No. 649,669. Patented May 15, 1900.

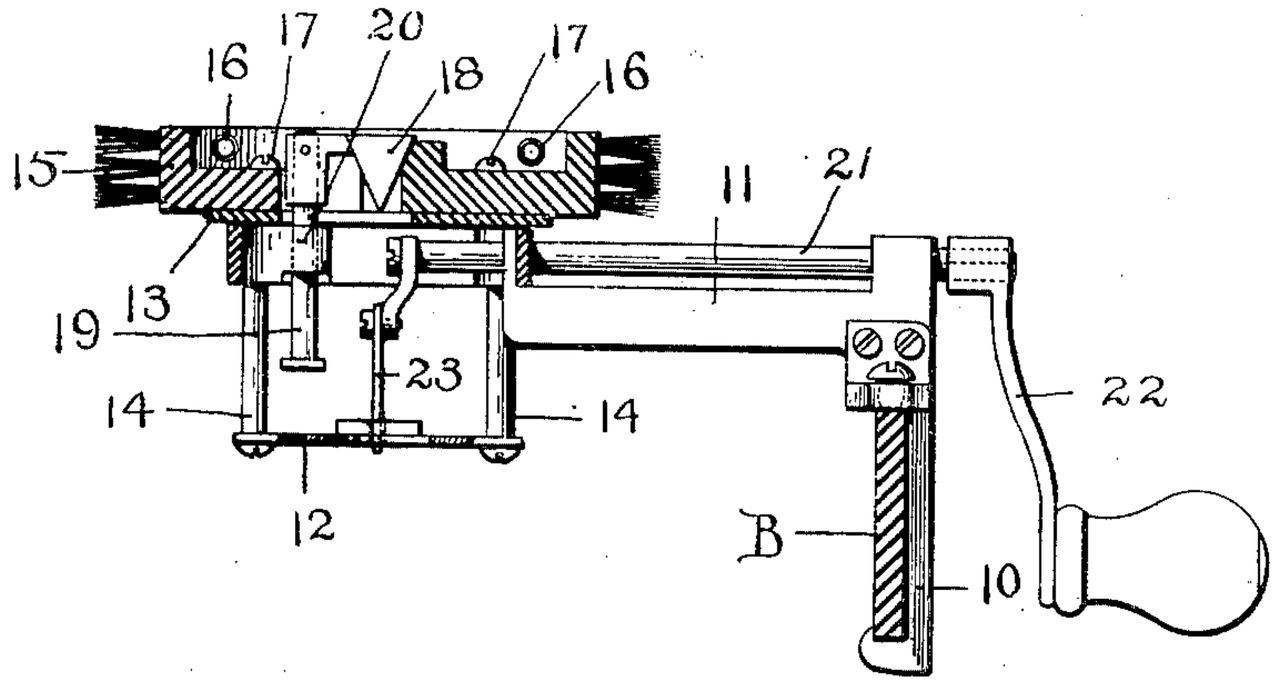
L. MYERS.

CLEANING ATTACHMENT FOR TYPE WRITING MACHINES.

(Application filed Dec. 22, 1899.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.



