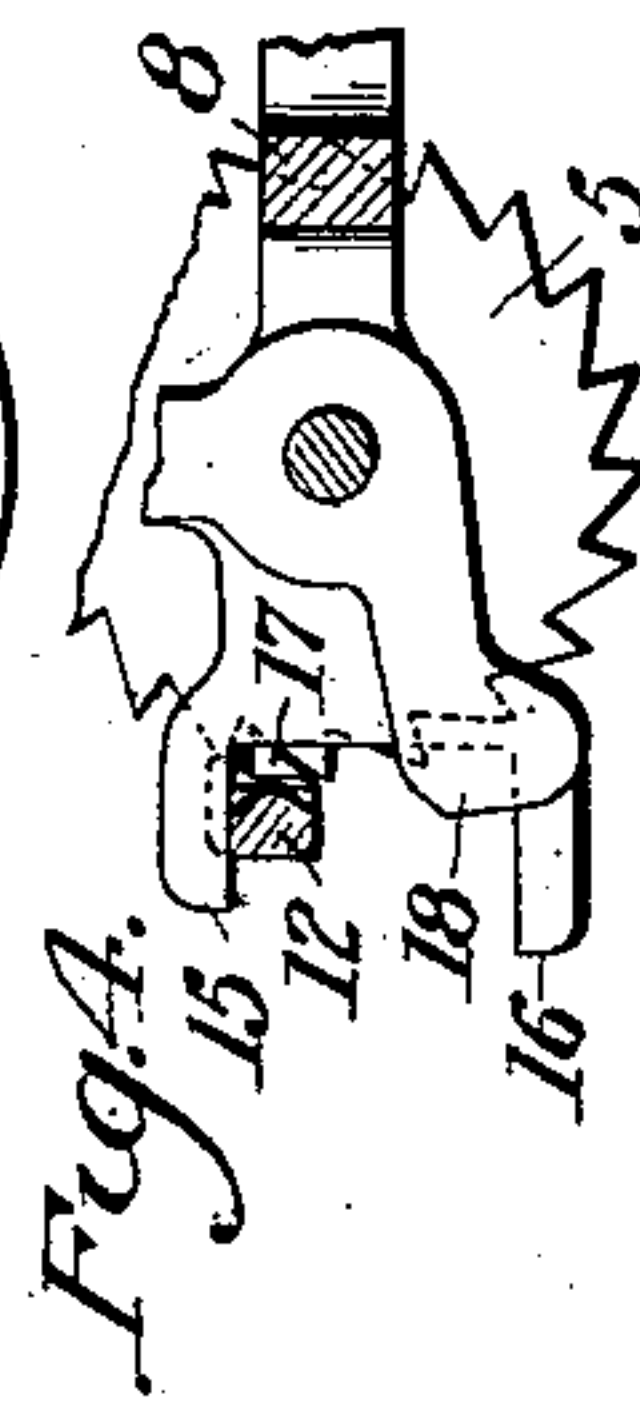
