

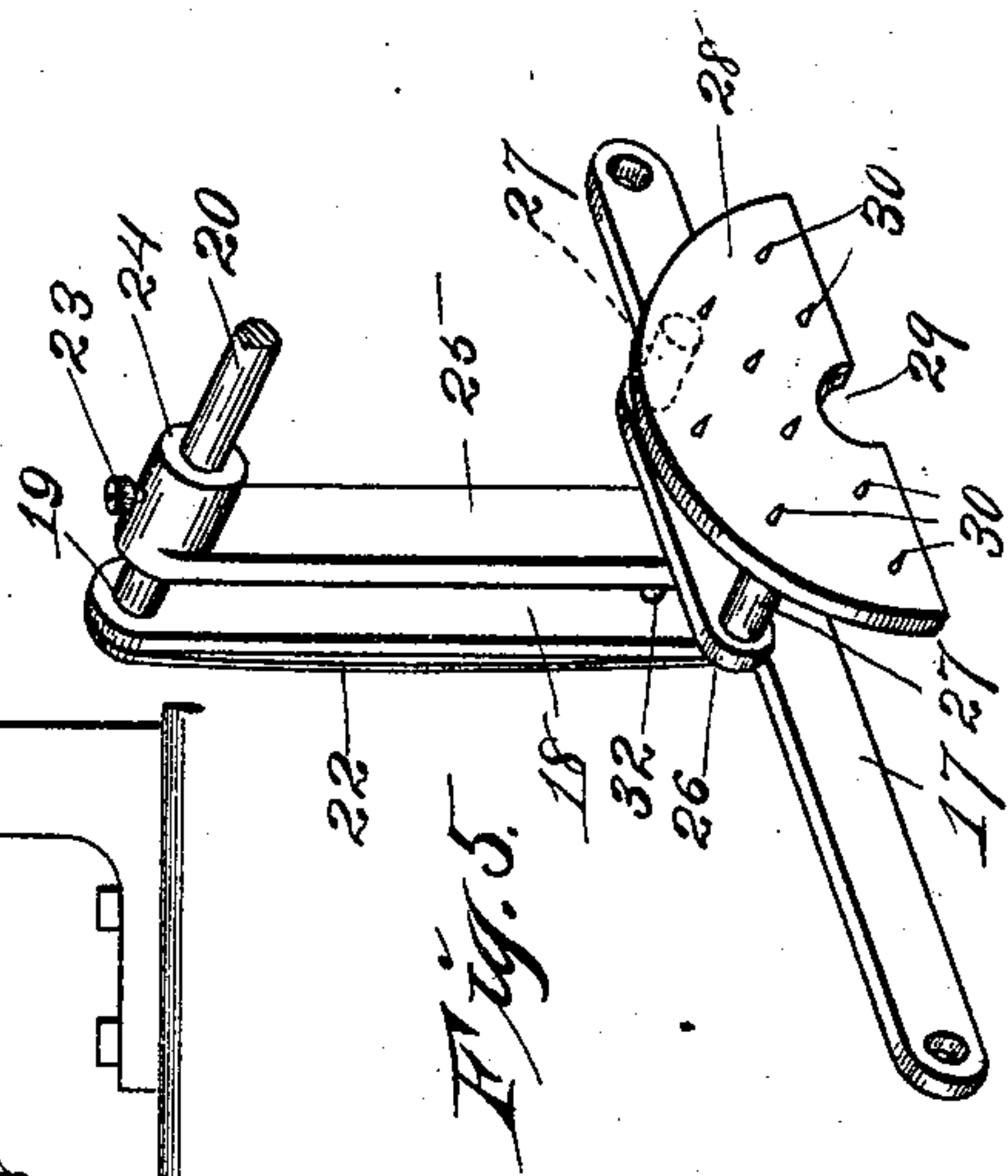