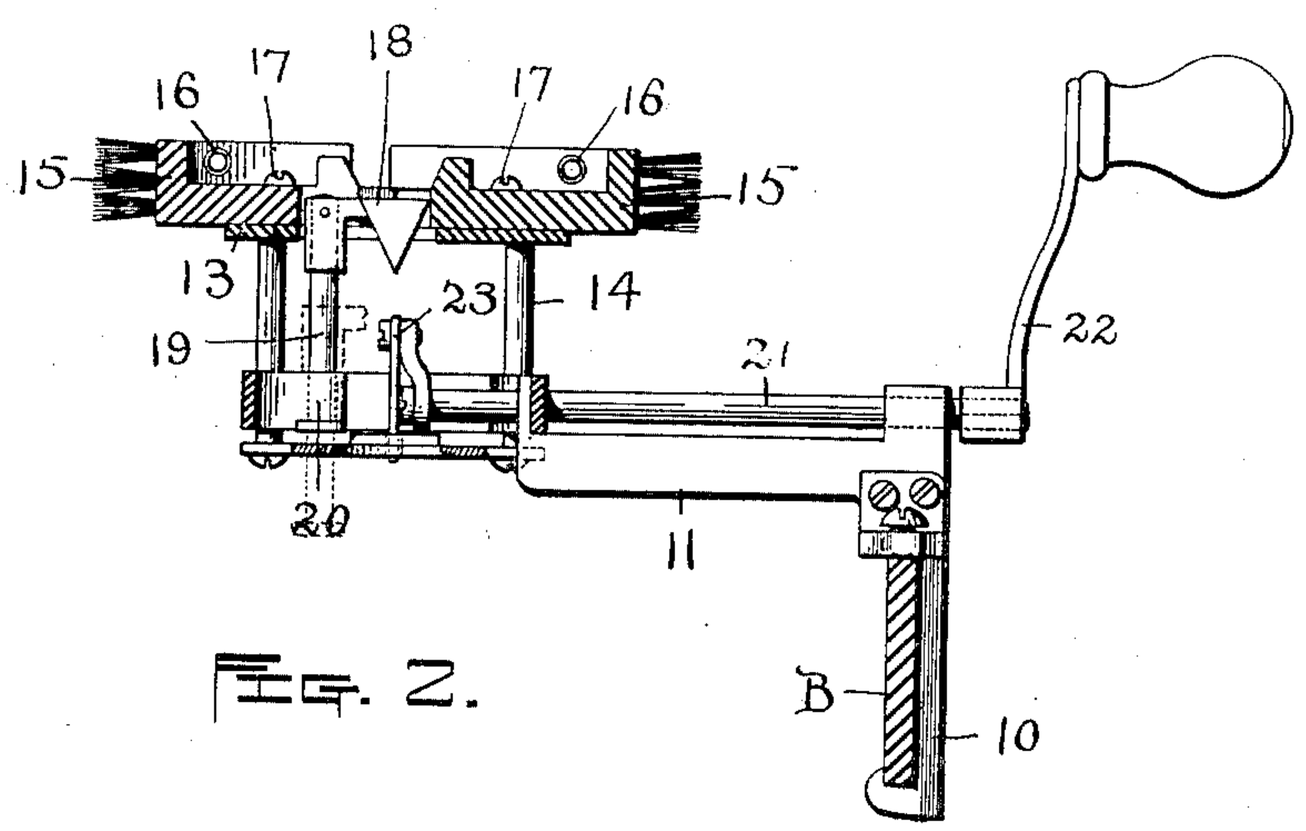


FIG. 2.

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FIG. 3.