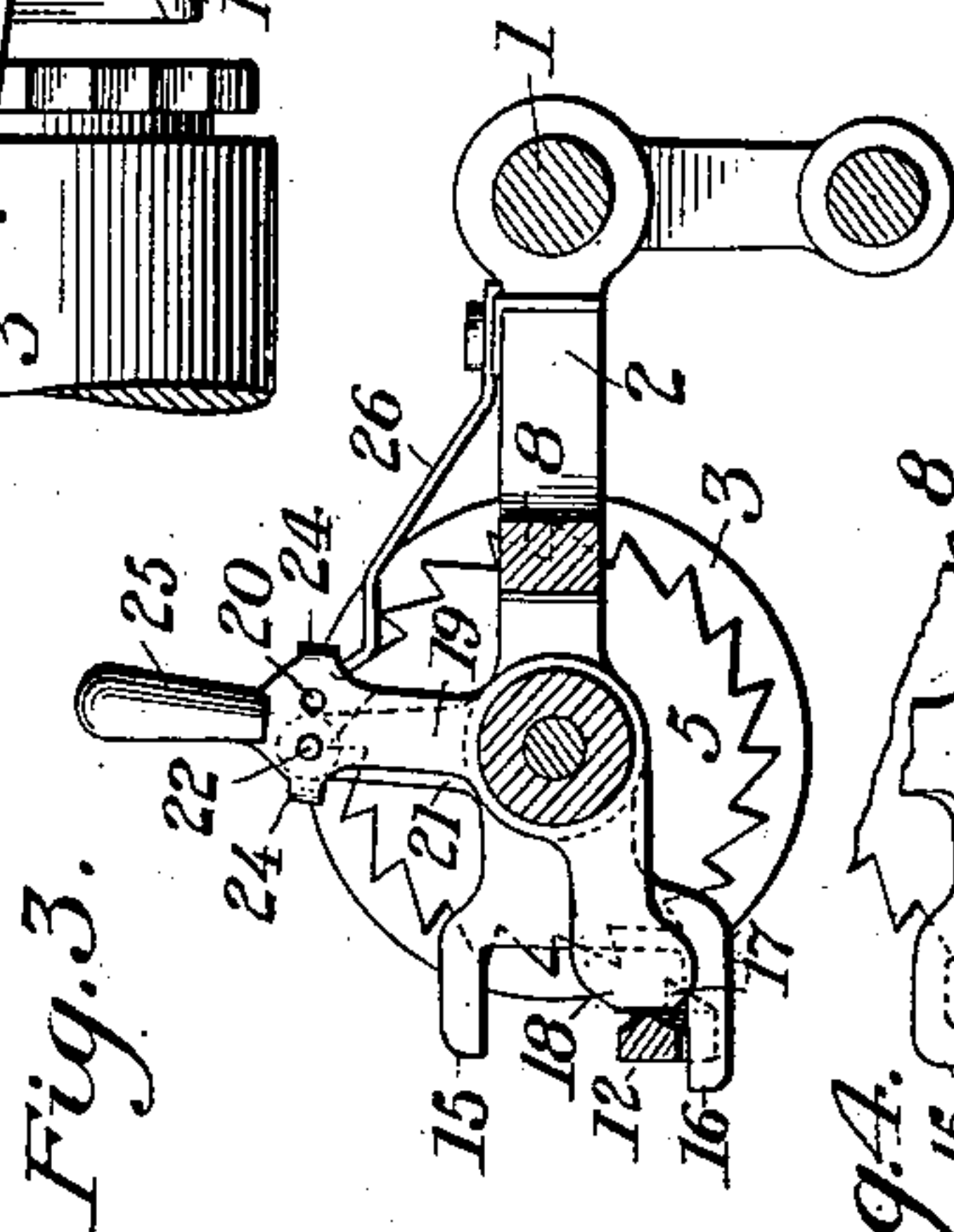
