

No. 690,619.

Patented Jan. 7, 1902.

J. A. SAUTER.  
ADJUSTABLE HOLDER FOR PRINTING FILMS.

(Application filed Aug. 6, 1901.)

(No Model.)

2 Sheets—Sheet 1.

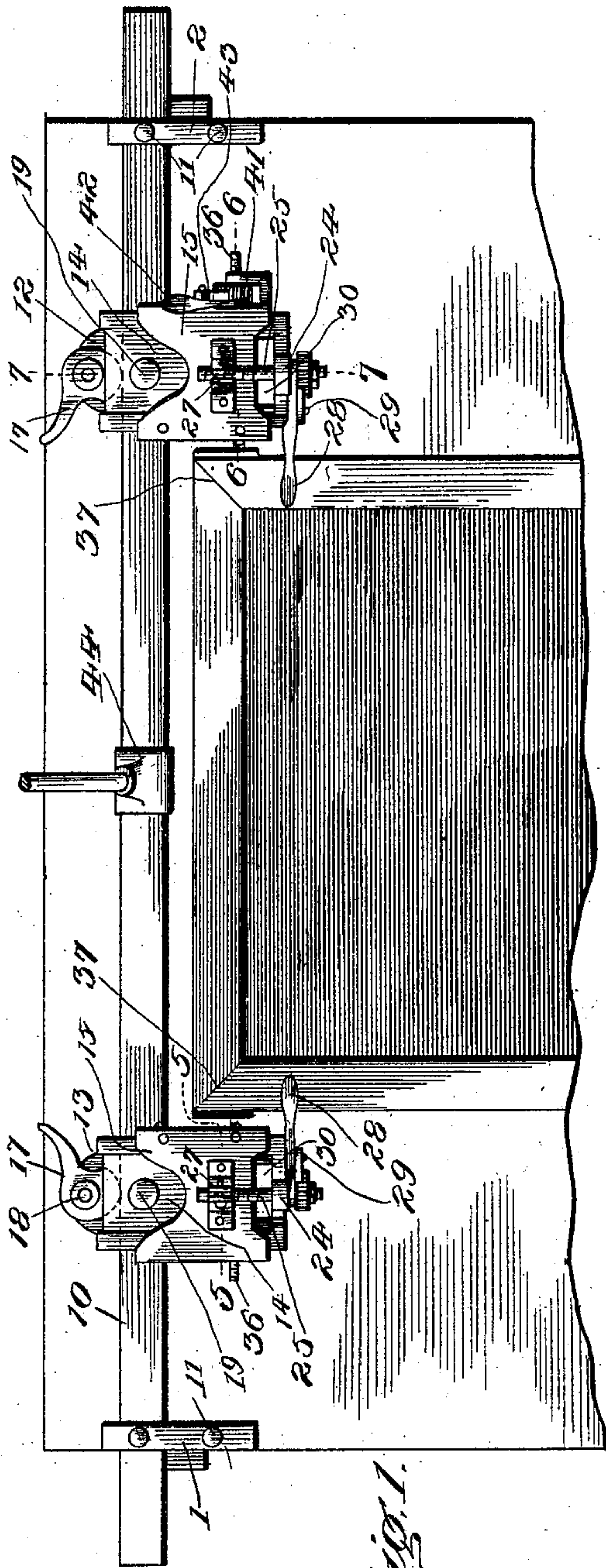


Fig. 1.

Fig. 3.

