

H. P. MOORREES.  
TYPE WRITING MACHINE.  
APPLICATION FILED JUNE 27, 1908.

912,316.

Patented Feb. 16, 1909.  
2 SHEETS—SHEET 1.

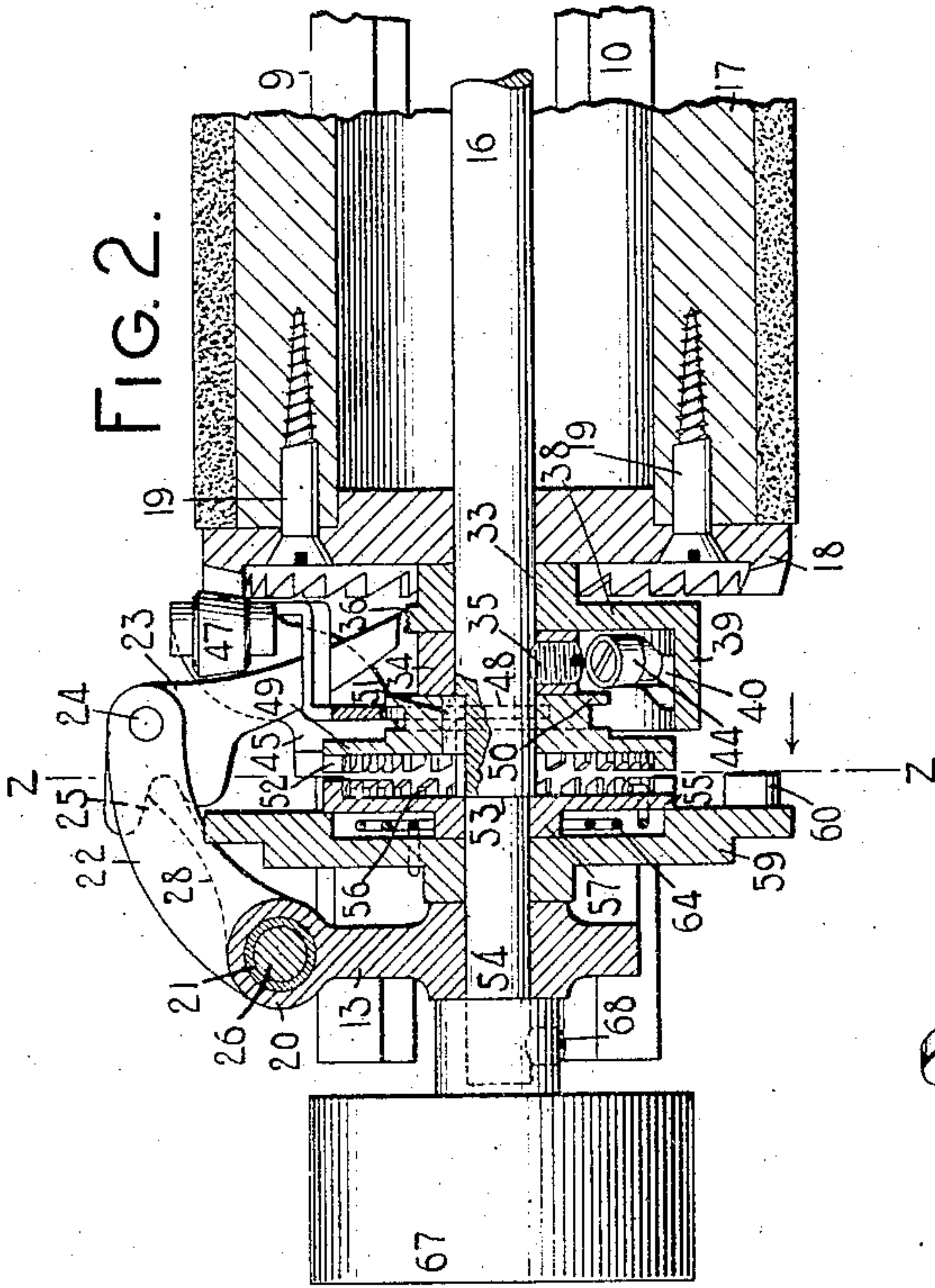


FIG. 4.