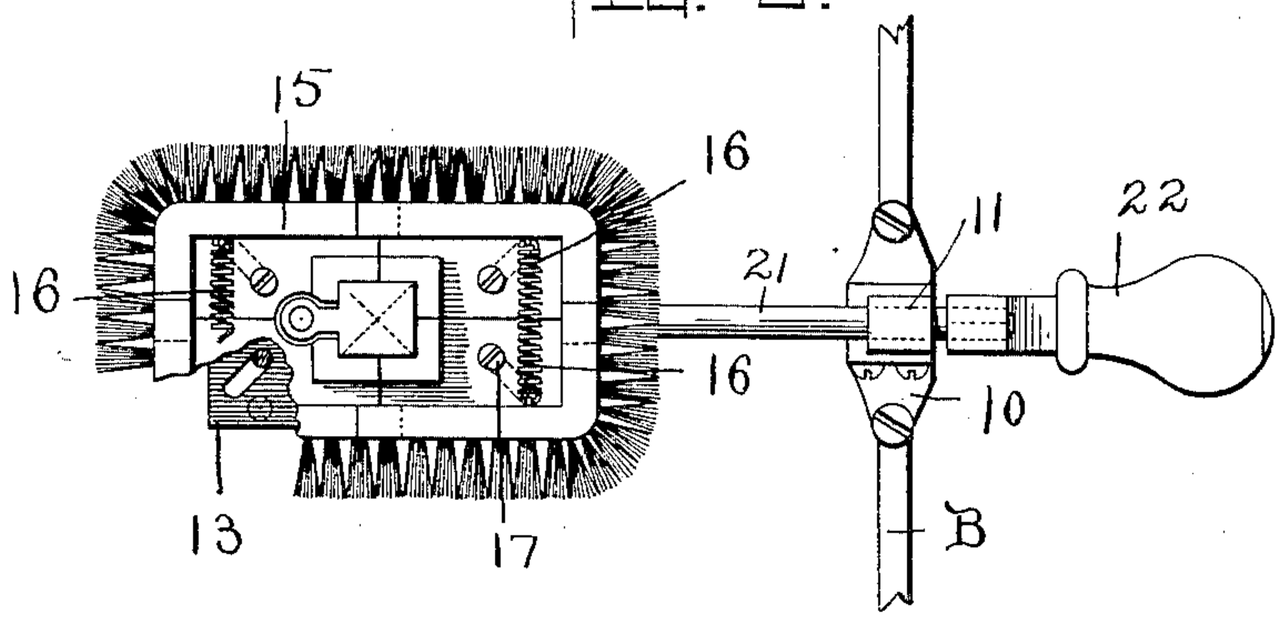
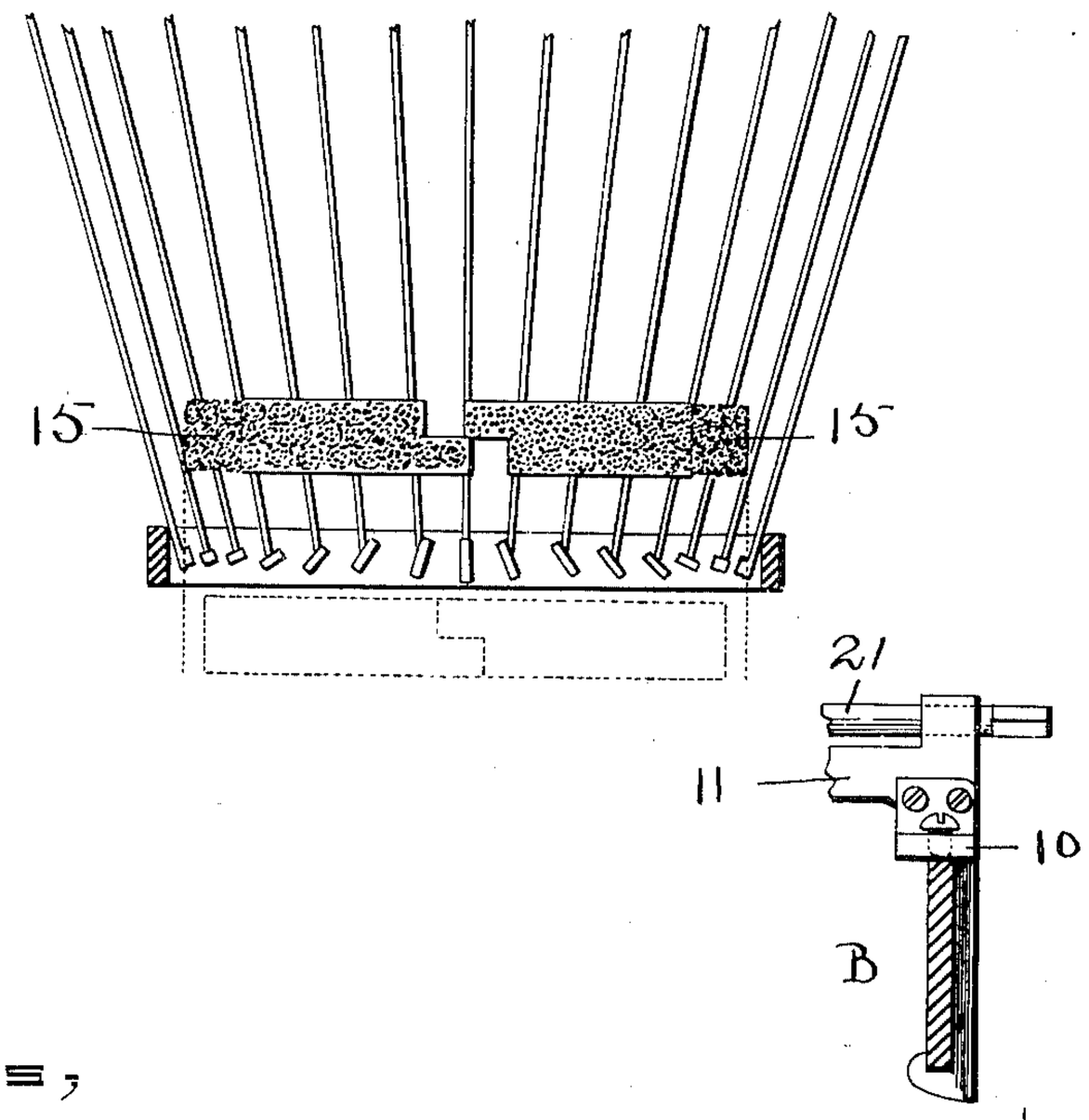


FIG. 4.



