A. L. F. MITCHELL.
Hat-Pouncing Machine.

No. 221,594. Patented Nov. 11, 1879.

Fig. 1.

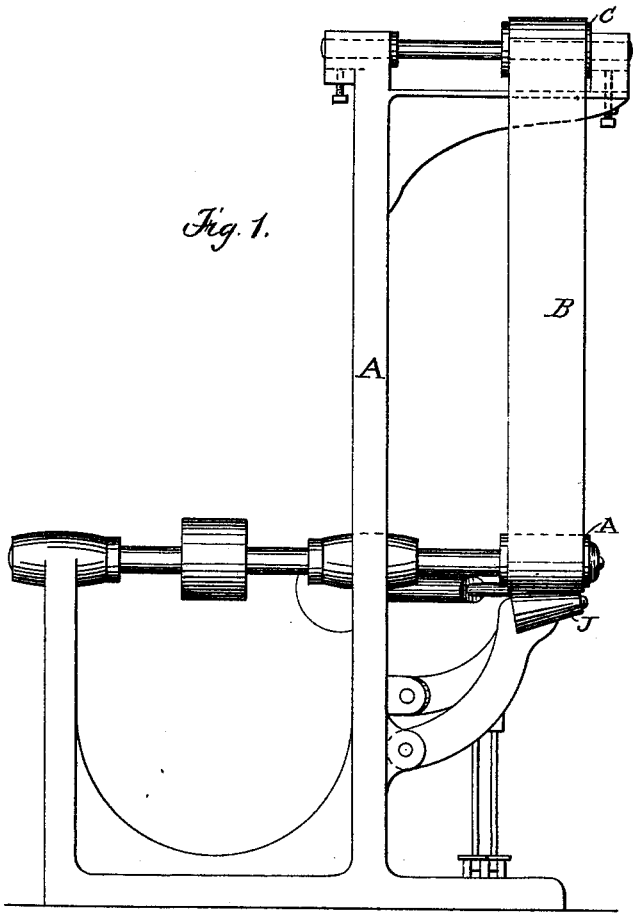
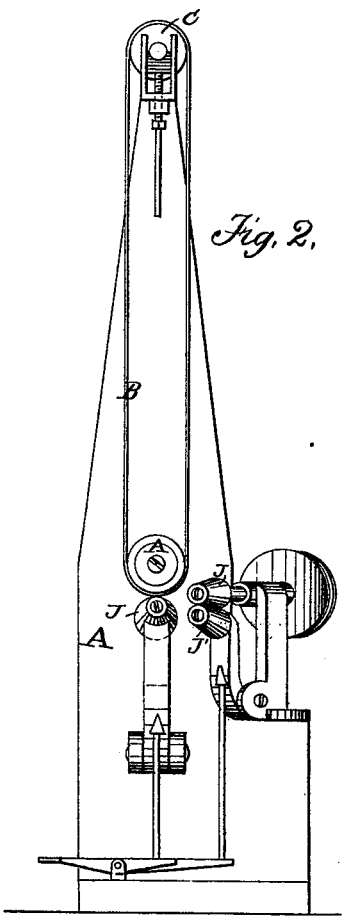


Fig. 2.



Witnesses.
George L. Anders
Geo. W. Pierce

Inventor.
A. L. F. Mitchell
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Attys.

UNITED STATES PATENT OFFICE.

ALBION L. F. MITCHELL, OF METHUEN, MASSACHUSETTS, ASSIGNOR TO HIMSELF, J. W. FULTON, AND C. J. SARGENT, OF SAME PLACE.

IMPROVEMENT IN HAT-POUNCING MACHINES.

Specification forming part of Letters Patent No. **221,594**, dated November 11, 1879; application filed September 20, 1879.

To all whom it may concern:

Be it known that I, ALBION L. F. MITCHELL, of Methuen, in the county of Essex and State of Massachusetts, have invented certain Improvements in Hat-Pouncing Machines, of which the following is a specification.

