

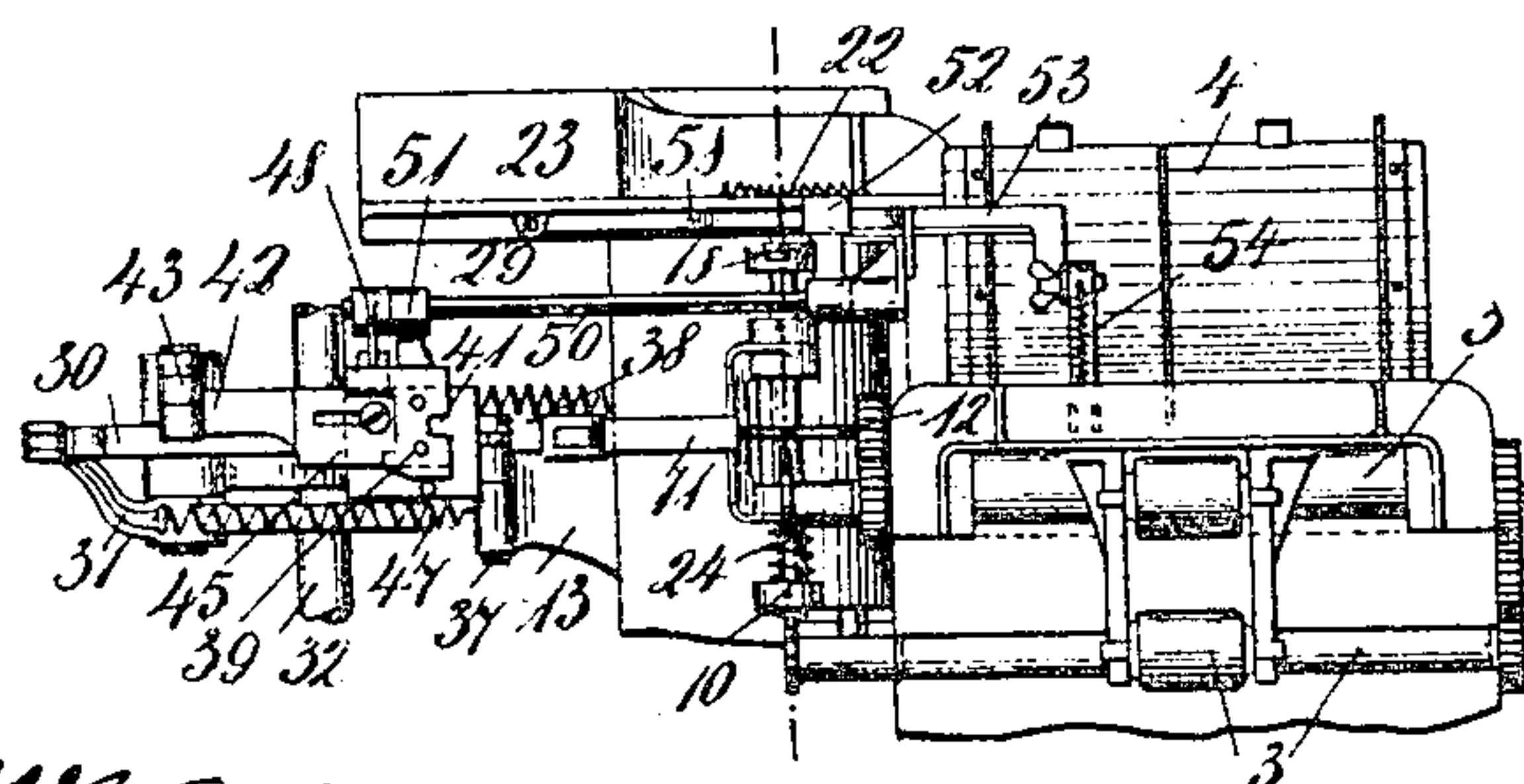
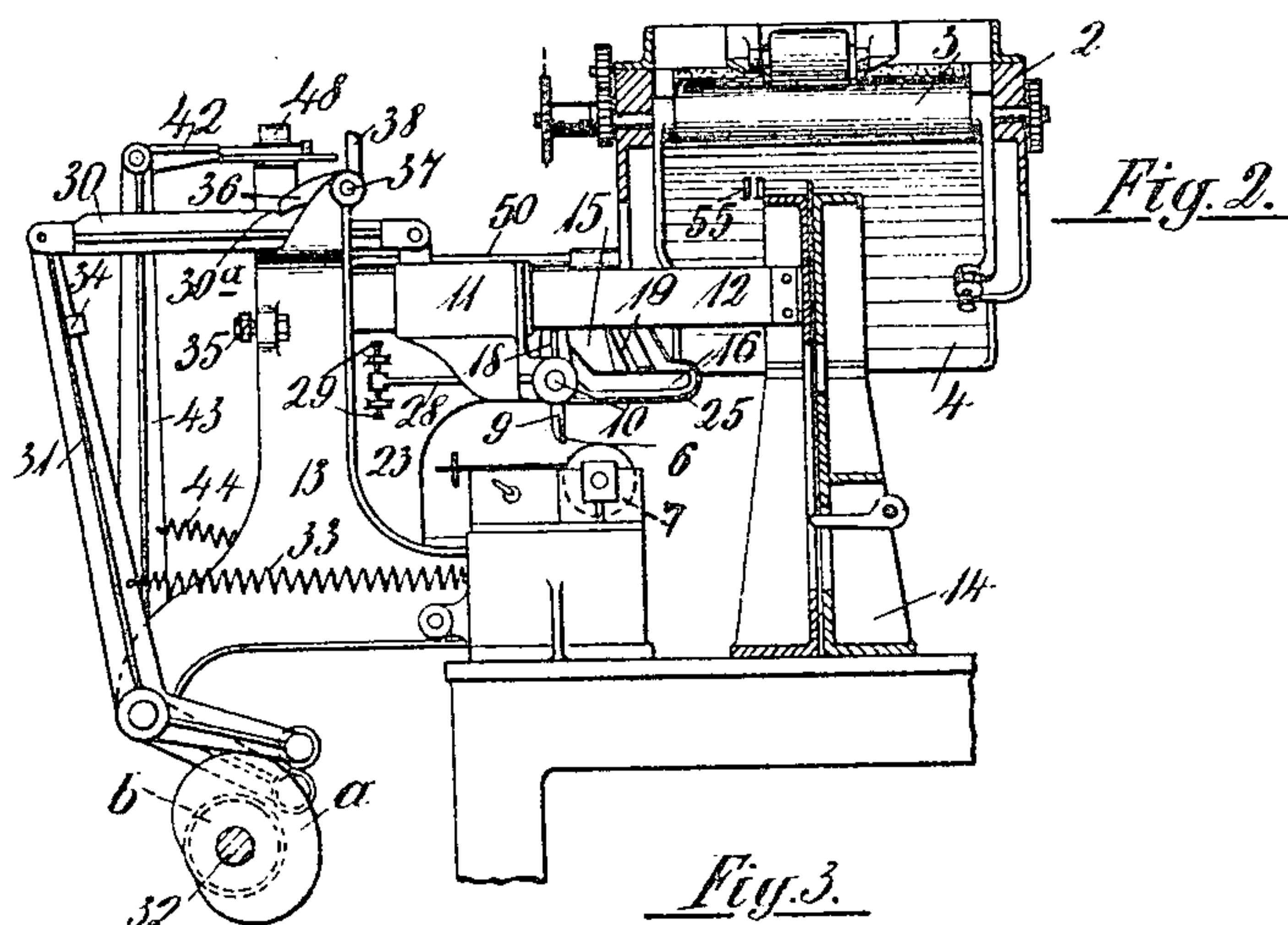
