

H. CRUTCHLEY.  
TYPE WRITING MACHINE.  
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975,834.

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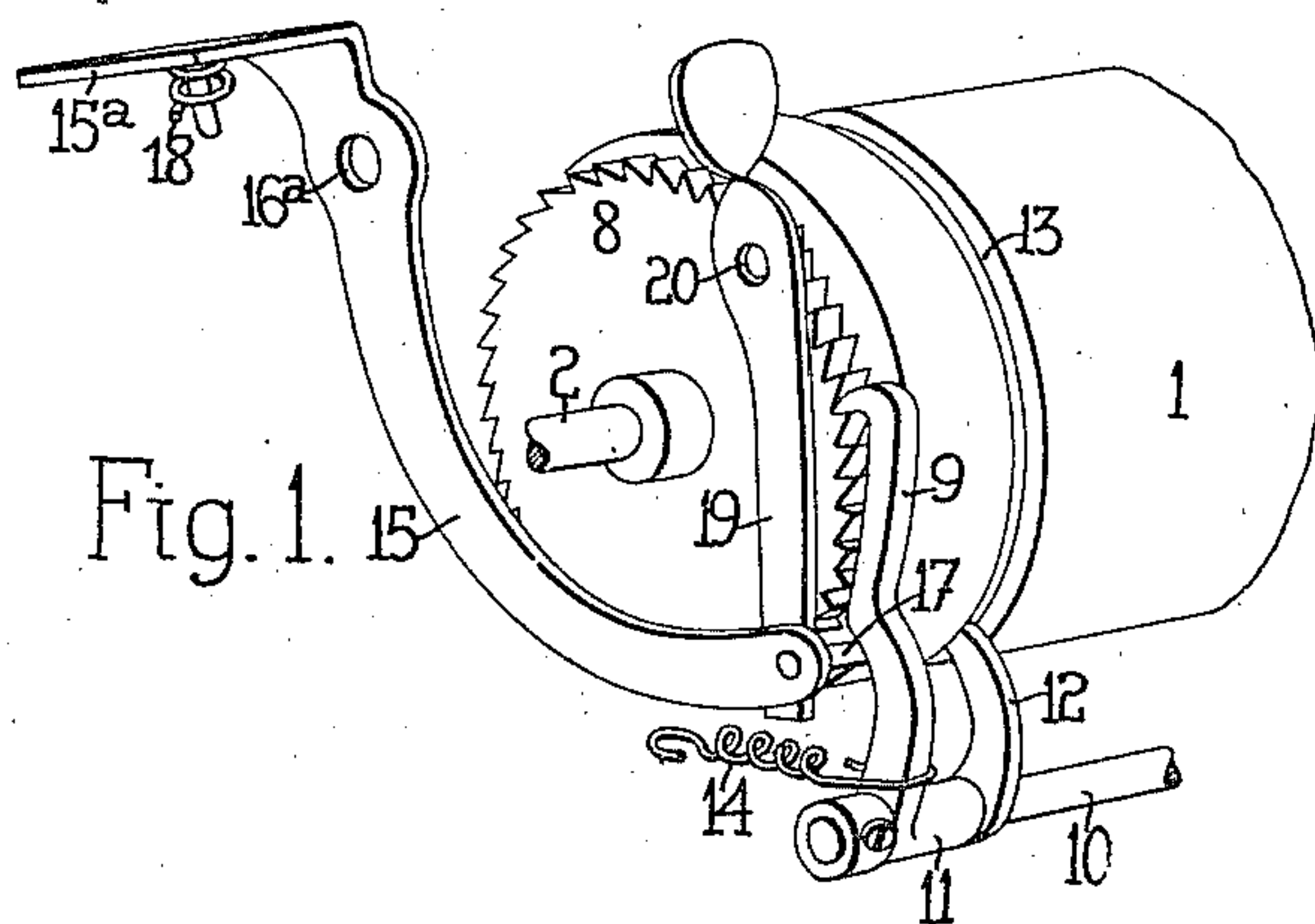


Fig. 1.

