

W. G. DUNHAM.
TYPE WRITING MACHINE.
APPLICATION FILED FEB. 8, 1908.

980,408.

Patented Jan. 3, 1911.

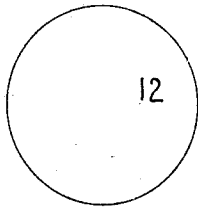


FIG. 1.

FIG. 2.

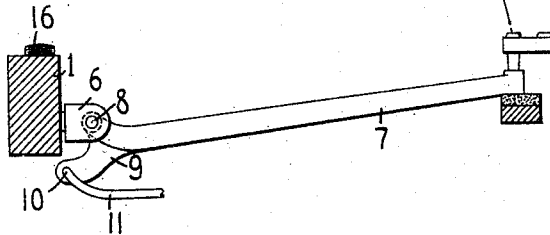
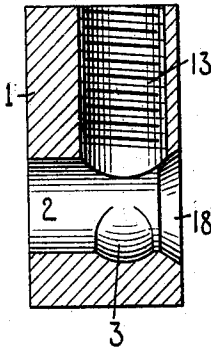


FIG. 3.

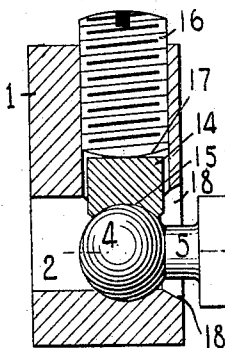
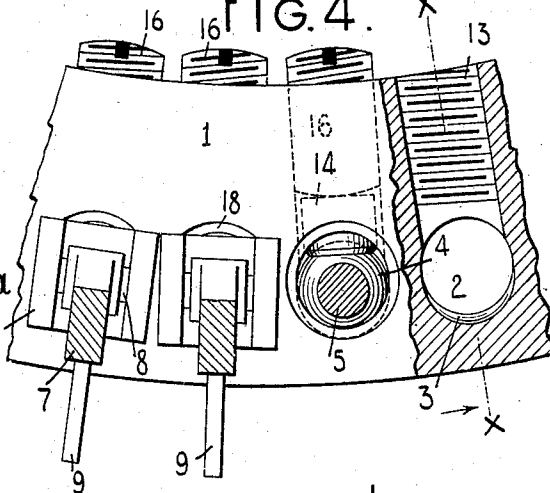


FIG. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM G. DUNHAM, OF NEW YORK, N. Y., ASSIGNOR TO WYCKOFF, SEAMANS & BENEDICT, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

980,408.

Specification of Letters Patent.

Patented Jan. 3, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM G. DUNHAM, citizen of the United States, and resident of the borough of Brooklyn, in the city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to a hanger construction for type bars and the main object of said invention is to provide comparatively simple and efficient means for readily effecting an adjustment of the hanger.

A further object of my invention is to provide a hanger construction of the character specified, which may be readily attached to and detached from its support.

In the accompanying drawings, Figure 1 is a side view partly in section showing a type bar, its hanger and the supporting means therefor, a platen and type rest being diagrammatically shown in this view. Fig. 2 is an enlarged detail transverse sectional view of the segment taken on the line $x-x$ of Fig. 4 and looking in the direction of the arrow at said line. Fig. 3 is a like view showing a hanger secured in place by its securing screw. Fig. 4 is an enlarged detail fragmentary front elevation with parts broken away and parts in section of a type bar segment, the type bar hangers and type bars; this view showing near the right-hand side thereof one of the socket members from which the associated hanger has been removed, a portion of the adjacent hanger being shown sectioned away and to the left of this are shown two hangers and type bars in place, the type bars being shown in section.

I have illustrated my invention in the present instance embodied in a front-strike typewriting machine, although it should be understood that it may be embodied in various forms of typewriting machines.