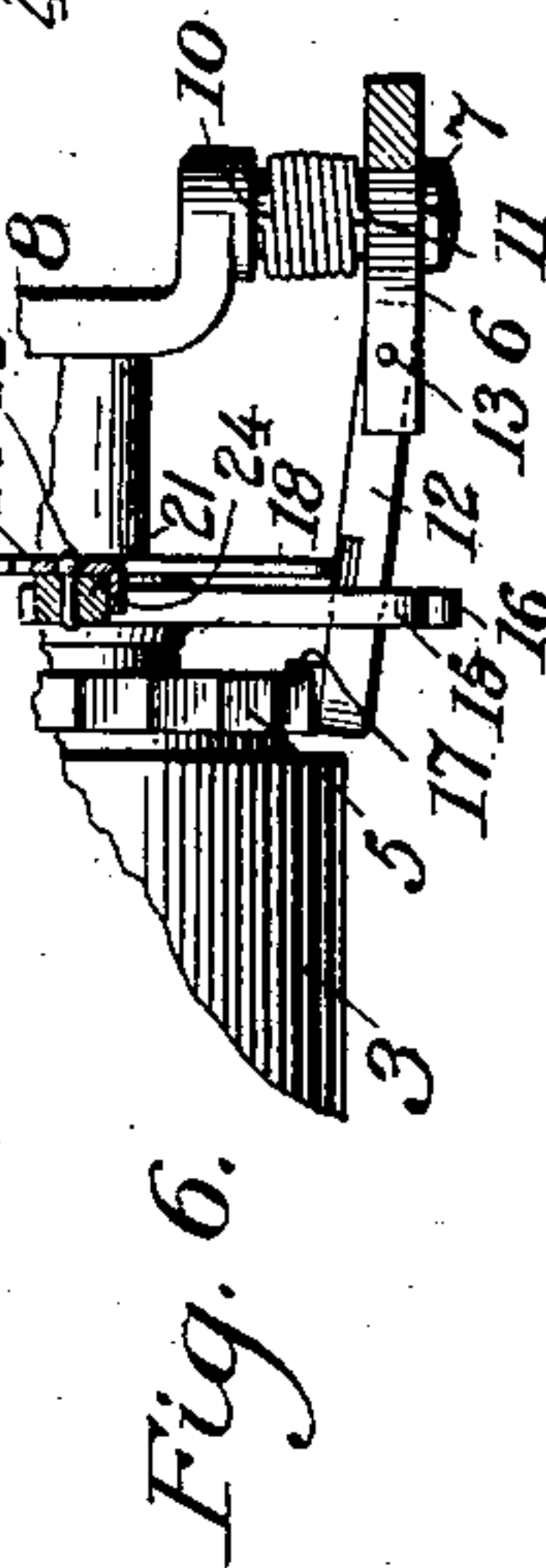
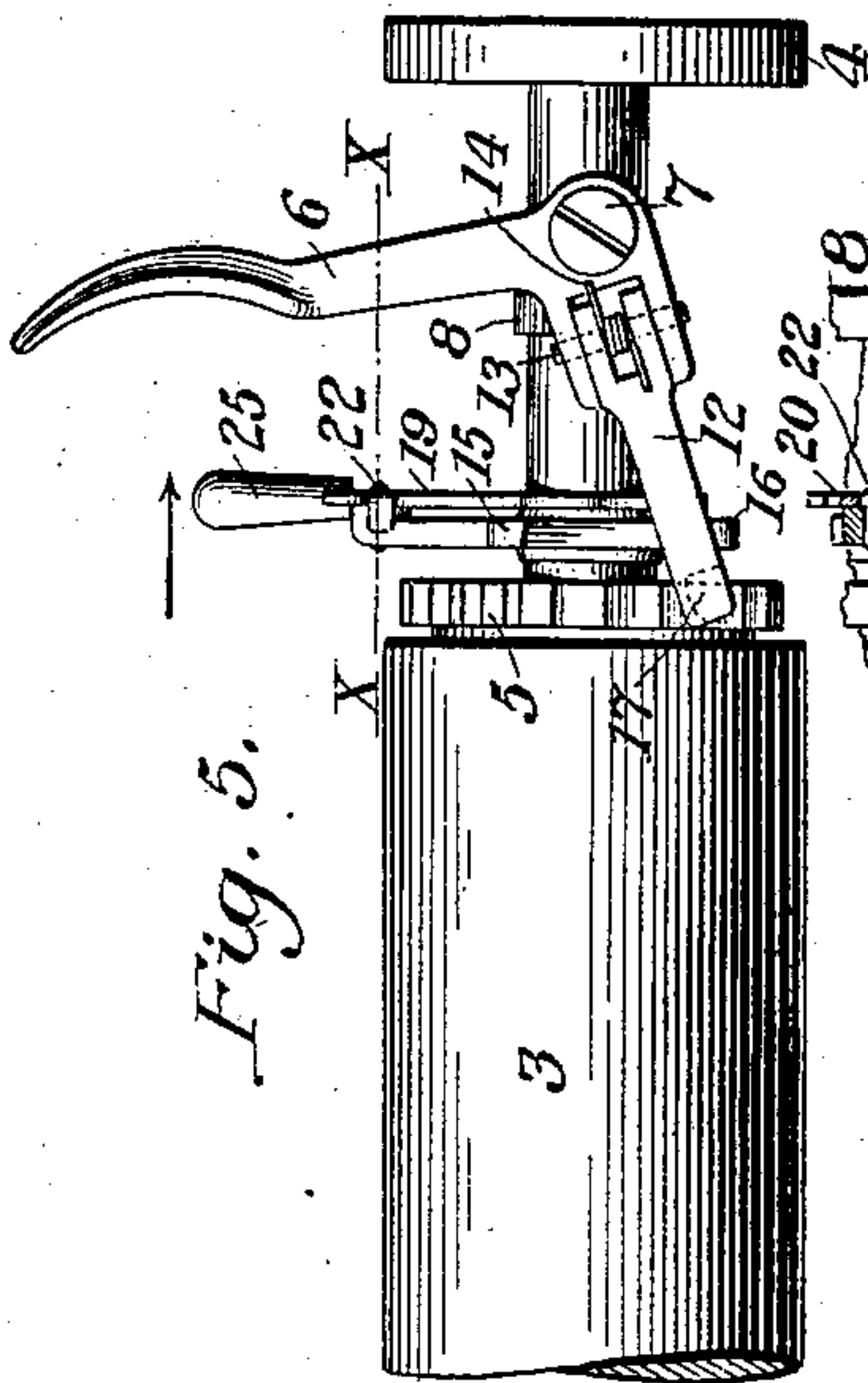
