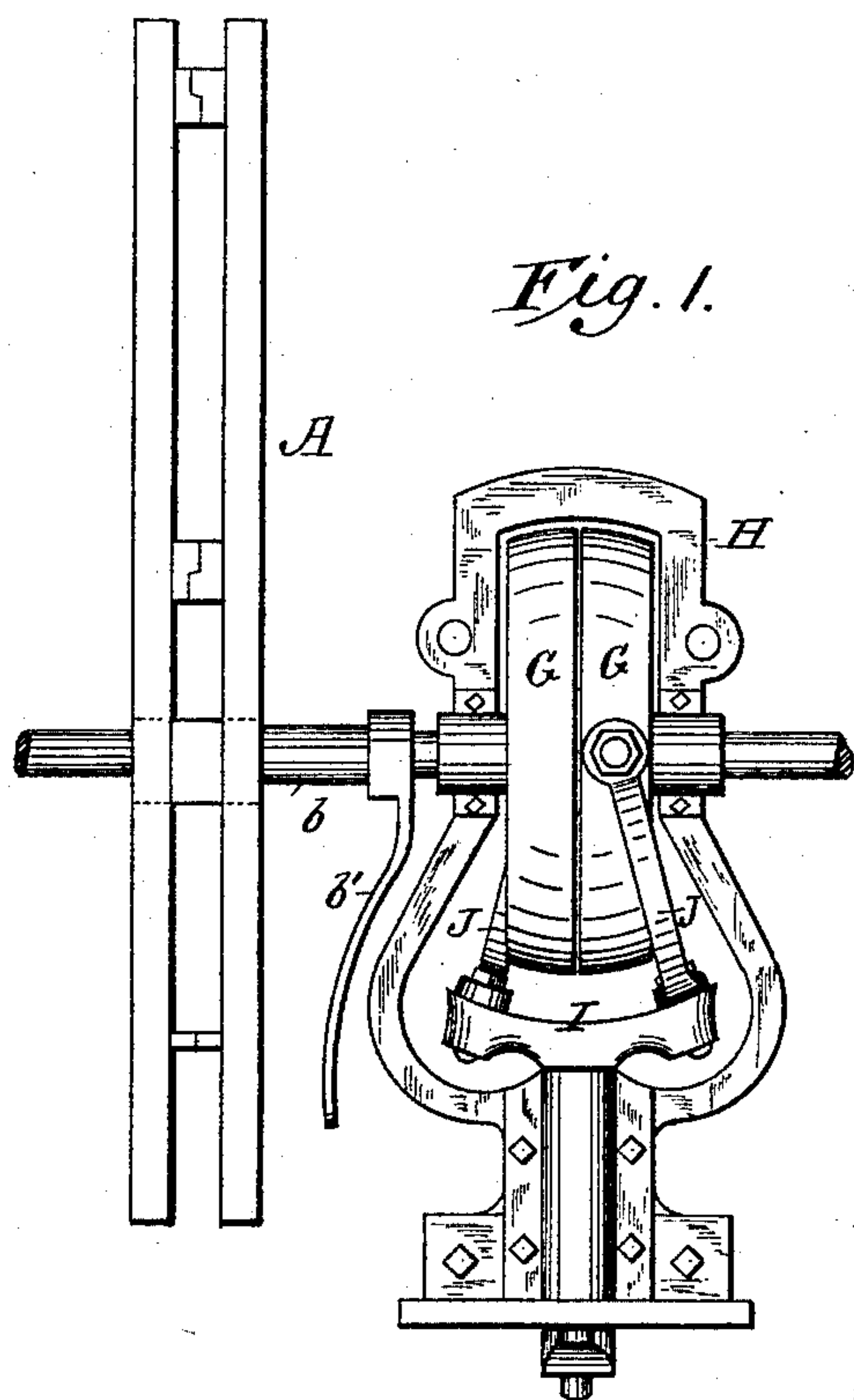
(Model.)

