

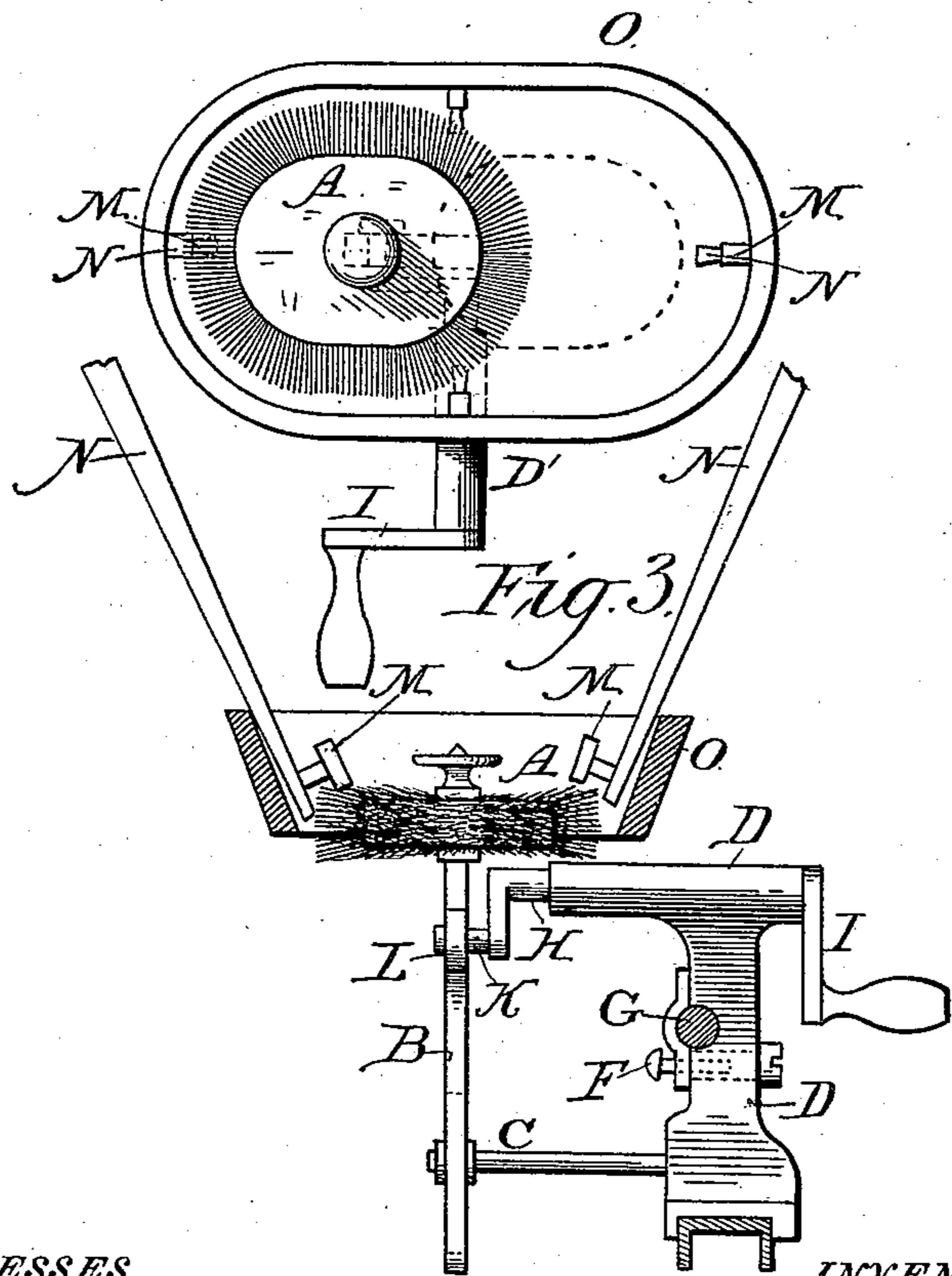
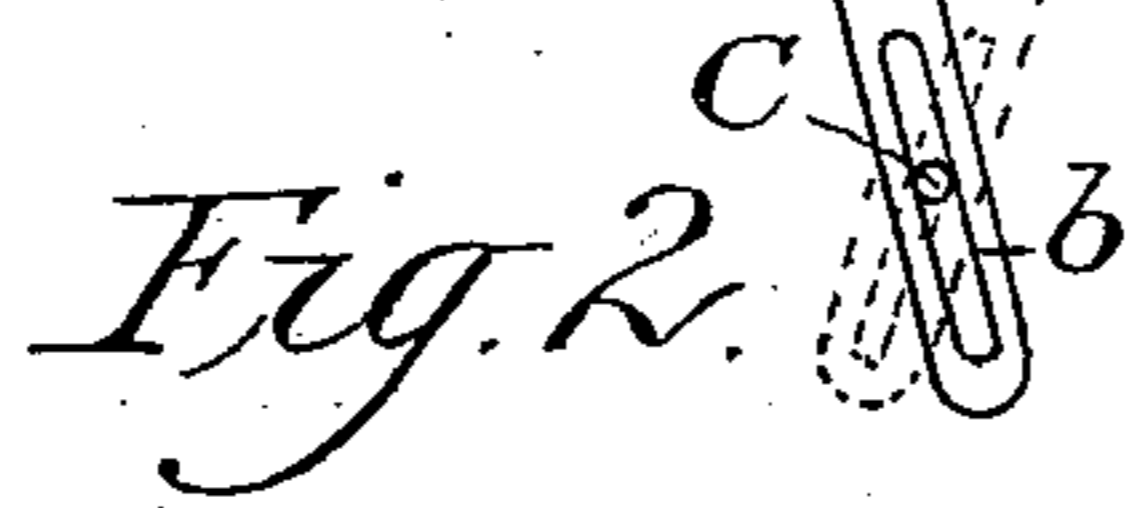