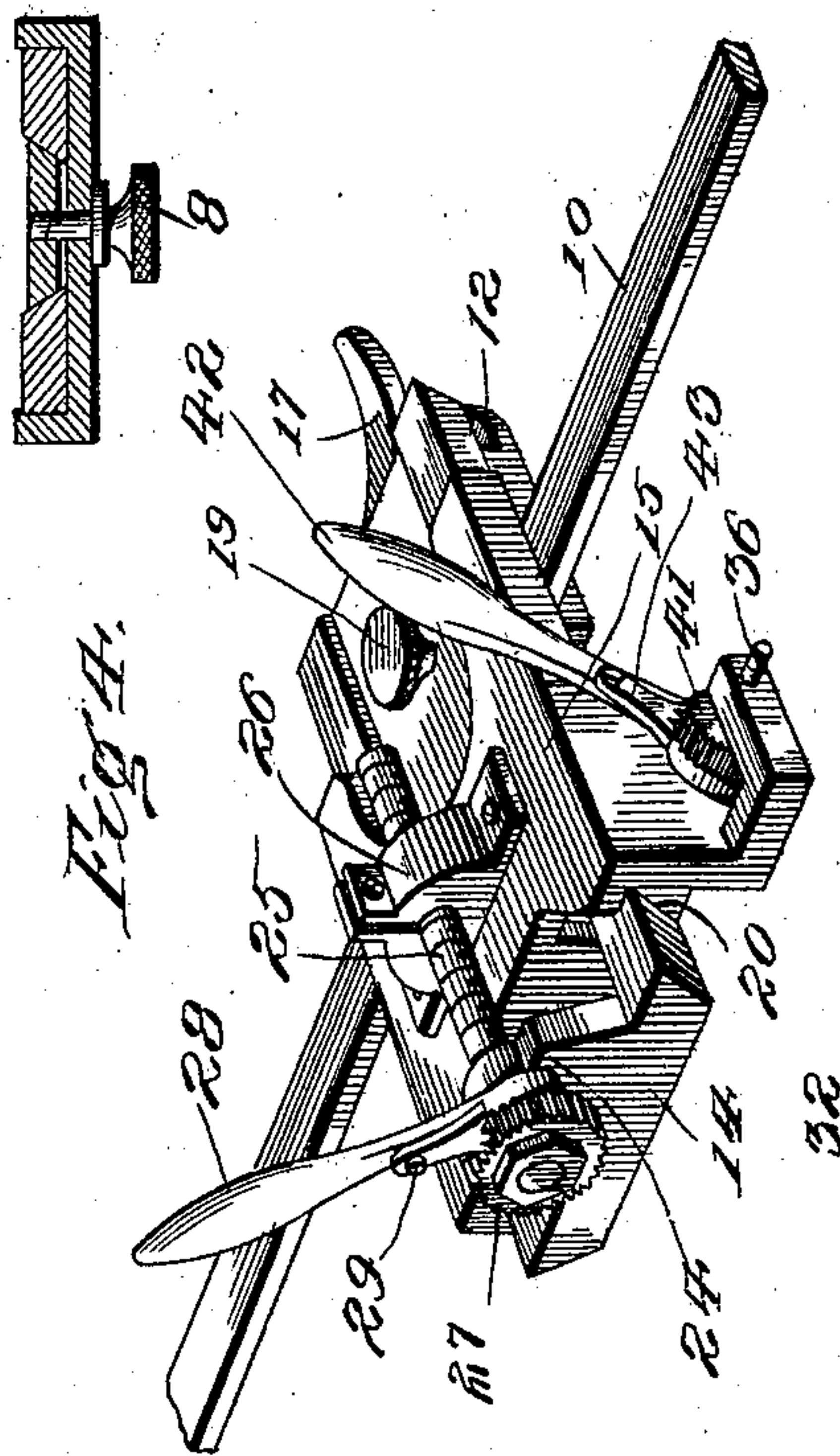


Fig. 4.

