No. 704,152. Patented July 8, 1902.

F. X. WAGNER.

TYPE CARRIER ACTION AND MEANS FOR MOUNTING SAME.

(Application filed June 4, 1900.)

(No Model.) 2 Sheets—Sheet 1

Fig. 2.

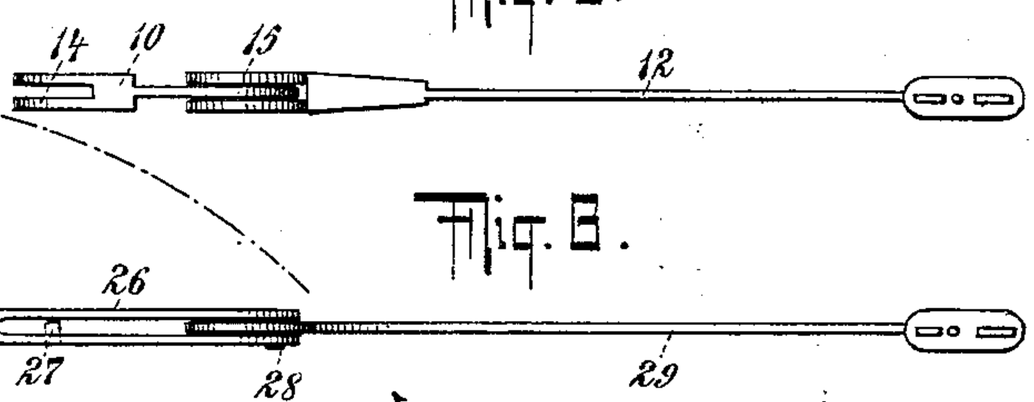


Fig. 1.