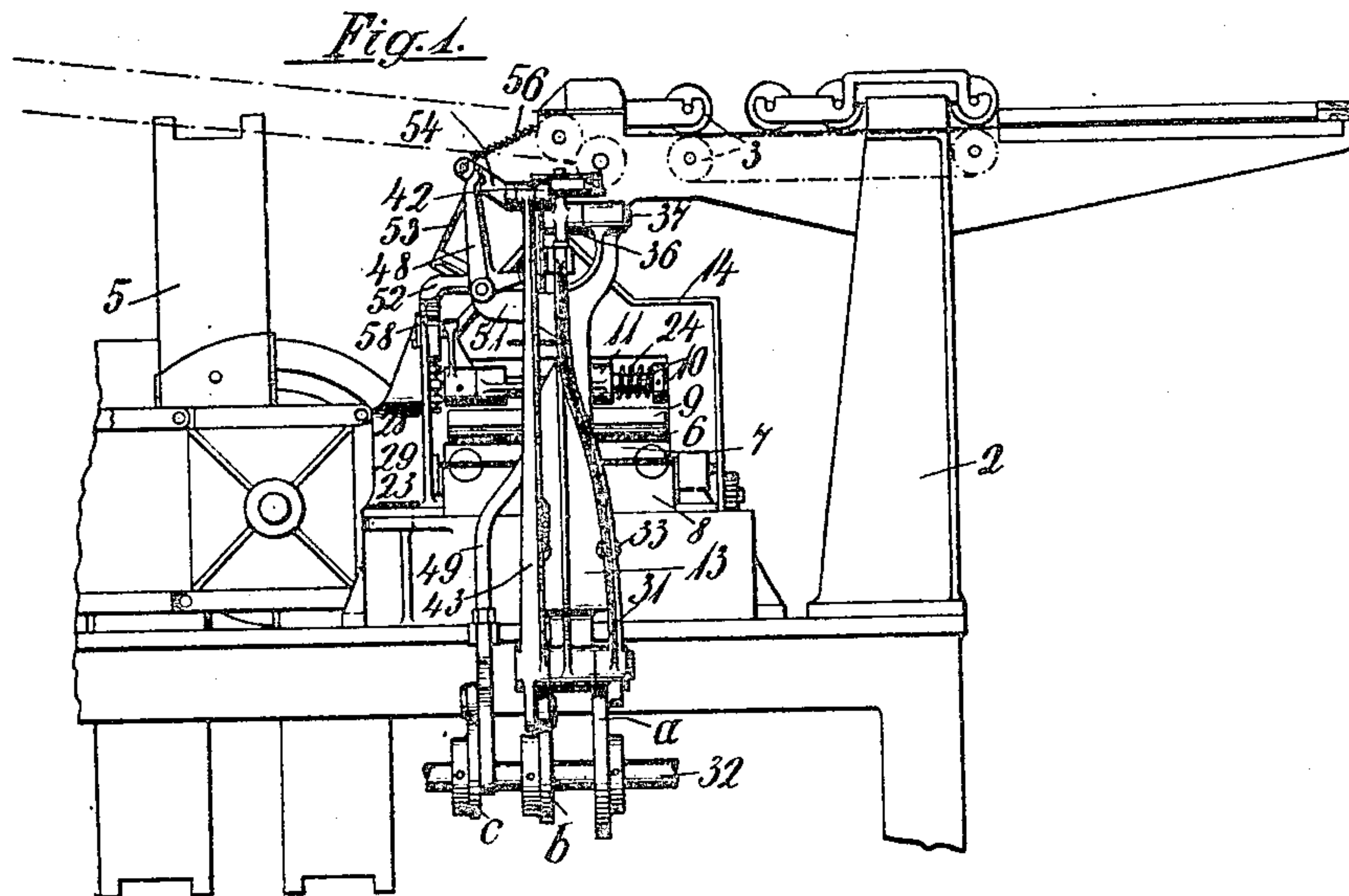
No. 817,559.

