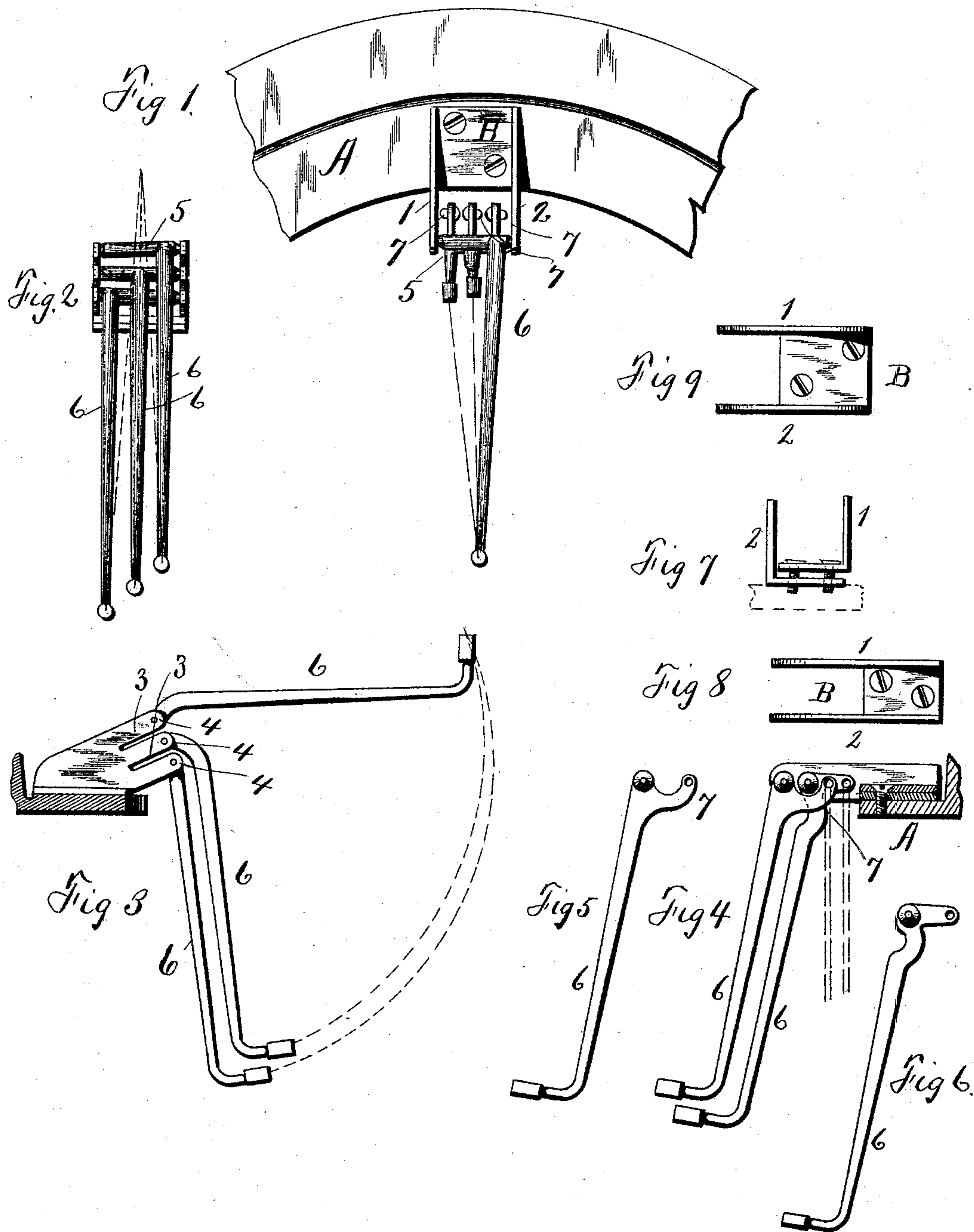


(No Model.)

G. F. STILLMAN.
TYPE BAR HANGER.

No. 448,690.

Patented Mar. 24, 1891.



WITNESSES:

Wm. J. Hogan
Chas. Smith

George F. Stillman INVENTOR

BY
Smith & Dimick
his ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE F. STILLMAN, OF SYRACUSE, NEW YORK.

TYPE-BAR HANGER.

SPECIFICATION forming part of Letters Patent No. 448,690, dated March 24, 1891.

Application filed April 25, 1890. Serial No. 349,454. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. STILLMAN, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Type-Bar Hangers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to type-writing machines, and especially to the mountings of the type-bars upon the type-bar ring in that class commonly known as "center-strike" lever-machines.

