(No Model.)

F. VAN FLEET.

TYPE CLEANING BRUSH FOR TYPE WRITING MACHINES.

No. 457,684. Patented Aug. 11, 1891.

FIG. 1.

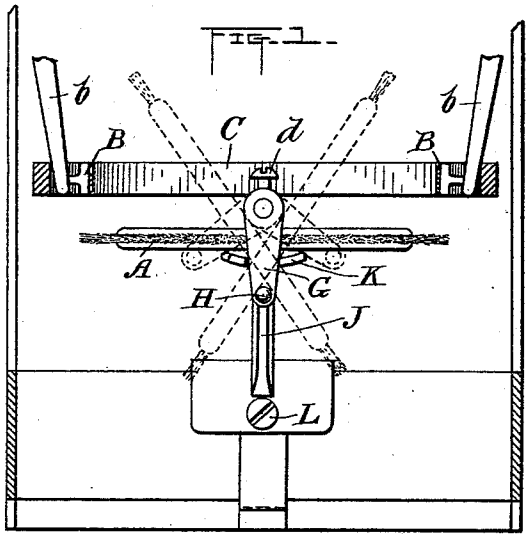


FIG. 2.

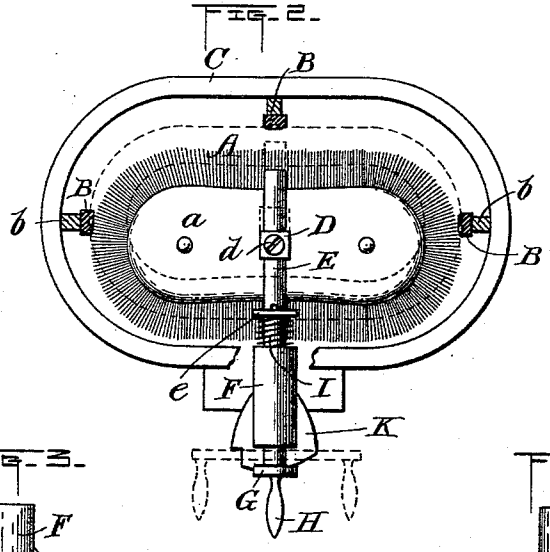


FIG. 3.

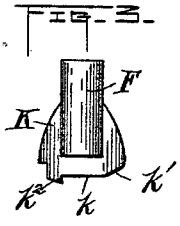
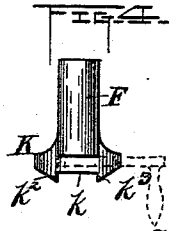


FIG. 4.



Witnesses:

Severance.

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TYPE-CLEANING BRUSH FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 457,684, dated August 11, 1891.

Application filed February 26, 1891. Serial No. 382,902. (No model.)

To all whom it may concern:

Be it known that I, FRED VAN FLEET, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Type-Cleaning Brushes for Type-Writing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The chief object of this invention is to provide for cleaning the types of a type-writing machine by means of a brush turning axially through the plane of the type-opening and across the faces of the types, the said brush being of such shape with relation to the outline of the said type-opening that each motion of the said brush on its axis may clean all of the types at the same time.

My invention consists, broadly, in a brush thus constructed and arranged, in combination with actuating devices operating it, as above stated.

The said invention also consists, more specifically, in mechanism for oscillating the said brush on its axis, in the combination, with said brush and actuating mechanism, of stops for limiting its axial motion, and in certain additional features of construction and combination, hereinafter particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a front elevation of the brush and its operating and supporting devices, the normal position being shown in full lines and the extreme positions of oscillation in dotted lines, the type-ring in section. Fig. 2 represents a plan view of the same. Fig. 3 represents a detail plan view of the stop-plate, and Fig. 4 represents a similar view of a modification of the latter.

A designates the type-cleaning brush, in the present instance of elliptical outline, but which may vary in shape to suit a different form of type-opening. The types B on the type-bars *b* and within the type-ring C present, as shown, a corresponding elliptical outline. The said brush is provided with a central plate *a*, in the center of which is a raised block D, having an opening through it, so that it may be sleeved on the shaft or brush-rod E and clamped thereto adjustably by a screw *d*. This shaft or rod E is horizontal, being journaled in a long fixed tubular bearing F, outside of which it is furnished with a crank-arm G and handle H. When this handle is turned in either direction out of the position shown by full lines in Figs. 1 and 2, the brush turning with said rod, which practically corresponds to its longitudinal axis, necessarily sweeps over the faces of the type, crossing in doing so the plane of the type-opening, so that simultaneously one half of the type will be swept by one side of the brush going up and the other half of the type will be swept by the other side of the brush going down.