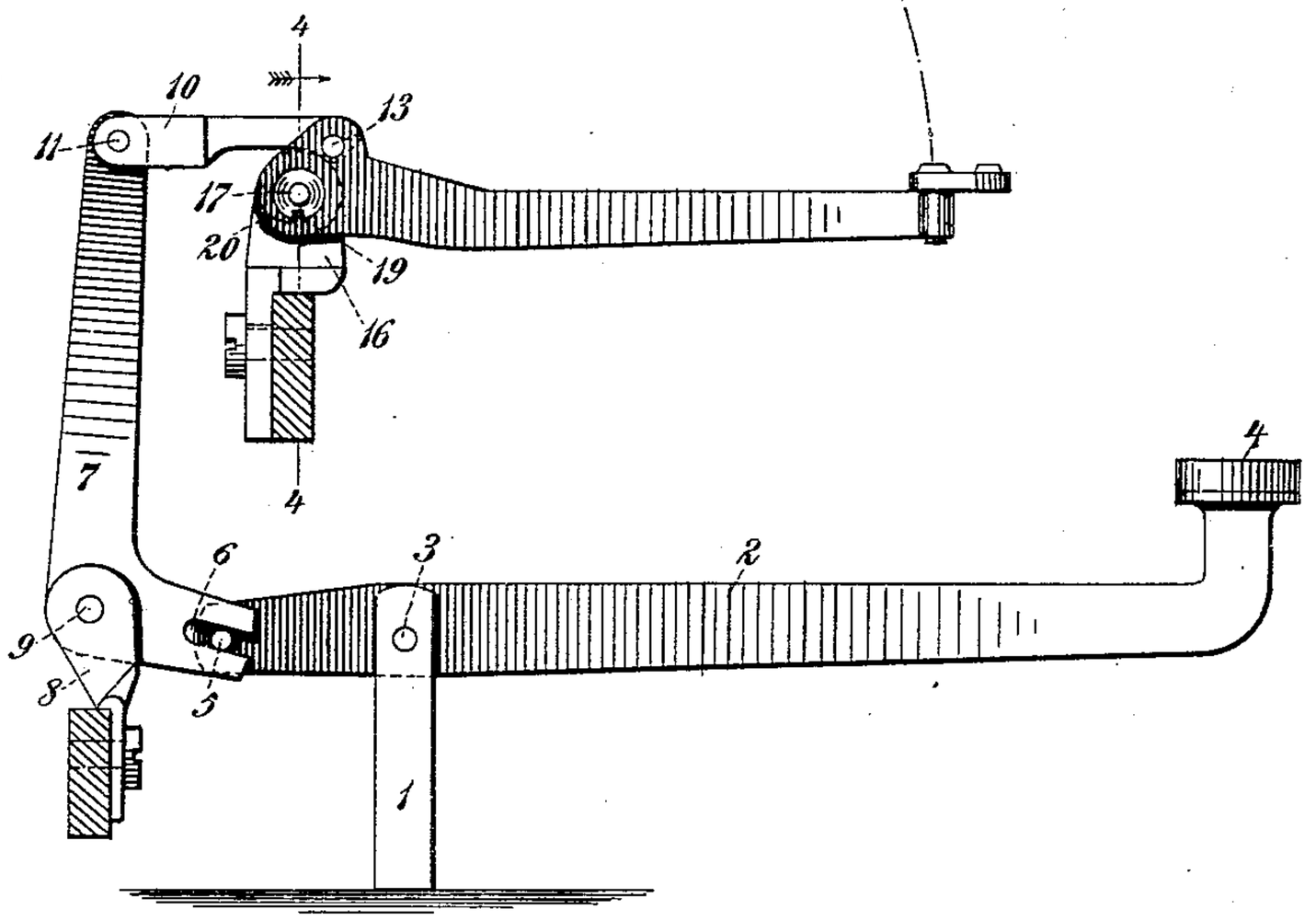


Fig. 7.

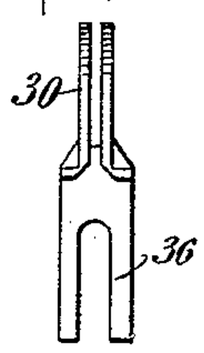


Fig. 8.

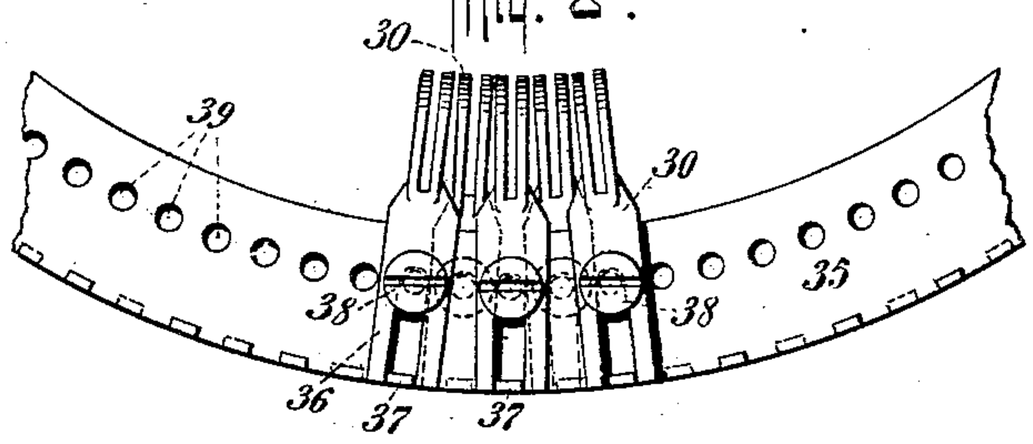


Fig. 3.

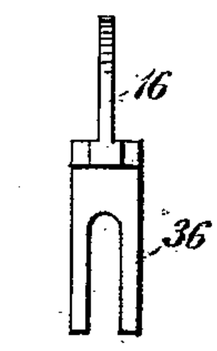
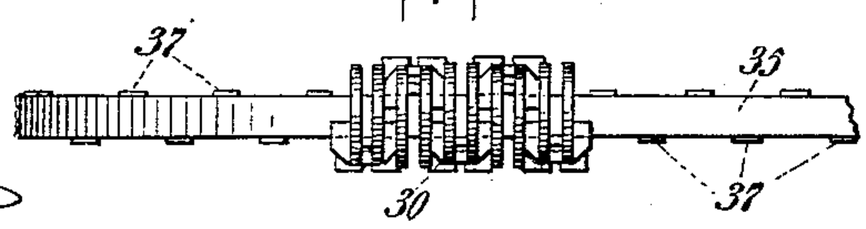


Fig. 9.



