

J. S. TAYLOR.

HAT-BODY STRETCHING-MACHINE.

No. 174,389.

Patented March 7, 1876.

Fig. 1.

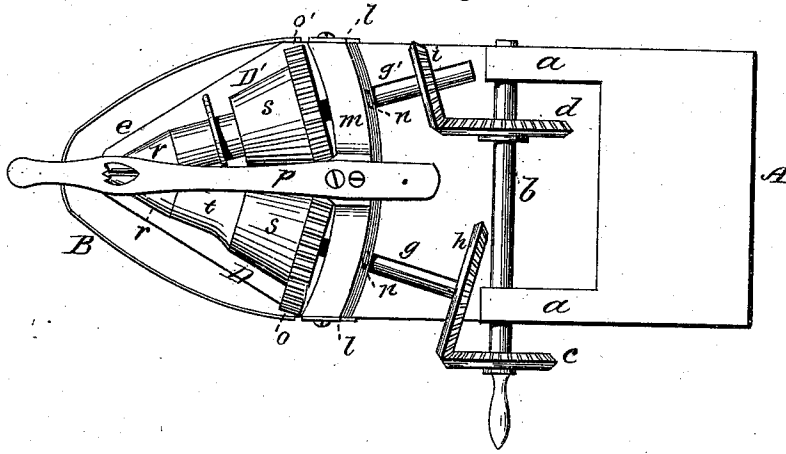


Fig. 2.

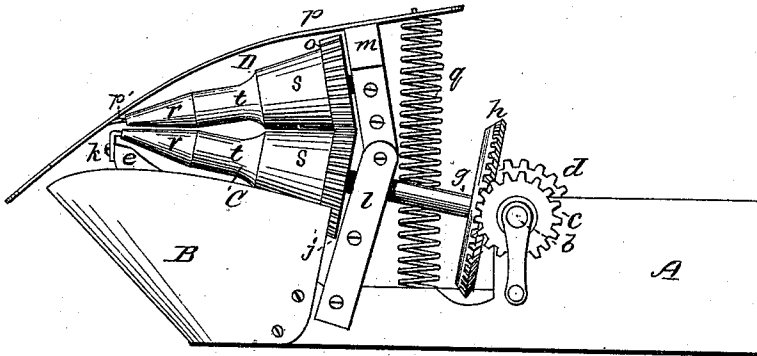
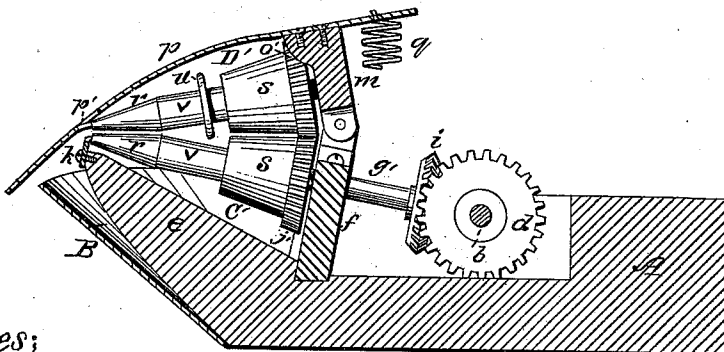


Fig. 3.



Witnesses;
 Grenville Lewis
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Inventor
 James S. Taylor,
 per Charles H. Fowler,
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UNITED STATES PATENT OFFICE.

JAMES S. TAYLOR, OF DANBURY, CONNECTICUT.

IMPROVEMENT IN HAT-BODY-STRETCHING MACHINES.

Specification forming part of Letters Patent No. 174,389, dated March 7, 1876; application filed January 5, 1876.

To all whom it may concern:

Be it known that I, JAMES S. TAYLOR, of Danbury, in the county of Fairfield and State of Connecticut, have invented a new and valuable Improvement in Hat-Body-Stretching Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top plan view of my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical longitudinal section.

This invention has relation to that class of machines for stretching hat-bodies; and its object is to provide a machine that may readily be employed in operating upon the tips as well as upon the brim and band at the same or different operations without the necessity of changing or employing separate machines for these three distinct features in the process of stretching hats; and the present invention consists in the peculiar construction and form of the rollers; also, in the several parts composing the machine, as will be hereinafter described, and subsequently pointed out in the claims.

