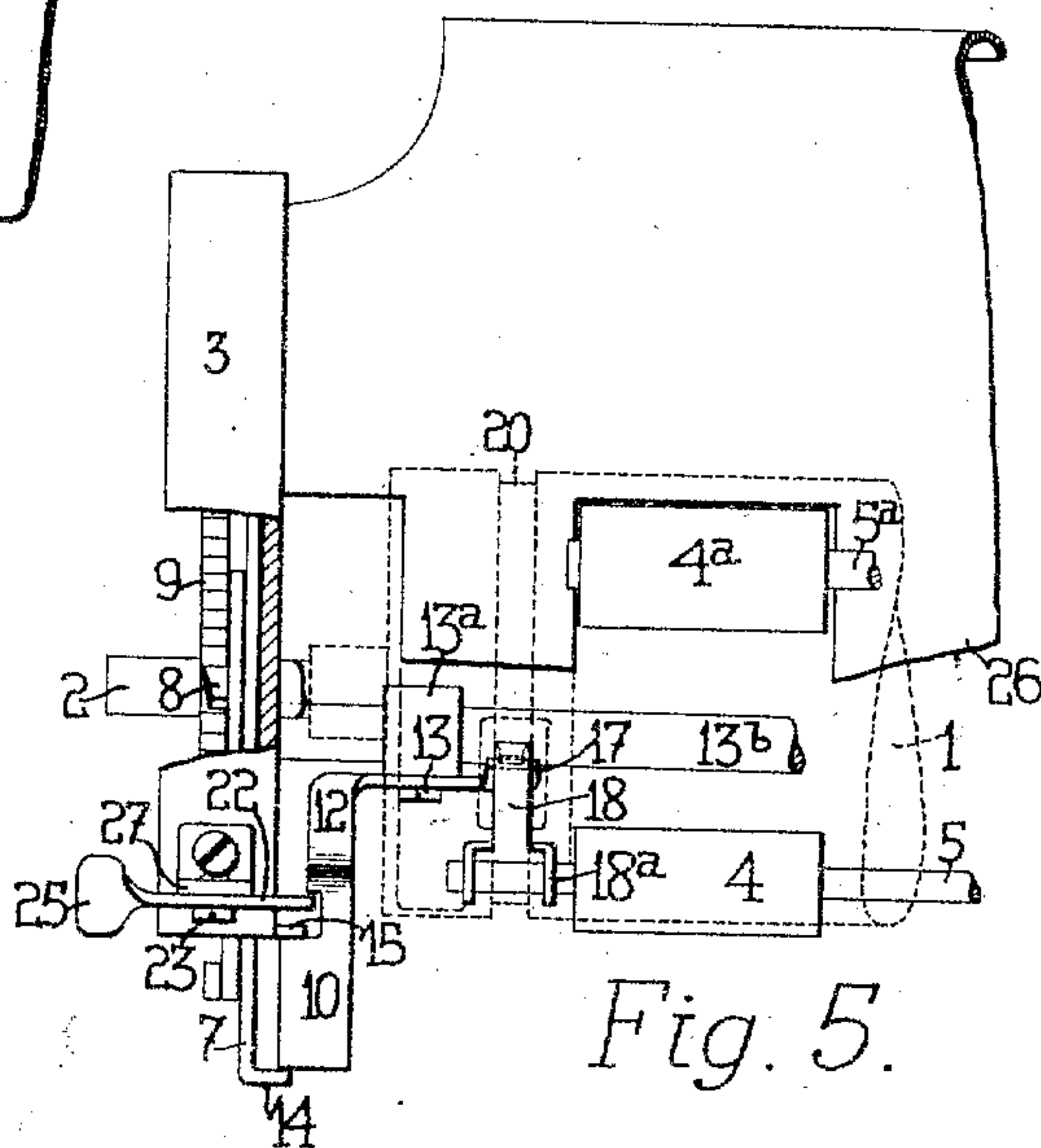
