(No Model.)

H. W. MERRITT.

TYPE WRITING MACHINE.

No. 489,871. Patented Jan. 10, 1893.

Fig. 1.

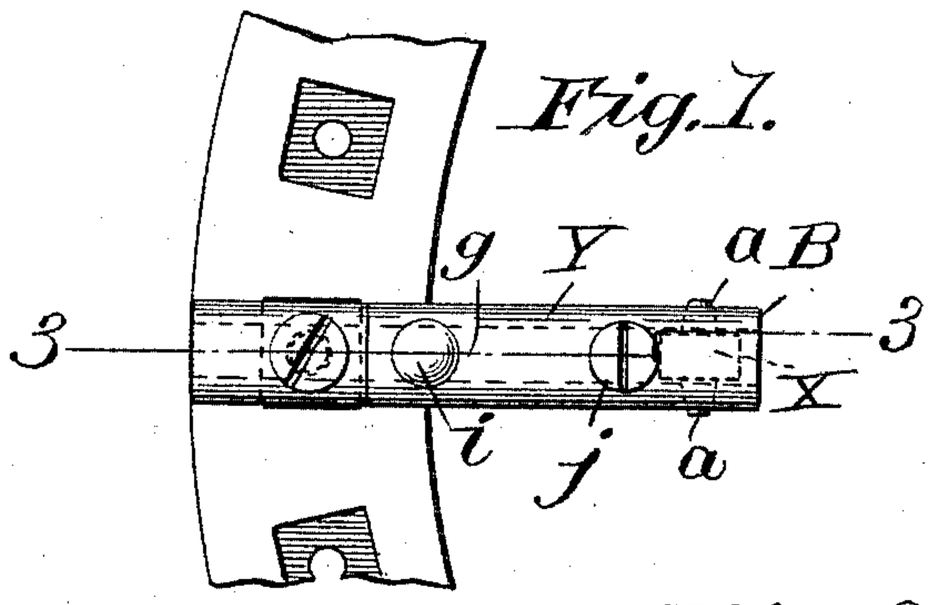


Fig. 2.

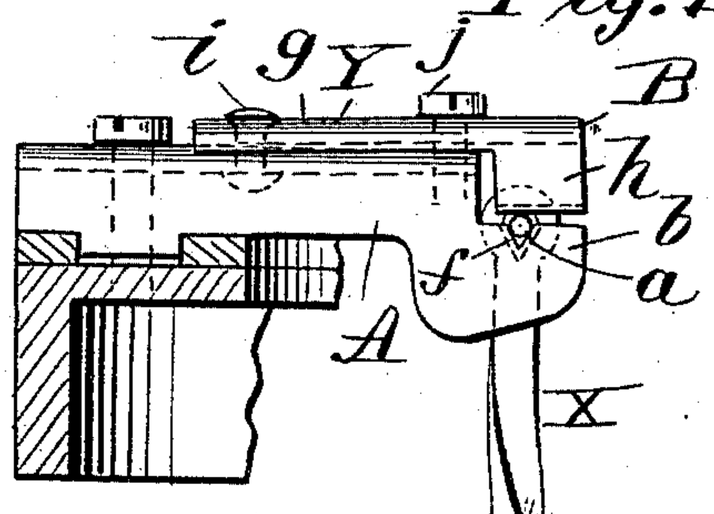


Fig. 3.

