

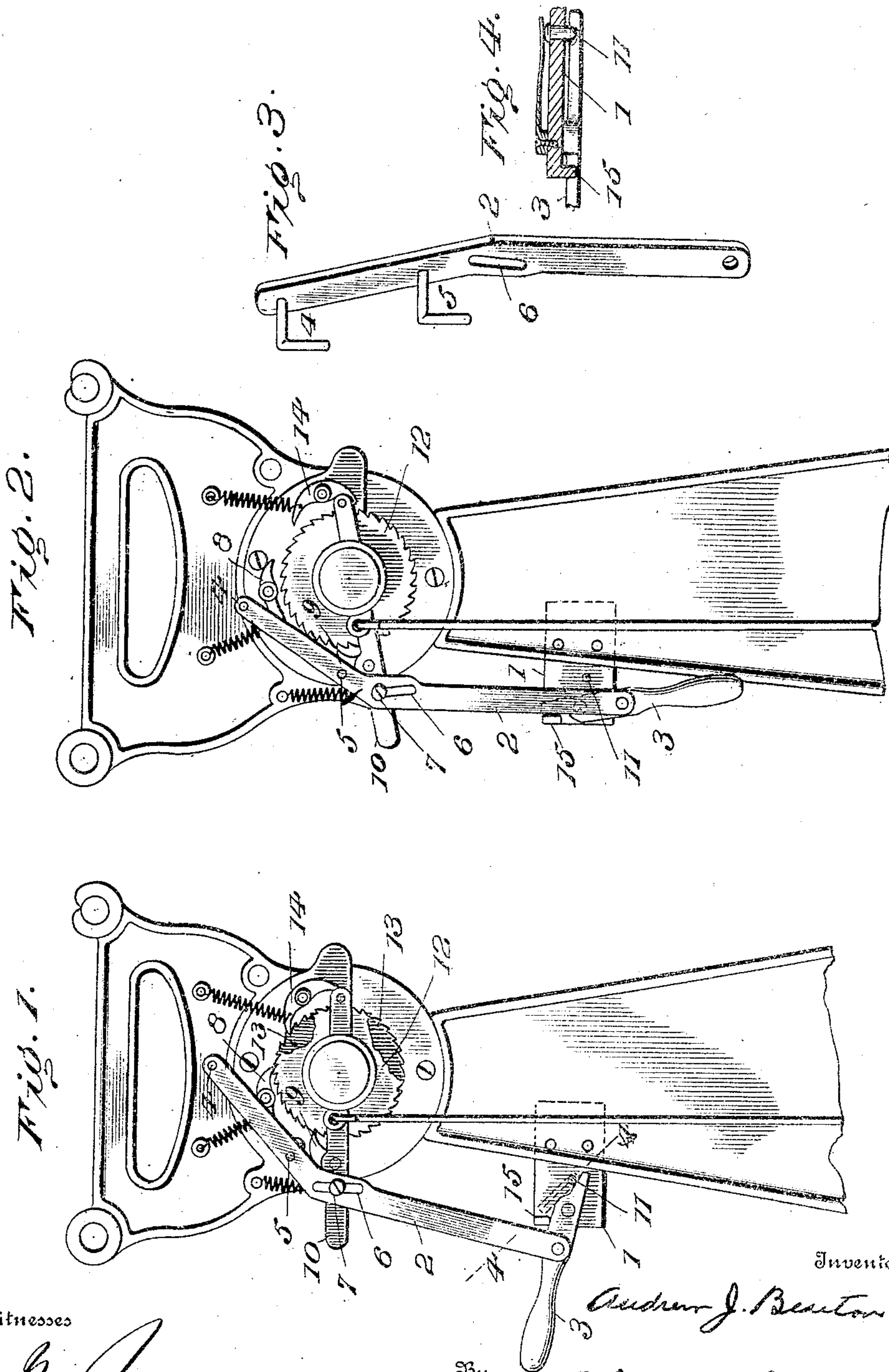
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A. J. BENTON.

COMPOSING MECHANISM FOR TYPE MACHINES.

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Witnesses

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COMPOSING MECHANISM FOR TYPE-MACHINES.

No. 863,965.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed February 25, 1905. Serial No. 247,284.

