No. 855,532. PATENTED JUNE 4, 1907.

W. RUGER, JR.

PLATEN RELEASING DEVICE.

APPLICATION FILED AUG. 15, 1905.

Fig. 1.

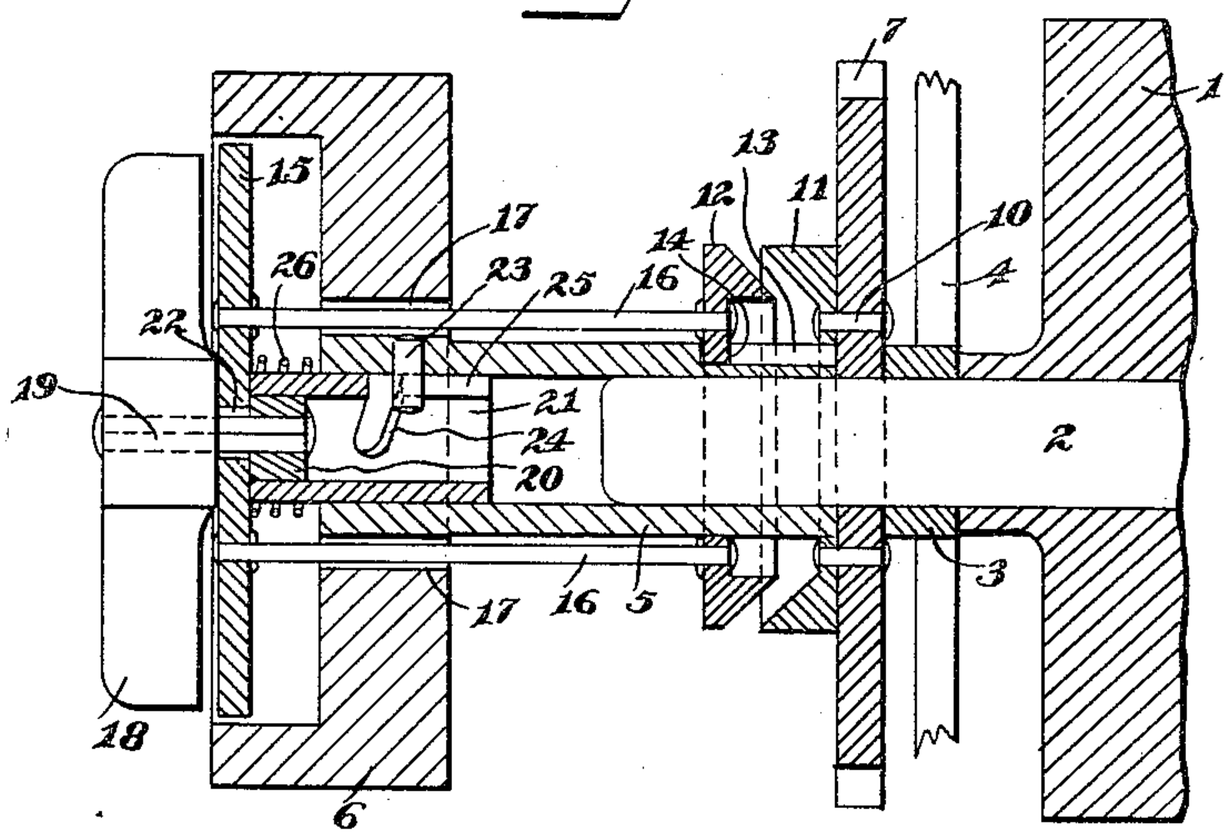
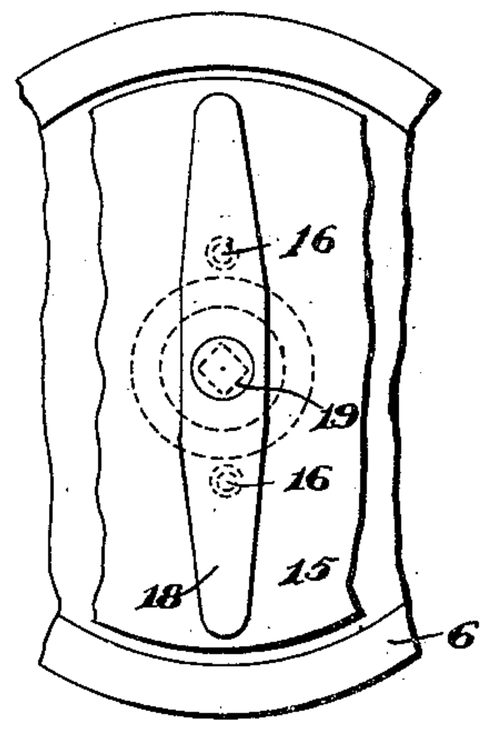


