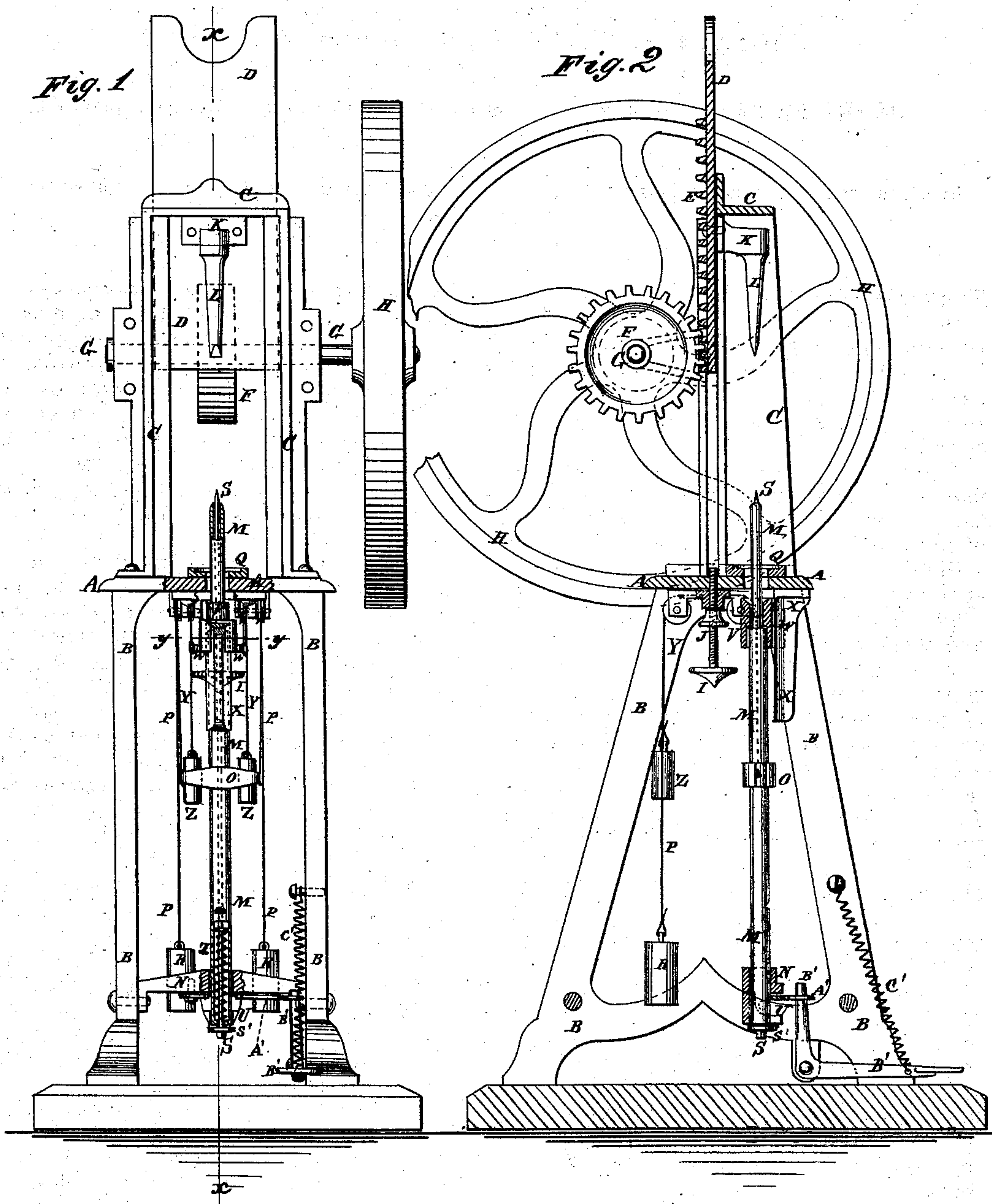


J. AMES, Jr.

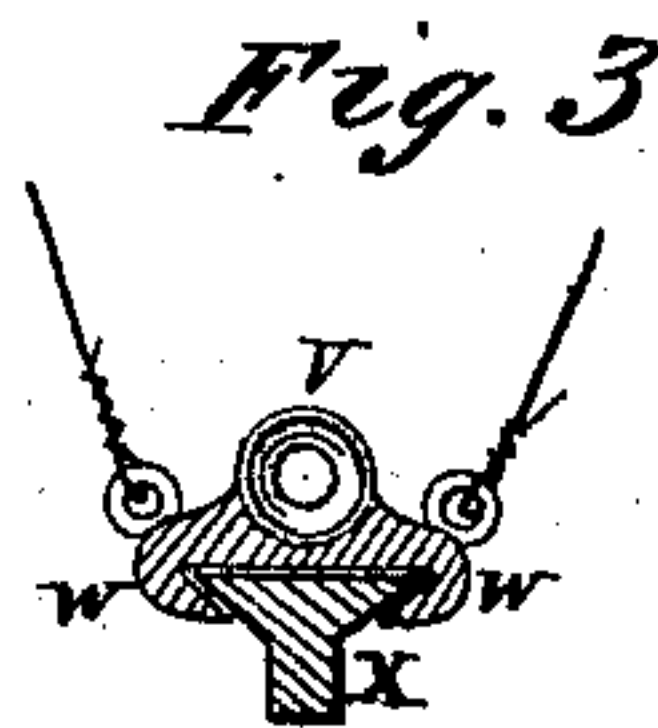
Machines for Driving Brush-Handles.

No. 156,472.

Patented Nov. 3, 1874.



WITNESSES:  
*A. W. Amqvist*  
*Alex F. Roberts*



INVENTOR:  
*John Ames Jr.*  
BY *Mumf*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JOHN AMES, JR., OF LANSINGBURG, NEW YORK.

## IMPROVEMENT IN MACHINES FOR DRIVING BRUSH-HANDLES.

Specification forming part of Letters Patent No. **156,472**, dated November 3, 1874; application filed July 31, 1874.

*To all whom it may concern:*

Be it known that I, JOHN AMES, Jr., of Lansingburg, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Machines for Driving Brush-Handles, of which the following is a specification:

Figure 1 is a front view of my improved machine, parts being broken away to show the construction. Fig. 2 is a vertical section of the same, taken through the line *yy*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described, and then pointed out in the claim.

A is the bench or table of the machine, which is supported upon legs or a frame, B, of such a length as to raise the machine to a convenient height. To the frame B is attached a frame, C, consisting of two side plates, connected at their upper ends by an end plate. D is a plate or frame which slides up and down in grooves or ways in the inner sides of the side plates of the frame C. To the rear side of the plate or frame D is attached, or upon it is formed, a rack, E, into the teeth of which mesh the teeth of the gear-wheel F, attached to shaft G, which revolves in bearings attached to the rear edges of the side plates of the frame C. To one end of the shaft G is attached a lever, a crank, or a hand-wheel, H, for convenience in operating the said shaft to raise and lower the plate or frame D. I is a hand-screw, which passes up through a screw-hole in the table A, directly beneath the sliding plate D, so that when the said plate is forced down to drive the handle, its lower edge may strike the end of the said screw and be stopped, thus limiting the downward movement of said plate, and insuring the driving of all the brush-handles of the same lot to exactly the same point. The stop-screw I is kept from being jarred out of place, by the action of the plate D upon it, by a lock-nut, J, placed upon its lower part, and which, when the said screw has been properly adjusted, is screwed up against the under side of the table A. This new arrangement of the stop enables it to be much more readily, conveniently, and accurately adjusted, and renders it much less liable to get out of adjustment.

