

H. CRUTCHLEY.
TYPE WRITING MACHINE.
APPLICATION FILED JUNE 30, 1908.

957,749.

Patented May 10, 1910.

Fig. 1.

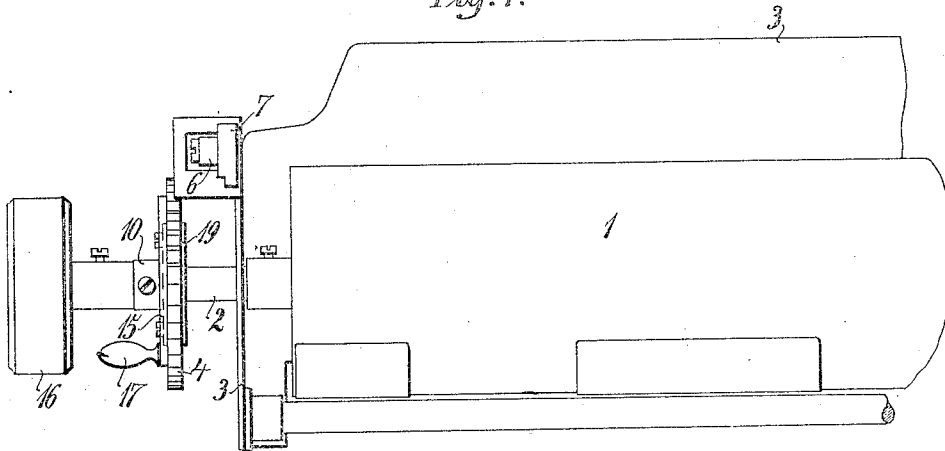


Fig. 3.

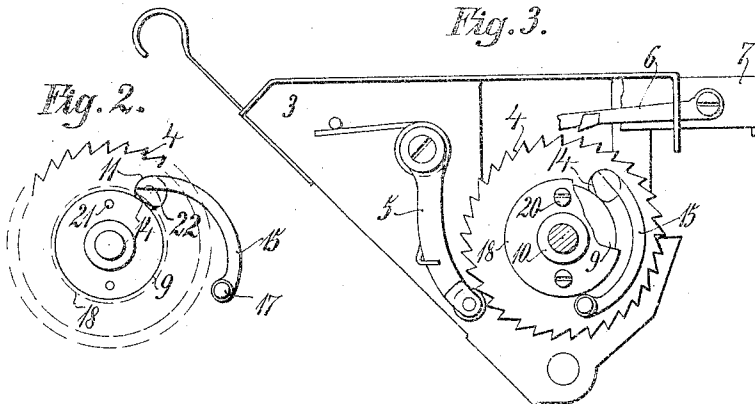


Fig. 2.

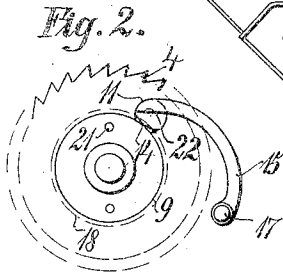


Fig. 4.

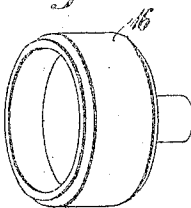


Fig. 5.

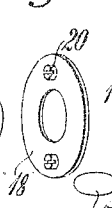


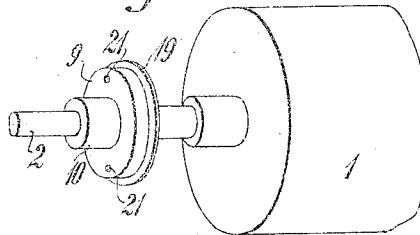
Fig. 6.



Fig. 7.



Fig. 8.



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UNITED STATES PATENT OFFICE.

HARRY CRUTCHLEY, OF BAYONNE, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPE-
WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

957,749.

Specification of Letters Patent.

Patented May 10, 1910.

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To all whom it may concern:

Be it known that I, HARRY CRUTCHLEY, a citizen of the United States, residing in Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to the platen-controlling devices of typewriting machines, and particularly to means for releasing the platen from the control of the usual line-space wheel, to permit fine adjustments of the platen for writing fractions, or writing upon ruled lines, etc.

