

No. 624,107.

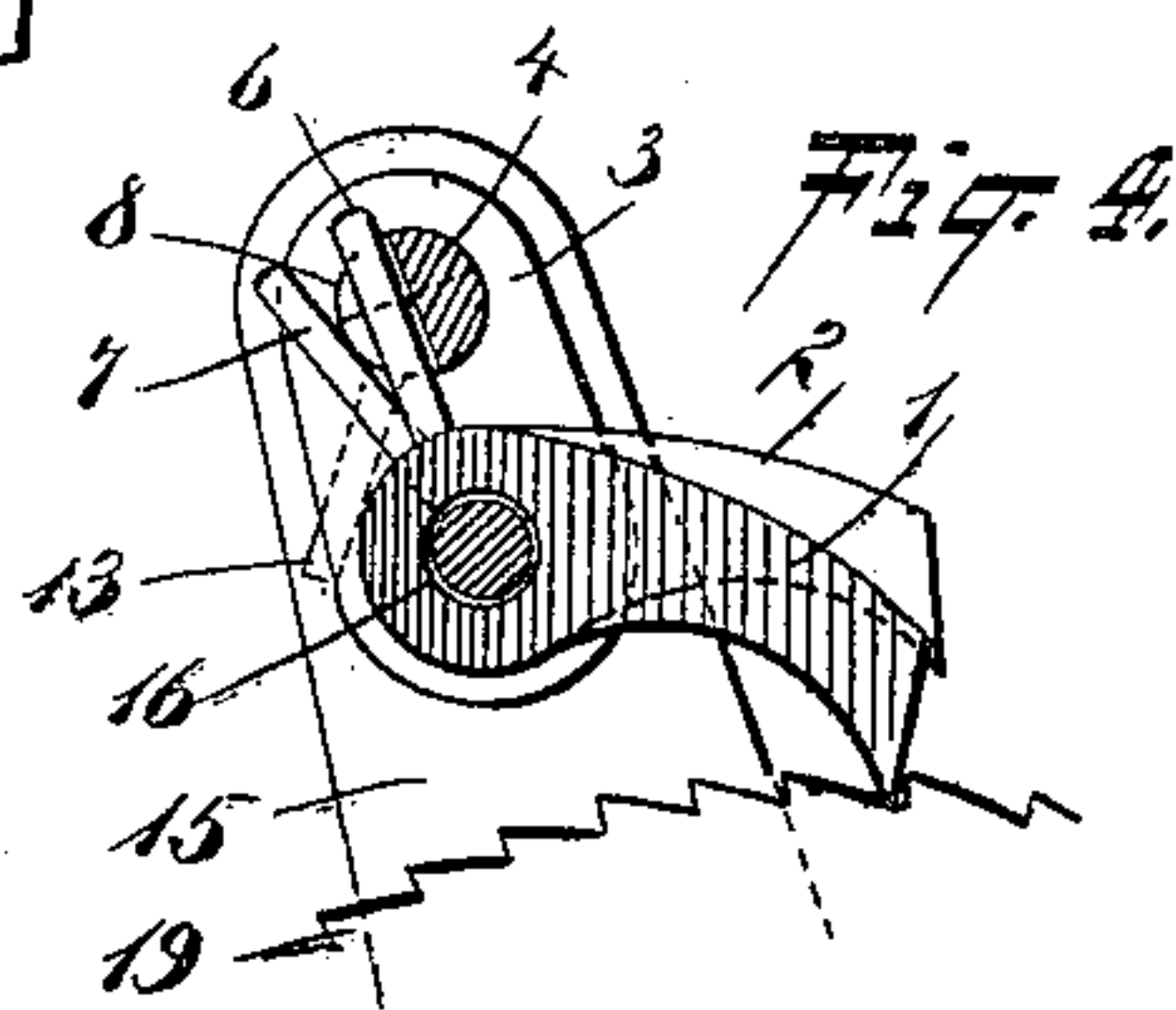