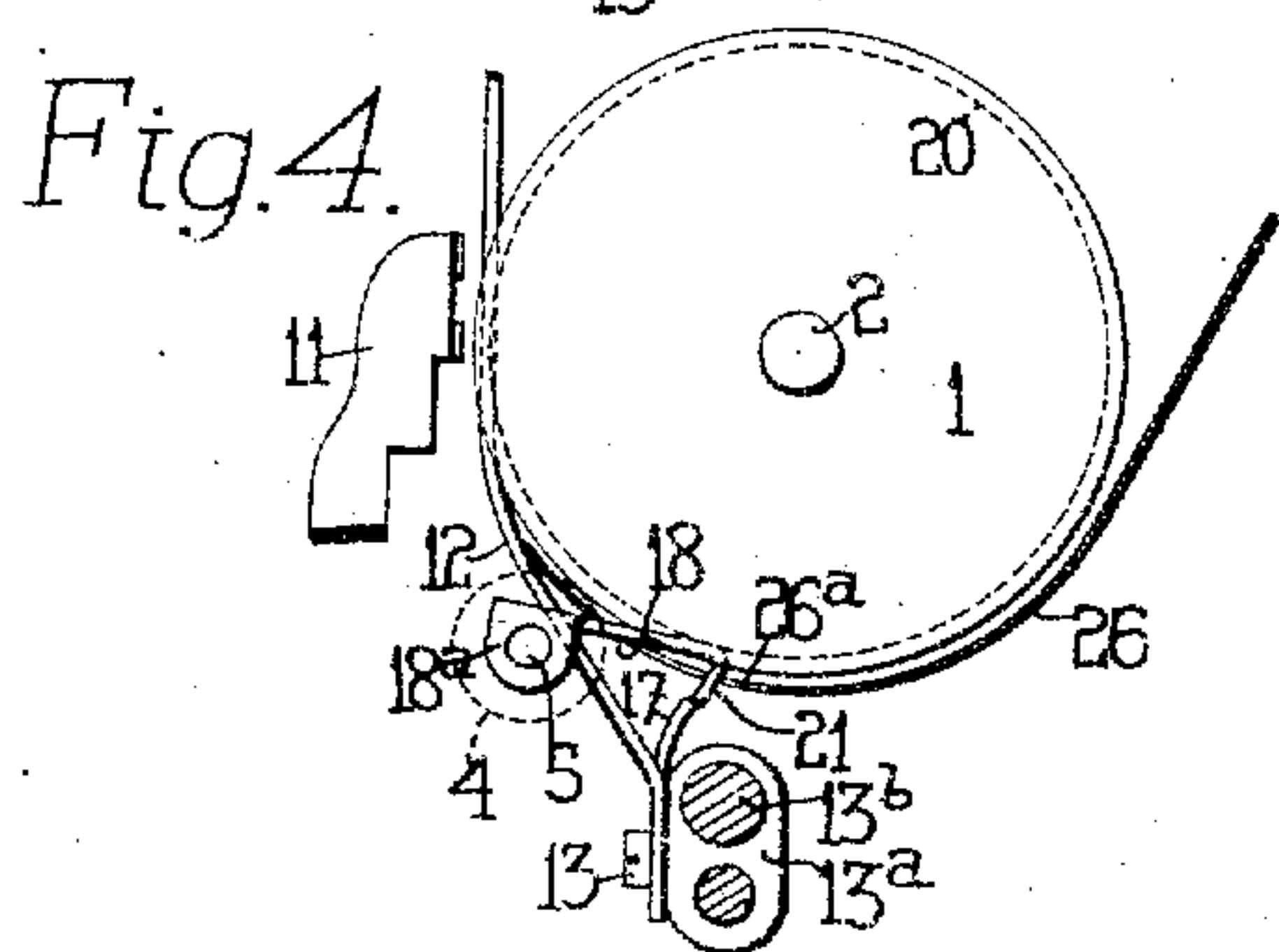