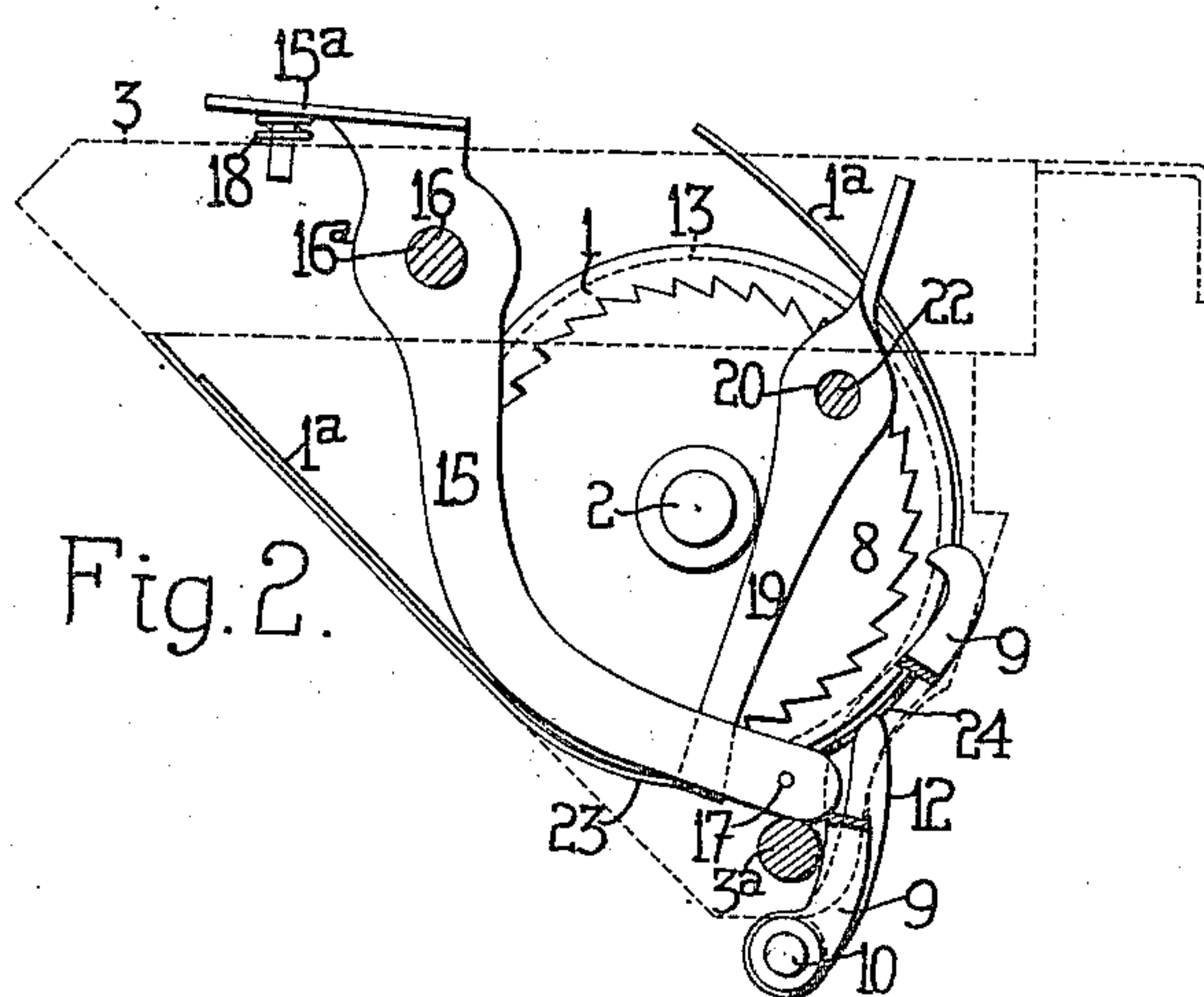


Fig. 2.