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UNITED STATES PATENT OFFICE.

LOUIS MYERS, OF WORCESTER, MASSACHUSETTS.

CLEANING ATTACHMENT FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 649,669, dated May 15, 1900.

Application filed December 22, 1899. Serial No. 741,266. (No model.)

To all whom it may concern:

Be it known that I, LOUIS MYERS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Cleaning Attachment for Type-Writing Machines, of which the following is a specification.

My invention relates to that class of cleaning attachments for type-writing machines which are designed to operate within the type-basket to simultaneously brush out or clean the type; and the object of my present invention is to provide a simple, efficient, and inexpensive cleaning attachment for type-writing machines which may be retained on the machine while the same is in use and which may be employed for efficiently brushing out or cleaning the types without the liability of springing or injuring the type-bars or otherwise affecting the alinement of the machine.

To these ends my invention consists of the parts and combinations of parts, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a sectional view of a cleaning attachment for type-writing machines constructed according to my invention. Fig. 2 is a similar view showing the parts in a different relative position. Fig. 3 is a plan view, partially broken away; and Fig. 4 is a diagrammatic view illustrating the operation of the device.

In using type-writing machines the types are apt to become speedily filled or clogged with dirt, and in order to produce a high grade of work it is necessary to exercise considerable care in keeping the types cleaned out or freed from the accumulation of dust or ink from the ink-ribbon. It is a disagreeable and tedious operation to brush out or clean the types of a type-writing machine by hand, and on this account a number of different cleaning attachments or brushes have been designed for simultaneously cleaning the types of a type-writing machine while the same hang down within the type-basket. This invention relates especially to that form of cleaning attachments which employ vertically-movable brushes which normally stand below the level of the types and may be vertically reciprocated to brush or simultaneously clean the types.

To remove the dirt from types quickly and efficiently, it is necessary to employ a cleaning-brush having stiff wiry bristles. In practice, however, it has been found impracticable to employ brushes having the desired stiffness, because if it is attempted to force a stiff brush up through the type-basket of a type-writing machine it is apt to bend or distort the type-bars and destroy the alinement of the machine.

The especial object of my present invention is to provide a cleaning attachment which is designed to employ a stiff-bristle brush, which may be operated without the liability of affecting or destroying the alinement of the machine.

To this end a cleaning attachment constructed according to the present invention comprises a vertically-movable brush and operating connections therefor arranged so that the brush will engage the types only while the same is moving down and will clear or be free from the types while the same is moving up through the type-basket. To accomplish this result, I preferably employ a brush which is expansible or comprises a plurality of sections having overlapping or rabbeted edges. The sections of the brush are normally drawn together by springs, so that the brush may be moved up through the type-basket without engaging the types. I preferably arrange a cam to expand or separate the sections of the brush to bring the same into contact with the type during its return or down stroke.

Referring to the drawings and in detail, a cleaning attachment for type-writing machines constructed according to this invention may be secured to the side bar of a type-writing machine in any ordinary or preferred manner. As herein illustrated, a bracket 10 is clamped onto the side bar B of a type-writing machine, and removably secured in the bracket 10 is an inwardly-extending arm 11. Mounted at the inner end of the inwardly-extending arm 11 is a vertically-movable frame comprising a lower plate 12 and an upper or brush-carrying plate 13, said plates being connected by uprights or rods 14.

The brush 15, as illustrated most clearly in

Figs. 3 and 4, preferably comprises four separate pieces or sections having their edges overlapped or rabbeted, so that when the brush is expanded the brush will still have a continuous surface of bristles, as illustrated in Fig. 4. The sections of the brush 15 are secured to the brush-carrying plate 13 by screws 17, which extend down through inclined slots in the plate 13, as illustrated most clearly in Fig. 3. The sections of the expansible brush as thus constructed are normally pulled together or contracted by springs 16.

To open out or expand the sections of the brush, I preferably employ a frustum or pyramid shaped operating piece or cam 18, carried by a vertically-movable rod or pin 19. The rod or pin 19 extends loosely through a hub or stop 20 of the frame. Journaled in lugs extending up from the arm 11 is an operating-shaft 21, which is connected to the bottom plate 12 by a pitman or link 23. An operating-crank is removably secured on the end of the shaft 21.