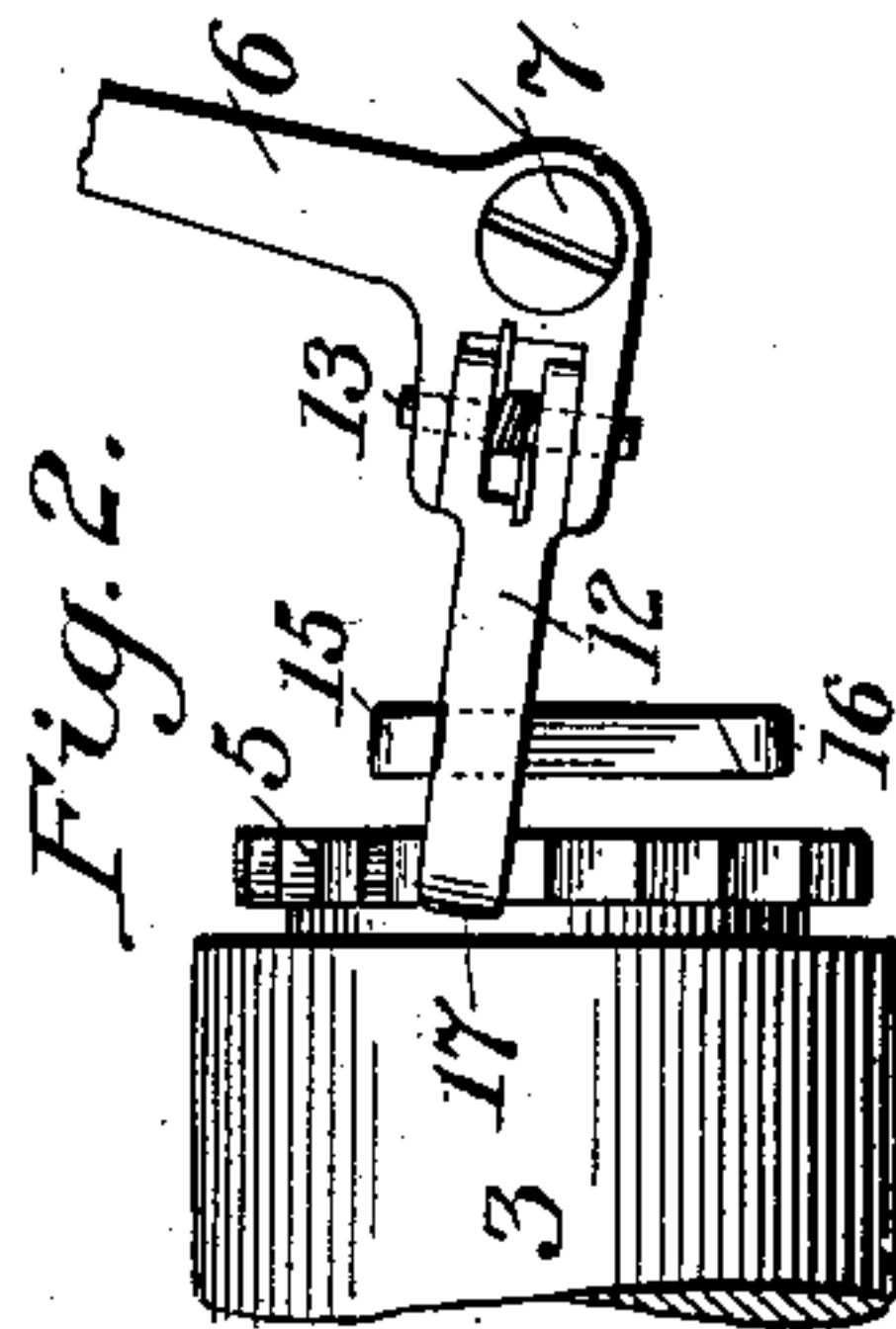