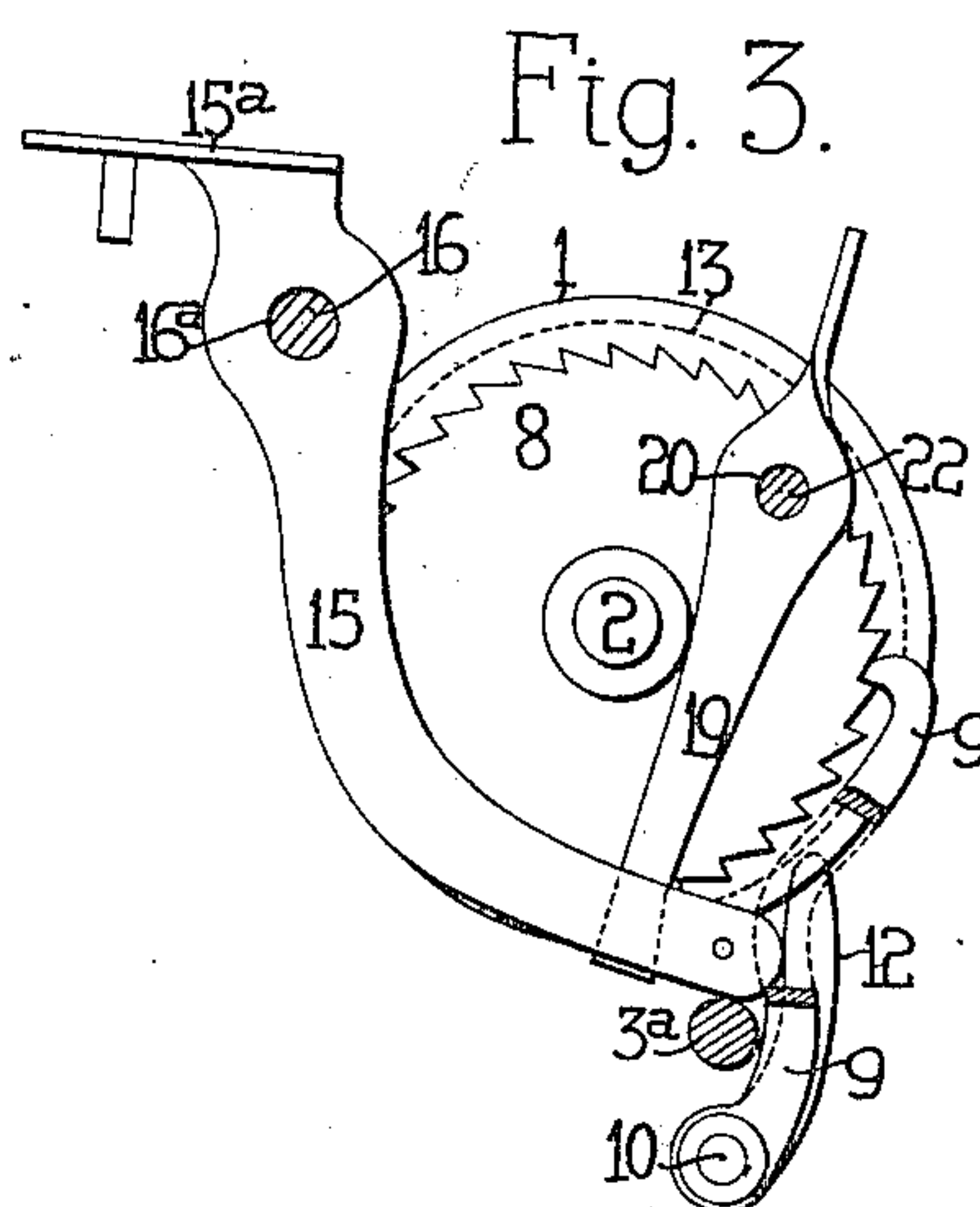


Fig. 3.

