

H. H. STEELE.
TYPE WRITING MACHINE.
APPLICATION FILED MAR. 26, 1910.

Patented May 6, 1913.

2 SHEETS—SHEET 1.

1,060,646.

FIG. 2.

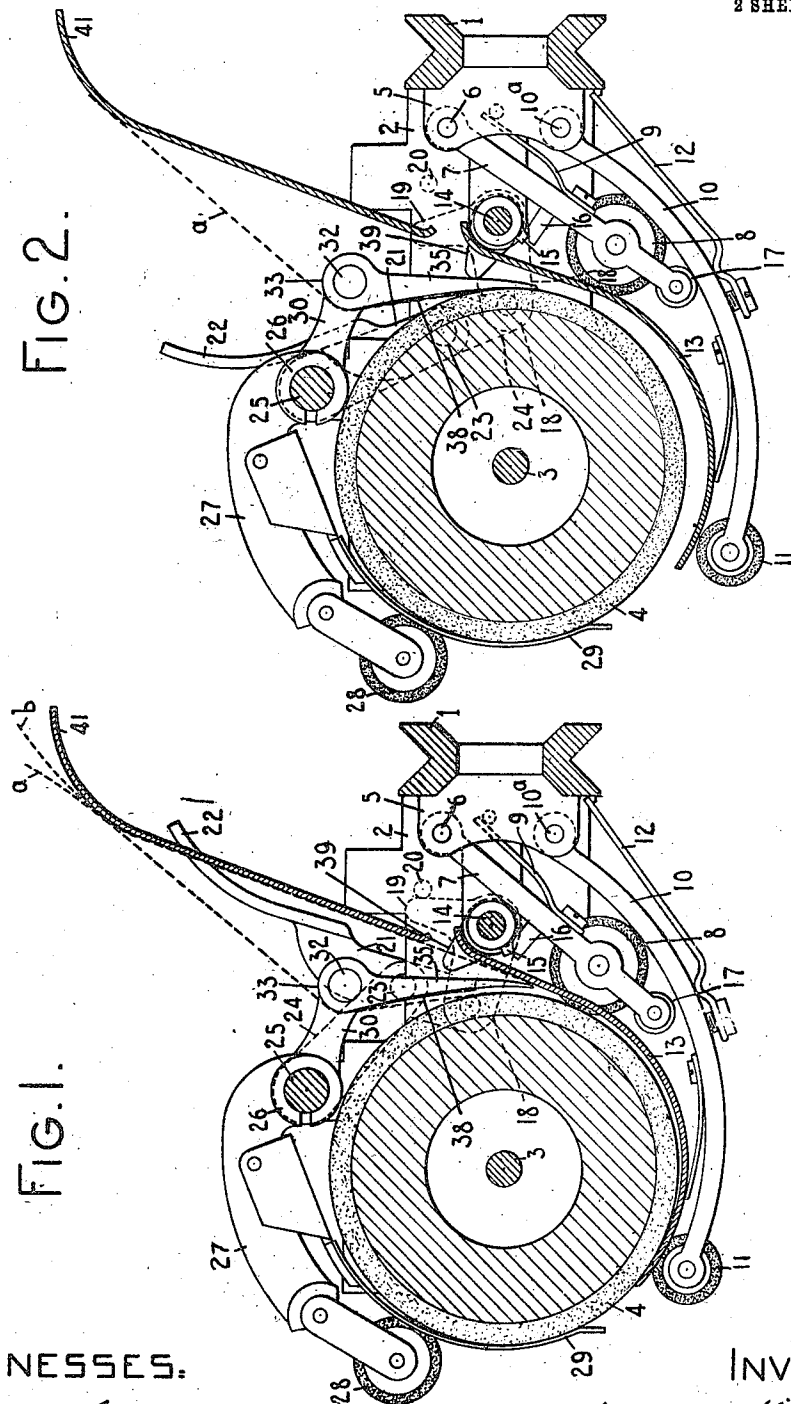


FIG. 1.

WITNESSES.