The principal object of the invention is to provide an inexpensive, simple and easily operated lock between the platen and the line-space wheel, which may be placed upon existing machines with a minimum of alteration thereof.

In the preferred form of the invention, I provide the line-space wheel with a relatively large bore, to fit loosely upon a collar which is fixed upon the platen axle. In the line-space wheel I also form a small supplemental bore to receive a cam; one bore opening laterally into the other, and the cam being formed to protrude into the large bore, or at least to bind upon the collar, with the effect of locking the line-space wheel and collar together. Upon the cam is directly secured or formed a handle, whereby it may be easily turned to release the lock. When the cam is released, the platen may be turned independently of the line-space wheel to any desired extent, and it may then be relocked to the line-space wheel, to be controlled thereby.

In the accompanying drawings, Figure 1 is a front elevation of a portion of the platen and platen frame of an Underwood front strike writing machine, showing my improvements applied thereto. Fig. 2 is a diagram to illustrate the manner of releasing the platen from the line-space wheel. Fig. 3 is an end elevation of the platen frame, line-space wheel and platen releasing devices. Fig. 4 shows a perspective of a hand wheel, Fig. 5 a disk-like keeper, Fig. 6 a locking cam and its handle, Fig. 7 a line-space wheel provided with main and supplemental bores, and Fig. 8 a platen and

platen axle, the latter provided with a collar to receive the line-space wheel.

The usual cylindrical platen 1 is mounted for rotation by means of an axle 2 in a platen frame 3. A toothed line-space wheel 4, to control the platen, is provided with a spring-pressed detent; and line-by-line spacing of the platen is effected by a pawl 6 carried upon a slide 7, as usual. The line-space wheel has a large main bore 8 to fit loosely upon a collar 9, the latter having a hub 10 by which it is secured upon the platen axle. The line-space wheel is also provided with a small diameter supplemental bore 11, having a lateral opening 12 into the main bore; both bores being cylindrical, and so cut that their circumferences intersect.

In the supplemental bore is fitted a cam 13 to protrude through the opening 12 into the main bore, or at least to bear upon any portion of the periphery of the collar 9, as at Fig. 3, to lock the collar and line-space wheel together. The object of making the collar 9 of great diameter is to enable the same to be gripped effectually by the cam, or to give the cam a strong purchase to prevent independent movement of the platen. The cam is preferably in the form of a cylindrical plug 13 filling said supplemental bore 11, and having a flat or cutaway 14, to permit free rotation of the collar 9 and the platen 1, when the cam is turned to Fig. 2 position. Upon the cam is formed or secured a lever or handle 15, extending alongside of the line-space wheel, between the latter and a hand-wheel 16 secured upon the extreme end of the platen axle; a finger-piece 17 on said lever projecting toward said hand-wheel.

The operator may grasp the hand-wheel and easily touch the finger-piece 17 to swing the cam-lever 15 from the Fig. 3 to Fig. 2 position, and then by turning the hand-wheel 16 rotate the platen 1 to any desired point; and he may then press the finger-piece 17 inwardly toward the axle 2, to lock together the platen and line-space wheel again. This operation is conveniently performed by the operator at any point to which the finger-piece 17 may be rotated in the usual operation of the machine. The three parts 13, 8 and 9 become locked together by the movement of 15 from

the position at Fig. 2 to the position at Fig. 3; the camming action of the cam or dog 13 upon 9 serving to lock or hold 13 and 15 against accidental platen-releasing movement.

The line-space wheel is confined between a keeper 18 and a flange 19, the latter formed upon the collar on the platen side, and the former having the form of a disk and secured by screws 20 threaded into holes 21 in the face of the collar. The keeper also confines the cam 13 against the flange 19; the cam being provided with a recess 22 to receive the edge of said keeper.

Variations may be resorted to within the scope of the invention.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a platen and a platen axle, of a collar fixed upon the axle, a line-space wheel having a bore to fit loosely upon said collar, a detent for the line-space wheel, said line-space wheel having a smaller bore or seat opening into the main bore, a revoluble cam fitting in said main bore, and a handle for said cam to turn the latter in its seat to bind the line-space wheel to the collar.