2 Sheets—Sheet 1.

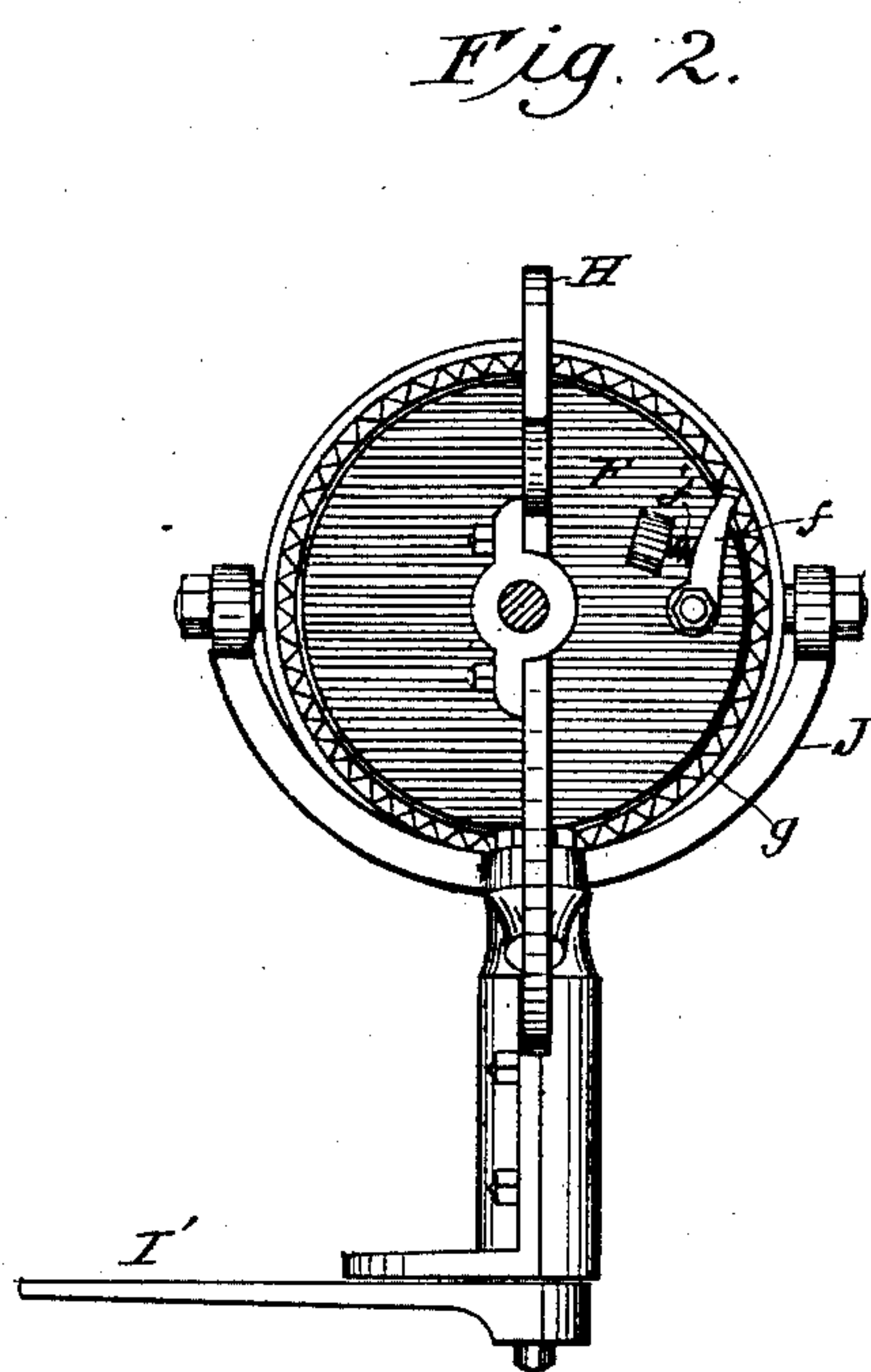
G. M. PELTON.  
SAW MILL HEAD BLOCK.

No. 327,103.