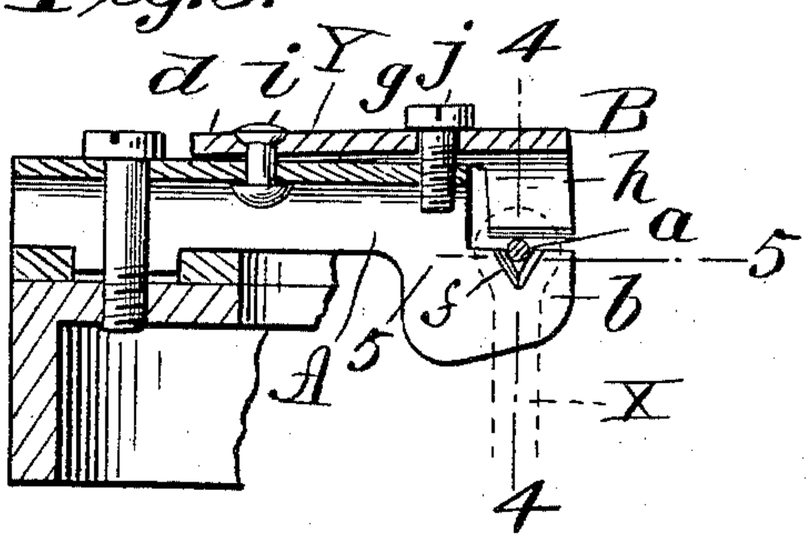


Fig. 4.

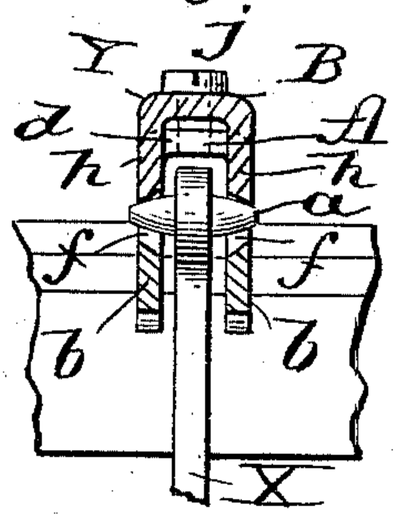


Fig. 5.

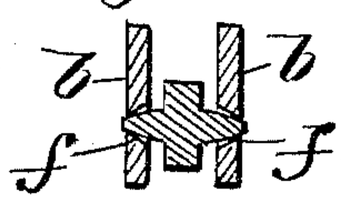


Fig. 6.

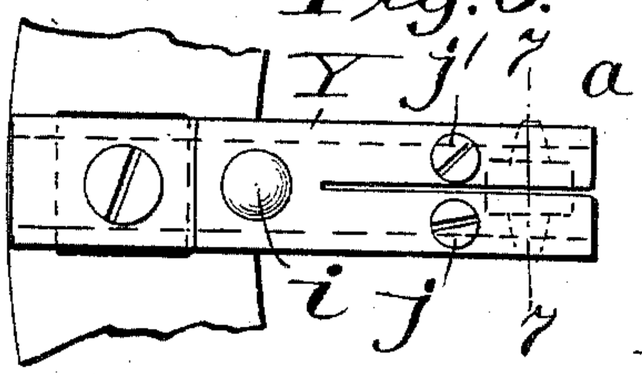
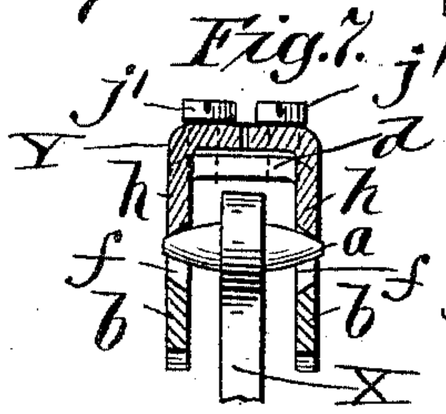


Fig. 7.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY W. MERRITT, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO THE MERRITT MANUFACTURING COMPANY, OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 489,871, dated January 10, 1893.

Application filed September 26, 1892. Serial No. 446,884. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. MERRITT, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to improvements in hangers for the type-bars of typewriting machines. It is well known that good alignment, in the operation of a typewriting machine, of the letters or other characters upon the paper is dependent upon the bearings which are provided for the type-bars; and while, under some constructions of the bearings, the parts may be adjusted so that perfect alignment may be secured and maintained for a short period, but the parts soon become variable in their adjustments permitting more or less lash and lost motion and consequently imperfections are created in the work upon the paper, and moreover these objectionable conditions are practically irremedial.