PATENTED APR. 10, 1906.

O. HESSER.
ADHESIVE APPLYING DEVICE.

APPLICATION FILED MAY 4, 1905.

2 SHEETS—SHEET 1.



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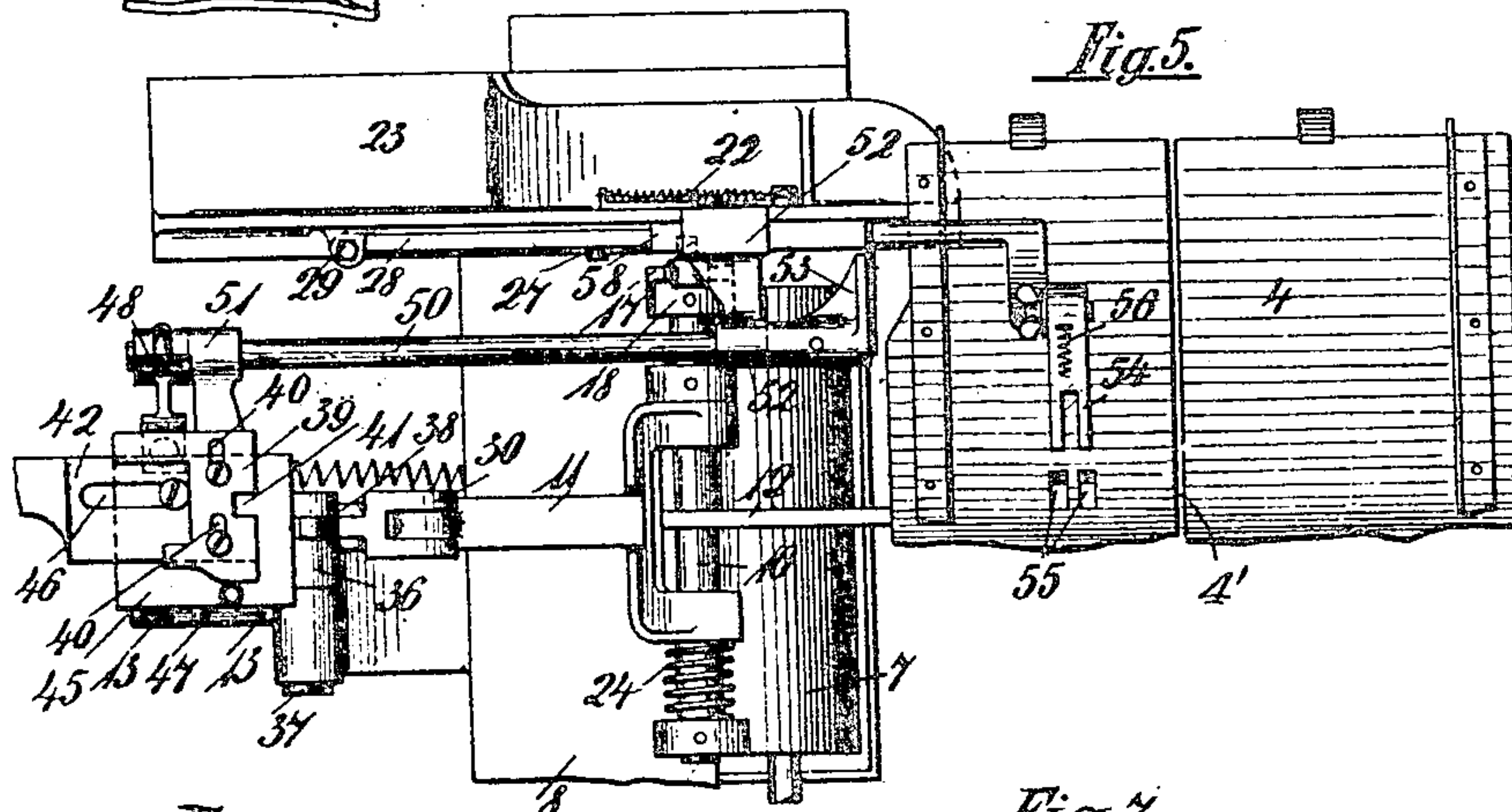
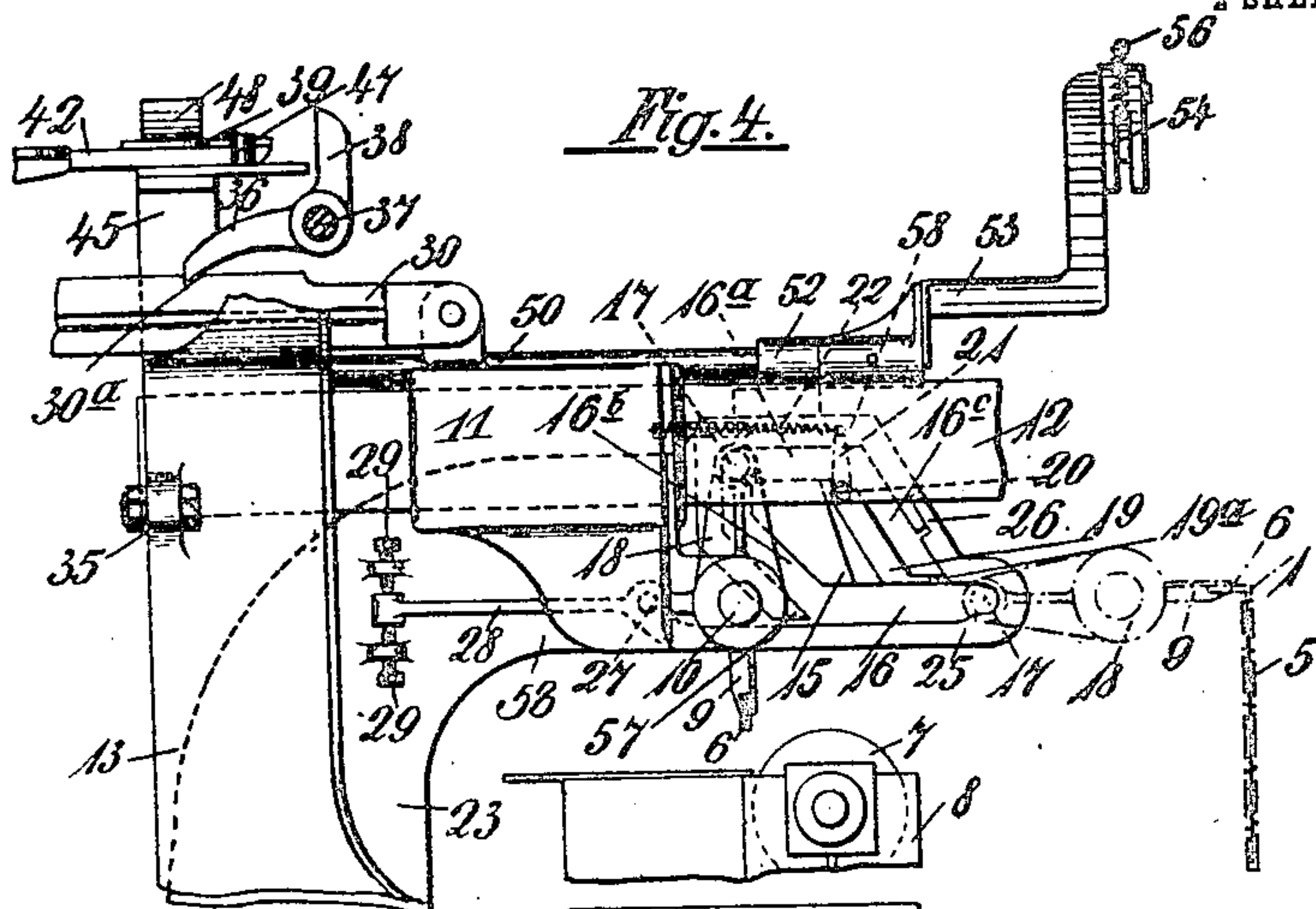


Fig. 6.

