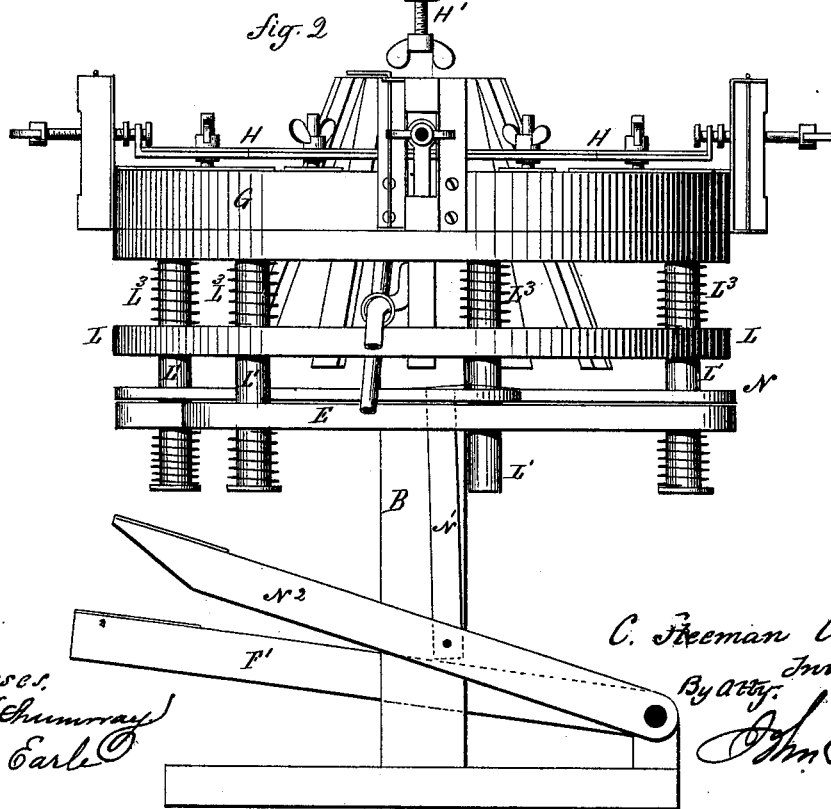
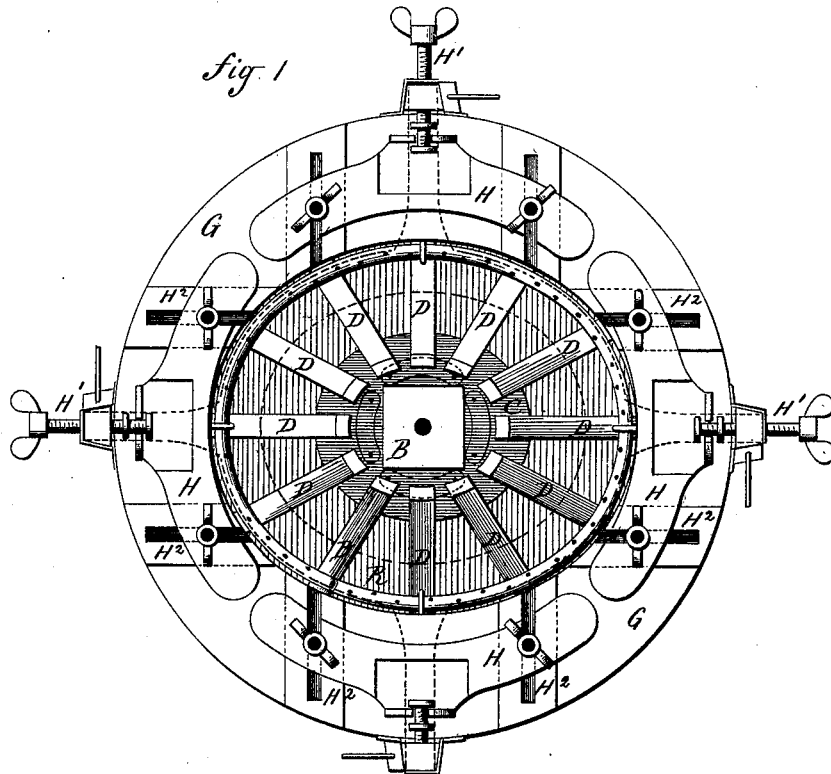