The purpose of this invention is to provide a hanger for a type-bar which shall have capabilities not only for permitting such a mounting of all of the type-bars as to insure at once accuracy and positiveness, but such as will permit these conditions to continue for an unusually long time and permit when adjustment is required, after excessively protracted use, the same to be accomplished with great facility and effectiveness.

To this end the invention consists in constructions and combinations of parts all substantially as will hereinafter more fully appear and be set forth in the claims.

Reference is to be had to the accompanying drawings in which

Figure 1 is a plan view of a part of the supporting-ring, and a type-bar hanger and type-bar mounted therein. Fig. 2 is a side view of the same parts. Fig. 3 is a vertical longitudinal section of the same on the line, 3—3, Fig. 1. Fig. 4 is a vertical cross section on line 4—4, Fig. 3. Fig. 5 is a horizontal sectional view on line 5—5, Fig. 3. Figs. 6 and 7 are views similar, respectively, to Figs. 1 and 4 showing, however, a slight modification to be hereinafter referred to.

In the drawings X represents the type-bar and Y the hanger therefor. The type-bar is provided at its upper end with the trunnion-like pivot-studs, *a*, *a*, which extend from opposite sides of the bar in axial alignment and which may be integrally formed with the type-bar or by a pin driven through a perforation in the bar with the extremities thereof projected at either side. These pivot-studs are of an outwardly tapering form, although preferably and as specifically seen they are conoidal.

The type-bar hanger, Y, comprises a main rigid member, A, and a secondary member, B, and the specific form of each of these members and of the subordinate parts thereof will be now described precisely as presented, although the invention is not to be limited with respect to all of the particular features set forth.

The main hanger-member, A, has a body of inverted trough-form, the depending side members having as forward continuations beyond the forward end of the back, *d* thereof the opposing vertical cheek-pieces, *b*, *b*, the upper edges of which are considerably below the level of said back. V-shaped notches, *f*, are formed in the upper edges of the said opposing cheek-pieces, *b*, *b*, the same being cut somewhat deeper at the inner side of the cheek-pieces than the outer sides thereof. This main member is to be rigidly secured to the top rim of the typewriting machine frame by means shown but not necessary to here point out.

The second member, B, of the hanger consists of the metallic bar or strip, *g*, having some spring capability with the depending opposing ear-pieces, *h*, *h*, at its forward extremity. This bar, at or near its rear end, is firmly united by riveting, as seen at *i*, to the back of the main hanging member. The depending ear-pieces, *h*, *h*, have their lower edges in proximity to the upper edges of the cheek-pieces, *b*, *b*, of the main member, and as seen these lower edges are beveled from the inner to the outer sides in outwardly and downwardly inclining planes. The screw, *j*,

passes loosely and vertically through the bar, *g*, of the upper hanging member and with a screw engagement through the back of the main hanger member.

It will be seen with reference to the drawings that the bevel or inclination of the borders of the notches, *f*, *f*, are so much greater relatively to the taper of the conoidal pivot-studs that the latter bear upon the surfaces of the notch-borders only at points instead of in extended lines of bearing, and it is furthermore seen that the beveled under edges of the depending ear-pieces, *h*, *h*, have also such greater inclinations than the taper of the pivot-studs that they also have their bearings on the pivot-studs, when brought to contact therewith by the adjustment of the screw, *j*, only in points instead of in extended lines of bearing, and therefore each of the pivot-studs is positively held at three points around its circumference which are near its outer end. The type-bar having, as well known, a movement of about a quarter circle therefore, never has a part of its pivot-stud which becomes worn at the top brought so far around as to come to the borders of the notches, *f*, *f*, and any slight wear which may occur from time to time on the pivots or the parts, *h*, *b*, for contact therewith may be readily taken up by turning the screw, *j*.