Fig. 3.



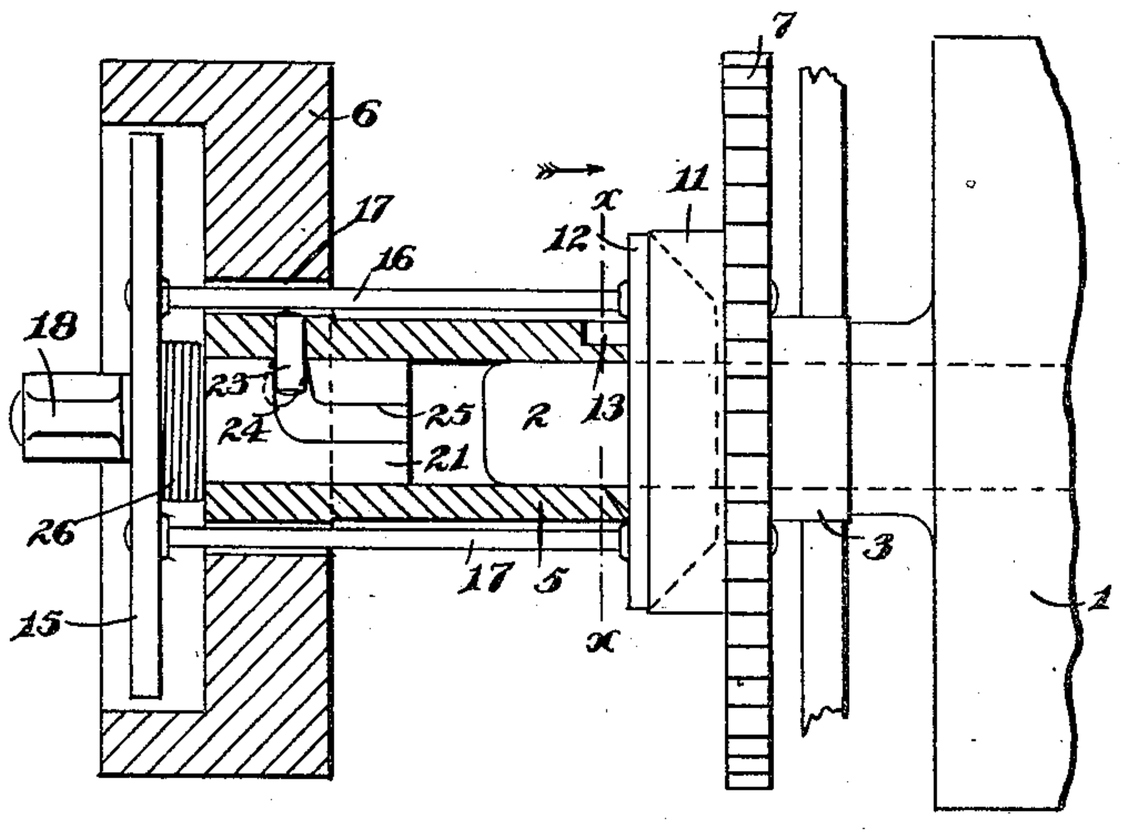


Fig. 2.

