

No. 716,790.

Patented Dec. 23, 1902.

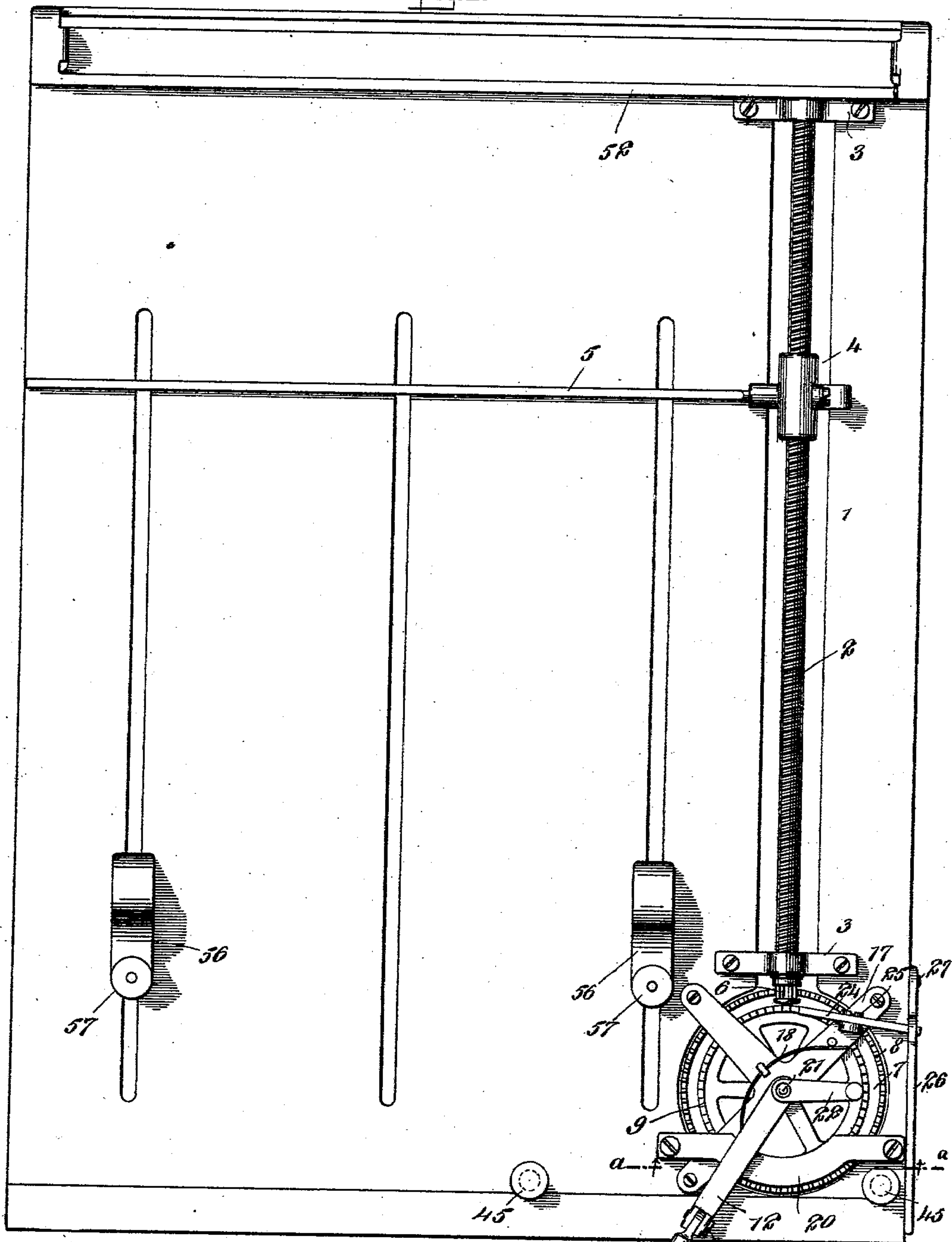
C. B. TOWERS & W. A. CAMERON.
COPY HOLDER.

