

(No Model.)

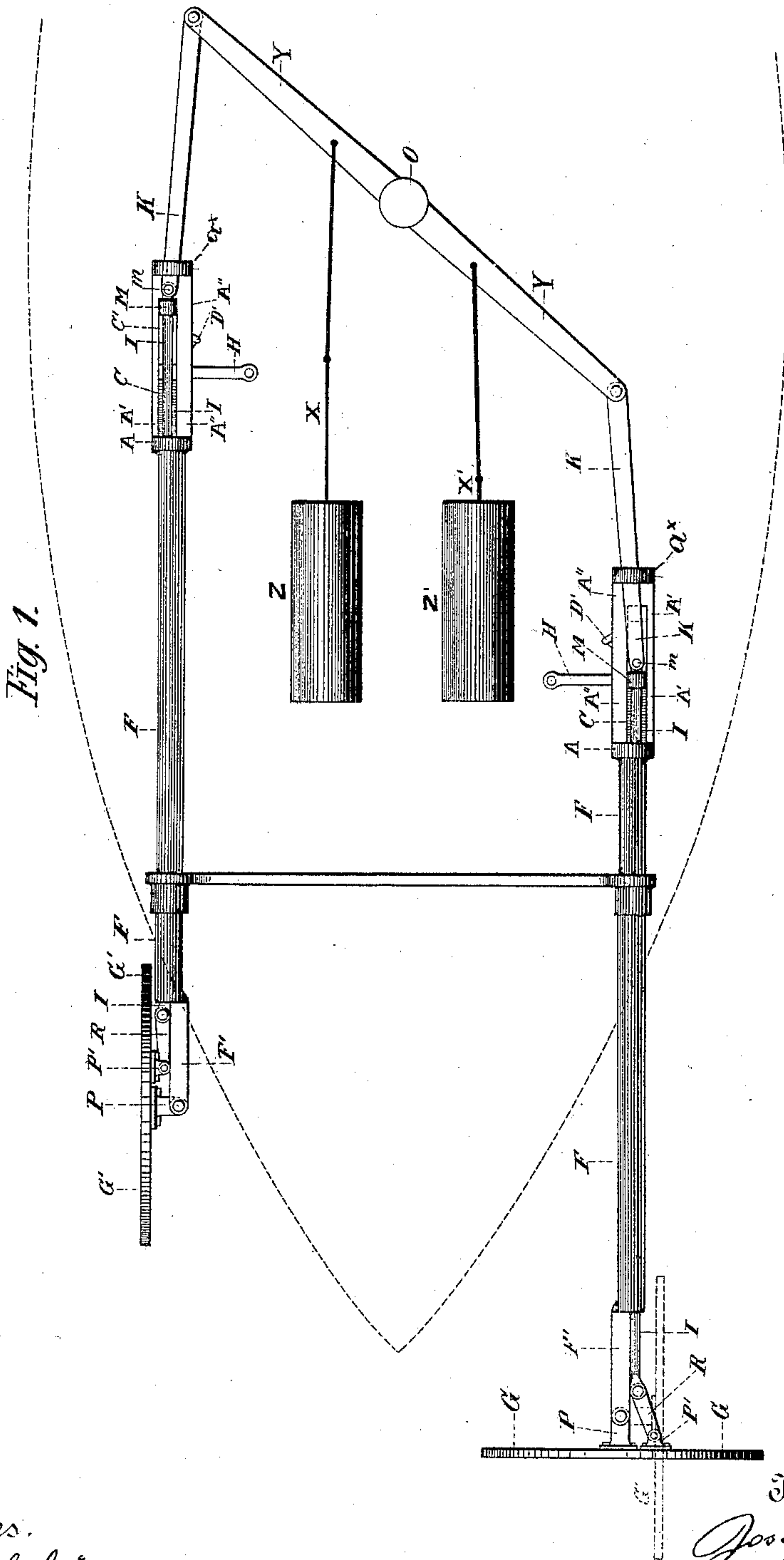
5 Sheets—Sheet 1

J. STENARD, Sr.

MECHANISM FOR PROPELLING SHIPS.

No. 396,672.

Patented Jan. 22, 1889.



Witnesses.
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(No Model.)

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Fig. 2.

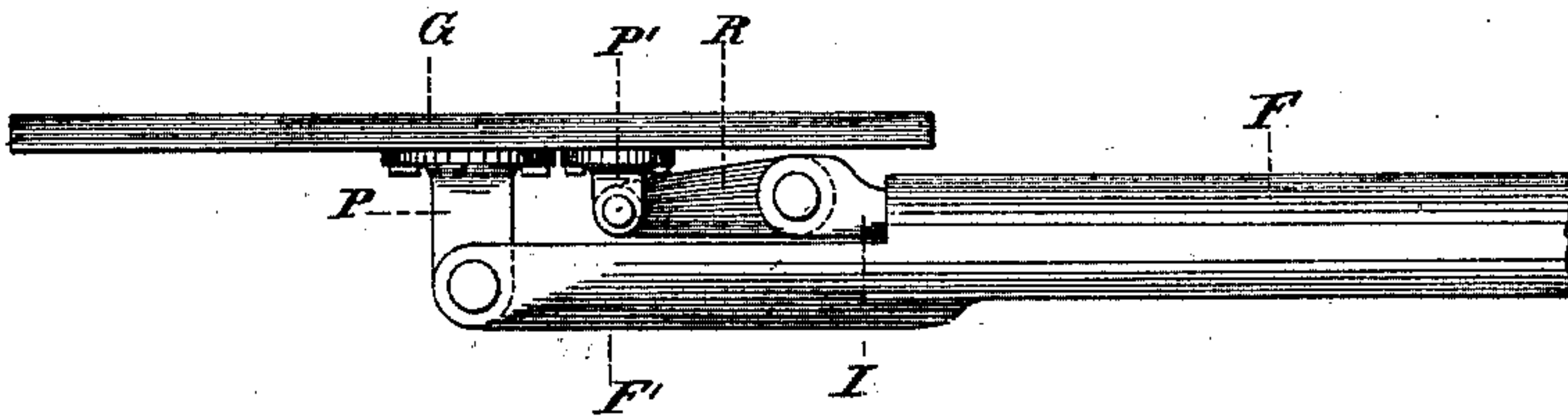


Fig. 3.

