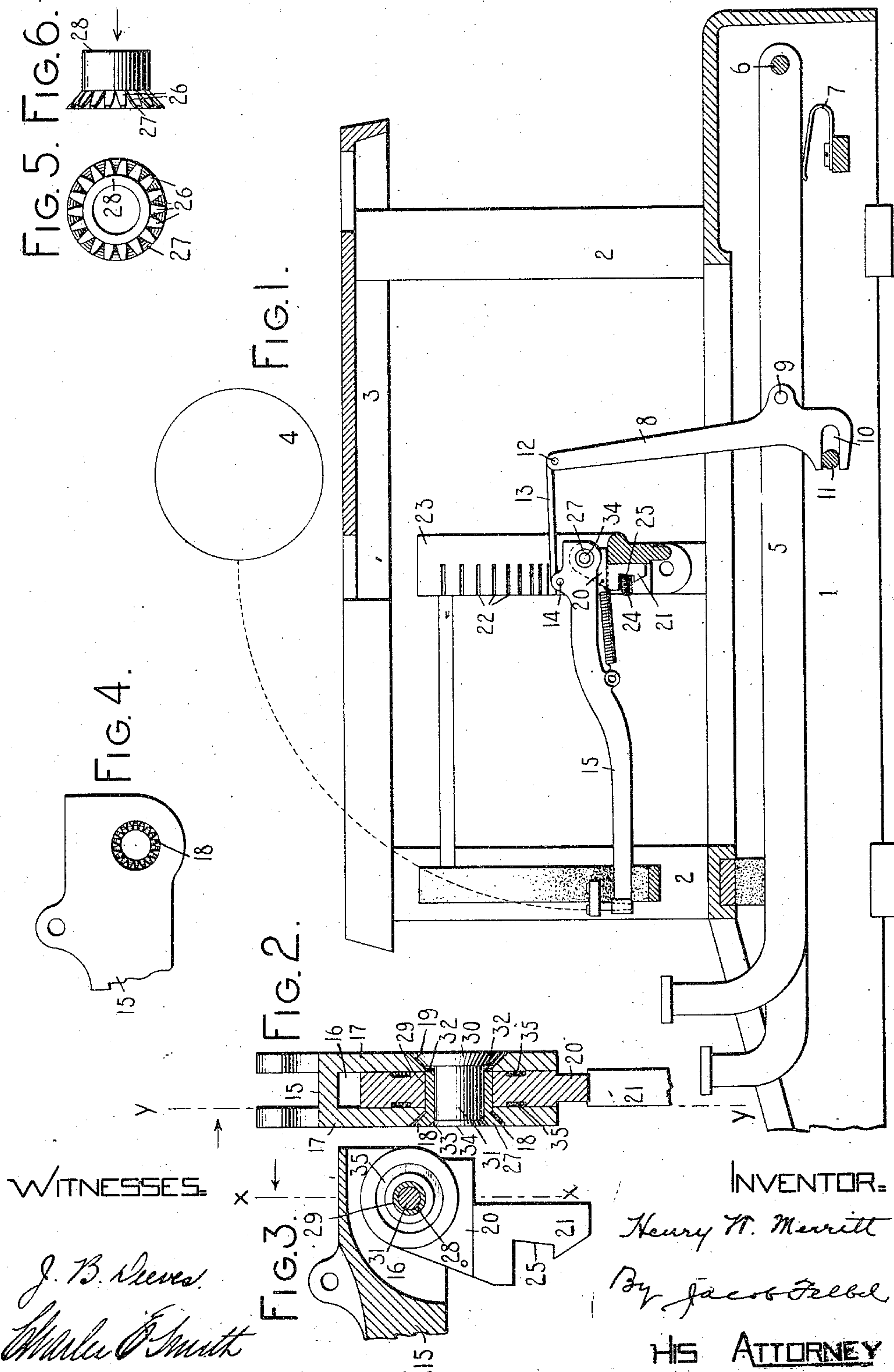


No. 860,045

PATENTED JULY 16, 1907.

H. W. MERRITT.
TYPE WRITING MACHINE.

APPLICATION FILED JULY 6, 1905. RENEWED JUNE 10, 1907.



WITNESSES:

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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. 860,045.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed July 6, 1905. Renewed June 10, 1907. Serial No. 378,282.

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 type bar and hanger constructions for typewriting machines, and the object of said invention is to provide an easy and efficient type bar bearing and to provide a construction in which the parts can be readily assembled.