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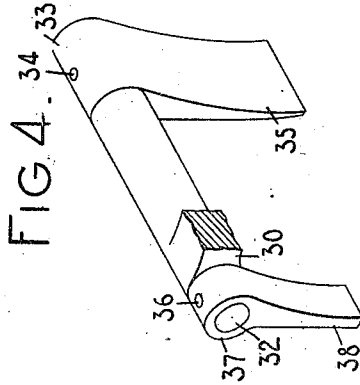
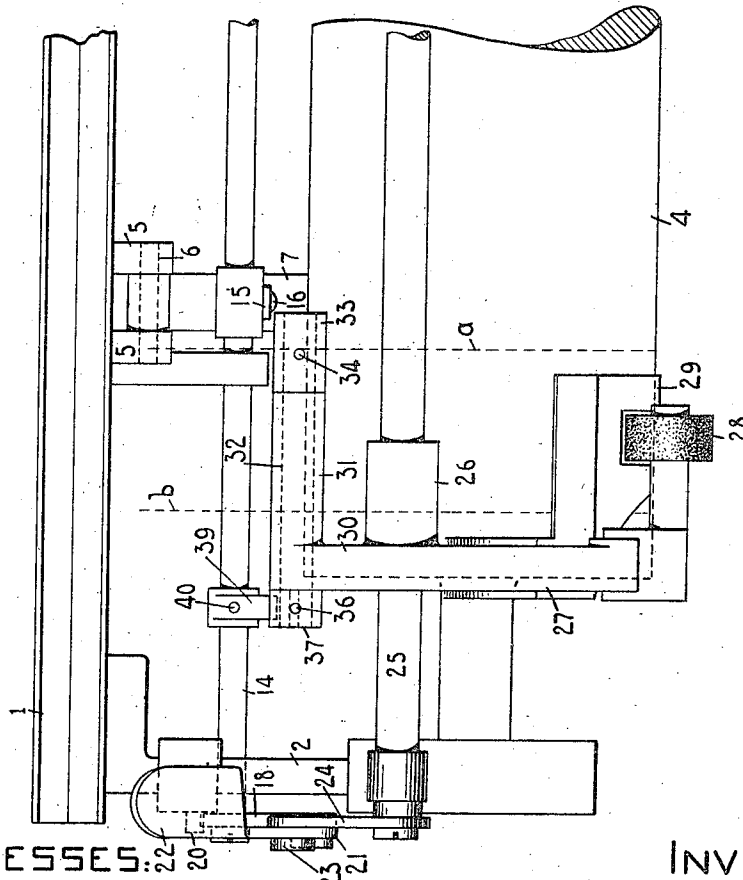
H. H. STEELE.
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2 SHEETS—SHEET 2.

FIG. 3.



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UNITED STATES PATENT OFFICE.

HERBERT H. STEELE, OF MARCELLUS, NEW YORK, ASSIGNOR TO THE MONARCH TYPE-WRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

1,060,646.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed March 25, 1910. Serial No. 551,424.

To all whom it may concern:

Be it known that I, HERBERT H. STEELE, citizen of the United States, and resident of Marcellus, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

More especially my invention relates to paper feeding devices for typewriting machines and its general object is to provide improved devices of the class specified.

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 is adapted for use in billing work wherein a record sheet is employed which is narrower than the overlying bill sheet. As is well known it is desirable to retain a record sheet in the machine during the operations of introducing writing on and removing a plurality of bill sheets, the items whereof are reproduced through an interposed carbon sheet on the underlying record sheet. In prior constructions record sheets have been employed which were wider than the overlying bill sheets and during the introduction and removal of bill sheets were retained in place by pressure rolls engaging with the margins of said record sheets beyond the edges of the narrower bill sheets, said pressure rolls being constantly operative and being so far separated that the bill sheets could pass freely between them but without cooperating therewith. In billing work of the character first referred to, where the record sheet is narrower than the overlying bill sheet, such pressure rolls cannot be employed. In the present embodiment of my invention pressure rolls of the character referred to are replaced by one or more paper controlling devices or clamps which are mounted on the platen frame and are automatically controlled by the usual or suitable releasing devices so that the clamps are thrown into cooperation with the platen to hold the record sheet when the releasing devices are operated to throw off or release the usual paper feed rollers. Conversely, when the feed rollers are thrown on the clamps are concurrently rendered inoperative. The feed rollers are adapted to cooperate both with the record

sheet and the bill sheet while the clamps are arranged between the two sheets and cooperate only with the record sheet so as to clamp or grip the same against the platen when desired.

My invention will be more particularly described in connection with the accompanying drawings which show one form of my invention embodied in a Monarch typewriting machine.

