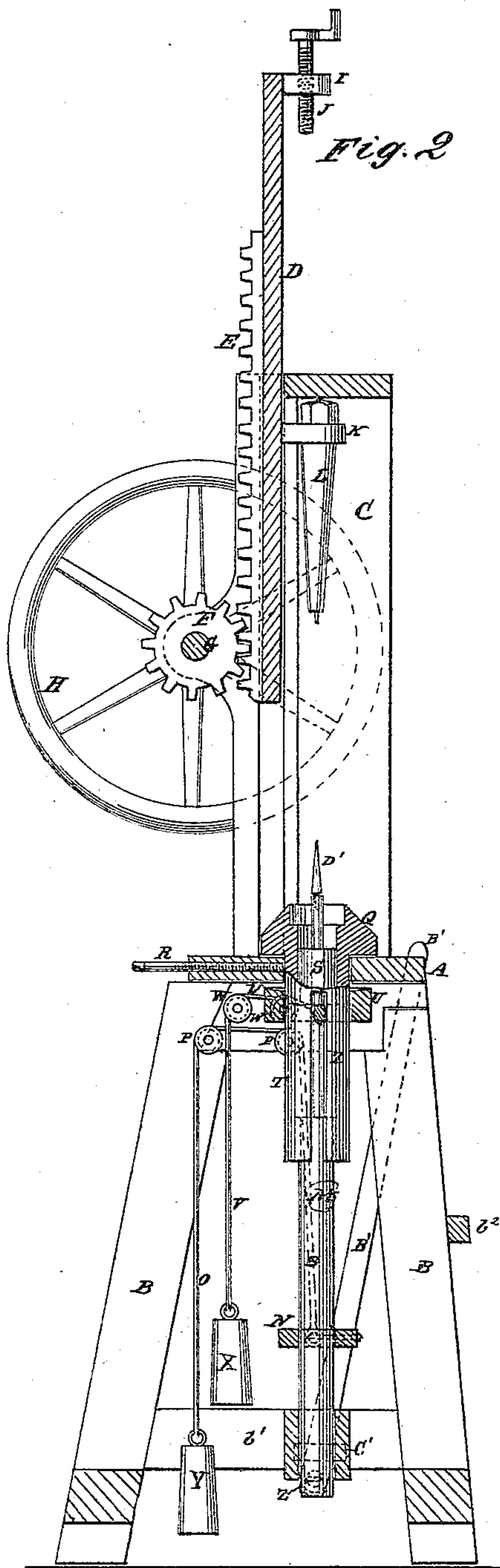
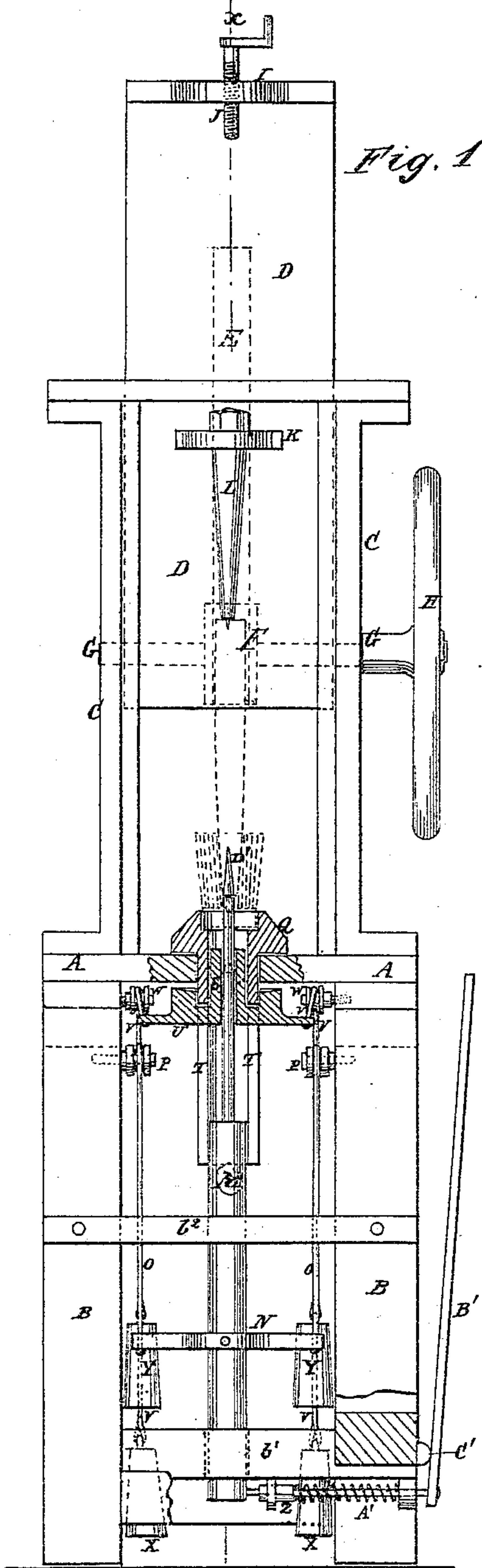