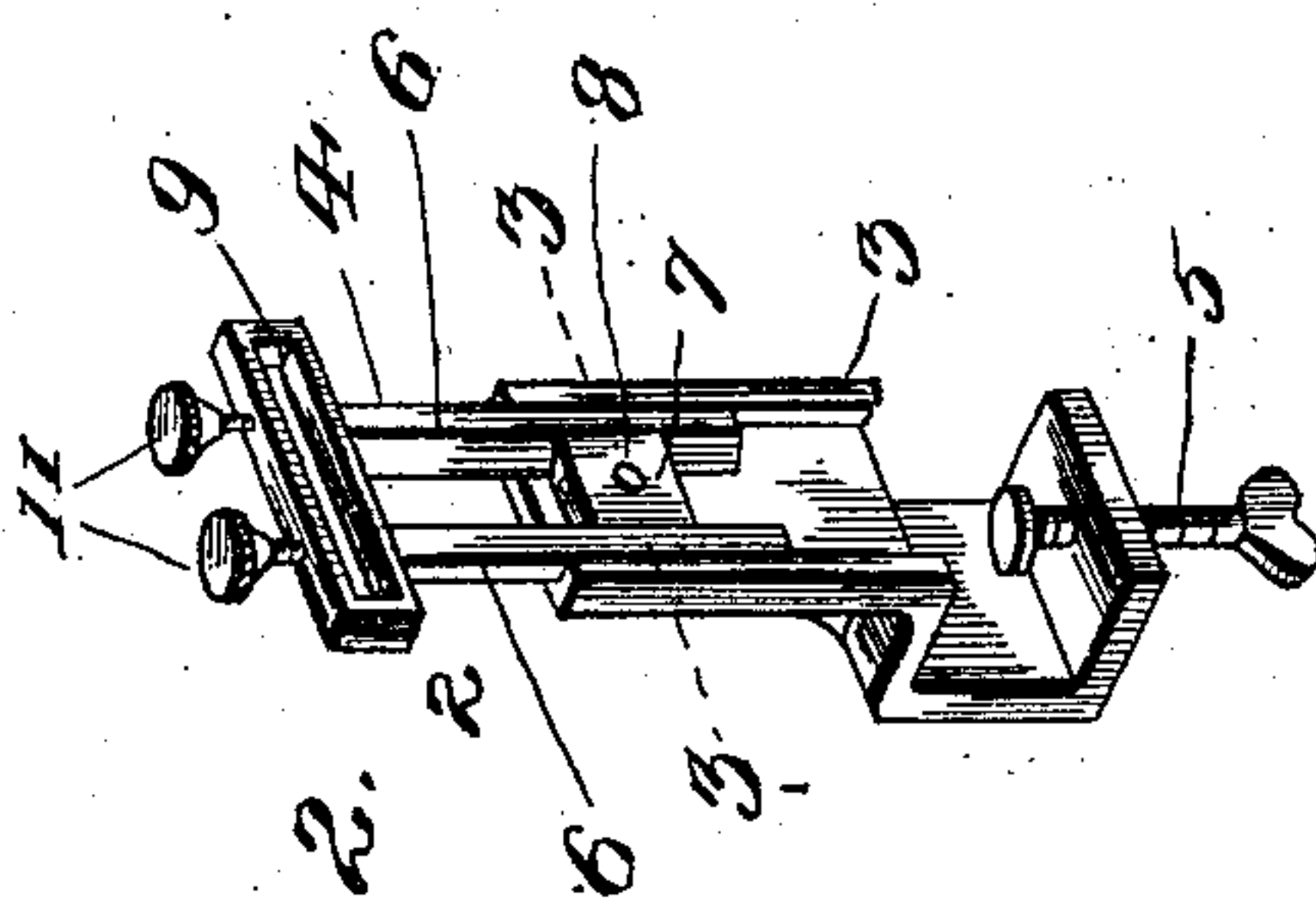


Fig. 2.

