

(No Model.)

W. McK. JENNE.
TYPE WRITING MACHINE.

No. 541,113.

Patented June 18, 1895.

Fig. 1.

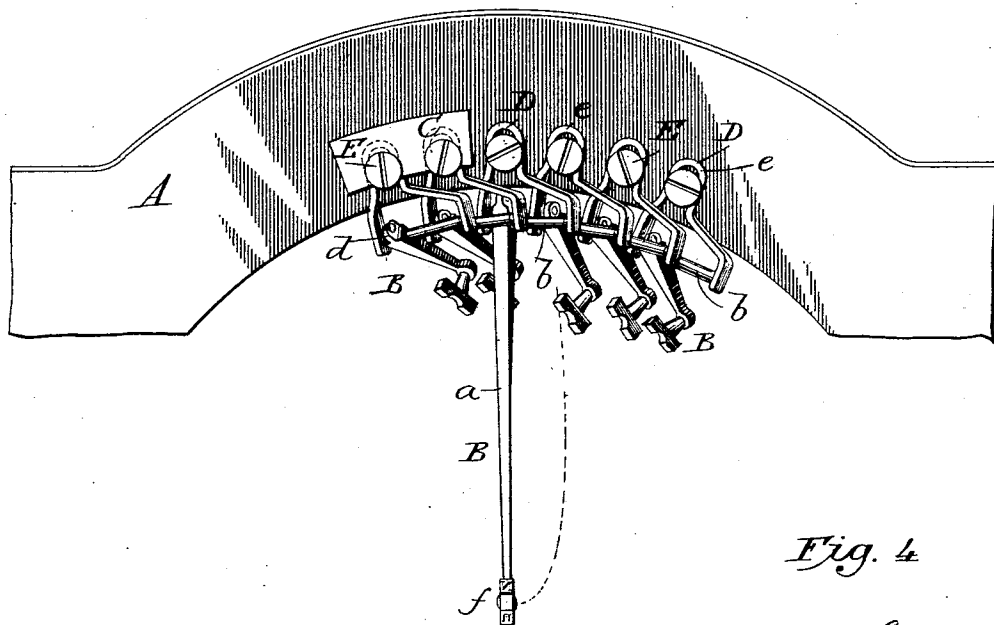


Fig. 2.

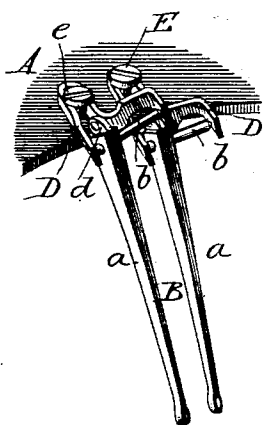


Fig. 3.

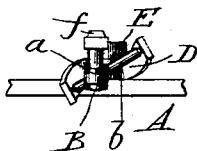
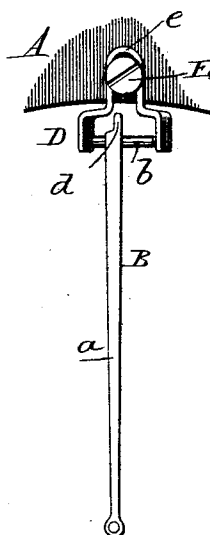


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM MCKENDREE JENNE, OF ILION, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE WYCKOFF, SEAMANS & BENEDICT, OF NEW YORK, N. Y.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 541,113, dated June 18, 1895.

Application filed May 22, 1891. Serial No. 393,757. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MCKENDREE JENNE, a citizen of the United States, residing at Ilion, in the county of Herkimer 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 type-writers and analogous machines in which bars, levers, or hammers are arranged to strike at a given point, and the invention consists in a novel form of such bars, levers, or hammers and their hangers or supports, whereby a long pivot axis is secured for each without making the machine of undue size; and whereby also the hangers and levers or bars may be readily applied to and properly adjusted in or upon existing machines.

In the accompanying drawings, Figure 1 is a top plan view of a portion of the type-plate of a type-writing machine, showing several type-bars and clips in position, one type-bar being thrown up as in the act of printing a character. Fig. 2 is a perspective view of two bars and clips of the construction above noted; Figs. 3 and 4, respectively, end and plan views of a slightly-different form of type-bar.