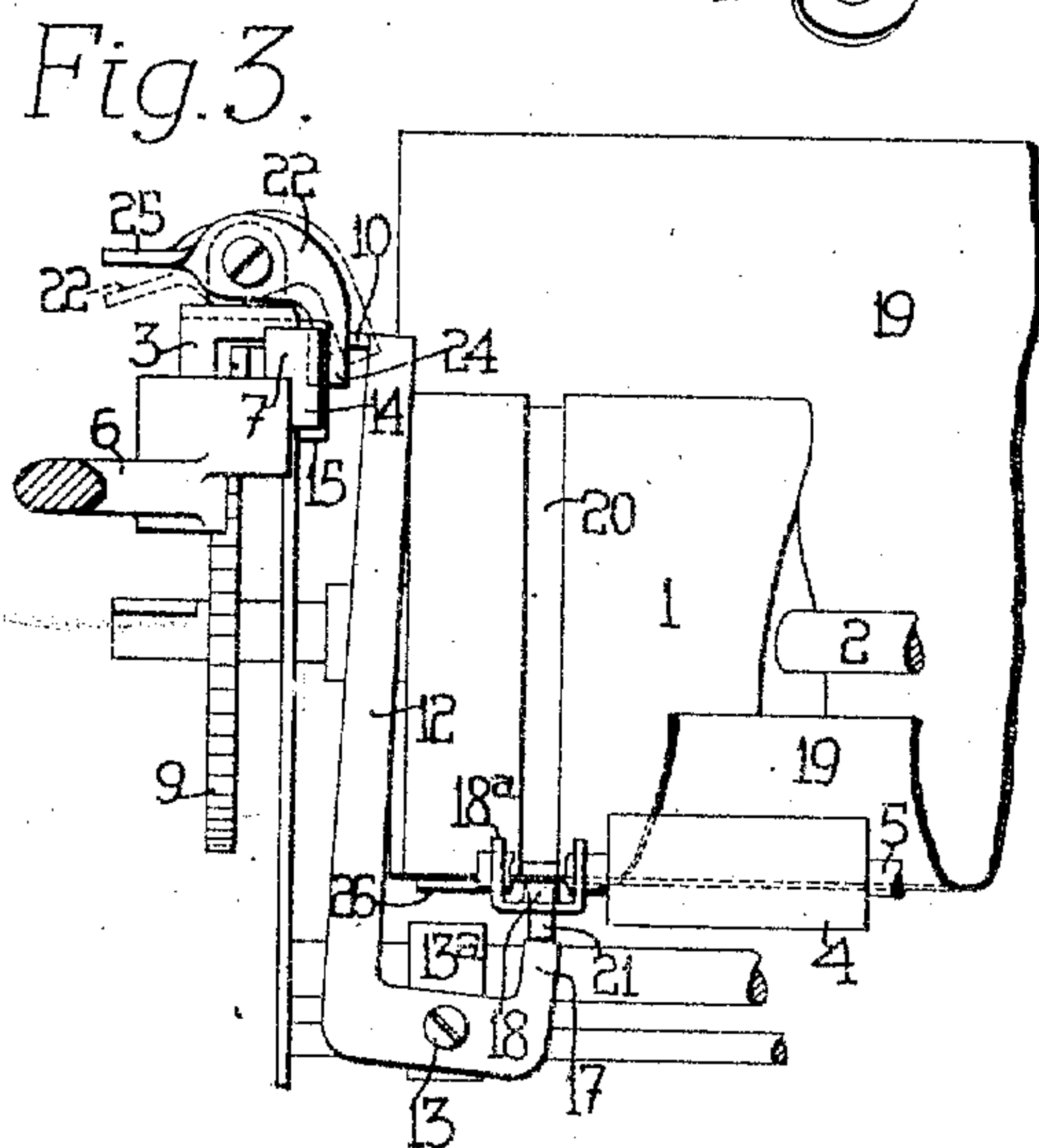
