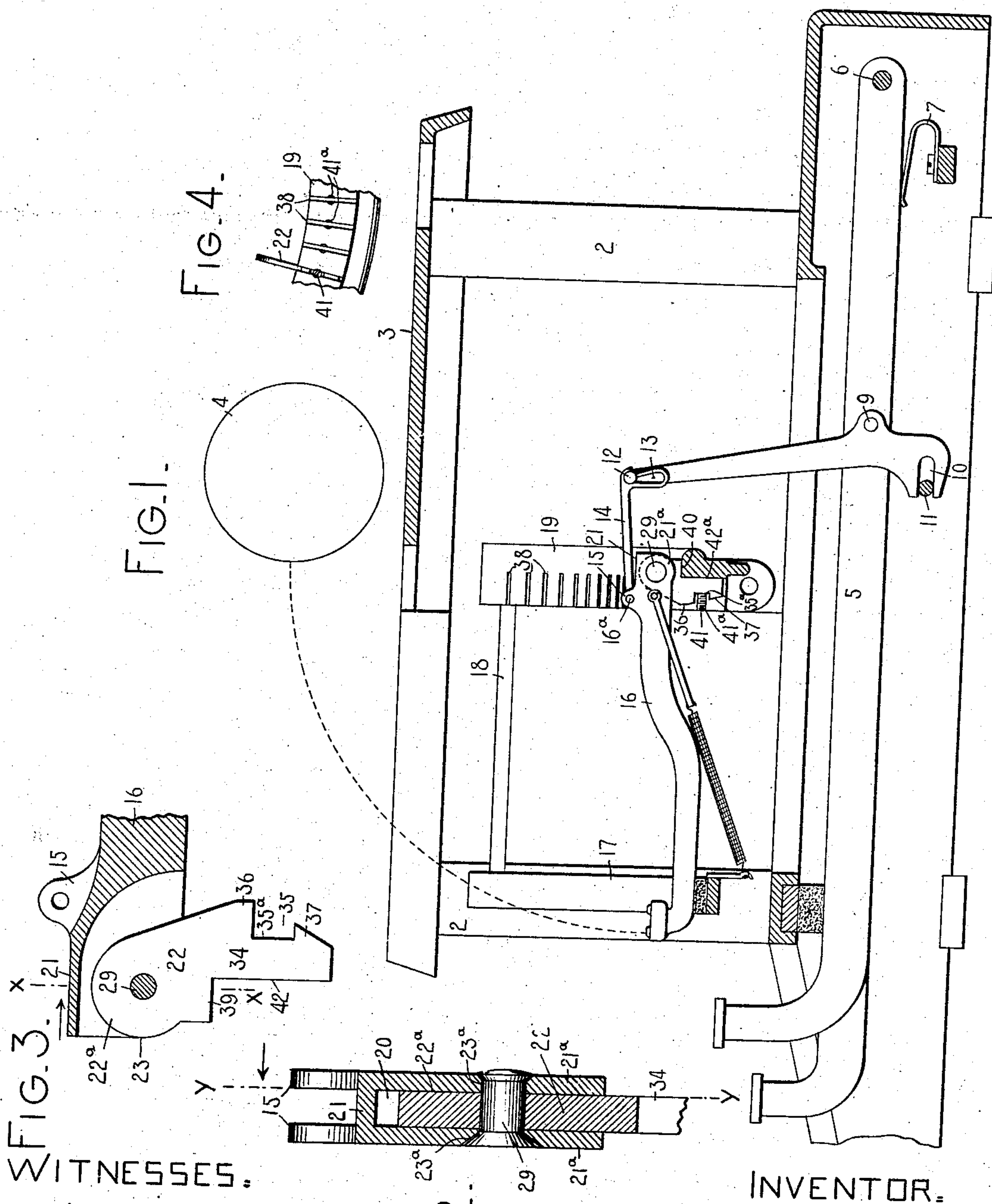


No. 860,145.

PATENTED JULY 16, 1907.

H. W. MERRITT.
TYPE WRITING MACHINE.
APPLICATION FILED DEC. 28, 1903.

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WITNESSES:

K. V. Donovan.
E. M. Wells.

Fig. 2.

INVENTOR:

Henry W. Merritt
By Jacob Felber

HIS ATTORNEY

UNITED STATES PATENT OFFICE.

HENRY W. MERRITT, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK; A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 860,145.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed December 28, 1903. Serial No. 186,815.

To all whom it may concern:

Be it known that I, HENRY W. MERRITT, a citizen of the United States, and a resident of Syracuse, 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.