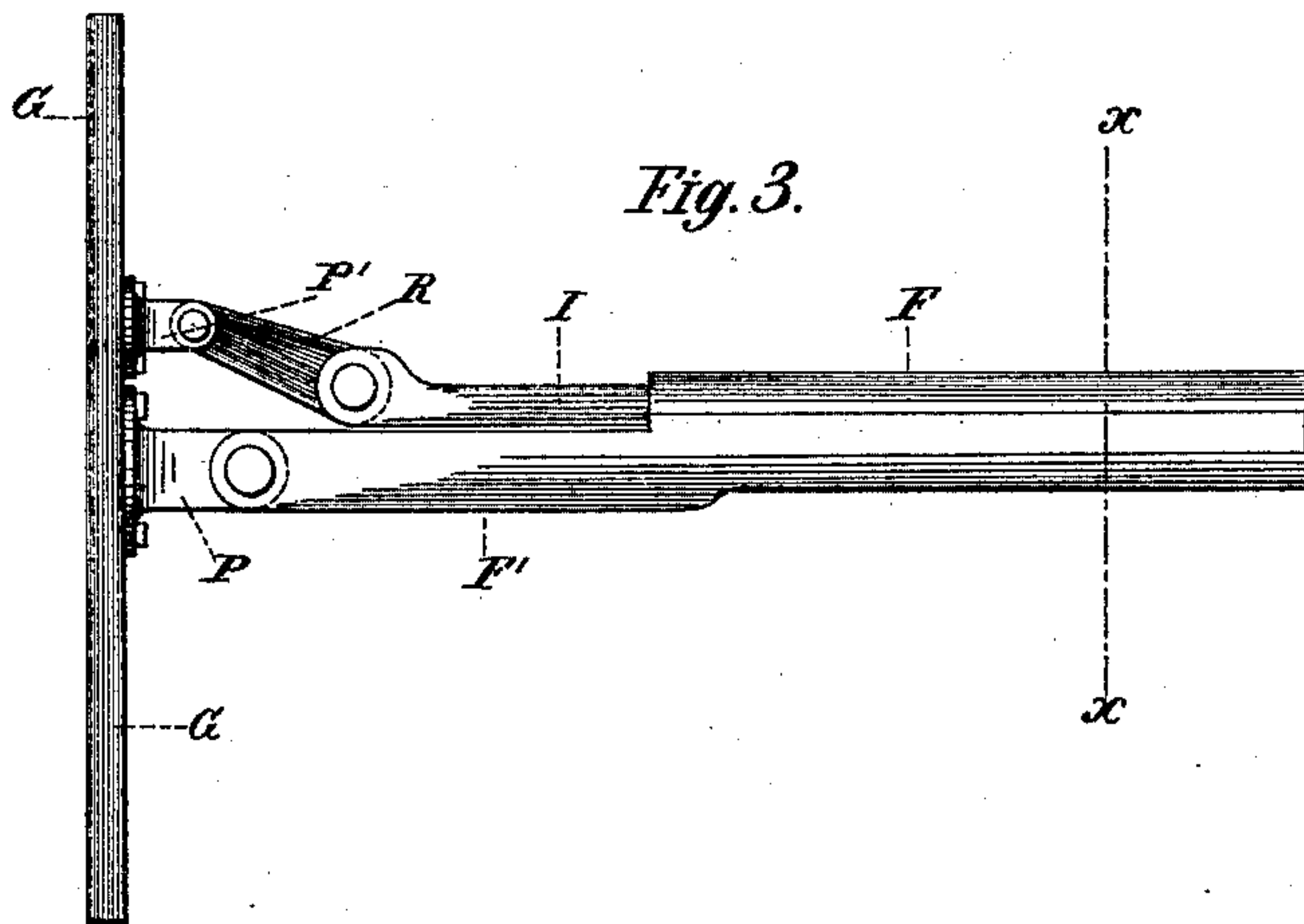
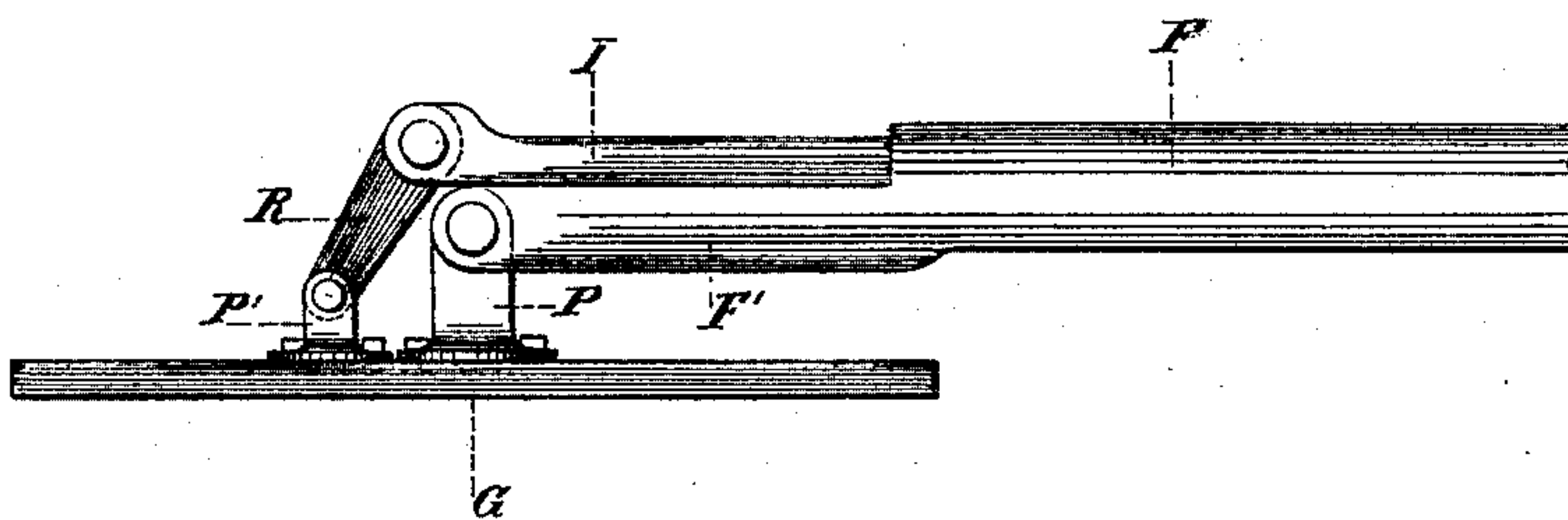


Fig. 4.



