

(No Model.)

W. E. DOUBLEDAY.  
SCALDING FUR NAPPED FABRICS.

No. 255,261.

Patented Mar. 21, 1882.

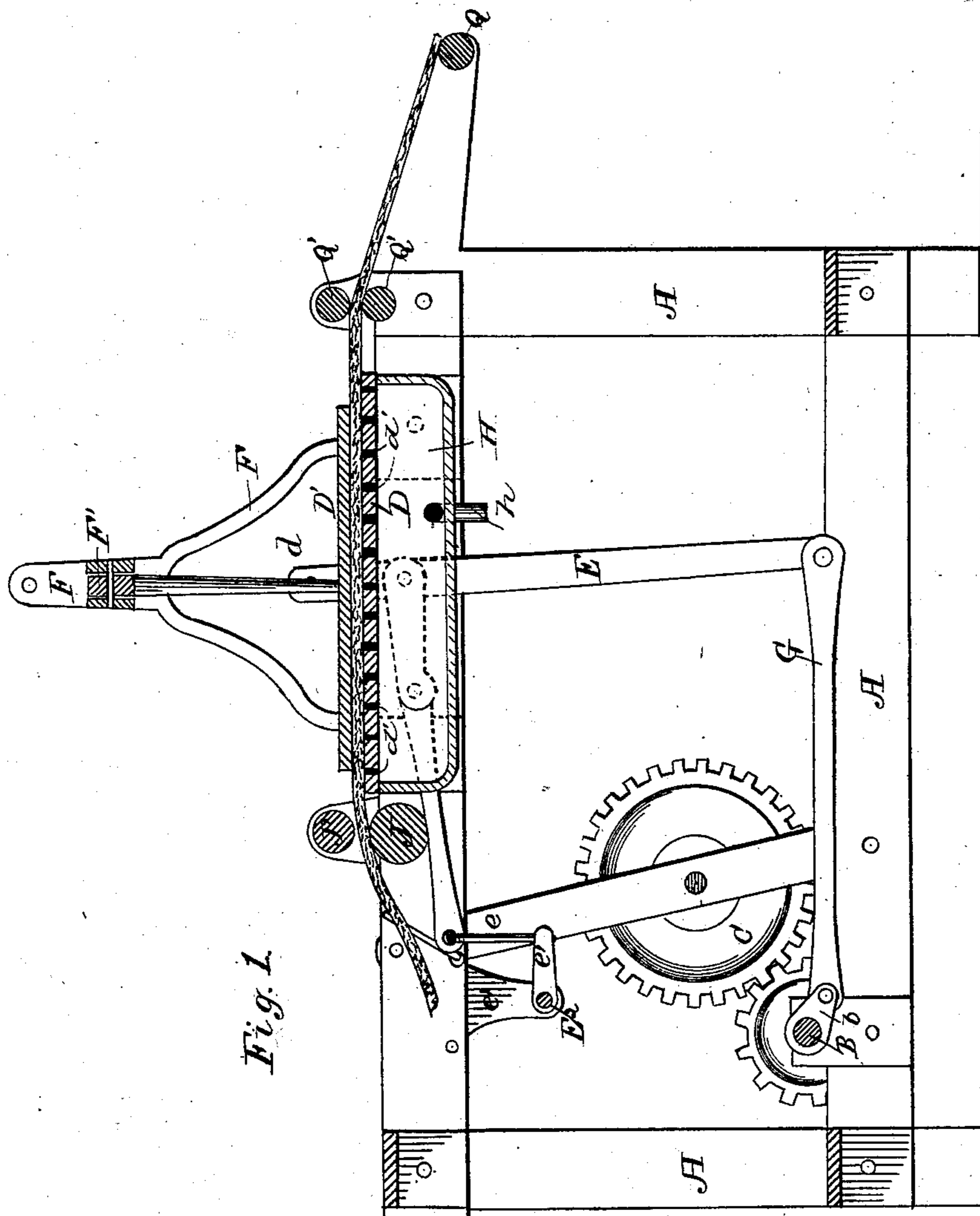


Fig. 1.

Attest:

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Inventor:

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# UNITED STATES PATENT OFFICE.

WILLIAM E. DOUBLEDAY, OF NEW YORK, N. Y., ASSIGNOR TO ELLEN M. DOUBLEDAY, OF SAME PLACE.

## SCALDING FUR-NAPPED FABRICS.

SPECIFICATION forming part of Letters Patent No. 255,261, dated March 21, 1882.

Application filed January 17, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. DOUBLEDAY, a citizen of the United States of America, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Scalding Fur-Napped Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which forms a part of this specification.

I have shown in the drawing a vertical section of a machine adapted to be used in the carrying out of my invention.

As I propose to use well-known appliances which are commonly known in the art of manufacturing hats and other felted goods, I will only briefly describe so much of a machine as I propose to employ, one of this character being shown and described in Patent No. 95,863, although I may employ other machines of similar construction.

