No. 740,682. PATENTED OCT. 6, 1903.

L. MYERS.

TYPE BAR BEARING.

APPLICATION FILED APR. 13, 1903.

NO MODEL.

Fig. 1.

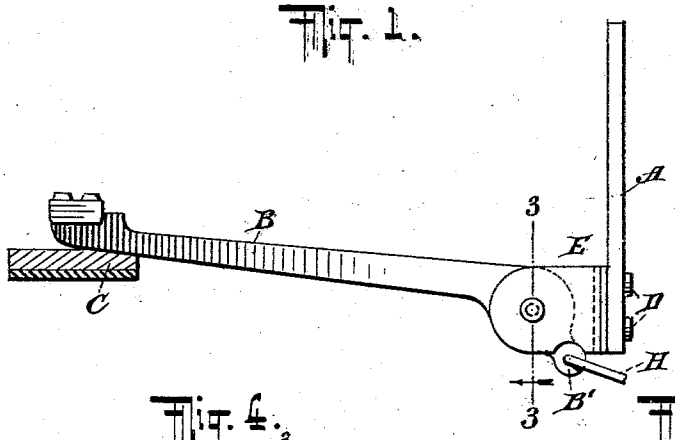


Fig. 3.

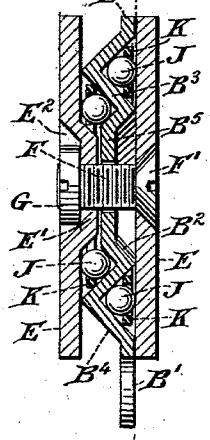


Fig. 4.

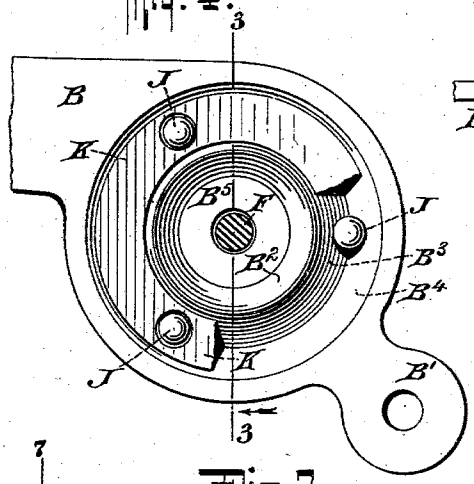


Fig. 2.

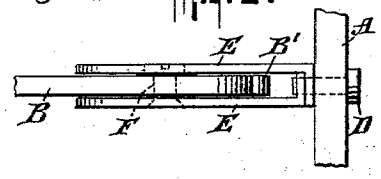


Fig. 5.

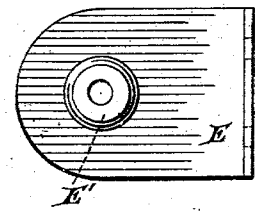


Fig. 6.

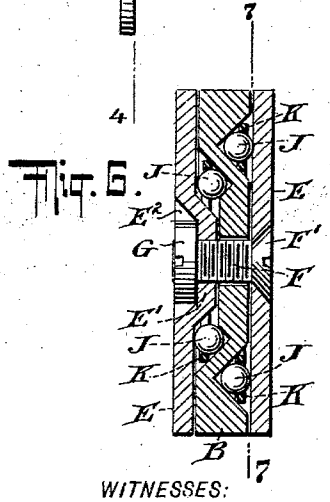
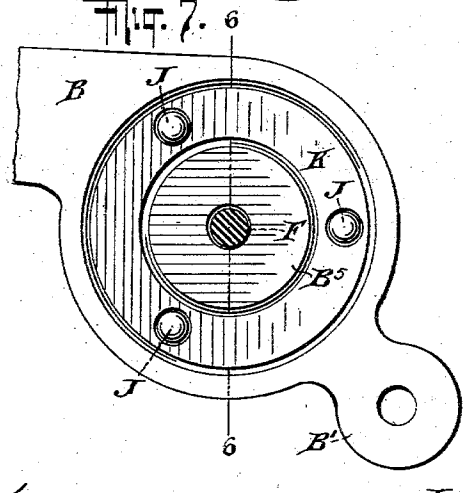


Fig. 7.



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No. 740,682. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

LOUIS MYERS, OF HARTFORD, CONNECTICUT, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-BAR BEARING.

SPECIFICATION forming part of Letters Patent No. 740,682, dated October 6, 1903.

Application filed April 13, 1903. Serial No. 152,317. (No model.)

To all whom it may concern:

Be it known that I, LOUIS MYERS, a citizen of the United States, and a resident of the city of Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Type-Bar Bearings, of which the following is a specification.