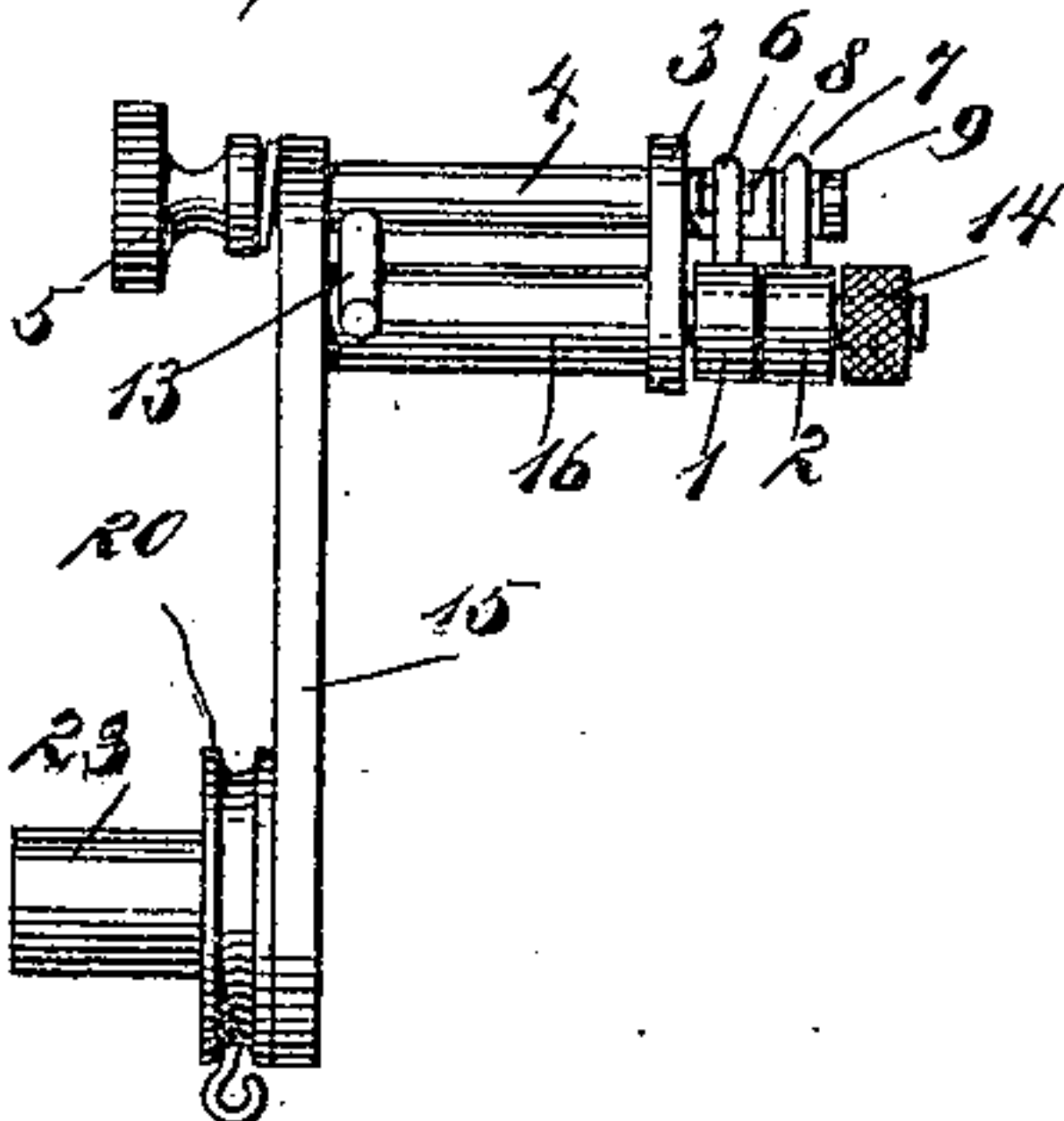