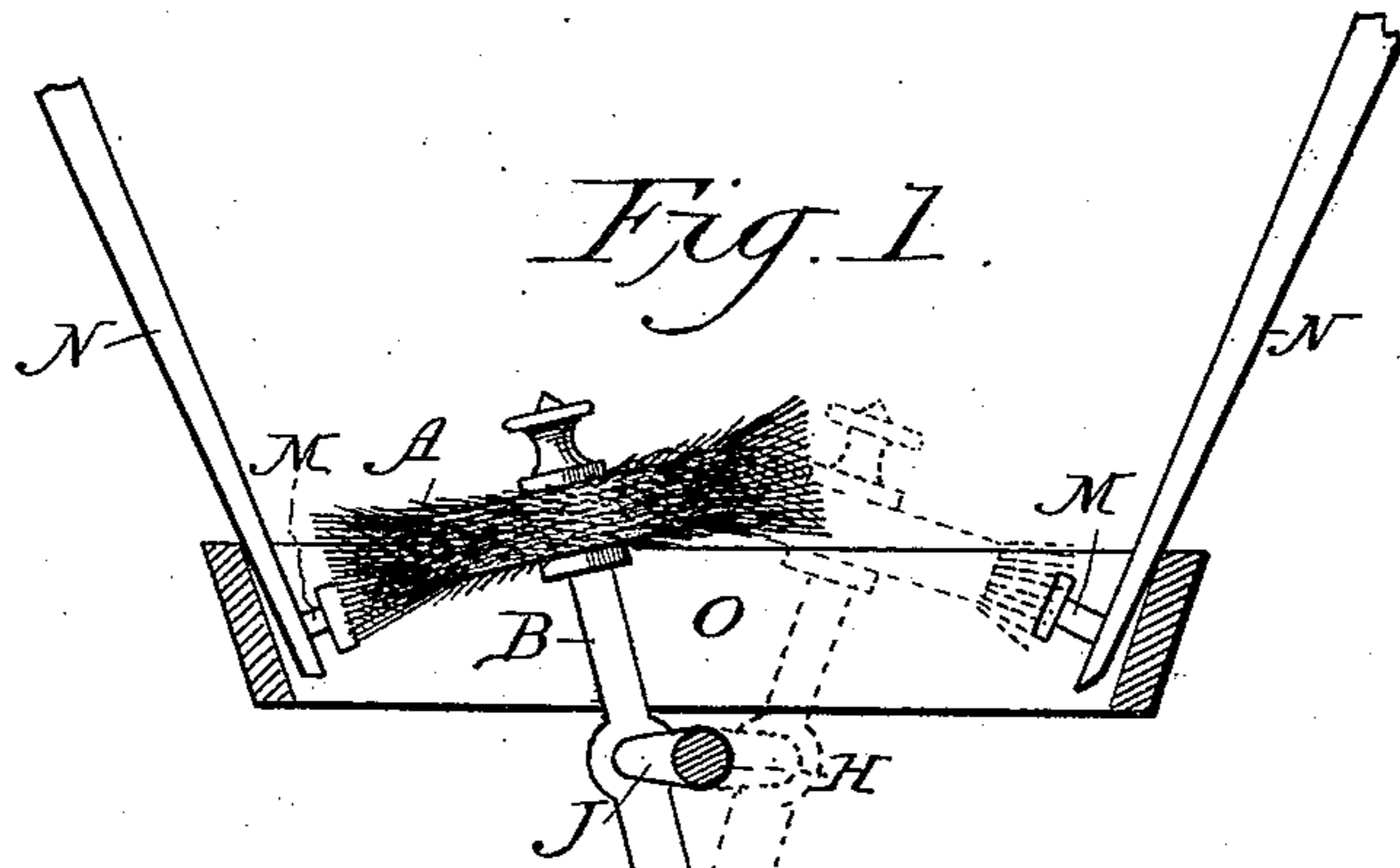
(No Model.)