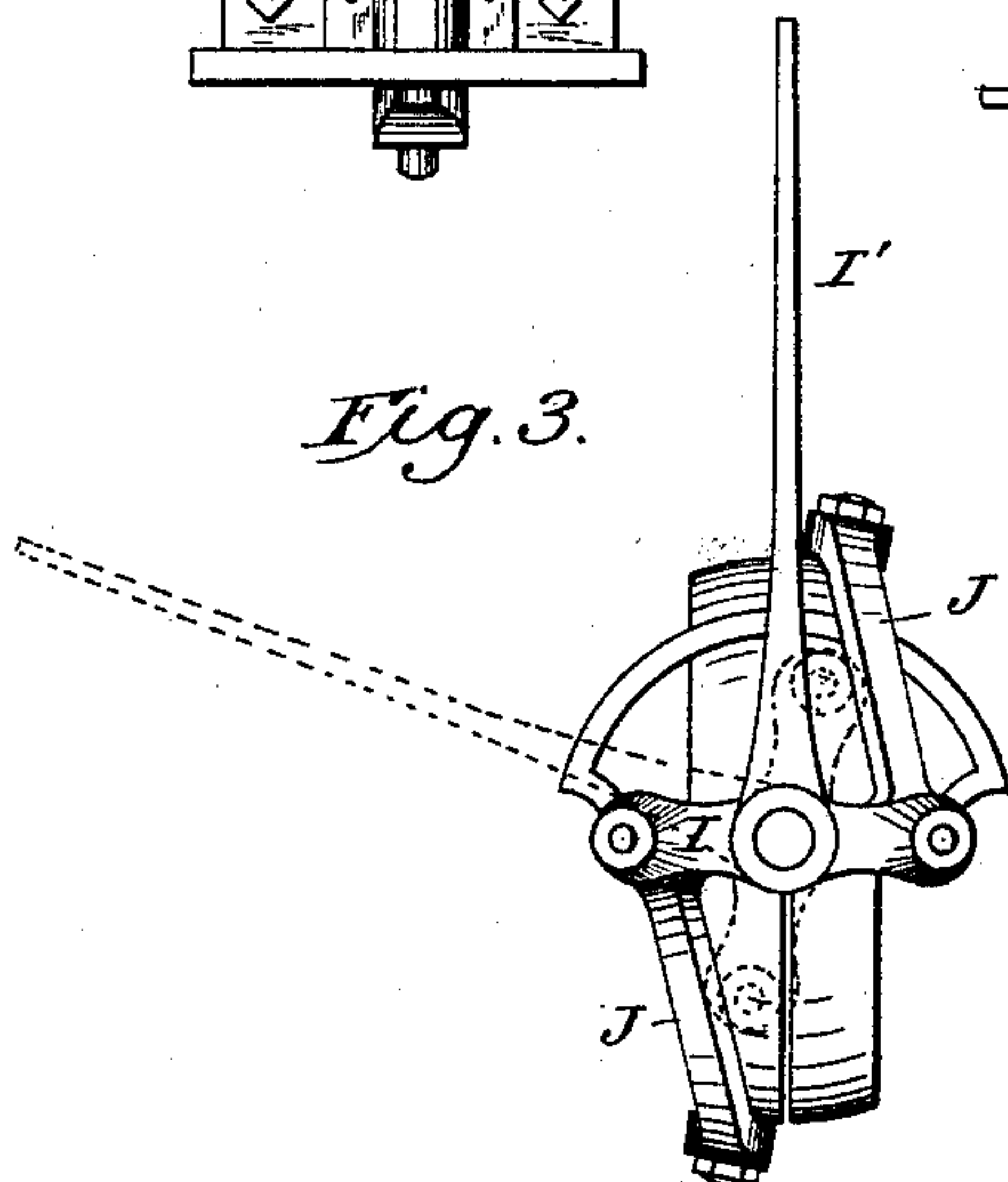
Patented Sept. 29, 1885.