My object is to improve the mounting and increase the length of the shaft carrying the type-bars without increasing that of the bars themselves, thereby reducing the size of the ring and increasing the number of bars without increasing their length, and affording means for a more perfect adjustment and alignment by mounting the bars in banks of two or more, each upon a separate rock-shaft, mounted in diverging line in bearings adjustable vertically to vary any shaft more or less to or from a horizontal and to adjust the tension upon the bearings.

My invention consists in the several novel features of construction and operation hereinafter described, and which are specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of a portion of the type-bar ring upon which three of my hangers are mounted. Fig. 2 is an enlarged front elevation of a hanger and a vertical bank of three shafts, each carrying a type-bar. Fig. 3 is a side elevation of the same. Fig. 4 is a side elevation of a gang of two hangers arranged in a horizontal plane, showing the connecting-rods in dotted lines. Fig. 5 is a view of the front type-bar of this horizontal bank. Fig. 6 is a view of the rear type-bar, showing it bent or cut away, so as to permit its type-arm to strike the platen. Fig. 7 is a rear elevation of a hanger-frame, showing the screws holding the parts together inclined. Fig. 8 is a top view of the hanger shown in Fig. 4 with the type-bars removed. Fig. 9 is a top view of the form of hanger shown in Fig. 3 with the type-bars removed.

A is the type-bar ring or portion of the top

plate of the machine, and upon its upper face I mount the hanger or hanger-frame B. This hanger consists of two angular sections 1 1 and 2 2, of light construction, and each is provided in its front end with slotways 3, creating points 4. The rock-shafts 5 are journaled in these points, so that each pair of points is an independent hanger and supports an independent type-bar. A type-bar 6 is connected or secured to each shaft, and each shaft is provided with a rearward crank-arm 7, to which a connecting-rod is attached in the ordinary way; or the type-bar may have a rearwardly-projecting ear to which a connecting-rod is attached. When the type-bars are mounted in a bank or gang of three, these shafts are mounted so as to bring the center one horizontal and the upper and lower ones on lines diverging therefrom and from each other, and when in a bank of two then both diverge from each other. The effect of such diverging is to cause the type-arms to more readily clear each other when in operation.

In Fig. 2 it will be seen that the slotways 3 upon the left of the hanger are narrower than the slotways upon the right of the hanger. This causes the upper and lower rock-shafts to diverge from each other from the left, and thus it will be seen that when the type-bar of the upper shaft is forced upward in the operation of the machine it will strike the platen at a point a little to the left of the position which it occupies when at rest, and when the type-bar 6 on the lower shaft is operated it will strike the platen at a position a little to the right of the position which it occupies when at rest. The middle rock-shaft is hung in the hanger level or at right angles to the perpendicular sides of the hanger, and it will thus be seen that the diverging of the upper and lower rock-shafts can be so adjusted that the type will strike the common center. It will be observed that either of the points 4 can be forcibly bent up or down or twisted to change the levels of divergence of either end of the rock-shaft, effecting a very full, accurate, and secure adjustment of the rock-shafts.

When I desire to mount the type-bars in a horizontal plane, I construct the hanger narrower than when I desire to mount them in a vertical bank, omitting the slotways, as shown

in Figs. 4 and 8. The forward type-bar is constructed substantially like the type-bar used in the vertical banks; but the rear bar is bent or cut away to pass below the forward rock-shaft, so as to permit of the type-arm striking the platen. (The form of this type-bar is shown in Fig. 6.) The sections of the hanger are so arranged that the base of one lies upon the base of the other, as shown in Fig. 7, and are secured together and to the ring by screws 9, which are inclined so that when they are forced home the sections are drawn together horizontally and serve to produce a tension to keep them together and hold it more securely.

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

1. A type-bar hanger consisting of two sections, each composed of a base and an upturned side, the base of one lying upon the base of the other, the sides standing vertical and substantially parallel, and means for securing the bases together adjustably.

2. A type-bar hanger consisting of two parts, each having a base and upturned side radially slotted, and means for securing them together and to the type-bar ring, as set forth.

3. The combination of a type-bar hanger

consisting of two sections, each having a base and upturned side, diverging rock-shafts mounted therein, and means for securing the sections of the hanger together and to the type-bar ring, as set forth.

4. The combination of a type-bar hanger consisting of two sections, each having a base and upturned side radially slotted to form adjustable points, diverging rock-shafts mounted in the adjustable points created by the slot-way in said sides, and means for securing the sections together and to the type-bar ring, as set forth.

5. A type-bar ring, a hanger consisting of two sections, each having a base and upturned side, adjustable bearings in the sides of the hanger-sections, means for securing them together and to the type-bar ring, multiple rock-shafts mounted in said adjustable bearings, and type-bars secured to the rock-shafts, in combination, as set forth.

In witness whereof I have hereunto set my hand this 18th day of October, 1889.

GEORGE F. STILLMAN.

In presence of—

H. P. DENISON,

C. W. SMITH.