To all whom it may concern:

Be it known that I, ANDREW J. BENTON, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Composing Mechanisms for Type-Machines, and I do hereby declare that the following is 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, reference being had to the accompanying drawings, forming a part of this specification, and to the figures of reference marked thereon.

This invention relates to improvements in record strip composing machines, such as the monotype and analogous machines; and, more specifically, to the paper feeding mechanism thereof; and it consists in means for releasing the feeding devices from the actuating and holding pawls of the driving mechanism so as to permit said feeding devices to move freely in either direction, at the dictation of the operator, for inserting, withdrawing or adjusting the record strip.

The monotype keyboard, illustrated in Patent No. 654,115, of July 17, 1900, is equipped with paper feeding devices including two pin wheels secured to a shaft and engaging feed perforations in the opposite edges of the record strip, and with driving mechanism therefor including reversed ratchet wheels on the pin wheel shaft, and three pawls, of which two, a holding pawl on the frame and an actuating pawl carried on an arm pivoted upon the pin-wheel shaft, engage one of said ratchet wheels, while the remaining pawl, mounted upon the frame and acted upon by the carrying arm of the actuating pawl, engages the second or reverse ratchet wheel to limit the movement and prevent overthrow when said arm reaches the limit of its stroke in the feeding direction. Said limiting pawl is withdrawn by a spring and held from engagement when the arm is retracted and until it again contacts with the pawl during the next forward or feeding movement.

The arm carrying the actuating pawl stands normally at the forward extreme of its movement, in engagement with the overthrow pawl, in which position the three pawls engage their respective ratchet wheels in a manner to prevent movement of the paper feeding devices in either direction.

To turn the paper feeding devices forward it is only required that the overthrow pawl be released, but when, as frequently happens, it becomes necessary or desirable to turn the strip feeding devices backward, it is required that the arm carrying the actuating pawl should not only be retracted to release the overthrow pawl but the actuating and back holding pawls must be raised from contact with their ratchet wheel. This is ordinarily accomplished by the use of the thumb and two fingers of the left hand, each pawl requiring a

different degree of depression. The operation is slow and the control unstable, the fingers of the operator becoming cramped and often slipping, resulting in damage to the record strip and necessitating that it be torn or otherwise severed for the removal of the damaged section and the insertion of a new section. Moreover it is not uncommon for the operator's fingers to be caught and lacerated in the performance of this operation. These difficulties have been overcome by the present invention, and the facility with which it performs the whole operation results in a great saving of time and increases the capacity of the machine.

The improvement comprises mechanical means for retracting the pawls controlled from a single actuating device, such as a lever, and operating, when actuated in one direction, to withdraw and hold the pawls from locking engagement, so that the feeding devices will be free to move in either direction, and, when actuated in the opposite direction, to restore the pawls to operative position, the whole being performed by a single movement of the hand, to release or restore, thus obviating danger of injury to the operator or paper, insuring accurate adjustment of all the parts, and liberating the hand of the operator so that it may be utilized for other purposes, as in effecting the adjustment of the paper strip relative to the gaging pins of the feeding mechanism.

In the accompanying drawings illustrating a preferred form of embodiment of the invention as applied to the record strip feeding devices of the monotype keyboard—Figure 1 is a side elevation of a portion of the paper feed tower supporting the strip feeding and actuating devices in operative position, with the disconnecting and restoring device in place. Fig. 2 is a similar view with the disconnecting and restoring means shifted or operated to release the strip feeding devices. Fig. 3 is a perspective view of the pawl controller detached. Fig. 4 is a sectional view through the lever support showing the retractable holding pin.

The same numerals designate like parts in the several figures.

The two ratchet wheels 12, 13, are secured to the pin wheel shaft upon which latter is pivoted the arm or carrier 10 bearing the actuating pawl 9 engaging wheel 12 to rotate the latter. The holding pawl 8, pivoted upon the frame, also engages wheel 12, to prevent retrograde movement as pawl 9 is retracted. The overthrow or locking pawl 14 engages with ratchet wheel 13, its spring operating oppositely to those of the actuating and holding pawls 9, 8 and tending to withdraw instead of engage its operating end, said pawl being acted upon by the arm 10 at the forward extreme of the feeding movement, to advance its operating end into engagement with the wheel 13, and thus arrest the forward or feeding movement of the pin wheel shaft. The

feeding is inaugurated by a movement of arm 10 in a direction to retract pawl 9 and release pawl 14, after which the motion is reversed, pawl 9 engaging and advancing wheel 12 until arrested by the interlocking of pawl 14 with the teeth of wheel 13 brought about by the engagement of said arm.