My invention relates to ball-bearings applicable particularly to the type-bars of typewriters and other machines, and has for its object to provide simple and reliable means for securing an easy motion of the type-bar or other swinging part. To secure this result, I employ a ball-bearing of a novel construction, which I will now proceed to describe with reference to the accompanying drawings.

Figure 1 is an elevation of that portion of a type-writer to which my invention is applied. Fig. 2 is a plan of the pivot portion of the type-bar and its support drawn upon an enlarged scale. Fig. 3 is a sectional elevation on lines 3 3 of Figs. 1 and 4. Fig. 4 is a sectional elevation on line 4 4 of Fig. 3. Fig. 5 is an inside view of the bracket or support member E, which appears at the left in Figs. 3 and 6. Fig. 6 shows a slightly different construction in section on line 6 6 of Fig. 7, and Fig. 7 is a cross-section on line 7 7 of Fig. 6.

A indicates the segment or support which forms part of the type-writer frame and to which the type-bars B are pivoted in the manner set forth hereinafter.

C is the cushion on which the free ends of the type-bars rest in their normal position.

To the segment A, I secure, as by means of screws D, a bracket or support for each type-bar, each support consisting, preferably, of two L-shaped sections E, the cross members of which overlap and are engaged by the screws D. The longitudinal member of one section has a depression adapted to receive the head F′ of a screw F. This member is flat upon its inner surface. The longitudinal member of the other section has an inwardly-bent portion E′, forming a cone or cup, on its inner surface and a recess E^2 in its outer surface, the recess being adapted to contain a nut G, screwed on the end of the screw F. The latter extends through a central opening in the portion E′ and also loosely through an opening in the pivot portion of the type-bar B, so that the latter may turn freely on the screw. The type-bar has a projection B′ for connecting it with any suitable mechanism (of which the link H may form part) for swinging the type-bar to the printing position. The pivot portion of the type-bar is arranged between the parallel members of the support E. So far both forms of my invention shown in the drawings are of the same construction.

As illustrated by Figs. 3 and 4, the pivot portion of the type-bar is of the same thickness throughout and is by the pressure of a stamp or die bent so as to form three oblique members B^2 B^3 B^4 and a flat central member B^5, apertured for the passage of the screw F. The central member is adapted to almost engage the inwardly-bent portion E′ of the support E, while the ridge formed where the oblique members B^3 B^4 meet extends very close to the body of the support adjacent to the said portion E′. The other member of the support is arranged to extend very close to the body of the type-bar, at the pivot portion thereof, and also to the ridge formed where the oblique members B^2 and B^3 meet. By the construction described two annular grooves, preferably V-shaped, are formed in opposite sides of the pivot portion of the type-bar. These grooves are of different diameters and lie partly in the same transverse plane, (with reference to the axis formed by the screw F.) Each of said grooves receives bearing-balls J, of which I have shown three in a set, these balls being kept apart at a proper distance by rings K, loosely arranged in said grooves. Each ball preferably has a three-point bearing, as shown, two against the inclined walls of the V-shaped slot and one against the flat inner surface of the support.

In Figs. 6 and 7 the pivot portion of the type-bar is not of uniform thickness, and the grooves which are to receive the balls are produced not by bending the material, but by cutting away a portion of the material. Similar letters have been applied in Fig. 6 to those employed in Fig. 3, and it will be understood that in operation the two construc-

tions are exactly alike, the difference being entirely in the mode of manufacture. The construction shown in Fig. 5 may be more nearly dust-proof than the one shown in Fig. 3; but the latter is probably easier and cheaper to manufacture.

In the appended claims I have referred specifically to a type-bar; but I desire it to be understood that my invention may be applied to any pivoted part of a type-writer or other machine, and the claims are to be interpreted accordingly.

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

1. In a type-writer or other machine, the combination with a support having spaced members, of a type-bar, the pivot portion of which extends between said members, a connecting device extending from one member to the other, and also extending loosely through the type-bar, the said pivot portion being provided on its opposite faces with annular grooves of different diameters, and balls arranged in said grooves in engagement with the members of the support.

2. In a type-writer or other machine, a support having two spaced members, one of which has an inward projection, a type-bar the pivot portion of which is located between said members, a connecting device extending from one member to the other at the inward projection thereof and also extending through the pivot portion of the type-bar, the said pivot portion being provided on its opposite faces with annular grooves of different diameters, and balls arranged in said grooves and in engagement with the members of the support.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS MYERS.

Witnesses:
JOHN LOTKA,
EUGENE EBLE.