E. BURNS & G. H. HORTON.

TYPE WRITING MACHINE.

APPLICATION FILED APR. 24, 1909.

925,422. **Patented June 15, 1909.**

FIG. 1.

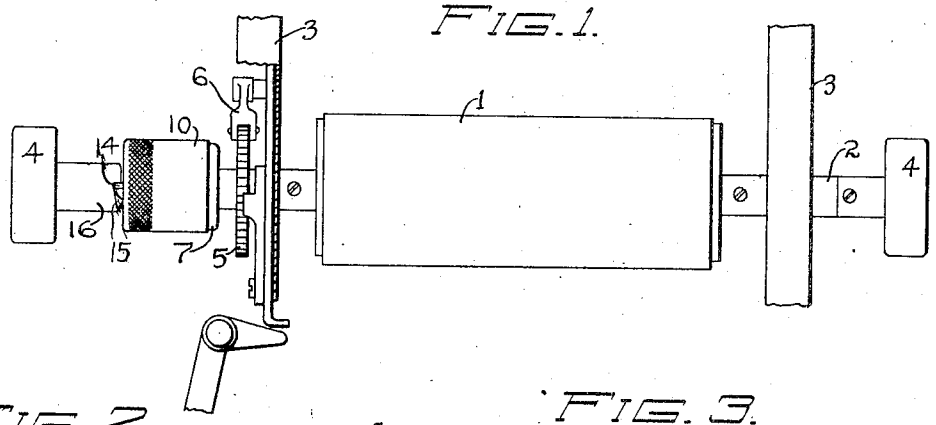


FIG. 2.

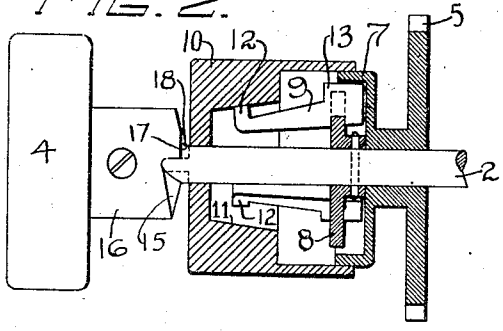


FIG. 3.

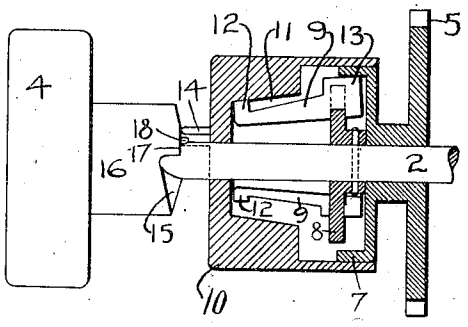
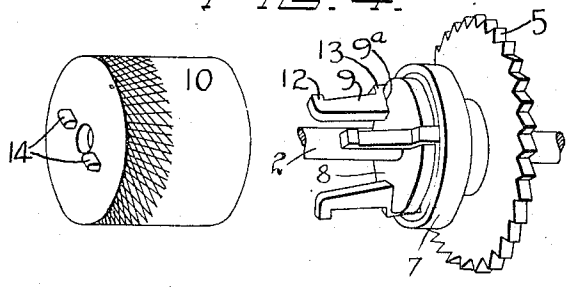


FIG. 4.



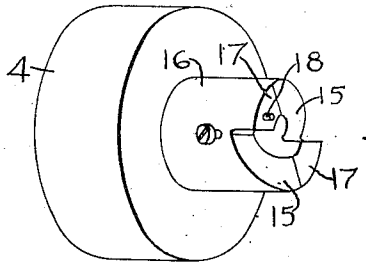


FIG. 5.

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UNITED STATES PATENT OFFICE.

EDWARD BURNS AND GEORGE H. HORTON, OF HARTFORD, CONNECTICUT, ASSIGNORS TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

No. 925,422. Specification of Letters Patent. Patented June 15, 1909.

Application filed April 24, 1909. Serial No. 491,935.

To all whom it may concern:

Be it known that we, EDWARD BURNS and GEORGE H. HORTON, both citizens of the United States, and residing in the city of Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to devices for releasably connecting the platen to the line-space wheel of a typewriting machine, to permit the platen to be rotated independently of the line-space wheel.

The principal object of this invention, is to provide, at a low cost, a simple and durable device of this character readily applicable to existing machines.