My invention relates to typewriting machines and more particularly to type bars and hangers therefor.

10 The main object of my invention is to provide a simple and efficient construction of hangers, and means for securing the same.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, arrangements of parts and combinations of devices to be hereinafter described and more particularly pointed out in the appended claims.

In the drawings, wherein like reference characters indicate corresponding parts in the various views;—
20 Figure 1 is a front to rear vertical sectional view of sufficient number of parts of a front strike typewriting machine embodying my invention. Fig. 2 is an enlarged detail transverse sectional view of a type bar and hanger, the section being taken on the line $x-x$ of
25 Fig. 3 and looking in the direction of the arrow at said line. Fig. 3 is a longitudinal sectional view of the same, the section being taken at right angles to the position shown in Fig. 2 and on the line $y-y$ in Fig. 2 and looking in the direction of the arrow at said line. Fig.
30 4 is a face view of a fragment of the segment and a hanger secured in position therein.

The base 1 of the frame has corner posts 2 which support a top plate 3, that in turn supports a carriage (not shown) which travels from side to side of the machine and whose platen 4 is diagrammatically illustrated in
35 Fig. 1. Key levers 5 are pivoted at 6 in the base of the machine and are provided with restoring springs 7. Each key lever has a sub-lever 8 pivoted thereto at 9 and the lower end portion of each sub-lever is slotted
40 at 10 for coöperation with a fixed fulcrum rod or bar 11 beneath the key levers and extending from side to side of the machine. The upper end of each sub-lever carries a laterally extending headed pin 12 which enters a slot 13 at one end of a link 14, the opposite end of said
45 link projecting between upwardly extending ears 15 on a type bar 16 and being pivoted thereto, as indicated at 16^a. The forward ends of the type bars are supported upon a pad or rest 17, which receives its support from arms 18 projecting forwardly from the type bar
50 segment 19.

The heel, hub, or pivoted end of each type bar is recessed, apertured or bifurcated as indicated at 20, so as to form a substantially U-shaped housing comprising a top or roof 21 and two sides 21^a that have inner par-

allel bearing faces; the top 21 of said recess forming 55 primarily a dust shield. The top and sides of the housing prevent the admission of grit or the like to the bearings of the type bars, as will hereinafter more clearly appear.

A type bar hanger 22 arranged below the platen is 60 received within the recess 20 in its associated type bar and the side walls or bearings 22^a of the hanger contact with the side walls of the cheek plates 21^a, as indicated in Fig. 2. The hanger 22 has an eye 23 and the cheek plates registering holes 23^a and a rivet or pivot 29 ex- 65 tends through the perforations to connect together pivotally the type bar and hanger.

Each hanger has a depending portion or shank 34 that has an unthreaded notch or recess at 35 which provides an upper jaw 36 and a lower jaw 37. This 70 shank 34 of each hanger is fitted closely within a slot 38 in the front face of the type bar segment 19 and a shoulder 39 is formed on each hanger to bear upon the top of the type bar segment, as in Fig. 1, when the hangers are in place. When a hanger is in position in its 75 slot it may be secured by a set screw 41 which extends fore and aft of the machine and is supported in a threaded opening 41^a in the type bar segment. The rear end of said set screw is adapted to enter the recess 35 of its associated hanger so as to bear against the straight 80 vertical face 35^a to force the stem of the hanger against the rear wall of its slot and hold the hanger firmly in place. The space between the jaws 36 and 37 of each hanger is greater than the diameter of the screw 41 which enters it, so that a slight radial adjust- 85 ment of the hangers may be afforded. The screw 41 for each hanger, bearing as it does against the straight face 35^a, will secure the hanger in its adjusted position and bind it firmly in place. A screw 41 is provided for each hanger, and owing to the entrance of the screw 90 between the jaws 36 and 37 the hanger is prevented from endwise displacement from the segment. In other words the hanger cannot be removed without unscrewing the screw 41 sufficiently far to enable it to clear the lower jaw 37 but in order for the screw to 95 thus clear said jaw 37 and permit the hanger to be removed it is not necessary that said screw be entirely removed from the segment. The bearing edges 39 and 42 of each hanger are at right angles to each other and the bearing walls 40 and 42^a of the segment with 100 which the edges coöperate are likewise at right angles to each other, so that the hangers may be readily positioned in the slots in the segment and the pivotal centers of the various type bars will be located in a single vertical plane and equally distant from the printing 105 point. The radial adjustment of the hangers is provided in the event of such an adjustment being rendered necessary, though in most cases the bearing edges

39 and 42 and bearing walls 40 and 42^a afford a proper positioning of the hangers.