2. In a typewriting machine, the combination with a platen and a platen axle, of a collar fixed upon the axle, a line-space wheel having a bore to fit loosely upon said collar, a detent for the line-space wheel, said line-space wheel having a smaller bore or seat opening into the main bore, a revoluble cam fitting in said main bore, and a handle for said cam to turn the latter in its seat to bind the line-space wheel to the collar; the line space wheel being mounted outside of the platen frame, and said handle being mounted between the line-space wheel and a hand wheel secured upon the end of the platen axle.

3. In a typewriting machine, the combination with a platen and a platen axle, of a collar fixed upon the axle, a line-space wheel having a bore to fit loosely upon said collar, a detent for the line-space wheel, said line-space wheel having a smaller bore or seat opening into the main bore, a revoluble cam fitting in said main bore, and a handle for said cam to turn the latter in its seat to bind the line-space wheel to the collar; said cam cylindrical in form and having a flat or cut-away.

4. In a typewriting machine, the combination with a revoluble platen, an axle therefor, and a collar fixed upon the axle, of a line-space wheel mounted to turn loosely upon the collar, a detent for the line-space wheel, and a rotatable cam mounted upon the line-space wheel to bear against the collar to lock the wheel to the axle.

5. In a typewriting machine, the combination with a revoluble platen, of a collar

element secured thereto, a line-space wheel element, a revoluble cam mounted in a bearing or recess in the periphery of one of said collar and wheel elements to bear against the other thereof, to lock them together, and a detent for the line-space wheel.

6. In a typewriting machine, the combination with a revoluble platen, of a collar element secured thereto, a line-space wheel element, a revoluble cam mounted in a bearing or recess in one of said elements to bear against the other thereof, to lock them together; said cam having a handle or lever extending alongside the line-space wheel, and a detent for the line-space wheel.

7. In a typewriting machine, the combination with a revoluble platen having an axle, of a collar mounted upon said axle, a line-space wheel having a main bore by which it is mounted loosely upon said collar, a detent for the line-space wheel, and a rotatable cam mounted in a supplemental bore in the line-space wheel to protrude into the main bore and having a cutaway-portion.

8. In a typewriting machine, the combination with a revoluble platen having an axle, of a collar mounted upon said axle, a line-space wheel having a main bore by which it is mounted loosely upon said collar, a detent for the line-space wheel, a rotatable cam mounted in a supplemental bore in the line-space wheel to protrude into the main bore and having a cutaway-portion, and a keeper disk confining said cam in its bore and also confining the line-space wheel against a flange provided upon said collar.

9. In a typewriting machine, the combination with a revoluble platen having an axle, of a collar mounted upon said axle, a line-space wheel having a main bore by which it is mounted loosely upon said collar, a detent for the line-space wheel, a rotatable cam mounted in a supplemental bore in the line-space wheel to protrude into the main bore and having a cutaway-portion, a keeper disk confining said cam in its bore and also confining the line-space wheel against a flange provided upon said collar, and a handle upon said cam.

10. In a typewriting machine, the combination with a revoluble platen having an axle, of a collar mounted upon said axle, a line-space wheel having a main bore by which it is mounted loosely upon said collar, a detent for the line-space wheel, a rotatable cam mounted in a supplemental bore in the line-space wheel to protrude into the main bore and having a cutaway-portion, a keeper disk confining said cam in its bore and also confining the line-space wheel against a flange provided upon said collar, and a handle upon said cam; said handle extending alongside of the line-space wheel.

11. In a typewriting machine, the combination with a revoluble platen, of a collar

element fixed thereto, a line-space wheel mounted to turn loosely on said collar element, a rotatable cam mounted in a laterally open bore or seat in one of said elements to bear against the other of said elements, a detent for the line space wheel, and a finger-piece for turning said cam.

12. In a typewriting machine, the combination with a revoluble platen, of a collar element fixed thereto, a line-space wheel mounted to turn loosely on said collar element, a rotatable cam mounted in a laterally open bore or seat in one of said elements to bear against the other of said elements, a detent for the line space wheel, a finger-piece for turning said cam, and a keeper confined in the cam in the bore.

13. In a typewriting machine, the combination with a revoluble platen, of a collar element fixed thereto, a line-space wheel mounted to turn loosely on said collar element, a rotatable cam mounted in a laterally open bore or seat in one of said elements to bear against the other of said elements, a detent for the line space wheel, a finger-piece for turning said cam, and a keeper confined in the cam in the bore, and also confining the wheel upon the collar.