In said drawings, Figure 1 is a vertical sectional view taken transversely of the platen and platen carrier of a typewriting machine embodying my invention. Fig. 2 is a view corresponding with Fig. 1 but showing some of the parts in different relations and omitting other parts. Fig. 3 is a fragmentary plan view of said platen and platen carrier. Fig. 4 is a perspective view showing a clamping device and its support.

In the drawings the platen frame or carrier is shown as comprising a slide bar 1, said slide bar having at its ends forwardly projecting end bars 2 and being oppositely grooved to cooperate with ball bearings on the frame of the machine. A platen axle 3 is journaled on the end bars and supports a cylindrical platen 4 which may be provided with the usual or suitable line spacing devices for turning the same. Brackets or lugs 5 project forward from the end bars and at 6 pivotally support arms 7 carrying a main feed roller 8 which is constantly pressed toward the platen by springs 9 and is adapted to cooperate with the platen at the rear lower side thereof. Other arms 10 are pivoted at 10^a on the brackets 5 and carry a secondary feed roller 11 which cooperates with the platen forward of the main feed roller and is constantly pressed toward the platen by springs 12. A spring-pressed paper deflector 13 extends around the rear and lower side of the platen and is formed with openings through which the sections of the main and secondary feed rollers are adapted to protrude to engage with the platen. The paper feeding devices above described are adapted normally to cooperate with the platen but may be released or thrown off by devices which comprise a rock shaft 14 journaled on the platen frame and provided with lugs 15 which are adapted to cooperate with lugs or pins 16 on the arms 7 to swing the same away from the platen

to release the main feed roller. Small rolls 17 on the arms 7 are adapted to engage with the arms 10 during such swinging movement and to move said arms downward to release the secondary feed roller and relax the spring pressure on the deflector 13. Manual devices for controlling the rock shaft 14 comprise a crank arm 18 fixed to the left end of said rock shaft and provided with a stop lug or nose 19 which normally engages a stop pin 20 on the adjacent end bar. The crank arm 18 is pivotally connected with a toggle member 21 having a finger piece 22, said member 21 being pivotally connected at 23 with a toggle member or arm 24 having a fixed pivot. By pulling forward the finger piece 22 from the normal or Fig. 1 position to the Fig. 2 position the toggle is straightened and the rock shaft 14 is turned and locked in the Fig. 2 position, said rock shaft during the turning movement effecting the release of the feed rollers and deflector as above described. Other paper controlling contrivances or paper fingers may be provided to cooperate with the paper at the front upper side of the platen, said devices being mounted on a rod 25 which is arranged above the platen and extends longitudinally thereof, the ends of said rod being secured to the end bars 2. Each paper finger contrivance comprises a hub portion 26 having a tongue and groove connection with the rod 25 so that it may slide along said rod but cannot rotate. Projecting forward from the hub 26 is a supporting arm 27 which may carry a pressure roll 28 and a guide finger 29 cooperative with the platen at the front side thereof. The parts hereinbefore described are or may be substantially like the corresponding parts of the Monarch type-writing machine.

Referring to the novel paper controlling devices to which my invention especially relates, an arm 30 projects rearward from the hub 26 of the left-hand paper finger contrivance and terminates in a barrel or hub portion 31 which extends laterally inward (Fig. 3). The barrel 31 provides a bearing for a rock shaft 32 the ends whereof project beyond the bearing. The inner end of the rock shaft has fixed to it a gripping or clamping contrivance which comprises a hub 33 secured by a pin 34 to the rock shaft and a clamping finger 35 of suitable width which extends downward behind the platen and is curved along the lower portion of its forward face to conform to the platen surface so as to provide adequate gripping surface. The outer or left-hand end of the rock shaft projects beyond the end of the platen and has secured to it by a pin 36 a hub 37 which carries a downwardly extending finger 38. The shaft 32 is loose in its bearings so that the clamping finger may be controlled by gravity. In order to force the

clamping finger into operative engagement with the platen so as to clamp or grip an interposed work sheet against the platen, there is provided a finger 39 pinned at 40 to the rock shaft 14 opposite but normally separated from the finger 38. When the rock shaft 14 is rocked forward to release the feed rollers, the nose or tip of the finger 39 engages with the finger 38 and acting as a cam thereon rocks the shaft 33, causing the clamping finger 35 to operatively engage the platen. It will be apparent that the straightening of the toggle controlled by the finger piece 22 will lock the clamping fingers 35 in operative position. When the finger piece is pushed rearward to permit the feed rollers to reengage with the platen, the clamping finger will be released and will drop back by gravity to normal position.

