

935,987.

The image contains two technical drawings of a mechanical device, likely a printing press.
Fig. 1. is a side-view cross-section of the mechanism. It shows a horizontal bar *A* at the bottom, with a vertical component *B* on the left. A long, angled lever *D* is pivoted at its base to a vertical support *C*. The lever *D* has a horizontal arm *D²* that interacts with a vertical assembly. This assembly includes a vertical bar *E* with a curved, toothed section *F* at its top. A horizontal bar *F³* is connected to the lever *D* at a pivot point *E³*. Other components labeled include *I'*, *E⁴*, *E⁵*, *E⁶*, *F¹*, *F²*, *J*, *J'*, and *K*.
Fig. 4. is a detailed view of the curved, toothed section *F* from Fig. 1. It shows a series of parallel, slightly curved teeth or segments arranged in a semi-circular arc. The label *F'* points to one of these segments, and *f²* indicates the spacing or curvature of the teeth.

Fig. 2.

Fig. 3.

WITNESSES:

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TYPE-BAR CONSTRUCTION FOR TYPE-WRITERS.

935,987.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed December 26, 1901. Serial No. 87,193.

To all whom it may concern:

Be it known that I, CHARLES W. HOWELL, Jr., a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Type-Bar Construction for Type-Writers, of which the following is a full, clear, and exact description.

My invention relates to typewriters, and more particularly to the type bars and to the means for supporting the same, and has for its object to provide a construction by means of which the entrance and accumulation of dirt at the pivot of the type bar and in the slot of the type bar support will be rendered practically impossible. To this end, I have given the type bar support an improved construction which protects it against the entrance of foreign matter, and I have also given the type bar itself a peculiar construction by which it is enabled to act as a wiper or ejector for removing any foreign matter from the guiding slot of the type bar support.

Three specific embodiments of my invention are shown in the accompanying drawings, in which—

Figure 1 is a sectional elevation of so much of a typewriter as is required to illustrate my invention. Fig. 2 is a similar view showing only the type bar support and the type bar proper, in a slightly different arrangement; Fig. 3 is a like view showing a further construction; and Fig. 4 is a rear elevation of the segment which supports the type bars.

The action by which movement is imparted to the type bar forms no part of my present invention, but for the sake of completeness I have represented such an action in Fig. 1, where A is the key lever carrying the key A', and fulcrumed at A² upon a suitable part of the framing. B is a spring which restores the key lever to its normal upper position. C is a lever mounted to swing on its fulcrum located upon the framing of the machine as indicated at C' and this lever is pivotally connected at C² with an elbow link D, the ends of which are connected respectively as at D', D² with the key lever A and with the actuating link I connected at I' with the type bar E. The connection at I' is off the center or pivot E' of the type

bar E, said pivot E' being formed by a rod or wire extending through the support or segment F, which is vertically disposed and curved. G is the support or cushion against which the type bars E rest in their inactive position. The support F is provided with a series of slots F', in which the pivot ends of the type bars move. J indicates the type bar guide which is located at the top of the support or segment F and extends adjacent to the printing point which is that point where the type is adapted to strike against the platen K. In the construction of the segment or support as generally employed hitherto, slots corresponding to those lettered F' in the drawings extend through to the top face of the support and are therefore open to the entrance of dust and other foreign matter. To avoid this objectionable feature I improve the construction of the support by covering the upper end of these slots or guides F', or, in other words, by having these slots terminate short of the upper surface of the support. It will be obvious that with this construction no foreign matter can enter the slots F' from above. The upper surface of the bottom ledge or rib of the support F may either be horizontal as at F² in Fig. 2, or it may be arranged to slope downwardly toward the free edge of the support as indicated at f² in Figs. 1 and 3. In the former case there is still some danger of foreign matter accumulating upon the horizontal upper face of the ledge or rib F³ and dropping from time to time upon the type bar. When, however, the upper surface of the ledge or rib F³ is inclined as in Fig. 1, any foreign matter which may fall upon it will slide off. This result is further insured by the segmental formation of the rib as will be evident from Fig. 4. If an additional amount of protection is desired, I may close even the forward ends of the slots F', for instance, by means of a cover plate or dust shield H, such as shown in Fig. 3. The dust-shield or cover plate H covers the pivots of the type bars against the entrance of dust and other foreign matter from the front and from above, and bears directly on the slotted portion of the segment.

It will be understood that the support or segment construction hereinbefore described

affords a high degree of protection against the entrance of foreign matter into the guide slots F'. I further improve the construction by forming the type bar with a wiper or ejector, the office of which is to automatically remove from the slot F' at each operation of the type bar any dust or other matter which may have found its way to it. For this purpose I produce a deep notch E² in the type bar between the body or shank E³ thereof and the pivot portion E⁴, and form the type bar with a projection E⁵ which constitutes the wiper or ejector. The length of this ejector is such that it will with its point reach practically to the front end of the slot F' when the type bar swings back to its normal position. The notch E² is required to enable the type bar to swing into its active position without exposing the edge E⁶, and without colliding with the rib or dust-shield F³ (in each of the structures shown) and with the cover plate or auxiliary dust-shield H in the construction shown in Fig. 3. When the type bar is in the printing position the rib or dust-shield F³ and in the construction illustrated by Fig. 3, the cover plate or auxiliary dust shield H, lie within the recess or notch F². I desire to add that in the usual construction of front strike typewriting machines, various parts not shown in the drawing, such as cylinder scales and paper guides, operate to prevent the falling of dust or other foreign matter behind the segment F, so that practically all the dust, grit and fragments of paper and rubber eraser, fall down in front of the segment.

The ejector E⁵ forms part of the pivot portion E⁴ of the type bar, and it will be seen by reference to Figs. 1, 2 and 3 that the bottom ledge or rib of the segment or type-bar support projects far enough to entirely cover the path of the pivot portion, so that not even the point of the ejector E⁵ ever projects beyond the vertical plane passing through the forward end of said ledge or rib.

I desire it to be understood that the forms of construction shown and described herein are not the only ones which may be used in carrying out my invention, but rather they constitute only examples of the various forms in which my invention may be carried out.

I claim, as my invention and desire to secure by Letters Patent:

1. A type bar support provided with a series of guide slots for the reception of the type bars, and having a portion covering the upper portions of said slots on the side adjacent to the paths of the type bars, and a cover plate extending downward from the said portion to close the ends of the slots between the pivots of the type bars and the paths of the type bars.

2. The combination with a support having slots and a cover plate extending over the ends of said slots, of type bars pivoted in said slots and comprising shanks adapted to extend adjacent to said cover-plate, the said shanks being separated from the pivot portions of the type bars to allow the latter to swing into active position without colliding with the cover plate, each type bar being formed at the free end of its pivot portion with a wiper or ejector arranged to remove any foreign matter that may lodge in the respective slots.

3. In a front-strike typewriting machine, the combination of a vertically disposed curved and slotted segment, a series of type-bars pivoted to work in the slots of said segment, and a dust shield covering the pivots of said type-bars and mounted adjacent to and bearing directly on the slotted portion of said segment.

4. In a front-strike typewriting machine, the combination of the vertically disposed slotted segment, a series of type-bars pivoted to work in the slots of said segment, and a dust-shield or cover-plate bearing directly on the slotted portion of the segment and closing the ends of the slots.

5. The combination in a front strike writing machine, of a segment arranged in front and below the printing point, a forwardly projecting flange on the segment, and a series of type bars hung under the flange, the bars being cut away to clear the said flange when at the printing point.

In witness whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

CHARLES W. HOWELL, Jr.

Witnesses:

EUGENE EBLE,
JOHN LOTKA.