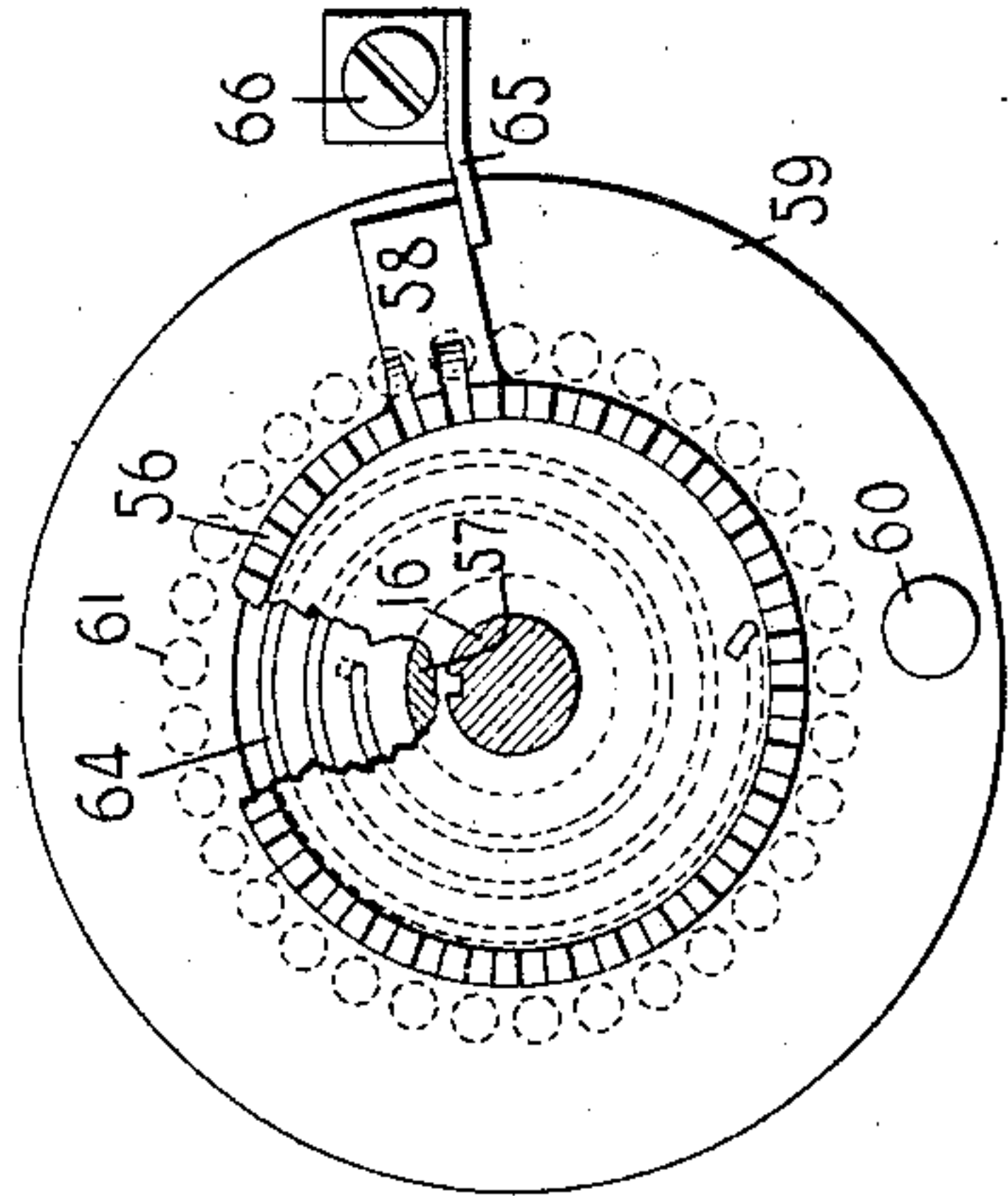


FIG. 1.