F. VAN FLEET.

TYPE CLEANING BRUSH FOR TYPE WRITING MACHINES.

No. 450,126.

Patented Apr. 7, 1891.



WITNESSES

*J. W. Reynolds*  
*J. C. Stack*

INVENTOR

*Fred Van Fleet*  
*by W. H. Babcock*  
Attorney

# UNITED STATES PATENT OFFICE.

FRED VAN FLEET, OF WILLIAMSPORT, PENNSYLVANIA.

## TYPE-CLEANING BRUSH FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 450,126, dated April 7, 1891.

Application filed January 2, 1891. Serial No. 376,470. (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 new means for efficiently cleaning the type of a type-writing machine. To this end I make use of a brush of such shape that it will clean one half of the type in the type-basket as it ascends and the other half as it descends through the type-opening, in combination with mechanism for giving the said brush a compound oscillating and reciprocating motion, whereby this cleaning action is effected, the brush being also tilted thereby so as to be presented end on to the type, substantially as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of the brush and its support in the position taken at one-quarter stroke, the three-quarter-stroke position of said brush being indicated by dotted lines and the type-basket being shown in vertical section. Fig. 2 represents a plan of the same, and Fig. 3 represents the brush and supporting and actuating devices, as well as two of the type-bars and types, in elevation, the position of the brush being normal—that is to say, as it appears before beginning a stroke.

A designates the brush, which is fastened to a bar B at or near the upper end of the latter. The said bar is longitudinally slotted at *b* near its lower end, and is mounted on a pivot-pin C, extending horizontally inward from a standard D through said slot. This standard is rigidly fastened by a clamp-plate E and screw F or any other convenient means to a rod G, forming part of the machine-frame. The upper part D' of said standard is tubular, as indicated in dotted lines in Fig. 3, forming a transverse horizontal bearing for a crank-shaft H, provided with an actuating crank-arm I. The other end of said shaft is

provided with a crank J, having attached thereto a wrist-pin K, that is connected pivotally to a pin or stud L about the middle of the bar B. The type M, carried by type-bars N, resting at their lower ends within a guide-ring O, make, as illustrated, an elliptical type-opening. For such an opening the brush A (see Fig. 2) has also an elliptical form, and is of width a little greater than said type-opening and of length a little greater than the distance from the end of said type-opening to the center thereof. This latter excess is sufficient to allow for the lateral displacement of the brush, hereinafter described, and insure the brushing of every type.