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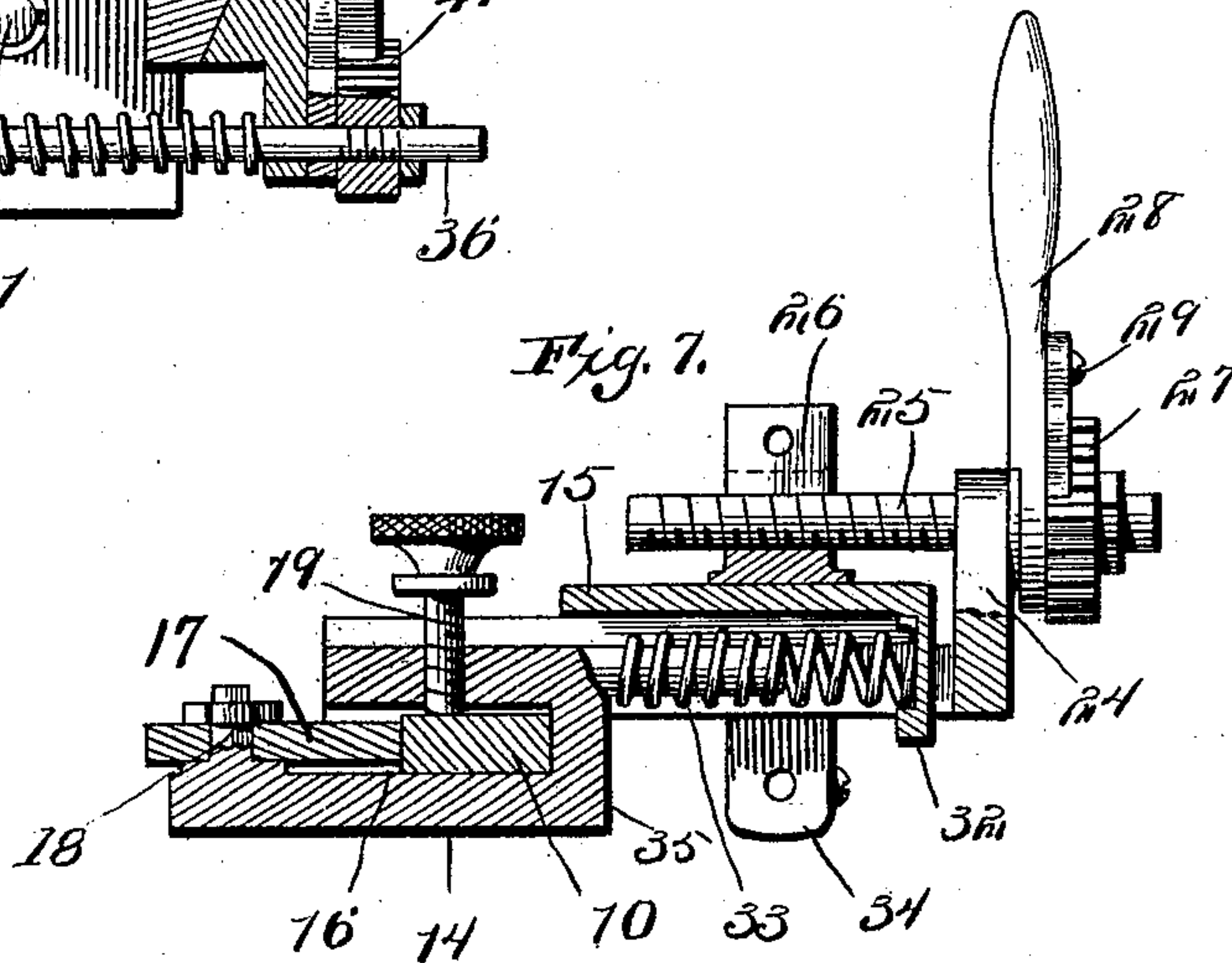
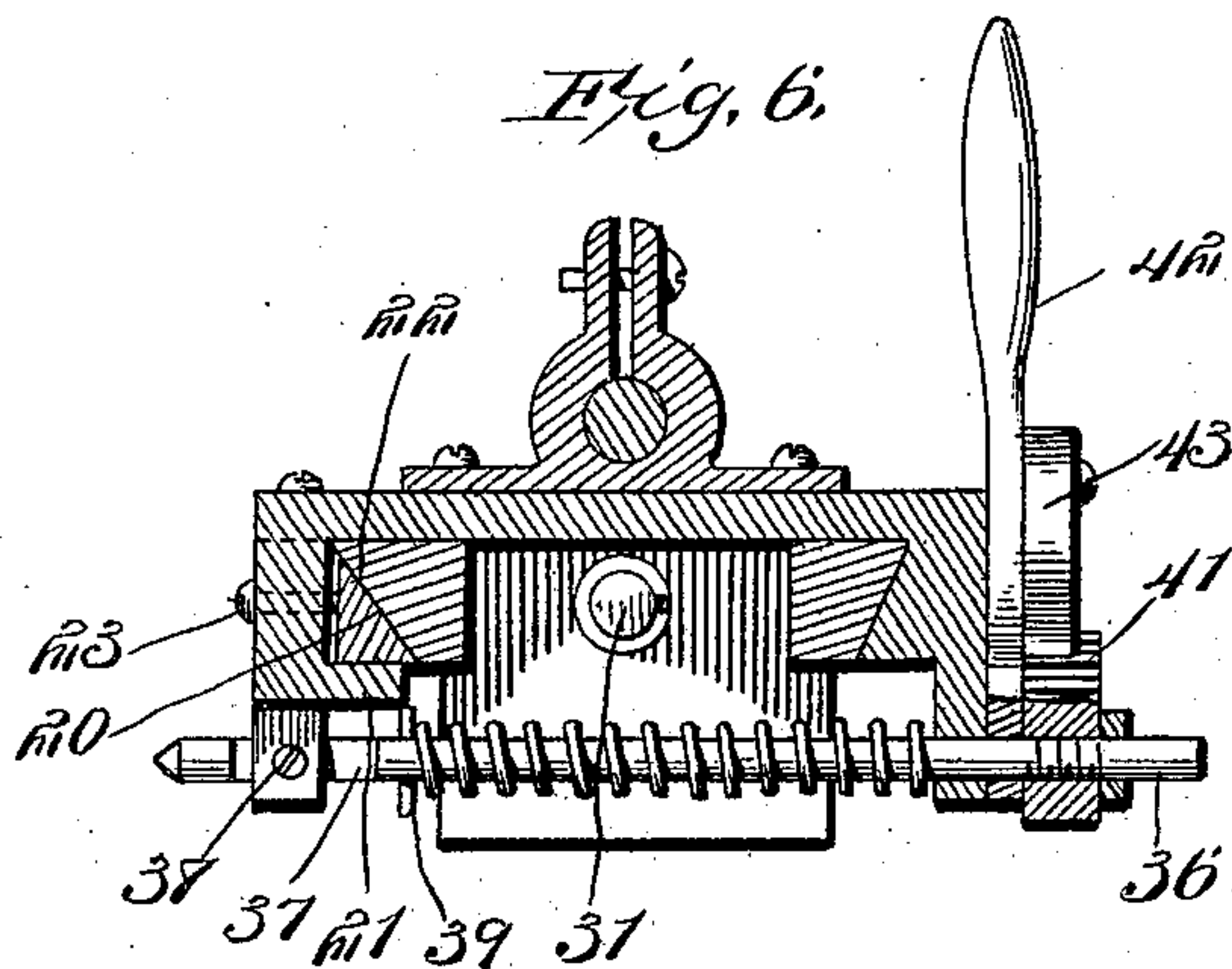