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Fig. 5.

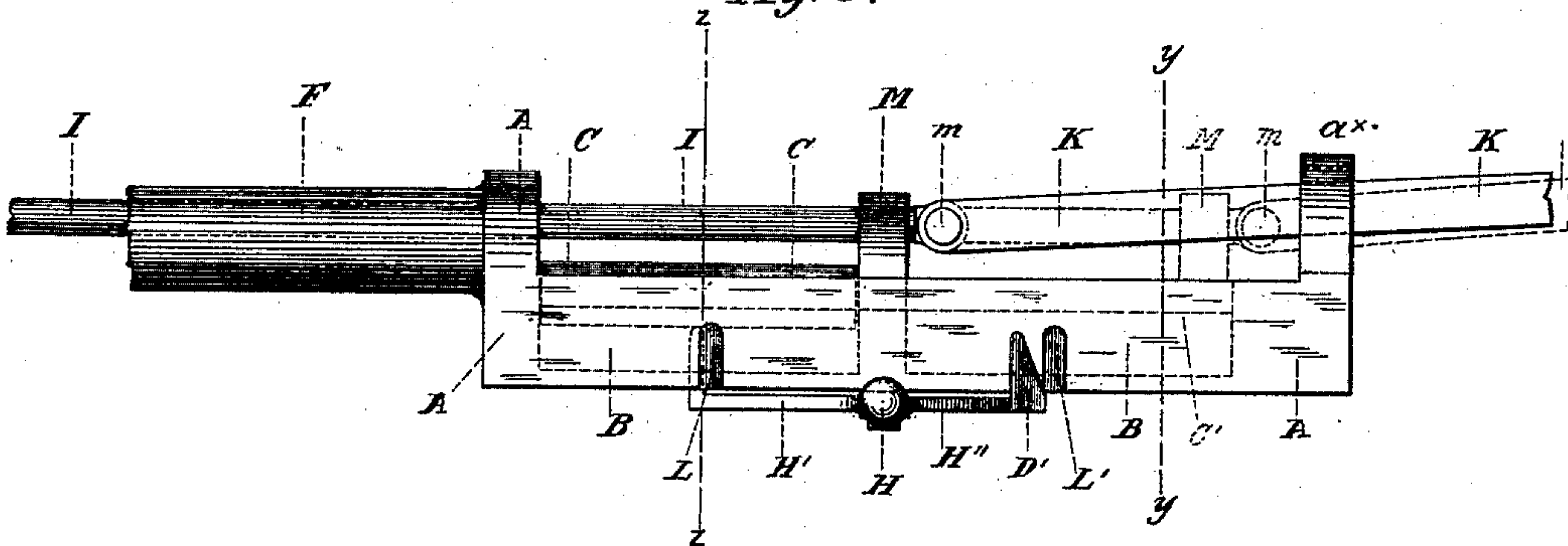


Fig. 6.

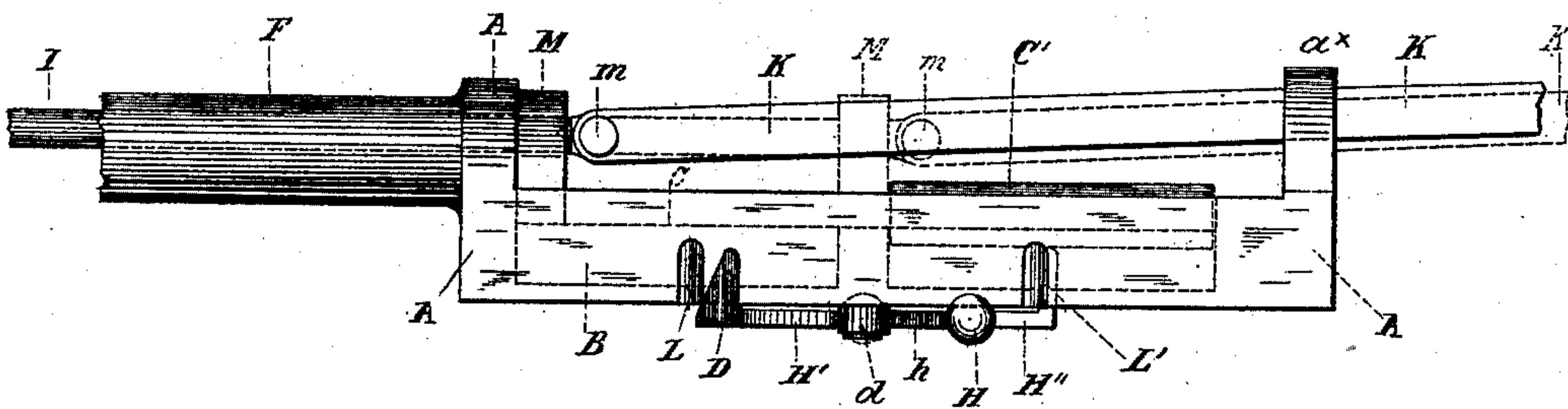
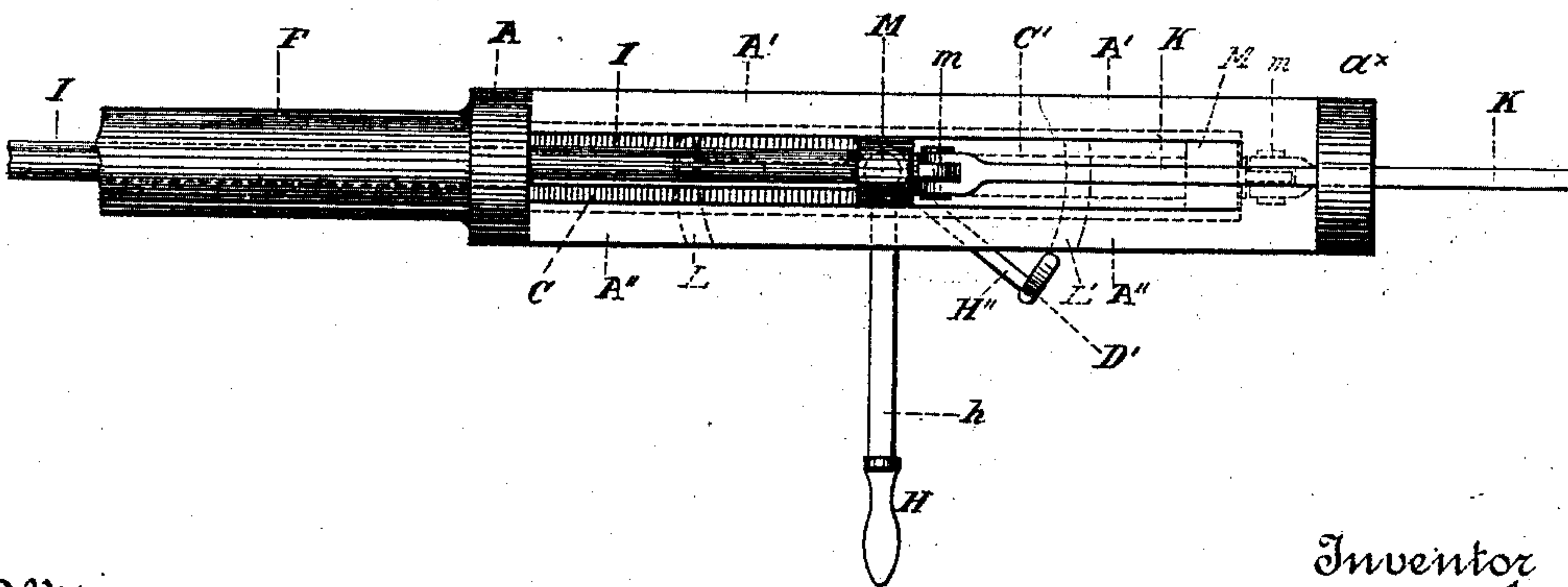