J. AMES, Jr.

Machines for Driving Brush Handles.

No. 148,642.

Patented March 17, 1874.

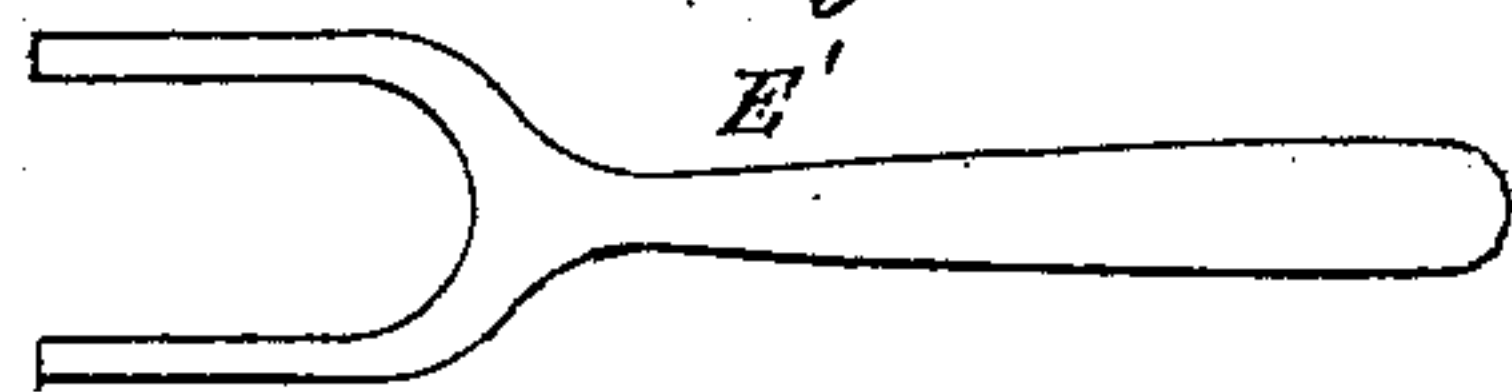


WITNESSES:

A. W. Almquist &
Chiquick

Fig. 3

E'



INVENTOR:

BY

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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. 148,642, dated March 17, 1874; application filed December 29, 1873.

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 Machine for Driving Brush-Handles, of which the following is a specification:

Figure 1 is a front view of my improved machine, partly in section, to show the construction. Fig. 2 is a detail vertical section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a detail view of a forked lever for detaching the brush.

Similar letters of reference indicate corresponding parts.

My invention has for its object to improve the construction of the machine for which Letters Patent No. 142,137 were granted to me August 26, 1873, so as to make it more effective in use and reliable in operation. The invention consists in the combination of the perforated rod, the interior rod, and its cross-bar, cords, and weights, or equivalent spring, with the collar, the slotted tube, the thimble, and the driver; in the combination of the detachable steel point with the inner rod of the device for holding the brush while the handle is being driven; and in the combination of the bolt, the spring, and the lever with the lower part of the inner rod, as hereinafter fully described.