To hold the brush normally in its position of inaction, I employ a spring I, wound around the rod or shaft E, with its outer end against the bearing F and its inner end pressing inwardly against a shoulder or collar *e*, fast on the said rod or shaft. I also provide the supporting-standard J of the bearing F with an outwardly-extending stop-plate K. The outer edge of this stop-plate is constructed with a face *k* at right angles to said rod or shaft, and under the outer end of it a rearwardly-inclined face *k'* on one side of said face *k*, and a shoulder k^2 on the other side thereof. When the handle H is turned into the position shown in Figs. 1 and 2, the spring I, bearing inwardly against shoulder or collar *e*, holds the crank-arm G against the middle face *k* of the edge of the said stop-plate with sufficient force to prevent accidental displacement. Said crank-arm is then vertical and the brush horizontal. To free the said brush for type-cleaning, I then move the handle H sidewise, so that the crank-arm G slips off the middle face *k* to the rearwardly-inclined face *k'*. The latter permits the shaft or rod E to move inward under the pressure of the spring I, so that the latter is relaxed. There is now no obstacle to turning the said handle, crank-arm, shaft, and brush from side to side, the limit of motion in one direction being the said inclined face *k'* and in the other direction the stop k^2. Between these two limits the brush may be oscillated as rapidly or as slowly as desired and as often. Its positions when at the extremes of oscillation are indicated by dotted lines.

When the brush is to be restored to its normal position, the crank-arm G is pressed laterally against the inclined face k', so as to ride up said face and in front of the middle face k, as before, drawing outwardly the shaft or rod E against the pressure of the spring I during this motion.

When the modification shown in Fig. 4 is employed, having two square outwardly-extending stops k^2 k^3, with the face k between them and no inclined face k', the handle, crank-arm, and shaft are pulled outwardly, so that said crank-arm will be beyond the said lugs or stops k^2 k^3, this action being necessary as well when the said crank-arm is to be restored to its normal position against face k and between stops k^2 k^3, as when the brush is to be operated for type-cleaning. The spring I operates, as before explained, to hold it in its normal position. In this modification the stop k^3 answers the same purpose as the inclined face or stop k', before described, in limiting axial movement, but of course affords no aid in replacing the moving parts in their position of inaction, and is indeed an obstacle thereto, as well as to the beginning of operative axial motion.

The standard J may be clamped to the frame of the machine in any convenient way. I have shown a screw L for this purpose.

The eccentric attachment of the brush—that is to say, its attachment to the shaft so as to be held at a slight distance from the axial line of the latter—allows it to be thrown up into the type-basket as the shaft turns without the said shaft interfering in any way.

I do not confine myself to the specific devices shown and described for holding the brush in its normal position of inactivity.

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

1. A type-cleaning brush for a type-writing machine, in combination with a shaft on which it is mounted to turn through the plane of the type-opening, stops for limiting the turning of the said shaft and brush in either direction, and a handle for oscillating the said shaft and brush, substantially as set forth.

2. A type-cleaning brush for a type-writing machine, in combination with a shaft on which it is mounted to turn through the type-opening, a spring operating to force the said shaft and brush inward, stops for preventing the turning of said brush in either direction beyond a certain point, and a handle for oscillating the said brush, substantially as set forth.

3. A type-cleaning brush for a type-writing machine, in combination with a shaft on which it is mounted to turn through the type-opening, a crank-arm and handle for operating the said brush, a spring operating to press the said brush and shaft inward, and a fixed stop-plate having a face k, against which the said crank-arm is pressed by the action of the said spring to hold the said brush in its normal inactive position, substantially as set forth.

4. A type-cleaning brush for a type-writing machine, in combination with a shaft on which it is mounted to turn through the type-opening, an arm of said shaft, a handle for operating the said brush, a spring for moving inward the said brush-shaft and crank, a stop-plate having a face k, against which the said arm is held by the said spring, and also a rearwardly-inclined face k', operating by contact with the moving arm to restore the parts to their normal position, substantially as set forth.

5. A type-cleaning brush for a type-writing machine, in combination with a shaft on which it is mounted to turn through the type-opening, an arm on said shaft, a stop-plate having a middle face k, a rearwardly-inclined face k', and a projecting stop k^2, arranged as shown and described, and a spring operating to move the said brush and shaft inward, so as to hold the said arm against the said middle face in its position of inaction, the said stop-plate and arm limiting the motion of the said brush on its axis to oscillation, substantially as set forth.

6. In combination with the types of a type-writing machine, a type-cleaning brush adapted to be oscillated on its axis through the plane of the type-opening and devices for so operating it, and stops for limiting its motion to oscillation, the said brush conforming in shape to said type-opening or to such a part thereof that each oscillation will cause the brush to pass over all the type, for the purpose set forth.

7. In combination with the type-cleaning brush operating by axial motion, stops for retaining and holding the brush at rest automatically or otherwise in its normal position of inactivity.

8. In combination with a type-cleaning brush and its shaft, a spring adapted to exert pressure on said shaft or its attachments in a direction parallel with the axis of said shaft, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRED VAN FLEET.

Witnesses:
J. H. ULMER,
J. W. SMITH.