

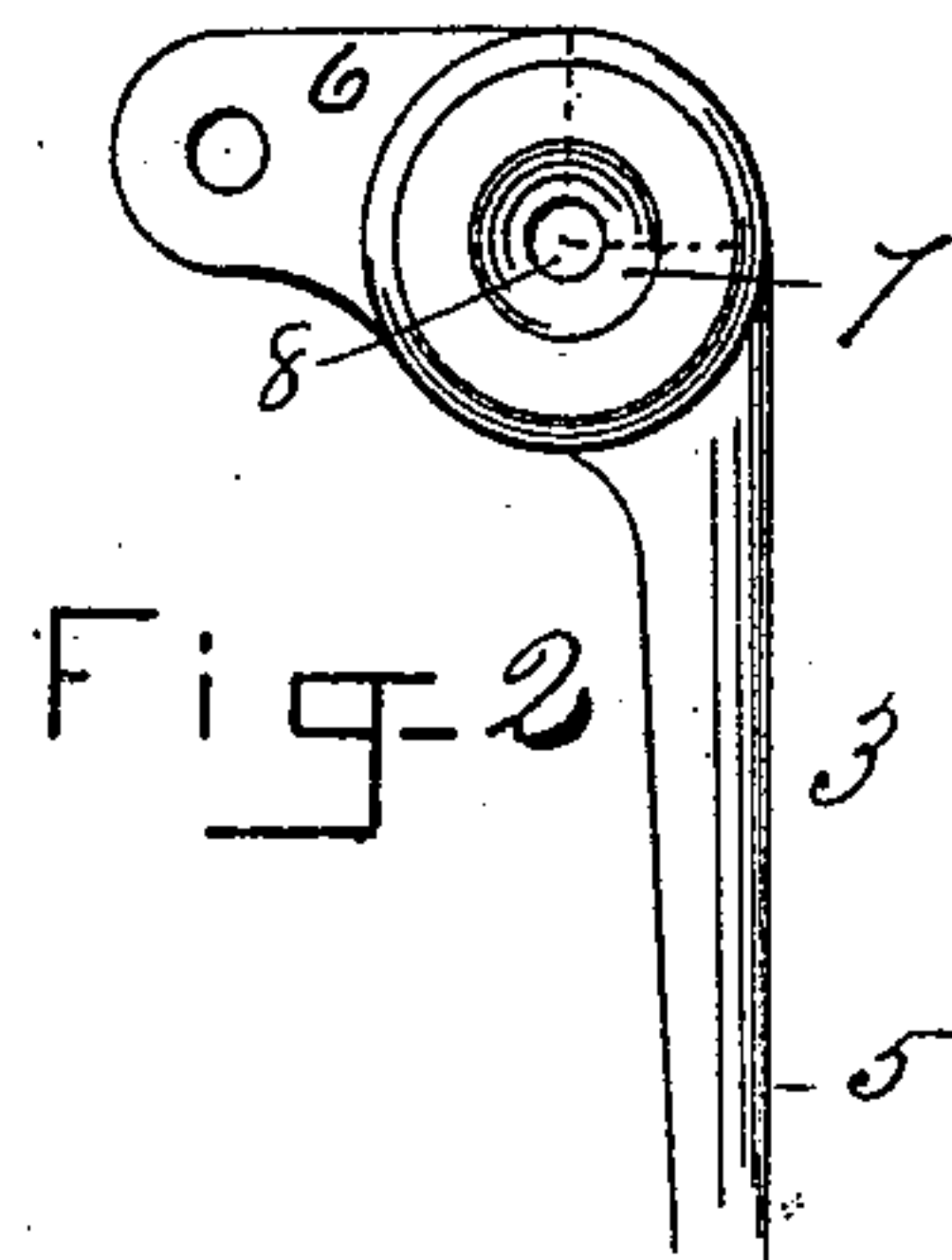
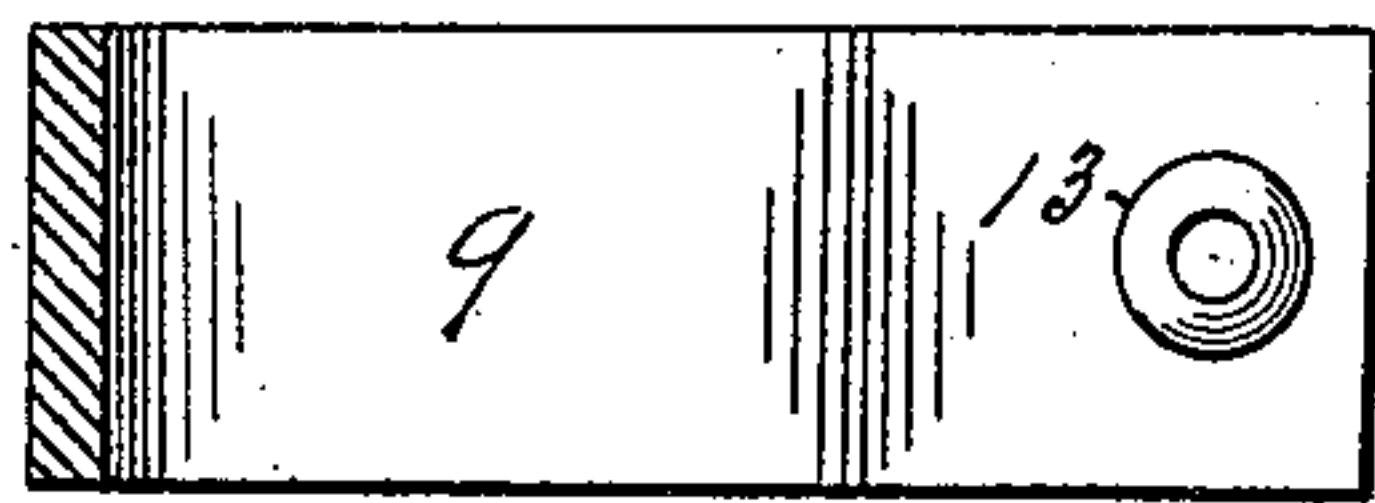