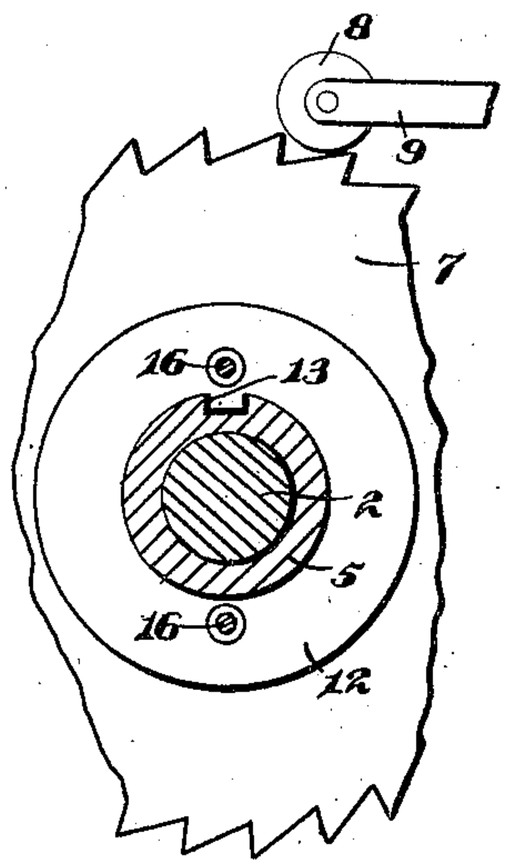


Fig. 4.

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PLATEN-RELEASING DEVICE.

No. 855,532. Specification of Letters Patent. Patented June 4, 1907.

Application filed August 15, 1905. Serial No. 274,259.

To all whom it may concern:

Be it known that I, WILLIAM RUGER, Jr., a citizen of the United States, residing in Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Platen - Releasing Devices for Type-Writing Machines, of which the following is a specification.

This invention relates to the revoluble platens of typewriting machines, and its object is to provide a simple, inexpensive, efficient and durable mechanism for releasing the platen at will from the line-space ratchet wheel, so as to permit the platen to be rotated independently of said wheel for writing upon ruled lines, or at intervals different from the usual line-space intervals.

In carrying out my invention, I provide a cone-clutch or equivalent device between the line-space wheel and the platen, and one member of the cone-clutch I control by means of a finger-piece which is mounted upon the outer side of the usual hand-wheel that rotates the platen. By turning said finger piece in one direction, the platen is released, so that it may be rotated by said hand-wheel to any desired point; and by turning said finger-piece in the opposite direction the clutch is closed, and then said hand wheel may be used for rotating the platen any desired number of usual line spaces.

In the accompanying drawings, Figure 1 is a sectional plan of a portion of a platen and appurtenances of a typewriting machine with my improvements applied thereto, the clutch being shown open so that the platen is released from the line-space wheel. Fig. 2 is a view partly in section but otherwise similar to Fig. 1, and showing the clutch closed, so that the platen and line-space wheel are locked together. Fig. 3 is an elevation of the outer side of the hand wheel seen at Fig. 1, showing the locking member and appurtenances. Fig. 4 is a sectional view taken about the line X—X of Fig. 2, and showing the line-space wheel in side elevation.

The platen 1 is fixed upon an axle 2, which is journaled in a boss 3, the latter mounted in a platen frame, one end or side of which is seen at 4. Upon the end of said axle is driven or secured a tubular extension or sleeve 5, and upon the outer end of the latter is rigidly secured a hand wheel 6, whereby the platen is rotated.

