

W. BUCKTON.  
Machine for Polishing and Finishing Cord.  
No. 200,503. Patented Feb. 19, 1878.

Fig. 1.

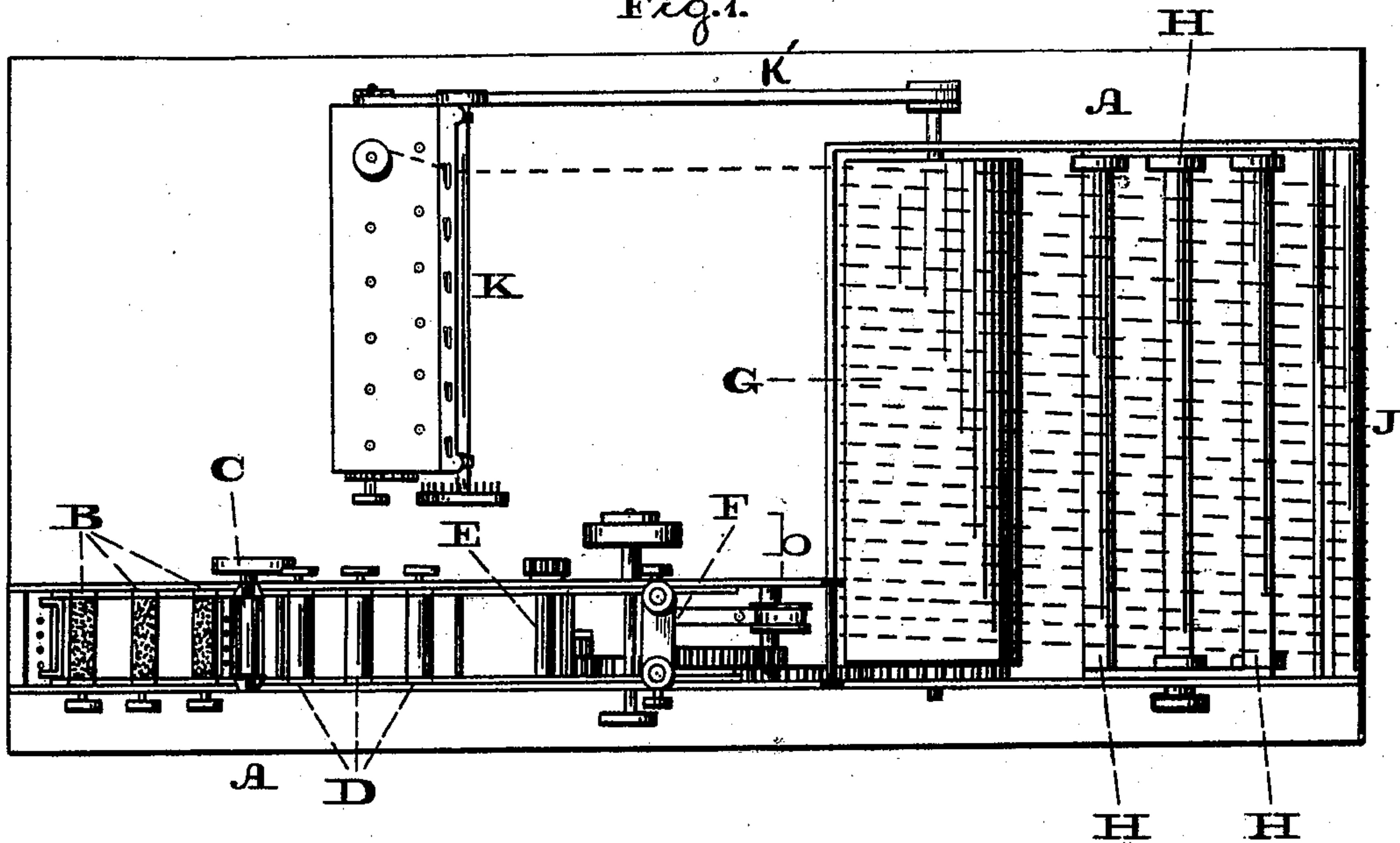


Fig. 2.