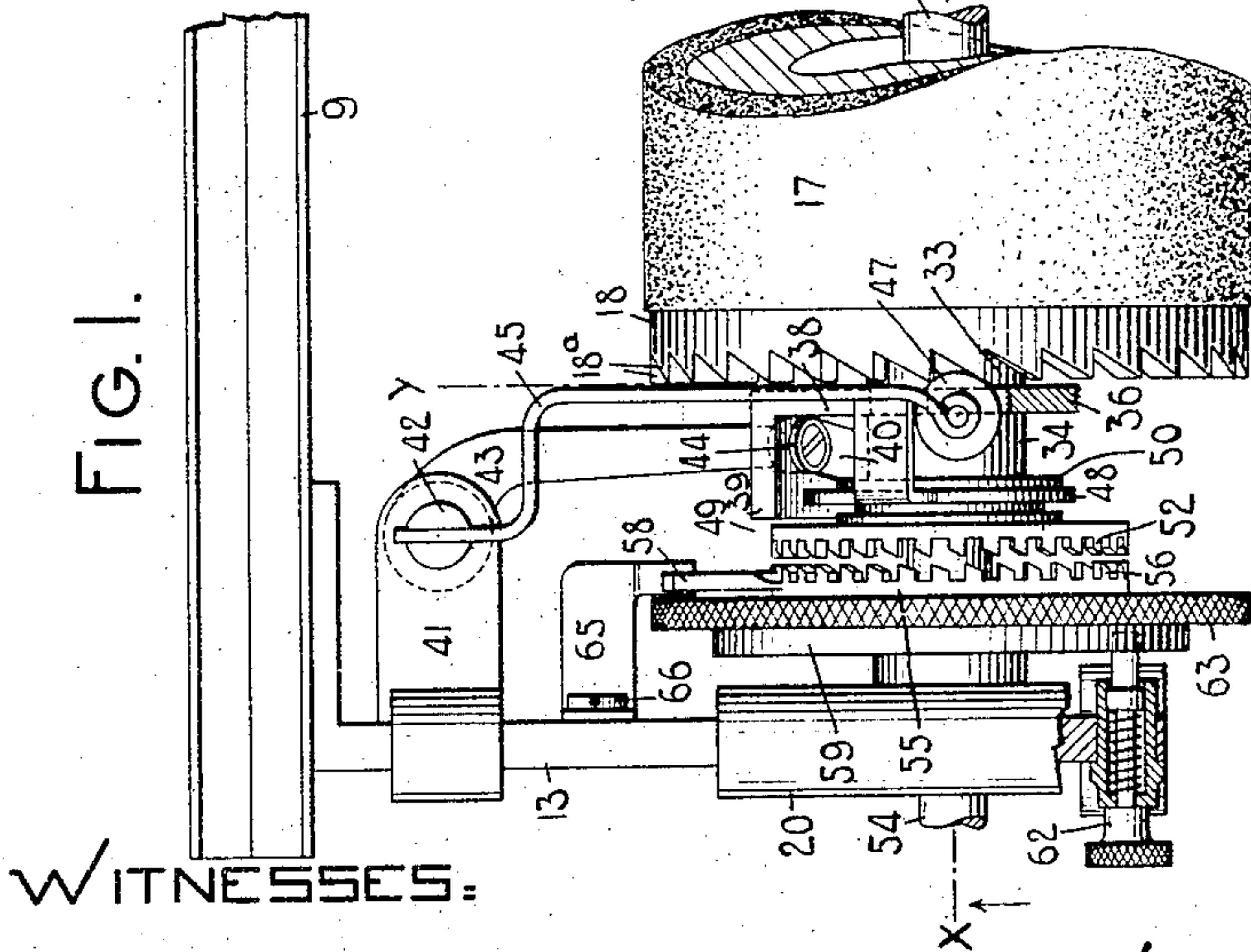
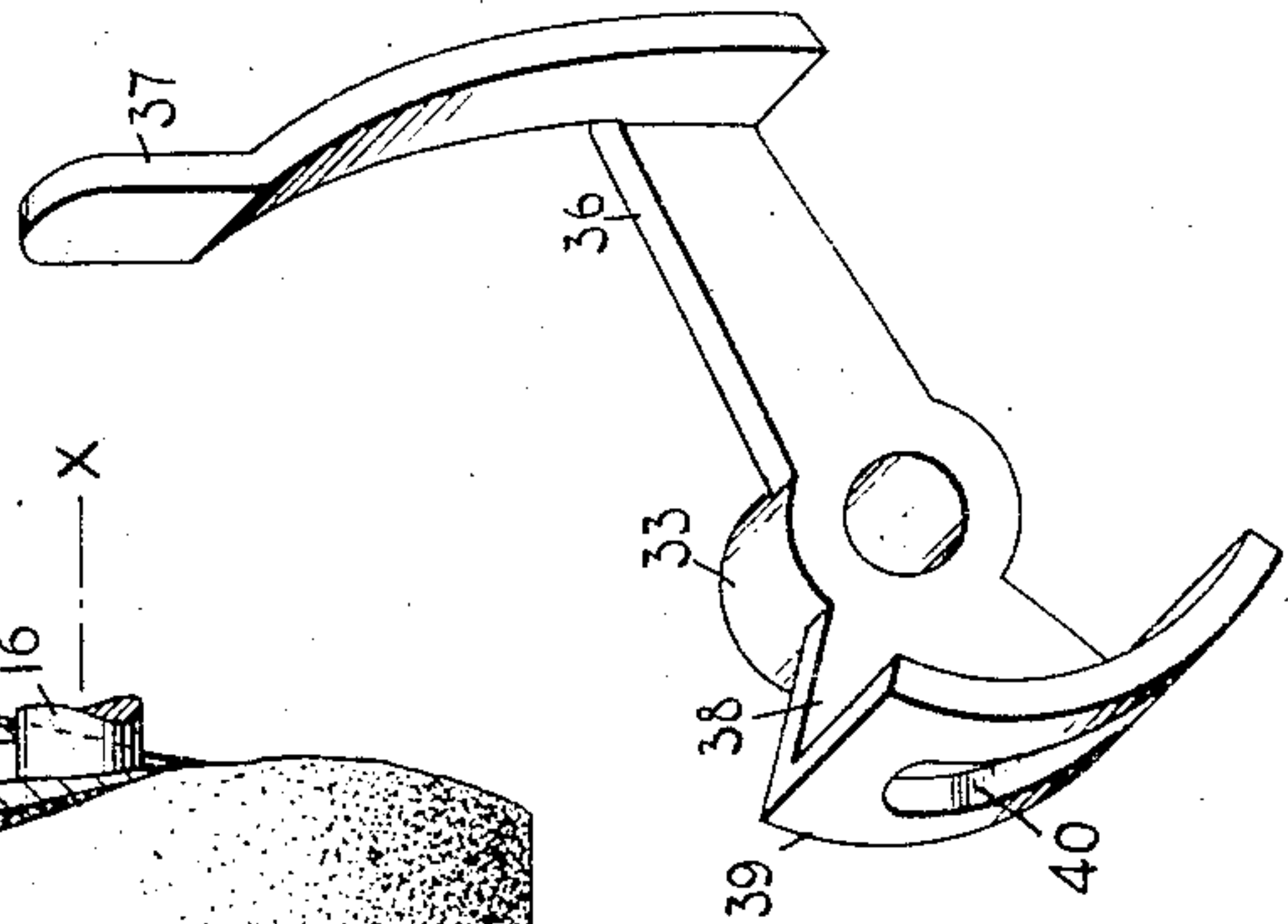


FIG. 3.



