

1,057,365.

FIG. 1

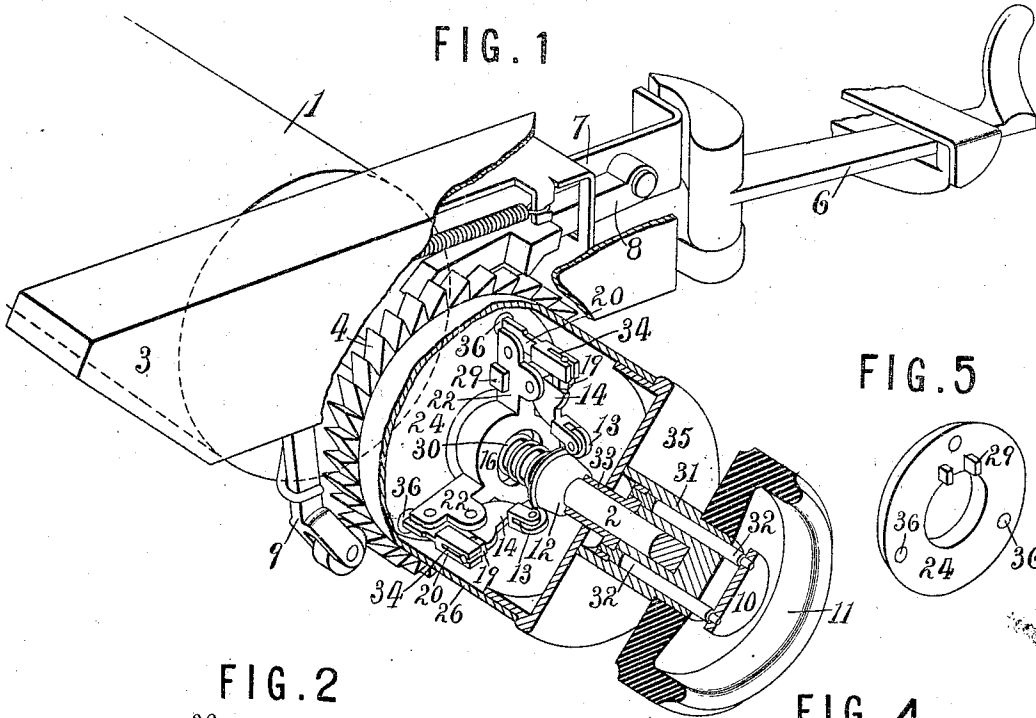


FIG. 5

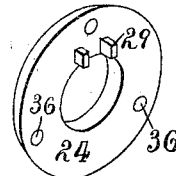


FIG. 2

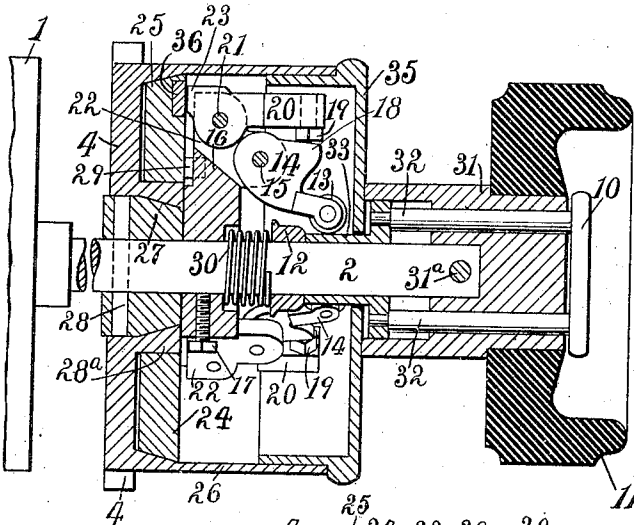


FIG. 4

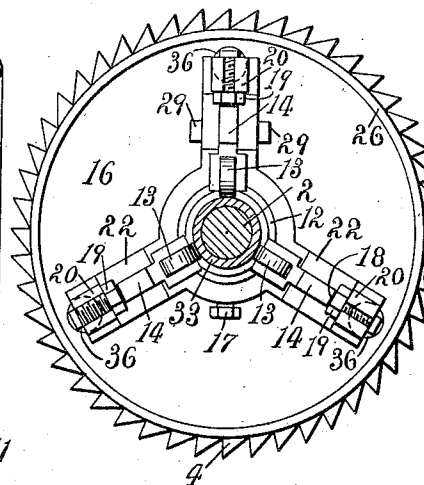
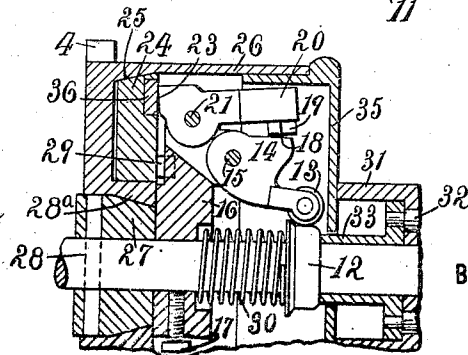


FIG. 3

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FRANK C. URSBRUCK, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

1,057,365.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed March 30, 1911. Serial No. 617,883.

To all whom it may concern:

Be it known that I, FRANK C. URSBRUCK, a citizen of the United States, residing in New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to means for releasably connecting the platen to the line-space wheel of a type-writing machine.

The principal objects of the invention are to increase the efficiency of the clutch which connects the platen to the line-space wheel, and to render the mechanism compact, durable, and finely adjustable.

I preferably employ a double clutch, or two clutches, between the platen and the line-space wheel, which are simultaneously brought into action, so that the resistance of the platen to turning independently of the line-space wheel is greatly increased.

One member of the double clutch consists of a pair of cones, or a cone and cup, and one of these elements has formed or provided thereon another cone or cup, the latter forming a member of the second pair of cones. Preferably, the line-space wheel is formed with two cups. Of the two cones, one is fixed to the platen axle, and the other is suitably connected to a head which is fixed upon the platen axle, so that said cone must rotate with the axle, but may move longitudinally thereof for releasing the platen from the line-space wheel. When said movable cone is pressed home to close the clutch, it presses the line-space wheel bodily, so as to cause the second cup on said line-space wheel to bite the cone which is fixed on the platen axle; whereby an effective double grip is secured between the line-space wheel and the platen. The arrangement of cones and cups may, of course, be varied within the scope of the invention.