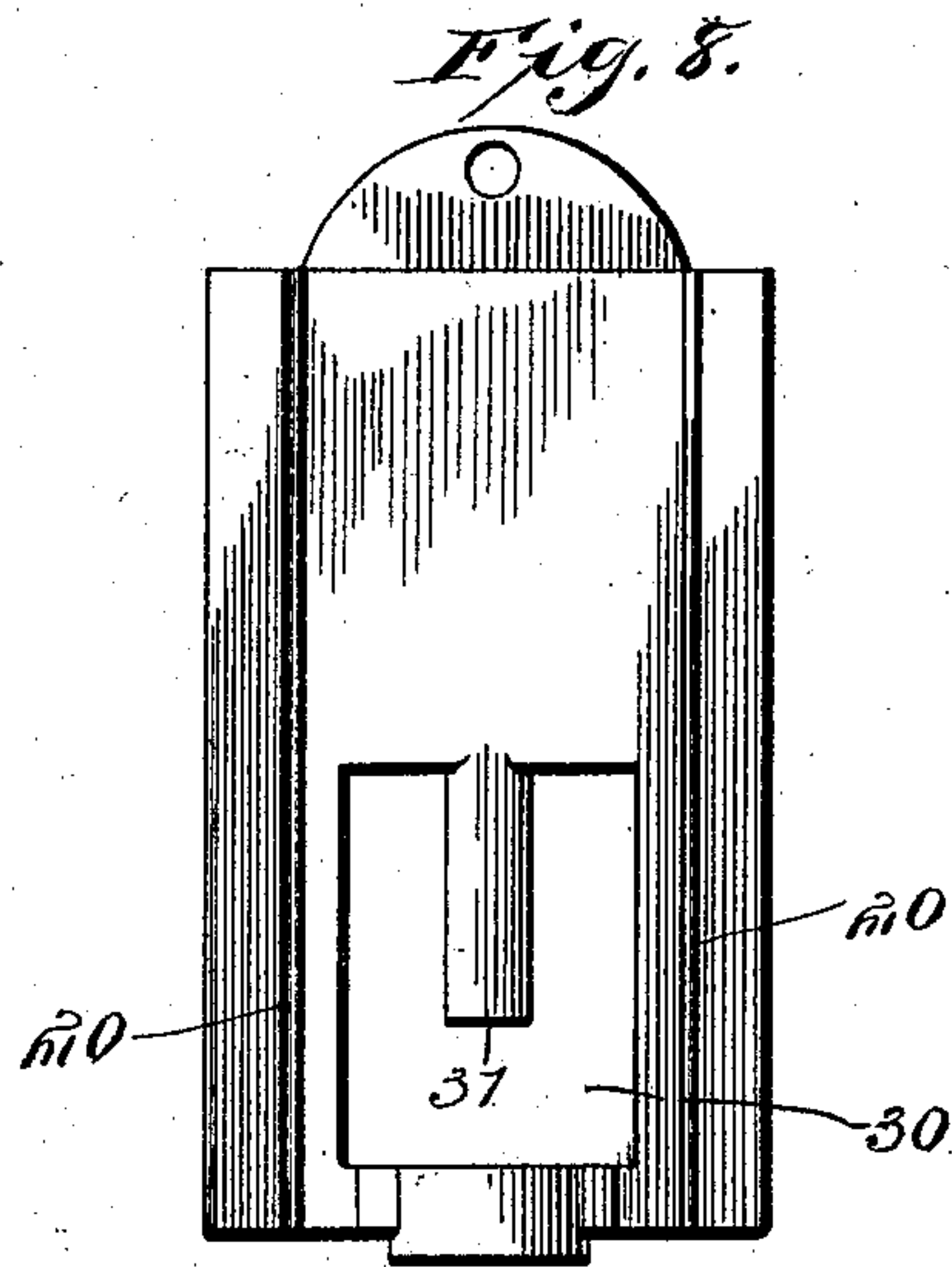
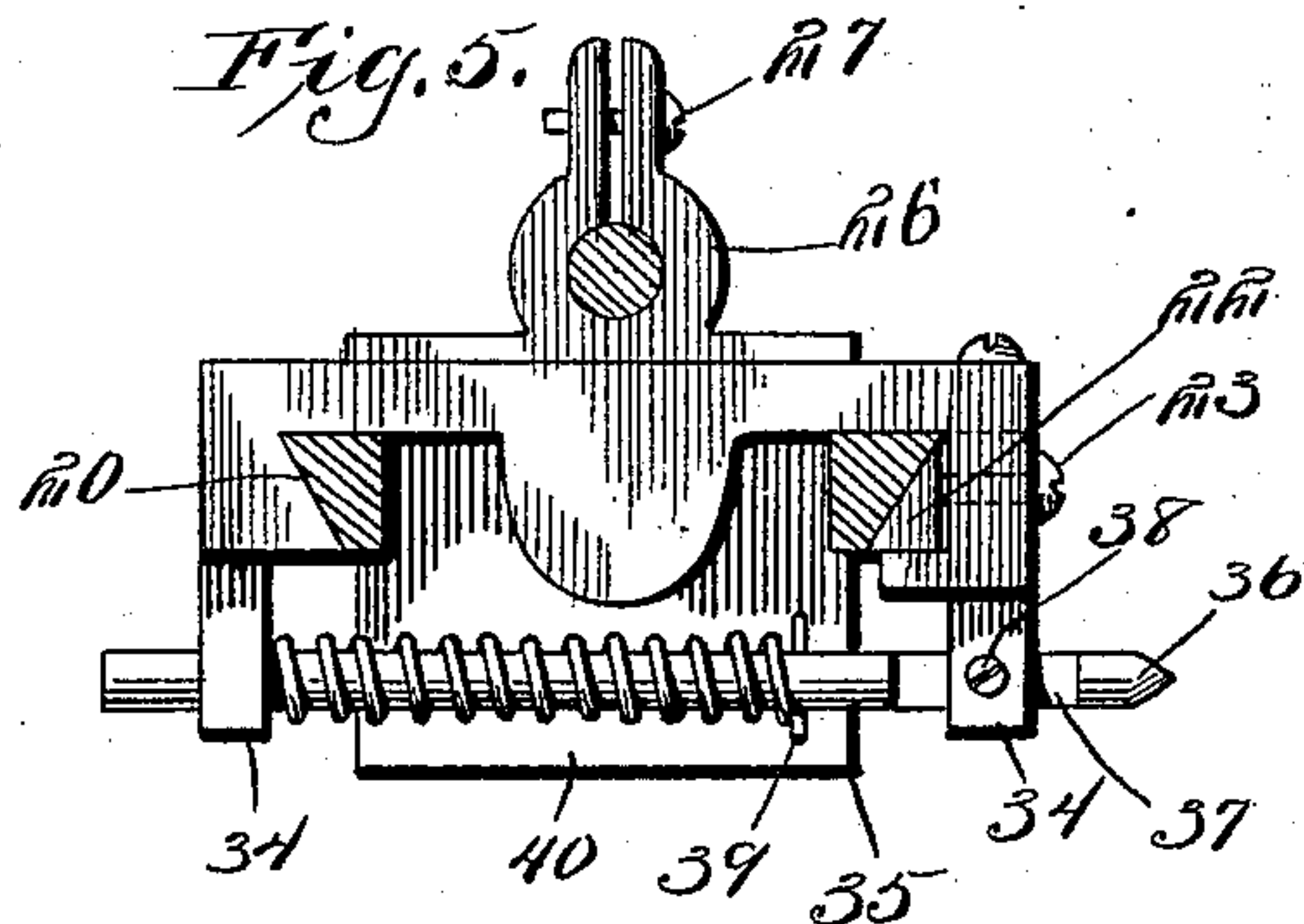
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# UNITED STATES PATENT OFFICE.