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No. 704,152. Patented July 8, 1902.

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TYPE CARRIER ACTION AND MEANS FOR MOUNTING SAME.

(Application filed June 4, 1900.)

(No Model.) 2 Sheets—Sheet 2.

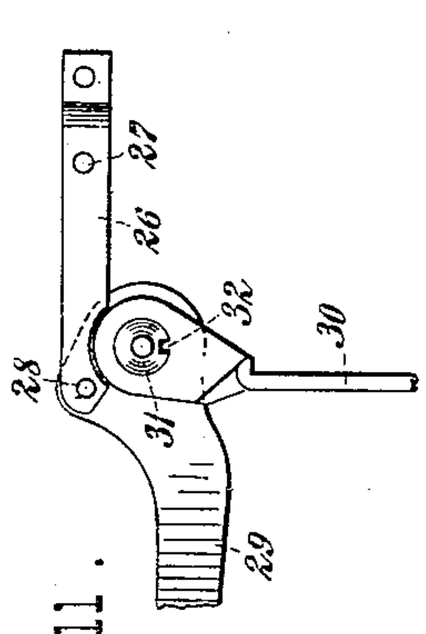
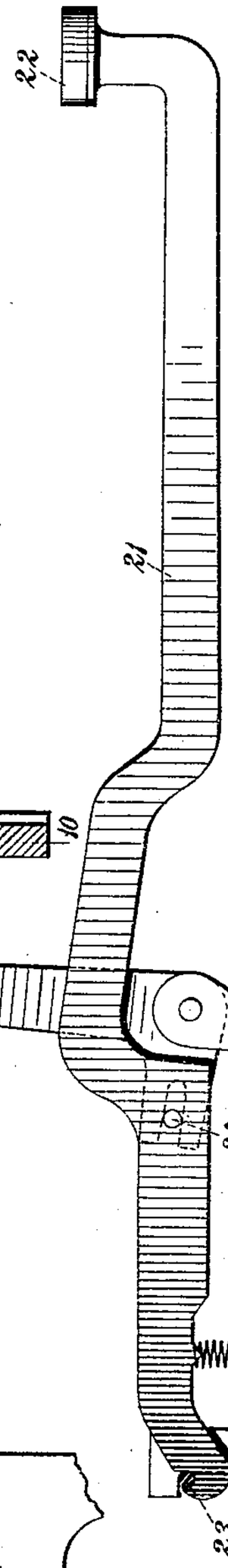


Fig. 11.

Fig. 5.



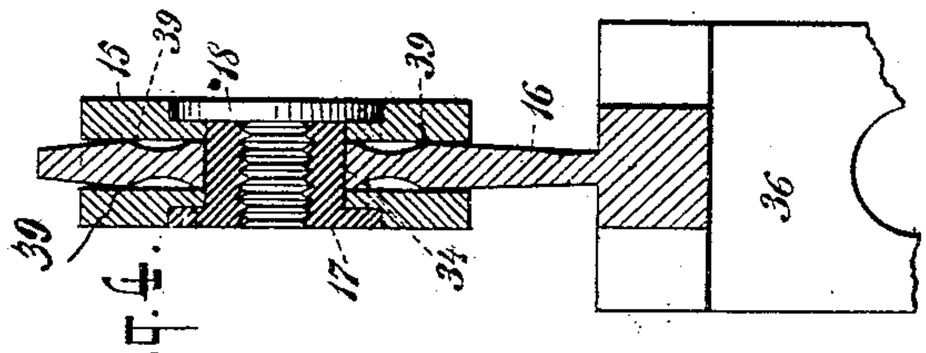


Fig. 4.

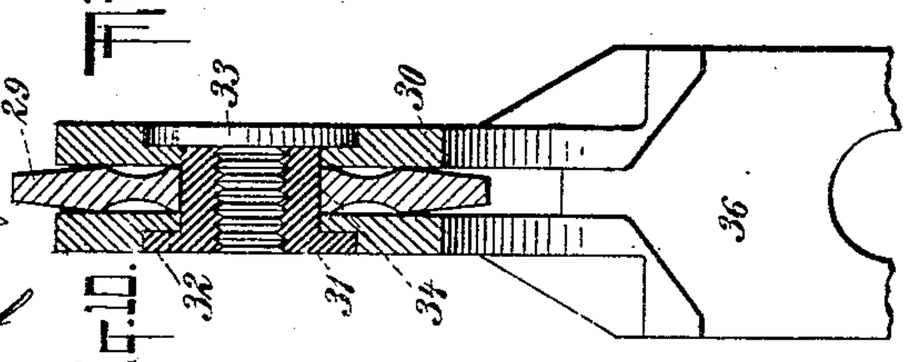


Fig. 10.