To the middle part of the forward side of the sliding plate D is attached a bracket, K, to which is secured the follower plunger or driver L, by which the handle is forced into the brush. In the table A, directly beneath the driver L, is formed a hole, which is provided with a thimble or socket, Q, to receive and fit exactly upon the ferrule of the brush and support it against the strain; or, if desired, the cavity of the thimble may be made larger to receive another socket, the cavity of which is made of such a size that the ferrule of the brush may fit into, and be supported by it, while the handle is being driven. In this case the said inner socket must be made detachable, so that it may be taken out and replaced by another having a larger or a smaller cavity when larger or smaller brushes are to be operated upon. The thimble Q and its socket, when used, have a hole formed through them of sufficient size to allow the handles of the brushes to pass through freely. M is a tube, the lower end of which passes through a guide-hole in the center of the cross-bar N, attached to the lower part of the frame B, to cause said tube to move up and down vertically. The upper part of the tube M is made smaller to pass up through the brush-head. To the middle part of the tube M is attached a cross-bar, O, to the ends of which are attached the ends of the cords P, which pass over guide-pulleys attached to the under side of the table A.

To the other ends of the cords P are attached weights R, of sufficient size to force the tube M up through the brush-head. Within the tube M is placed a rod, S, the upper end of which is pointed, and projects a little above the upper end of the tube M, as shown in Figs. 1 and 2, so as to open a way for the said tube through the brush-head as the tube is forced upward by the weights R. The rod S is supported in the tube M by a coiled spring, T, placed in the lower part of the tube M, with its lower end resting upon the bottom of said tube, and with its upper end resting against a flange or collar formed upon or attached to the rod S. The spring T must have sufficient strength to support the rod S against the resistance of the bristles, as it and the tube M are forced up by the weights R. The lower end of the rod S projects a lit-



tle at the lower end of the tube M, and upon said lower end is screwed a nut, S', of a larger diameter than the tube M, so that the tube and rod can move upward through the brush-head, to strike against a stop, U, attached to the under side of the guide-bar N, and stop the rod S, while the tube M moves up a little farther. This leaves the upper end of the cavity of the tube M empty to receive the point of the brush-handle, the other end of which rests against the lower end of the driver L. The driver L is then forced downward by operating the hand-wheel H, which forces the brush-handle through the brush-head. As the point of the brush-handle passes down through the brush-head, and through the table A, it is received in the concaved upper end of a short tube, V, through which the tube M passes and the rod S, tube M, and tube V, are carried down together by the continued descent of the handle. The tube V is designed to cause the brush-handle to descend vertically, so as to pass through and remain in the axis of the brush-head. To enable the guide-tube V to hold the point of the brush-handle accurately in place, a guide or slide, W, is attached to the tube V, which slides up and down upon the way X, attached to the under side of the table A. To the slide W are attached the ends of two cords, Y, which pass over guide-pulleys pivoted to the under side of the table A. To the other ends of the cords Y are attached the weights Z, which should be of such a size as to hold the tube V against the end of the brush-handle with sufficient force to cause said handle to descend vertically. The tube M and rod S, when forced

down by the descent of the brush-handle, are held until the brush is removed, and another brush-head arranged in place by the latch A', which enters a notch in the side of the tube M. One end of the latch A' is pivoted to the guide-bar N, and to its other end is pivoted the end of the bent lever B', which is pivoted at its angle to the lower part of the frame B. The other end of the bent lever B' projects at the front of the machine, and is widened to receive the foot of the operator. C' is a coiled spring, one end of which is attached to the frame B, and its other end is attached to the outer end of the bent lever B', to hold said outer end raised, and thus press the latch A' against the tube, so that it will enter the notch in the side of the said tube, when it is forced down by the descent of the brush-handle.

By this arrangement, when the brush has been removed, and another brush-head arranged in the thimble Q, a slight pressure with the operator's foot upon the end of the bent lever B' will release the said tube, and allow it and the pointed rod S to be forced up through the brush-head by the weights R, as hereinbefore described.

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

The combination of the long pointed rod S, spring T, and stop U, with the guide-bar N, catch A', tube M, cords P, and weights R, substantially as herein shown and described.

JOHN AMES, JR.

Witnesses:

R. B. STILES,  
HENRY MORSE, Jr.