In Figs. 1, 2 and 3 a record sheet and a superposed bill sheet are shown and designated respectively as *a* and *b*. For the sake of clearness the usual duplicating sheet has been omitted; but it is to be understood that a carbon sheet or the like is to be interposed between the two sheets *a* and *b*. The record sheet *a* is introduced into the machine in front of the clamping finger 35 and between the same and the platen, said record sheet passing downward over the usual paper table 41 and thence over the top and front side of the barrel 31 and downward between the clamping device 35 and the platen and into the control of the feed rollers. The bill sheet, on the other hand, is introduced into the machine behind the clamping finger or device passing over the paper table and paper deflector and into the control of the feed rollers in the usual way. By reference to Fig. 3 it will be noted that the record sheet *a* is narrower than the bill sheet *b*, so that the left-hand edge of *a* is to the right of the corresponding edge of *b*. The two sheets are so controlled by suitable side guides that while the bill sheet *b* is fed under the guide finger 29 and roll 28 the record sheet *a* preferably passes around the platen and out of the machine to the right of these last devices. Both the record and bill sheets are controlled by the main feed rolls so that during line spacing advances of the platen the two sheets are advanced together step-by-step. During this step-by-step advance the clamping finger 35 will hang loosely between the sheets and will not control either of them. When the written bill is completed and it is desired to remove the same, the finger piece or key 22 is pulled forward, throwing off and locking the feed rollers and concurrently throwing on and locking the clamping finger 35, causing said clamping finger to clamp or grip the record sheet *b* against the platen. The completed bill sheet may then be removed and a new one introduced without disturbing the relationship between

the platen and the record sheet, after which the feed rolls may be thrown on and the clamp concurrently thrown off by pressing back the key 22. Thereafter the printing and line spacing operations in connection with the newly introduced bill sheet may be proceeded with as before described.

I have shown one paper finger contrivance and associate clamping finger coöperative with the platen near its left end. It will be understood that a like contrivance and clamping finger may be arranged to coöperate with the right-hand end portion of the platen. Further it will be seen that the paper clamping finger or device is a holding or clamping contrivance purely. Its function is distinct from and opposed to that of the paper feeding mechanism, the clamping device being inactive during paper feeding operations for advancing the sheet with which the clamp at other times coöperates.

Various changes may be made without departing from the spirit and scope of 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, paper feeding means coöperative with both a narrow work sheet and a wider work sheet, said work sheets being superposed one on the other, a paper clamp operative against the narrow sheet only to clamp it against the platen to impede turning movement thereof and tend to prevent consequent advance of the paper, and connections between said paper clamp and said paper feeding means.

2. In a typewriting machine, the combination of a platen, paper feeding means, a paper clamp, and devices connected with said means for moving said paper clamp into operation, said clamp being restored to normal inoperative position by gravity.

3. In a typewriting machine, the combination of a platen, a paper finger contrivance comprising a paper finger coöperative with

the platen at one side thereof to feed paper, and a paper clamp carried by said paper finger contrivance, said paper clamp operating at the opposite side of the platen from said paper finger to prevent paper from being fed or displaced relatively to the platen.

4. In a typewriting machine, the combination of a platen, a paper finger contrivance coöperative with the platen at the front side thereof to feed paper, and a paper clamp carried by said contrivance and coöperative with said platen at the rear side thereof to prevent paper from being fed or displaced relatively to the platen.

5. In a typewriting machine, the combination of a platen carrier, a platen thereon, a paper finger rod supported over the platen, a paper finger contrivance adjustable along said platen and coöperative with the front face of the platen to clamp paper and prevent it from being displaced relatively to the platen, and a paper clamp pivoted to said contrivance and coöperative with the platen at the rear side thereof.

6. In a typewriting machine, the combination of a platen, a feed roller coöperative therewith, a clamping device, and hand operated toggle devices operative to lock said clamp against the platen and concurrently lock said feed roller in released position away from the platen.

7. In a typewriting machine, the combination of a platen, a paper finger contrivance coöperative with the platen, and a paper clamp carried by said contrivance and operative as a brake to impede turning movement of the platen and as a clamp tending to prevent advance movement of the paper.

Signed at Syracuse, in the county of Onondaga, and State of New York, this 23rd day of March, A. D. 1910.

HERBERT H. STEELE.

Witnesses:

ANNA T. LYNCH,
BESSIE G. KETTEL.