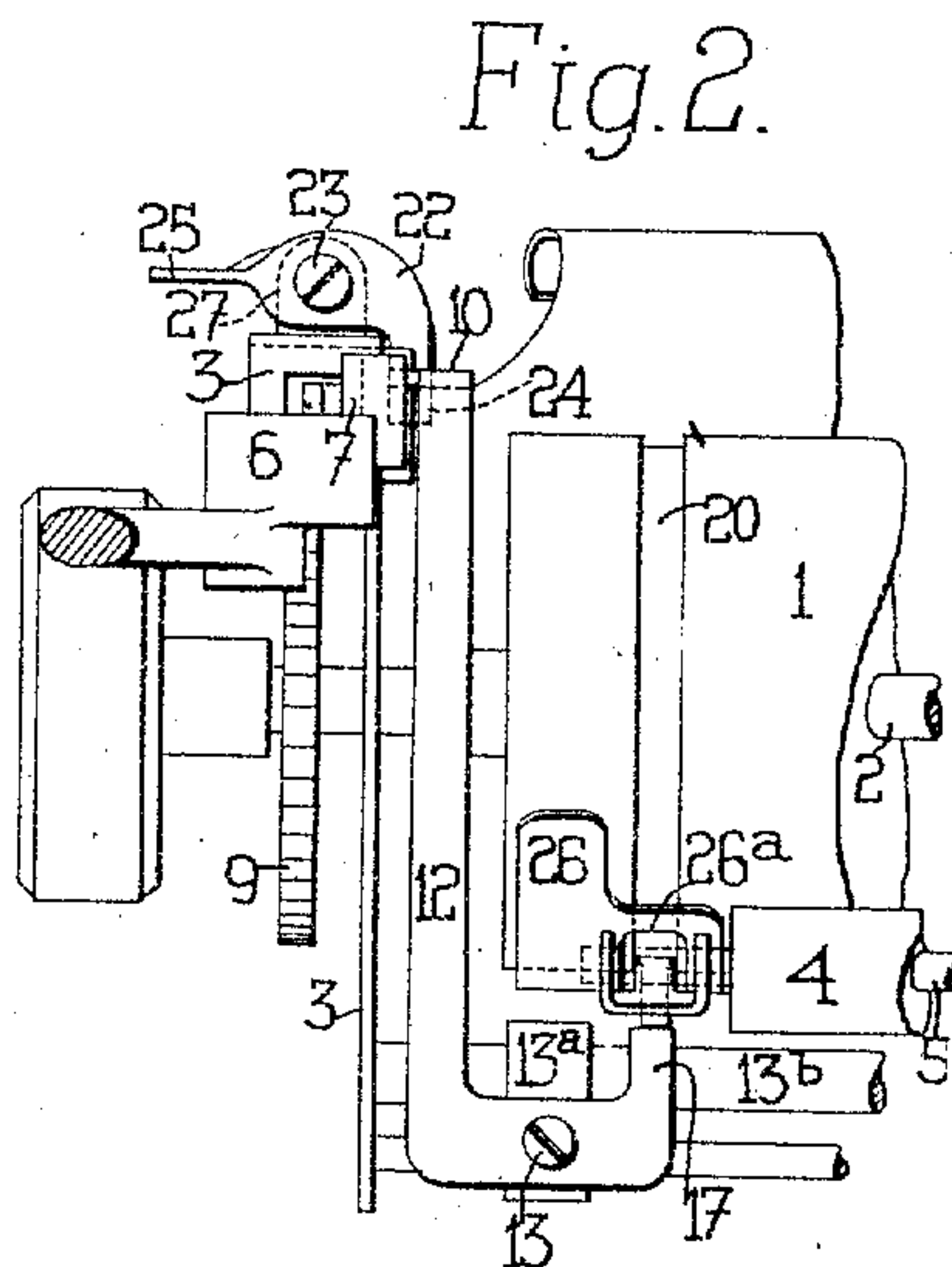
