

(No Model.)

2 Sheets—Sheet 1.

E. J. REMILLON.

APPARATUS FOR OPERATING SWITCHES.

No. 344,201.

Patented June 22, 1886.

Fig. 1.

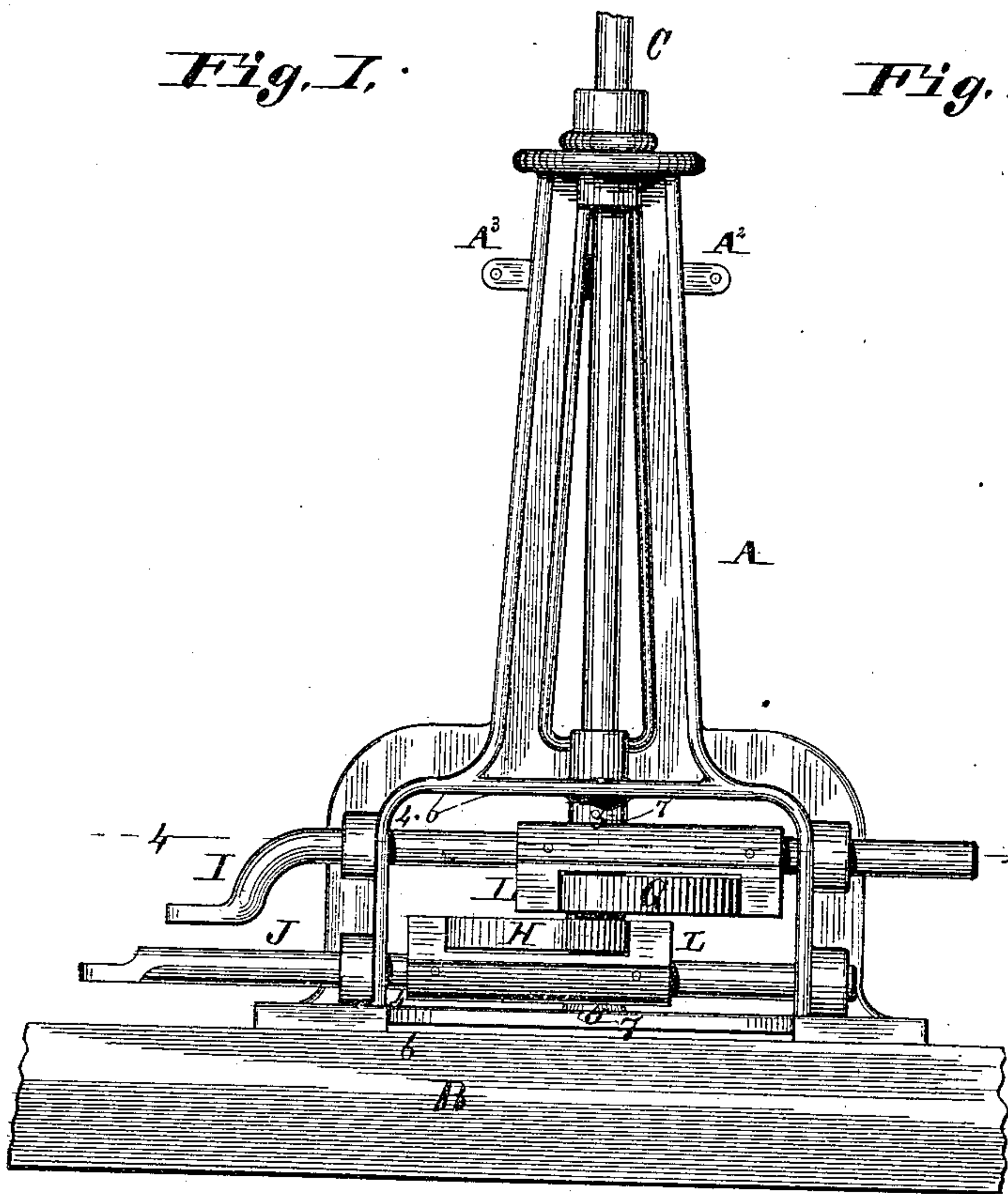


Fig. 2.