The line-space wheel 7 controlled by the usual roll 8, carried by a spring 9, is mounted loosely upon the platen axle 2, so that the platen is capable of turning while the line-space wheel remains stationary. To said line-space wheel is secured by rivets 10, a cup member 11 of a pair of clutching cones. The other member 12 of said pair is mounted loosely upon the inner end of said sleeve 5, so that it may slide into and out of engagement with the clutch member 11. When such engagement is effected, the line space wheel 7 is forced to rotate with the sleeve 5, and hence with the platen, because said cone 12 is splined to said sleeve, the latter being provided with a longitudinal groove 13 and the former with a key 14. To effect the clutching and unclutching movements of the cone 12, I employ a head or plate 15, rigidly connected by rods 16 with said cone 12, said rods passing through holes 17 in the hand wheel 6, and riveted at their inner ends to the cone and at their outer ends to said plate 15, so that by pushing said plate inwardly the clutch is caused to close, and by drawing said plate outwardly the clutch is opened. For the purpose of operating said head, I provide a finger piece 18, shown as consisting of a hub and a pair of wings, although any other form may be employed. This finger-piece is rigidly connected by means of a square center pin or key 19 to a bushing 20 within a hollow stem 21, the latter being inserted in the outer end of said sleeve or extension 5 and revoluble freely therewithin; such revolution being effected by means of said fingerpiece 18, since the bushing 20 is rigidly secured to said stem 21. A central orifice 22 is provided in the plate 15 in which the square key 19 may turn freely, so that the stem 21 may be turned independently of the plate 15. Projecting inwardly from the sleeve 5 near its outer end is a fixed pin 23; and in said hollow stem 21 is provided a helical slot 24 to engage said pin, said slot also having an elongation or opening 25 extending longitudinally of the hollow stem, to permit endwise movement thereof.

In operation, if the clutch is released, as at

Fig. 1, it is only necessary to press the finger piece 18 in as far as it will go; and when said pin 23 engages the helical slot 24, the finger piece is turned to the right, so that the hollow stem 21 and finger piece 18 and the head 15 are all cammed or drawn toward the right at Fig. 1, until the cone 12 moved by the rods 16 is forced into firm engagement with the cup 11. The pitch of the helical slot 24 is such that by turning the finger piece 18 with some force, said clutch members are locked together, and cannot become separated except by the application of manual force to the finger piece 18 to turn it to the left, as at Fig. 2. When the finger piece 18 is turned to the left, the helical slot 24 acts upon the pin 23 and hence the clutch is opened by the means already described. Preferably, however, I employ a compression spring 26 between the plate 15 and the outer face of the hand wheel 6, to effect movement toward the left of the clutch cone 12 and associated parts at the releasing operation.

When the clutch is open, the hand wheel 9 is used for rotating the platen; said hand wheel being fixed upon the sleeve 5, which is fixed upon the platen axle 2.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a revoluble platen, and a platen frame, of an axle to which the platen is secured, a line-space wheel loose on said axle and provided with a clutch member, a sleeve fixed upon the end of said axle and having a longitudinal slot, a co-operative clutch member movable along said sleeve and having a projection to engage said slot, a hand wheel fixed upon said sleeve, rods attached to the last-mentioned clutch member and passing along said sleeve and through said hand wheel, a head connecting said rods upon the outer side of said hand wheel, and means acting upon said head for locking said clutch in closed position.

2. In a typewriting machine, the combination with a revoluble platen, and a platen frame, of an axle to which the platen is secured, a line-space wheel loose on said axle and provided with a clutch member, a sleeve fixed upon the end of said axle and having a longitudinal slot, a co-operative clutch member movable along said sleeve and having a projection to engage said slot, a hand wheel fixed upon said sleeve, rods attached to the last-mentioned clutch member and passing along said sleeve and through said hand wheel, a head connecting said rods upon the outer side of said hand wheel, a finger-piece having an axially movable stem revolubly mounted in the end of said sleeve and having a helical groove, and a pin projecting within said sleeve and engaging said groove.

3. In a typewriting machine, the combination with a revoluble platen, and a platen frame, of an axle to which the platen is secured, a line-space wheel loose on said axle and provided with a cup, a sleeve fixed upon the end of said axle and having a longitudinal slot, a cone movable along said sleeve and having a projection to engage said slot, a hand wheel fixed upon said sleeve, rods attached to the cone and passing along said sleeve and through said hand wheel, a plate connecting said rod upon the outer side of said hand wheel, a finger-piece having an axially movable stem revolubly mounted in the end of said sleeve and having a helical locking groove, said stem being movable axially, and a pin projecting within said sleeve and engaging said groove; said stem projecting through said head between said rods, and said finger-piece being mounted upon said stem at the outer side of said head.