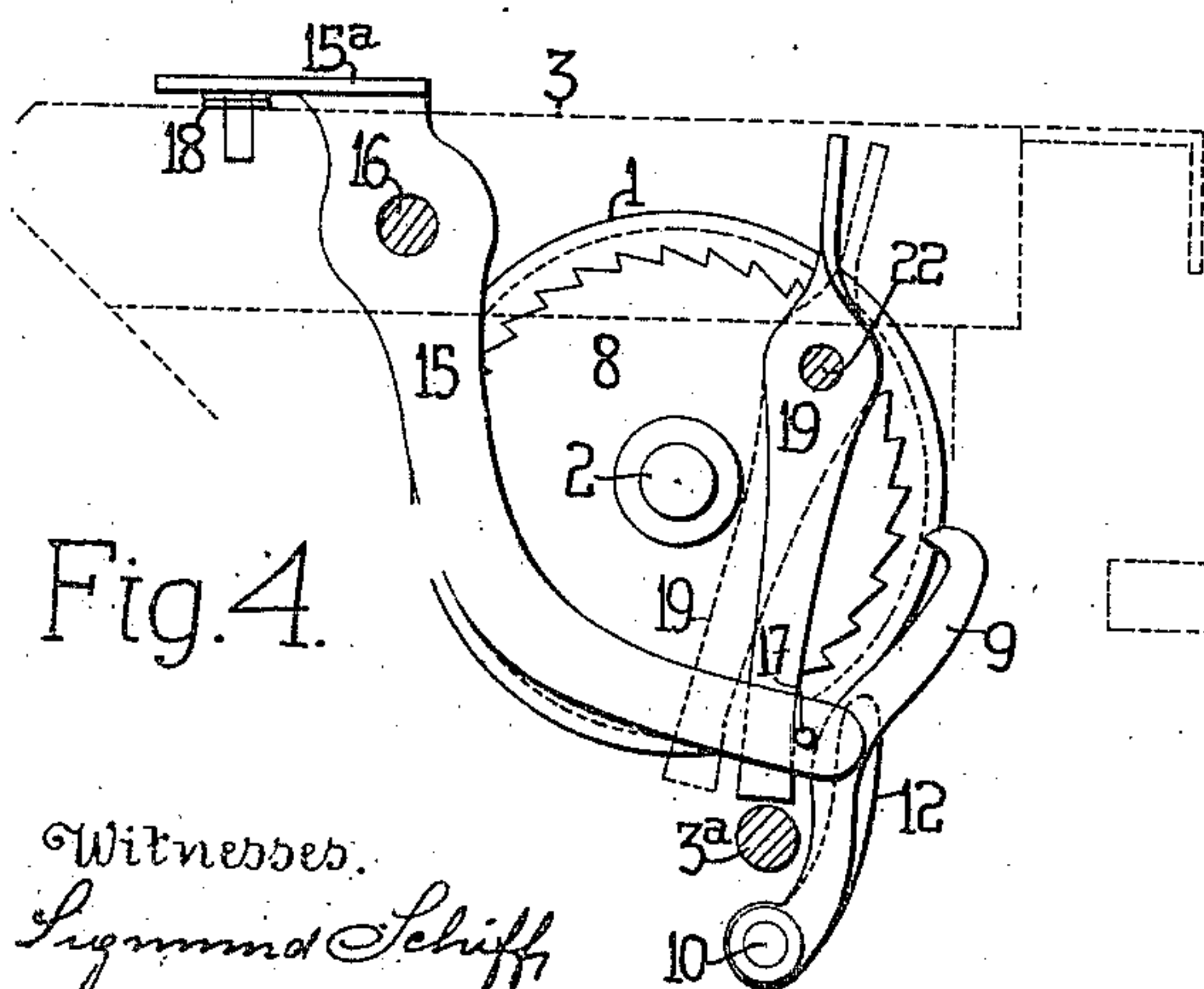


Fig. 4.