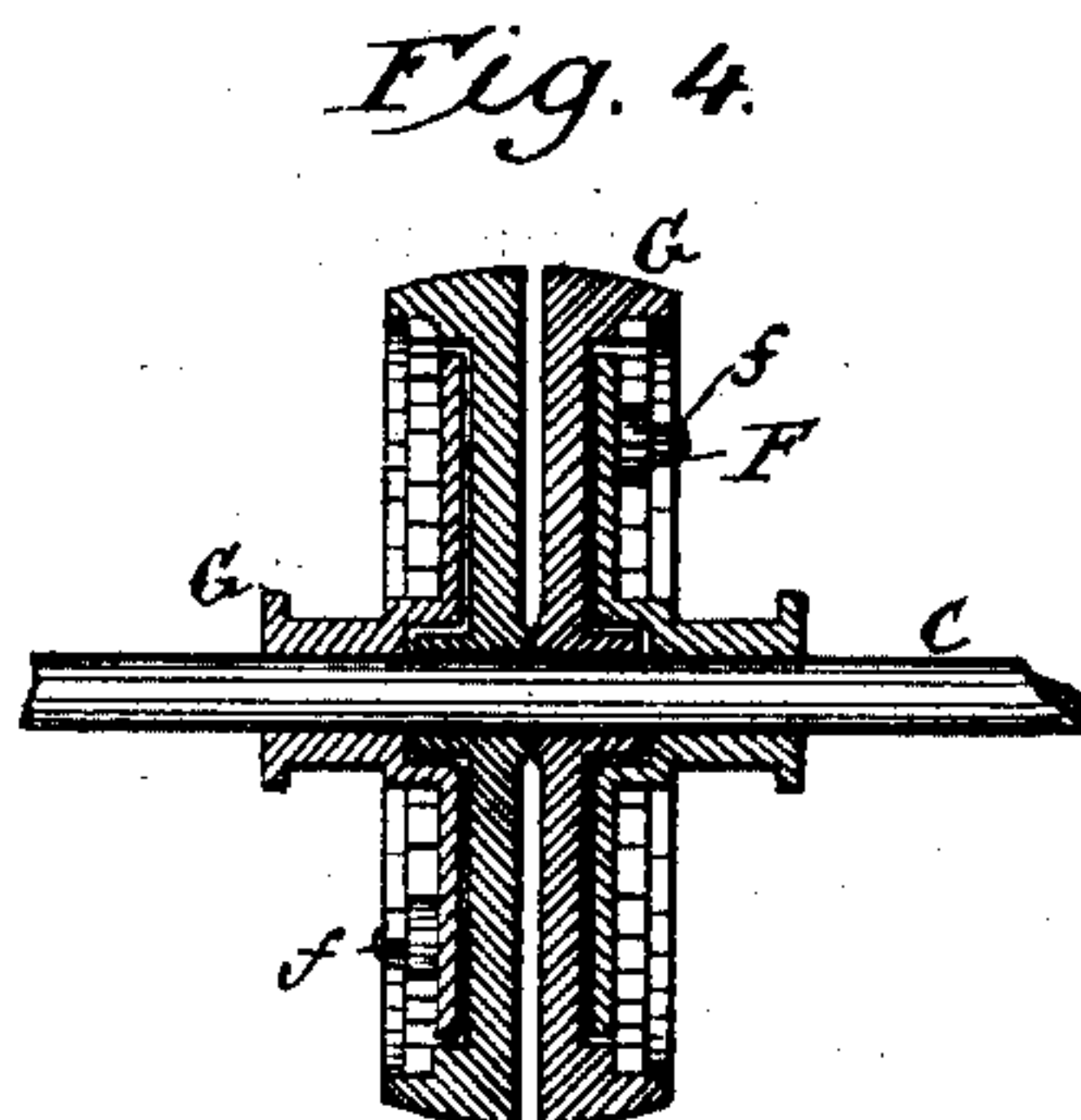
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