4. In a typewriting machine, the combination with a revoluble platen, and a platen frame, of an axle to which the platen is secured, a line-space wheel loose on said axle and provided with a cup, a sleeve fixed upon the end of said axle and having a longitudinal slot, a cone movable along said sleeve and having a projection to engage said slot, a hand wheel fixed upon said sleeve, rods attached to the cone and passing along said sleeve and through said hand wheel, a plate connecting said rod upon the outer side of said hand wheel, a finger-piece having an axially movable stem revolubly mounted in the end of said sleeve and having a helical locking groove, said stem being movable axially, and a pin projecting within said sleeve and engaging said groove; said stem projecting through said head between said rods, and said finger-piece being mounted upon said stem at the outer side of said head; and a compression spring coiled around said stem between said head and the tip of said sleeve, and tending to separate said cone from said cup.

5. In a typewriting machine, the combination with a revoluble platen and a platen frame, of an axle to which the platen is secured, a finger-wheel fixed to said axle, a line-space wheel loose on said axle and provided with a clutch member, a co-operating clutch member splined to said axle, and means, including a revoluble finger-piece mounted at the outer side of said finger wheel, for locking said clutching members together.

6. In a typewriting machine, the combination with a revoluble platen and a platen frame, of an axle to which the platen is secured, a finger-wheel fixed to said axle, a line-space wheel loose on said axle and provided with a clutch member, a co-operating clutch member splined to said axle, means, including a revoluble finger-piece mounted at the outer side of said finger wheel, for locking

said clutching members together; and a spring tending to open said clutching members.

7. In a typewriting machine, the combination with a revoluble platen and a platen frame, of an axle upon which the platen is mounted, a line-space wheel loose upon said axle, a sleeve secured upon one end of said axle, a finger wheel fixed upon said sleeve, a finger piece at the outer side of said finger-wheel and having a stem mounted within said sleeve, a clutch member splined upon said axle and connected to said finger-piece, and a co-operative clutch member secured to said line-space wheel.

8. In a typewriting machine, the combination with a revoluble platen and a platen frame, of an axle upon which the platen is mounted, a line-space wheel loose upon said axle, a sleeve fixed upon one end of said axle, a finger wheel fixed upon said sleeve, a finger piece at the outer side of said finger-wheel and having a stem mounted within said sleeve, a clutching member splined upon said axle and connected to said finger-piece, and a co-operative clutch member secured to said line-space wheel; said finger-piece being revolubly mounted and capable of axial movement, and having a locking cam-groove, and said sleeve having a projection engaging said groove.

9. In a typewriting machine, the combination with a revoluble platen and a platen frame, of an axle upon which the platen is journaled, a line-space wheel loose upon said axle, a finger-wheel fixedly mounted upon one end of said axle, a finger-piece mounted at the outer side of said wheel and having a stem supported by said axle and revoluble independently of the latter, and clutching members one whereof is connected to said axle and movable by the turning movement of said finger-piece, and the other whereof is secured to said line-space wheel.

10. In a typewriting machine, the combination with a revoluble platen and a platen frame, of an axle upon which the platen is journaled, a line-space wheel loose upon said axle, a finger-wheel fixedly mounted upon one end of said axle, a finger-piece mounted at the outer side of said wheel and having a stem supported by said axle and revoluble independently of the latter, and clutching members one whereof is connected to said axle and movable by the turning movement of said finger-piece, and the other whereof is secured to said line-space wheel; means being provided to enable the movement of said finger-piece to lock said clutching members together.

11. In a typewriting machine, the combination with a revoluble platen and a platen frame, of an axle upon which the platen is journaled, a line-space wheel loose upon said axle, a finger-wheel fixedly mounted upon one end of said axle, a finger-piece mounted at the outer side of said wheel and having a stem supported by said axle and revoluble independently of the latter, and clutching members one whereof is connected to said axle and movable by the turning movement of said finger-piece, and the other whereof is secured to said line-space wheel; means being provided to enable the movement of said finger-piece to lock said clutching members together, and a spring tending to open said clutching members.

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