In the use of a cleaning attachment for type-writing machines as thus constructed the brush normally stands in the position indicated by dotted lines in Fig. 4. When the operating-handle is turned, the brush will be carried up into the type-basket. The cam 18 and its pin 19 are not heavy enough to overcome the springs, which normally draw the brush-sections together. During the first part of the upward movement of the brush, therefore, the operating-cam 18 and its pin 19 will be carried up by the brush, allowing the brush to move up past the type without engaging or hitting the same. As the brush approaches the limit of its upward movement the stop on the lower end of the pin 19 will engage the under side of the hub 20, thus stopping the upward movement of the cam, so that the same will then act to expand the brush, as indicated by full lines in Fig. 4, the parts assuming the position illustrated in Fig. 2. As the brush descends the operating piece or cam will be carried down with it until brought into engagement with the lug or stop 20, as indicated by dotted lines in Fig. 2. A further downward movement of the brush releases the expanding-cam and permits the brush-sections to again assume their contracted or normal positlon.

In a double-case type-writing machine—such, for example, as an ordinary "Remington" machine—the type-bars at the end of the type-basket have cross-pieces which are normally substantially horizontal, so that the types at the end of the type-basket are all substantially the same distance from the center, while along the sides of the type-basket the different relative inclinations of the cross-bars support the types at different relative distances from the center of the type-basket. On this account I prefer to spread out or expand the sections of my type-cleaning brush to a greater extent widthwise than lengthwise to insure bringing the brush into contact with all the types, and on this account in some cases I contemplate making my type-cleaning brush in two sections only, although I prefer to employ a cleaning-brush made in four sections, as herein illustrated.

It is to be noted that the cleaning-brush which I have herein illustrated is provided with bristles of a comparatively short length. By using short bristles the brush is rendered sufficiently stiff or springy to insure an efficient cleaning of the type, and this I regard as an especially important feature of advantage in a cleaning device for type-writing machines constructed according to my invention, as I have found in practice that when comparatively long-bristled brushes are used a thorough cleaning or brushing out of the type cannot be secured.

I am aware that other changes may be made in the construction of my cleaning attachment for type-writing machines by those who are skilled in the art without departing from the scope of my invention as expressed in the claims. I do not wish, therefore, to be limited to the form herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. As an article of manufacture, a cleaning attachment for type-writing machines comprising a vertically-movable brush, and connections for operating the brush so that it will engage all the type while moving down, but will not touch any of the type while moving up, substantially as described.

2. As an article of manufacture, a cleaning attachment for type-writing machines comprising a brush, and connections for expanding the brush, so that it will engage the type while moving in one direction, and will not touch the type while moving in the other direction, substantially as described.

3. In a cleaning attachment for type-writing machines, the combination of a brush, connections for vertically reciprocating said brush, a cam for expanding the brush, and a stop operating the cam so that the brush will engage the type while moving in one direction, and will clear the type while moving in the other direction, substantially as described.

4. In a cleaning attachment for type-writing machines, the combination of a brush formed in sections having overlapping or rabbeted-together edges, and connections for operating the brush, so that it will engage the type while moving in one direction, but will not engage the type while moving in the other direction, substantially as described.

5. In a cleaning attachment for type-writing machines, the combination of a supporting-arm, a vertically-movable frame carried thereby, a brush formed in sections movably mounted on the vertically-movable frame, a cam for spreading apart or opening the brush-sections, a stop for limiting the movement of the cam, and connections for operating the vertically-movable frame, so that the brush will clear the type when moving in one direc-

tion, and will engage the type while moving in the other direction, substantially as described.

6. In a cleaning attachment for type-writing machines, the combination of a supporting-arm 11, a vertically-movable frame comprising a bottom plate 12, uprights 14, and a top plate 13, brush-sections having screws extending down through slots in the top plate, springs for normally contracting or drawing the brush-sections together, a spreading-cam 18 carried by a pin 19 loosely mounted in the supporting-arm, and an operating-shaft 21 connected to vertically reciprocate the frame by a link 23, substantially as described.

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

LOUIS MYERS.

Witnesses:
PHILIP W. SOUTHGATE,
LOUIS W. SOUTHGATE.