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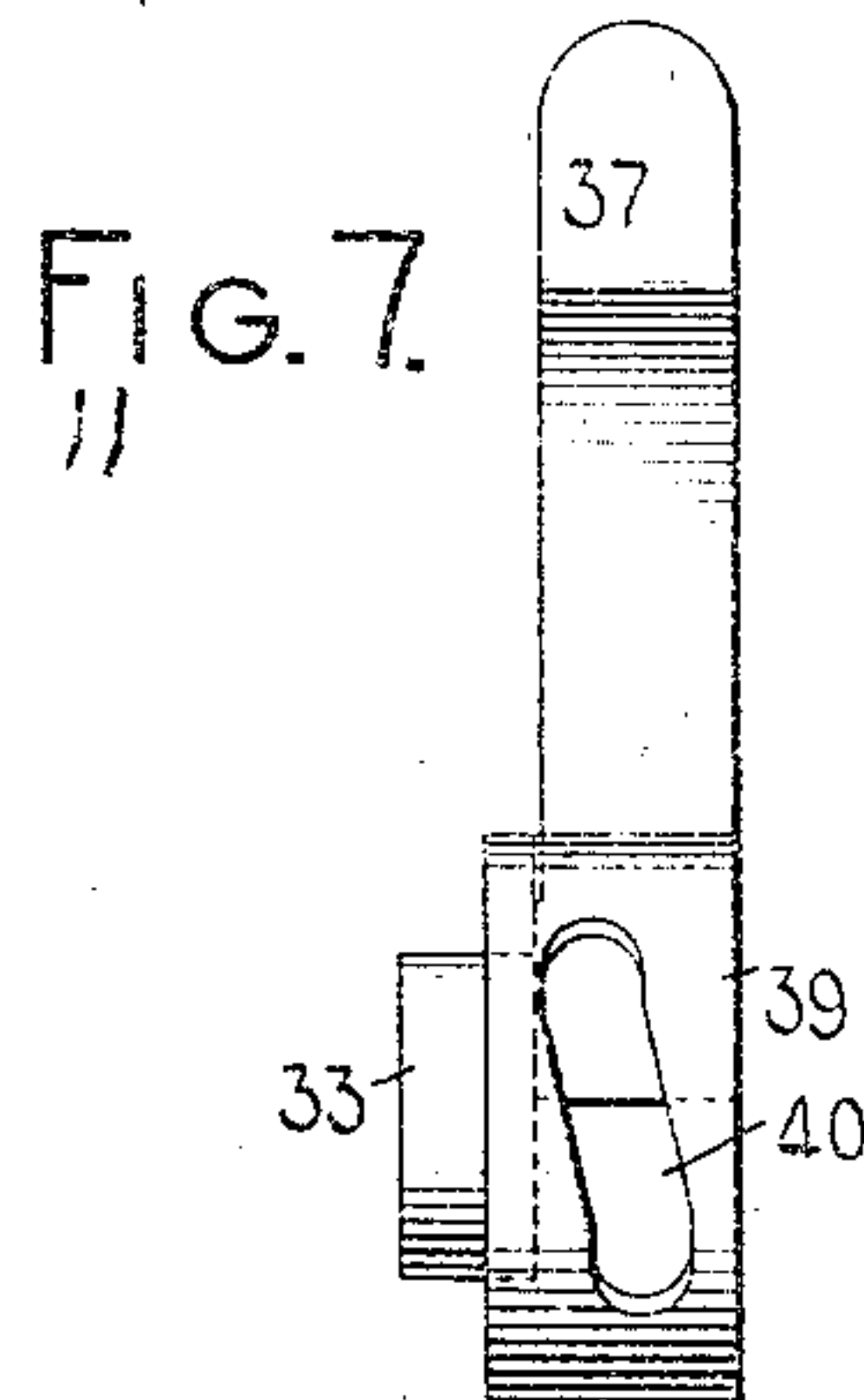
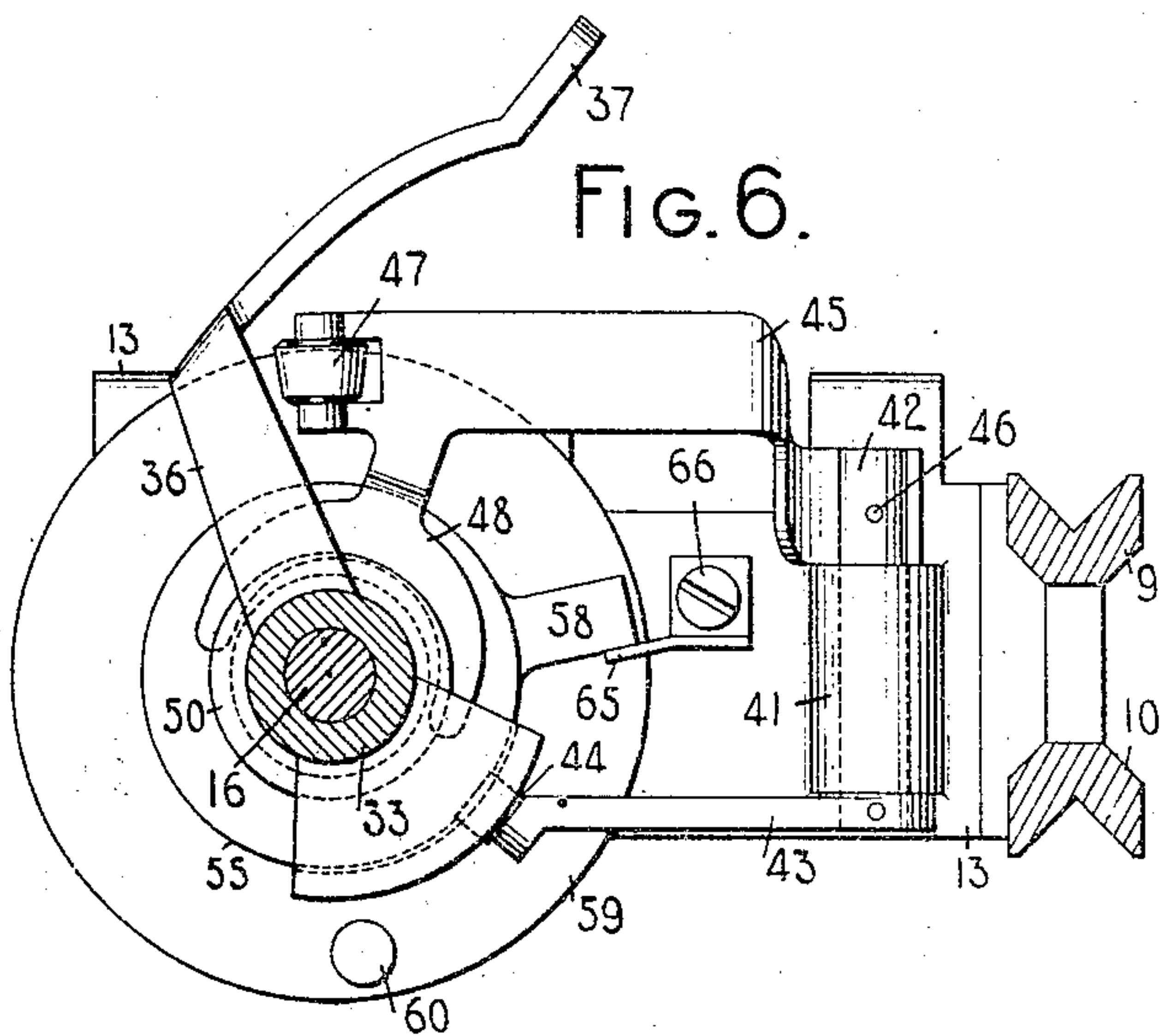