*Attest.*  
*W. W. Hollingsworth*  
*W. P. Robertson*

*Inventor.*  
*George M. Pelton*  
*by T. W. Robertson*  
*Attorney*

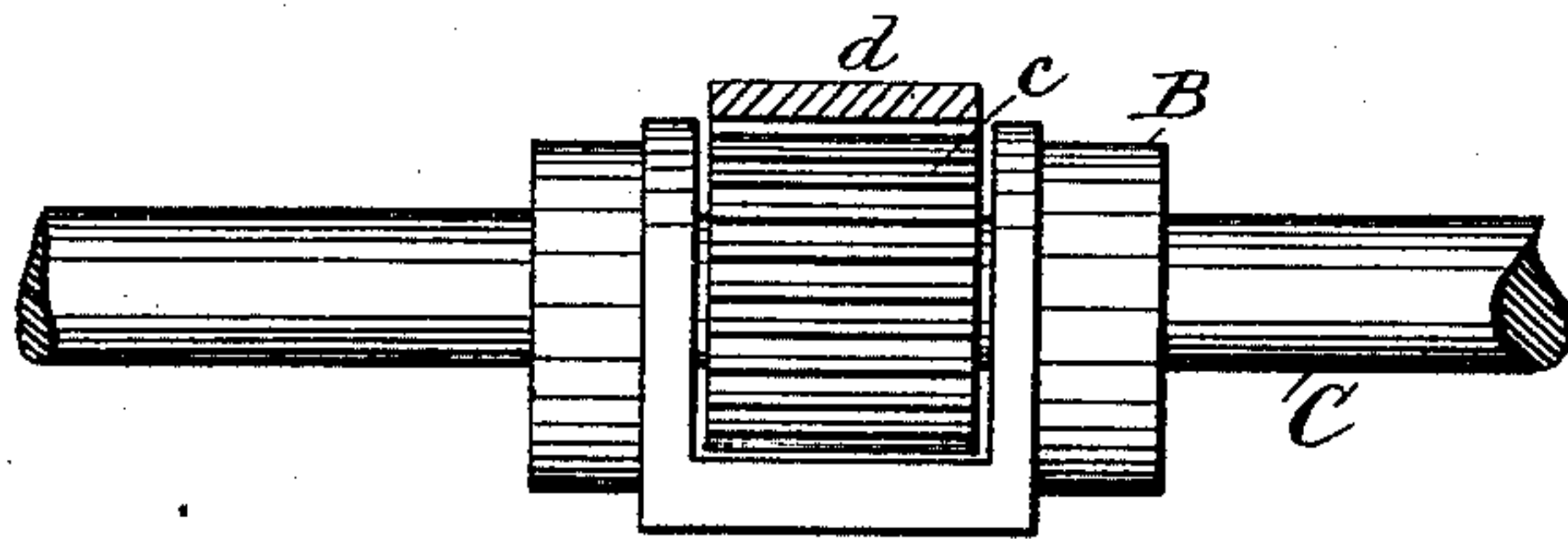
(Model.)

2 Sheets—Sheet 2.

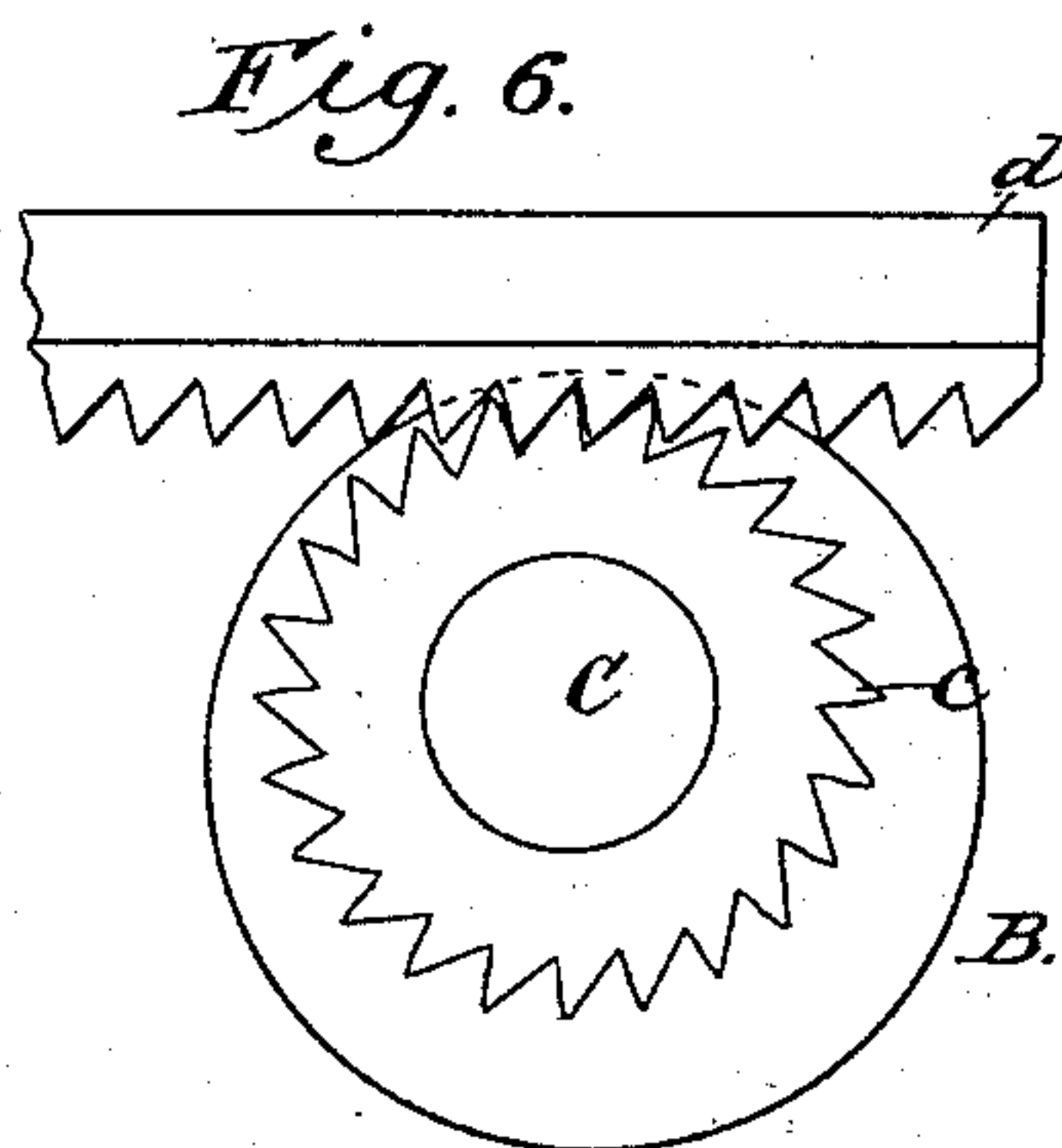
G. M. PELTON.  
SAW MILL HEAD BLOCK.