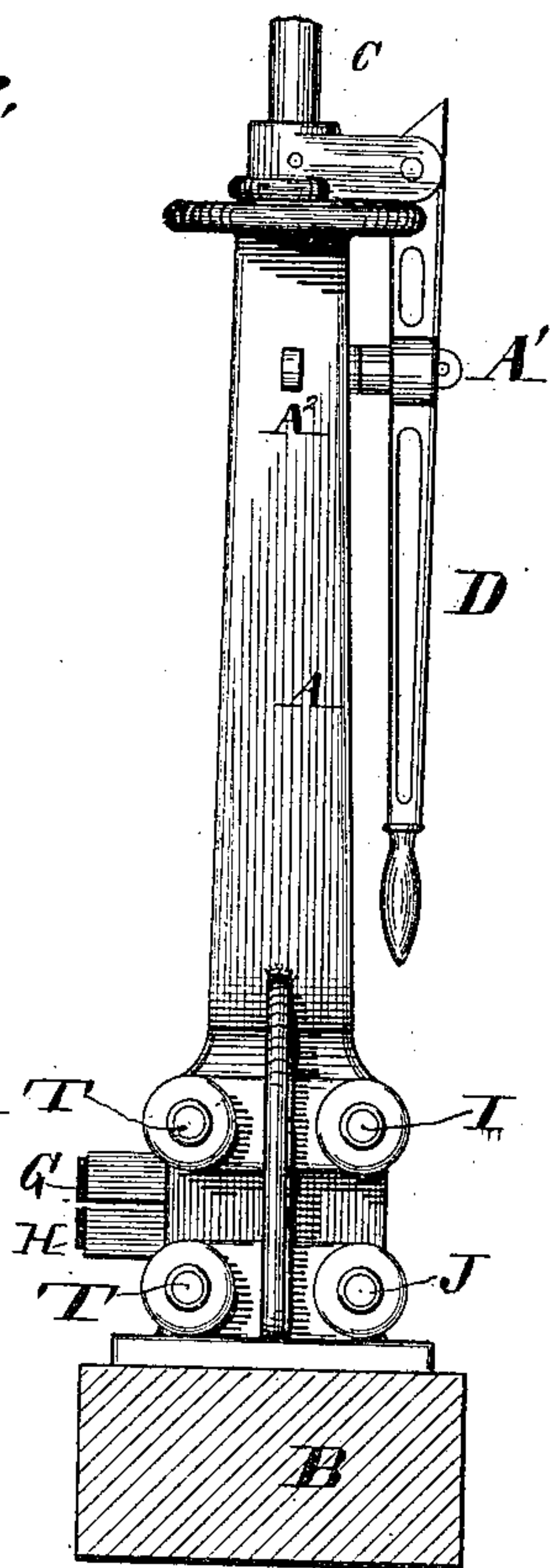


Fig. 3.