Fig. 7.



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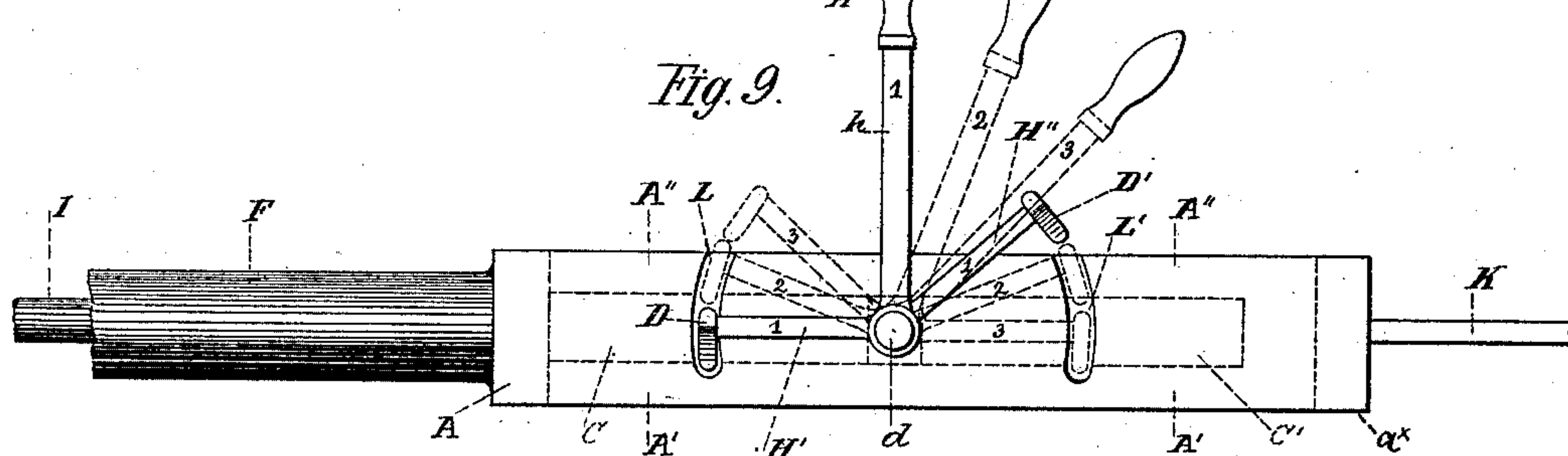
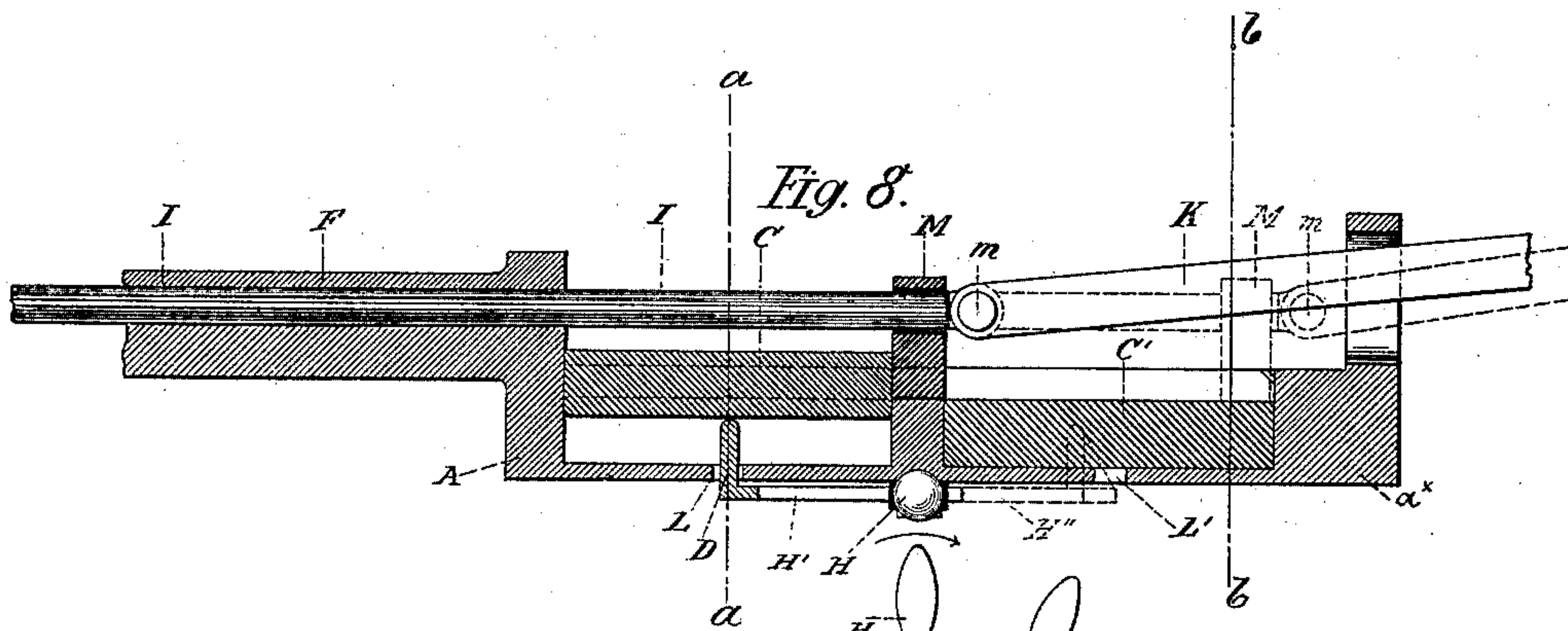