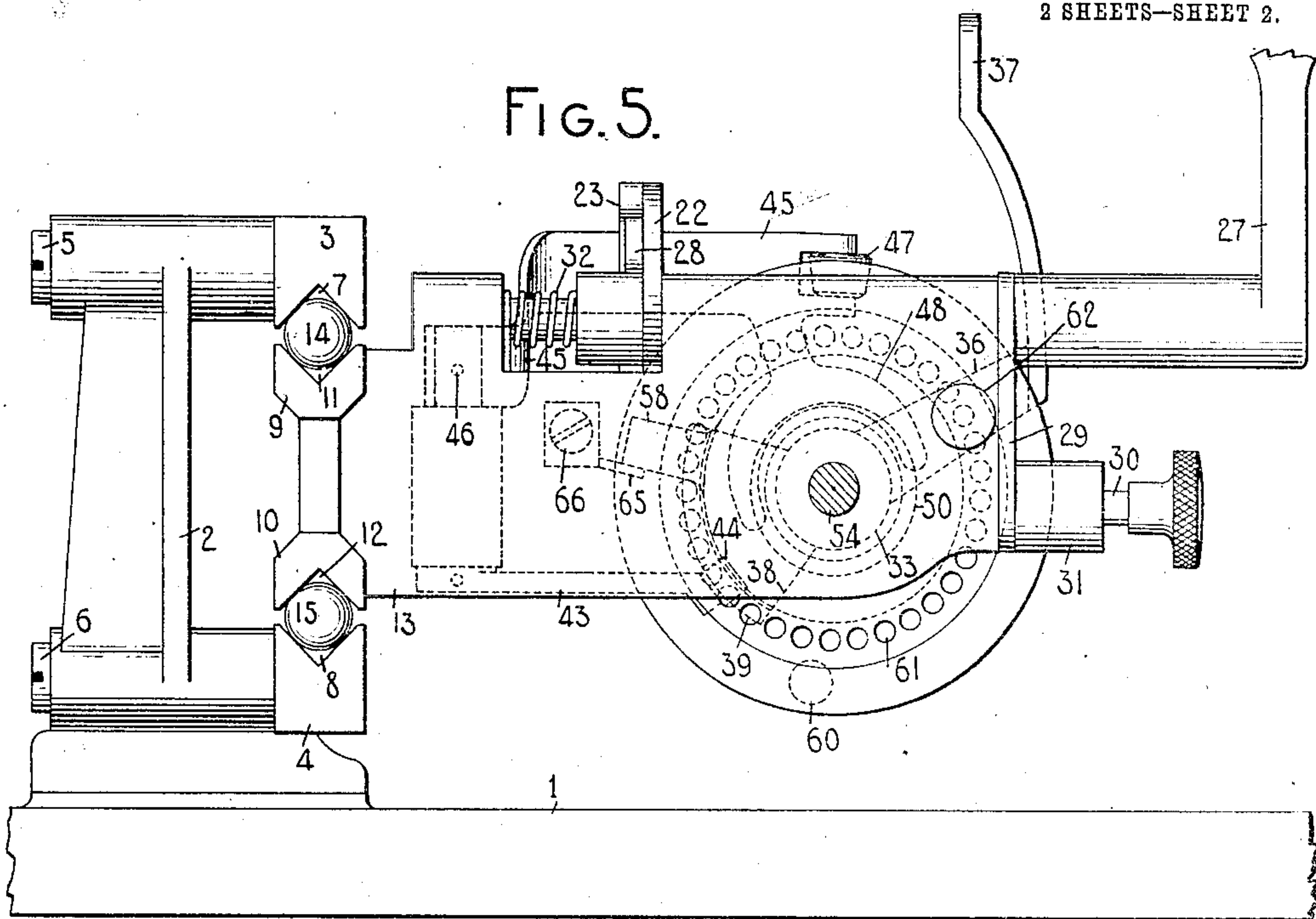
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By Jacob Falbel  
HIS ATTORNEY