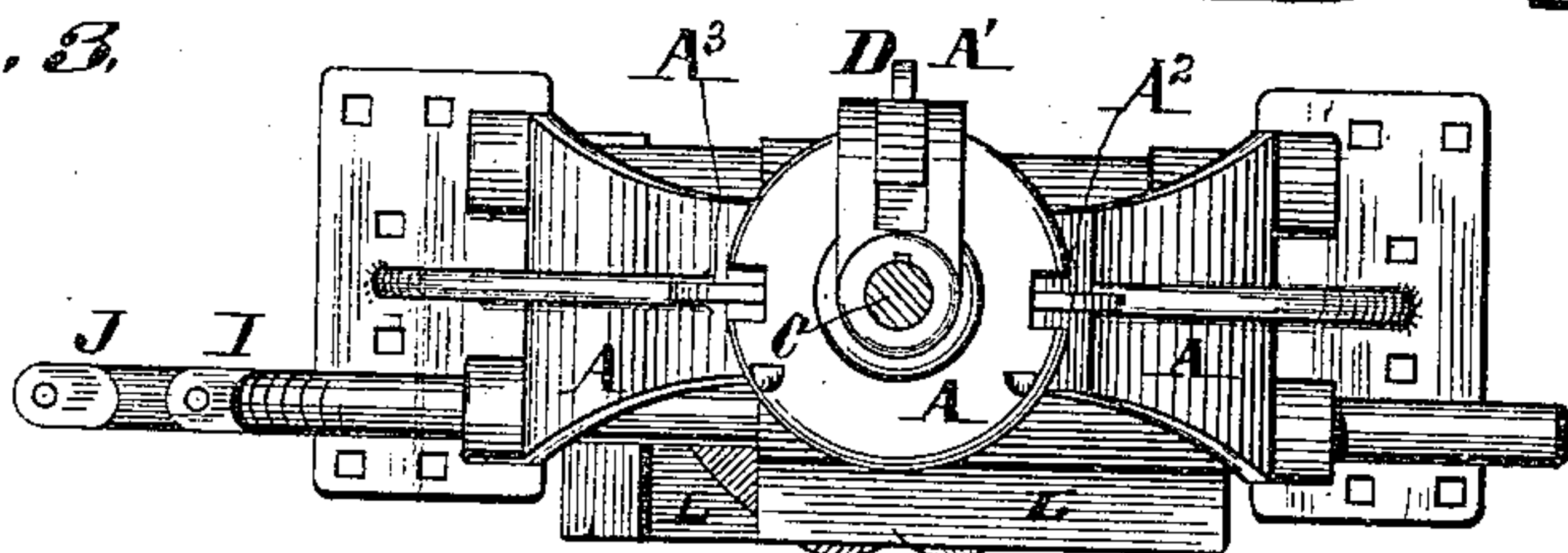


Fig. 6.

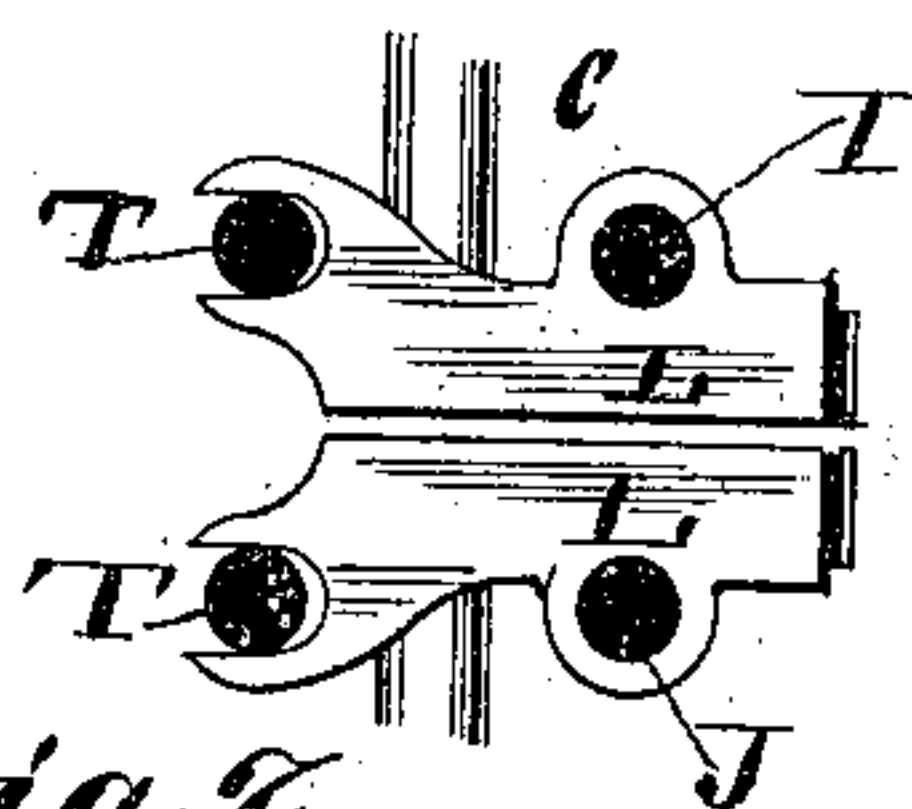


Fig. 4.