No. 327,103.

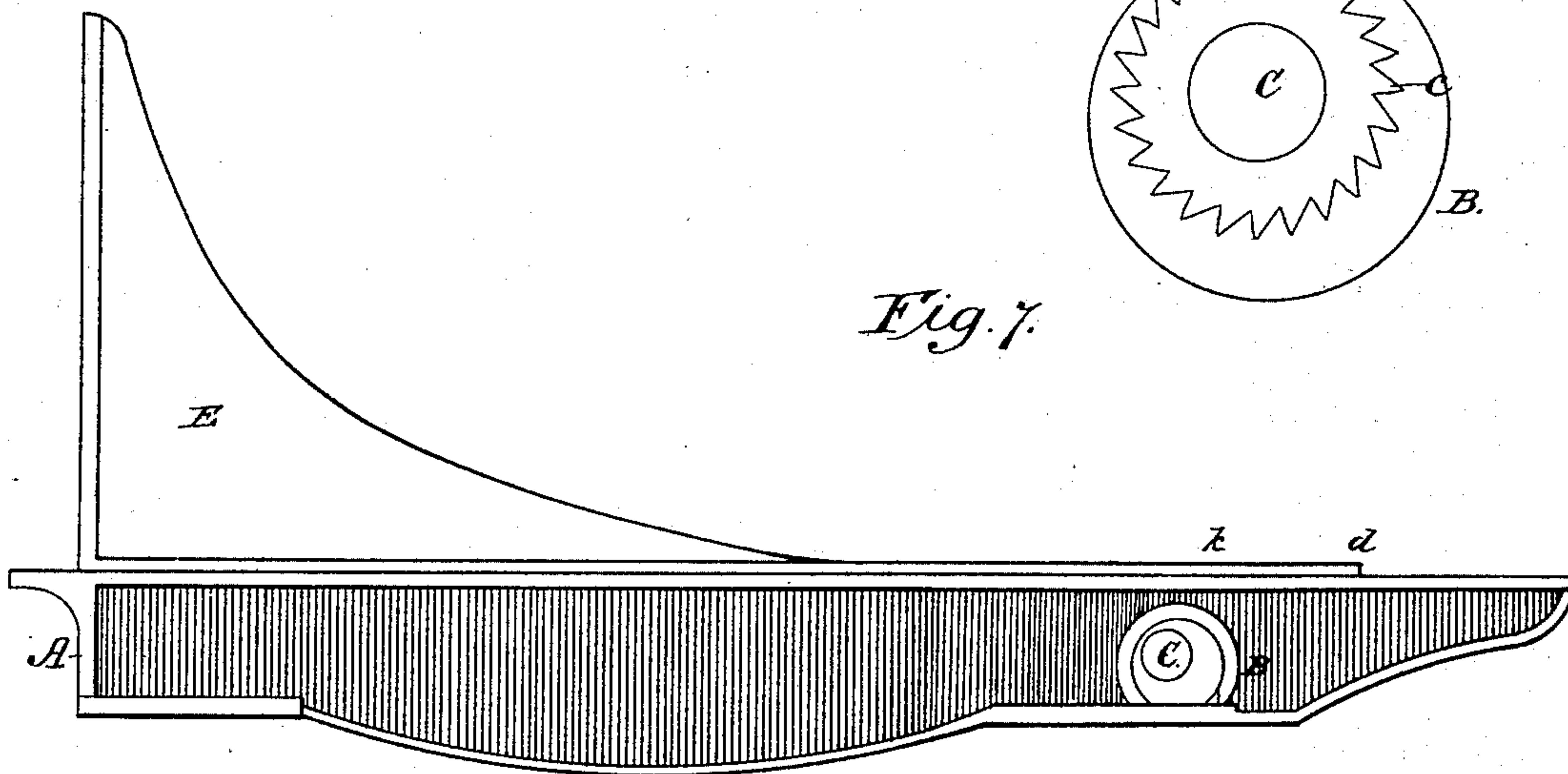
Patented Sept. 29, 1885.