In the class of machines to which this invention relates it is of great importance that each and every type strike at precisely the same point, in order that the characters printed, the perforations made, or impressions produced be properly spaced and accurately aligned; and this is true whether the machine be used to print upon a sheet; to produce a stencil plate; or prepare a matrix or other body or surface of the kind. It is also necessary to keep the size of the machine within reasonable limits, and to do this the pivots and type-bars, levers, or hammers must be grouped within a comparatively small compass; from which it results that the pivotal bars must be short and the bearing points must be kept close together if they are to be arranged in the same plane and in approximately axial alignment, as is customary. The consequence of such usual construction and arrangement is that very slight wear of the pivot or bearings, or the least variation in the adjustment of the bearings of the type-bar

causes its inner end to be thrown considerably out of adjustment.

My object is to overcome, as far as practicable, this difficulty, and to this end I so construct and arrange the pivots and bearings that they may be overlapped or thrown into different planes without necessarily making the bars or levers of different length, as will be better understood upon reference to the drawings, in which—

A indicates the top or supporting plate of a type writing machine, which serves as the support for a series of type bars B. Each bar B consists of a main body or stem, *a*, and a pivotal bar *b*, the axis of which latter may be arranged either perpendicularly or obliquely to the side faces of the body or stem, *a*, of the bar; the stem or body being twisted so as to bring the face of the printing type or character to the proper plane if the perpendicular arrangement be adopted, or such twisting being unnecessary if the oblique arrangement be chosen.

In Figs. 1 and 2 the pivot bar *b* is represented as perpendicular to the side faces of the body *a* at the point where the two meet, and for this reason the stem *a* is shown twisted, as best illustrated by the single bar thrown upward to striking position in Fig. 1.

In Figs. 3 and 4 the pivot bar *b* is represented as passing obliquely through the body of the bar or stem *a*, or as meeting the side faces thereof at an angle, and the stem or body of the bar is represented as straight or without twist or bend, both figures clearly showing the position that the face of the type or printing character, *f*, assumes when the type-bar is thrown up to the printing point.

At each end of the cross-bar *b* is a pivot, which may be made integral with the bar, or may be formed upon or carried by the supports in which the type-bar is hung, both methods of pivoting being common and well known in such machines. I prefer the integral pivots shown.

The bars B are represented as having a perforated ear *d* in rear of the pivotal axis, to receive the link by which connection is ordinarily made with the key lever; but this may be in advance of such axis for machines in which the link is arranged to thrust instead

of pulling, or in machines in which the type-bars are so arranged as that their free or type-ends strike downwardly; but my invention is not confined to type-bars actuated by ligaments or links, but is also applicable to type-bars actuated by tripping or otherwise.

To support or carry the pivots of the type-bars I provide a clip or hanger D, one for each type-bar, which clip is made with a bow or loop, *e*, through which passes a screw E, with a broad head. The head of the screw resting upon the upper edges of the bow or loop or upon a washer or plate C superimposed thereon, passes down through, and secures the loop in place upon the plate A, which is tapped to receive the screws; but by loosening the screw of any particular clip, said clip is made free to be adjusted as desired. One arm or branch of each clip is bent or extended upward above the other as best shown in Figs. 1 and 2 so that the pivot-bar *b* of the type-bar will, when seated therein, occupy an inclined position relatively to the face of plate A, or in other words, will be in a plane different from the plane of said supporting plate or bed. By this construction I am enabled to extend the raised arm or rest of one clip over or above the lower arm of the next clip, and consequently each clip may be as wide and each pivot-bar as long as may be deemed advantageous.

It will be observed that in the form shown in Figs. 1 and 2 the axis of pivot bar *b* is perpendicular to the axis of the stem *a*, and perpendicular to the side face of said stem on a line from its upper to its lower edge. Under this plan or embodiment of the invention the type-bars will or may hang down in the usual position as indicated in Fig. 2, the type or printing characters *f* being so set therein as to come to proper position at the point of operation.

It is obvious that the stem of the type-bar or lever may be made diagonal through its entire length, to the cross-bar or pivotal bar, or the stem may be bent at some point between its free printing point and the point of junction with or intersection of the cross-bar; and further that the body or stem *a* may be of any desired form in cross-section, and not necessarily rectangular as here indicated; but so long as the printing face of the type is in a plane oblique to the plane of the axis upon or about which the type-bar swings, it is within the spirit and scope of my invention.