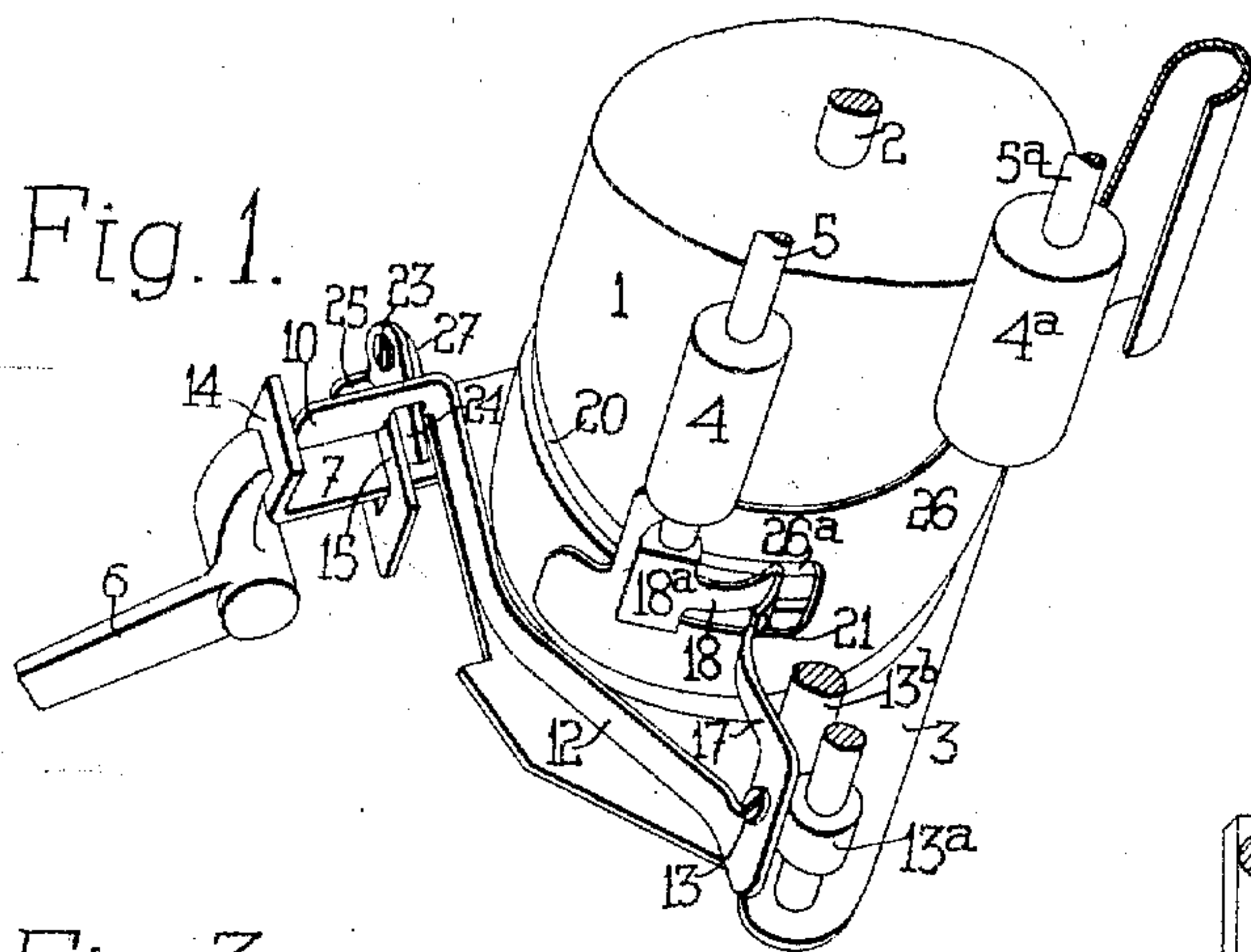