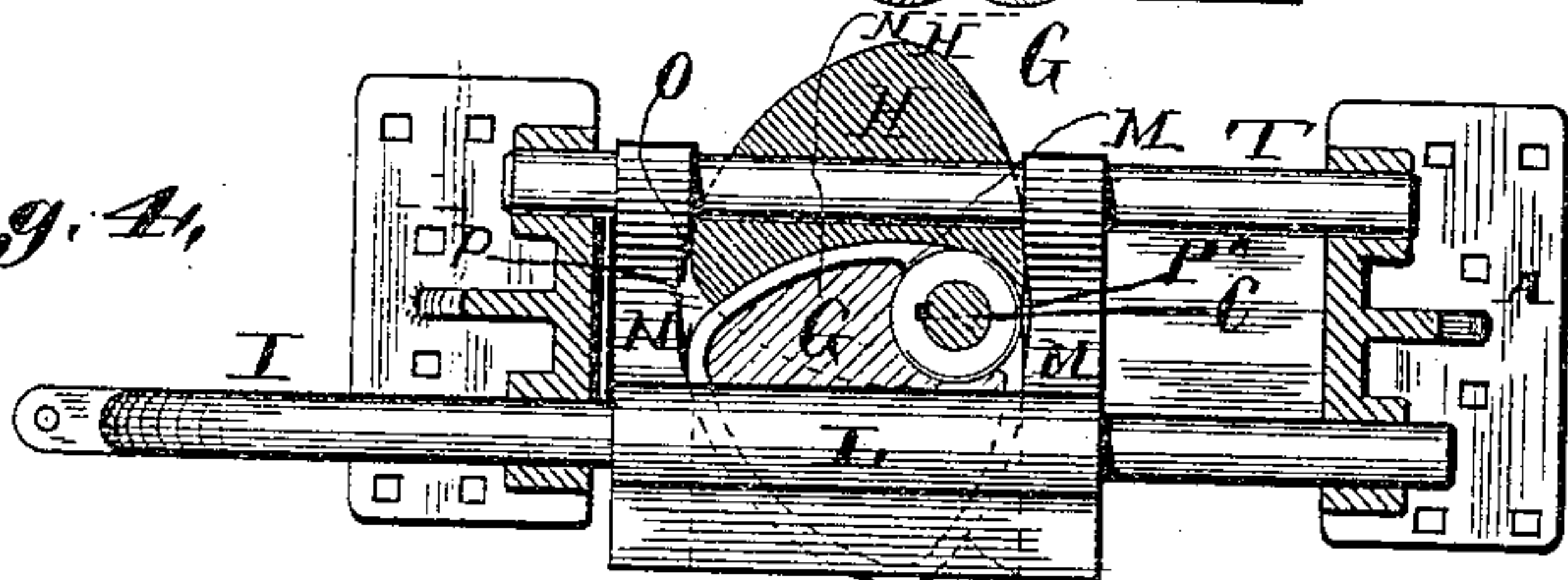


Fig. 5.

