

H. L. WOODWARD.
TYPE WRITING MACHINE.
APPLICATION FILED OCT. 27, 1911.

1,024,759.

Patented Apr. 30, 1912.

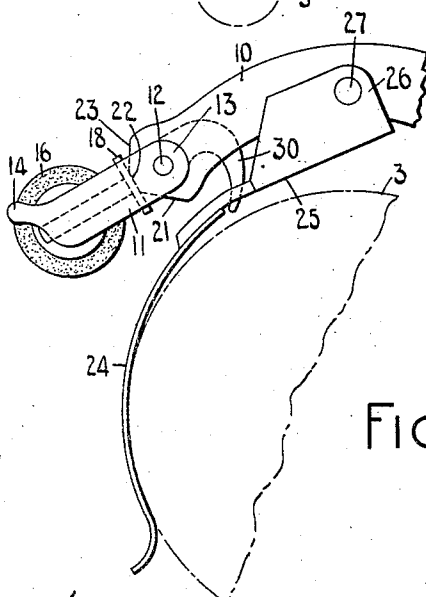
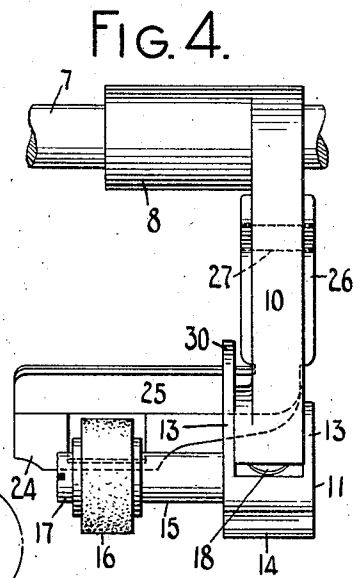
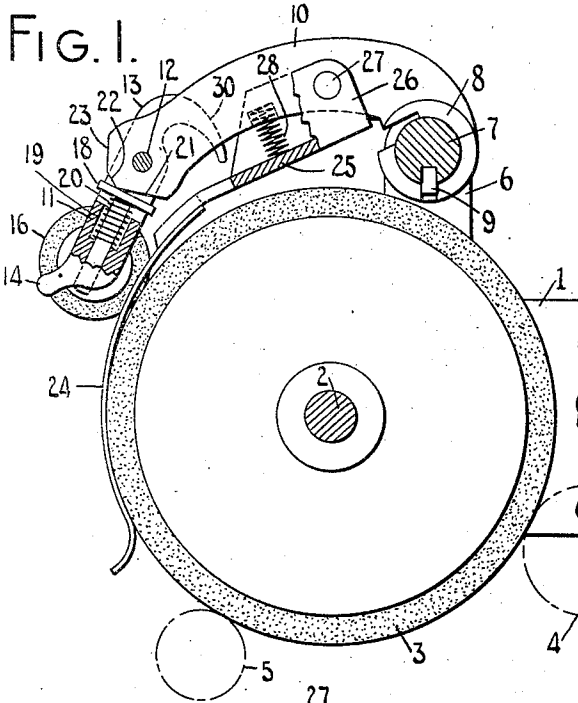


FIG. 2.

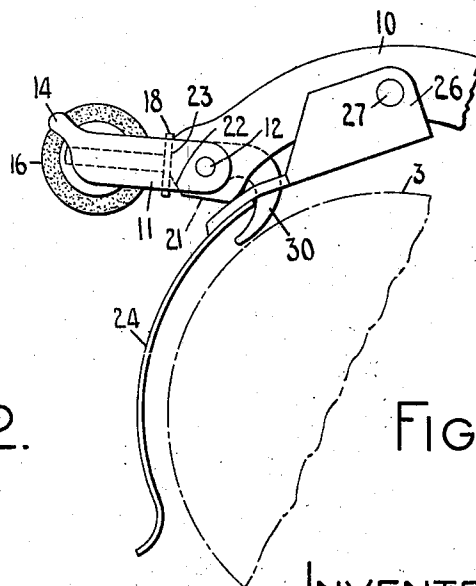


FIG. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

HORACE L. WOODWARD, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

1,024,759.