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 particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a central, vertical front to rear sectional view of a sufficient number of parts of one form of typewriting machine to illustrate my invention and its application thereto. Fig. 2 is an enlarged detail transverse sectional view taken through a type bar and hanger, the section being taken on the line *x x* of Fig. 3 and looking in the direction of the arrow at said line. Fig. 3 is a longitudinal sectional view of the same taken on the line *y y* of Fig. 2 and looking in the direction of the arrow at said line. Fig. 4 is a fragmentary enlarged detail side elevation showing the heel or pivotal end of one of the type bars. Fig. 5 is an enlarged detail end view of one of the hollow sleeves, the view looking in the direction of the arrow in Fig. 6. Fig. 6 is an enlarged detail side view of the same.

The base 1 of the machine is provided with corner posts 2 surmounted by a top plate 3. A suitable carriage (not shown) travels from side to side of the machine and supports a platen 4 diagrammatically illustrated in Fig. 1. Key levers 5 are pivoted at 6 in the base of the machine and associated with each key lever is a restoring spring 7. An upright sub-lever 8 is pivoted to each key lever at 9 and has a slot 10 in the lower end portion thereof for the reception of a fixed fulcrum rod 11 which extends beneath the key levers from side to side of the machine and is secured at its ends to the base of the machine. The upper end of each sub-lever is pivoted at 12 to a forwardly extending link 13 which in turn is pivoted at 14 to a type bar 15. Each type bar has a bifurcated or slotted heel which is formed in the present instance by a milling cut to form a cut-out portion 16 so as to provide two cheek plates 17 that constitute the bifurcated portion. The cheek plates are countersunk at opposite sides thereof, as indicated at 18 and 19, the countersunk portions preferably extending entirely through the cheek plates so as to provide openings therein through which extend the pivotal

connections that unite the type bar and hanger. Each type bar hanger 20 has a stem 21 which is adapted to be received in a slot 22 in a type bar segment 23, and the various hangers are secured in place by screws 24 which are received within threaded openings in the face of the segment and are adapted to bear at their inner ends against the portions 25 of the hanger stems to secure the hangers in place. The countersunk portion 18 in the type bar is preferably serrated, as shown in Fig. 4, for coöperation with the serrations 26 on the under side of the head 27 of a sleeve 28. This headed sleeve extends through one of the cheeks of the type bar and through an eye or opening 29 in the hanger, and terminates before it reaches the head 30 of the co-operating rivet 31, so that there is a free space 32 between the inner end of the sleeve and the head of the rivet 31 when the parts are assembled, as shown in Fig. 2, in order that the rivet and sleeve may have a further movement towards each other if desired.

The sleeve 28 preferably has a smooth bore for the reception of the stem of the rivet 31 and its head is slightly countersunk as indicated at 33 to receive the up-set or headed end 34 of the rivet, so that the outside of the head 34 will be flush with the outside of the head of the sleeve and that side of the cheek 17 of the type bar which contains the countersunk portion 18 as clearly shown in Fig. 2. The head 30 of the rivet is likewise contained within the countersunk portion 19 in the opposite cheek of the type bar so that the outermost portion of said head will be flush with that side of the type bar. The sleeve 28 is preferably hardened or case hardened and constitutes the bearing for the inner wall of the opening 29 in the hanger, or in other words, it constitutes the pivotal bearing on which the type bar turns. The rivet 31, on the other hand, is preferably a soft rivet, the stem of which extends through the smooth bore in the sleeve and is riveted in place by upsetting or turning the head 34 thereon. This is preferably done by spinning the head with a suitable tool, so that undue pressure will not be exerted upon the cheek plates 17 of the type bar and an easy pivotal movement is afforded.

It will be seen that the only part of the connection that receives wear through contact with a moving part is the sleeve which is hardened and needs no change in form in connecting or assembling the parts, whereas the rivet which receives no wear can be made soft so that the head 34 can be formed thereon to connect the parts after they are assembled.

It will be understood that by the means thus described the type bar and hanger may be readily connected and may be used to take up any looseness or slack that may exist between the inner side walls of the cheek plates and the outer coöperating side walls of the type bar hanger.

The hanger is preferably provided with two circular grooves 35 in the opposite sides thereof, as indicated in Figs. 2 and 3. These circular grooves are preferably opposed by flat faces on the inner walls of the bifurcated portion of the type bar, so that the circular grooves may constitute oil ducts or grooves to enable oil to be contained therein and thus lubricate the contact faces at the sides of the hanger and the inner walls of the bifurcated portion of the type bar. It will also be observed that the serrations on the under side of the head 27 of the sleeve cooperating as they do with the serrations in the countersunk portion 18 of the type bar, cause the sleeve and the rivet to be locked against rotation relatively to the type bar, so that the sleeve and rivet will turn with the type bar during the printing movements thereof.