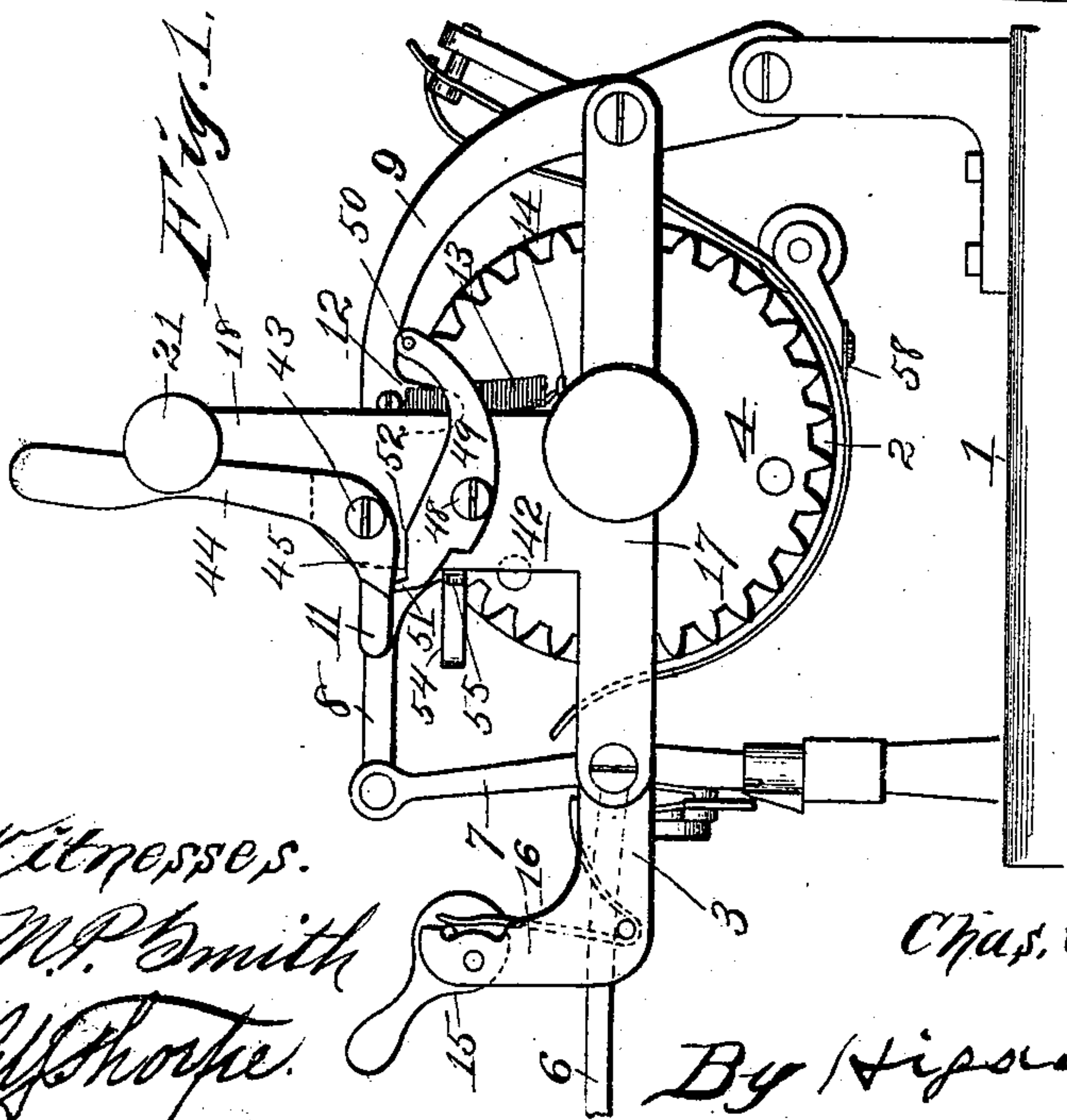
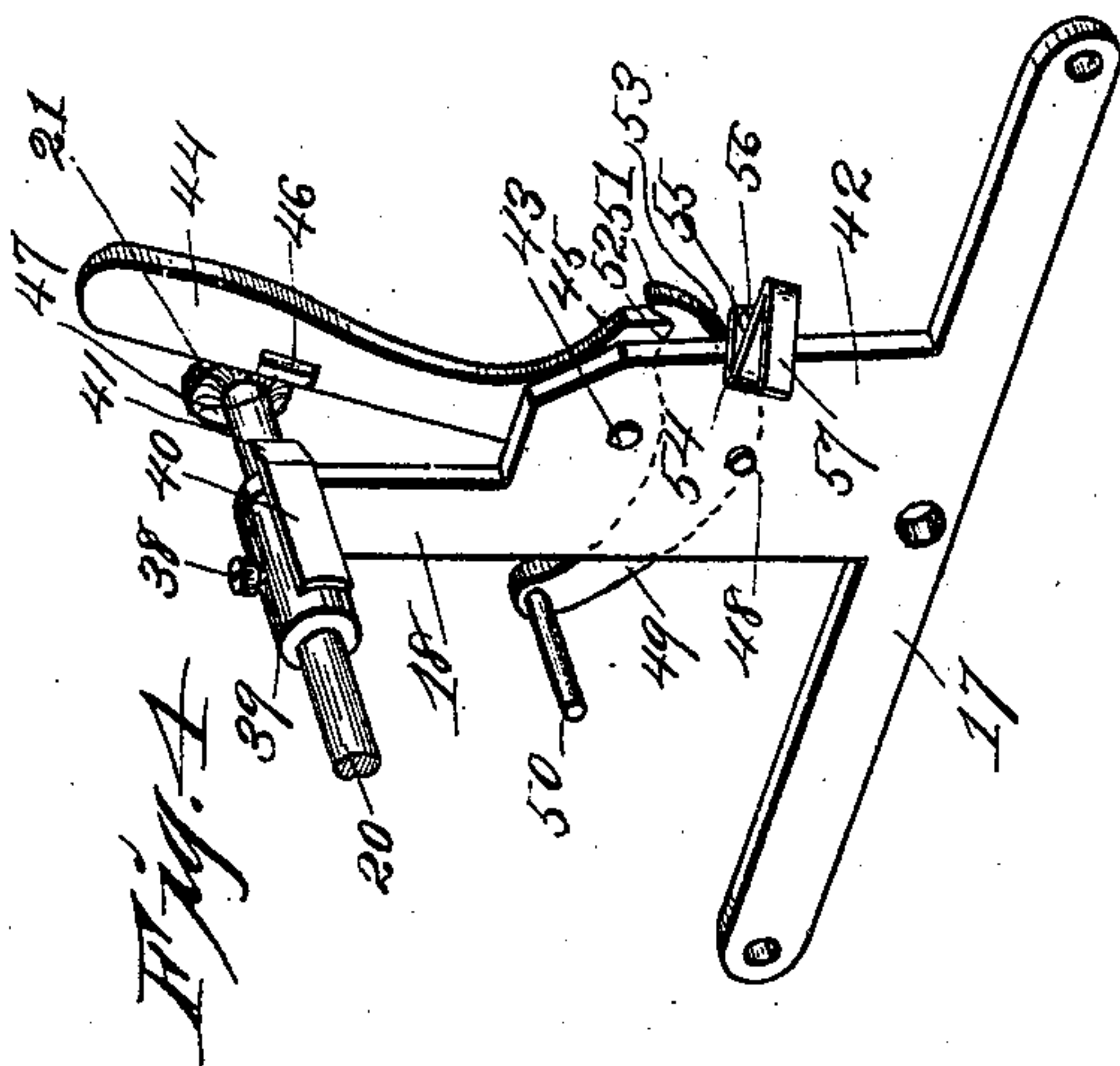