Specification of Letters Patent.

Patented Apr. 30, 1912.

Application filed October 27, 1911. Serial No. 657,146.

To all whom it may concern:

Be it known that I, HORACE L. WOODWARD, a citizen of the United States, and resident of the city of Washington, District of Columbia, have invented certain new and useful improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to type writing machines and more particularly to the paper fingers and associated paper feed devices of such machines.

The principal object of my invention is to make said paper fingers more convenient in use. Some forms of paper guiding and feeding devices on typewriters as heretofore constructed, comprise a paper finger that is spring-pressed against the margin of the paper about at and above the writing line and in addition to this paper finger there is also a small rubber-covered roller which is independently spring pressed against the paper. Each of these devices is capable of being lifted away from the platen to release the paper and in the Monarch machine, for example, the roller is adapted to be retained in its released position but the paper finger is not provided with any such retaining means. When making on one of these machines two copies with an interposed carbon sheet and it is desired to make a correction on the carbon copy, the paper fingers are slid longitudinally of the platen off the paper so as to allow the first copy and carbon to be folded forward and thus to expose the carbon copy for correction. When the paper is restored to position the paper fingers have to be slid back longitudinally of the platen again to cover the paper. In this operation said paper finger is likely to catch on the edge of the paper and it is necessary sometimes to hold said guide plate up by hand, so that the operation requires two hands to perform it. In this respect and in some others, the paper fingers are made more convenient by my invention.

To the above and other ends my invention consists in certain features of construction and combinations and arrangements of parts, all of which will be fully set forth herein and particularly pointed out in the claims.

In the accompanying drawings, all of

which are on an enlarged scale, Figure 1 is a view in fore-and-aft vertical section of part of a Monarch typewriter including one of the paper fingers and associated parts and the platen and showing the parts in normal position. Fig. 2 is an end view of the same, partly broken away, and showing the roller elevated to a middle position. Fig. 3 is a view similar to Fig. 2 but showing the roller elevated to a higher position and the paper finger held away from the platen. Fig. 4 is a top plan view of the paper finger and associated devices and part of the rod on which they are mounted.

The Monarch typewriter carriage includes two end bars or brackets 1 in which is journaled the shaft or axle 2 of the platen 3. The paper is fed around the platen mainly by the coöperation with said platen of main feed rollers 4 and 5 which feed the paper to the printing line on the front face of the platen. After passing the printing point the paper is controlled by the paper feeding and guiding devices presently to be described. Each of the brackets 1 has an upright extension 6, which extensions are connected by a frame rod 7 extending parallel with the platen for the full length thereof and above said platen and somewhat to the rear of the axle 2. The machine is usually equipped with two paper controlling devices or mechanisms, each comprising a sleeve 8 slidably mounted on the rod 7 but held against turning with relation to said rod by means of a spring spline or tongue 9 that fits in a longitudinal groove in the rod 7 and in registering notches in the sleeve 8. Said sleeve has a supporting arm 10 projecting therefrom forward across the top of the platen, and a roller-frame or carrier 11 is pivoted to the forward end of said arm on a pivot-pin 12. Said roller frame comprises a block-like structure having two upwardly and rearwardly projecting arms 13 which embrace the arm 10 and through which the pivot-pin 12 passes. At its forward end said roller-carrier is formed with a projection 14 formed to constitute a handle or thumb-piece for moving the carrier up and down away from and toward the platen. It is the right-hand paper controlling device that is shown in the drawings. Each of the carriers 11 has projecting therefrom toward the middle of