C. S. COOM.
 Hat Stretching and Blocking Machine.
 No. 214,108. Patented April 8, 1879.

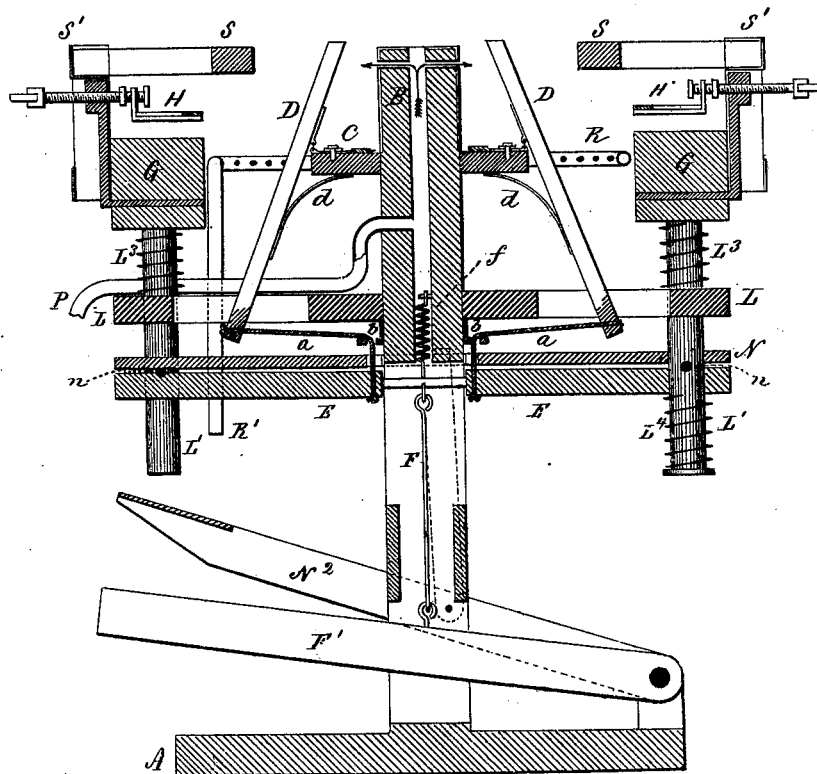


Witnesses.
J. H. Chumsey
Jos. C. Earle

C. Freeman Coom
 Inventor.
 By Atty. *John C. Earle*

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fig. 3



Witnesses:
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UNITED STATES PATENT OFFICE.

C. SLEEMAN COOM, OF MILFORD, CONNECTICUT.

IMPROVEMENT IN HAT STRETCHING AND BLOCKING MACHINES.

Specification forming part of Letters Patent No. **214,108**, dated April 8, 1879; application filed March 3, 1879.

To all whom it may concern:

Be it known that I, C. SLEEMAN COOM, of Milford, in the county of New Haven and State of Connecticut, have invented a new Improvement in Machines for Stretching and Blocking Hats; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, which said drawings constitute part of this specification, and represent, in—

Figure 1, a top or plan view; Fig. 2, a side view; Fig. 3, a vertical central section.

This invention relates to a machine for stretching and blocking the conical caps of felted material of which hat-bodies are made, the object being to construct the machine so that it will stretch the tip, sides, and brim, and form that part of the hat commonly called the "band" at one operation, instead of by several independent machines, as heretofore practiced; and the invention consists in the construction and combination of parts, as hereinafter described, and more particularly recited in the claims.

A is the base, from which rises a central hollow post, B. Near the top of the post is a plate, C, of circular or elliptical form, around the edge of which are hinged several stretchers, D, more or less in number.

In order to adapt the stretchers to different sizes of hats, the stretchers D are hinged to adjustable plates *d*, as seen in Fig. 3, so that the hinged point may be moved out or in, as may be required, the plate *d* secured in any desired position by a set-screw through a slot in said plate, as shown.

The outer or working surface of the stretchers may be made broad by making them T-shaped in transverse section. This is desirable when but a few stretchers are used, their normal position being inclined to the post, as seen in Fig. 3, and so that the felted cap or body may be drawn on over their upper ends. The stretchers extend both above and below the plate C, so that by drawing the lower ends inward the upper ends separate or expand radially.