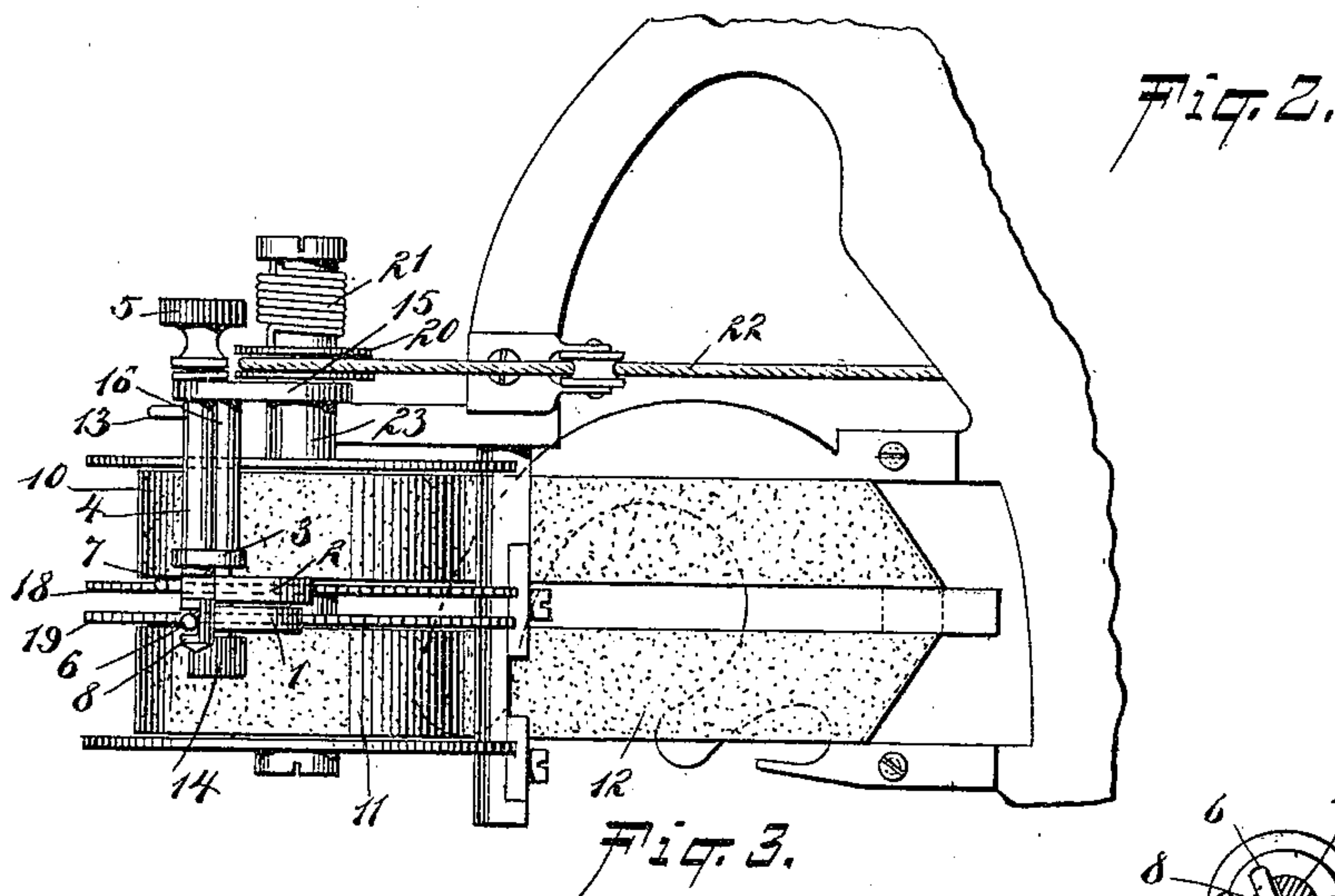