the machine a stud on which is journaled the sleeve-like hub 15 of a roller 16, which roller is usually covered with rubber and is retained in position on the stud by a screw 17. The roller-frame or carrier 11 is yieldingly held in either one of a plurality of positions by a spring-pressed plunger 18 consisting of a spindle or pin with a broad flat head, said pin being seated in a hole 19 in the carrier 11. Said hole is made of two diameters, as shown in Fig. 1, to accommodate a compression spring 20 which presses the flat head of the plunger against the flattened faces of the end of the arm 10. In the present case I have shown three such flattened faces 21, 22 and 23. The plunger 18 normally coöperates with the face 21, as shown in Fig. 1, where it will be seen that the tension of the spring 20 is exerted to press the roller 16 against the platen. If the frame 11 be moved up to the position shown in Fig. 2, the plunger 18 coöperates with the middle face 22 and holds the roller away from the platen. Said frame can also be moved up to the higher position shown in Fig. 3 where it will be retained by the action of the plunger against the face 23.

The paper controlling device also includes a paper finger 24 of well-known construction, said finger being usually constructed of a piece of thin spring sheet steel riveted to a part 25 which has bent up therefrom ears 26, which ears are pivoted to the arm 10 at 27. A spring 28 is compressed between the arm 25 and the arm 10 to press the finger 24 yieldingly against the platen. The spring 28 is seated in a hole in the arm 10, as indicated in Fig. 1.

My invention comprises means for automatically lifting the paper finger 24 away from the platen, as shown in Fig. 3, when the frame 11 is elevated to its Fig. 3 position, and said means is preferably of such character that said frame can be moved to its Fig. 2 position without lifting the paper finger. As shown in the present instance, the connection between the frame and the plate comprises a curved hook or cam 30 consisting of an extension of the inner one of the arms 13 of the frame 11. This hook normally stands in the position shown in Fig. 1; but when said frame 11 is raised to the position shown in Fig. 3, the hook moves in under the offset part of the paper finger, as will be understood from Figs. 3 and 4, and cams said paper finger upward against the tension of the spring 28. The parts will be held in the position shown in Fig. 3 by the spring-pressed plunger 18 and both the roller and the paper finger will then be free of the paper on the platen and can be slid into position to cover the margin of said paper with one hand and without danger of wrinkling or tearing the paper. After the

paper finger and its associated parts have been slid along the rod 7 to the right position, both the roller 16 and the finger 24 can be pressed down to their Fig. 1 positions by a touch of the operator's finger on the part 14.

The middle facet 22 is not essential for all of the purposes of my invention and it can be omitted if desired. It is sometimes desirable to raise the roller 16 without raising the finger 24, in order to adjust the paper in the machine and enable the paper finger to slide more freely; and for this reason I deem it preferable to provide for the middle position of the roller 16 by making the arm 10 with said middle facet 22. It will of course be understood that any other suitable means can be provided for retaining the frame 11 in either one of its two or three positions.

It will be noted that the operative connection between the frame 11 and the paper finger is a lost motion connection, admitting of some motion of the roll-carrying frame independently of the paper finger. It will of course be understood that other forms of lost motion connection can be substituted for the one shown. It will also be understood that the invention is capable of modification in other respects to adapt it to other styles of paper finger than the specific one shown. In fact the precise construction illustrated, is merely the adaptation of the invention to the particular form of paper feed devices now employed in the Monarch typewriter, and which may be found more fully set forth in the U. S. Patent No. 921,745, granted May 18th, 1909 to G. A. Seib. It will be perceived that in order to adapt my invention to said paper feed devices, the latter have been modified but slightly.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination with a platen, of a paper feed mechanism for coöperation with said platen above the writing line and comprising two paper controlling devices coöperating with the paper independently, means for lifting one of said devices off the paper and retaining it in released position and a lost motion connection to the other paper controlling device for lifting said other paper controlling device off the paper and retaining it in released position.

2. In a typewriting machine, the combination with a platen, of paper feed devices for coöperation with the platen above the writing line, said devices comprising a roller and a paper finger arranged to coöperate with said platen independently of each other, means for lifting said roller away from the platen and retaining it in released position, and a lost motion connec-

tion from said means to said paper finger for lifting said paper finger off the platen and retaining it in released position.