In the form of the invention illustrated in the drawings, the line-space wheel, which is loose upon the platen axle, is provided with a friction ring or drum. A number of dogs bite the inner periphery of the drum to connect the line-space wheel to the platen. The dogs are set by a finger-wheel which is loosely mounted on the platen axle, to slide therealong, and incloses the dogs, and is internally tapered or cone-shaped to exert a wedging action on the dogs, to cause them to turn and bite the friction ring. The finger wheel, which is also revoluble on the platen axle, has projections which bear against helical wedge or cam surfaces formed on the face of a collar fixed on the platen axle, so that when the finger-wheel is turned it is caused to slide along the axle to act on the dogs.

In the accompanying drawings, Figure 1 is a view of the platen and platen frame of an Underwood front strike writing machine, with the present improvements applied thereto. Fig. 2 is a view partly in section and partly in outside elevation of the improved device showing the position of the several parts when the line-space wheel is released from the platen. Fig. 3 is a view similar to Fig. 2, but showing the position of the several parts when the line-space wheel is actively connected to the platen. Figs. 4 and 5 show perspective views of parts of the invention.

The usual cylindrical platen 1 is fixed to an axle 2, whereby it is journaled in a platen frame 3, said axle 2 having fixed upon its ends the usual hand wheels 4 for rotating the platen. Loose upon the platen axle 2, outside of the platen frame 3, is a toothed line-space wheel 5, usually engaged by a spring detent 6. Fixed to, or formed on, the line-space wheel 5, is a friction ring or drum 7, forming part of the clutching mechanism. A supporting disk 8 is fixed on the platen axle 2 within said drum 7, and carries a plurality of equally spaced horizontal dogs or levers 9 (preferably three) fulcrumed in notches 9^a formed on its circumference, to bite the inner periphery of the drum 7, for connecting the line-space wheel to the platen.

The dogs 9 are operated by a special finger-wheel 10, which is loosely mounted on the platen axle 2, and constructed in the form of a drum inclosing the long arms of the dogs 9, and also capping the drum 7. Part of the length of the finger-wheel 10 is internally tapered or cone-shaped, as shown at 11, Figs. 2 and 3, to enable the wheel by an axial movement to depress or force inwardly the ends 12 of the dogs, to cause the jaws 13 to bite the inner periphery of the friction ring 7, as shown in Fig. 3.

For effecting its axial movement, the finger-wheel 10 has projections 14, formed on its outer end, which bear against helical wedges or cam surfaces 15, formed on the inner end of a hub 16 of hand wheel 4, fixed on the platen axle 2, so that when the finger-wheel 10 is revolved in one direction, it is caused by said cams 15 to travel along the platen axle 2, until the tapered or cone-shaped portion 11 sets the dogs 9.

When the devices are in the locked positions, the projections 14, on the finger-wheel 10 may rest, without any tendency to slip, upon flats or dwells 17, formed at the terminations of the wedge or cam-shaped surfaces 15 on the hub 16, thus preventing any accidental backward movement of the finger-wheel 10. A stop 18 is provided to limit the locking movement of the finger wheel 10.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a platen and an axle therefor, of a line-space wheel, a friction ring or drum loosely mounted on the platen axle, a disk or plate fixed on the platen axle, a plurality of dogs or levers fulcrumed at intervals on the circumference of the disk and lying along parallel to the platen axle, and manu-

ally operable means to cause said dogs to bite the inner periphery of said drum, to connect the line-space wheel to the platen.

2. In a typewriting machine, the combination with a platen and an axle therefor, of a line-space wheel, a friction ring or drum loosely mounted on the platen axle, a disk or plate fixed on the platen axle, a plurality of dogs or levers fulcrumed at intervals on the circumference of the disk and lying along parallel to the platen axle, and manually operable means to cause said dogs to bite the inner periphery of said drum, to connect the line-space wheel to the platen; said manually operable means including an axially movable finger-wheel loosely revoluble on the platen axle and constructed in the form of a drum inclosing the dogs and internally coned to vibrate the dogs.