*Fig. 5.*



*Fig. 6.*



*Fig. 7.*

*Attest.*  
*W. W. Hollingsworth*  
*W. P. Robertson*

*Inventor.*  
*George M Pelton*  
*by T. J. W. Robertson*  
*Attorney.*



# UNITED STATES PATENT OFFICE.

GEORGE M. PELTON, OF BELMONT, NEW YORK.

## SAW-MILL HEAD-BLOCK.

SPECIFICATION forming part of Letters Patent No. 327,103, dated September 29, 1885.

Application filed May 21, 1883. Renewed September 2, 1885. (Model.)

*To all whom it may concern:*

Be it known that I, GEORGE M. PELTON, a citizen of the United States of America, residing at Belmont, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Head-Blocks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to head-blocks for saw-mills; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

15 In the accompanying drawings, which form a part of this specification, Figure 1 is a top plan view of the main or setting shaft, the duplex ratchets, and the operating-levers, the shaft being journaled in a sleeve eccentrically hung. Fig. 2 is a transverse section, 20 showing one of the pawl-disks in engagement with one of the ratchet-disks. Fig. 3 is a detail view, with some of the plates removed, to show the relative positions of the actuating levers and links. Fig. 4 is a central vertical section of the pawl-disks and ratchet-disks with the setting-shaft in elevation. Fig. 5 is a detail view, showing the setting-shaft 25 with its rigid pinion hung eccentrically in its sleeved bearing. Fig. 6 is a detail taken at right angles to the last-named figure, showing the shaft-pinion in engagement with the rack of knee-carriage. Fig. 7 is a side elevation of one of the knees and its bearings, 30 showing the means for adjusting the backward throw of the same.

Referring to the drawings, in which similar letters of reference indicate like parts in all the figures, A represents the frame upon 40 which the knee traverses and in which is loosely journaled the eccentric box B, carrying a handle-lever, *b'*, as shown. Within this eccentric are formed the bearings of the setting-shaft C, which shaft carries a pinion, *c*, adapted to mesh with a rack-bar, *d*, upon the knee E, thus giving said knee its forward movement when the eccentric journal-box B is in the position shown in Fig. 6. By reversing the position of the eccentric the pinion *c* may be thrown out of engagement with 50 its rack *d* at will.

Rigid with the shaft C are arranged two pawl carriers or disks, F, each having pivoted upon its outer face a pawl, *f*, said pawl being held into engagement with the teeth by 55 the constant force of springs *f'*, as shown.

H represents a frame, in which the shaft C is journaled, and between the sides of which the pawl-carriers and ratchet-disks just described are located. In this frame is journaled the shaft of a yoke, I, from each end of 60 which a link or pitman, J, connects with its appropriate ratchet-disk, one of such links being loosely connected with one of the ratchet-disks above, and the other link being 65 similarly connected with the other ratchet-disk below. This yoke I and its connections are operated or oscillated in its bearings by means of a lever, I', as shown in Fig. 3, which is moved backward and forward in a direction 70 lengthwise of the set shaft.