Referring to the drawing, D is the bed-plate, having a series of perforations, *d'*, therein, through which steam or hot air (which is introduced by means of a pipe, *h*, into a chamber, H,) may pass up through the bed-plate.

D' is the platen or jigger to which a rapidly-vibrating motion is imparted by means of cranks *b*, mounted on shaft B, the platen being elevated automatically through the medium of a cam, (not shown,) rock-shaft E<sup>2</sup>, and levers E', to facilitate the feeding forward of the material which is being scalded, this feeding being done by means of rollers J J', actuated by a cam and connecting device. (Not shown.)

My invention may be worked in two ways—first, in the scalding of fur-faced fabrics which are formed in a continuous sheet or strip by having had the fur stuck to a suitable piece of felted or woven fibrous material. In such case I prefer to feed the material between the platen and its bed-plate and saturate the same thoroughly with boiling water, the machine having by preference added to it an arrangement for keeping the bed-plate and platen hot by the use of either steam or gas jets; but this heating may not be found essential. The fabric thus saturated being placed under the platen, a rapid

vibratory motion, preferably about six hundred strokes per minute, is imparted to said platen, which rests upon the fabric with a slight pressure. The motion is continued for such time as is found necessary, and, when required, hot water may be added until a satisfactory scalding is effected. The feeding forward of the fabric may be done either by winding it upon one of the rollers or by means of a separate strip or sheet of woven fabric, which is wound upon one of the rollers, the fur-faced fabric to be scalded being wound separately upon a roller. (Shown at Q.)

Another way of operating my invention may be as follows: Hats composed of a body of previously felted or woven material, and which have a coating of fur stuck to them, may be placed side by side upon a belt or carrier-apron adapted to be wound upon or drawn forward by the feeding-rollers, which hats are saturated with hot water and acted upon by the jigger for such length of time as shall be found necessary, either with or without alternate saturations with hot water; but I do not in this patent claim the combination of the bed-plate provided with a steam-chamber, the vibrating platen, and the water-pipe, nor any other invention, except those which are specifically set forth in the claims hereof, reserving to myself the right to claim any other patentable features which are shown or described herein in another application, which I have filed as a division of this case.

I am aware that scalding goods or articles of this character has been effected by means of rotating mechanism; but I believe my machine and process have many advantages over those heretofore used, because of its great uniformity in action upon the material under treatment, as it will be readily understood that a substantially uniform heat, pressure, and rubbing action can be applied to the entire mass of fur and the material to which it is being united, whereby the time required for the operation of scalding is very much reduced and great uniformity in result is attained. By the use of steam or heated air forced up through the bed-plate the material and water may be kept at any desired temperature, whereby great uniformity in the scalding process may be obtained, which will be found very desirable, especially when working the machine in such manner that the material is being fed through it automati-

cally; or, when preferred, an imperforate bed-plate above the chamber D<sup>2</sup> may be used, steam or hot air being employed in the chamber D<sup>2</sup> for heating the material and water; or gas-jets or other equivalent devices may be employed for heating the bed-plate.

I am aware that fur-faced fabrics have been scalded by being subjected to the action of a rotating fluted cylinder and of a series of rollers, whereby the material, when arranged in a number of thicknesses, was subjected to an intermittent squeezing operation; but such operation has been found unsatisfactory in many respects, in that it results in tearing the fur bat from portions of the felted or woven fabrics to which it is applied, owing to two facts—first, the tenderness of the bat and the slight tenacity with which it is stuck to the fabric, and, secondly, the fact that the rolling-surface cannot be made to act uniformly upon the entire surface of the material being treated. This objection I entirely overcome, as will be readily understood, because my platen or jigger has but a slight throw—say an eighth of an inch or less—and the fabric need not move upon the bed-plate while the platen is pressing upon the fur, while at the same time the jigger acts with practical uniformity upon the entire surface of the bat.

I am aware that felting or hardening has

been done by a jigger for many years; but I believe I am the first to discover that causing a loose-flowing nap of fur to adhere to a previously felted or woven fabric by scalding could be done by any method or machine other than one which produced a series of intermittent squeezings, flexions, and indentations of the materials while rolled or wound in a number of thicknesses.

What I claim is—

1. The herein-described improvement in the art of manufacturing fur-faced fabrics, consisting in pressing and rubbing the material while wet with hot water between two flat parallel surfaces after the fur has been stuck to the fabric by any suitable means, substantially as set forth.

2. In a machine for scalding fur-faced fabrics, the combination of two flat parallel surfaces adapted to press and rub the material with means, substantially such as described, for keeping the material in a wet and heated condition during the pressing and rubbing operation.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. DOUBLEDAY.

Witnesses:

HARRY N. LOW,  
J. S. BARKER.