

(No Model.)

C. H. SHEPARD.
TYPE WRITING MACHINE.

No. 480,290.

Patented Aug. 9, 1892.

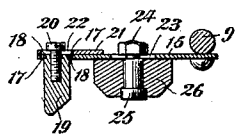
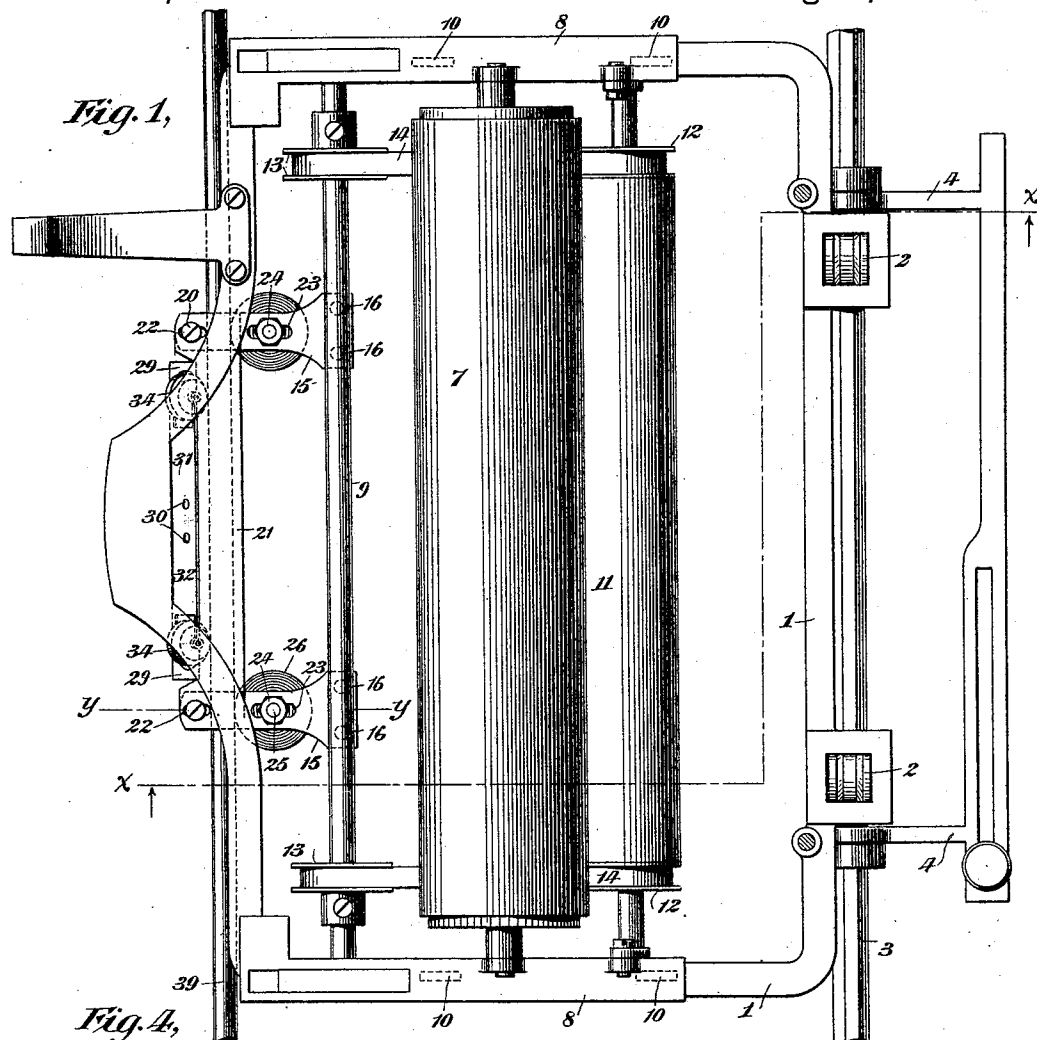


Fig. 2,

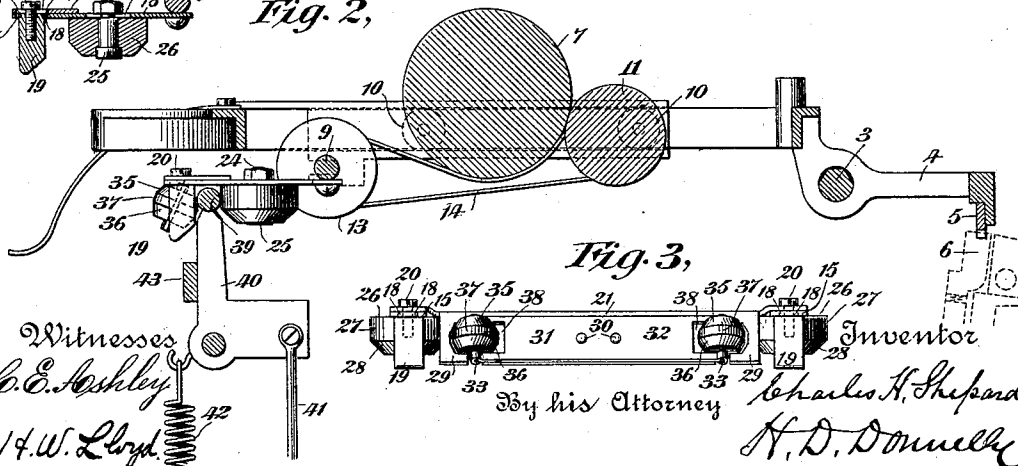
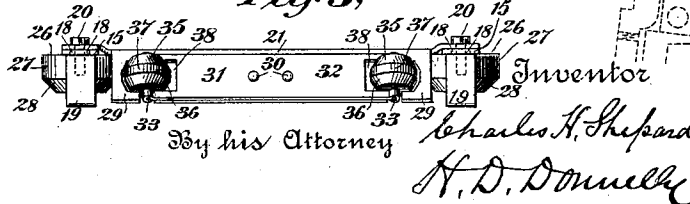