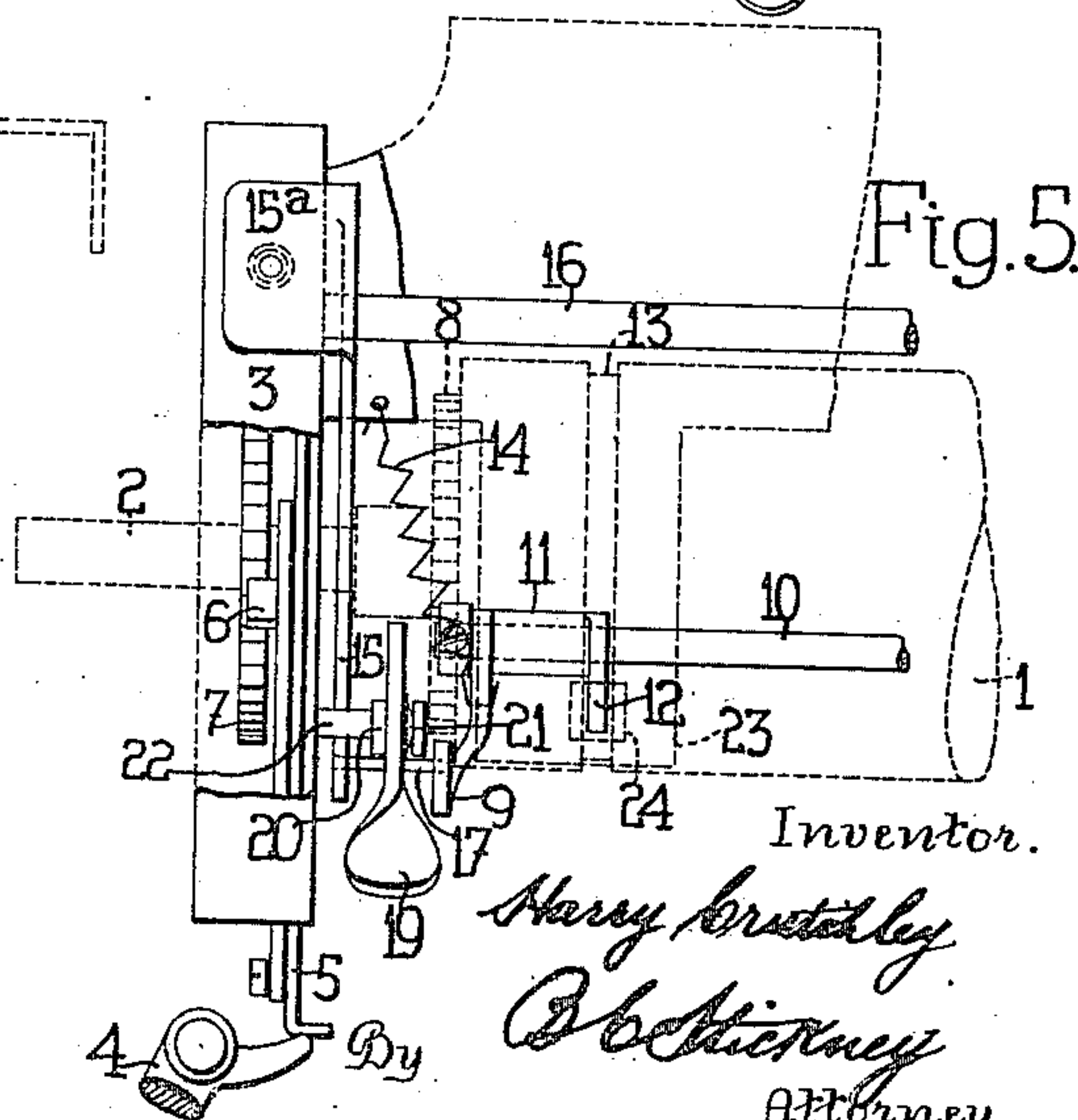


Fig. 5.

Witnesses.  
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# UNITED STATES PATENT OFFICE.

HARRY CRUTCHLEY, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

975,834.

Specification of Letters Patent.

Patented Nov. 15, 1910.

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*To all whom it may concern:*

Be it known that I, HARRY CRUTCHLEY, a citizen of the United States, residing in Jersey City, 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 platen arresting devices for typewriting machines, said devices controlled by the line-spacing feed of the paper, and operative to indicate when the bottom edge of the work sheet approaches the printing line.

The main object is the provision of improved and simplified means for releasably locking the platen itself against rotation, to enable the temporary disengagement of the locking mechanism during the insertion and removal of the work sheets, the locking mechanism being left free to operate after the insertion of a sheet. Accordingly, I provide the platen with a positively-operated trip controlled by the work sheet and connected with a dog which engages a ratchet to lock the platen against turning. The thrust of a dog releaser carries an interponent into engagement with the dog to temporarily release or disengage the dog from the ratchet, when it is desired to advance the paper one or more line-spaces, or to insert and remove the sheets without permanently releasing the platen lock, the finger being automatically returned to inactive position as soon as the operator's hand is removed therefrom, to leave the platen-locking mechanism free to operate after the insertion of a sheet. An adjustable detent operates the dog releaser to hold the locking mechanism in idle position, when it is not to be used.

In the accompanying drawings, Figure 1 is a perspective view of one end of the platen of an Underwood writing machine, equipped with my invention. Fig. 2 is an end view, partly in section and broken away, showing the positions of the parts when a work sheet is in the machine. Fig. 3 is a similar view, showing the platen locked against rotation. Fig. 4 is a similar view, showing the dog held disengaged from the ratchet; dotted lines indicating the inactive position of the detent. Fig. 5 is a plan, showing the parts in the positions shown in Fig. 2.

The platen 1 is journaled by an axle 2 in

the ends 3 of a platen frame, and is turned by a line-spacing lever 4 which operates a slide 5 having a pawl 6 to engage a line-space wheel 7 on the axle. A work-sheet controlled trip 12 is conveniently journaled on a shaft 10, and is connected by a sleeve 11 to a spring-pressed dog 9, which engages a ratchet 8 fixed to the platen, when the free end of the trip has entered a groove 13 formed in the platen 1. The engagement of the dog with the ratchet locks the platen itself against rotation.