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 table A 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 a rack, E, into the teeth of which mesh the teeth of the small gear or pinion wheel F, attached to the shaft G, which revolves in bearings attached to the rear edges of the side plate of the frame C. To one end of the shaft G is attached a lever-crank or hand-wheel, H, for convenience in operating the said shaft to raise and lower the plate or frame D. To the forward side of the upper part of the sliding plate D is attached a bracket, I, through a screw-

hole in which passes a hand-screw, J, the forward end of which strikes against the top plate of the frame C, and thus limits the downward movement of the said plate D, and insures the driving of all the handles of all the brushes of the same lot to exactly the same point. To the middle part of the forward side of the 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, into which is fitted a thimble, Q, which is secured in place by a set-screw, R, which passes in through the table A, as shown in Fig. 2. The upper end of the thimble Q is flanged and countersunk to receive and fit exactly upon the ferrule of the brush, and support it against the strain while the handle is being driven; or, if desired, the countersink of the thimble Q may be made larger to receive a 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 socket should 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. To the lower side of the table A, around the hole in said table, is attached a downwardly-projecting tube, T. The tube T is slotted longitudinally, and may be an extension of the thimble Q. U is a ring or collar, which surrounds the slotted tube T. The collar U is made with a bar passing through the slots of the tube T, and having a rod, S, attached to or formed upon its center, and which fits into the cavity of the said slotted tube T. The rod S is perforated longitudinally for the purpose hereinafter set forth, and its upper end is concaved or recessed to receive the end of the brush-handle, and hold it exactly centered while being driven. To the opposite sides of the collar U are attached the ends of two cords, V, which pass over guide-pulleys W, pivoted to the upper part of the frame B, or to the lower side of the table A. To the ends of the cords V are attached

weights X. If desired, the ends of the cords V may be connected with a spring. M is a small rod which passes longitudinally through the perforated rod S. The lower part of the rod M is enlarged to the size of the perforated rod S, so as to fit into the cavity of the slotted tube T when forced upward. The lower end of the rod M passes down through a guide-hole in a bar, b^1 , attached to the lower part of the frame B, to cause it to move up and down in a vertical line. To the rod M is attached a cross-bar, N, to the ends of which are attached the ends of two cords, O, which pass over guide-pulleys P, pivoted to the upper part of the frame B, and to their other ends are attached weights Y. Z is a bolt sliding in keepers attached to the lower side of the guide-bar b^1 , and which enters a notch or hole in the side of the rod M, when pushed down to keep it from being raised by the weights Y. The bolt Z is held forward against the rod M by a spring, A', coiled around the said bolt. To the outer end of the bolt Z is attached the lower end of a lever, B', which rests upon a fulcrum, C', attached to the lower part of the frame B. The lever B' extends up along the side of the machine into such a position as to be conveniently reached by the operator. In the upper end of the rod M is formed a socket to receive a steel point, D', which is designed to force its way and guide the rod M through the center of the brush, when the rod M is released from the bolt Z, and is forced upward by the weights Y.

In using the machine, the point D' is inserted in the upper end of the rod M, and the said rod is forced downward until caught and held by the bolt Z. The brush is then inserted in the thimble Q, and the lever B' is operated to release the rod M, which is forced upward by

the weights Y, forcing the steel point D' up through the center of the brush. The steel point D' is then detached; the point of the brush-handle is inserted in the socket in the upper end of the rod M, and the driver L is lowered upon its base, so that by forcing the driver L downward the rod M will be forced downward, the handle following it through the center of the brush. As the end of the handle passes through the brush, its end is received by the end of the perforated rod S, which holds it accurately centered while being driven.

In case the brush sticks in the thimble Q, and cannot be readily removed, it may be forced out of said thimble by forcing the collar U upward by means of the forked lever E', which may rest upon a cross-bar, b^2 , of the frame B as a fulcrum.

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

1. The combination of the perforated rod S, the interior rod M, the cross-bar N, cords O V, and weights Y X, or equivalent spring, with the collar U, slotted tube T, thimble Q, and driver L, substantially as herein shown and described.

2. The combination of the detachable steel point D' with the inner rod M of the device S U T Q, substantially as herein shown and described.

3. The combination of the bolt Z, spring A', and lever B' with the inner rod M, substantially as herein shown and described.

JOHN AMES, Jr.

Witnesses:

R. B. STILES,
E. F. AMES.