O. E. HULL.

TYPE WRITING MACHINE.

APPLICATION FILED FEB. 21, 1911.

1,025,627.

Patented May 7, 1912.

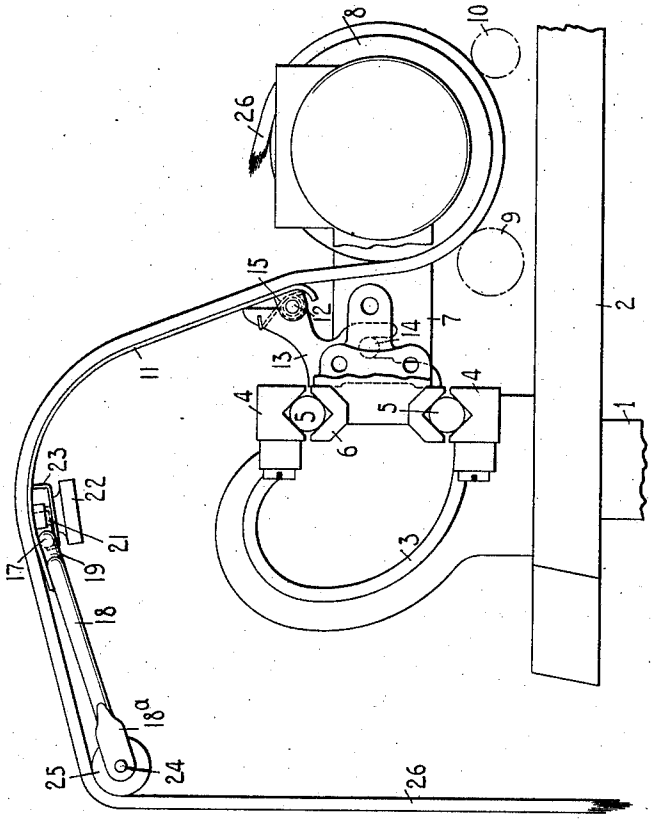

FIG. 1.

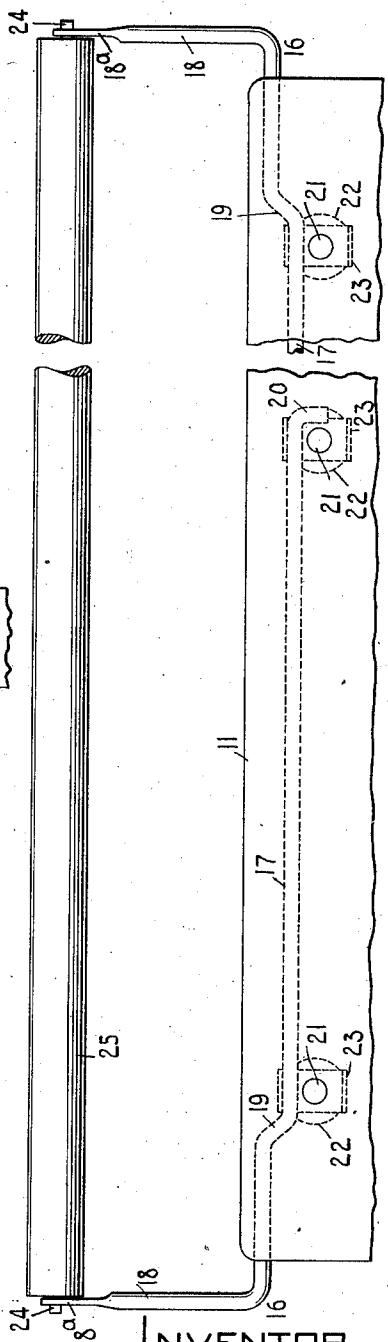

FIG. 2.

WITNESSES:

M. F. Hannweber

M. W. Pool

INVENTOR:

Oakley E. Hull

By Jacob Fehl

HIS ATTORNEY

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

OAKLEY E. HULL, OF CLEVELAND, OHIO, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

1,025,627. Specification of Letters Patent. Patented May 7, 1912.

Application filed February 21, 1911. Serial No. 609,910.

To all whom it may concern:

Be it known that I, OAKLEY E. HULL, a citizen of the United States, and resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to paper feeding mechanism for typewriting machines and its main object is the provision of improved means for guiding and supporting the paper, more particularly as it is introduced into the machine.

To the above and other ends my invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter described and particularly pointed out in the claims.

My invention has been designed for use with the Monarch typewriting machine, to which it is shown as applied, but it may be advantageously employed in connection with other styles of writing machines.

In some styles of the Monarch machines the brackets or standards which support the fixed guide rails are curved rearwardly and it has been found that they are liable to interfere with the sheets of thin tissue commonly employed in way billing work. In such machines when a pack or bunch of from twelve to eighteen sheets of tissue paper was introduced into the machine, the free end portions would frequently drop comparatively straight downward from the rear edge of the regular paper table so that during the movements of the carriage from side to side of the machine the side edge portions of the pack would contact with the inner faces of the standards and retard the carriage and crumple the paper. Moreover, the friction of the rear edge of the paper table with the downwardly hanging tissue sheets would tend to resist the line spacing operations, cause the sheets to creep on one another, and required an unnecessary amount of power for line spacing. To remedy these defects I provide an extension rearward from the paper table, said extension terminating in an anti-friction roller edge, this roller edge being in rear of and above the curved brackets and other topmost parts of the machine. It results that the free end portion of the paper drops down behind the brackets and coöperates with a guiding edge which facilitates the feeding of the paper.

My invention will be more particularly described in connection with the accompanying drawings wherein—

Figure 1 is a fragmentary side elevation of the upper part of a Monarch typewriting machine embodying my invention, only so much of the machine being illustrated as is necessary to a complete understanding of said invention, said machine being of the wide carriage style employed in way billing. Fig. 2 is a fragmentary top plan view of the paper table of the machine with my improvements mounted thereon.