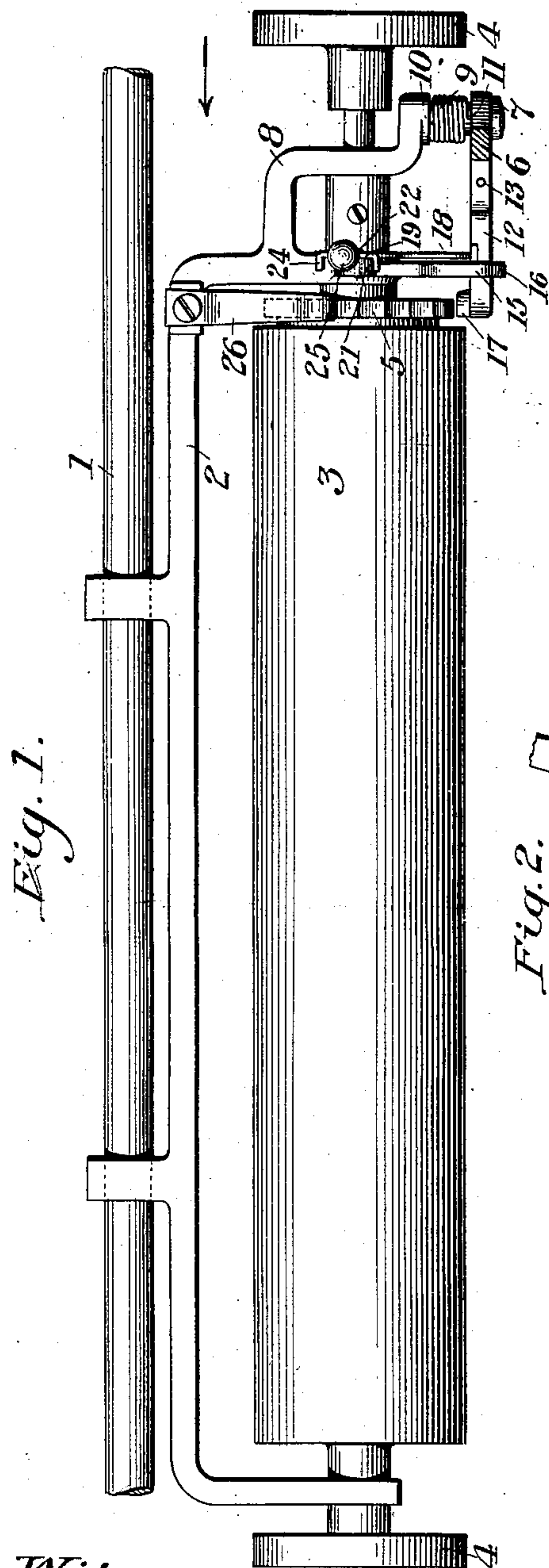