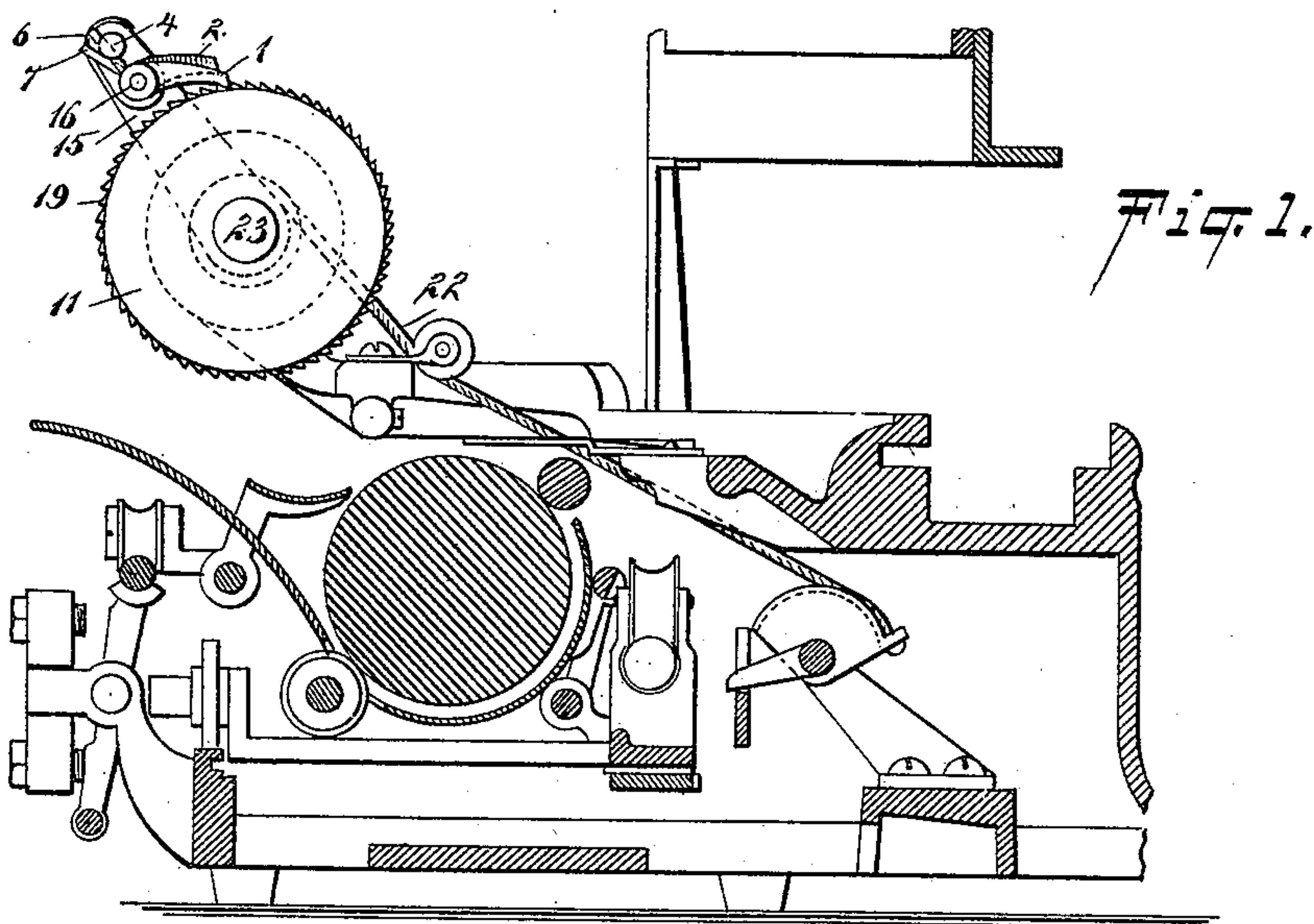
Patented May 2, 1899.