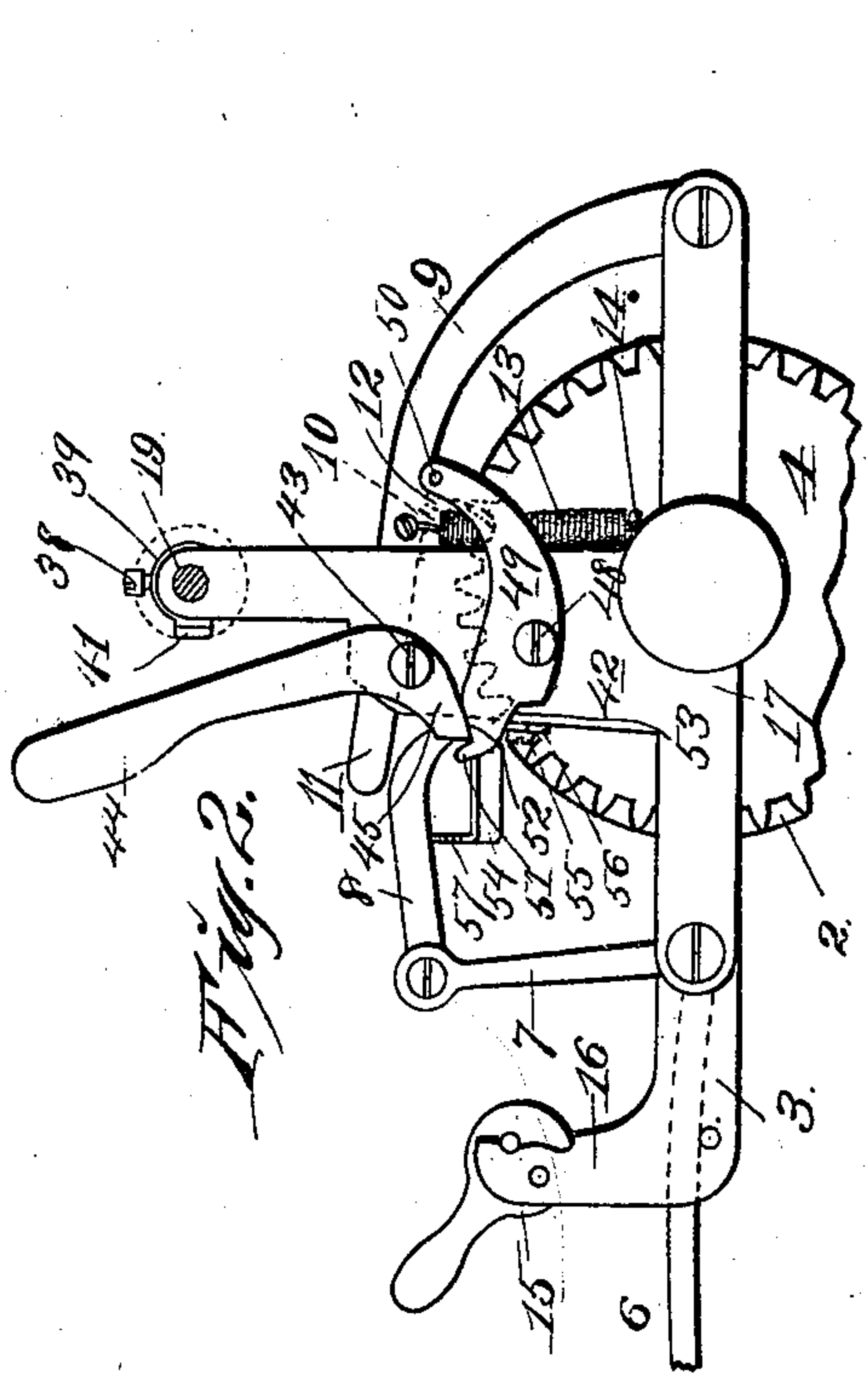
(No Model.)

