G. B. FULLER.

Machine for Stiffening Hats.

No. 166,764. Patented Aug. 17, 1875.

Fig: 1.

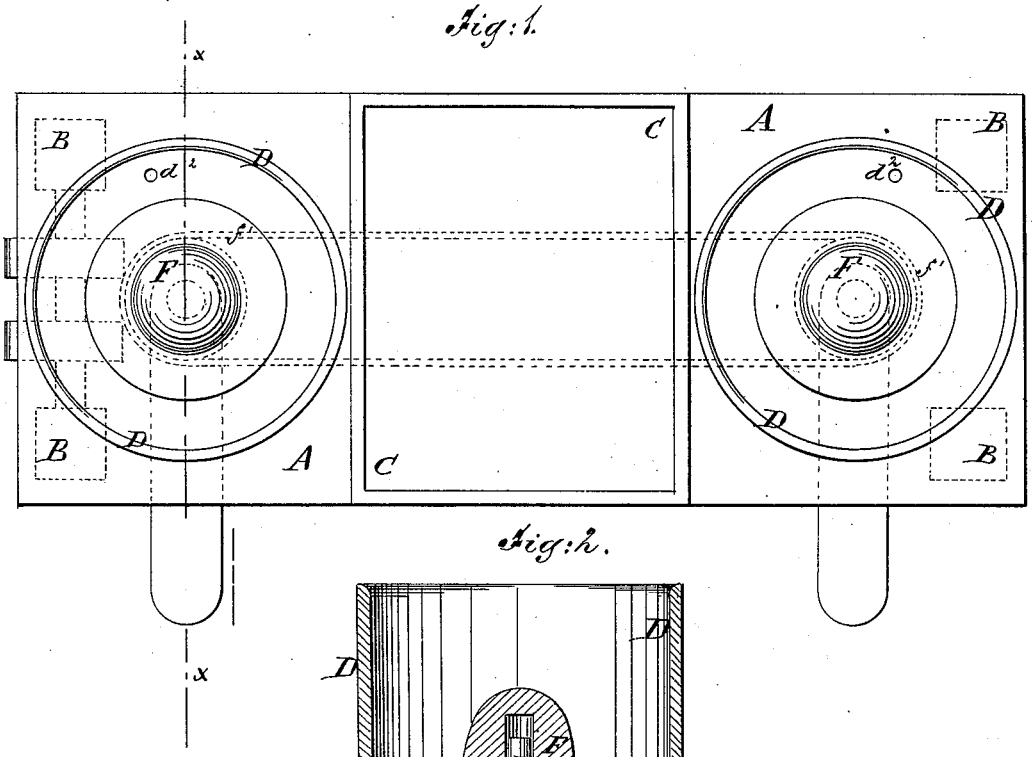
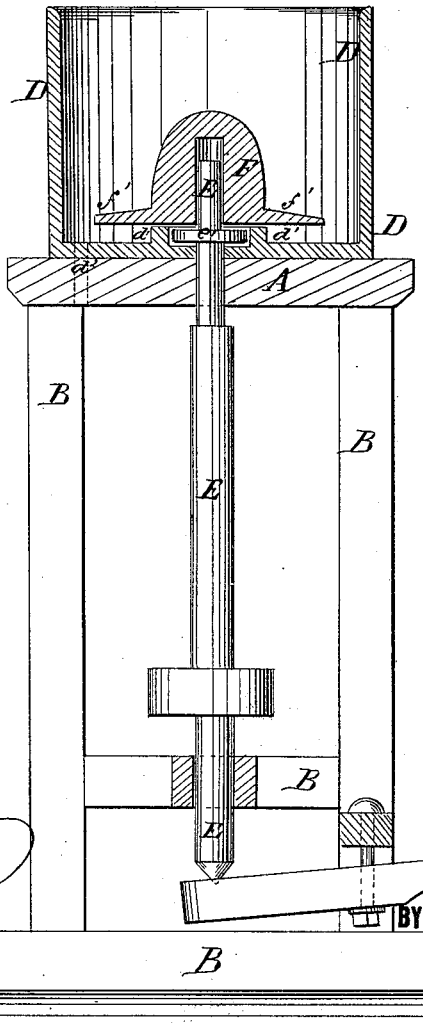


Fig: 2.



WITNESSES:

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GRANVILLE B. FULLER, OF MIDDLETOWN, NEW YORK.

IMPROVEMENT IN MACHINES FOR STIFFENING HATS.

Specification forming part of Letters Patent No. **166,764**, dated August 17, 1875; application filed July 3, 1875.

To all whom it may concern:

Be it known that I, GRANVILLE B. FULLER, of Middletown, in the county of Orange and State of New York, have invented a new and useful Improvement in Machines for Stiffening Hats, of which the following is a specification:

Figure 1 is a top view of my improved machine. Fig. 2 is a vertical section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish a simple and convenient machine for removing the surplus stiffening from hats in stiffening them by centrifugal force.

The invention consists in the combination of parts as hereinafter described.

A is the table of the machine, which is supported upon a frame, B, of convenient height. Upon the center of the table A is placed a vat, tank, or other vessel, C, to contain the stiffening substance, and into which the hats are dipped to stiffen them. Upon the end parts of the table B are placed two cylindrical vessels, D, through the centers of the bottoms of which, and through the table A, are formed holes to receive the shafts E. In the bottoms of the vessels D, around the holes through the centers of said bottoms, are formed ring flanges d^1 to prevent the stiffening caught in said vessels from flowing out through said central holes. In the bottoms of the vessels D, between their sides and the flanges d^1, are formed discharge-holes d^2, through which the stiffening caught in the vessels D is allowed to flow out into any suitable receiver. F are blocks, somewhat similar in shape and size to the interior of a hat-body, and which are made with a flange, f', around their bases, for the brims of the hats to rest upon. In the centers of the bases of the blocks F are formed holes to receive the upper ends of the shafts E. Upon the upper parts of the shafts E are formed flanges e' of a little less diameter than the circular spaces within the flanges d^1, and of a little less thickness than the height of said flanges, so that by raising the shafts E sufficiently to bring the flanges e' in contact with the bases of the blocks F, the said blocks F will be revolved by friction to throw the surplus stiffening from the hats by centrifugal force. By lowering the shafts E the base of the blocks F will rest upon the flange d^1, and the motion of said blocks will stop.

The blocks F may receive motion from the shafts E by other means than by friction, if desired.

The shafts E revolve in bearings in the table A, and in cross-bars of the frame B, and their lower ends rest upon the ends of levers G, which are pivoted to the frame B, and the other ends of which project into such a position that they can be readily operated by the workman with his foot. Other means than the levers G may be used to throw the shafts E into and out of gear with the blocks F, if desired. The shafts E may be connected by a belt passing around pulleys attached to them, as indicated by the dotted lines in Fig. 1, and motion may be given to one of said shafts from any convenient power.

In using the machine the hats are dipped into the stiffening in the tank C, and are placed upon the blocks F, to which a rapid rotary motion is then given to throw off the surplus stiffening. The hats are given a heavy or a light stiffening by varying the gravity of the stiffening solution contained in the tank C.

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

The vessel D, provided with annular flange d^1, shaft-aperture and discharge-opening d^2, in combination with the driving and elevating shaft E, provided with collar e' and hat-block F f', substantially as shown and described.

GRANVILLE B. FULLER.

In presence of—

HENRY W. FOOTE,

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