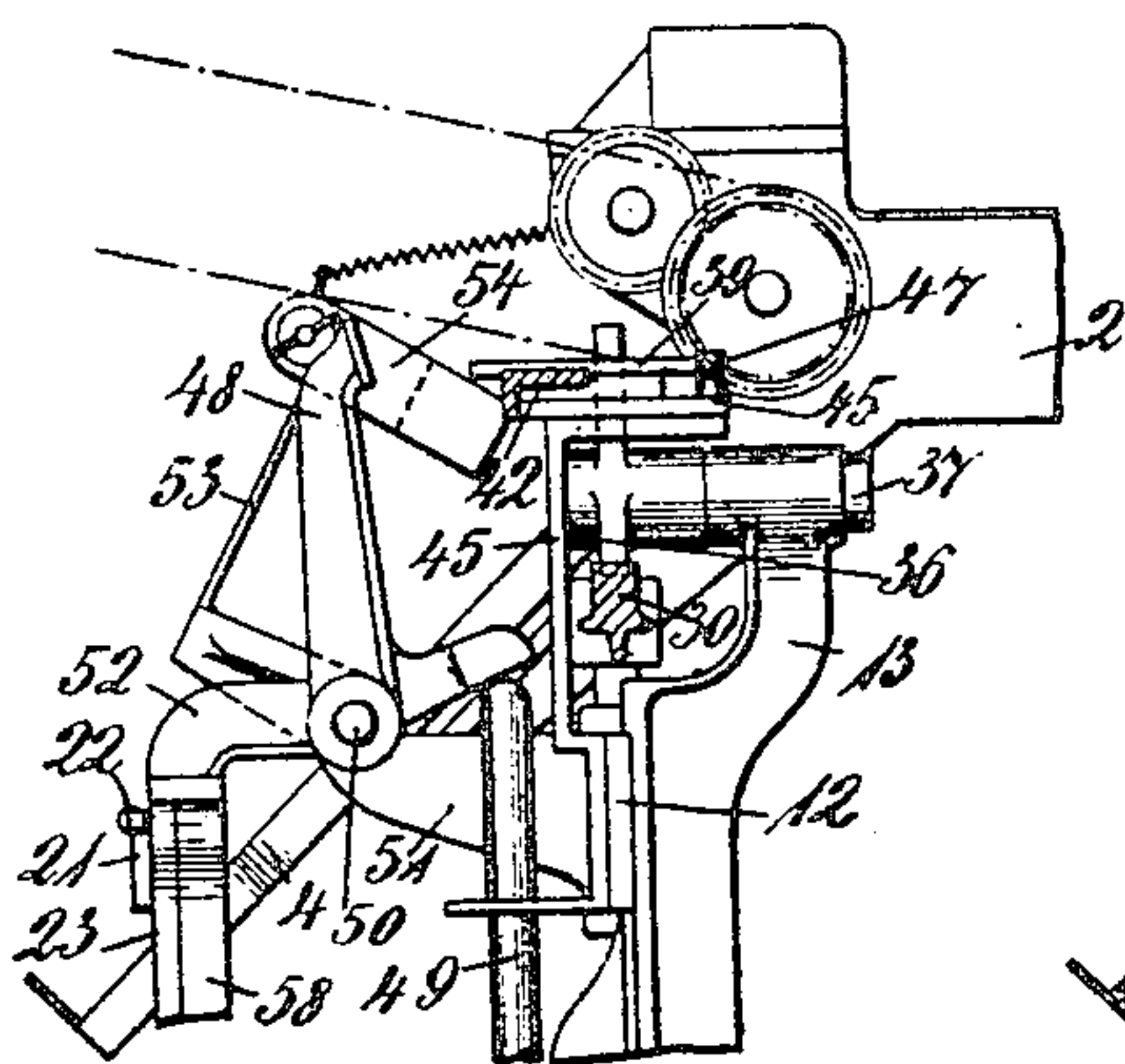
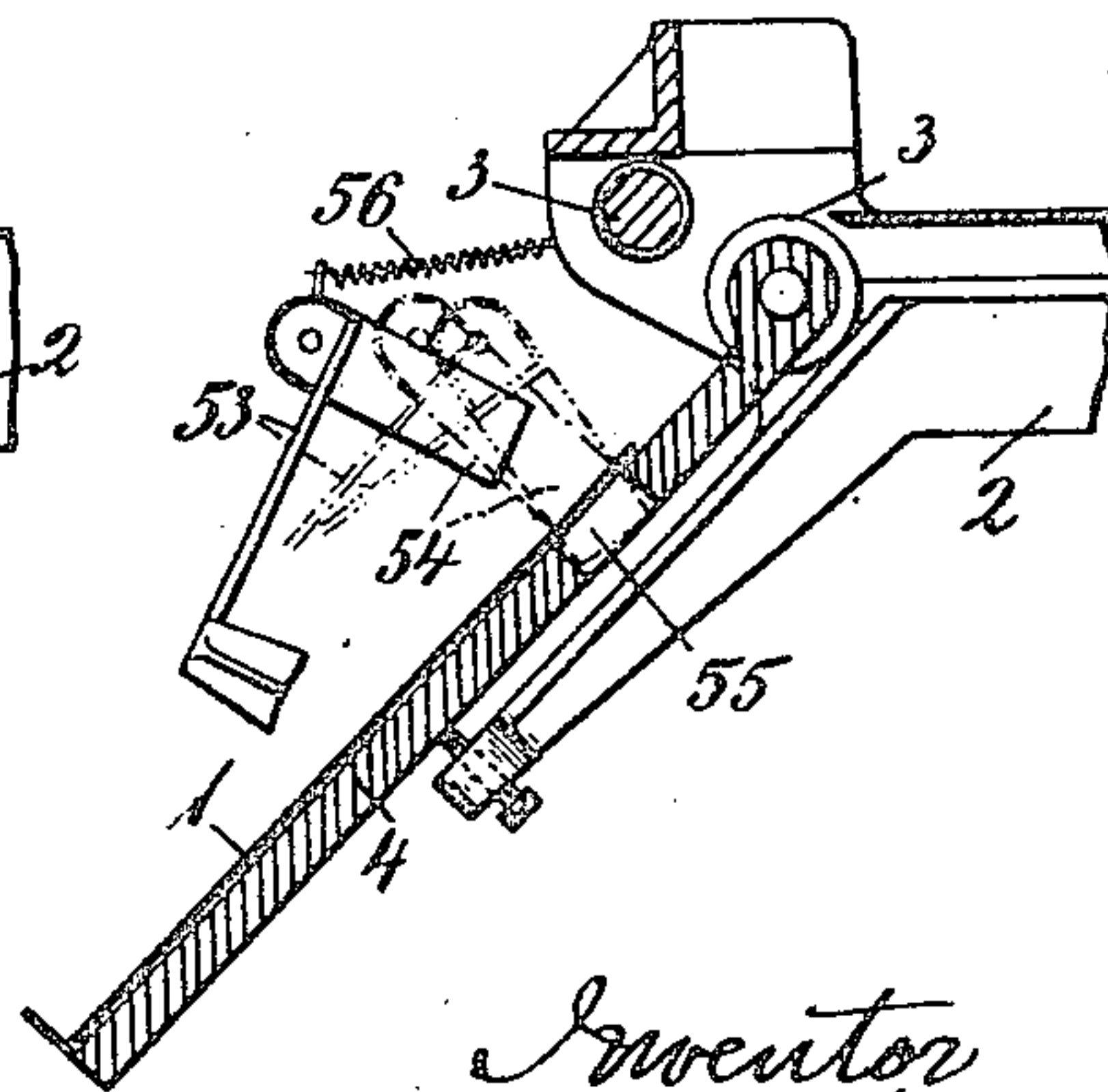