The links J J may both be connected to the ratchet-wheels G, above the frame H; but it is preferable to place one above and the other below the frame, for the reason that by this 75 arrangement the angles that these links make to the line joining their points of connection with the yoke will be exactly equal in any position of the yoke, and hence in any movement of the lever the forward movement of 80 the point of attachment of one link to its corresponding ratchet-wheel will be exactly equal to the backward movement of the corresponding point of the other link, and hence while one ratchet-wheel is being moved forward, 85 and by means of its engaging-pawl rotating the set-shaft and carrying the knee toward the saw, the other ratchet-wheel will be moved backward an equal distance, and the number of teeth traversed by its engaging-pawl will be noted by sharp clicking 90 sounds, and these clicks will thus indicate accurately the distance the knee is set forward, whereas if both links are placed above the frame while the angle which one makes with 95 the line joining their points of attachment to the yoke is increasing the angle made by the other will diminish, and hence the movements transmitted by the links simultaneously to their corresponding ratchet-wheels will be unequal, and therefore while one wheel is being 100 moved forward a given distance the other will



not be moved backward an equal distance, and hence the number of clicks made by the receding wheel with its engaging-pawl will not correctly indicate the distance traversed by the advancing wheel or the distance the knee is moved toward the saw.

In all other ratchet and pawl setting devices with which I am acquainted in which the knee is moved toward the saw, by both the backward and forward movement of the setting-lever, the distance traversed simultaneously by the advancing and receding ratchet-wheels or their equivalents are unequal, and hence a single click or any definite movement of the receding wheel will not indicate a certain definite advancement of the knee.

In all other devices using the crank movement for rotating the ratchet-wheels, while a given movement of the lever in one direction will set the knee forward a given distance, the reverse movement of the lever through the same space will not set the knee forward the same distance.

It should be understood that no setting mechanism is perfect in which a given movement of the setting-lever in one direction will not set the knee forward exactly the same distance as the reverse movement of the lever through the same space, and hence I attach especial importance to this part of my improvement by which this desirable point is attained.

What I claim as new is—

1. In a saw-mill, the combination of the head-block and knee with the setting-shaft thereof, an oscillating yoke having its axis at right angles with said shaft, a pair of oscillating disks suitably connected with said yoke, and intermediate connections, substantially as described, between said oscillating disks and setting-shaft, as set forth.

2. In a saw-mill, the combination of the head-block with a knee having a rack-bar, a setting-shaft hung in movable eccentric boxes and carrying a pinion adapted to engage said rack-bar, and means for throwing said rack and pinion in or out of operation at will, substantially as set forth, for the purposes specified.

3. In a saw-mill head-block in which the knees are set toward the saw by gear-connections with a setting-shaft, the combination of

said shaft, knees, and connections with duplex ratchet-disks G, the pawl-carriers F, spring-pawls *f*, mounted thereon, and yoke I, having its axis at right-angles to the setting-shaft for driving the connections for forcing the said disks G in opposite directions simultaneously, as and for the purpose set forth.

4. In a saw-mill head-block, and in combination with the setting-shaft having rigid pawl-carriers F mounted thereon and carrying spring-pawls *f*, acted on by the ratchet-disks G, the yoke I, oscillating on a central pivot, the links J, pivoted to the yoke at opposite sides of said central pivot, and to the upper part of one disk and the lower part of the other, and means, substantially as described, for oscillating said yoke upon its pivot, as set forth.

5. In a saw-mill head-block, the combination of the setting-shaft having pawl-carriers F mounted thereon and rigid therewith, the pawls *f*, pivoted on the carriers, springs *f'*, acting on the pawls, ratchet-disks G, acting on the pawls, the oscillating yoke I, mounted on a shaft set at right angles to the setting-shaft and connected to the links J, and lever I', connected to said shaft, as and for the purpose specified.

6. In a head-block, and in combination with the knee-carriages, having rack-bars *d*, the setting-shaft C, having a pinion, *c*, mounted thereon and journaled in a movable eccentric, B, turning in the frame A, and the lever *b'*, connected with the eccentrics, as and for the purpose set forth.

7. The combination, with a knee-carriage having rack *d*, the shaft C, having pinion *c* mounted thereon, the eccentric journal-box B, mounted in frame A, and lever *b'*, connected with the eccentric, the pawl-carriers F, mounted on the shaft C, pawls *f*, pivoted on said carriers, springs *f'*, acting on the pawls, the ratchet-disks G, also acting on the pawls, yoke I, links J, connected thereto, and lever I', connected with the yoke, as set forth.

In testimony whereof I affix my signature in presence of two witnesses, this 3d day of April, 1883.

GEORGE M. PELTON.

Witnesses:

J. H. BRANSON,  
CHARLES GORTON.