(Application filed July 13, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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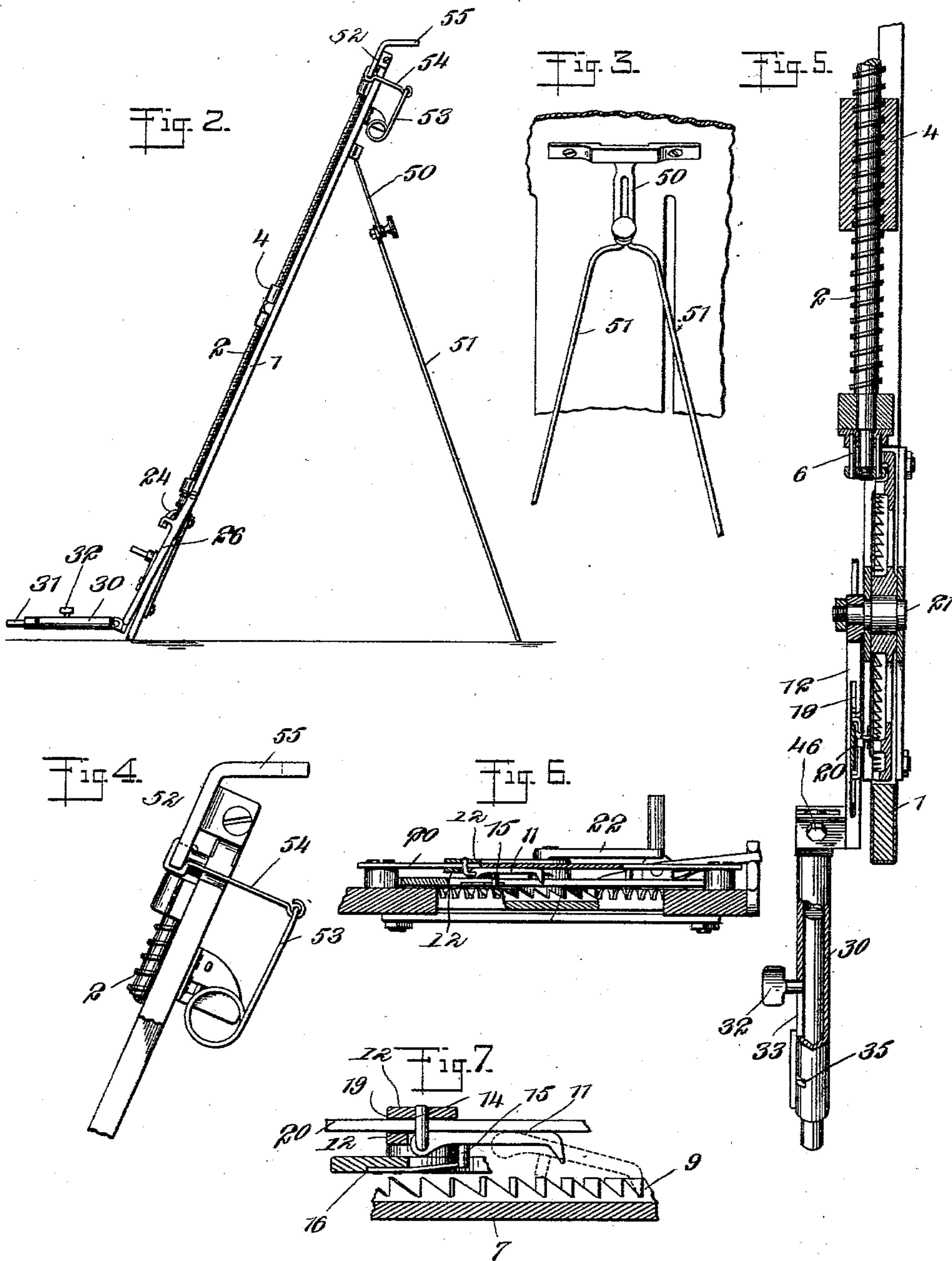
