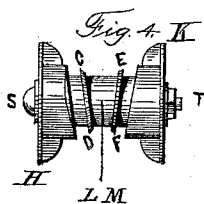
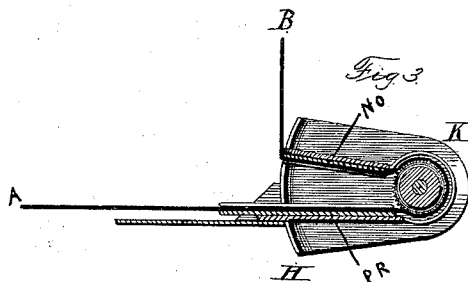
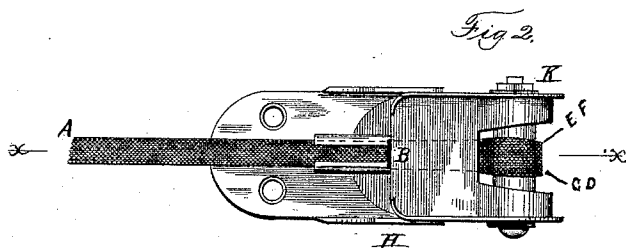
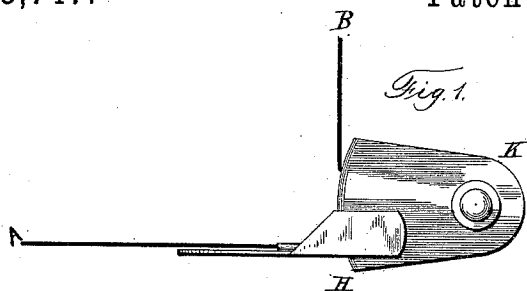


(No Model.)

J. H. HECOX.
MACHINE FOR SOFTENING COTTON BRAID.

No. 473,747.

Patented Apr. 26, 1892.



Witnesses

John W. Fairbanks
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UNITED STATES PATENT OFFICE.

JOHN HENRY HECOX, OF WESTBOROUGH, MASSACHUSETTS.

MACHINE FOR SOFTENING COTTON BRAID.

SPECIFICATION forming part of Letters Patent No. 473,747, dated April 26, 1892.

Application filed March 28, 1891. Serial No. 386,808. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY HECOX, a citizen of the United States, residing at Westborough, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Machine for Softening Cotton Braid Used in the Manufacture of Women's Hats, of which the following is a specification.

My invention is designed to soften cotton braid, which comes to the hat-factories so heavily sized with glue that it is too stiff and hard to use in the ordinary hat or straw sewing machine. I attain this object and render the braid soft and pliable by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical view of the outside of the machine, showing the frame-work H K and the cotton braid A B as it enters the machine at the bottom and comes out at the top. Fig. 2 is a top view of the machine, showing the cotton braid A B as it enters the lower guide and passes under and around the wheels C D and E F. Fig. 3 is a vertical section of the machine, showing the whole course of the cotton braid A B as it passes through the lower guide P R and out of the upper guide N O. Fig. 4 is an end view of the machine.

H K represent the frame-work; C D and E F, the wheels, which revolve on washers binding at the base on the bolt S T, and L M represent the roll separating the wheels, this roll being free to be turned around as needed on its supporting-bolt, and its ends are not parallel, but inclined slightly toward each other.

The same letters refer to the same parts in all the figures.

In the operation of the machine the cotton braid is drawn through the lower guide P R until it meets the lower rims of the wheels C D and E F. These wheels are set in the frame H K not parallel to each other, but at a slight angle, the lower rims being nearer together than the upper. A roll L M, with

slightly less diameter than the wheels, fills the space between them and furnishes a support for the braid. The rims of the wheels are burred. When the braid reaches the base of the wheels, these burred rims, if the tension is right, catch it on each edge. The rims, as has been stated, diverge toward the top. As the braid is drawn over them its edges are held by the burred rims and drawn apart. The threads of the braid are thus separated, and it comes out through the upper guide N O soft and pliable.

The machine may be adapted to braids of slightly-different widths by turning the roll L M in such a way as to bring a wider part of its surface to the point where the braid is caught by the burred rims of the wheels, thus making these rims farther apart.

Although my machine is designed more especially for cotton braids, yet it will be evident that it may be used for braid made of other material or for kindred material requiring to be softened or stretched laterally.

I claim—

1. In combination with a suitable frame and with guides for the fabric, a pair of wheels, each having a burred rim and inclined toward each other and adapted to catch the edge of the fabric and to separate its threads, and an intermediate part separating said wheels, substantially as set forth.

2. In combination with a supporting-frame, an inlet and an outlet guide for the fabric, an intermediate roll, and wheels with burred rims set slightly inclined to each other at each side of said roll.

3. In combination, a supporting-frame, inlet and outlet guides, the inclined wheels C D and E F, and a roll having inclined sides placed between said wheels and adjustable around its support, as and for the purpose set forth.

JOHN HENRY HECOX.

Witnesses:

JOHN W. FAIRBANK,
OTIS K. NEWTON.