Fig. 7.



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UNITED STATES PATENT OFFICE.

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ADHESIVE-APPLYING DEVICE.

No. 817,559.

Specification of Letters Patent.

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Application filed May 4, 1905. Serial No. 258,814.

To all whom it may concern:

Be it known that I, OTTO HESSER, a citizen of the Kingdom of Württemberg, German Empire, residing at Cannstatt, Württemberg, have invented certain new and useful Improvements in Adhesive-Applying Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The gumming apparatus hitherto employed, for instance, in paper-bag-making machines and the like have the drawback that if for any reason a sheet of paper is not fed up the movement of the gumming-stamp must be stopped by hand. If for any reason this is neglected, an application of gum is made on the support of the sheet in the absence of a sheet of paper, on which support, then, the next sheet which is fed up remains adherent, which subsequently necessitates the stopping of the machine and a thorough cleaning of it or, rather, of the respective gummed place. Spoiled goods are thereby produced and also much time wasted before the machine can be again set going. It is also not unlikely that with careless handling of the machine delicate parts of the same may be damaged. Such machines always, however, require a constant and wearying vigilance on the part of the person attending to the machine as regards the gumming apparatus, thus placing great responsibility on such person. Now this invention entirely removes these drawbacks.

The object of the invention is attained by a mechanism for automatically preventing any application of gum if the sheet of paper be not fed up to the gumming-place for any reason. This mechanism substantially consists of a feeler or key influenced by the sheet of paper, which key is so connected with the means for arresting the gumming plate or bar that as soon as the key by encountering the flat sheet of paper is fixed the arresting mechanism is released and an application of gum takes place. If no sheet of paper is present, the key or feeler makes a longer course and passes through the plate supporting the paper sheet, whereby the stop mechanism of the gumming bar or plate is set in action—that is to say, no application of gum takes place. When the gumming plate or bar is moved forward, its lower surface rubs

during the movement on a rotating gumming-roller for the purpose of taking up gum, and it is then automatically turned ninety degrees and pressed with its gummed side on the sheet of paper. In its return movement it is also again automatically turned back ninety degrees.