G. A. SEIB.

RIBBON FEED REVERSING MECHANISM FOR TYPE WRITERS.

(Application filed Feb. 18, 1898.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE A. SEIB, OF NEW YORK, N. Y., ASSIGNOR TO THE FRANKLIN TYPE-WRITER COMPANY, OF NEW YORK.

RIBBON-FEED-REVERSING MECHANISM FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 624,107, dated May 2, 1899.

Application filed February 18, 1898. Serial No. 670,818. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. SEIB, of the city of New York, borough of Manhattan, county of New York, in the State of New York, have invented a new and Improved Ribbon-Feed-Reversing Mechanism for Type-Writers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in the ribbon-feed mechanism of that type shown in the Patent No. 590,117, granted to me on the 14th day of September, 1897; and it consists of improved means by which the reversing of the feed mechanism is secured.

In my former patent the impression-roller carriage by its longitudinal movement operates a rock-shaft, and the toothed flanges of the ribbon-wheels are engaged by a dog carried by an arm mounted to rotate independently of the ribbon-wheels, the ribbon-feed being shifted by means of a flexible connection between the rock-shaft and the sleeve upon which the arm carrying the dog is mounted.

In my improvement presently to be described in detail the axle of the ribbon-spools has an arm pivoted therein carrying two shafts, one bearing two pawls adapted to engage ratchet-wheels on the ribbon-spools, the pawls having arms extending therefrom, and the other shaft being notched, the said notches having differing angular relation to the said shaft and adapted to receive the pawl-arms to carry the pawl-arms on the rotation of the notched shaft alternately in and out of engagement with the ratchet-wheels on the ribbon-spools, a stop being also provided to limit the extent of the release movement of the pawls.

The invention consists in the novel features of construction, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross-sectional elevation of the ribbon-feed mechanism and the adjacent parts of the type-writer. Fig. 2 is a plan view of the same. Fig. 3 is an elevation of the ribbon-feed-actuating mechanism, showing my improvement thereon; and Fig. 4 is a side elevation of a portion of the mechanism shown

in Fig. 3, including the pawls and the shaft which controls their position.

The object of my invention is to provide a more convenient means for shifting the direction of the ribbon-feed than that shown and described in my former patent, to which reference has been hereinbefore made. The structure of the machine and the operation of the feeding mechanism are the same as those shown in the patent previously mentioned and will not therefore be described herein in detail. The ribbon-feed is actuated through a cord or similar flexible connector 22 in the manner described in said patent. This acts upon a pivoted arm 15, which is preferably mounted to swing upon the same axis as that carrying the spools 10 and 11, which contain the ribbon. The ribbon is wound upon both of these spools, one end being attached to one spool and the other end attached to the other spool, the direction of said ribbon being reversed by carrying it about a pin or a pulley, as desired.

The two spools lie side by side and are mounted upon the same axis. Two of the flanges of the spools, preferably the inner ones 18 and 19, are formed as toothed or ratchet wheels and are engaged by pawls mounted upon a shaft 16, which extends laterally from the arm 15 and across the toothed flange or wheel forming a part of the ribbon-spool.

In my present construction two pawls 1 and 2 are used, the pawl 1 engaging the toothed wheel 19 and the pawl 2 engaging the toothed wheel 18. These pawls are provided with upwardly-extending arms 6 and 7, adapted to be engaged by eccentric or cam surfaces formed upon a shaft 4, mounted to have a limited rotation in the outer end of the arm 15. The shafts 16 and 4 are connected near their outer ends by a bar 3, so as to give a better support for the shaft 4. The outer end of the shaft 4 is provided with two notches 8 and 9, located in different angular positions, so that when one notch is in engagement with one of the pawl-arms the other pawl-arm will be in engagement with the outer rounded surface of the shaft 4, as clearly shown in Fig. 4.