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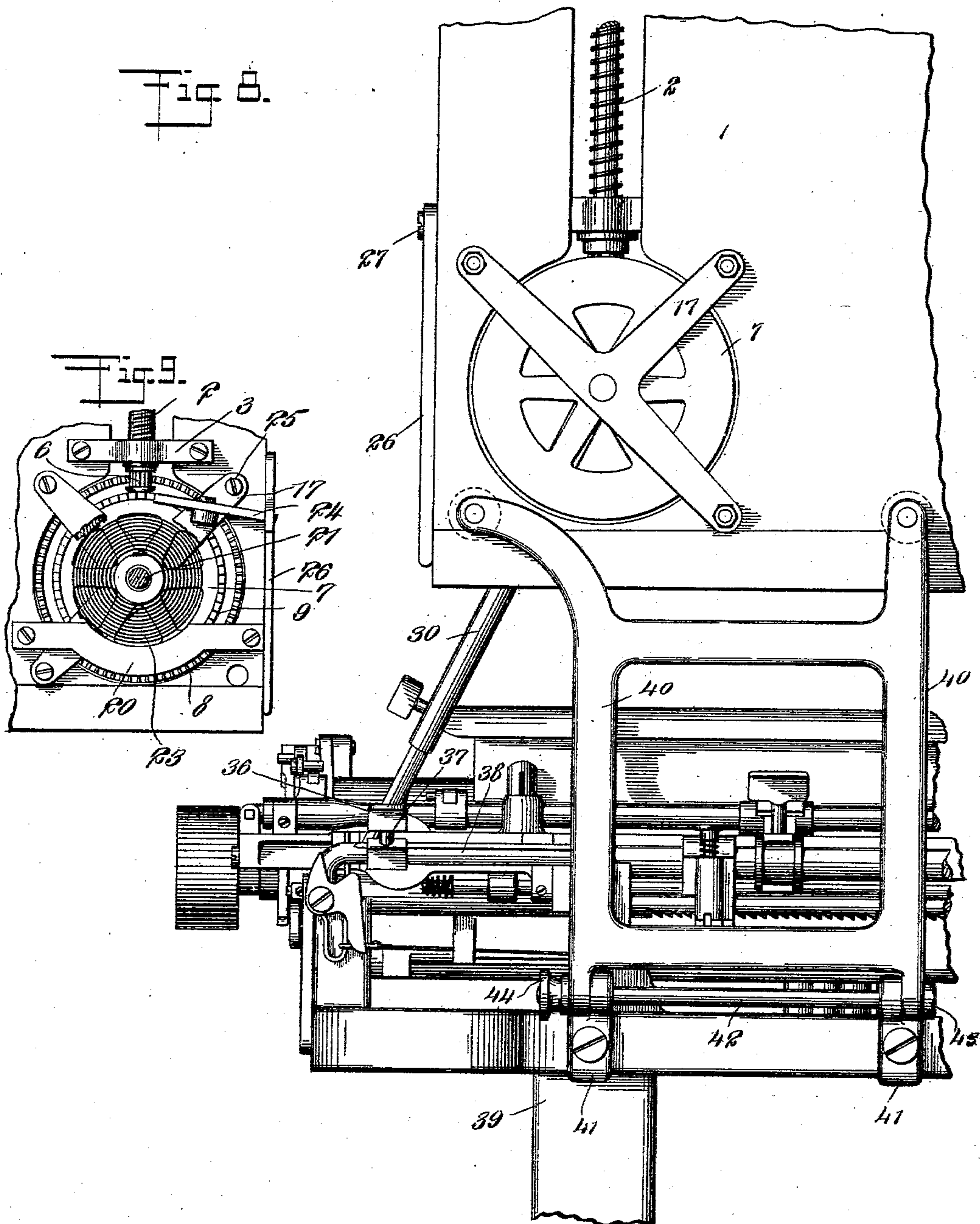
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UNITED STATES PATENT OFFICE.