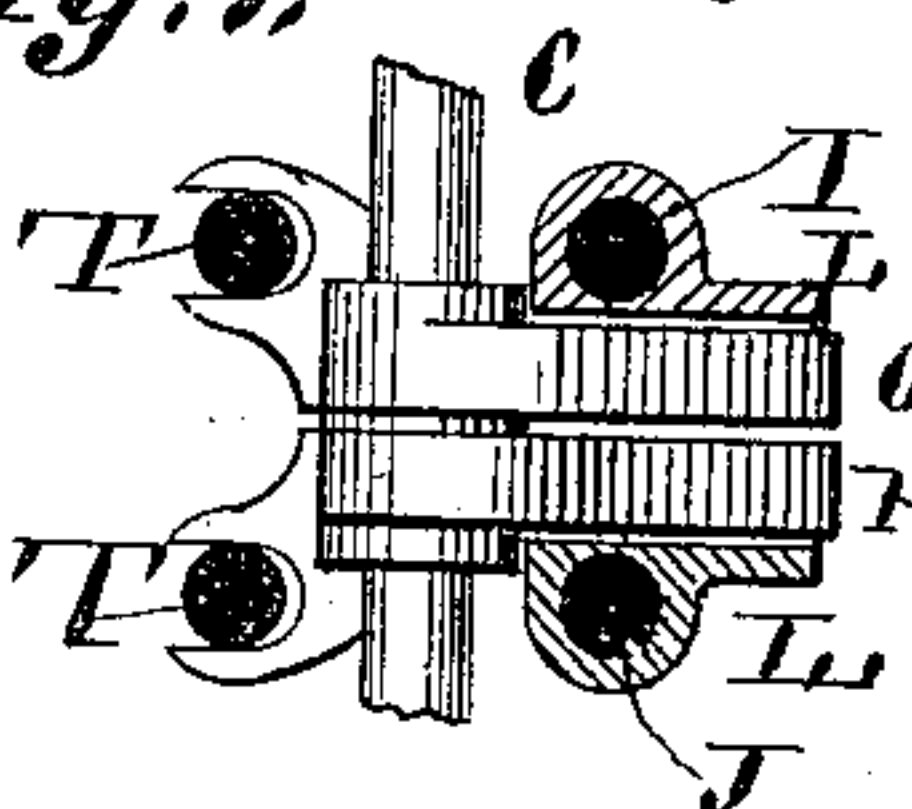
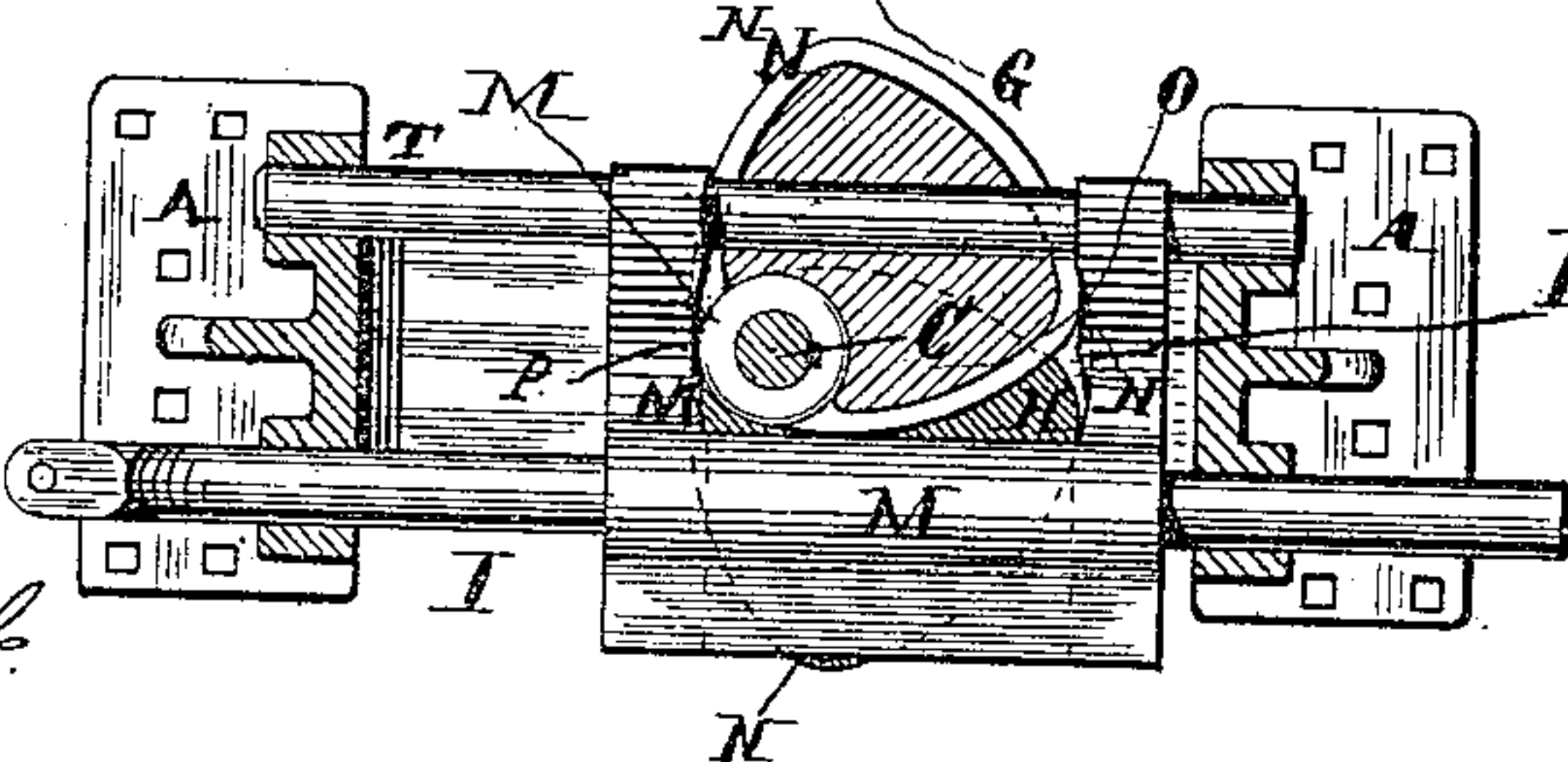