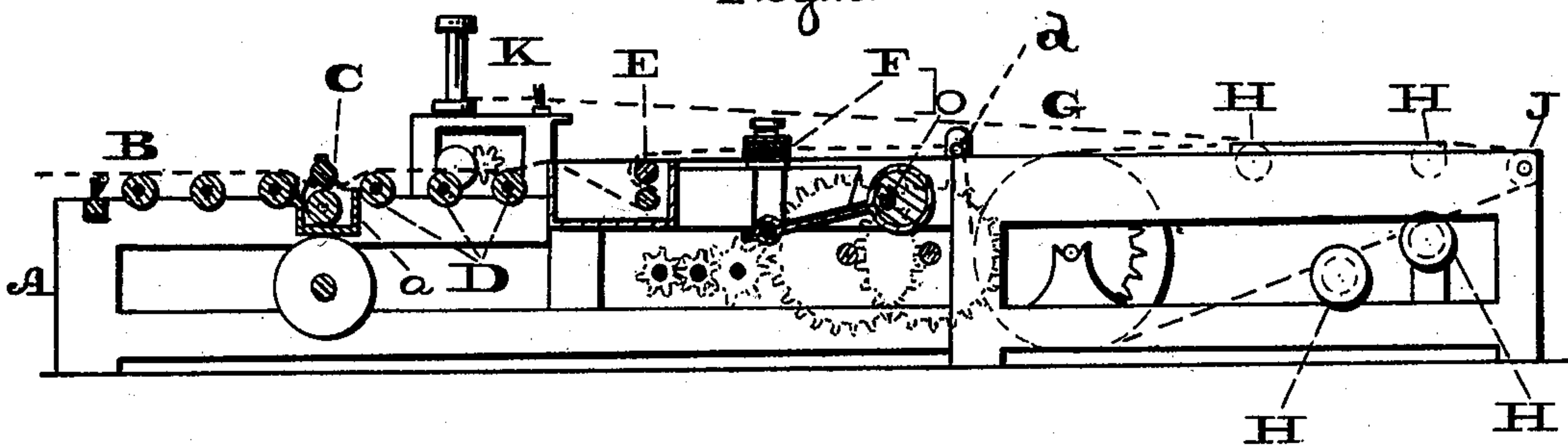
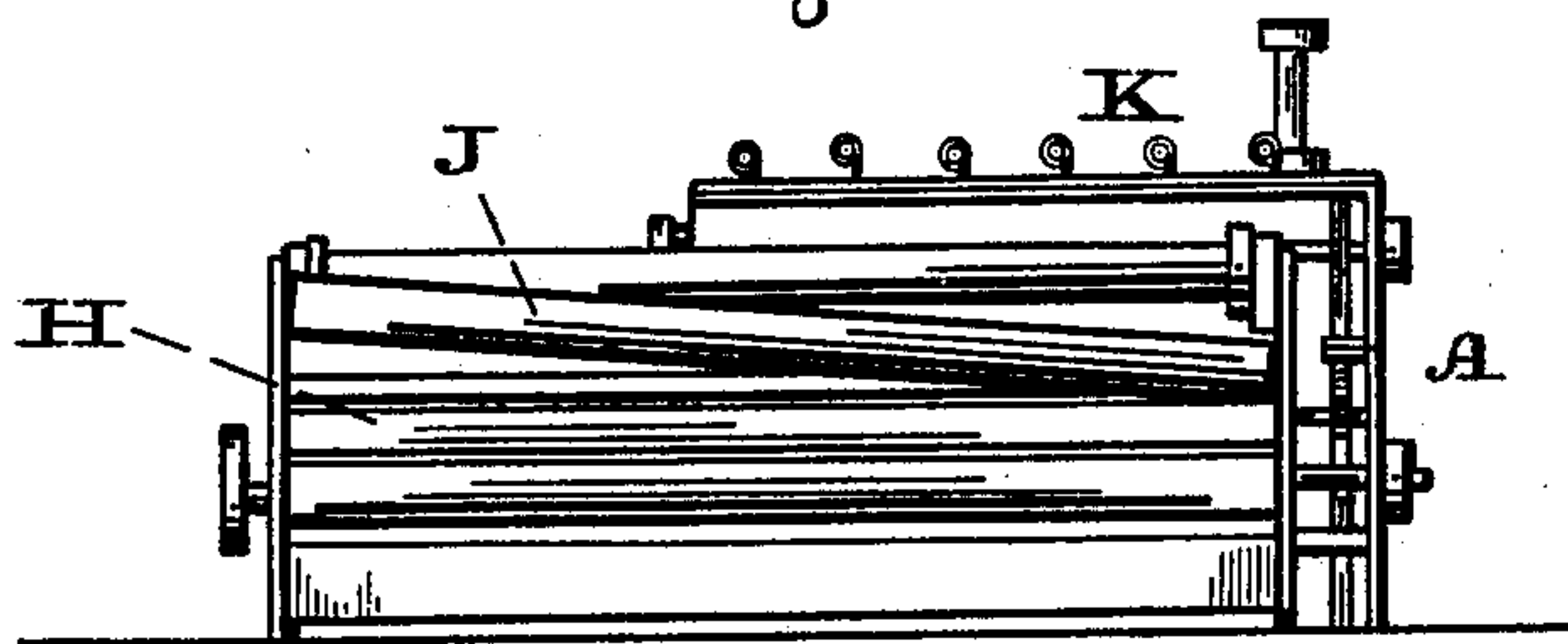


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR POLISHING AND FINISHING CORD.

Specification forming part of Letters Patent No. **200,503**, dated February 19, 1878; application filed November 19, 1877.