2 Sheets—Sheet 1.

C. O. ERWIN & F. WINKLER.  
TYPE WRITING MACHINE.

No. 506,426.

Patented Oct. 10, 1893.



Witnesses.  
M. P. Smith  
G. Thorpe.

Inventors  
Chas. O. Erwin and  
Frank Winkler.  
By Hippen & Hippen  
Attys.

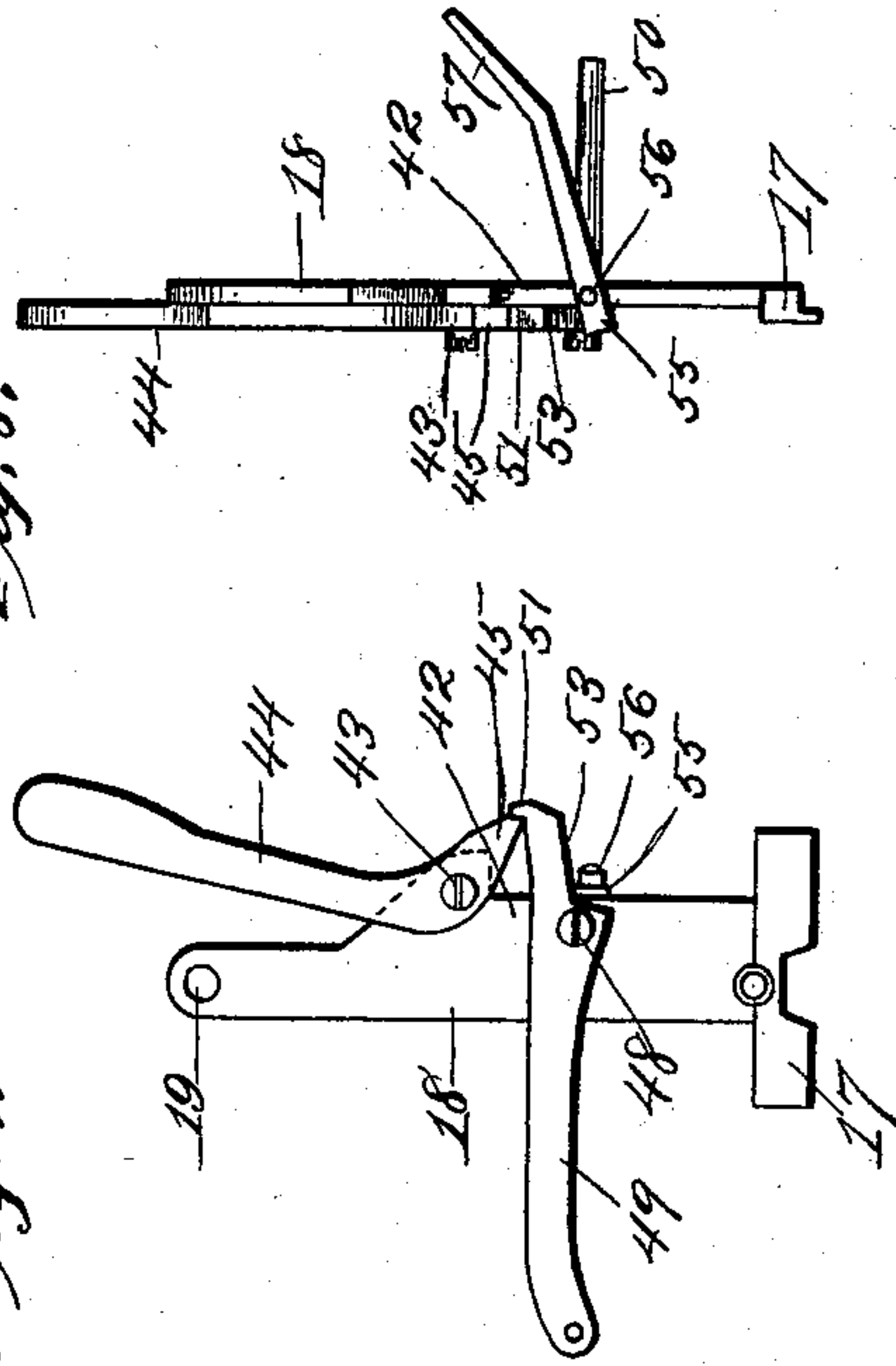
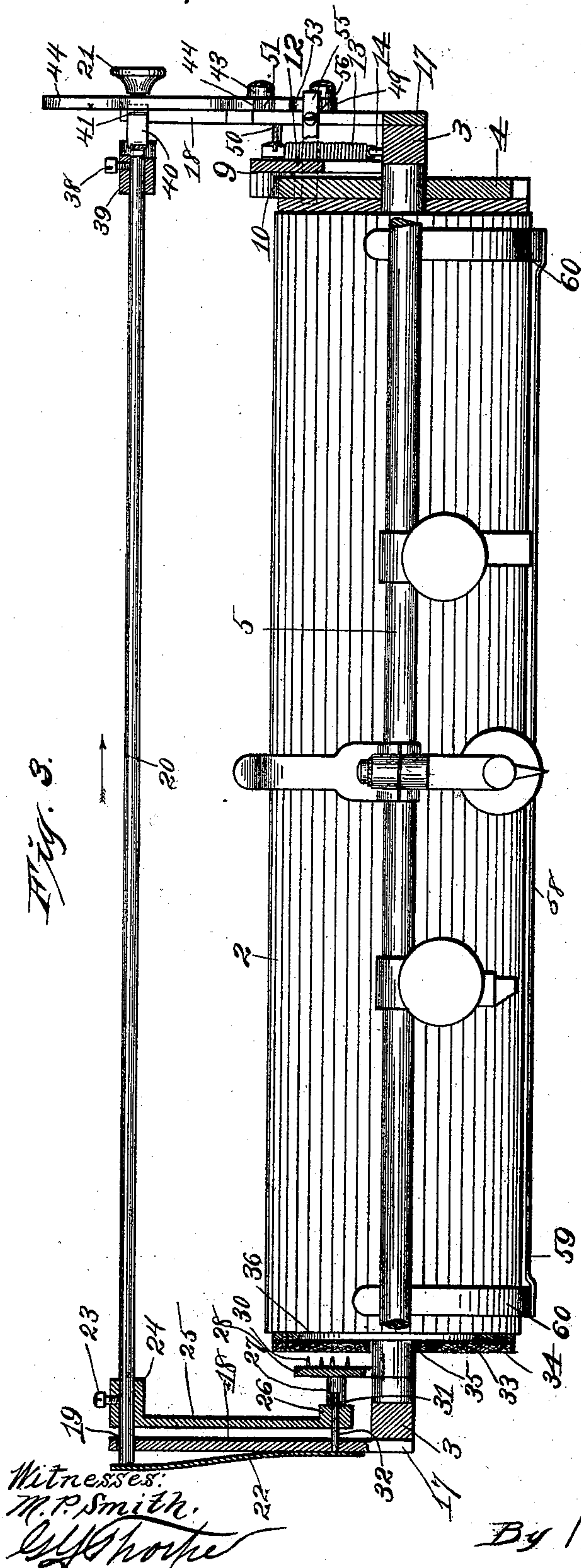
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2 Sheets—Sheet 2.