Fig. 3,



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UNITED STATES PATENT OFFICE.

CHARLES H. SHEPARD, OF BROOKLYN, ASSIGNOR TO THE REMINGTON
STANDARD TYPE WRITER MANUFACTURING COMPANY, OF NEW
YORK, N. Y.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 480,290, dated August 9, 1892.

Application filed January 28, 1892. Serial No. 419,552. (No model.)

To all whom it may concern:

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

In the Remington machine the shifting platen-carrier is provided with two pairs of beveled yoke-blocks, which straddle a shift-rail having a lever connection to an actuating shift-key at the keyboard. These yoke-blocks slide in contact with said rail during the feed of the paper-carriage and offer unnecessary friction or resistance to the movements of said carriage. Moreover, in time when wear takes place and the carriage can skew the yoke-blocks are apt to bind or cramp and cut a groove in or abrade the surface of the shift-rail and affect the alignment of the printing.

My invention has for its main object to overcome these objections by rolling friction and by automatically taking up the wear; and to these ends it consists in the features of construction and the combinations of devices hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of the Remington paper-carriage with the guide and shift rails added and embodying my improvements. Fig. 2 is a vertical section taken at the line *xx* of Fig. 1 and including the shift-rail, its operating means, and the spacing-dogs, the latter being shown in dotted lines. Fig. 3 is a front elevation, detached, of the rollers, the yoke-blocks, and their frames or supports. Fig. 4 is a vertical section taken at the line *yy* of Fig. 1.

In the several views the same part will be found designated by the same numeral of reference.

1 represents the main carriage, provided with grooved wheels 2 at its rear side to run on a guide-rail 3, which is supported on the framework of the machine. To the carriage is hinged a frame 4, provided with a rack 5 to co-operate with the spacing-dogs 6 to ef-

fect a step-by-step feed of the carriage, as usual.

7 designates a platen, which at its ends is mounted to turn in bearings in a supplemental carriage or carrier consisting, essentially, of slides 8 8, connected together by a rod 9, adapted to move back and forth on rolls 10 10 on the main carriage to carry the platen and the paper thereon from lower-case to upper-case position, all as in the Remington machine. In said platen-carrier is also mounted a feed-roller 11, provided with pulleys 12, around which and around pulleys 13 on the rod 9 pass paper-carrying bands 14.

15 15 are two similar plates or arms, which are secured at their ends by screws 16 16 to the rod 9 and at equal distance from the ends of said rod. The outer end of each of said arms is formed with a slot 17, in which fit two small lugs or projections 18 on the upper end of a yoke-block 19, which is beveled outwardly at its lower ends. These yoke-blocks are secured to their respective arms by means of screws 20 20, the points of which engage with threaded holes in the blocks and the heads of which bear upon a connecting bar or plate 21 formed at its ends with slots 22 for the passage downwardly of said screws.

Between the ends of each arm 15 is provided with a slot 23, in which is secured by a nut 24, a pivot-pin 25, and beneath said arm a roller 26, having both a cylindrical and a rearwardly-beveled periphery, designated, respectively, 27 and 28.

The connecting bar or plate 21 is provided with a front inclined portion 29, to which is attached by screws or rivets 30 a spring 31 32, preferably made in one piece and attached between its ends, as shown. The free end of each spring thus formed is constructed to provide bearings for a pivot-pin 33, upon which is mounted a roller 34, preferably provided with a beveled or tapering surface 35 at one end, a similar surface 36 at its opposite end, and with an intermediate cylindrical surface 37. The said rollers 34 protrude through perforations or openings 38 in the inclined supporting portion 29 and are arranged so that their beveled or conical ends 35 roll in con-

tact with the outer side of the shift-rail 39. The rollers 26 are arranged so that their cylindrical faces roll in contact with the rear side of said shift-rail. The working faces of the rollers are arranged in parallel planes and engage diametrically-opposite sides of the shift-rail.