Fig. 10.

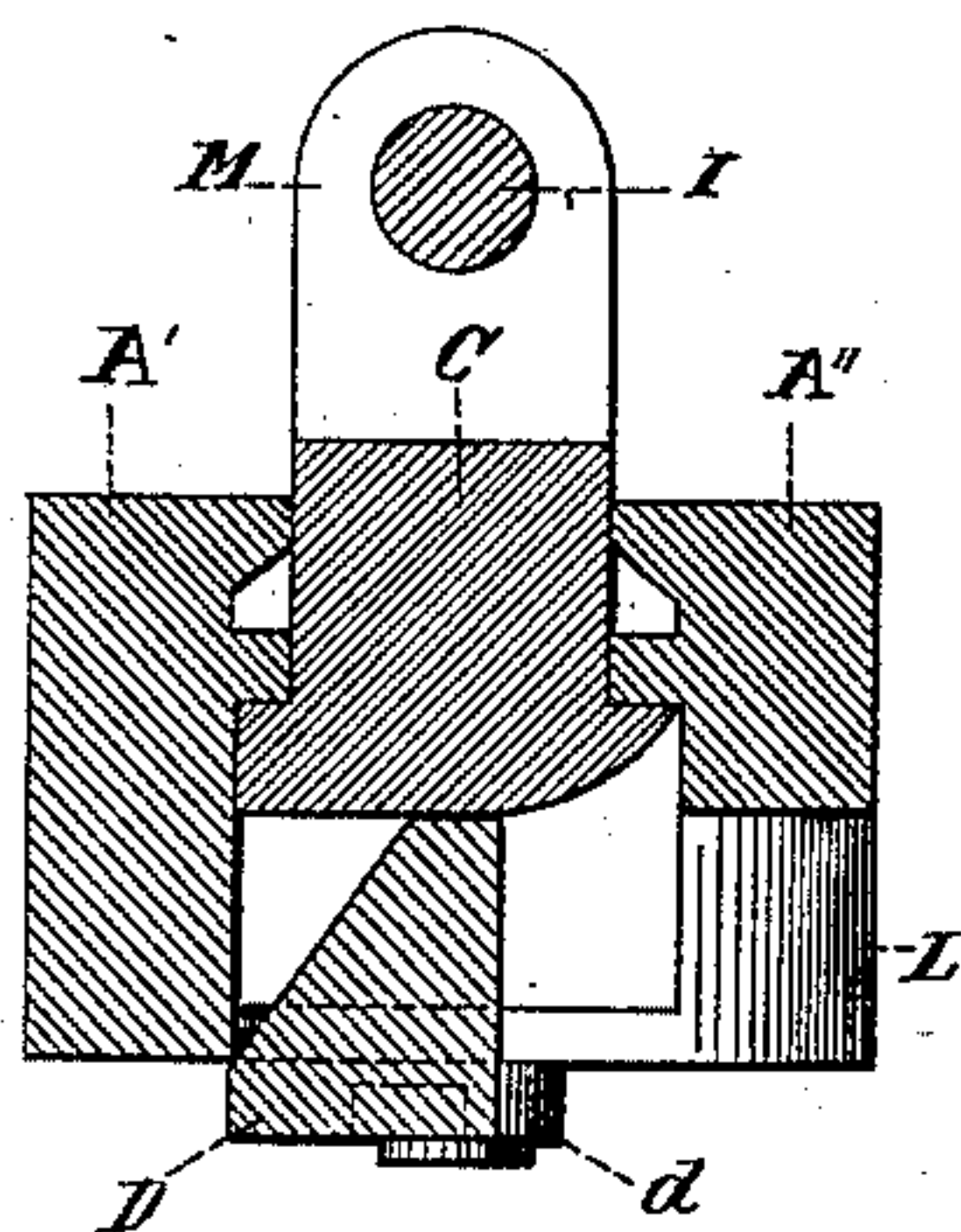


Fig. 11.