From the lower end of each of the stretchers D a cord or other device, *a*, extends inward,

and over a pulley or through a stationary eye, *b*, down and is secured to a plate, E, movable vertically on the post B, and from the plate E within the post a connection, F, is made to a pedal, F', so that by depressing the pedal F' the plate E will be drawn down, and with it the stretchers will be correspondingly moved to spread their upper ends. A spring, *f*, serves to raise the pedal and plate E, aided by the stretcher-springs *d'*.

G is a movable bed surrounding the stretchers, and on which are arranged several clamps, H. These clamps each consist of a pair of plates, one over the other, so that the edge of the body or cap may be inserted between them and securely clamped, and each of the pairs of plates H is provided with a straining-screw, H', and the plates are arranged on guides H², so as to hold them in their proper relative position to each other and to the stretchers.

The bed G is supported from a platform, L, below, this platform being made fast to the central post, and spindles L¹, more or less in number, extend from the plate G down through the platform L, with springs L³ between the platform and the bed G, the tendency of which is to hold the bed G at its highest position.

Below the platform L, and above the plate E, is another plate, N. This plate N is connected by rods N¹ to the pedal N², and bears upon shoulders or pins *n* on the spindle L³. Hence, by pressing down the pedal N², the plate N will be drawn down, and with it the bed G and the clamps connected thereto.

The plate E rests on springs L⁴, stronger than the springs L³, the purpose of which is to prevent overstretching of the hat-body, the said springs L⁴ yielding after the full desirable power has been applied, so that the bed G would then stop and arrest the strain upon the body of the hat.

P is a steam-pipe leading to the center of the post and upward, discharging through the center or around the post within the stretchers, as indicated in Fig. 3, and outside is a tubular ring, R, to which steam is led through a tube, R'. The said ring R is perforated to allow the escape of steam. This ring R is attached to the bed G, and so as to move with it.

The operation of the machine is as follows: The prepared felted cap or body is drawn over

the stretchers, and its edge is firmly secured in the clamps II, and the requisite outward strain or stretch made upon the edge by means of the screws II¹; then the lower pedal, F', is pressed downward to stretch, expand, and shape the top; then the workman applies his foot to the other pedal, N², to draw down the bed G, and with it the edge of the body or cap, and in so doing the plate N will come in contact with the plate E, and from that time the stretchers and the clamps act together until in condition to form the band; then a ring, S, the interior of which corresponds to the shape of the band to be produced, is arranged in supports S', as seen in Fig. 3 and in broken lines, Fig. 1, and there held so as to follow down with the bed G. From the time this ring is applied the material is stretched over the angle of the ring until the complete hat is formed, this ring shaping and defining the hat at the band. During this operation, steam, or it may be hot water, is thrown upon the inside of the body being shaped, to keep it in the proper condition, so as to enable the workman with the machine to stretch and completely shape the hat.

The band-ring S may be applied at the commencement of the operation, or at such time during it as the judgment of the operator may dictate.

The band-ring is arranged in the supports so as to be easily removed therefrom when the shaping is complete, and so as to allow the hat to be taken from the machine.

The moistening of the body may be otherwise applied, if desired.

I claim—

1. The combination of the stretchers D, the bed G, clamps II thereon, the said bed and stretchers in connection with pedals, by means of which the bed and its clamp may be drawn down vertically and the stretchers opened radially, substantially as described.

2. The combination of the stretchers D, the bed G, clamps II thereon, the said bed and stretchers in connection with pedals, by means of which the bed and its clamp may be drawn down vertically and the stretchers opened radially, and the band-ring S, substantially as described.

3. The combination of the stretchers D, the bed G, clamps II thereon, the said bed and stretchers in connection with pedals, by means of which the bed and its clamp may be drawn down vertically and the stretchers opened radially, and tubes within said bed with openings to permit jets of steam or water to be thrown upon the inside of the body being shaped, substantially as described.

4. The combination of the stretchers D, the bed G, clamps II thereon, the said bed and stretchers in connection with pedals, by means of which the bed and its clamp may be drawn down vertically and the stretchers opened radially, and the band-ring S, and tubes within said bed with openings to permit jets of steam or water to be thrown upon the inside of the body being shaped, substantially as described.

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Witnesses:

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