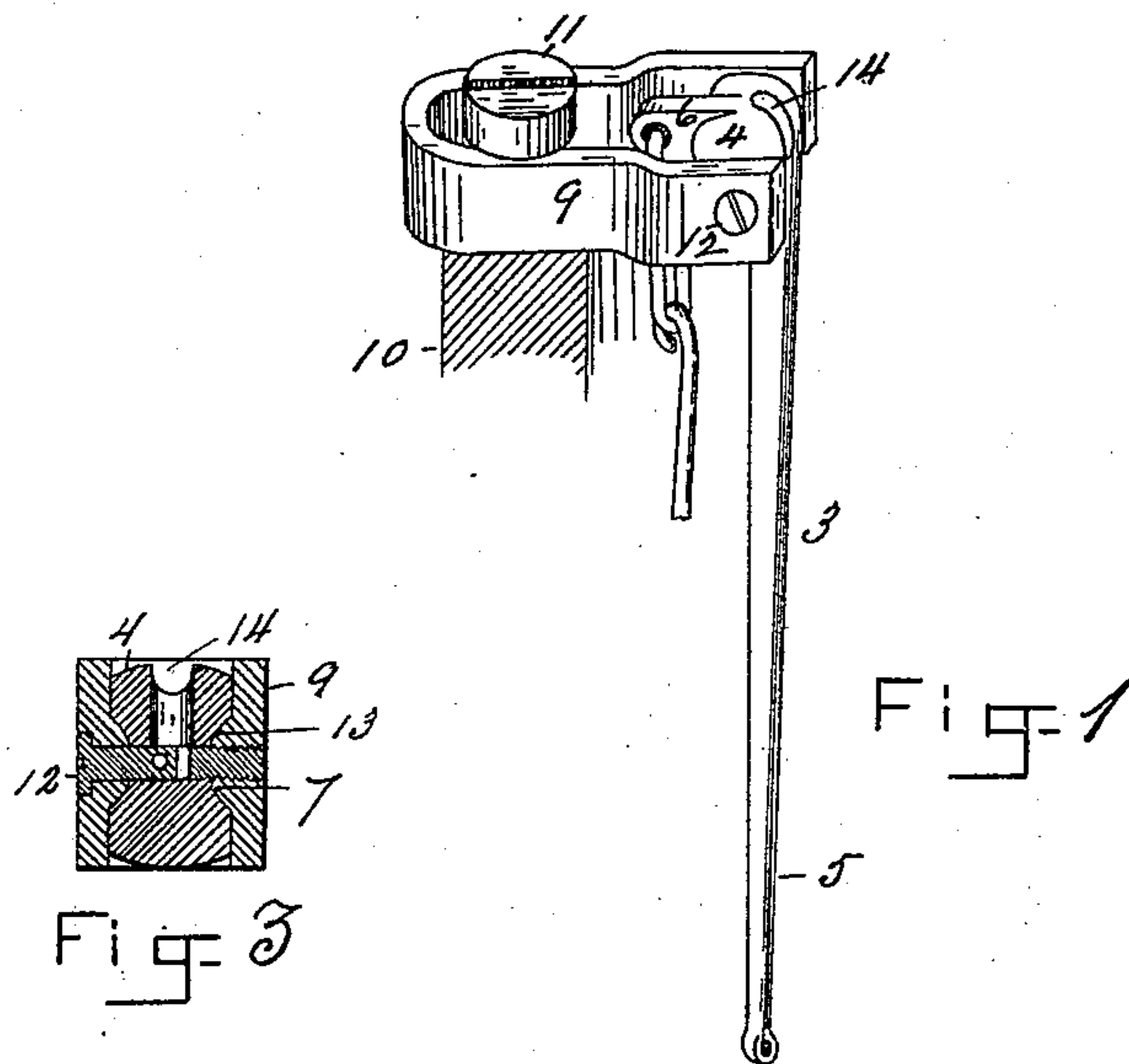
(No Model.)