The framework of the machine comprises corner posts 1 supporting a top plate 2 from which rise brackets or standards 3, said brackets curving rearward and supporting fixed grooved guide rails 4. Said rails cooperate through anti-friction balls 5 with the grooved slide or rear bar 6 of the platen frame or carrier which further comprises end bars 7 on which are mounted a rotary platen 8 and the usual paper feeding devices comprising feed rollers 9 and 10. Arranged behind and above the platen is an upwardly and rearwardly curving paper table 11, the rearmost portion of said table being downwardly inclined slightly. Said table is pivotally connected at 12 with slotted arms 13 which frictionally engage lateral studs 14 on the platen carrier. Springs 15 coöperate with the arms 13 and the paper table 11 to maintain the parts in the normal relationship shown in Fig. 1, but the paper table may be swung forward on the pivotal axis 12 against the tension of the springs 15.

It will be observed that at the rear the paper table terminates forward of the rearmost portions of the brackets or standards 3. The parts thus far described are not novel, being found in the regular Monarch ma-

chine of the wide carriage style employed for way billing and similar purposes.

Mounted detachably on the paper table 11 are rearward extensions or supports 16 preferably made of wire and each comprising a portion 17 arranged beneath the paper table near its rear edge and extending laterally therealong to a point beyond the side edge of the paper table, where the wire is bent rearward at right angles to provide an extension proper 18. Each portion 17 is provided with two bends 19 and 20, these bends preventing rotary movement of the support when it is secured to the under side of the paper table. The securing means in the present instance comprise a threaded stud or screw 21 projecting downward from the paper table, a thumb nut 22 threaded on said screw, and a U-shaped washer 23 which embraces the portion 17 and is arranged between the same and the thumb nut. This securing means in itself is not my invention and is not claimed *per se* by me. Two sets of securing devices, each set comprising a threaded stud, thumb nut and washer, cooperate with each supporting portion 17 near opposite ends thereof as will be understood from Fig. 2 which shows the parts in top plan. It will be apparent from this figure that the bend 19 will coöperate with the under side of the paper table 11 to prevent the arm 18 from being turned forward toward the observer about 17 as a pivotal axis while the bend 20 will perform a like function when it is attempted to turn the arm or extension 18 away from the observer. In other words, the securing devices maintain the supports rigidly on the paper table.

The rear end of each arm or extension 18 is flattened as indicated at 18^a and is perforated to provide a bearing opening for studs or pins 24 which project from the ends of a rotary guiding device or paper supporting and guiding roller 25. This device is preferably made of wood for the sake of lightness and, as will be observed, extends lengthwise of the platen but above and considerably in rear thereof so that a pack or bunch 26 of tissue sheets, or other work sheet or sheets, will entirely clear the stationary parts of the machine at the rear where the loose end portion of said pack hangs downward. In Fig. 1 it will be observed that the pack curves forward and over the top of the roller 25 on which it rests and thence extends over and downward onto the paper table 11 and thence to and around the platen.

The roller 25 and its mounting comprises in effect a light, detachable extension of the paper table having an anti-frictional rear edge which extension not only maintains and guides the paper so as to clear the stationary parts of the machine, but also provides a curved rotary surface over which the paper may be moved transversely with a minimum of resistance when the paper is advanced into the machine and also as it is fed upward and backward from the platen after being typewritten.

Various changes may be made without departing from my invention.

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

1. In a typewriting machine, the combination of a platen, a platen carrier, a paper table, and a backward extension detachably mounted on said paper table and terminating at its rear in an anti-frictional edge portion movable relatively to said extension.

2. In a typewriting machine, the combination of a platen, a platen carrier, a paper table, and a rear extension roller-support for the paper, said support being mounted on the paper table in rear of the platen, the paper hanging substantially straight down behind and in contact with said roller support.

3. In a typewriting machine, the combination of a platen, a platen carrier, a paper table thereon, extension arms on the paper table, and a roller guide for paper on said extension arms, the paper contacting with the top and rear sides of said roller guide and hanging substantially straight down behind the same.

4. In a typewriting machine, the combination of a platen, a platen carrier, a paper table, arms detachably supported on said paper table, and a paper guide roller on said arms, said guide roller extending lengthwise of the platen in rear of and above the same and acting to guide and support paper, said guide roller being the rearmost guide for the paper which hangs substantially straight downward behind said guide roller.

5. In a typewriting machine, the combination of a platen, a traveling carrier therefor, guide rails for said carrier, standards supporting said guide rails, a paper table, and a guide roller for sheets of paper, said guide roller being mounted on said paper table in rear of said standards and being the rearmost guide for the paper which depends directly behind said guide roller.

6. In a typewriting machine, the combination of a platen, a traveling carrier therefor, guide rails for said carrier, rearwardly curving standards supporting said guide rails, a paper table, and a guide roller for sheets of paper, said guide roller being mounted on said paper table in rear of and above said standards and being the rearmost guide for the paper which depends directly behind said guide roller.

7. In a typewriting machine, the combination of a platen, a paper table, a guide roller for the paper, and supports for said guide roller upon said paper table, each support comprising an angular wire provided with bends coöperating with said paper table to

prevent rotation of said wire thereon, and means for rigidly securing said wire to the paper table, said means comprising screws on the paper table, coöperative thumb nuts and U-shaped washers interposed between said wires and said thumb nuts.

Signed at Cleveland, in the county of Cuyahoga, and State of Ohio, this eighth, day of February, A. D. 1911.

OAKLEY E. HULL.

Witnesses:
C. P. ELLIS,
W. E. JENNESS.