Fig. 6.



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2 Sheets—Sheet 2.

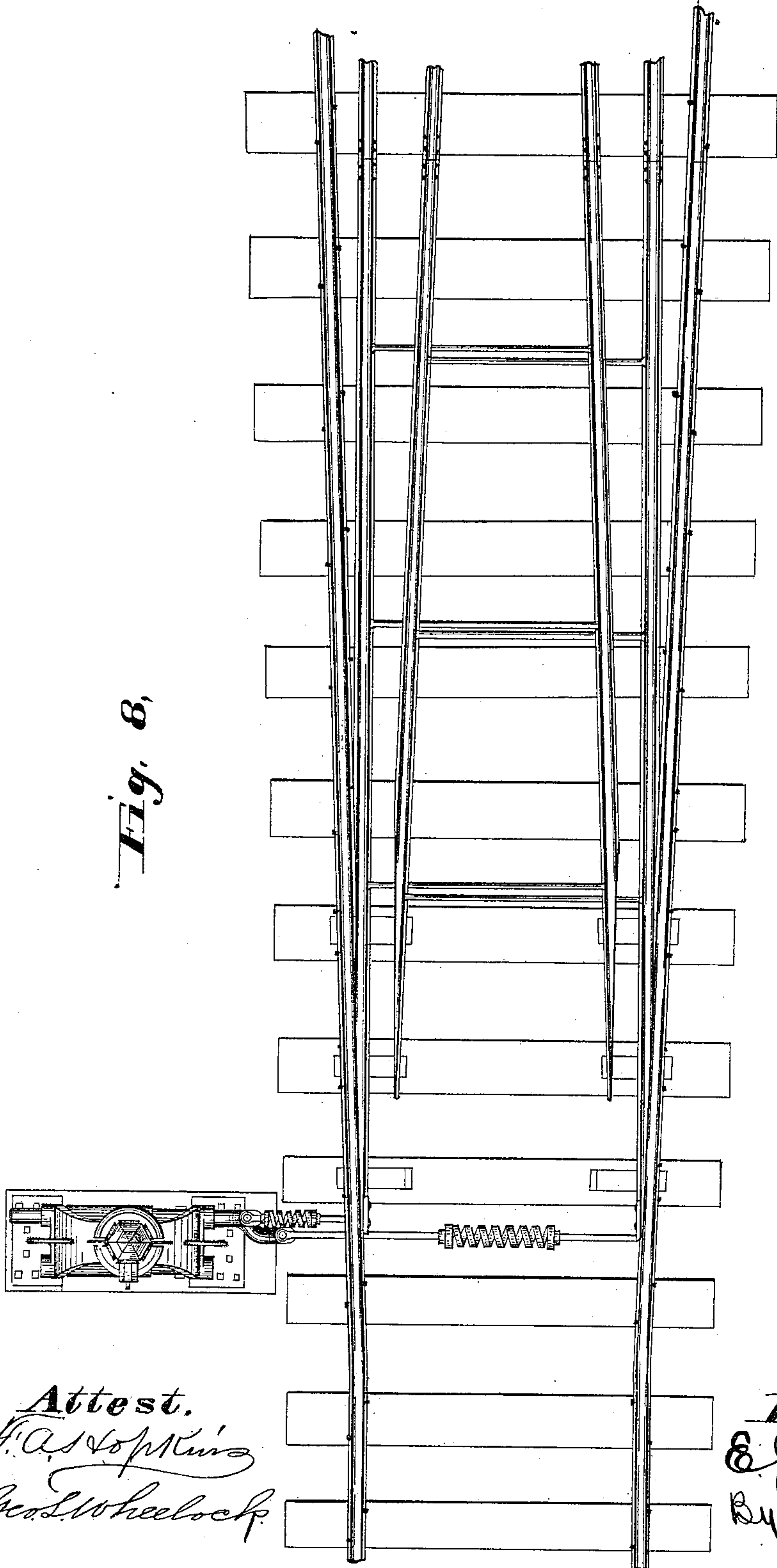
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Fig. 8.