The accompanying drawings illustrate one practical embodiment of the invention.

Figure 1 is a side view; Fig. 2, another side view turned ninety degrees to Fig. 1, and Fig. 3 a plan view. Figs. 4 to 7 are on an enlarged scale. Fig. 4 shows a partial side view of Fig. 2; Fig. 5, a partial plan view of Fig. 3, and Fig. 6 a partial side view of Fig. 1. Fig. 7 is a section of the table on which the paper sheets are laid, and from this view three different positions of the key or feeler are also shown—namely, in the pressed-up position, (full lines,) resting on the paper sheet, (line dotted lines,) and engaging in the recess of the table, (double line dotted.)

In the form of construction shown it is assumed that the feed of the paper sheet 1 onto the obliquely-placed table 4, held on an arm 2, takes place by means of rotary feed-rollers 3. The sheet is then drawn by folding-plates 5, mounted on an endless intermittently-moved chain, through a slot 4' of the table, and at the next stopping-place or station the gum for the longitudinal fold of this sheet is applied.

It is assumed as self-evident that the gumming apparatus, together with the apparatus for automatically stopping it, may be employed at any other suitable stopping-place or station of a machine for making paper bags or may be employed for any other suitable purposes.

The gumming bar or plate 6 is mounted by means of arms 9 on a shaft 10, which is revolutely mounted on a carriage 11, horizontally movable on a guide-bar 12, and by means of a spiral spring 24, acting circumferentially and mounted on the shaft 10, is retained in a given turning position and returned to said position, in which the gumming plate or bar lies vertically under its shaft 10. A crank 18, the laterally-projecting pin 17 of which engages in an upper horizontally-disposed groove 16^a in a vertical guide-plate 58, which plate forms one piece with the bearing-stands or supports 23 or may be separately attached thereto, is mounted on one end of the shaft 10, lying diametrically to the stamp 6.

The groove 16^a is at each end connected with a groove 16, which is also horizontal and is located beneath the groove 16^a by means of obliquely-running grooves 16^b and 16^c, respectively, of which the rear groove 16^c is shut off from the groove 16 by means of the arm 19^a of a movable tongue 19. A fixed tongue 57 runs from the front inclined groove 16^b in the space of the groove 16. The tongue 19 is mounted on a pin 20, pivotally mounted in the plate 58, and carries on the other side a lever 21, on which a spring 22 acts in such a way that the arm 19^a usually closes the groove 16 from the groove 16^c. The groove 16 of the plate 58 is limited in front by a flat guide-arm 25, which bears with its bend 26 above against the plate 58. The arm 25 is pivotally mounted on the pin 27 and prolonged to the rear by means of a lever 28, which may be adjusted by means of two alining set-screws 29. By this means the arm 25, which forms the lower wall of the slot 16, may be vertically adjusted in order that the pin 17 may be raised or lowered and the position of the gumming bar or plate correspondingly adjusted in accordance with the dimensions of the paper, sheets, or bags.

The forward movement of the gumming-plate takes place by the movement of the carriage 11 on its guide-bar 12 by means of a push-rod 30, which is returned by elbow-lever 31 to the initial position by means of a cam *a*, mounted on the driving-shaft 32, after being released by means of a spring 33, constantly acting on the lever 31, and is moved forward until a lug 34, mounted on the lever 31, encounters an adjustable stop 35, placed on the bearing support or frame 13 and limiting the forward movement of the gumming-plate. In moving forward the gumming-plate 6 first passes over a gumming-roller 7, constantly rotating in a gum-container 8, and takes up gum, and then the pin 17 of the crank 18, which pin is first sliding in the groove 16^a, passes into the inclined groove 16^c, presses the arm 19^a of the tongue 19 aside, and in its end position comes to rest in the slot 16, while the gumming-plate 6 has the horizontal position shown in dotted lines in Fig. 4, and can then apply the gum to the sheet. The return of the gumming-plate then takes place by the action of the eccentric *a*, the pin 17 of the crank 18 being conducted back in the groove 16 under the arm 19^a of the tongue 19 and encountering the oblique tongue 57, engaging in the groove 16, rising from there upward and then again assuming its original position, the gumming-plate being again turned back simultaneously ninety degrees and lying at the end of the return movement again under the shaft 10.