The type bars 16 are preferably forged by a series of operations into the shape or construction shown, excepting that after the forging operation a milling cut is made at the rear or pivotal end of the type bar to form or provide a recess 20 and produce the substantially V-shaped housing, comprising the parallel cheek plates or sides 21^a and the connecting portion or roof 21. A milling cut is also made to produce the separate ears 15 for attachment of the actuating link.

It will be observed that the rear or pivotal end of the type bar is forged somewhat thick with reference to the type end of the bar in order to enable the formation of the U-shaped housing for the insertion of the hanger, but that the type bar may be gradually tapered in width and thickness from the pivotal end to the type bearing end, at which latter place it may be comparatively slender. By thus shaping the type bar it may be made of light weight, and yet sufficiently strong to withstand the blows of printing.

The type bar illustrated has the usual type head at its free end and is provided at its pivotal end with two opposite walls having inner parallel bearing surfaces to cooperate with the bearing of the type bar hanger. The bearing of the hanger has opposite parallel bearing surface 22^a, and it is suitably curved in outline to permit the type bar to swing freely.

Various changes may be made without departing from the spirit 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 slotted segment, a type bar hanger received in a slot in said segment, said hanger having an opening therein, a set screw carried by the segment and adapted to project into the opening in the hanger and to bear at its end against the hanger to secure it in place and to afford a removal of the hanger when the screw is unscrewed in the segment and without entirely removing said screw, and a type bar carried by said hanger.

2. In a typewriting machine, the combination of a segment slotted in the front face thereof, a screw located at each slot and extending fore and aft of the machine, type bar hangers in each of said slots, each hanger being provided with a slot for cooperation with one of said screws each screw bearing at its end against a hanger and affording a removal of the associated hanger without entirely removing said screw, and a type bar carried by each hanger.

3. In a typewriting machine, the combination of a segment slotted in the front face thereof, a screw located at each slot and extending fore and aft of the machine, type bar hangers in each of said slots, each hanger being provided with forwardly extending jaws between which one of

said screws is adapted to engage, whereby when a screw is between the jaws of the associated hanger it will be retained in place and when the screw is withdrawn from between the jaws the hanger may be withdrawn.

4. In a typewriting machine, the combination of a slotted segment, a type bar hanger having an unthreaded opening therein and received in a slot in the segment, and a set screw carried by the segment and extending into the unthreaded opening in the hanger and adapted to bear at its inner end against the hanger and clamp in its place and to afford a removal of the hanger without entirely removing the screws the unthreaded opening in the hanger being slightly greater than the diameter of the screw to afford a radial adjustment of the hanger in the slot.

5. In a typewriting machine, the combination of a slotted segment having bearing walls at substantially right angles to each other, one of said bearing walls being formed by a bottom wall in the front face of the segment, a hanger received in a slot in the segment and having bearing edges at substantially right angles to each other, and which are adapted to cooperate with the said bearing walls of the segment, and means for maintaining the hanger in its slot.

6. In a typewriting machine, the combination of a slotted segment having bearing walls at substantially right angles to each other, a hanger received in a slot in the segment, and having bearing edges at substantially right angles to each other and which are adapted to cooperate with the said walls of the segment, a set screw carried by the segment and extending in an unthreaded opening in the hanger and adapted to bear at its inner end against the hanger and clamp it in place, the unthreaded opening in the hanger being slightly greater than the diameter of the screw to afford a radial adjustment of the hanger in the slot.

7. In a typewriting machine, the combination of a segment having a series of radial slots therein, type bar hangers having plate-like stems seated in said slots, each of said stems having a notch in one edge thereof, and set screws threaded into said segment and engaging the bottoms of the notches in said stems.

8. In a typewriting machine, the combination of a segment having a series of radial openings therein; type bar hangers having stems seated in said openings, each of said stems having a notch; and set screws threaded into said segment and engaging the bottoms of said notches to secure said hangers in place.

9. In a typewriting machine, the combination of a segment having a series of radial openings therein; type bar hangers having stems seated in said openings, each of said stems having a notch; and set screws threaded into said segment and engaging the bottoms of said notches to secure said hangers in place, each of said notches being of a length greater than the diameter of its set screw, whereby a radial adjustment of the hanger is afforded.

Signed at the borough of Manhattan, in the city of New York, in the county of New York, and State of New York, this 26th day of December, A. D. 1903.

HENRY W. MERRITT.

Witnesses:

K. V. DONOVAN,
E. M. WELLS.