Under this invention the V-notches in the cheek-pieces, *b*, *b*, might be as deep at the outer faces of said parts as at the inner faces; the under edges of the depending ear-pieces, *h*, *h*, instead of being beveled might be horizontal, and the pivot-stud, *a*, *a*, of the type-bar instead of being conoidal might be conical or cylindrical, and still the hanger would possess important characteristics of the invention found to consist in the combination with a type-bar provided with laterally extended studs, of a hanger comprising two members each of which has opposing cheeks or ear-pieces, those of the one being in planes coincident with those of the other and one of said members being adjustable so that the edges of its ear-pieces may be brought to the desired proximity with the edges of the ear-pieces of the other and one pair of said ear-pieces having notches therein within which said pivot-studs may, as to a portion of their diametrical extents, be disposed.

In Figs. 6 and 7 the secondary member of the type-bar hanger, which has the slight degree of vertical spring deflection, as has been rendered clear, is shown as so constructed that the depending ear-pieces are separately or independently adjustable. This is insured, for instance, by making a longitudinal saw-kerf between the sides of the said member from its forward end nearly back to the pivot, *i*. Two of the adjusting screws, *j'*, *j'*, are here provided each passing loosely through the horizontal side portion of the part, B, and with a screw-engagement through the back of the fixed member, A.

I claim:—

1. The combination with a type-bar provided with laterally extended studs, of a hanger comprising two members each of which has opposing cheeks or ear-pieces, those of the one being in planes coincident with those of the other and one of said members being adjustable so that the edges of its ear-pieces may be brought to the desired proximity to the edges of the ear-pieces of the other, and one pair of said ear-pieces having notches therein within which said pivot-studs may, as to a portion of their diametrical extents, be disposed, substantially as and for the purposes set forth.

2. The combination with a type-bar having laterally extended pivot-studs or trunnions, of a hanger comprising a member with a pair of opposing cheek-pieces with transversely aligned notches in their upper edges, in which said pivot-studs are set and a second member secured to the first, and bearing on said studs, and an adjusting screw having engagements with said hanger members, substantially as described.

3. The combination with a type-bar having laterally extended pivot-studs or trunnions, of a hanger comprising a member with a pair of opposing cheek-pieces with transversely aligned notches in their upper edges, in which said pivot-studs as to a portion only of their diametrical extent are disposed, and a second member secured to the first and having portions thereof bearing on said studs, and an adjusting screw having engagements with said hanging members for the purpose set forth.

4. The combination with a type-bar having laterally extended pivot-studs, of a hanger therefor consisting of one member of inverted trough-form provided at its forward end with the cheek-pieces, *b*, *b*, the upper edges of which are below the back of said member, and which are provided with transversely aligned notches, and the secondary member consisting of a bar pivoted near its rear end to the back of the first member, and forwardly provided with the depending ear-pieces, *h*, *h*, which have positions over the aforesaid cheek-pieces and the headed screw, *j*, passed loosely through the said bar and with a screw engagement into the back of said first hanger-member substantially as and for the purpose set forth.

5. The combination with a type-bar having laterally extended tapered pivot-studs, of a hanger therefor consisting of one member provided at its forward end with the cheek-pieces, *b*, *b*, the upper edges of which have transverse aligned notches in which the said tapered pivot-studs have bearings and a secondary member consisting of a portion which is connected and vertically adjustable upon and relative to the first member, and having depending ear-pieces, *h*, *h*, substantially as described.

6. The combination with a type-bar having the laterally extended studs of conoidal form, of a hanger therefor consisting of a member

provided at its forward end with the opposing cheek-pieces the upper edges of which have transverse notches which are of V-form and the surfaces of which are inclined downwardly and inwardly in a greater degree than the inclination of said pivot-stud, and a secondary member consisting of a portion which is connected and vertically adjustable upon and relative to the first member and having the pending ear-pieces, *h*, *h*, the edges of which are beveled inwardly and upwardly in a greater degree than the inclination of the proximate portion of said pivot-studs, substantially as described.

7. The combination with the type-bar having the lateral pivot studs, of a hanger consisting of a rigid member having opposing ear-pieces and ear-pieces and parts on which they are angularly supported which are connected to the top of said rigid member and separate adjusting screws having engagements with said parts and the rigid part of the hanger, substantially as and for the purposes set forth.

HENRY W. MERRITT.

Witnesses:
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