The shift-rail may be actuated by the means heretofore employed, consisting, usually, of a rocking lever or levers 40, a connecting-rod 41, and a key-lever, (not shown,) a spring 42 being used to return the parts to normal position against a stop 43. The wedge-pieces when used are arranged to strike the shift-rail in advance of the lower tapering ends of the front rollers, and thus relieve said rollers and their springs from any undue shock. The wedge pieces or blocks 19 do not touch the rail when the carriage is down in working position and are provided, mainly, to return the platen-carrier to its normal position on lowering the carriage after inspecting the work, it being understood that on raising the carriage the platen-carrier slides rearwardly by gravity. If the machine be provided with means for preventing this rearward movement of the platen-carrier upon lifting the carriage for examination of the print, these wedge pieces or blocks may be omitted. Means for thus locking the platen-carrier may be seen in the patent to P. T. Dodge, No. 322,810, granted July 21, 1885. Owing to the inclination of the support 29, the tapering ends 35 of the rollers 34 roll in contact with that part of the rod 29 diametrically opposite the point of contact of the cylindrical surfaces of the larger rollers 26. When the shift-key is actuated, the shift-rail is vibrated rearwardly, and by reason of its contact with the rollers 26 the platen-carrier is forced rearwardly to upper-case position. Upon release of the shift-key the spring 42 will return the shift-rail, and by reason of its contact with the front rollers 34 the platen-carrier will be restored to normal position, the front rollers 34 bearing always against the front side of the shift-rail with a gentle pressure, their springs being comparatively light or weak.

By the employment of the rollers 26 and 34 and the dispensing of the sliding yoke-blocks the feed of the carriage is easier and better and there is no liability of cramping or binding of parts or of the shift-rail getting cut or abraded. Besides this, any slight wear due to the rolling friction is automatically taken up by the elastically-mounted front rollers. If considerable wear should occur, the front rollers may be moved rearwardly by moving back their supports or plates 21, which are slotted at 22 for lateral adjustment. The rear rollers 26 are adjustably mounted in the slots 23 to enable the platen to be set in the first instance at its proper place. When once adjusted, these rollers need not be disturbed. The tapering lower ends 28 of the rollers 26 are provided to enable said rollers to wedge or force

rearwardly the platen-carrier if for any reason it should be in a forward position and the shift-rail in a rearward position at the time of turning down the carriage after inspection of the work, &c. The tapering lower ends 36 of the front rollers are provided to wedge or force outwardly slightly the said rollers, in order to permit the carriage to be properly lowered and said rollers to accommodate themselves to the shift-rail. If the said rollers were made entirely cylindrical, they would be apt to catch on the top of the shift-rail and prevent the carriage from descending to its proper level.

Although I prefer to use two front rollers, I do not wish to be confined thereto, as I have carried my invention out in practice with only one such roller, in which case said roller was arranged in the support 29 about centrally or midway of the back rollers.

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

1. In a type-writing machine, the combination, with a shifting platen-carrier and a shift-rail, of rollers engaging diametrically-opposite sides of said rail and having their working faces arranged in parallel planes.

2. In a type-writing machine, the combination, with a shifting platen-carrier, a shift-rail, and means for moving the same, of a rigidly-mounted roller engaging the back of said rail and an elastically-mounted roller engaging the front of said rail.

3. In a type-writing machine, the combination, with a shifting platen-carrier, a shift-rail, and means for moving the same, of a pair of rigidly-mounted rollers engaging the back of said rail and a pair of spring-mounted rollers engaging the front of said rail.

4. In a type-writing machine, the combination, with a shifting platen-carrier, a shift-rail, and means for shifting the same, of wedge-pieces and a set of rollers engaging opposite sides of said rail, one of said rollers being elastically mounted.

5. In a type-writing machine, the combination, with a shifting platen-carrier, a shift-rail, and means for moving the same, of a pair of wedge-pieces, a pair of rigidly-mounted rollers for engaging the back of said rail, and a pair of spring-mounted rollers for engaging the front of said rail.

6. In a type-writing machine, the combination, with a shifting platen-carrier, a shift-rail, and means for moving the same, of means for engaging the back of said rail and elastically-mounted rollers for engaging the front of said rail.

7. In a type-writing machine, the combination, with a shifting platen-carrier and a shift-rail, of a back roller having a cylindrical face to engage said rail and a front elastically-mounted roller having tapering ends.

8. In a type-writing machine, the combination, with a shifting platen-carrier and a shift-rail, of the back rollers, their supporting-arms attached to the platen-carrier, a connecting-

bar attached to said arms, and an elastically-mounted roller connected to said bar.

9. In a type-writing machine, the combination, with a shifting platen-carrier and a shift-rail, of the back rollers, their supporting-arms
5 attached to the platen-carrier and slotted at their forward ends, a bar connected to said arms and provided with slots, attaching-screws, an inclined support depending from

said bar, and an elastically-mounted roller so attached thereto.

Signed at New York city, in the county of New York and State of New York, this 25th day of January, A. D. 1892.

CHARLES H. SHEPARD.

Witnesses:

JACOB FELBEL,
IDA MACDONALD.