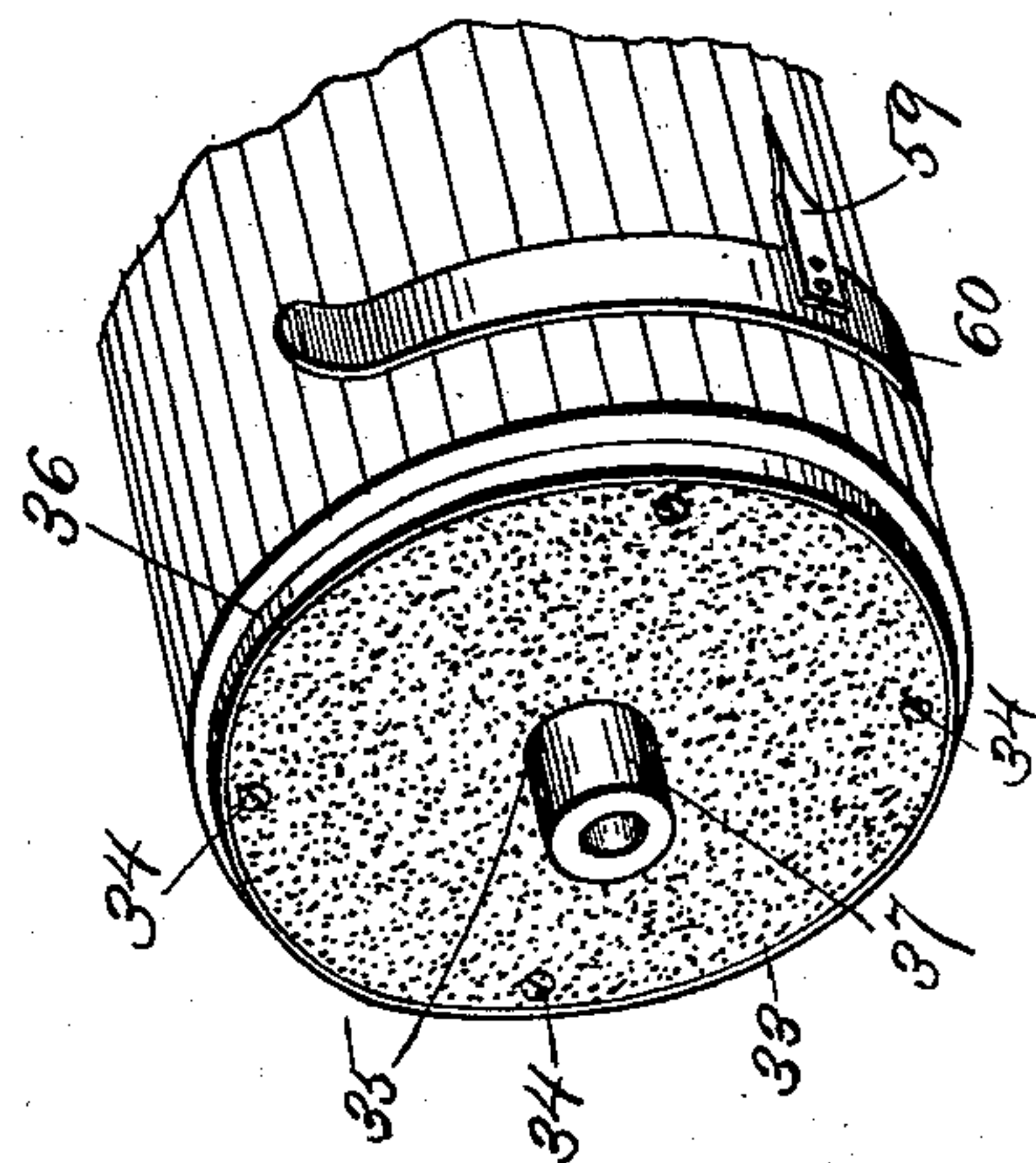
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*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