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UNITED STATES PATENT OFFICE.

FRANZ X. WAGNER, OF NEW YORK, N. Y., ASSIGNOR TO THE WAGNER TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TYPE-CARRIER ACTION AND MEANS FOR MOUNTING SAME.

SPECIFICATION forming part of Letters Patent No. 704,152, dated July 8, 1902.

Application filed June 4, 1900. Serial No. 18,939. (No model.)

To all whom it may concern:

Be it known that I, FRANZ X. WAGNER, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Type-Carrier Actions and Means for Mounting the Same, of which the following is a specification.

My invention relates to type-writing machines, and more particularly to type-bar or type-carrier actions and to improved means for mounting the same.

The object of my invention is to provide a simple, efficient, and compact construction in which the various parts may be readily disconnected when desired and without liability of the parts being accidentally displaced and wherein an easy movement and adjustment of the parts may be attained.

To these and other ends, which will hereinafter appear, my invention consists in the novel arrangement and combination of parts to be hereinafter described and claimed.

Reference being had to the accompanying drawings, Figure 1 is a side view of sufficient number of parts of a type-writing machine to illustrate one form or embodiment of my invention. Fig. 2 is a detailed top view of the type bar or carrier and the connecting-link illustrated in Fig. 1 of the drawings. Fig. 3 is a face view of the type-carrier hanger illustrated in Fig. 1. Fig. 4 is an enlarged detail sectional view taken on the line 4 4 of Fig. 1. Fig. 5 is a side view of sufficient number of parts of a type-writing machine to illustrate another form or embodiment of my invention. Fig. 6 is a detailed top view of the type-bar and hanger illustrated in Fig. 5. Fig. 7 is a face view of the type-bar hanger shown in Fig. 5 of the drawings. Fig. 8 is a fragmentary face view of the hanger-support, showing a plurality of hangers, such as represented in Fig. 7 of the drawings, secured in place. Fig. 9 is a top view of the same. Fig. 10 is a vertical sectional view taken on the line 10 10 of Fig. 5. Fig. 11 is a fragmentary enlarged detail view of a portion of the type-bar, hanger, and link connection illustrated in Fig. 5 of the drawings.

In the present instance I have illustrated two forms of device embodying my invention. One form is illustrated in Figs. 1, 2, 3, and 4 of the drawings, whereas the other form is illustrated in the remaining figures of the drawings.

Referring first to Figs. 1, 2, 3, and 4 of the drawings, it will be observed that suitable supports 1 are provided, to which a key-lever 2 is pivoted, as indicated at 3. One end of this key-lever is provided with the usual finger-key 4, whereas the opposite end is provided with a pin 5, that is adapted to project into a recess or slot 6 in an angle-lever 7. This angle-lever 7 is pivoted to a hanger 8, as indicated at 9, whereas the upper end of said lever 7 is pivoted to a link 10, as indicated at 11, and the opposite end of this link is pivoted to a type bar or carrier 12, as indicated at 13. The link 10 is bifurcated at one end, as indicated at 14 in Fig. 2 of the drawings, and the opposite end of the link is adapted to take into a bifurcation 15 in the type-bar 12. The bifurcated portion 15 of the type bar or carrier is adapted to receive between the arms thereof a hanger 16. The hanger 16 and type bar or carrier 12 are united by a two-part pivot. This two-part pivot comprises, as will be seen upon reference to Fig. 4 of the drawings, an internally-screw-threaded member 17 and a cöoperating externally-screw-threaded member 18. The outer surface of the member 17 is adapted to constitute a pivotal bearing-surface for the hanger 16. This member 17 extends substantially through the bifurcated portion 15 of the type-bar and through the intermediate hanger 16. Upon reference to Fig. 1 of the drawings it will be observed that the member 17 is notched or recessed, as indicated at 19, for the reception of a locking abutment or prong 20, carried by the type bar or carrier 12, so that the member 17 is locked against rotation with relation to the type-bar, so that the latter will turn in unison with the said member 17. It will likewise be observed upon reference to Fig. 4 of the drawings that the head of the members of the two-part pivot are seated within countersunk portions in the type-bar, so that the heads of the pivot are flush with the surface of the type-bar. The member 18