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UNITED STATES PATENT OFFICE.

EUGENE J. REMILLON, OF MOBERLY, MISSOURI, ASSIGNOR OF TWO-THIRDS
TO CHARLES H. TALMAGE, OF SAME PLACE, AND HOWARD J. STOCKER,
OF TEXARKANA, ARKANSAS.

APPARATUS FOR OPERATING SWITCHES.

SPECIFICATION forming part of Letters Patent No. 344,201, dated June 22, 1886.

Application filed August 18, 1885. Serial No. 174,702. (No model.)

To all whom it may concern:

Be it known that I, EUGENE J. REMILLON, of Moberly, Randolph county, Missouri, have invented a certain new and useful Improvement in Apparatuses for Operating Railway-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a side elevation of the stand, showing also my improved operating device. Fig. 2 is an end view of the same. Fig. 3 is a top view, the rock-shaft being shown in horizontal section. Fig. 4 is a horizontal section taken on line 4 4, Fig. 1. Fig. 5 is a similar view showing the parts in different positions from Fig. 4. Fig. 6 is a detail vertical section taken on line 6 6, Fig. 1. Fig. 7 is a similar view taken on line 7 7, Fig. 1. Fig. 8 is a plan showing my improved apparatus connected to a three-throw switch.

My invention relates to an apparatus intended more particularly for operating three-throw switches; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, A represents a stand, which may be of any suitable form and supported in any suitable manner on a base, B.

C is a vertical rock or oscillating shaft journaled in the stand, and provided with the usual operating hinged lever, D, as shown, by which it can be oscillated to operate the switch, and by which it can be locked from movement in either direction, as shown in Fig. 2, it having, as usual, a socket to fit over projections A', A², and A³ on the stand. Secured to the lower end of the rock or oscillating shaft are cams G and H, the connection being rigid, so that the cams are turned with and by the shaft.

I and J are rods forming a connection between the stand and switches. As shown in Fig. 8, the rod I is operated by the cam G and the rod J by the cam H. Both of these rods are provided with cam blocks or yokes that embrace their respective cams, as shown clearly in Fig. 1. The form of the cams is shown best in Figs. 4 and 5. Their working-faces extend between points marked M and N, and they have silent bearing-faces between the two

points marked N. These latter surfaces bear against the cam-block at certain times and act to lock the blocks, but not operate them.