Suitably supported and guided, as by a slot and pin connection 6, 7, with arm 10 and a pivot connection with a lever 3, is a draw bar or pawl controller 2 provided with shoulders 4, 5, in position to bear upon and lift out of engagement pawls 8 and 9 when said controller is operated. Acting through the pin and slot connection or the bearing 5 engaging pawl 9, the controller 2 also operates to retract arm 10, thereby releasing pawl 14 and permitting its withdrawal from the holding ratchet wheel 13. Thus by a single movement of the controller all three pawls may be withdrawn from their ratchet wheels, to release the paper feeding devices and permit free motion of the latter in either direction. When in its normal or retracted position, as shown in Fig. 1, the controller permits arm 10 and pawls 8, 9 and 14 to perform their usual functions without interference, and it is only when moved to the position seen in Fig. 2, that it becomes active in releasing said pawls.

To facilitate the manipulation of the controller and retain it in either active or inactive positions it is pivotally connected to a lever 3 fulcrumed upon the frame, the arrangement being such that when the lever is turned to the engaging position, shown in Fig. 2, into contact with a stop 15 on the frame, the point of attachment of the controller will be carried into or slightly beyond a plane passing through the fulcrum and pin 7, thus retaining the parts in position and preventing the release of the pawls until the lever is shifted.

To retain the controller in inoperative position, when not in use, a locking or retaining device is provided, such, for example, as a spring actuated pin 11 whose point stands in the path of the lever, but is capable of being withdrawn therefrom when said lever is operated to actuate the controller.

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

1. In a device of the character described provided with feeding devices and an actuating mechanism including

actuating and overthrow pawls normally engaging their ratchet wheels, and in combination therewith a movable controller for said pawls operating to effect their engagement and disengagement with the feeding devices when in different positions of adjustment.

2. In a device of the character described, the combination with feeding devices and an actuating mechanism therefor including feeding, holding and overthrow pawls normally engaging their ratchet wheels, of a controller operating to withdraw said pawls and free the feeding devices so they may be moved forward or back as desired.

3. In a device of the character described the combination with feeding devices and actuating mechanism therefor including feeding and holding pawls and an overthrow pawl in position to be acted upon by the feeding pawl actuating device, of a controller engaging the feeding and holding pawls to release the latter and the overthrow pawl.

4. In a device of the character described, the combination with a feeding pawl and its actuating bar, of a controller guided upon said bar and acting upon the feeding pawl to withdraw the latter from engaging position.

5. In a device of the character described the combination with a feeding pawl mounted upon a pivoted carrier and an overthrow pawl acted upon by said carrier, of a controller guided upon said carrier and engaging the feeding pawl to retract the latter and the overthrow pawl.

6. In a device of the character described provided with feeding and overthrow pawls, and a carrier for the former operating upon the overthrow pawl to effect its engagement at the limit of the stroke in one direction, and in combination therewith a controller operating to retract the feeding pawl and its carrier as and for the purpose described.

7. In a device of the character described, the combination with the feeding and overthrow pawls normally engaging their ratchet wheels, of a controller for throwing said pawls to inoperative position and means for shifting said controller.

8. In a device of the character described, the combination with the feeding pawl carrier and the controller guided upon said carrier in position to engage the pawl, of a lever coupled to said controller and means for retaining said lever in different positions of adjustment.

9. In a device of the character described, the combination with the feeding pawl and its carrier, of a controller for said pawl guided upon the carrier and connected to an actuating lever, and a stop engaging said lever to arrest the latter with its point of connection with the controller substantially in a plane passing through the bearing on the pawl carrier and the fulcrum of the lever.

In testimony whereof I hereby affix my signature, in presence of two subscribing witnesses.

ANDREW J. BENTON.

Witnesses:

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