of the two-part pivot is provided with spanner-openings, in the manner represented in Fig. 5 of the drawings, in order that the member 18 may be screwed into or unscrewed from the member 17. By these means the bifurcated portion of the type-bar 15 may be allowed to expand or may be contracted to compensate for the wear which may take place upon the type-bar and the coöperating contact-surfaces of the hanger. By this construction it will be observed that the only portion of the two-part pivot which is in contact with a part fixed with relation to its movement is the pivotal bearing-surface of the member 17, (which is indicated at 34 in Fig. 4 of the drawings,) which is concentric with the axis of movement of the type-bar. The member 17 being locked with the part with which it moves, it is impossible for the two members of the pivot to become separated by the action of the type-bar. Reference to Fig. 4 of the drawings will indicate that the contact between the type-bar and its hanger is concentric with the axis of oscillation of the type-bar, so that the bearing-surface between the hanger and the type-bar is also concentric with the axis of oscillation of the type-bar at 39, Fig. 4.

In Figs. 5 to 11, inclusive, of the drawings I have illustrated a different arrangement or embodiment of my invention. In the construction shown in these figures the key-lever 21 is provided with a finger-key 22 and is pivoted at its opposite end to a fixed portion of the machine, as indicated at 23. Connection is made between the key-lever and the angle-lever 24 by a pin-and-slot connection 25. The upper end of the angle-lever 24 is pivoted to a bifurcated link 26, whose fork is pressed close against the sides of the lever 24 by the end rivet and preferably provided with a pin 27, that is adapted to project through an opening in the angle-lever to make connection therewith. This link 26 likewise carries a pin 28, that is adapted to project through an opening in the type bar or carrier 29, and the pin may be seated at its free end in a recess in the bifurcated link. It will be observed that by this construction the arms of the bifurcated link may be readily sprung apart, so as to disconnect the link from the type-bar and from the angle-lever to which it is pivoted. The type-bar 29 is connected to a hanger 30 by a two-part pivot, which is clearly represented in Fig. 10 of the drawings. It will be observed that in this construction the parts are substantially a reversal of those indicated in Fig. 4 of the drawings in that the hanger 30 constitutes the bifurcated portion into which the type-bar 29 is adapted to be received instead of the type-bar being bifurcated to receive the hanger between the arms thereof, as represented in Fig. 4. In the construction represented in Fig. 10 the member 31 of the two-part pivot is locked to the hanger, as represented at 32, so as to maintain the bearing member of the pivot against rotation. The externally-screw-threaded member 33 of the two-part pivot is seated in a countersink in the hanger instead of in the type-bar, as represented in Fig. 4. It will be observed, however, that in either construction the only portion of the two-part pivot which constitutes a bearing for a moving part or for a part with which it is moved with relation thereto is the pivotal bearing-surface indicated at 34 in Figs. 4 and 10 of the drawings. For this reason there is no liability of the two-part pivot working loose or being accidentally displaced by the action of the type-bar. I preferably mount the hangers 16 or 30 upon a segmental hanger-support 35, as indicated in Figs. 8 and 9 of the drawings. The hangers are each provided with a bifurcated securing-arm 36, which is adapted to straddle a lug 37 and may be secured in the adjusted position by a set-screw 38, which is adapted to project through the bifurcated securing-arm and to be screwed into an opening 39 in the hanger-support 35. The stem of the screw is smaller in diameter than the distance between the arms of the bifurcated securing portion of the hanger, whereas the coöperating positioning-lug 37 is substantially the same width as the space between the said arms. By these means the upper portion of each hanger may be given a slight adjustment laterally and a longitudinal adjustment of each of the hangers may be readily attained. It will likewise be seen that the positioning-lugs 37 are provided upon opposite sides of the hanger-support and that the hangers upon one side of the support are staggered with relation to the hangers upon the opposite side—that is to say, each hanger on one side of the support is out of transverse alinement with those on the opposite side. The staggering and mounting of the hangers in the manner described will produce a close compact arrangement of the type-bars, and at the same time a strong, efficient, and adjustable hanger and support maintained for the type-bars. Upon reference to Fig. 8 of the drawings it will be seen that three hangers are mounted in the space which would be occupied by two hangers placed upon a single side of the hanger-support. This is due to the fact that the forked arm 36 of each hanger is wider than the portion 16 (or 30) that connects with the type-levers.