JOSEF A. SAUTER, OF BUFFALO, NEW YORK.

## ADJUSTABLE HOLDER FOR PRINTING-FILMS.

SPECIFICATION forming part of Letters Patent No. 690,619, dated January 7, 1902.

Application filed August 6, 1901. Serial No. 71,116. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEF A. SAUTER, a citizen of the United States, residing at Buffalo, county of Erie, and State of New York, have invented a certain new and useful Improvement in Adjustable Holders for Printing-Films, of which the following is a specification.

My invention relates to a new and useful improvement in adjustable holders for printing-films, and has for its object to provide a holder by which the operator is enabled to accurately adjust and hold the framed film and to move the frame minutely and accurately in two directions for the purpose of placing subsequent prints slightly out of register with the first print, the purpose of which is well known in the art.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of a portion of a table and a portion of film and frame, showing my invention applied thereto; Fig. 2, a perspective view of the standard for supporting the cross-bar; Fig. 3, a section upon the line 3 3 of Fig. 2; Fig. 4, a perspective view of one of the adjustable film-frame carriers; Fig. 5, a section on the line 5 5 of Fig. 1; Fig. 6, a section on the line 6 6 of Fig. 1; Fig. 7, a section on the line 7 7 of Fig. 1; and Fig. 8 a plan view of the part of the film-carrier which is attached to the cross-bar, the upper part, which is adjustable, being removed therefrom.

The whole apparatus is supported upon a table or other flat surface 1.