When the pawl-arm 6 lies within the notch 8 in the shaft 4, the pawl 1 is permitted to

drop, as shown in Fig. 4, said pawl engaging the ratchet-wheel 19. The other pawl 2, having its arm 7 in engagement with the rounded outer surface of the shaft 4, is held up, so as to be disengaged from the ratchet-wheel 18. If the shaft 4 is turned upon its axis, the arm 6 upon the pawl 1 will be thrown backward, thus raising the pawl 1 from engagement with the ratchet-wheel 19. If the shaft 4 is turned a sufficient distance, the notch 9 will be brought to a position in which it will receive the arm 7, thus permitting the pawl 2 to drop into engagement with the ratchet-wheel 18. There is an intermediate position between these two, in which both of the pawls 1 and 2 are held out of engagement with their ratchet-wheels. To limit the rotation of the shaft 4, it is provided with a side-extending pin 13, adapted to engage the sides of the shaft 16. The pawls 1 and 2 are held in place upon the shaft 16 by means of a nut 14 or other suitable means. One end of the shaft 4 is also provided with a head 5, which is milled and is of convenient size to be engaged between the thumb and finger to turn the same. To change the direction of the ribbon-feed, all that is necessary is to turn the shaft 4 into the opposite direction from that in which it was turned to feed the ribbon forwardly, when the engagement of the pawls with the ratchet-wheels will be reversed and the direction of the feed also reversed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A ribbon-feed-reversing mechanism for type-writers, comprising spools arranged side by side and receiving opposite ends of the ribbon, ratchet-wheels on said spools, an arm mounted to oscillate and having a shaft extending across the ribbon-wheels, pawls mounted on said shaft and adapted to engage said ratchet-wheels, and a shaft carried on said arm and having alternating cam-surfaces adapted to engage said pawls to alternately hold one of the pawls out of engagement with the ratchet-wheels, substantially as described.

2. A ribbon-feed-reversing mechanism for type-writers, comprising spools receiving opposite ends of the ribbon, ratchet-wheels on said spools, a shaft extending across both of said ratchet-wheels, and having angular movement relatively thereto, pawls mounted

upon said shaft and each adapted to engage one of said ratchet-wheels, and a rotative shaft mounted to move with the shaft carrying the pawls and having cam-surfaces adapted to alternately engage the pawls, whereby only one of said pawls is permitted to engage a ratchet-wheel at any time, substantially as described.

3. A ribbon-feed-reversing mechanism for type-writers, comprising two spools receiving opposite ends of the ribbon, ratchet-wheels on said spools, an arm turning upon the same center as the ribbon-spools and carrying shafts extending across both spools, two pawls mounted upon one of said shafts and each adapted to engage one of the ratchet-wheels and having arms projecting to engage the other of said shafts, said latter shaft being rotatable and having notches adapted to receive said arms, and located in different angular positions, whereby only one of the pawls is permitted to engage a ratchet-wheel at the same time, substantially as described.

4. A ribbon-feed-reversing mechanism for type-writers, comprising two spools receiving opposite ends of the ribbon, ratchet-wheels on said spools, an arm turning upon the same center as the ribbon-spools, and carrying two shafts extending across the faces of both spools, two pawls mounted upon one of said shafts and each adapted to engage one of the ratchet-wheels, and having arms projecting to engage the other of said shafts, said latter shaft being rotatable and having notches adapted to receive said arms, and located in different angular positions, whereby only one of the pawls is permitted to engage a ratchet-wheel at the same time, and a stop-pin projecting from said rotatable shaft and engaging the pawl-carrying shaft, to limit the rotation of the former, substantially as described.

5. An alternately engaging and releasing mechanism for pawls having a common pivot, comprising a rotatable shaft having a cross-notch therein for each pawl, said notches being formed at different angles to the shaft, and arms projecting from the pawls and adapted to drop into said notches when the pawls are in operative position, substantially as described.

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