CHARLES O. ERWIN AND FRANK WINKLER, OF KANSAS CITY, KANSAS.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 506,426, dated October 10, 1893.

Application filed May 15, 1893. Serial No. 474,282. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES O. ERWIN and FRANK WINKLER, of Kansas City, Wyandotte county, Kansas, have invented certain new and useful Improvements in Type-Writers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to improvements in spacing attachments for typewriters.

The object of the invention is to provide an attachment applicable as illustrated, to a variety of typewriters in general use, and by which the printing cylinder may be held at any desired point of rotation.

A further object of the invention is to provide an attachment, the operation of which to hold the cylinder at any desired point of rotation, will automatically disengage the actuating and locking-pawls of the machine from the ratchet-wheel, and the operation of which to release the cylinder will allow said pawls to resume their normal and original positions.

This invention is designed as an improvement over the application on improvements in typewriters, filed March 31, 1893, Serial No. 468,508, and patented June 20, 1893, No. 499,723, and is designed to cover a construction, which with slight modifications in the matter of attachment, will be applicable to all of the principal typewriters in general use.

With these objects in view, the invention consists in certain peculiar and novel features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that our invention may be fully understood, we will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is an end view of the upper portion of a typewriter, and showing our improvements applied thereto, and also showing the actuating and locking-pawls in engagement with the ratchet-wheel of the printing-cylinder. Fig. 2, is a similar view, but showing in this instance our attachments in a different operative position, and also showing the actuating and locking-pawls held out of engagement with the ratchet-wheel of the printing-cylinder. Fig. 3, is a front view of

the printing-cylinder, and showing the traveling-frame broken away, and also showing our attachment partially in vertical section. Fig. 4, is a perspective view of one end of our attachment, and Fig. 5, is a perspective view of the other end of our attachment. Fig. 6, is a perspective view of one end of the printing-cylinder, and showing the penetrable-disk carried thereby, and also showing the line-indicator. Fig. 7, is a face view of one end of a slightly modified form of our attachment; this form consisting simply in the reversed positions of the levers, and is applicable to a particular style of Remington. Fig. 8, is an edge view of the same.

In the drawings, 1 designates the upper part of the framework of a typewriter, and 2 designates the printing-cylinder, which is revolutely journaled between the end-bars 3 of the traveling-carriage or frame. Secured to the right-hand end of the cylinder is the ratchet-wheel 4, and pivotally mounted upon the front longitudinal rod 5 of the traveling-carriage, and adjacent to one end is the hand-lever 6, which is formed at its pivotal point with the upwardly extending arm or projection 7, which in turn pivotally carries at its upper end the actuating-pawl 8, the free end of which engages the ratchet-wheel 4.

Pivotally mounted upon the rear longitudinal rod (not shown) of the traveling-carriage in the usual manner, is the locking-pawl 9, the depending tooth 10 of which engages the ratchet-wheel 4 also. This locking-pawl is provided with the forwardly projecting arm 11, by which it is raised when desiring to rotate the cylinder backward, and also with the depending lug 12. A spiral-spring 13, is connected at its upper and lower ends to a screw-bolt carried by said lug, and to a hook 14 carried upon the adjacent end bar of the traveling-carriage; the tendency of this spring being to hold the locking-pawl into engagement with the ratchet-wheel 4, and therefore prevent the rotation of the cylinder. A cam-lever 15 is pivotally carried at the inner side of a vertical extension 16, formed at and projecting upwardly from the front end of the end-bar of the traveling-carriage adjacent to the ratchet-wheel; said cam lever being adapt-



ed to limit the upward movement of the hand-lever and therefore the revoluble movement of the printing-cylinder.

The construction described in the foregoing is common in the Caligraph typewriter.

We will now proceed to describe the construction and operation of our improved attachments.

A pair of approximately T-shaped frames are inverted and have their horizontal portions 17 screw-bolted to the outer side of the end-bars 3 of the traveling-frame or carriage, and have their vertical portions or arms 18, projecting upwardly a suitable distance beyond the upper side of the cylinder. Longitudinally aligned holes or apertures 19 are formed in the upper ends of said vertical arms, and a slide-rod 20 has its opposite ends passed through said holes or apertures and carries at its right-hand end the head or button 21. A leaf-spring 22 is secured at its lower end to the outside of the vertical arm at the left-hand end of the cylinder, and has its upper and free end bearing against the adjacent end of the slide-rod; the tendency of said spring being to force the slide rod in the direction of the arrow Fig. 3, and to lock the printing-cylinder from revoluble movement as hereinafter explained.