CHARLES B. TOWERS, OF MILES CITY, AND WALTER A. CAMERON, OF
STACEY, MONTANA.

COPY-HOLDER.

SPECIFICATION forming part of Letters Patent No. 716,790, dated December 23, 1902.

Application filed July 13, 1901. Serial No. 68,193. (No model.)

To all whom it may concern:

Be it known that we, CHARLES B. TOWERS, a resident of Miles City, and WALTER A. CAMERON, a resident of Stacey, in the county of Custer and State of Montana, citizens of the United States, have invented a new and Improved Copy-Holder, of which the following is a full, clear, and exact description.

The object of the invention is to provide a means for indicating to a stenographer a particular line of manuscript from which the copy is being taken. It provides means for automatically operating an indicator by the type-writing machine or for manually operating it by means of a crank, and also an automatic means for returning the indicator to the top of the copy-holder on which it is located, thereby saving the time and labor of the stenographer using the invention.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a top view of our invention. Fig. 2 is a side view of the same. Fig. 3 is detail view of the supporting means for the copy-holder. Fig. 4 is a side view of a spring-clamp for the manuscript. Fig. 5 is a sectional side view of the indicator-operating mechanism shown in Fig. 1. Fig. 6 is a sectional view on the line *a a* of Fig. 1 looking in the direction of the arrows. Fig. 7 is a detail sectional view of the ratchet-and-pawl mechanism which operate the crown-wheel shown in Fig. 1. Fig. 8 illustrates the application of the invention to a type-writing machine, and Fig. 9 is a plan showing a modification hereinafter more fully described.

The copy-holder frame 1, which may consist of wood or metal, carries a worm 2 by means of brackets 3, located at either end of said worm. Movable along the worm by its rotation is a block 4, which carries a pointer 5. To the lower end of the worm 2 is fastened a pinion 6, so positioned as to be operated upon by the crown-wheel 7, which has crown-teeth 8 located on its periphery. Also located on the crown-wheel 7 are ratchet-teeth 9, which by the operation of the pawl

11, (shown in Figs. 6 and 7,) carried by the arm 12, causes the rotation of the wheel 7, which in turn by the pinion 6 causes a movement of the pointer 5 along the copy-holder. The crown-wheel may be supported by ball-bearings located in a ridge of the hub, which may be supported by the frame-supporting mechanism. The pawl 11, which is fastened to the arm 12 by the staple 14, has a pin 15 located on its under side, which makes contact with the frame portion 16 and causes when in such a position a lifting of the pawl 11 from the ratchet-teeth 9 and when away from such position permits the pawl 11 to operate upon the ratchet-teeth to cause rotation of the wheel 7. Also carried by the supporting-frame 17 of the wheel 7 is a spring 18, which is fastened to the frame and at one end operates upon the arm 12 to keep it normally swung to one side, so that the pawl 11 will be kept clear of the rack, as described above.

The arm 12 has a slot 19, (shown in Figs. 6 and 7,) through which passes the guide 20. The arm is loosely pivoted upon the shaft 21, which supports the crown-wheel 7. Firmly attached to the shaft 21 is a crank 22, by means of which the pointer 5 may be returned to the top of the copy-holder when the arm 12 is in its normal position and the pawl 11 raised clear of the ratchet-teeth 9. Also attached to the shaft 21 and the supporting-frame for the crown-wheel (see Fig. 9) is a spiral spring 23, which may automatically perform the same operation that is accomplished by the crank 22 when the pawl 24, which is supported on the frame 6 by the pivot 25, is lifted clear of the ratchet-teeth 9 by the lever 26, which is pivoted to the side of the copy-holder at 27 and is connected to the pawl 24. The spring 23 is wound up by the operation of the arm 12 as the pointer 5 passes down the length of the copy-holder, indicating each individual line upon each swing of the arm 12, and when the pointer has reached the last line of the manuscript the lever 26 is pressed down and the pawl 24 lifted clear of the ratchet-teeth 9, and the wheel 7 is caused to return by the operation of the spring 23, carrying the pointer again to the top of the manuscript.