It will be observed from Fig. 1 of the drawings that the invention is mainly applicable to so-called "visible" type-writers in which the imprint is made on that part of the platen which faces the operator. In these kinds of machines the support for the type-levers must be of a segmental form and cannot be completely circular. It follows that the large number of type-levers must be brought close together on the supporting-segment. The arrangement of hangers, which has been described as staggering, but which, as shown in Fig. 8, is not only staggering, but also over-

lapping, is of such a nature that a firm support is given to a great many type-levers, all of which are carried on a segmental support and yet each hanger is adjustable in the direction of its length and also to some extent laterally. It is essential to a proper support that the hangers have a substantially broad base where they rest on the segmental support. This broad base is clearly indicated in Fig. 8, showing the hangers to be staggering and also to overlap.

It will be further observed from Fig. 1 of the drawings that each hanger where it rests on the edge of the segmental support forms a shoulder and that the center of the pivot 17 is in line with the center of the segmental support, so that all the type-levers will have their supports in the same line, no matter whether the respective hangers are attached to one or the other face of the segmental support. The same hanger which is shown in Fig. 1 applied to the left-hand face of the segmental support would if reversed and applied to the right-hand face of the same support leave the pivot 17 exactly where it is shown—namely, in line with the center of the segmental support—meaning by "center" that line which would divide the segmental support into two equal and parallel halves.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an action for type-writing machines, the combination of an oscillating type-carrier, a hanger to which said type-carrier is pivoted, one of said parts being bifurcated, a two-part pivot for uniting said type-carrier and hanger, said two-part pivot comprising a headed internally-screw-threaded member which is adapted to extend substantially through said type-carrier and hanger and a headed externally-screw-threaded member adapted to be received in said first-mentioned member, means for locking the internally-screw-threaded member of said pivot to the bifurcated part and means for seating the head of the externally-threaded member in one of the arms of the bifurcated part as specified.

2. In an action for type-writing machines, the combination of an oscillating type-carrier, a hanger disconnectedly pivoted thereto, means for adjusting said hanger in a direction perpendicular to the axis of the type-carrier, a bifurcated compressed link pivoted to said type-carrier adapted to be sprung apart, a key-lever and means for operatively connecting said key-lever to said link.

3. The combination of a segmental support, overlapping type-carrier hangers having their shanks 36 wider than their projecting portions and mounted upon opposite sides of said support and staggered with relation to one another, the pivotal openings in said hangers being in alinement with one another and oscillating type-carriers pivoted to said hangers all arranged to permit said type-carriers to be brought close together as specified.

4. The combination of a hanger-support, a positioning-lug 37 for each hanger on said support, a hanger having a bifurcated securing-arm adapted to straddle the lug 37 and a screw passing through the bifurcated portion of the securing-arm and secured to the hanger-support, the stem of said screw being smaller in diameter than the distance between the arms of the bifurcated portion to permit of a longitudinal and limited lateral adjustment of the hanger.

5. In a visible type-writer, the combination of a segmental support with hangers carrying type-levers, said hangers being applied alternately to opposite faces of the segmental support and so arranged as to be staggering and overlapping, substantially as and for the purposes specified.

6. In a visible type-writer, the segmental support for the type-levers combined with hangers to which the type-levers are pivoted, said hangers forming shoulders that rest on the upper edge of the segmental support and having pivot-holes for receiving the type-levers which pivot-holes are in line with the center of the segmental support as specified, all arranged so that the hangers can be arranged in staggering and overlapping order alternately on opposite faces of the segmental support as set forth.

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Witnesses:
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HERMAN L. WAGNER.