14. In a typewriting machine, the combination with a revoluble platen, of a collar element fixed thereto, a line-space wheel mounted to turn loosely on said collar element, a rotatable cam mounted in a laterally open bore or seat in one of said elements to bear against the other of said elements, a detent for the line space wheel, a finger-piece for turning said cam, and a keeper confined in the cam in the bore, and also confining the wheel upon the collar; a recess being formed at the junction of the handle with the cam to receive the edge of said keeper.

15. In a typewriting machine, the combination with a revoluble platen and a set of line-space teeth, of two elements having bearings or journal surfaces whereby they are mounted for rotation, one upon the other, one element connected to the platen and the other connected to the line-space teeth, and a revoluble cam mounted to bear upon the bearing or journal surface of one of said elements to lock it to the other thereof.

16. In a typewriting machine, the combination with a revoluble platen and a set of line-space teeth, of two elements having bearings or journal surfaces whereby they are mounted for rotation, one upon the other, one element connected to the platen and the other connected to the line-space teeth, a revoluble cam mounted to bear upon the bearing or journal surface of one of said elements to lock it to the other thereof, and a handle upon said cam to turn it to effect such locking motion.

17. In a typewriting machine, the combination with a platen, a platen frame, a toothed line-space wheel, an element connected to the platen, and an element connected to the line-space wheel, said elements relatively revoluble, of a rotatable cam mounted upon one of said elements to bear against any part of a peripheral portion of the other of said elements, a finger-piece to rotate said cam and an axle fixed to the platen and mounted in said platen frame and projecting therefrom and extending through said line-space wheel, and carrying upon its projecting end a hand wheel to rotate the platen.

18. In a typewriting machine, the combination with a platen frame, a platen having an axle mounted in said frame, a toothed line-space wheel supported upon said axle outside of said frame, and a finger-wheel fixed upon the end of said axle outside of the line-space wheel, of a lever mounted between said line-space wheel and the hand wheel and rotatable therewith, and a lock connected to said lever to lock the line-space wheel to the platen.

19. In a typewriting machine, the combination with a platen frame, a platen having an axle mounted in said frame, a toothed line-space wheel supported upon said axle outside of said frame, and a finger-wheel fixed upon the end of said axle outside of the line-space wheel, of a lever mounted between said line-space wheel and the hand wheel and rotatable therewith, and a lock connected to said lever to lock the line-space wheel to the platen; said lever pivoted to swing toward and away from the platen axle.

20. In a typewriting machine, the combination with a platen frame, a platen having an axle mounted in said frame, a line-space wheel supported upon said axle outside of said frame, and a finger-wheel fixed upon the end of said axle outside of the line-space wheel, of a lever mounted between said line-space wheel and the hand wheel and rotatable therewith, and a lock connected to said lever to lock the line-space wheel to the platen; said lever pivoted to swing toward and away from the platen axle, and extending along the face of the line-space wheel and having a finger-piece projecting toward the hand wheel.

21. In a typewriting machine, the combination of a platen, a platen frame, an axle fixed to the platen and projecting from said platen frame, a toothed line-space wheel loosely mounted outside of the platen frame, the axle extending through said wheel, a finger-wheel fixed upon the end of said axle which extends through said line-space wheel, and a rotatable finger-piece mounted between the line-space wheel and said finger wheel and having means to lock the line space wheel

to the platen axle, and a detent for said line-space wheel.

22. In a typewriting machine, the combination of the platen, a platen frame, an axle fixed to the platen and projecting from said platen frame, a toothed line-space wheel loosely mounted outside of the platen frame, the axle extending through said wheel, a finger-wheel fixed upon the end of said axle which extends through said line-space wheel, and a rotatable finger-piece mounted between the line-space wheel and said finger wheel and having means to lock the line space wheel to the platen axle, and a detent for said line-space wheel, means being provided to lock the finger piece against accidental backward or releasing movement.

23. In a typewriting machine, the combination with a platen element and a line-space wheel element, one of said elements provided with a cylindrical friction surface, of a releasable cam or dog connected to the other of said elements to bind upon said friction surface, and a finger-piece connected to said cam or dog to force it into engagement with said friction surface to lock said platen and line-space wheel together and also to lock or hold said cam or dog against accidental platen-releasing movement.

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