3. In a typewriting machine, the combination with a platen and an axle therefor, of a line-space wheel, a friction ring or drum loosely mounted on the platen axle, a disk or plate fixed on the platen axle, a plurality of dogs or levers fulcrumed at intervals on the circumference of the disk and lying along parallel to the platen axle, and manually operable means to cause said dogs to bite the inner periphery of said drum, to connect the line-space wheel to the platen; said manually operable means including an axially movable finger-wheel loosely revoluble on the platen axle and constructed in the form of a drum inclosing the dogs and internally coned to vibrate the dogs; a collar or hub being fixed on the platen axle, and having its face formed with a helical wedge or cam surface to be engaged by a projection formed on the finger-wheel, to cause the latter, when revolved, to move along the platen axle.

4. In a typewriting machine, the combination with a platen and an axle therefor, of a line-space wheel, a friction ring or drum loosely mounted on the platen axle, a disk or plate fixed on the platen axle, a plurality of dogs or levers fulcrumed at intervals on the circumference of the disk and lying along parallel to the platen axle, and manually operable means to cause said dogs to bite the inner periphery of said drum, to connect the line-space wheel to the platen; said manually operable means including an axially movable finger wheel loosely revoluble on the platen axle and constructed in the form of a drum inclosing the dogs and internally coned to vibrate the dogs; a collar or hub being fixed on the platen axle, and having its face formed with a helical wedge or cam surface to be engaged by a projection formed on the finger-wheel, to cause the latter, when revolved, to move along the platen axle, means being also provided to prevent accidental releasing or backward movement of the finger-wheel when the device is in the locked position.

5. In a typewriting machine, the combination with a platen and an axle therefor, of a line-space wheel, a friction ring or drum loosely mounted on the platen axle, a disk or plate fixed on the platen axle, a plurality of dogs or levers fulcrumed at intervals on the circumference of the disk and lying along parallel to the platen axle, and manually operable means to cause said dogs to bite the inner periphery of said drum, to connect the line-space wheel to the platen; said manually operable means including an axially movable finger-wheel loosely revoluble on the platen axle and constructed in the form of a drum inclosing the dogs and internally coned to vibrate the dogs; a collar or hub being fixed on the platen axle, and having its face formed with a helical wedge or cam surface to be engaged by a projection formed on the finger-wheel, to cause the latter, when revolved, to move along the platen axle, means being also provided to prevent accidental releasing or backward movement of the finger-wheel when the device is in the locked position, consisting of a flat or dwell formed at the termination of the helical wedge or cam surface on the collar or hub, on which said projection bears without tendency to slip.

6. In a typewriting machine, the combination with a platen and a line-space wheel revoluble relatively to the platen, of a friction ring or drum upon the line-space wheel, a dog to engage said friction ring, a finger wheel which is both revoluble and movable axially of the line-space wheel, an internal cone being provided on said finger wheel, to engage said dog, and means to give said finger-wheel an axial movement during its revolution to cause the dog to bite the friction ring.

7. In a typewriting machine, the combination with a platen and a line-space wheel revoluble relatively to the platen, of a friction ring or drum upon the line-space wheel, a dog to engage said friction ring, and a device which is movable axially of the line-space wheel, an internal cone being provided on said device to engage said dog and by an axial movement to cause the dog to bite the friction ring.

8. In a typewriting machine, the combination with a platen and an axle therefor, of a line-space wheel loose upon the axle, a friction ring or drum provided upon the line-space wheel, a dog having a support upon the axle, a finger-wheel loose upon the axle for movement around and along the same, said finger-wheel having an internal shoulder to engage said dog, and means to cause said finger-wheel to slide along the axle during its revolution thereon; said finger-wheel having an internal shoulder to engage the dog, and one of said shoulder and dog elements being inclined to the other,

to cause the sliding movement of the finger wheel to effect a biting action of the dog upon the friction ring.

9. In a typewriting machine, the combination with a platen and a line-space wheel revoluble relatively to the platen and having a friction ring or drum, of a loose finger wheel revoluble independently of the line-space wheel and platen, means to cause said finger-wheel to move axially of the line-space wheel when the finger-wheel is revolved, and means to enable said finger-wheel by its axial movement to lock the line-space wheel to the platen.

10. In a typewriting machine, the combination with a platen and a line-space wheel revoluble relatively to the platen and having a friction ring or drum, of a loose finger-wheel revoluble independently of the line-space wheel and platen, means to cause said finger-wheel to move axially of the line-space wheel when the finger-wheel is revolved, and means to enable said finger-wheel by its axial movement to lock the line-space wheel to the platen; means being also provided to enable said finger wheel to lock itself against accidental backward or releasing movement.

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