2 represents standards which are designed to be clamped to the edge of the table upon each side thereof, and these standards consist of the two parts 3 and 4. The lower part 3 is designed to be clamped to the edge of the table by means of the clamping-screw 5. A channel is formed in the upper part of this

clamping member, and in this channel is adapted to rest the member 4. This member 4 consists of the two legs 6, which rest within the channel, and the inner edges of these legs are beveled, as shown in Fig. 3. A block 7 is adapted to fit in between the legs, and the edges of the block are beveled to correspond with the bevel of the legs. A screw 8 is adapted to pass through a hole formed in the upper portion of the clamping member 3 and is threaded through the block 7. By turning this screw and pulling the block 7 inward the legs 6 will be bound in place, and thus hold the member 4 at any point desired. The upper portion of the member 4 has formed through it the slot 9, through which is adapted to protrude a cross-bar 10, which is adapted to extend across the table and rest within the slot 9 of each of the standards 2. These slots 9 are preferably made wider than the cross-bar 10, so that the cross-bar will have a certain amount of adjustment laterally without moving the clamps, set-screws 11 being provided to hold the cross-bar in position when once adjusted. The cross-bar 10 is adapted to support the film-frame carriers 12 and 13. Both of these carriers are of the same construction, except that the carrier 12 has an adjustment parallel with the cross-bar, which the carrier 13 has not; but both carriers have an adjustment at right angles to the cross-bar of identically the same construction. Each of the carriers 12 and 13 is composed of the two parts 14 and 15. The part 15, as shown by itself in Fig. 8, has an opening 16 formed transversely through the same, through which the cross-bar 10 protrudes, and by this means the carriers can be adjusted to any point along the cross-bar and may be held at the point adjusted by means of the cam-lever 17, which is pivoted at the point 18 to the rear end of the member 14 of the carrier when this cam-lever is turned so as to bring the cam-surface to bear against the cross-bar, which will bind the cross-bar tightly within the member 14, so as to prevent any horizontal movement of the carrier. A set-screw 19 is threaded through the member 14 above the opening 16 and is adapted to be brought to bear against the upper surface of the cross-bar, thus preventing any vertical movement of the carriers and also



serving to hold the same against any longitudinal movement along the cross-bar. Each side of the member 14 is beveled, as indicated at 20, the bevel extending downward and inward, as shown in Fig. 6. The member 15 is adapted to slide over the member 14 and is channeled upon the under side, so as to slide upon the beveled portion 20 of the member 14, one wall of said channel being beveled to fit the bevel upon the member 14. The other wall of the channel is formed vertically and has an inwardly-extending lip 21. When the member 15 is slid upon the member 14, this vertical wall will cause a triangular space to be left between such a wall and the beveled edge of the member 14. In this triangular space is adapted to be inserted a triangular block 22. A screw 23 is threaded through the side of the member 15 and adapted to bear against this triangular block for the purpose of forcing the same in contact with the beveled edge of the member 14. This is for the purpose of taking up any wear and preventing any lost motion whatsoever between the two members 14 and 15.

Upon the inner end of the member 14 is an upwardly-projecting lug 24, through which a hole is formed, in which hole is swiveled an adjusting-screw 25. Upon the upper side of the member 15 is secured a split nut 26, through which is threaded the screw 25. This nut is split or divided above the screw 25, and through one lip of the same a hole is formed, through which is passed a screw 27, which is threaded through the other lip. This screw 27 is for the purpose of taking up any lost motion caused by wear or for binding the screw 25 against turning after the carrier has been adjusted. It is now obvious that if the screw 25 is turned the member 15 can be adjusted longitudinally along the member 14, and for the purpose of turning this screw minutely and accurately I secure upon the outer end of the same and beyond the lug 24 a toothed wheel 27, and upon the smooth shank of the screw 25 I pivot loosely the lever 28, to which lever is pivoted a dog 29, which dog is double pointed, so that it will act as a pawl to turn the toothed wheel 27 in one direction when the dog is thrown to one side of the wheel, and by throwing it to the other side of the wheel it will act as a pawl to turn the toothed wheel in the opposite direction.

Through the inner end of the member 14 is formed an opening 30, and into this opening projects a stud 31, formed with the member 14. 32 is a lug which projects downward from the member 15 through the opening 30, and between the end of the stud 31 and the inner end of the member 14, coiled around the stud 31, is a spring 33. The other end of the spring is adapted to bear against the lug 32, and thus will tend to always exert pressure against the member 15 to press the same inward. This spring is for the purpose of taking up any lost motion between the thread of

the screw 25 and the nut 26 and will allow the adjustment to be made exceedingly accurate.