The type-bar or lever and clip above described are further advantageous in that the weight of the type-bar tends constantly to press the lower pivotal point of the pivot bar to its seat or bearing, so that any looseness in the bearing will not cause so great irregularity in the printing as would otherwise occur; and this tendency is enhanced by the pull of the ligament connecting the rear end of the type-bar with the key-lever.

It will be seen by comparing the clip shown

in Figs. 1 and 2 and that shown in Figs. 3 and 4 that they differ slightly in that in the form shown in Figs. 1 and 2 one arm of the clip is in the same plane with the loop or body, and the other arm is raised above or thrown out of said plane; whereas in the form shown in Figs. 3 and 4 one arm is thrown upward above and the other arm is thrown downward below the plane of the loop.

It is to be particularly observed that each clip is one integral structure and is designed and adapted to carry, unaided by other parts, one type-bar or lever, so that by adjusting the single clip the type-bar may be adjusted as desired, without in any manner interfering with or disarranging the adjustment of its pivots within the clip; and that the axes of stem *a* and pivot bar *b* are perpendicular one to the other, though this latter feature is a matter of choice and not a necessity. My claims are not to be restricted to such perpendicular arrangement, though no claim is broadly or specifically made herein to a type-bar having the axis of its main stem or body oblique to that of the pivot bar. Neither do I claim broadly the combination with the supporting plate, of a set of type-bar rock-shafts, and supporting brackets screwed to the plate and supporting the ends of said rock-shafts in different horizontal planes; nor broadly, a bar for type-writers, having the face of its printing character in a plane oblique to the axis of the pivot of said bar.

The term clip or hanger is here used in its ordinary and universally accepted sense, as signifying a bracket or holder which is complete in itself, and is capable of application to and removal from a bed, plate, ring or support, as contradistinguished from the plate, bed, ring or support itself provided with seats or bearings.

Having thus described my invention, what I claim is—

1. A clip or hanger for application to the top plate or like support of a type writer or analogous machine, said clip or hanger being made in one piece and provided with two pivot-supporting arms in different horizontal planes, each arm adapted and designed to support one of the two pivots or journals of one and the same type bar, lever or hammer.

2. In a type writer or analogous machine, a clip for carrying a type-bar, lever or hammer, having a loop and two ears or arms provided with seats for the reception of the pivots of a single type bar, the two seats being in a common plane oblique to that of the base or bearing of the body or loop portion of the clip.

3. In combination with a supporting bed or plate A, a series of clips D, each comprising a loop *e*, having a bearing face parallel with the bed or plate A, and two arms, each provided with a pivot seat or bearing, said arms being thrown unequally out of plane with the bearing face of the loop; whereby the pivot

seats are caused to stand in a plane oblique to that of the loop and of bed or plate A.

4. In combination with a flat supporting bed or plate, a clip secured thereto,—made in one piece and having two arms to support the axle or pivot of a type-bar; and a type-bar having its pivot rod or shaft supported in the arms of said clip, at an angle to the face of the bed or plate, substantially as shown and described.

5. In combination with a supporting bed or plate, a clip made in one piece, and a type-bar mounted in said clip, and having a pivotal axis in a plane oblique to the plane of the printing face of the character which it bears.

6. In a type-writer, the combination of a supporting bed or plate; a series of clips or hangers applied thereto, each having two arms in different planes, said clips overlapping one another; and a series of type-bars carried one by each clip and each having a printing character, the faces of said printing characters being arranged to swing to a common plane

parallel with the face of the supporting bed or plate.

7. In a type-writing machine, the combination with a bed or support A, a series of clips D, each made in a single piece and complete in itself, and a series of type-bars B, carried by said clips, each type-bar bearing a printing character and provided with a pivot-bar, the axis of which pivot-bar is oblique to that of the face of the printing character.

8. A hanger or clip for type-bars and the like, said hanger being made in one integral piece with two branches, said branches being out of plane with the body of the clip and adapted to sustain a pivot shaft in an oblique position relatively thereto.

In witness whereof I hereunto set my hand in the presence of two witnesses.

WILLIAM MCKENDREE JENNE.

Witnesses:

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