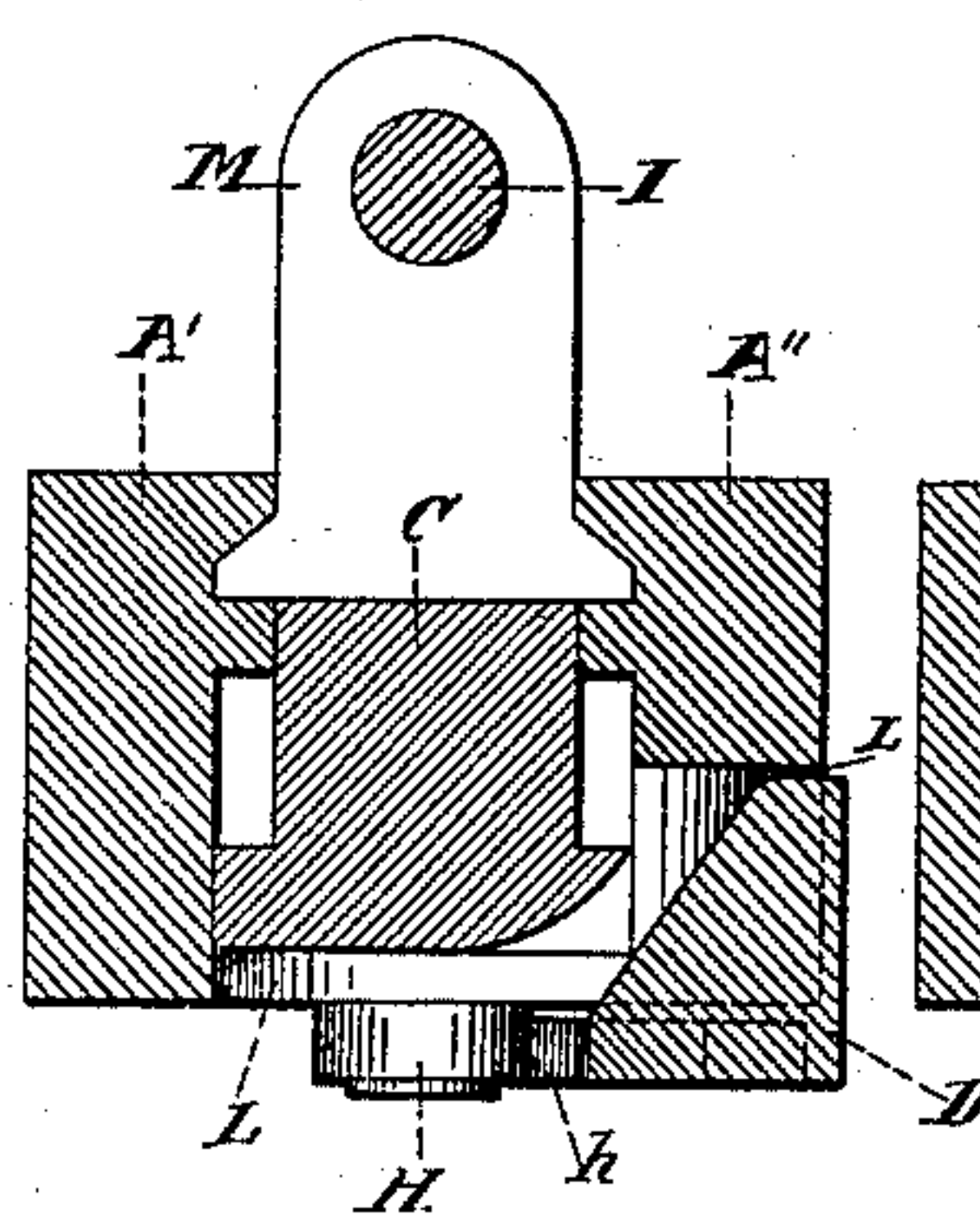


Fig. 12.

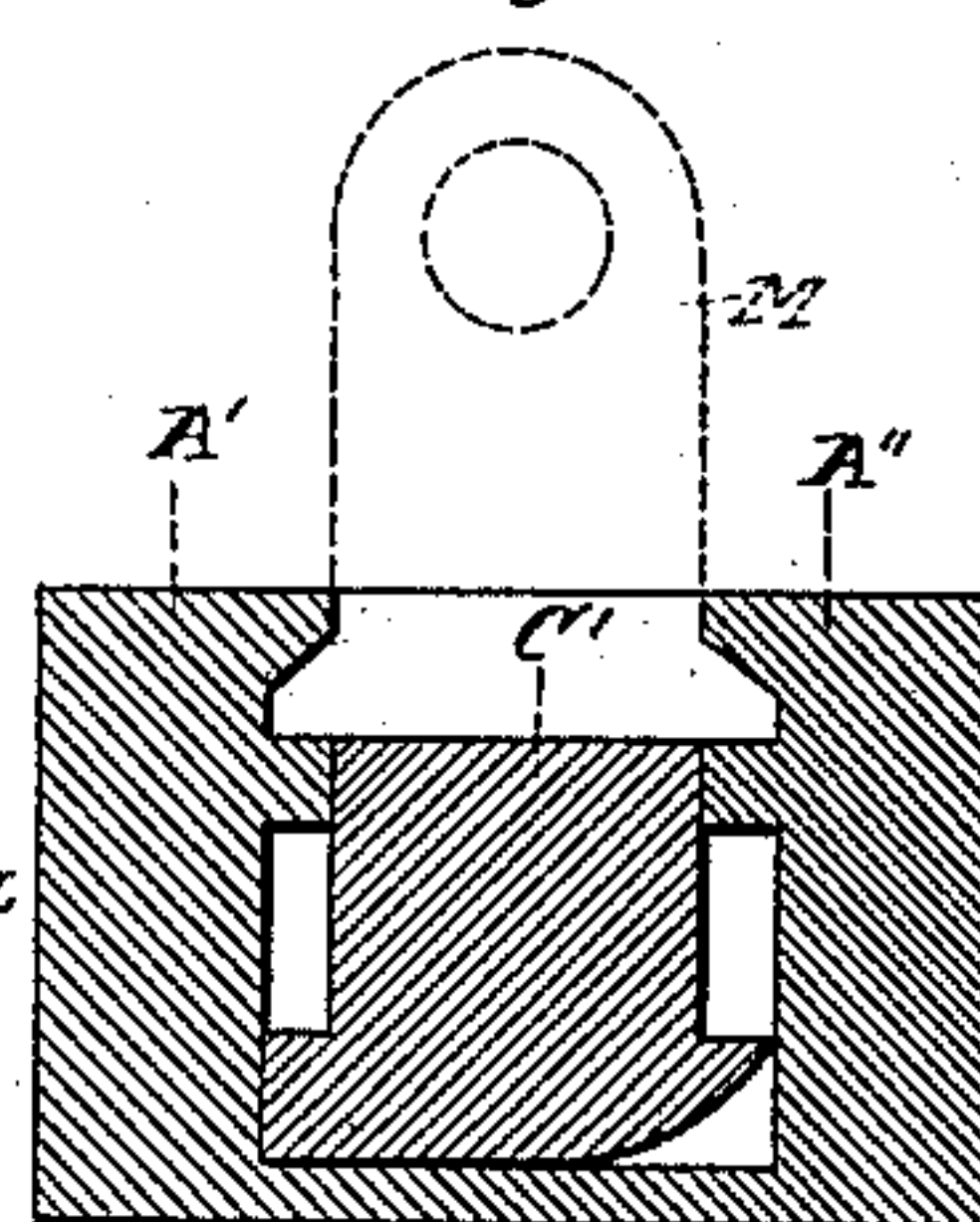
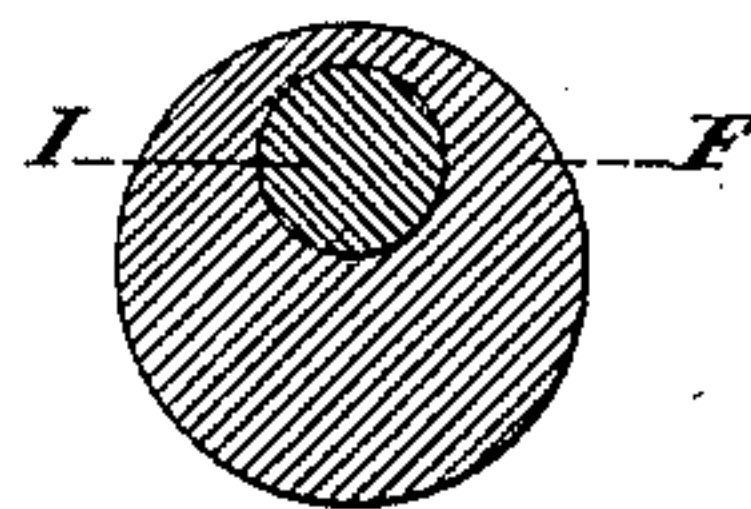