3. In a typewriting machine, the combination with a platen, of a paper feed mechanism adjustable as a whole longitudinally of said platen and comprising a roller, a paper finger, independent spring means for pressing said roller and paper finger toward the platen, the roller being movable away from the platen without disturbing the operative position of the paper finger, and means whereby at will both the roller and the paper finger may together be moved away from the platen and retained in inoperative position.

4. In a typewriting machine, the combination with a platen, of a paper finger and associated devices comprising a rigid arm on which said paper finger is mounted, a pivoted frame on said arm provided with means for lifting said paper finger off the platen, and means for holding said pivoted frame in released position.

5. In a typewriting machine, the combination with a platen, of a paper finger and associated devices comprising a rigid arm on which said paper finger is pivoted and spring-pressed toward the platen, a roller and carrier, said carrier pivoted to said arm and spring-pressed toward the platen, and means whereby a motion of said roller-carrier lifts said paper finger to released position.

6. In a typewriting machine, the combination with a platen, of a paper finger, a rigid arm to which said paper finger is pivoted and spring-pressed toward the platen, a roller and carrier, said carrier pivoted to said arm and spring-pressed toward the platen, means whereby a motion of said roller-carrier lifts said paper finger to released position, and means for retaining said roller and with it said paper finger in released position.

7. In a typewriting machine, the combination with a platen, of an adjustable support, a paper finger and a roller and carrier, said paper finger and said carrier mounted on said support and independently spring-pressed toward said platen but movable to released positions, means for retaining said roller-carrier in either one of two released positions, and means whereby said carrier when moved to one only of said released positions moves said paper finger to released position.

8. In a typewriting machine, the combination with a platen, of a paper finger, a rigid arm on which said paper finger is pivoted and spring-pressed toward said platen, a roller and carrier, said carrier independently pivoted to said arm and spring-pressed toward said platen, means

for retaining said roller in either one of two released positions, and a lost motion connection between said roller-carrier and said paper finger whereby said paper finger is not disturbed when said roller-carrier is moved to one released position but is lifted off the platen when said roller carrier is moved to its other released position.

9. In a typewriting machine, the combination with a platen, of a paper feed device comprising, as parts thereof, a paper finger and a roller independently mounted and spring-pressed toward said platen but movable away from said platen, means for retaining one of said parts in its released position, and means whereby that one of said parts holds the other of said parts in released position.

10. In a typewriting machine, the combination with a platen, of a support, a paper finger movably mounted on said support, a roller and carrier, said carrier pivoted to said support and having an arm projecting therefrom into position to engage said paper finger to lift said paper finger off the platen.

11. In a typewriting machine, the combination with a platen, of a paper feed mechanism for cooperation with said platen above the writing line and comprising two paper controlling devices cooperating with the paper independently, means for lifting one of said devices off the paper and a lost motion connection to the other paper controlling device for lifting said other paper controlling device off the paper.

12. In a typewriting machine, the combination with a platen, of a roller, a pivoted carrier for said roller, a paper finger, and a hook on said carrier adapted by a movement of said carrier away from the platen to engage said paper finger and lift said paper finger away from the platen.

13. In a typewriting machine, the combination with a platen, of a paper feed device comprising a support, a roller and carrier, said carrier pivoted to said support, a paper finger mounted on said support, and a cam on said carrier and adapted to engage said paper finger to lift said paper finger off the platen.

14. In a typewriting machine, the combination with a platen, of a paper feed device comprising a support, a roller and carrier, said carrier pivoted to said support, a paper finger mounted on said support, a cam on said carrier and adapted to engage said paper finger to lift said paper finger off the platen, and means for retaining said carrier in released position.

15. In a typewriting machine, the combination with a platen, of two paper feed devices for cooperation with said platen above the writing line and with the same margin

of the paper, said devices being independently mounted and pressed toward the platen, means for lifting one of said devices off the paper, and a connection to the other
 5 device for lifting said other device off the paper.

Signed at the city of Washington, Dis-

trict of Columbia, this 25th day of October, A. D. 1911.

HORACE L. WOODWARD.

Witnesses:

CORNELIUS ECKHARDT,
 RICHARD P. O'NEILL.