The operation is as follows: Beginning with the brush in the position shown by Fig. 3 below the type, the rotation of shaft H turns the crank-arm J from the downward vertical position shown in said Fig. 3 to the horizontal position shown in Figs. 1 and 2, the bar B, of course, being simultaneously moved endwise and tilted laterally with respect to said shaft, so as to brush against the face of one-half the type in ascending through them, the said tilting also presenting the bristles of the brush end onto the inclined faces of the said type, as shown in said Fig. 1. The slot *b* and pivot-pin C allow this oblique upward motion of the brush, the slotted part of arm B sliding over said pin. The continued rotation of said crank-shaft H in the same direction gradually restores the bar B to a vertical position, the crank-arm J being vertically upward at one-half revolution, and the bottom of slot *b* being against the pin C. Continuing the rotation of said crank-shaft H, the crank-arm J brings down the brush so as to strike against and across the other half of the type, as indicated by dotted lines in Fig. 1, the action thereon being substantially as before, except that it is descending instead of ascending. The continuance of this rotation brings the brush back to its first position. The sides of the brush are used on the type in ascending and also in descending; but one end is used in ascending only, the other only in descending. By reversing the direction of rotation the action of the brush ends is reversed also in this respect. Of course the shape of the

brush may vary to suit the shape of the type-opening. The motion of the brush thus explained in detail is considered as a whole a combined elliptical and tilting motion, any  
5 point of said brush describing a complete ellipse, and the brush itself being alternately raised and tilted toward one end of the type-opening and lowered and tilted toward the other. The pin C and slot b constitute a  
10 guide for the said brush and confine it absolutely to one path of travel. The bristles of the brush by this peculiar motion are made to strike end on more or less against the face of the type with somewhat of the force of  
15 a blow, entering the interstices, prying out the dirt, and jarring out whatever dirt or foreign matter they do not reach. The brush, being small, works smoothly and requires little power. Of course the brush may be above  
20 the type in its normal position. The downward motion of it will then precede the upward motion.

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

1. In combination with the types of a type-writing machine, a type-cleaning brush and its actuating-handle, the said brush being arranged and supported to strike its peripheral  
30 bristles end on against the faces of several of the types at each stroke, for the purpose set forth.

2. In combination with the types of a type-writing machine, a tilting brush, the pivot on  
35 which it is mounted, and its actuating-handle, the said brush being arranged and mounted to strike its peripheral bristles end on against the faces of the types, for the purpose set forth.

3. In combination with a brush, a crank- 40 shaft on which the said brush is mounted for giving motion to said brush in a closed curve through the type-opening of a type-writing machine, and a guide for the said brush, compelling it to tilt alternately in opposite direc- 45 tions as this motion continues, for the purpose set forth.

4. In combination with a type-cleaning brush and the longitudinally-slotted bar on which it is mounted, a crank-shaft connected to 50 said bar and a pivot-pin entering said slot, the said crank-shaft, pin, and slotted bar serving to give said brush a compound elliptical and tilting motion, substantially as and for the purpose set forth. 55

5. In combination with the type-cleaning brush of a type-writing machine, a crank-shaft on which the said brush is supported, a guide for the said brush, compelling it to tilt alternately in opposite directions while car- 60 ried by the rotation of the said crank-shaft through a closed curve, a support for said shaft, and guide and clamping devices for fastening the said support to the frame of the machine, substantially as set forth. 65

6. A type-cleaning brush moving in an endless curvilinear path through the plane of the type-opening, said brush corresponding in shape and size to said type-opening, so that it will pass over not less than one-half of all the 70 type in each ascent and descent through said type-opening, substantially as set forth.

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

FRED VAN FLEET.

Witnesses:

J. H. ULMER,  
JAMES W. SMITH.