No. 747,589.

PATENTED DEC. 22, 1903.

L. S. BURRIDGE.
TYPE WRITING MACHINE.
APPLICATION FILED AUG. 1, 1901.

NO MODEL.



Witnesses:

E. M. Wells.

K. V. Monrovan.

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UNITED STATES PATENT OFFICE.

LEE S. BURRIDGE, OF NEW YORK, N. Y., ASSIGNOR TO UNION TYPE-WRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 747,589, dated December 22, 1903.

Application filed August 1, 1901. Serial No. 70,445. (No model.)

To all whom it may concern:

Be it known that I, LEE S. BURRIDGE, a citizen of the United States, and a resident of the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to platen-feed or line-spacing mechanism for type-writing machines; and the object of the invention is to provide simple and efficient means whereby an intermittent rotation of the platen may be effected and with the aid of which the parts can be quickly adjusted to vary the extent of the intermittent rotation or line-spacing for full spacing, half spacing, &c.

To this end my invention consists in the novel arrangement and combination of parts and to certain details to be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, wherein like reference characters represent corresponding parts in the various views, Figure 1 is a top view of sufficient number of parts of the type-writing machine to illustrate my invention. Fig. 2 is a fragmentary detail front view of a portion of the mechanism with parts broken away and omitted. Fig. 3 is an end view of the device looking in the direction of the arrow in Fig. 1 and with parts of the device omitted and broken away for the purpose of clearness. Fig. 4 is a like view of the same, showing the parts in a somewhat different position. Fig. 5 is a front view of the line-spacing mechanism. Fig. 6 is a detailed sectional plan view of a portion of the same, taken on the line *xx* of Fig. 5.

Referring to the drawings, 1 indicates a traverse-rod, upon which the platen-frame 2 is adapted to travel, and this frame 2 has mounted therein a platen 3, which may, if desired, be provided with hand-wheels 4. Operatively connected to the platen 3 is the ratchet-wheel 5, so that an intermittent rotary motion transmitted to the ratchet-wheel will be imparted to the platen. Pivoted at right angles or substantial right angles to the axis of the platen,

or fore and aft of the machine, so as to swing in the general direction of the travel of the platen, is what I term a "hand-operated line-spacing arm" 6. This arm is pivoted, as indicated at 7, to a suitable portion 8 of the platen-frame. The arm 6 is maintained normally in the position represented in Fig. 5 by the coiled spring 9, which is secured at one end to the platen-frame, as indicated at 10, and at its opposite end to the line-spacing arm, as indicated at 11. Pivoted to the line-spacing arm is a line-spacing pawl 12, the pivot 13 of which extends at right angles or substantial right angles to the pivot 7 of the arm. A spring 14 is adapted to bear at one end upon the arm 6 and at its opposite end upon the pawl 12 in order to force the free end of the spacing-pawl toward the ratchet-wheel 5. The platen-frame is preferably extended forwardly, so as to form abutments 15 and 16, which limit the throw of the spacing-pawl 12. The nose 17 of the spacing-pawl 12 is normally maintained out of engagement with the teeth by a pawl-controlling piece 18, as represented, for instance, in Fig. 3. This pawl-controlling piece is pivoted, preferably, upon the axis of the platen and may be maintained in any one of several positions by suitable adjusting means, comprising in the present instance the spring-plate 19, which may be formed as a part of the controlling-piece and is provided with a plurality of perforations, as indicated at 20. The platen-frame may be extended upwardly, as indicated at 21, in order to provide a support for a pin 22. This pin 22 is adapted to be projected through any of the perforations 20 and the parts maintained in this position by the pressure of the spring-plate 19. Extending from each side of the plate 19 is an ear 24, which constitutes an abutment that coöperates with the support 21 to limit the movement of the plate 19 in opposite directions, and a hand-piece or handle 25 may be employed on the plate 19 to facilitate the adjustment of the plate.