In the accompanying drawings, A represents the bed or frame of the machine, recessed at its rear end to form bearings *a* for a driving-shaft, *b*, having secured thereto bevel-gear wheels *c d*. The front part of the bed or frame A terminates in an upwardly-curved support, *e*, and has secured around its outer side a trough or receptacle, B, for holding hot water for heating and immersing the hat while in the process of stretching. A faucet-siphon, or other suitable device, may be connected to the trough for drawing off the contents when desired. Passing through suitable bearings *f* are shafts *g g'*, the same having upon their outer ends bevel-gear wheels *h i*, the teeth of which mesh with teeth upon the wheels *c d*, and carry upon their forward ends conical rollers C C' and gear-wheels *j j'*, these rollers being held in position by a forked plate, *k*, the points of which enter the open ends of the rollers, so as to allow a free rotary motion

of said rollers, and, at the same time, securely hold them in their proper relative position during the operation of the machine. Hinged or pivoted to plates *l l* is a cross-frame, *m*, forming bearings for the short shafts *n n'*, to which are connected gear-wheels *o o'* and conical rollers D D', supported at their ends by a curved plate, *p*, from which project pins *p'*, that enter the ends of the rollers, and which allow the same to revolve freely thereon. At the rear end of the plate *p*, and to the under side thereof, is secured a suitable spring, *q*, which bears upon the bed or frame of the machine, and keeps the rollers D D' down upon the lower rollers C C'. These several rollers are of peculiar construction, the ends *r* being of a conical form, terminating as near to a point as possible, such portion of the rollers being designed for the purpose of stretching the tip of the hat, while the larger portion or base *s* is employed for stretching the brim. The concave part *t* of the rollers, between the conical ends *r* and the base *s*, is to allow that portion of the hat requiring no stretching to pass over without being acted upon previous to the operation of the band-cutter *u*. This band-cutter *u* consists of a circular disk or ring placed upon the roller D', which, in its operation, presses against that portion of the hat designated as the "band." The disk or ring is made adjustable upon the roller, to admit of its location thereon being changed to conform to the different-sized hats. To effect this result the rollers C' D' are cut away, as shown at *v*, which allows the disk or ring to be more readily moved to or from the conical end *r*. The "hat" or form of the hat, previous to its being operated upon by the machine, is of a conical shape, and in this form the hat is taken at the base or brim and placed over and around the lower rollers C C' and the curved support *e*, the frame *m*, with the upper rollers D D', being raised sufficiently to allow the hat, as above described, to be placed in position; after which, through the medium of the spring *q*, the upper rollers D D' are forced down upon the lower rollers, holding the material composing the hat-body firmly between them. The forward motion of the rollers will then cause the hat to be carried in a similar direction.

The curved support *e* is considered of great importance in a machine of this character, as it also acts to keep the hat in its proper place in relation to the rollers while it is being acted upon.

It will be noticed that the forward drawing motion of the rollers *C D* is greater than the rollers *C' D'*, owing to the difference in the size of the bevel-gear wheels *h i*, so that when the hat has received a complete rotation by the rollers it becomes stretched in that section of the hat corresponding in form *r s*, while the edge of the band-cutter *u* presses against another portion of the hat coming in contact therewith, causing it to be stretched in the line marked for the band.

The stretching of the tip and brim of the hat at different operations is accomplished in the following manner: When it is desired to stretch the tip, and not the brim, the hat is rolled up at the edge, or, in other words, rolled over so as to allow that part of the hat to pass through the non-bearing surfaces of the rollers. To stretch the brim, and not the tip, the brim of the hat is only required to be inserted between the conical ends of the rollers, when the rotation of the rollers will stretch the brim the same as it does the tip when it is inserted the full depth of the hat.

Having now fully described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for stretching hats, the rollers *C C' D D'*, having an intermediate non-bearing surface by which the bearing-surfaces *r s* are formed for the purpose of stretching the tips and brims of hats at the same or different operations, substantially as and for the purpose set forth.

2. The combination, with the rollers *C C' D D'*, of the band-cutter *u*, operating in the manner and for the purpose set forth.

3. The curved support *e* and rollers *C C'*, in combination with the rollers *D D'*, substantially as and for the purpose described.

4. The combination, with the rollers *C C' D D'* and curved support *e*, of the trough *B*, substantially as and for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAS. S. TAYLOR.

Witnesses:

ALEXANDER WILDMAN,
LUMAN L. HUBBELL.