Adjustably secured by means of the set screw 23 upon the slide rod 20 is the hub or tubular extension 24 formed at the upper end of a vertical bar 25, and formed to extend transversely of the lower end of said bar or secured thereto, is the horizontal bar 26. Projecting inwardly from said bar 26 and near its opposite ends are the projections 27 which carry at their inner ends the vertically arranged and semi-circular plate 28. This plate is formed at the middle of its lower margin with the semi-circular recess 29, which is arranged astride of the axle of the printing-cylinder, and is also formed or provided with a series of teeth or points 30 at its inner side, the object of which will be presently explained. To guide this frame in its movement toward and from the cylinder as hereinafter referred to, a hole or aperture 31 is formed through the horizontal bar 26 and the lower end of the bar 25, and engages the horizontally arranged guide-pin 32, which projects inwardly from the adjacent vertical bar 18.

A penetrable-disk 33 formed in any suitable manner and of any suitable material is secured by screw-bolts 34 or other suitable means to the end plate 36 of the cylinder, and is also formed with a central hole or aperture 35 which surrounds the tubular extension or hub-portion 37 of said end plate.

Secured by means of the set screw 38 upon the slide-rod 20, and adjacent to its right-hand end, is the sleeve or collar 39, and said sleeve or collar is formed at one side with the outwardly projecting arm or extension 40, the outer or free end of which is beveled at 41 at its outer side.

Formed integral with or secured to the vertical portion 18 at the right hand end of the cylinder, is the extension 42, and pivotally mounted upon the screw-bolt 43 near the upper end of said extension and at its outer side is the lever 44; said lever being formed with an extension or toe-portion 45 which is arranged approximately at right angles to the body-portion of the lever and projects forwardly, and said lever is also formed at its inner side with the longitudinal recess or groove 46, and with the beveled surface 47 at its rear margin which leads to said longitudinal groove or recess. It will thus be seen from the foregoing description, that when the lever 44 is in the position shown in Figs. 2, 4 and 7, the spring 22 bearing at the left-hand end of the slide-rod 20, holds the locking-frame into engagement with the penetrable-disk and prevents the rotatable movement of the cylinder. Now, by pressing upon the button 21, the slide-rod may be moved to the position shown in Fig. 3, and the locking-frame is disengaged from the penetrable-disk, and by grasping the printing-cylinder with the left-hand it may be rotated either forward or backward to any point desired, and immediately locked in said position by releasing the pressure upon the button 21, which allows the spring 22 to operate the slide-rod and re-engage the locking frame with the penetrable-disk.

Pivotally mounted upon the screw-bolt 48 which also passes through the extension 42, is a lift-lever 49, said lever being provided at its rear end with the inwardly projecting pin or rod 50, which rests against the under side of the locking-pawl 9, and in rear of the depending lug 12 and tooth 10 thereof. The forward end of said lever is provided with the upwardly projecting toe or extension 51, and is also formed inward of said toe with the shoulder 52. The lift-lever 49 is also recessed in its front end and lower side to form the shoulder 53, which bears upon the outwardly projecting end 55 of a lever 54; said lever being pivotally mounted upon a bolt 56, and having its opposite end 57 extending inwardly for a suitable distance, and adapted to contact when desired with the under side of and lift the actuating-pawl 8 out of engagement with the ratchet-wheel 4. When the locking attachments are in their normal position as shown in Figs. 1 and 3, the beveled end 41, of the arm or extension 40 of the sleeve or collar 39 carried upon the slide-rod, is in engagement with the longitudinal groove or recess 46 thereof, and the lower side of the toe-portion of said lever rests upon the upper end of the toe or extension 51 of the lift-lever 49, and the actuating and locking-pawls are in engagement with the ratchet-wheel 4, and are adapted when the hand-lever 6 is operated to operate in the usual manner, to rotate and hold the cylinder, respectively. When the lever 44 is pulled forwardly to the position shown in



Figs. 2 and 4, the toe-portion 45 pivotally operates the lift-lever 49 to the position shown, and rests upon the shoulder 52 formed inward of the toe-portion 51 of the lift-lever, and the toe-portion 51 of the lift-lever projecting upwardly at the outer end of the toe-portion 45 of the hand lever 44, prevents the accidental displacement thereof. The pivotal operation of the lift-lever caused by the movement of the hand-lever 44 as explained, causes the pin 50 to raise the locking-pawl from engagement with the ratchet-wheel, and at the same time the downward movement of the forward end of the lift-lever bearing upon the outwardly projecting end 55 of the lever 54, pivotally operates said lever and causes the inner end 57 thereof to raise the actuating-pawl from engagement with the ratchet-wheel at the same time that the locking-pawl is raised. As soon as the hand-lever 44 is operated of course, the spring 22 moves the locking-frame into engagement with the penetrable-disk, and by pressing upon the button or head 21 as before explained, the locking-frame may be disengaged therefrom and the cylinder rotated either backward or forwardly to any point desired. To move and hold said locking-frame out of engagement with the locking-disk, the lever 44 is operated to the position shown in Figs. 1 and 3, and the beveled surface 47 coming in contact with the beveled end 41 of the collar or sleeve 39, causes said rod to move and disengage the locking-frame from the penetrable-disk, and at the same time the actuating and locking-pawls resume their normal position into engagement with the ratchet-wheel, and are ready for operation in the usual manner.