This invention relates to hat-pouncing machines employing a moving surface coated with a granular material—such as sand and emery—to dress and remove a portion of the surface of a hat-body presented to said surface.

Heretofore the granular material has been rigidly affixed to the periphery of a rotating roll, the common method of securing the granular material to the roll being to glue the material to a sheet of paper and fasten the latter to the roll.

Several objections attend the employment of a roll having a granular coating, among which are the following: First, the roll rotates very rapidly, and the fine dust removed by its granular surface from the hat-body has not time to free itself from the roll during a complete rotation of the latter; hence such dust is repeatedly carried over the hat-body and ground into it, giving the hat a dingy, dull appearance, which can be removed only by vigorous and long-continued brushing, if at all, and often it has been found that after the hat has been brushed until it is materially damaged by the brushing the dust is not entirely removed; second, the rapid rotation of the roll necessitates the repeated passage of the same portion of its surface over the hat at such short intervals of time that the surface heats rapidly by its friction on the hat, and is not allowed sufficient time to cool; hence it grows hotter the longer it is used. The heat thus acquired by the roll softens the glue that holds the granular material, and decreases the durability of the pouncing-surface, so that it has to be frequently renewed, thus involving expense of time, labor, and material.

My invention has for its object to provide a substitute for the covered roll heretofore employed, whereby the above-named objections will be obviated; and to this end it consists in the employment of a belt coated with a granular material, and supported by suitable pulleys, as a means for pouncing hat-bodies, as I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side view of a hat-pouncing machine embodying my invention. Fig. 2 represents an end view of the same.

Similar letters of reference refer to like parts in both figures.

In carrying out my invention I provide a suitable frame, A, supporting feed-rolls J J′, to feed a hat-body to the pouncing-belt hereinafter described, and a bed, J, to support the hat-body and present it to said pouncing-belt, said feed-rolls and bed being preferably arranged and operating as shown in my patent of August 26, 1879. Instead of the rotating cutter employed in said patent, I employ a plain pulley, A, located in the same position relatively to the feed-rolls and bed as said rotary cutter.

B represents an endless belt, coated with sand or emery on its outer surface, said belt constituting the essential part of my present invention. The belt B runs upon and is driven by the pulley A, which is positively rotated, and said belt also runs over a loose pulley, C, which is journaled in any suitable support at a suitable distance from the pulley A.

The length of the belt may vary according to circumstances. I have obtained good results with a belt ten or twelve feet long. The belt is made in a continuous piece without a seam, and may be of linen, rubber, leather, or other suitable material.

In the operation of the machine the pulley A is rapidly rotated and sets the belt B in motion. The hat-body is presented to the portion of the belt that runs upon the pulley A in the same manner that the hat-body was presented to the rotary cutter in said patented machine.

By the large extent of surface afforded by the belt the following advantages are obtained, viz: First, the dust removed from the hat-body is wholly removed from the surface of the belt by gravitation, and the usual lateral motion of the belt between its pulleys before such dust can again reach the surface of the hat; hence there is no grinding of the dust into the surface of

the hat; second, the surface of the belt is exposed to the air after passing over the hat, so that it cannot become injuriously heated; third, the belt, being endless, has no ridges or protuberances to corrugate the hat-body.

I have found by practical experiments that a hat can be operated upon more rapidly and with less liability to injury by the belt than by the ordinary covered pouncing-roll, and that a machine provided with the belt, as described, can be run more economically than with an ordinary covered roll.

The granular material, when applied to the roll on paper, is liable to have protuberances or ridges formed in the operation of securing the paper to the roll, unless said operation is very carefully performed, and these protuberances or ridges corrugate and injure the surface of the hat.

I claim as my invention—

In a hat-pouncing machine, an endless or seamless belt coated with sand, emery, or other like granular material, combined with supporting-pulleys and a bed arranged to present a hat-body to the portion of the belt that is backed by one of the pulleys.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of September, 1879.

ALBION L. F. MITCHELL.

Witnesses:

GEO. W. PIERCE,

C. F. BROWN.