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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

HERMAN P. MOORREES,      WEEHAWKEN, NEW JERSEY, ASSIGNOR TO UNION TYPEWRITER  
COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## TYPE-WRITING MACHINE.

No. 912,316.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed June 27, 1906. Serial No. 323,666.

*To all whom it may concern:*

Be it known that I, HERMAN P. MOORREES, citizen of the United States, and resident of Weehawken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to improvements in stop-mechanism for arresting the rotation of the platen of a typewriting machine, such mechanism being especially useful in doing condensed billing and other work of similar character.

The invention consists of the features of construction, combinations and arrangements of parts which are hereinafter described and specified in the appended claims.

In the accompanying sheets of drawings, in which like reference numerals designate like parts in different views, Figure 1 is a top and partly sectional view of mechanism embodying the invention, and fragments of a Monarch typewriting machine including a part of the platen; Fig. 2, a front sectional elevation of said mechanism and of a fragment of the platen and the left end of the platen frame, the section being taken on the line *x-x*, Fig. 1; Fig. 3, a perspective of a cam and lever; Fig. 4, a detail vertical section taken on the line *z-z*, Fig. 2, and viewed in the direction of the arrow at the right of said line; parts being omitted and a piece being broken out of one of the parts shown; Fig. 5, an elevation of the left end of the platen-carriage and parts of said mechanism; Fig. 6, a vertical section taken on the line *y-y*, Fig. 1, and viewed in the direction of the arrow at the right of said line; and Fig. 7, a rear view of the cam and lever shown in Fig. 3.

Although the invention is shown as it appears when applied to a Monarch machine it is to be understood that it is also applicable to numerous others, including "under-stroke" and "visible writing" machines.

This stop mechanism is applied to the Monarch machine at the left end of the platen. The platen carriage is mounted on standards affixed to the top plate 1 of the machine, near its right and left edges. The left standard 2 is connected with the other by rails 3 and 4 which are fastened to the standards by screws 5 and 6, these rails containing grooves 7 and 8. On the platen-

carriage or platen-frame are formed guides 9 and 10 which contain grooves 11 and 12 and which extend from the right end to the left end 13 of the platen-frame. The carriage is secured to the standards by means of anti-friction balls 14 and 15 which fit in the grooves in the rails and guides mentioned, the carriage being movable back and forth over the top plate 1. The platen shaft 16 extends through and has bearings in the ends of the platen-frame, and the platen 17 which is fast on the platen-shaft, has on its left end a line spacing wheel 18 which is formed on the left head of the platen, this head being affixed to the platen by screws 19.

In the upper part of the end 13 of the platen frame is a bearing 20 through which extends a sleeve 21. On this sleeve is mounted an arm 22, and to this arm is pivoted a pawl 23 by a pin 24, the pawl having in it a recess 25 at the left of the pin 24. A shaft 26 of a line spacing lever 27 extends through the sleeve 21 and on this shaft is an arm 28 which fits in the recess 25 of the pawl 23. To the sleeve 21 is attached an arm 29 which extends downward from the sleeve 21 and shaft 26, and on the lower end of which is a spring-pressed pin 30, which extends through a housing 31 on the arm 29 and into a recess in the end of the platen carriage. This arm is movable to a slight extent on the axis of the shaft 26 and may be locked by the pin 30 in three different positions according to the distance through which it is desired to actuate the pawl 23. On the shaft 26 is a coiled spring 32 which tends to hold the line spacing lever, the pawl 23, and the parts operated by the lever to actuate the pawl, in their normal positions. When the lever 27 is actuated the pawl 23 is moved into engagement with one of the teeth 18<sup>a</sup> of the line spacing wheel and the platen is rotated through a line-space distance, or through a distance corresponding to a one, two or three tooth movement of the line spacing wheel, according to the position in which the arm 29 is locked to the platen frame. This line spacing mechanism is the same as that which is commonly used in the Monarch typewriting machine.

On the platen shaft next to the left head of the platen is mounted the device which is shown in perspective in Fig. 3, this device comprising a cam and lever formed together and having a common hub 33 through which



the platen shaft extends. A collar 34, which is fastened to the platen shaft by a set screw 35, fits against the left face of this device. The arm 36 of this lever extends normally forward and upward from the platen-shaft and on it is a finger piece 37. The cam comprises a segmental part 38 and a curved part 39 formed together, the outer and inner surfaces of the curved part 39 being sections of cylindrical surfaces whose axis is that of the platen-shaft. In the part 39 is a cam slot 40 whose edges midway between its ends are in planes which are inclined to the axis of the platen shaft, and whose edges near each of its ends are in planes which are at right angles to the axis of the platen shaft and form dwells.

On the inner face of the end 13 of the platen-frame, near the guides 9 and 10, is a projection 41 in which is formed a bearing for an upright shaft 42. To the lower end of this shaft is affixed an arm 43 which extends forward therefrom and on the front end of which is a roller 44, this roller being within the slot 40 of the cam. In the upper end of the shaft 42 is fixed a spring 45 which extends through a slot in the shaft and is secured therein by a pin 46 passing through the shaft and spring. The arm 43 and spring 45 bear against the ends of the projection or block 41 and so keep the shaft in its proper position in its bearing. The spring 45 extends from the shaft 42 forward and then to the right and then forward over the platen shaft, and has at its front end a roller 47 which is adapted to engage the teeth of the line spacing wheel 18. On this spring, and extending downward and to the left from the front portion of the spring, is a clutch fork 48, the spring and fork being composed of a single piece of sheet metal. A member 49 of a clutch is mounted on the platen shaft next to the collar 34, this clutch member having a grooved hub 50, into which the clutch fork 48 extends, and being splined to the platen shaft by a spline 51 and being movable axially on the platen shaft. This clutch member has teeth 52 formed on it, the teeth being equal in number to the teeth 18<sup>a</sup> of the line spacing wheel. At the left of the clutch member 49 a shoulder 53 is formed on the platen shaft 16, the portion 54 of the shaft at the left of this shoulder being smaller than the rest of the shaft. On the part 54 of the platen shaft is loosely mounted a disk 55, which bears against the shoulder 53, this disk having on its right face teeth 56, adapted to be engaged by the teeth 52 of the clutch member above mentioned, and on its left face a hub 57. A tongue 58, which constitutes a stop, is formed on or rigidly attached to this disk. Between the hub 57 of the disk just described and the end 13 of the platen-frame, is a disk 59 which is loosely mounted on the platen shaft and on the right face of which

is a projection or stop 60, which is fast on the disk. In the left face of this disk is a series of round holes 61, arranged in a circle at equal distances apart, there being as many of these holes as there are teeth 18<sup>a</sup> in the line spacing ratchet wheel, and on the end of the platen frame is mounted a spring-pressed pin 62 which fits in the holes 61 in the disk and by means of which the disk may be locked to the platen-frame in different positions. This disk has a knurled edge 63 to enable it to be conveniently turned by hand. A coiled spring 64 is confined in a recess in the disk 59. This spring surrounds the hub 57 of the disk 55 and is attached to each of these disks, the spring being under tension and tending to turn the top of the disk 55 toward the back of the machine when the disk 59 is locked to the platen-frame. A stop 65, affixed by a screw 66 to the inner face of the end 13 of the platen frame, projects inward behind the disk 59, and is so arranged that the tongue 58 on the disk 55 will make contact with it. A finger wheel 67 is mounted on the left end of the platen shaft and secured thereto by a set screw 68 fitting in a threaded hole in the hub of the finger wheel and extending into a recess in the shaft.