Extending downward from each side of the member 15 and passing to the outside of the member 14 are the lugs 34. Through these lugs are formed holes through which is inserted the pivot-pin 35. These pivot-pins are pointed upon their inner ends, and these pointed ends are adapted to be inserted in sockets of attachments 37, secured to the film-frame upon each side thereof. The pins in the carriers 12 and 13 are flattened at the point 37 where they pass through the lug 34. Upon the inner side of the carrier a screw 38 is threaded through this lug, the end of the same adapted to lie within the flattened portion, and thus limit the movement of the pin and also serve to bind the same in place after adjustment. Transversely through each of the pins 35 is passed a small pin 39, and interposed between this pin and the outer lug 34 of each of the carriers is a spring 40, which springs tend to always press the pin inward toward the film-frame.

The carriers as far as they have now been described are the same, and the carrier 13 has been described in full. To the carrier 12 is added means for adjusting its pivotal pin 35 longitudinally within the lug 34. To accomplish this adjustment, a thread is formed upon the outer end of this pin 35, and upon this end is threaded a toothed wheel 41. Pivoted upon the pin 35 is a lever 42, and pivoted to this lever is a dog 43. This dog is so formed upon the end which engages the toothed wheel that it will act to turn the toothed wheel in one direction when the dog is swung to one side of the toothed wheel and will act to turn the wheel in the opposite direction when swung to the opposite side. Thus as the toothed wheel is turned the pin 35 will be forced backward and forward. It is prevented from turning with the toothed wheel by the screw 38, the end of which bears against the flat surface 37. The spring 40 upon this pin will take up any lost motion between the thread of the pin and the toothed wheel, and the spring 40 upon the pin 35 of the opposite carrier will allow for the film-frame to be moved backward and forward the distance equal to the flat portion 37 of both pins, and when the desired position is gained the pins may be set against any movement by binding the screws 38.

44 is a rest adapted to be secured to the center of the cross-bar, and this rest projects upward at a slight angle, so that when it is desired to raise the film-frame it can be swung upward upon the pivot-pin and rest against said rest 44 without any liability of injuring the film.

I am aware that adjustable holders have been patented and are in use which provide for the adjustment of the film-frame in two directions; but the advantages of my con-



struction over these are that in my invention the adjustment can be made much more accurate and positive than has been possible before and all lost motion of the movable parts is taken up by the springs, and after the adjustment is accomplished all movable parts can be clamped so as to make the same immovable, and at the same time the apparatus is simplified, and thereby made more durable and efficient.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In an apparatus of the character described, standards adapted to be clamped to the opposite edges of a table or other flat support, a cross-bar supported by said standards at each end, means for adjusting said cross-bar vertically within the standards, two film-frame carriers carried by the cross-bar and adjustable longitudinally of the same, cams carried by the film-frame carriers for binding the same upon the cross-bar, each carrier composed of two members, one member adapted to slide upon the other member at right angles to the cross-bar, a screw swiveled in one of the members and threaded through the other member, a ratchet-wheel secured to the screw, a lever pivoted upon the screw, a pawl pivoted to the lever and adapted to engage the ratchet-wheel, a spring interposed between the two members, means for taking up any lost motion between the two members where they slide upon one another, pivot-points carried by the movable members, a film-frame adapted to be interposed between the pivot-points, a rest secured to the cross-bar against which the frame is adapted to lie when out of use, substantially as and for the purpose set forth.

2. In combination with an apparatus of the character described, film-frame carriers, a bar along which said carriers are adjustable, cams carried by the carriers for the purpose of clamping said carriers in position upon the bar, each carrier consisting of two members,

one member adapted to slide upon the other at right angles to the cross-bar, a block interposed between the two members, a screw threaded through one member and adapted to bear against the block for the purpose of taking up the lost motion between the two members where they slide one upon the other, a screw swiveled in one member and threaded into the other member, a toothed wheel secured to the outer end of said screw, a pawl adapted to engage the toothed wheel, a lever for operating the pawl, a spring interposed between the two members, lugs extending downward from the movable member, pivot-pins extending through openings formed through the lugs, the pivot-pin in one of the carriers being yielding, the pin in the other carrier being adjustable, a toothed wheel threaded upon the outer end of the adjustable pin, said toothed wheel confined between two points, a pawl in engagement with said toothed wheel, a lever for rocking the pawl, substantially as and for the purpose specified.

3. In combination with an apparatus of the character described, standards adapted to support the cross-bar, said standards consisting of two parts, a channel formed in one part adapted to embrace the edge of the table, a clamping-screw adapted to clamp said standards to the table, a channel formed in the upper end of the clamp member, the second member adapted to slide within said channel, means for holding said second member in position after it is adjusted, said adjustable member being provided with a horizontal slot formed in the upper end thereof, set-screws threaded through said adjustable member, a cross-bar adapted to protrude through said slots and be held in position by said set-screws, substantially as and for the purpose set forth.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOSEF A. SAUTER.

Witnesses:

H. B. HALLOCK,  
L. W. MORRISON.