Connected to the swinging arm 12 is an adjustable arm 30, which has an extension 31,

to which is fastened a thumb-pin 32, movable in a bayonet-slot 33, located in the adjustable arm 30. When the extensible portion 31 is pushed downward by the thumb-pin 32, said pin strikes at the bottom a bent spring 34, (see Fig. 1,) which causes the pin to move into the right-angular portion of the slot 35. (Shown in Fig. 5.) When in this position, the rod 31 is in line with a pin located upon the adjustable mounting 36, which is fastened, by means of a screw 37, to some movable portion, as 38, which moves back and forth with the carriage of the type-writing machine 39 and at the end of such movement causes the operation of the arm 12, which is swung to the right a sufficient distance to cause a one-step movement or a one-line movement of the pointer 5. The distance of this step is regulated by the position of the pin-support 36 upon the carriage of the typewriter.

Supporting the copy-holder on the framework of the type-writing machine 39 is a pair of hinged rods 40 40, which are clamped to supporting-pieces 41 41 by the clamping-rod 42, which has at one end a head 43 and at the other end a nut 44. Thumb-screws 45 45 are employed to fasten the hinged support to the copy-holder. This permits of fastening the copy-holder at any angle and also, by means of the adjusting-arm 30, which is fastened to the swinging arm 12 by the bolt 46, permits the mechanism to be operated in any position that the copy-holder may be placed.

When the copy-holder is to be used free of the machine and is to be supported on a desk, a hinged support 50, adjustably connected to a pair of limbs 51, is located on the back of the copy-holder.

At the top of the copy-holder is provided a spring-clamping device 52, which is held normally against the copy-holder by the spring 53 or any suitable spring, which is connected to the clamp by the rod 54. At the top of this clamp is located an arm 55, by means of which the clamp 52 may be raised and the paper inserted underneath said clamp. The space at the top of clamp 52 may be used to insert the pages after copying, as in the case of a stenographer's copy-book, &c. At the bottom of the copy-holder may be located a pair of well-known spring-clamps 56 56 for holding the bottom of the manuscript. These spring-clamps 56 may be adjustably positioned by means of the thumb-screws 57 57 and provided with slots in the usual manner.

Since the movements of a carriage are not in themselves uniform, and since the amount of manuscript in several lines of a written page is also not uniform, the operator should after finishing the wording of each line shift the carriage to its extreme limit, so that the movements of the indicator will be commensurate with full lines and will be uniform. If, owing to irregularities of the wording of different lines of the manuscript, the indicator tends to direct the eye of the operator

to the wrong part of the copy, or, in other words, if the lines of the manuscript are greatly at variance with the lines being type-written, the operator can throw the device out of gear at any moment and readjust the same so that the indicator will rest adjacent to the line to be copied. Almost any manuscript will run approximately with the type-written copy thereof for a few lines at a time, at least. In this event, even should the indicator be one, two, or even three or four lines amiss, the device will notwithstanding be of some service, because it will at least guide the eye of the operator to the top, middle, or bottom of the page to be copied, and this service alone is of some utility. Even should the operator neglect to adjust the indicator along at intervals the indicator will still be of some service for the reason that the operator will observe to what extent the indicator is drifting away from the manuscript-lines as they are copied.

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

1. In a line-pointer mechanism, the combination of an indicator, a crown-wheel and worm for moving said indicator, means for actuating said crown-wheel and worm, a rack mounted on said crown-wheel, a swinging arm provided with a pawl for engaging said rack for causing a step-by-step movement of said indicator, and means for intermittently-actuating said arm.

2. An indicator mechanism, comprising a pointer, a revoluble member for moving said pointer, a crown-wheel for actuating said revoluble member, a rack mounted upon said crown-wheel, a swinging arm adjacent to said rack, a spring secured to said arm and normally holding the same in a retracted position, a pawl carried by said swinging arm for the purpose of producing a step-by-step motion of said rack, and means for swinging said arm.

3. An indicator mechanism, comprising a pointer, a worm for moving said pointer, a crown-wheel actuating said worm and provided with a rack, a swinging arm provided with a pawl for engaging said rack, a spring for retracting said swinging arm, and means for disengaging said pawl from said rack when said arm is retracted.

4. An indicator mechanism, comprising a pointer, a spring, gearing connecting said pointer and said spring, means for operating said gearing step by step and also winding the spring, and means for releasing said spring for the purpose of running said gearing backward and thereby changing the position of said pointer.

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