The position of the cams and blocks corresponds in Figs. 1, 2, and 3, and when the parts are in this position the switches are in the position shown in Fig. 8, the long switch-rails being in service, and in this position the locking-lever is at the central projection, A'.

Should it be desired to operate the switch of rod I, the lever is raised from the position shown in Fig. 2 and the rock-shaft turned to the right to bring the lever to projection A², when the working-surface of the cam G will press against its block L and force the block from the position shown in Figs. 1, 2, and 3 to the position shown in Fig. 4. While this movement is taking place the cam H is of course also turned, but does not operate upon its block, as the silent part of its bearing is the only part that is in engagement with the block. Then, if the switch of the rod J is to be operated, the shaft is turned to the left past the position it occupies in Figs. 1, 2, and 3, and around to the position shown in Fig. 5, when the lever will be at projection A³.

To make the operation still clearer, I will briefly describe it thus: Assuming that cam H is to work the left-hand switch and cam G the right-hand switch, and the lever D to be in the central position shown in Figs. 1, 2, and 3, as stated, the long rail of each switch will be in contact with the main track, as shown in Fig. 8. Now, if the lever is moved to A³, the cam G will work in its yoke or frame without moving it, and cam H will bring its yoke to the other side of the stand and set the switch for the left track. Now, if the right-hand track is to be set, the lever will be moved to A². By the time it passes over A' it will have the main track set again; but when going from A' to A² cam H will work through its yoke without moving it, and cam G will move its yoke to the other side of the stand, setting the right-hand switch. It will be understood that the shaft is rocked one-quarter of the way in either direction from the position shown in Fig. 2, and when it is rocked that quarter of a revolution to operate the rod I it is turned back that quarter, and turned still further the

other quarter of a revolution, making a half-turn in order to operate the switch of the rod J. The blocks are preferably cut out in concave form at P, and of convex or projective form at P', to receive the cams, and when the silent parts of the cams are bearing against these concave parts of the blocks the switch of this cam and block is locked from movement in either direction, as will be plainly understood.

The device can be used for operating single switches and lock, as is often needed in interlocking. In this case one rod will operate the switch and the other will operate an independent lock, usually placed between the rails. The same arrangement of cams may also be used, and is capable of being applied to various uses and for different mechanical purposes; also, they can be used on horizontal shafts as well as vertical.

The yokes are supported by the rods I and J, and by idle-rods T, fitting in the stand.

I claim as my invention—

1. In a three-throw switch, the combination, with the two connecting-rods through which it is operated, of cams for moving said rods alternately in opposite directions, and a rock-shaft for moving said cams, substantially as set forth.

2. In a three-throw switch, the combination, with the two connecting-rods and a yoke se-

cured to each, of a pair of cams, each formed with a pair of inclined faces for throwing its rod in opposite directions, and an intervening silent surface and a shaft, to which said cams are secured, and so arranged relatively to each other that the connecting-rods are moved alternately, substantially as set forth.

3. The combination of the switch-rods, yokes secured to said rods and having concaves P and projection P', rock-shaft, and cams secured to said rock-shaft, having operating and silent faces embraced by said yokes, substantially as and for the purpose set forth.

4. In a three-throw switch, the combination, with a pair of connecting-rods and a yoke secured to each, of a pair of cams, each so formed as to bear at all times against the opposite sides of its yoke, and a rock-shaft, to which said cams are so secured as to operate their respective rods alternately, as set forth.

5. In an apparatus for operating railway-switches, the combination of the stand A, rock-shaft C, lever B, for turning the shaft, cams G and H, secured to the shaft and having working and silent bearings, switch-rods I J, and yokes secured to the switch-rods, substantially as set forth.

EUGENE J. REMILLON.

In presence of—

BENJN. A. KNIGHT,
JOSEPH WAHLE.