The first cone of the series is preferably operated by means of compound levers, as in my application No. 577,463, filed August 16, 1910; but in the present construction, the device is rendered more compact, and provision is made for fine adjustment, so as to render the levers effective upon slight movement thereof.

According to the present improvements, also, a spring is employed for the purpose

of closing the clutch. When it is desired to release the platen, it is only necessary to press a button; and upon releasing the button, said spring connects the platen to the line-space wheel.

Other features and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a perspective of the carriage of an Underwood typewriting machine provided with my improvements; parts being broken away, and parts shown in section. Fig. 2 is a longitudinal central section of the clutch device, in the platen-releasing position. Fig. 3 is a section similar to Fig. 2, showing a portion of the releasing mechanism, with the clutch closed. Fig. 4 is a cross-sectional view of the clutching devices. Fig. 5 is a perspective of the friction ring.

The platen 1 is fixed on an axle 2, journaled in the ends 3 of a platen frame. A line-space wheel 4 is rotatable by a lever 6 operating through a slide 7 and pawl 8. A detent 9 engages the ratchet wheel 4.

A cam 12 loose upon axle 2 engages rollers 13 of radiating clutch-operating levers 14, which are pivoted at 15 to rock on a lever carrier or head 16, which is fixed on the axle by a set screw 17. Toes 18 on these levers press against adjusting screws 19 in the ends of levers 20, which are pivoted at 21 on radial arms 22 on the head 16, and the pressure exerted on the levers 20 is imparted by toes 23 of the levers 20 to a cone 24, and clamps or presses the cone against a cup or conical seat 25 formed on the inner end of a barrel or case 26, which extends from the outer face of the line-space wheel. In this way a thrust is exerted longitudinally of the axle 2, and presses or clamps the line-space wheel upon a conical boss 27, which is fixed to the axle by a pin 28. The hub 28^a of the ratchet wheel has a conical bore to fit this conical boss.