A type bar hanger secured to the segment in the manner shown in this case is not claimed herein, but is claimed in my pending application Serial No. 188,080, filed Jan. 7, 1904, and more broadly in my pending application, Serial No. 186,815, filed December 28, 1903. The returning spring for the type bar is not claimed herein, but is claimed in my said pending application Serial No. 188,080.

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

1. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, a headed sleeve that extends through openings in the type bar and hanger and forms a pivotal bearing for the movement of one of said parts on the other, and a rivet that extends through the headed sleeve and is riveted thereto.

2. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, a headed sleeve that extends through openings in the type bar and hanger, and forms a pivotal bearing for the movement of one of said parts on the other, and a rivet that extends through the headed sleeve and is riveted thereto, the inner end of the sleeve terminating short of the head of the rivet.

3. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, a headed sleeve that extends through openings in the type bar and hanger and forms a pivotal bearing for the movement of one of said parts on the other, a rivet that extends through the headed sleeve and is riveted thereto, engaging means on the bifurcated member, and cooperating engaging means on the head of the sleeve, whereby the bifurcated member and sleeve are locked together.

4. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, a headed sleeve with a smooth bore, said sleeve extending through openings in the type bar and hanger and forming a pivotal bearing for the movement of one of said parts on the other, and a rivet that extends through the smooth bore in the headed sleeve and is riveted thereto.

5. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, a headed sleeve that extends through openings in the type bar and hanger and forms a pivotal bearing for the movement of one of said parts on the other, a rivet that extends through the headed sleeve and is riveted thereto, serrations on the under side of the head on the sleeve, and cooperating serrations in the bifurcated por-

tion with which the serrations on the head engage to prevent a relative turning movement between the sleeve and the bifurcated member.

6. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, a headed sleeve with a smooth bore, said sleeve extending through openings in the type bar and hanger and forming a pivotal bearing for the movement of one of said parts on the other, and a rivet that extends through the smooth bore in the headed sleeve and is upset or headed at the inserted end so as to connect the rivet to the sleeve.

7. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, a headed sleeve with a smooth bore, said sleeve extending through openings in the type bar and hanger and forming a pivotal bearing for the movement of one of said parts on the other, a rivet that extends through the smooth bore in the headed sleeve and is upset or headed at the inserted end so as to connect the rivet to the sleeve, the inner end of the sleeve terminating short of the head of the rivet, engaging means on the bifurcated member and cooperating engaging means on the head of the sleeve, whereby the bifurcated member, the sleeve and rivet are locked together.

8. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other and both of said parts having aligned openings extending therethrough and the bifurcated member being countersunk on opposite sides, a headed sleeve, the head thereof being received in one of the countersunk portions, so that the head of the sleeve is flush with one side of the bifurcated member, and a rivet that extends through the bore of the sleeve and has its head seated in the countersunk portion so as to be flush with the other side of the bifurcated member and the inserted end of the rivet being upset or headed to secure the parts together.

9. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other and both of said parts having aligned openings extending therethrough and the bifurcated member being countersunk on opposite sides, a headed sleeve, the head thereof being received in one of the countersunk portions, so that the head of the sleeve is flush with one side of the bifurcated member, means for preventing the sleeve and bifurcated member from turning relatively to each other, and a rivet that extends through the bore of the sleeve and has its head seated in the countersunk portion so as to be flush with the other side of the bifurcated member and the inserted end of the rivet being upset or headed to secure the parts together and being flush with the head of the sleeve and a side of the bifurcated member.

10. In a typewriting machine, the combination of a type bar and a hanger, one of said parts being bifurcated to receive the other, circular grooves in both faces of one of said members which are opposed to flat faces of the other member, a headed sleeve that extends through said members and a rivet that extends through the sleeve and is headed at both ends.

11. In a typewriting machine, the combination of a type bar and a hanger, a hardened headed sleeve that forms the pivotal bearing between said parts and is connected against turning movement on one of them, and a soft rivet that extends through the sleeve and is headed at both ends, one head of the rivet being seated in the head of the sleeve and being flush therewith.

Signed at Syracuse, in the county of Onondaga and State of New York, this 30th day of June, A. D. 1905.

HENRY W. MERRITT.

Witnesses:

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