Fig. 13.



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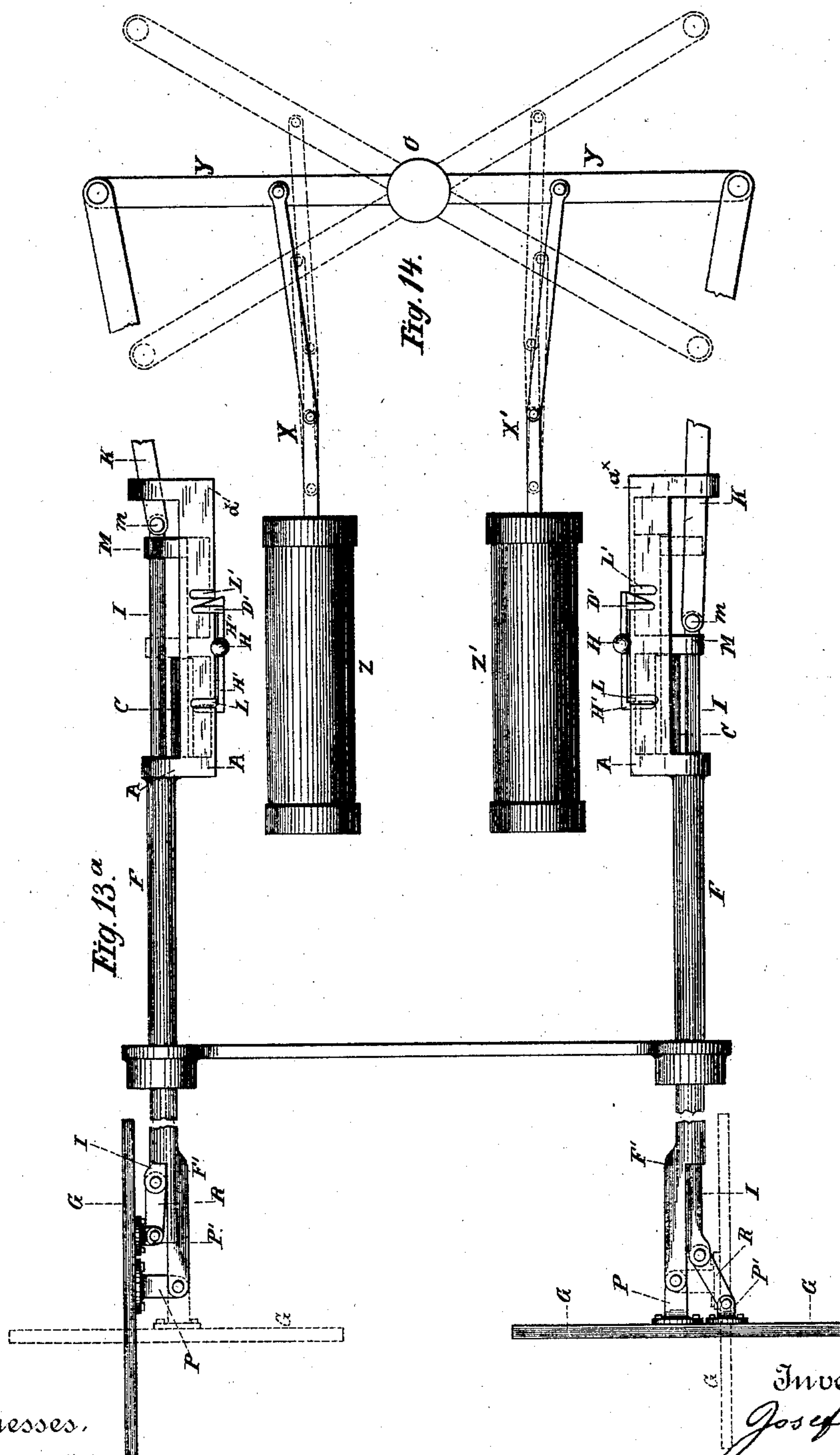
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UNITED STATES PATENT OFFICE.

JOSEF STENARD, SR., OF TROY, NEW YORK.

MECHANISM FOR PROPELLING SHIPS.