When writing is being done on the machine the parts of the mechanism described are in the positions in which they are shown in Figs. 1 and 2 of the drawings. The roller 44 on the arm 43 is then close to the upper end of the slot 40 in the cam, and the roller 47 on the spring 45 is pressed against the line spacing wheel 18, the parts being locked in these positions by the action of the dwell of the cam on the roller 44. The clutch member 49 is then held by the clutch fork 48 out of engagement with the disk 55. As the platen is turned by the line spacing lever or otherwise the roller 47 is forced to the left by the action of the teeth of the line spacing wheel upon it, against the pressure of the spring 45, the spring and roller 47 acting as does the ordinary roller-detent of the Monarch machine. The groove in the hub 50 of the clutch member 49 is wide enough to allow the fork 48 to be moved to the left by the spring, actuated as described by the ratchet teeth, without imparting motion to the clutch member. The tongue 58 of the disk 55 is normally kept, by the spring 64, in contact with the stop 65 as it is shown in Figs. 4, 5 and 6. The disk 59 is to be locked to the frame by the pin 62 in such a position that when the disk 55 is rotated with the platen the angular movement of the tongue 58, in traveling from the stop 65 to the stop 60, will be equal to the angular movement of the platen required for feeding a sheet of paper into the machine to the position where it is desired to write the first line on the paper. The adjustment of the disk 59 may



be changed by pulling out the pin 62, turning the disk with the hand, and reengaging the pin with the disk.

When the last entry has been made on a sheet, such for example as a bill sheet, the parts of the stop mechanism described being then in the positions in which they are shown in Figs. 1 and 2, the finger piece 37 of the cam-lever is pulled forward so that the roller 44 is moved to the left by the action of the cam on this roller. The front end of the spring 45 is likewise moved to the left and the clutch fork forces the clutch member 49 into engagement with the teeth of the disk 55, the members of the clutch being locked together by the action of the cam on the roller 44, since the roller is then close to the lower end of the slot 40 where it coöperates with the other dwell of the cam. The platen is then rotated backward by turning one of the finger wheels, and the tongue or stop 58, which is then connected by the clutch to the platen shaft, travels from the stop 65 to the stop 60 and when it reaches the latter stop the platen is arrested. This backward rotation of the platen is equal to the forward rotation required for feeding into the machine the next bill or sheet and bringing it to a position to receive the first line of writing. The new sheet is then inserted in the machine and the platen is turned forward until it is arrested by the contact of the stop 58 with the fixed stop 65. The bill is then in such a position that the first line of writing will be at the proper distance from the top of the bill or sheet.

It will be observed that when the disk 55 is clutched to the platen shaft as described the roller 47 is out of engagement with the line spacing ratchet wheel and offers no resistance to the rotation of the platen.

As the clutch fork 48 is a part of the spring 45 it may be made to exert constant pressure on the clutch member 49, tending to keep it engaged with the disk 55, while the stop mechanism is in use. After a sheet has been inserted in the machine and the operator is ready to make entries thereon the finger piece 37 of the cam-lever is pushed backward to its normal position and the action of the cam on the roller 44 disengages the clutch members and reengages the roller 47 with the line spacing wheel 18.

It will be understood that the invention may be embodied in forms differing in details of construction and arrangement of parts from the particular form shown and described herein.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, means for operatively connecting said stop with the platen shaft, said means including a clutch-

member on the platen shaft and a lever mounted on the platen frame and operative to move said clutch-member axially, a disk and stop secured together, said disk being mounted on the axis of the platen shaft, means for locking said disk in different positions, and a stop on the platen frame, the first mentioned stop being coöperative with each of the others to arrest the platen.

2. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, a stop on the platen frame, a spring tending to keep the first-mentioned stop in contact with the latter stop, means for operatively connecting said first mentioned stop with the platen shaft, said means including a lever arranged to be actuated by hand, a disk and stop secured together, said disk being mounted on the axis of the platen shaft, and means for locking said disk in different positions, the first mentioned stop being coöperative with each of the others to arrest the platen.

3. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, means for operatively connecting said stop with the platen shaft, said means including a lever arranged to be actuated by hand, a disk and stop secured together, said disk being mounted on the axis of the platen shaft and having in it a series of recesses arranged in a circle, a detent fitting the recesses in said disk, and a stop on the platen frame, the first mentioned stop being coöperative with each of the others to arrest the platen.

4. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, a stop on the platen frame, a spring tending to keep the first mentioned stop in contact with the latter stop, means for operatively connecting said first mentioned stop with the platen shaft, said means including a lever arranged to be actuated by hand, a disk and stop secured together, said disk being mounted on the axis of the platen shaft and having in it a series of recesses arranged in a circle, and a detent fitting the recesses in said disk, the first mentioned stop being coöperative with each of the others to arrest the platen.

5. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, means for operatively connecting said stop with the platen shaft, said means including a lever and a cam, the lever being operative to actuate the cam, two other stops, and means for locking one of the two last mentioned stops in different positions, said first mentioned stop being coöperative with each of the others to arrest the platen.

6. In a typewriting machine, the combi



nation with a rotary platen of a rotary stop loosely mounted on the platen shaft, means for operatively connecting said stop with the platen shaft, said means including a lever and a cam, the lever being operative to actuate the cam, another stop movable to different positions at equal distances from the axis of the platen shaft, means for locking the last mentioned stop in any of said positions, and a stop on the platen frame, said first mentioned stop being coöperative with each of the others to arrest the platen.

7. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, means for operatively connecting said stop with the platen shaft, said means including a lever and a cam, the lever being operative to actuate the cam, a disk and stop secured together, said disk being mounted on the axis of the platen shaft, means for locking said disk in different positions, and a stop on the platen frame, the first mentioned stop being coöperative with each of the others to arrest the platen.

8. In a typewriting machine, the combination with a rotary platen of platen-arresting mechanism comprising coöperative stops, one of said stops being loosely mounted on the axis of the platen shaft, and means for operatively connecting the last mentioned stop with the platen shaft, said means including a clutch-member on the platen shaft, a fork engaged with said clutch-member, a rock-shaft to which the fork is attached, an arm on the rock-shaft, and a cam operative by hand to actuate said arm.

9. In a typewriting machine, the combination with a rotary platen, of platen-arresting mechanism comprising coöperative stops, one of said stops being loosely mounted on the axis of the platen shaft, and means for operatively connecting the last mentioned stop with the platen shaft, said means including a clutch-member on the platen shaft, a fork engaged with said clutch-member, a rock-shaft to which the fork is attached, an arm on the rock-shaft, and a cam operative by hand to actuate said arm and to lock the arm in different positions.

10. In a typewriting machine, the combination with a rotary platen of platen-arresting mechanism comprising coöperative stops, one of said stops being loosely mounted on the axis of the platen shaft, and means for operatively connecting the last mentioned stop with the platen shaft, said means including a clutch member on the platen shaft, a spring fork engaged with said clutch member, and means operative by hand to actuate said spring fork.

11. In a typewriting machine, the combination with a rotary platen of platen arresting mechanism comprising coöperative stops,

one of said stops being loosely mounted on the axis of the platen shaft, and means for operatively connecting the last mentioned stop with the platen shaft, said means including a clutch member on the platen shaft, a spring fork engaged with said clutch member, and means operative by hand to actuate said spring fork and to lock it in different positions.

12. In a typewriting machine, the combination with a rotary platen of a line spacing wheel, and platen arresting mechanism comprising coöperative stops, one of said stops being loosely mounted on the axis of the platen shaft, and means for operatively connecting the last mentioned stop with the platen shaft, said means including a clutch member on the platen shaft, a spring having on it a fork and a roller, the fork being engaged with said clutch member, and means operative by hand to actuate said spring, the roller on the spring being movable into engagement with the line spacing wheel.

13. In a typewriting machine, the combination with a rotary platen, of a line spacing wheel, and platen arresting mechanism comprising coöperative stops, one of said stops being loosely mounted on the axis of the platen shaft, and means for operatively connecting the last mentioned stop with the platen shaft, said means including a clutch member on the platen shaft, a spring having on it a fork and a roller, the fork being engaged with said clutch member, and means including a cam operative by hand to actuate said spring, the roller being movable into engagement with the line spacing wheel, and the cam being operative on a part of said mechanism to lock the spring in different positions.

14. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, a clutch for imparting motion to said stop from the platen shaft, means for locking the members of said clutch together, a disk and stop secured together, said disk being mounted on the axis of the platen shaft, means for locking said disk in different positions to prevent it from turning on its axis, and a stop on the platen frame, the first mentioned stop being coöperative with each of the others to arrest the platen.

15. In a typewriting machine, the combination with a rotary platen of a rotary stop loosely mounted on the platen shaft, a stop on the platen frame, a spring tending to keep the first mentioned stop in contact with the latter stop, a clutch for imparting motion to said first mentioned stop from the platen shaft, means for locking the members of said clutch together, a disk and stop secured together, said disk being mounted on the axis of the platen shaft, and means for



locking said disk in different positions, the first mentioned stop being coöperative with each of the others to arrest the platen.

5 16. In a typewriting machine, the combination with a rotary platen, of a fixed stop, another stop adjustable to different fixed positions, a rotary stop extending between said other stops and coöperative with each to arrest the platen, means for connecting said 10 rotary stop to and disconnecting it from the platen, said means comprising a hand actuated lever movable when said rotary stop is at rest, and devices controlled by said lever for locking said rotary stop in connection 15 with the platen.

17. In a typewriting machine, the combination with a rotary platen, and a toothed spacing wheel affixed to the platen, of a detent arranged to be connected with and disconnected from said spacing wheel, and 20 platen arresting mechanism comprising co-operative stops, a clutch, and means for moving a member of the clutch into and out of engagement with its counterpart, said means

being connected with said detent and arranged to disconnect the detent from the spacing wheel when said clutch-member is moved into engagement with its counterpart. 25

18. In a typewriting machine, the combination with a rotary platen, and a toothed 30 spacing wheel affixed to the platen, of a detent arranged to be connected with and disconnected from said spacing wheel, and platen-arresting mechanism comprising co-operative stops, and means movable by hand 35 to render said stops effective and ineffective, said means being connected with said detent and arranged to disconnect the detent from the spacing wheel when said stops are rendered effective. 40

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 25th day of June, A. D. 1906.

HERMAN P. MOORREES.

Witnesses:

E. M. WELLS,

M. F. HANNWEBER.