Figs. 3 and 5 represent the normal position of the parts in one position of adjustment of the controlling-piece. To effect a line-spac-

ing movement of the platen, it is merely necessary to move the arm 6 in the direction of the arrow in Fig. 5. It will be understood that when the pin 22 is in one of the apertures, as represented in Fig. 3, the spacing-pawl will be maintained out of engagement with its coöperating ratchet-wheel until a considerable portion of the travel of the spacing-pawl has taken place, so that the ratchet-wheel and platen will be fed, say, to the extent of one tooth of the ratchet-wheel. When, however, the pin 22 is in engagement with the other aperture 20 in the plate 19, the controlling-piece will have been moved to a position where it will permit the spacing-pawl to engage the ratchet-wheel sooner than in the case just described, and a greater extent of movement will be transmitted to the ratchet-wheel and to the platen. While only two perforations or apertures 20 have been shown in the plate 19, it should be understood that any suitable number of apertures may be provided and that the controlling-piece may be arranged so as to provide or permit a greater variation in the line-spacing.

In order to retain the platen against accidental displacement and in the position to which it is moved by the line-spacing mechanism, a spring detent or dog 26 may be employed.

From an inspection of Figs. 1 and 5 of the drawings it will be observed that the arrangement of the line-spacing arm 6 is such that it may be employed to move the carriage and platen toward the right or to the initial position, where the line of writing may be begun. It will likewise be seen that this movement, which is effective to restore the carriage to its initial position, is likewise effective to produce the line-spacing. When the line-spacing arm 6 is moved around its pivot from the initial position, (represented in Fig. 5,) a compound movement of the pawl 12 is produced—that is to say, the pawl 12 is moved bodily with the arm 6 and when permitted to do so receives a movement around its pivot 13 at right angles to the movement of the arm 6 in order to effect an engagement with or disengagement from the teeth of the ratchet-wheel 5.

From the foregoing description it will be understood that the arm 6 is in the nature of a bell-crank lever, the pivotal axis thereof being horizontally disposed, that the line-spacing pawl is pivoted to and carried directly by one crank-arm of said lever and extends in substantial alinement therewith and substantially at right angles to the axis of the ratchet-wheel, that the pivotal axis of the pawl is at right angles to the axis of the lever and is substantially vertically disposed, and that a simple and efficient line-spacing mechanism is provided for attaining the ends set forth.

While I have shown in detail one form of device for controlling the engagement of the pawl 12, it should be understood that other suitable controlling devices may be employed.

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

1. In a type-writing machine, the combination of a platen, a line-space ratchet-wheel, a line-spacing lever pivoted to swing in the general direction of the travel of the carriage and having a crank-arm thereon, a pawl pivoted to said crank-arm and arranged longitudinally thereof and at substantially right angles to the plane of the line-space ratchet-wheel, a spring tending to force the nose of said pawl toward said ratchet-wheel, and an adjustable stop arranged in front of said pawl and between its nose and pivot for normally preventing engagement between said pawl and ratchet-wheel; the construction and arrangement being such that when the crank-arm is operated, it first swings the pawl away from its interposed stop and then permits the spring of the pawl to swing the pawl into engagement with the ratchet-wheel and thus enable the ratchet-wheel to be turned by the pawl during a further movement of said crank-arm and to afford a return of the carriage to the right.