SPECIFICATION forming part of Letters Patent No. 396,672, dated January 22, 1889.

Application filed July 17, 1888. Serial No. 280,159. (No model.)

To all whom it may concern:

Be it known that I, JOSEF STENARD, Sr., a citizen of the United States, residing at Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Mechanism for Propelling Ships, of which the following is a specification.

The nature of the invention consists in the details of combination and construction substantially as illustrated in the accompanying drawings, hereinafter described, and subsequently pointed out in the claim.

Figure 1 is a view illustrating a plan of my invention and the outline of part of a ship. Fig. 2 is a detail view illustrating the paddle and part of the accompanying mechanism, with the paddle in one position. Fig. 3 is another view of the same, illustrating the paddle in another position. Fig. 4 is another view of the same, illustrating the paddle in still another position. Figs. 5, 6, 7, 8, and 9 are detail views illustrating a part of the propelling and reversing mechanism. Fig. 10 is a sectional view taken on the line *a a* of Fig. 8, illustrating the mechanism in one position. Fig. 11 is another view of the same section, illustrating the mechanism in another position. Fig. 12 is a view illustrating a section taken on the line *b b* of Fig. 8. Fig. 13 is a sectional view taken on the line *x x* of Fig. 3. Figs. 13^a and 14 are detail views illustrating the connection of the various parts of the mechanism.

F and F designate two tubular slides adapted to move endwise in guides within a ship. These tubular slides are placed parallel to the water-line and parallel to each other within the hull below the water-line. One end of each tubular slide extends backwardly without the hull into the water. The hole through which it passes may be made watertight with a common and well-known stuffing-box. Upon the outer end of each of these tubular slides is a projection, F', to each of which is hinged a short stem, P. Upon these stems are mounted the paddles G and G, which consist each of a circular metallic disk. By the side of the stem P, on the inside of each disk, is set a bracket, P'. To these are attached short levers R by a hinge-joint. These

short levers are also linged to the bars I, which extend through the whole length of the tubular slides F and are adapted to slide therein. Upon the inner end of each of the tubular slides F is a box or trough, the sides of which are designated, respectively, by A' A'', extending between the collars A and a^x. In this reciprocates the head M, which is hinged to the connecting-rod K at *m*, and is mounted upon the inner end of the rod I. In the said box or trough are two iron stops, designated, respectively, C and C'.

H', H'', and *h* designate three levers rigidly fastened together and pivoted to the bottom of said box or trough at *d*. Upon the end of each of the levers H' H'' is a head, designated, respectively, by D and D'. Each of these heads has an inclined surface adapted to work upon the rounded lower surfaces of the stops C and C' when the said heads are turned into the circular slots L and L' in the bottom of the said box or trough by moving the lever *h*. The pitmen K are attached pivotally to the oscillating lever Y, which is actuated by the piston-rods X X' and connecting-rods of the cylinders Z Z'. These cylinders are worked by steam conducted from a steam-generator in the usual and well-known way.

To use this invention, it is placed in a ship, as illustrated in the drawings. Then if the ship is to go forward the steam is let on and the stops C and C' placed in the positions represented in Fig. 8, by moving the lever *h* into the position shown in Fig. 9, so that the inclined face of the head D will push up the said stop C into said position. When the oscillating lever Y begins to move, it will, by means of the pitman K, push the head M and the rod I so far that the said head will impinge upon the stop C; but during this part of the motion, the rod I, which extends through the tubular slide F and acts upon the paddle G through the lever R, will have pushed the said paddle from the position illustrated in Fig. 2 to that represented in Fig. 3; but when the head M has impinged upon the stop C, the bar I can slide no farther, and the tubular slide F, with the paddle in said last-named position, is carried along, pushing said paddle against the water through the remainder of

the stroke of said lever Y. When the lever Y turns for its return-stroke, it draws in the rod I until the head M impinges upon the collar a^x . During this part of the motion the paddle 5 G will be returned to the position represented in Fig. 2. During the remainder of this stroke of the lever Y the tubular slide F will be drawn back to its first position ready to operate the paddle again. This occurs alternately on opposite sides of the vessel, and so 10 the vessel is propelled forward. To move the vessel backward, the levers, $h H' H''$ are moved again. The operator, grasping the handle H, turns all three of these levers into the positions illustrated by 2 2 2 of Fig. 9. Then the stop C falls down out of the way of the head M, which, not now striking on the stop C, passes over it to between the stop C' and the collar A. Then the levers are put in the positions illustrated by 3 3 3 of Fig. 9. This will 20 push up the stop C', and the mechanism, producing exactly the opposite result from that specified, will propel the ship backward.

I do not desire to confine myself to one pair 25 of paddles and accompanying mechanism; but if it seem desirable may use two, three, or any number of pairs of paddles that may seem available.

The two levers h and h may be so connected 30 and arranged with ropes or otherwise that the steersman can turn them into any desired position without leaving his post, and so it will be unnecessary to have one man to operate each lever.

What I claim as my invention, and desire 35 to secure by Letters Patent, is—

The combination, with the tubular slides F, moving in guides within the hull of a ship and extending without said hull, as specified, a box or trough having collars A a^x and sides 40 A' A'', mounted upon the end of said slide, of the stops C and C' within said box or trough, the triple lever $h H' H''$, pivoted to the bottom of said trough, the heads D and D' of the said levers H' H'', working in the slots L and L' 45 in the bottom of said trough and raising said stops C and C', substantially as specified, the sliding rods I, moving within said tubular slides F, the levers R, attached to the outer ends of said rods I, the projections F' upon the outer 50 ends of the tubular slides F, the stems P, hinged to said projections, the paddles G, mounted upon said stems, the brackets P', fastened to said paddles beside the said stems, the short levers R, connecting the brackets P' 55 and the rods I, the pitmen K, connecting the rods I and the oscillating levers Y, the oscillating levers Y, pivoted at O and connected with the rods I, as specified, and means, substantially as specified, for oscillating said levers Y, all substantially as and for the purpose set forth. 60

In witness whereof I hereunto set my hand in presence of two witnesses.

JOSEF STENARD, SEN.

Witnesses:

R. GANGLOFSÖMMERN,
C. E. McDONALD.