C. G. ROSENHAUER.  
TYPE WRITING MACHINE.  
APPLICATION FILED APR. 8, 1910.

978,214.

Patented Dec. 13, 1910.



Witnesses.

*Leopold Schiff*

*Ralph S. Warfield*

Inventor.

*Charles G. Rosenhauer*

By *R. B. Stickney*  
Attorney.



# UNITED STATES PATENT OFFICE.

CHARLES G. ROSENHAUER, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPE-WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

## TYPE-WRITING MACHINE.

1,978,214.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed April 8, 1910. Serial No. 554,090.

*To all whom it may concern:*

Be it known that I, CHARLES G. ROSENHAUER, a citizen of the United States, residing in the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

10 This invention relates to paper-feeding mechanism for typewriting machines, the object being to improve and simplify the means to automatically indicate when the bottom of a work sheet approaches the printing line.

15 According to the present improvements, a sheet-operated trip controls a lever-carrying latch movable into the path of the line-space mechanism to lock the latter against operation. The trip is held out of an annular groove in the platen by the interposition of the work sheet, but upon the uncovering of the groove by the passage of the bottom edge of the paper past the trip, the latter drops into the groove, to effect the engagement of the latch and the line-space mechanism.

20 A releasing device pivoted to the platen frame serves to disengage the latch from the line-space mechanism; and said releasing device may be mechanically held to maintain the latch idle, when desired.

25 In the accompanying drawings, Figure 1 is a perspective view of one end of the platen frame and platen of an Underwood writing machine, inverted, showing the invention applied thereto. Fig. 2 is a front view, showing the latch in effective position. Fig. 3 is a similar view, partly broken away, the parts being shown in released or ineffective positions. Fig. 4 is an end view showing the position of the trip when the latch is in locking position. Fig. 5 is a plan view showing the latch in effective position.

30 A platen 1 is mounted by an axle 2 in the ends 3 of a platen frame. Front and rear pressure rolls 4, 4<sup>a</sup>, mounted on shafts 5, 5<sup>a</sup>, hold the paper against the platen in position to be struck by types 11. The platen is turned to feed the paper, by means of a line-space lever 6, which operates a slide 7, having a pawl 8 to engage and turn a line-space wheel 9, fast on the platen axle 2.

35 The approach of the bottom edge of the work sheet to the printing line, effects the

locking of the line-space mechanism, which is rendered inoperative somewhat prior to the feeding of said bottom edge up to the printing line; and the consequent inoperativeness of the line-space lever attracts the attention of the operator, and indicates the completion of the written page.

40 The locking of the line-space mechanism is accomplished through the action of a sheet-controlled trip 18, pivoted at 18<sup>a</sup>, on one end of the pressure roll shaft 5, and normally held in an annular groove 20 formed in the platen, by a finger 17 on an elbow lever 12, pivoted near one end at 13 to a hanger 13<sup>a</sup>, on a tie-rod 13<sup>b</sup>, extending between the platen frame ends. The lever 12 extends toward the line-space mechanism, and carries a latch 10 of sufficient length to snugly fit between the usual lip 14 on the slide 7, and the adjacent edge 15 of the end of the platen frame 3, which may be shouldered, as shown in Fig. 5. The interposition of said latch operates to lock the line-space mechanism against operation, and consequently rotation of the platen is prevented.

45 When a sheet 19 is inserted into the machine, the forward edge is introduced between the groove 20 and the trip 18, (the free end of the latter being bent back upon itself, as at 21, to enable the paper to pass freely between the platen and the trip), to force the trip 18 out of its normal position in the groove 20, and thereby swing the latch 10 from the position shown in Fig. 2 to that shown in Fig. 3, out of the path of the slide 7, the trip being held in such position, as long as the sheet intervenes between itself and the groove. The finger 17 bears against the free end of the transversely extending trip and is not positively connected thereto, whereby to enable the trip and latch to swing in transverse directions relative to each other. Said finger also being on the shorter end of the lever, a slight movement only thereof is necessary to swing the latch into or out of operative position.

50 As the bottom edge of the work sheet passes the trip, the latter is pressed into the groove by the lever 12, the normal tendency of which is to shift the latch to operative position; said lever swinging on its pivot 13, to interpose the latch 10 between the slide and the platen frame end. The latch assumes its operative position directly after



the line-space mechanism has fed the paper along to uncover the groove, so that further line-spacing is prevented.