The cone or friction ring 24 is provided with two lugs 29 which engage opposite sides of one of the radial arms 22, and force the ring 24 to rotate with the axle 2. A spring 30 between the cam 12 and the head 16 is sufficiently strong to close the clutch when the button 10 is released.

The knob 11 is rigid on a hub 31, which is attached to the axle 2 rigidly by a pin 31^a, so that when the knob 11 is rotated, it

rotates the axle and the head 16, and this rotates the cone 24, and also the line-space wheel.

By pushing button 10 inwardly, stems 32, which slide through the hub 31, are caused to force inwardly a sleeve 33, to which their inner ends are attached, and the end of this sleeve presses the cam 12 away from the rollers, compressing the spring 30, as indicated in Fig. 2. The sleeve 33 is of less diameter than the cam 12, so that the rollers move in toward the axle, and thus relieve the pressure of the levers 14 through the levers 20 on the cone 24. In this position the clutch is released and the platen can be turned independently of the line-space wheel.

The ends of the levers 20 are slitted at 34, and sprung to hold the adjusting screws 19 firmly. A cap 35 closes the barrel 26. It will be seen that the clutch mechanism is made very compact and effective.

It will be understood that by providing a conical boss 27 upon which the hub of the ratchet wheel seats, I multiply the friction or clutching surfaces between the axle and the line-space wheel. The toes 23 bear against wearing blocks 36 which may be set in the face of the clamping ring 24, as shown.

Having thus described my invention, I claim:

1. In a platen release, in combination, a platen, an axle therefor, a friction seat adjacent to said axle, a line-space wheel disposed against said seat, a friction ring, said line-space wheel having a friction seat for said ring, and releasable means for simultaneously pressing said ring and said line-space wheel respectively upon said seats.

2. In a platen release, in combination, a platen, an axle therefor, a line-space wheel, a plurality of pairs of conical co-operating friction members between the platen and line-space wheel, and means for forcibly interengaging said pairs of conical friction members simultaneously.

3. In a platen release, in combination, a platen having an axle with a friction seat thereupon, a line-space wheel bearing against said seat, and having a friction seat on the side face thereof, a clamping ring bearing upon said second seat, and releasable means for pressing said clamping ring on said second seat and simultaneously pressing said line-space wheel upon said first seat.

4. In a platen release, in combination, a platen, an axle therefor, a line-space wheel, a clamping member for frictionally clamping said line-space wheel on said axle, a lever carrier, a plurality of levers carried thereby engaging said clamping member, a cam sliding on said axle, and cam levers having pivot points on said lever carrier, and engaging said cam, said cam levers having toes on the side of said pivots adjacent to said cam and engaging said first levers.

5. In a platen release, in combination, a platen, an axle therefor, a line-space wheel, a clamping member fixed to said axle for frictionally holding said wheel on said axle, a cam sliding on said axle, levers engaging said cam to clamp a friction member revolving with said axle against said line-space wheel, means for displacing said cam from engagement with said levers, and a spring for returning said cam into engagement therewith to re-lock said line-space wheel after release.

6. The combination with a rotatable platen, of a line-space wheel loose on the axle of said platen, a cone fixed on said axle, a conical bore in said line-space wheel coöperating with said first cone, a conical seat in said line-space wheel, and a friction member splined to revolve with said axle to engage said conical seat and lock said wheel to said platen.

7. The combination with a rotatable platen, of a line-space wheel loose on the axle of said platen, a cone fixed on said axle, a conical bore in said line-space wheel coöperating with said first cone, a conical seat in said line-space wheel, a friction member splined to revolve with said axle to engage said conical seat, and a spring-operated lever to move said second cone to lock said line-space wheel to said platen.

8. The combination with a rotatable platen, of a line-space wheel loose on the axle of said platen, a cone fixed on said axle, a conical bore in said line-space wheel coöperating with said first cone, a conical seat in said line-space wheel, a friction member splined to revolve with said axle, a spring, and a lever operated by said spring to cause said friction member to engage said conical seat, and lock said line-space wheel to said axle.

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Witnesses:

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F. D. AMMEN.