The type bar segment 1 is formed with openings 2 which extend transversely there-through and each opening has a socket-like portion 3 for coöperation with a ball 4 formed at the end of a hanger stem 5 which is connected at its forward end to a bifurcated hanger portion 6. A type bar 7 is contained between the arms formed by the bifurcated portion of the hanger and is pivoted thereto at 8. Each type bar has an arm 9 pivoted at 10 to a link 11 connected with

a suitable key actuated means by which the type bar is moved upwardly and rearwardly to strike against the front face of a platen 12 diagrammatically illustrated in Fig. 1. Extending from each opening 2 in the segment opposite the associated socket 3 and in the plane of the segment is a tapped opening 13. A block 14 is received within each tapped opening and is recessed or socketed at 15 to conform to the curvature of the associated ball received within the opening 2, so that the sockets 3 and 15 coöperate with a ball on opposite sides thereof. A screw 16 is received within this tapped opening and is rounded at its lower end as indicated at 17 where it bears on the upper side of the associated bearing block or socket member 14. Each opening 2 is formed with an enlarged or flaring mouth 18 to afford a lateral movement for a considerable extent of the stem of the associated hanger. By turning up the screw 16 the ball of the associated hanger may be readily inserted in or removed from the socket which comprises the member 14 and the recessed portion 3 in the segment, and when a hanger is in place, it may be secured in the desired adjusted position by turning down the associated screw 16. It will be observed that by this construction a universal or ball and socket joint is formed between each hanger and its support by which the hanger may receive a lateral adjustment in any direction or may receive an adjustment around the longitudinal axis of its stem, which axis extends centrally through the pivotal axis of the type bar and at right angles thereto as indicated by the dotted line a in Fig. 3 in order that the hanger may be adjusted to provide a proper alinement. In other words, the construction is such that the hanger may be turned on the axis as a center or may be elevated or moved sidewise in order to produce proper alinement and when the hanger has been properly adjusted a turning down of the screw 16 will secure the hanger in adjusted position. From an inspection of Fig. 4 it will be seen that the screws 16 and the openings in which they are received, as well as the bearing blocks 14, radiate from the printing point or from a horizontal line drawn through the printing point.

It will be observed that by curving the lower end of each screw 16 at 17 in the manner shown, pressure may be exerted on the

associated bearing block 14 without tending to displace it from the associated ball with which it coöperates. In other words, an efficient contact may be maintained at all times between the socket containing member 14 and the associated ball, irrespective of the adjustment of the hanger, and pressure may be efficiently applied thereto through the screw 16 without affecting the contact of the bearing block on the ball.

This construction provides simple and efficient means for enabling different characters of adjustment to be given to each type bar hanger and enables the hangers to be readily inserted in place and to be removed from the segment.

It will be noted that the openings for the screws 16 are formed radially of the printing point and downwardly and outwardly from the upper or inner side of the vertically arranged segment, and so that the heads of the screws are presented in a segmental row at the upper side of the segment where they are most conveniently and readily accessible to the assemblers and repairers and adjusters. It will also be seen that the openings 2 are formed in the segment transversely thereof and of the radial openings provided for the screws, and that the said openings intersect each other.

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

1. In a front strike typewriting machine, the combination of a type bar segment having a series of screw-threaded radial openings containing each a binding screw; said segment being also formed with a series of sockets arranged in alinement with said series of radial openings; a series of type bar hangers provided with balls adapted to be entered into said segment transversely of said series of radial screws and seated in the said series of sockets; a series of blocks supported by the said series of radial openings and having at their lower portions sockets

adapted to be clamped by said screws against said balls; and a series of type bars pivotally connected to said series of hangers.

2. In a typewriting machine, the combination of a segment having openings therein that extend transversely of the segment, type bar hangers each having a ball that is received in one of said openings, and screws that extend at substantially right angles to said openings in the segment and which are received in tapped openings formed in the segment, said screws extending longitudinally in the plane of the segment and retaining said balls in the ball receiving openings.

3. In a typewriting machine, the combination of a vertically arranged segment provided with a series of radial openings formed from the upper side of the segment and threaded to receive retaining screws, said segment being also formed with a series of transverse openings intersecting said radial openings, the bottoms of said transverse openings being formed with recesses or sockets, a series of type bar hangers arranged on the front side of the segment and having rearwardly extending stems provided at their extremities with balls adapted to the said sockets in the bottom of the said transverse openings, a series of blocks supported in said series of radial openings and having at their lower portions sockets adapted to the upper sides of the said series of balls, a series of retaining screws arranged in the said radial openings and adapted to be turned or adjusted from the upper side of the segment, and a set of type bars pivotally mounted in the set of hangers.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York this 7th day of February A. D. 1908.

WILLIAM G. DUNHAM.

Witnesses:

CHARLES E. SMITH,
E. M. WELLS.