With most of typewriters in general use, the line of printing is a slight distance from the scale bar 58, and to insure that the cylinder being rotated will be stopped at the proper point, an indicator-finger 59 is provided; said indicator-finger being secured upon one of the paper guide-plates 60, and directly in line with the point at which the type levers come in contact with the ribbon.

From the above description, it will be seen that we have produced attachments for typewriters, by which the cylinder may be moved to and stopped at any desired point of rotation, so that when printed blanks or ruled paper are used therewith, the printing may be done directly upon the line thereof or at any point desired; also attachments which are easily operated and which are simple, strong, durable and comparatively inexpensive of construction.

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

1. In a typewriter, the combination with the traveling-frame, and a rotatable printing cylinder mounted therein, and having a ratchet wheel upon one end and a penetrable disk upon the other end, and a spring-

actuated locking-pawl engaging said ratchet wheel, and a lever pivotally carried by the frame or carriage, and an actuating-pawl pivotally carried by said lever and engaging the ratchet-wheel, of a frame carried by the end-bars of the traveling-carriage, and a slide-rod carried in the upper ends of said frame, a locking-frame carried by said slide-rod and adapted to engage the penetrable-disk, and a presser-spring carried by one end of the frame and bearing upon the adjacent end of the slide-rod to hold this locking-frame into engagement with the penetrable-disk, substantially as set forth.

2. In a typewriter, the combination with the traveling-frame, and a rotatable printing-cylinder mounted therein, and having a penetrable-disk at one end, of a frame carried by each end bar of the traveling-frame and a spring-actuated slide-rod connecting and adapted to operate in the upper ends of said frames, and a locking-frame carried by said slide-rod engaging the penetrable-disk of the printing-cylinder, and a sleeve or collar carried by said slide-rod, and having an arm or projection, and a lever pivotally carried by one of the frames and adapted to contact with the arm or projection of the sleeve or collar and move the slide-rod so that the locking-disk carried thereby, will be disengaged from the penetrable-disk, substantially as set forth.

3. In a type-writer, the combination with the traveling-frame and a rotatable printing-cylinder having a ratchet-wheel upon one end and a penetrable-disk upon the other, and a spring-actuated locking-pawl engaging said ratchet-wheel, and a lever pivotally carried by the traveling-frame and an actuating-pawl pivotally carried by said lever and engaging the ratchet-wheel also, of a frame carried by the end-bars of the traveling-carriage, and a slide-rod carried in the upper ends of said frame, a locking-frame carried by said slide-rod and adapted to engage the penetrable-disk, and a presser-spring carried by the frame and bearing against one end of the slide-rod, and a sleeve or collar mounted upon said slide-rod and having an arm or projection, and a lever pivotally carried by the frame, and having a groove or recess therein, and also having a forward extension or toe-portion at its lower end, and a lift-lever pivotally carried upon said frame and having a pin or rod bearing against the under side of the locking-pawl, and a lever also pivotally carried by the frame and having an outwardly extending end projecting below the lift-lever, and an inwardly extending end projecting below the actuating-pawl, substantially as and for the purpose set forth.

4. In a type-writer, the combination with the traveling frame, and a rotatable printing-cylinder mounted therein, and having a ratchet-wheel upon one end, and a spring-actuated locking-pawl pivotally carried by said frame and engaging the ratchet-wheel, and a hand-



lever, and an actuating-pawl pivotally carried thereby and engaging the ratchet-wheel also, of a frame carried by the end-bars of the traveling-carriage, and a second hand-lever 5 pivotally carried upon one end of said frame, and a lift-lever also pivotally carried by said frame, and having an arm or rod projecting beneath the locking-pawl, and a lever pivotally carried at the front edge of said frame 10 and having one end projecting beneath the actuating-pawl, substantially as set forth.

5. In a typewriter, the combination with the traveling-frame, and a rotatable printing-cylinder mounted therein, and having a ratchet-wheel upon one end, and a spring-actuated 15 locking-pawl pivotally carried by said frame and engaging the ratchet wheel, and a hand-lever and an actuating-pawl pivotally carried thereby and engaging the ratchet wheel also, 20 of a frame carried by the end-bars of the traveling-carriage, and a second-hand lever piv-

otally carried at one end of said frame and having a forward extension or toe-portion, and a lift-lever also pivotally carried at the same end of the frame, and having an arm or pin 25 projecting beneath the spring-actuated locking-pawl, and having an extension or toe-portion formed at its outer end and a shoulder adjacent thereto, and a lever pivotally carried upon the same end of the frame, and 30 having one end projecting beneath the forward end of the lift-lever and its opposite end projecting beneath the actuating-pawl, substantially as and for the purposes set forth.

In testimony whereof we affix our signatures 35 in the presence of two witnesses.

CHARLES O. ERWIN.  
FRANK WINKLER.

Witnesses:

MAUD FITZPATRICK,  
G. Y. THORPE.