To throw the latch to idle position, a releasing lever 22 is pivoted at 23, on the end of the platen frame adjacent the latch, one arm 24 of said lever being formed into a finger extending between the lever 12 and the platen frame end and operated by depressing a finger piece 25, forming the opposite arm of said release lever, to throw the latch 10 out of engagement with the line-space mechanism.

Since it is sometimes desirable to maintain the latch in idle position, notwithstanding that the groove is uncovered, as when writing cards or envelopes, for instance, the release lever may be made to retain its adjusted positions, by frictional contact with the lug 27 to which it is pivoted.

The usual paper shield 26 may be slotted, as at 26<sup>a</sup>, to enable the trip to have access to the groove 20, and it will be understood that the trip can be located elsewhere than as shown, to effect the locking of the line-spacing mechanism when the bottom edge is closer to or farther from the printing line.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a platen and line-space mechanism to feed the paper, of a latch to lock the line-space mechanism inoperative, a paper-controlled trip to hold the latch idle until the bottom edge of the paper passes the trip, and a releasing finger independent of the paper and movable independently of the latch to throw the latter and retain it in idle position.

2. In a typewriting machine, the combination with a platen having a depression therein, and line-space mechanism to turn the platen, of a paper-controlled trip tending to occupy said depression upon the removal of the paper, and a latch controlled by the trip and automatically interposable in the path of the line-space mechanism, to prevent the mechanical feed of the paper.

3. In a typewriting machine, the combination with a platen and a line-space mechanism to feed the paper, of a paper-controlled trip, a latch controlled by the trip and interposable directly in the line-space mechanism, to prevent the mechanical feed of the paper, and a release device independent of the sheet and movable independently of the latch to dislodge the latch from the line-space mechanism and hold it in idle position.

4. In a typewriting machine, the combination with a platen having a depression therein, and a line-space mechanism to feed the paper, of a sheet-controlled paper end indicating device including a latch to lock

the line-space mechanism against operation, a trip tending to occupy the depression in the platen and effective to hold the latch inoperative until the bottom edge of the paper passes from between the trip and the depression, and a releasing lever to disconnect the latch from the line-space mechanism and retain it in ineffective position.

5. In a typewriting machine, the combination with a platen frame, a platen having a depression therein, pressure-roll mechanism and line-space mechanism to feed the paper, of a paper end indicator including a lever, a latch on one arm of the lever tending to engage and lock the line-space mechanism inoperative, and a paper-controlled trip hinged on the pressure-roll mechanism and engaged by the opposite arm of the lever to hold the latch idle until the bottom edge of the paper uncovers the depression to admit the trip.

6. In a typewriting machine, the combination with a platen having a depression therein, a platen frame in which the platen is journaled, a line-space mechanism including a slide with a lip thereon, of a paper end indicator comprising a shiftable latch to fit between the lip of the slide and the adjacent edge of the end of the platen frame, to prevent the operation of the line-space mechanism, and a paper-controlled trip effective to hold the check idle until the paper uncovers the depression to admit the trip.

7. In a typewriting machine, the combination with a platen having a depression therein, a platen frame in which the platen is journaled, a line-space mechanism including a slide with a lip thereon, of a paper end indicator comprising a lever having a latch on one arm to fit between the lip and the adjacent edge of the end of the platen frame, to prevent the operation of the line-space mechanism, and a movable trip against which the opposite arm of the lever presses to throw the trip into the depression in the platen when uncovered by the paper, and effect the operation of the check.

8. In a typewriting machine, the combination with a rotatable platen and line-spacing mechanism therefor, of a sheet-controlled locking mechanism to prevent operation of the line-spacing mechanism and thereby indicate the approach of the bottom of the sheet to the printing line, and a release device independent of the sheet and movable independently of the locking mechanism, to move the latter out of operative position and hold it there.

CHARLES G. ROSENHAUER.

Witnesses:

K. FRANKFORT,  
B. GOLDBERG.