With the object of applying gum and preventing its application when no paper sheet is fed up, the following mechanism is employed. One arm 36 of an elbow-shaped pawl

engages in a recess 30^a on the pusher-arm 30 of the gumming-carriage 11, and the other arm 38 of said pawl is allowed to move in order to release the arm 36 from the recess in case the gum or adhesive is to be applied or is held from movement in case the gum or adhesive is not to be applied. A slide 42 is movably mounted in the upper plate of the bearing-support 45 and pivotally connected with an elbow-lever 43, Fig. 2, which is held by a spring 44 in a given position and is displaced out of such position by means of an eccentric or cam *b*, mounted on the driving-shaft 32. On this slide 42 a second slide 39, moved with the former, is mounted, which second slide is held fast to the former, but transversely displaceable by means of screws passing through its slots 40. By means of this slide 39, which lies in front of the arm 38 of the catch-pawl 36 38, the latter is released as soon as a sheet of paper 1 lies on the feed-table 4, the pawl 36 being turned by encountering the arm 38 in such a way that no impediment stands in the way of the forward movement of the gumming-plate. If, however, no sheet has been conveyed onto the table 4, a lateral displacement of the slide 39 takes place in such a way that on the forward movement of the slide 42 and the slide 39 the recess 41 of the latter comes to lie exactly in front of the arm 38 of the stop-pawl, and the latter is not released—that is to say, no displacement of the gumming-plate can take place. The inward movement of the slide 39 is limited by a pin 47. The lateral displacement of the slide 39 is operated by the feeler or key 54 acting on the sheet unless no sheet is laid on the table 4. The key 54 is mounted, by means of an arm 53, on a shaft 50, which is retained pivotally on the bearings 51. On the shaft 50 there is also mounted an elbow-lever 48, the horizontal arm of which is usually raised by means of a bar 49, vertically movable by means of an eccentric *c*, when the key 54 assumes its position of repose, as shown in full lines, for instance, in Fig. 7. On the sinking of the bar 49 the shaft 50, in consequence of the action of a spring 56 on the key 54, is turned until the key or feeler rests on the paper sheet. In this position the lever 48 lies near the slide 39, without, however, moving the same. When a paper sheet is placed on the table, it opposes such a resistance to the feeler that the latter cannot enter the recesses 55 of the feed-table 4. If, however, no sheet is placed on the table, the key, in consequence of the action of the spring 56, executes a further movement into the recesses 51, whereby the shaft 50 is turned so far that the lever 48 displaces the slide 39 until its recess 41 lies in front of the arm 38 of the stop-pawl, so that this latter is not released. As the operation of the stop-pawl always takes place automatically and only when a sheet is fed up, while it equally re-

mains suspended automatically when this is not the case, the attendance on a machine provided with a gumming apparatus such as described in the present invention is considerably simplified, and interruptions in the working of the machine in consequence of the application of gum without there being a sheet of paper fed up are entirely avoided.

It is evident that the stop-pawl or another stopping mechanism in the case where a sheet has not been fed up may be prevented by the key from releasing the gumming-plate in other ways than the one hereinbefore described. The characteristic feature of the invention is regarded as the arrangement of a key which when the paper sheet is not fed up passes into recesses in the feed-table, and thereby automatically prevents the release of the stop-pawl or the like. Of course it is also self-evident that it is not exactly necessary that the gumming-plate in its forward-and-backward movement should execute a rotation of ninety degrees, and the gumming-plate may be fed up to the place to be gummed either by a movement in a straight line or in any other suitable manner.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a machine of the class described, a sheet or bag support, a gum-applying member movable in the direction of said support, an operating-bar for transmitting movement to said member, a locking-pawl arranged to engage said bar, and a key or feeler arranged to engage the sheet or bag and control the locking or release of the pawl.

2. In a machine of the class described, a sheet or bag support, a gum-applying member, a reciprocating bar for transmitting movement thereto, a locking-pawl for said

bar, means for releasing the pawl and a key or feeler movable over the paper and controlling the position of the pawl-releasing device.

3. In a machine of the class described, the combination with a sheet or bag support, of a gum-applying member, a reciprocatory bar for imparting movement thereto, a locking-pawl for the bar, a pawl-engaging slide having a slot for the reception of said pawl, a key or feeler for engaging the sheet or bag, and means connecting said feeler to the slide.

4. In a machine of the class described, a sheet or bag support, a gum-applying member, a reciprocatory bar for transmitting movement thereto, a locking-pawl for the bar, a pair of slides, one of which is mounted on the other, said slides being movable in the direction of the pawl to effect release of the same and one of said slides having a slot for the reception of the pawl when the latter is to remain inactive, and a sheet or bag engaging feeler or key controlling the movement of said slotted slide.

5. In a machine of the class described, the combination with a gum-receptacle, of a roller mounted therein, a shaft, a reciprocatory support for the shaft, a gum-applying member carried by the shaft and arranged to engage said roller, a rocker-arm carried by the shaft, a pin on said rocker-arm, a member having a continuous cam-slot into which said antifriction-roller enters, and an adjustable arm forming one wall of said cam-slot and serving to adjust the delivery position of the gum-applying member.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

OTTO HESSER.

Witnesses:

A. B. FRANTZ,
R. BRECHT.