W. H. BRIGGS.

TYPE LEVER AND HANGER FOR TYPE WRITING MACHINES.

No. 448,875.

Patented Mar. 24, 1891.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. BRIGGS, OF SPRINGFIELD, MASSACHUSETTS.

## TYPE LEVER AND HANGER FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 448,875, dated March 24, 1891.

Application filed July 19, 1886. Renewed January 7, 1891. Serial No. 376,973. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. BRIGGS, 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 Levers and Hangers for Type-Writing Machines, of which the following is a specification.

This invention relates to type-writing machines, and particularly to improvements in the construction of type-levers therefor and their hangers or yokes, the object being to provide such improvements in the construction of said levers and hangers and in means for pivoting one to the other as shall obviate any lateral motion in the end of the lever to which the type is attached, and to provide improved means for adjusting the bearing of the ends of the hanger against the sides of the lever at its pivot-point.

In the drawings forming part of this specification, Figure 1 is a perspective view of a type lever and hanger embodying my improvements, said hanger being shown attached to a section of the usual frame in a type-writing machine, and a portion of the connections by which the type-lever is operated being shown in said figure. Fig. 2 is a side elevation of a portion of the type-lever somewhat enlarged. Fig. 3 is a sectional view of the type lever and hanger through their pivoted portion. Fig. 4 is a side elevation of the inner side of one arm of the type-lever hanger.

In the drawings, 3 indicates the type-lever, having the central circular boss 4, the long arm 5, and the short arm 6. So far as above described said type-lever embodies, generally, the construction of that in common use in what is known as the "Remington type-writing machine." In adapting said lever, however, to the improvements in hanging the same, herein described and shown, I counter-sink the opposite sides of the boss 4 thereof, thereby forming therein a concavity 7 in each of said sides surrounding its pivot-hole 8. The hanger 9, in which the type-lever is pivoted, is of bifurcated form, as shown, and is attached to the usual part of the machine 10 by the screw 11, and has formed on the inner opposite sides of its arms, around the holes

therein through which the pivot-screw 12 passes, the convex bosses 13, which in form and size conform to the concavities 7 on the sides of the type-lever heretofore referred to, so that when the latter and said hanger are connected together, as shown in Figs. 1 and 3, the lever is held as shown in the latter figure, wherein said convex bosses are shown in position in the said concavities of the type-lever.

Heretofore it has been difficult and inconvenient to turn the pivot-screw which connects the type-lever to its hanger for the purpose of tightening the bearing of the arms of the hanger against the sides of the lever, owing to the position that the hangers occupy when assembled together in a machine, thereby making it frequently necessary to remove a hanger from a machine in order to turn said pivot-screw to effect said adjustment of hanger to the lever. To obviate said inconvenience and to provide means for turning the pivot-screws of the type-levers while the hangers are in position in the machine, I form the perforation 14 in the upper side of the type-lever boss 4 by milling or drilling of considerable width, and I provide transverse perforations through the pivot-screw 12 opposite said perforation or opening in the side of the boss 4, whereby provision is made for inserting a pin through the latter into the holes through the screw 12, and then by swinging said pin the screw is turned to cause the arms of the hanger 9 to bind more or less against the sides of the type-lever boss, thereby bringing the concavities 7 of the latter and the convex bosses 13 of the hanger into such relation as entirely obviates any lateral movement of the lower end of the type-lever, and causing the type carried by the latter to always strike at the same point on the machine. The above-described means for turning the screw 12 also provides for taking up for any wear of the hanger and lever parts. The said convex bosses on the inner opposite sides of the hanger 9 (the prominence of which in Fig. 3 is somewhat exaggerated) may be formed thereon in any convenient way, either by swaging, forging, or milling, before or after the hanger is bent to its bifurcated form, and ordinarily the arms of the hanger can be sprung apart



sufficiently to place the lever between them, and afterward the screw 12 is inserted, thereby completing the connection of the parts.

If preferred, the sockets in the lever 3 and the bosses 13 on the hanger 9 may be made of corresponding conical form instead of concave and convex, and those features be reversed on the parts without departing from the spirit of my invention—that is to say, the arms of the hanger may be provided with concave recesses and the sides of the lever-boss be formed to enter the latter, the object being to so form the engaging parts of the lever and the hanger that without their pivot screw or pin the type-lever is compelled to properly vibrate in the hanger, and its type-bearing end can have no lateral motion while the sides of the hanger bear against the boss of the lever, which they will do with more or less force by their spring action.

What I claim as my invention is—

1. A type-lever having a transverse perforation therethrough intersecting with the pivot-hole of said lever, and sockets in the

opposite sides thereof surrounding said hole, combined with a hanger between the arms of which said lever is hung, having conical bosses entering the sockets in said lever, and a pivot-screw passing through said arms and said lever, having one or more transverse perforations therein opposite the perforation which intersects the pivot-hole in said lever, substantially as set forth.

2. A type-bar hanger, a screw passing through the arms of said hanger, having one or more transverse perforations therethrough, a type-bar hung to vibrate between the arms of said hanger through the bearing portion of which said screw passes, having an opening opposite the screw-hole therein for the insertion of an instrument to engage with said screw, combined and operating substantially as set forth.

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