The sheet of paper 1<sup>a</sup> inserted into the machine, will introduce itself between the rounded free end of the trip 12 and the platen (as shown in Fig. 2), and cover the groove 13 in the platen to hold the trip 12 out of the groove and thereby maintain the dog 9 out of engagement with its ratchet 8. As soon as the bottom edge of the sheet passes the end of the trip, thereby uncovering the groove, the trip is positively forced into the groove by a spring 14 which also effects the engagement of the dog 9 with the ratchet 8 on the platen to prevent rotation of the platen, and thereby indicate the proximity of the bottom edge of the sheet to the printing line. The dog may be temporarily disengaged from the ratchet, to permit the platen and paper to be advanced for the addition of another line of writing, or to enable the sheet to be removed and another inserted, by pressing the finger-piece 15<sup>a</sup> carried by one end of a dog releaser comprising a rocking arm or finger 15, conveniently pivoted at 16<sup>a</sup>, on a rod 16. Said rocking arm carries an interponent or lateral projection 17 which, when the arm is depressed, engages and swings the dog 9 away from the ratchet 8 against the tension of its return spring 14, as shown in Fig. 4. It will be noticed that said finger-piece 15<sup>a</sup> overlies one end 3 of the platen frame, where it is convenient to rest the hand when inserting the sheets into or removing them from the machine, thereby avoiding the necessity of a separate motion to release the platen. A spring 18 returns the rocking arm to idle position the moment the latter is released, to enable the spring 14 to re-engage the dog with the ratchet, so that if a new sheet has been inserted, the locking mechanism is left in position to operate. The spring-actuated throw of the dog releaser may be arrested by the usual tie-rod



3<sup>a</sup>, connecting the ends of the platen frame. To maintain the platen-lock in idle position, a detent lever 19, pivoted at 20 on a stud 22 projecting from the platen frame ends 3, is swung to first pick up the interponent 17 and bring it into engagement with the dog to release the latter from the ratchet (as shown in Fig. 4) the interponent sliding along the detent as it is thrown to operative position. The dog releaser is swung on its pivot as the interponent is brought into engagement with the dog. The detent lever 19 maintains its adjusted positions, because of a friction washer 21 which presses said detent lever against its pivot 20. The engagement of the finger-piece 15<sup>a</sup> of the dog releaser, with which the interponent 17 is connected, with the platen frame end may serve to arrest the throw of the detent lever and the dog 9. The movement of said detent to idle position enables the springs 14 and 18 to return the dog and dog releaser to operative and idle positions, respectively.

The paper deflector 23 may be apertured, as at 24, Fig. 2, to accommodate the free end of the trip 12 and afford access therefor to the groove 13.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a rotatable platen, of a paper-end indicator including means to lock the platen against turning, releasing means to effect the temporary disengagement of the locking means, and a device to disconnect the locking means and hold it in idle position.

2. In a typewriting machine, the combination with a rotatable platen having a ratchet, a paper-controlled locking dog to engage the ratchet and lock the platen against turning, a rocking finger having an interponent to engage and disengage the locking dog from the ratchet, and a detent into whose path the interponent projects; said detent movable to operate the interponent to disengage the locking dog from the

ratchet, and effective to hold the locking dog in idle position.

3. In a typewriting machine, the combination with a platen and line-space mechanism therefor, of a paper-end indicating device including a paper-controlled trip, a platen-locking mechanism controlled by the trip, and a normally inoperative lock releasing arm having a finger-piece lying in position to be engaged when inserting paper into the machine, to temporarily disengage the platen-locking mechanism.

4. In a typewriting machine, the combination with a platen and line-space mechanism therefor, of a paper-end indicating device including a paper-controlled trip, a platen-locking mechanism controlled by the trip, a normally inoperative lock releasing arm having a finger-piece lying in position to be engaged when inserting paper into the machine, to temporarily disengage the platen-locking mechanism, and a detent to maintain the locking mechanism in a position of disuse.

5. In a typewriting machine, the combination with a platen, a ratchet thereon, and a paper-controlled dog tending to engage the ratchet to lock the platen against rotation, of a pivoted dog releaser, one end of which lies in position to be operated when inserting paper into the machine, and a spring to return the dog releaser to inoperative position.

6. In a typewriting machine, a platen locking mechanism to indicate when the bottom edge of the paper approaches the printing line, comprising a ratchet clutched by a dog to prevent rotation of the platen to advance the paper thereon, said dog being normally held idle by a paper controlled trip connected thereto, and positively rocked to enter a groove in the platen uncovered by the paper, means to temporarily release the dog from operative position, and means to hold the dog in idle position.

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