*To all whom it may concern:*

Be it known that I, WILLIAM BUCKTON, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Polishing Twine and Cords, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a top or plan view of the apparatus embodying my invention. Fig. 2 is a side view thereof, partly sectional. Fig. 3 is an end view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

My invention has for its object the polishing or finishing of cord, yarn, thread, twine, rope, &c.

My invention consists, first, in an arrangement of rolls and troughs for rubbing, dampening, and sizing the twine or cords; second, in the combination of reciprocating rubber with the dampening and sizing rolls and heating-cylinder; third, in the combination, with a series of polishing-rolls and the heating-cylinder, of a cylindrical roller, located at the end of the apparatus and set diagonally to or out of parallel with the cylinder, around which the cord is lapped after leaving the reciprocating rubber, all as hereinafter set forth, and pointed out in the claims.

Referring to the drawings, A represents a frame for supporting the working parts of the apparatus. B represents rollers or rubbers, which are covered or coated with emery and mounted on the frame; and adjacent thereto are rollers C, the lower one whereof rotates in a box or trough, *a*, containing water or other suitable liquid, and the upper roller is covered with cloth or other proper fabric.

D represents what I call "wet-rollers," which are covered with rope made of cocoa-fiber or other material, and are mounted on the frame A between the rollers C and sizing-rollers E, which are arranged one above the other, the lower roller rotating in a box or trough containing sizing material, and the upper roller being covered with cloth and located at such altitude that it is on a level with a reciprocating rubber, F, which consists of two boxes fitted together by a yielding connection, and containing cocoa, hair, or other rope or cloth,

with a backing of rubber contained within the boxes, the boxes having reciprocating sliding motions, and supported and guided on proper portions of the frame, said motions being imparted by an eccentric, *b*, to which power is communicated from the gearing of the apparatus.

Owing to the yielding connection of the boxes and the elastic faces thereof, the pressure on the cord may be regulated, and knots and uneven parts may pass through without breaking the cord.

G represents a rotating heating-cylinder, which is mounted on the frame at A, and extends parallel with the axis of the several rollers stated. Adjacent to said cylinders are mounted polishing-rollers H, the journals or bearings of which are adjustable, so as to be set to act with the greatest effect on the cord. These rollers H will be covered with hair-rope or rope from cocoa-fiber, placed spirally.

At the end of the frame A there is mounted a plain roller, J, which is set diagonally to or out of parallel with the cylinder G; and, if desired, said roller may be a cylinder adapted to be heated by steam, as additional to the heating-cylinder G, the polishing-rollers H being located intermediate between the roller J and cylinder G.

Power will be communicated to the rollers in any desired manner, and the cord first passes over the emery-rollers B, which will remove from the cord the sheave, burrs, nibs, and other waste. Then the cord passes between the damping-roller C and over the wet-rollers D, the cord being thereby evenly moistened and prepared to receive the size, and then it is passed through the size and nipped or held from slipping by passage under the lower roller E; then between the two rollers E, and over the top roller thereof, and thence directed to the rubber F, between the elastic faces of which the cord is subjected to a rubbing action; leaving which, the cord is directed over a carrying-roller, *d*, and under the heating-cylinder to the diagonal or angularly set roller J, and then over both the cylinder G and roller J, assuming spiral form, the cylinder G drying the cord, it being noticed that the cord in its convolutions on said cylinder and roller preserves its distance without overlapping,



and under such conditions it moves to the winder K.

During the passage of the cord around the cylinder G and roller J, the polishing-rollers H act on the convolutions thereof, and thus the cord is finished or polished.

As the winding mechanism employed in connection with my improved machine is such as is well known to those skilled in the art, and as it forms no part of my improvement, I do not regard a full description or a complete drawing of the same necessary. I have, however, shown at K a frame with a spindle and driving-belt, K', merely to show the relative position of the same, and will state in general terms that the winder may be fitted with any number of spindles or rows of spindles, driven in any proper manner, and carrying the bobbins on which the finished cord will be wound.

By the arrangement of the diagonal roller J at the end of the apparatus, space is afforded for the application of several polishing-rollers between said roller and the cylinder G.

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

1. In an apparatus for polishing and finish-

ing twine and cords, the emery-rollers B, dampening-rollers C, with water-trough a, wet-rollers D, having fibrous surfaces, and size-trough, with sizing-rollers E, all combined and arranged for successively treating the twine or cord, substantially as herein shown and described.

2. In combination with the sizing-rolls E, wet-rolls D, and dampening-rolls C, the heating-cylinder G and reciprocating rubber F, constructed substantially as described, and adapted to operate between the sizing-rollers and the heating-cylinder, as herein shown, and for the purposes specified.

3. The cylindrical roller J at the end of the apparatus, set diagonally to or out of parallel with the heating-cylinder G, in combination with said cylinder and with the polishing-rolls H, the latter being intermediate between said roller J and the heating-cylinder G, substantially as and for the purposes herein shown and described.

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