2. In a type-writing machine, the combination of a platen, a ratchet-wheel connected thereto, a pivoted hand-operated line-spacing device which is in the nature of a bell-crank lever and the pivotal axis of which is horizontally disposed and extends fore and aft of the machine, a spring-pressed line-spacing pawl which is pivoted to and carried directly by one arm of said bell-crank lever and the pivotal axis of which has a general vertical disposition, and an adjustable controlling device for determining the extent of line-space movement to be transmitted to the platen.

3. In a type-writing machine, the combination of a platen, a ratchet-wheel connected thereto, a pivoted hand-operated line-spacing device which is in the nature of a bell-crank lever that is pivoted to swing in the general direction of the travel of the platen, and a spring-pressed line-spacing pawl which is pivoted to and carried directly by one arm of said bell-crank lever and extends in substantial alinement therewith, the pivotal axis of the pawl being at substantially right angles to the pivotal axis of the said lever, and an adjustable controlling device for determining the extent of line-space movement to be transmitted to the platen.

4. In a type-writing machine, the combination of a platen, a ratchet-wheel connected thereto, a pivoted hand-operated line-spacing bell-crank lever, the pivotal axis of which is horizontally disposed, a spring-pressed line-spacing pawl which is pivoted to and carried directly by one arm of said bell-crank lever, and the pivotal axis of which has a general vertical disposition, an adjustable controlling device interposed between the teeth of the ratchet-wheel and the pawl and against which the pawl is pressed by its spring for normally maintaining the pawl out of contact with the ratchet-wheel and for determining at what

portion of the feed-stroke of the pawl it may engage the ratchet-wheel, whereby different widths of line-spacing may be produced, and means for maintaining the pawl-controlling device in its adjusted position.

5. In a type-writing machine, the combination of a platen, a ratchet-wheel operatively connected thereto, a pivoted hand-operated line-spacing lever that is in the nature of a bell-crank and the pivot of which is at right angles to the axis of the platen, a spring-pressed line-spacing pawl that is carried directly by and pivoted to one arm of said lever and coöperates with the ratchet-wheel, the pivot of the pawl extending at right angles to the pivot of the hand-operated lever and at an angle to the axis of the platen, an adjustable controlling-piece interposed between the teeth of the ratchet-wheel and the pawl and against which the pawl is pressed by its spring for normally maintaining the pawl out of contact with the ratchet-wheel and for determining at what portion of the feed-stroke of the pawl it may engage the ratchet-wheel, whereby different widths of line-spacing may be produced and means for retaining the pawl-controlling piece in its adjusted position.

6. In a type-writing machine, the combination of a platen, a ratchet-wheel operatively connected thereto, a pivoted spring-pressed hand-operated line-spacing arm, a spring-pressed line-spacing pawl pivoted to said arm, the pivots of the arm and pawl extending at

substantially right angles to each other, a movable pawl-controlling piece pivoted on the axial center of the platen and adapted to determine the extent of feed movement transmitted by the pawl to the ratchet-wheel and means for maintaining the pawl-controlling piece in any one of a plurality of positions.

7. In a type-writing machine, the combination of a platen, a ratchet-wheel operatively connected thereto, a spring-pressed hand-operated line-spacing arm pivoted to swing in the general direction of the travel of the carriage, a spring-pressed line-spacing pawl pivoted to said arm, the pivots of the arm and pawl extending at substantially right angles to each other, a movable pawl-controlling piece pivoted on the axial center of the platen and adapted to determine the extent of feed movement transmitted by the pawl to the ratchet-wheel, means for limiting the movement of the pawl, and means for maintaining the pawl-controlling piece in any one of a plurality of positions, the said line-spacing arm being operable to effect the line-feed when the arm is employed to restore the carriage to its normal position to begin a line.

Signed in the borough of Manhattan, city of New York, in the county of New York and State of New York, this 29th day of July, A. D. 1901.

LEE S. BURRIDGE.

Witnesses:

CHARLES E. SMITH,
E. M. WELLS.