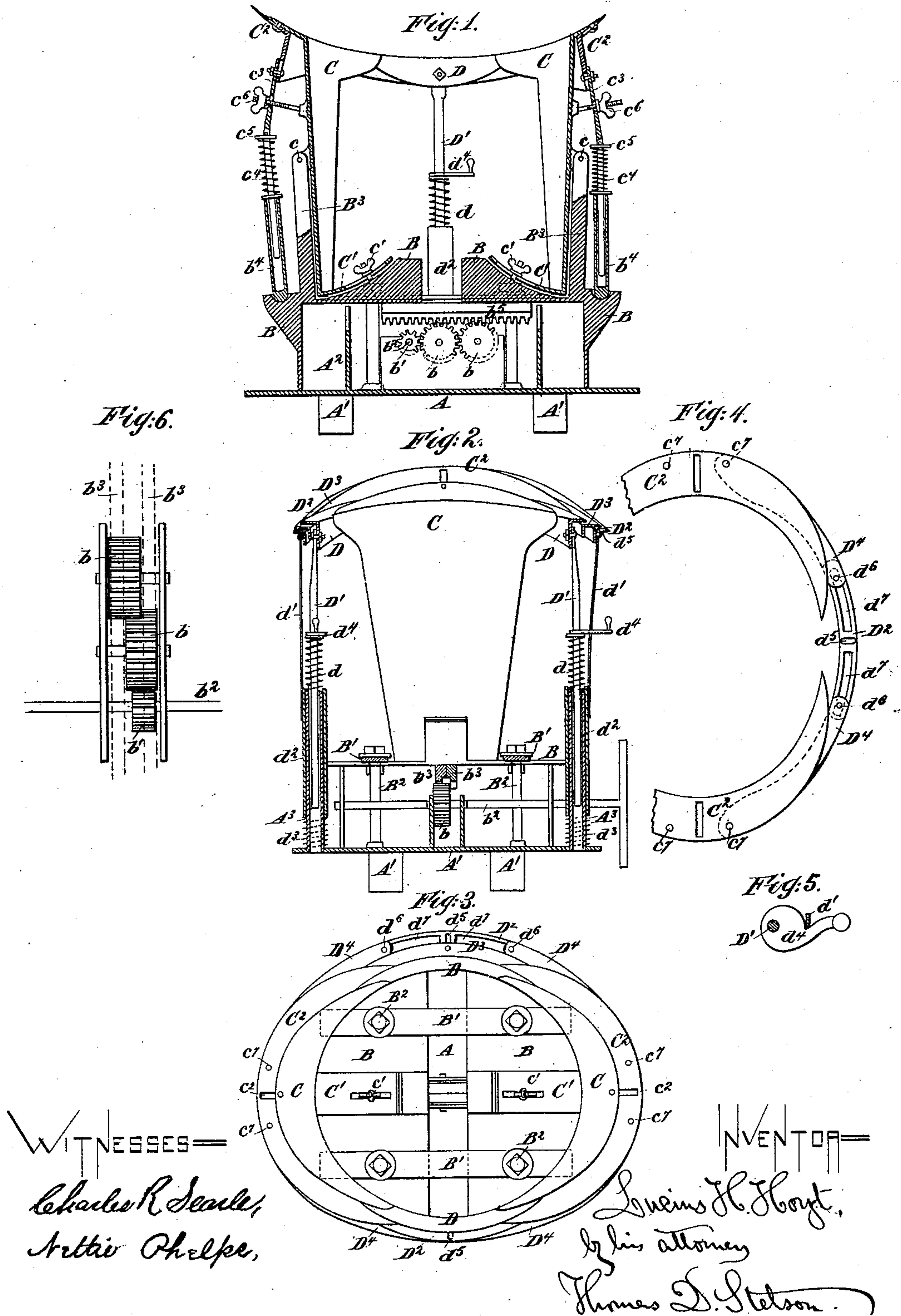


(No Model.)

L. H. HOYT.
APPARATUS FOR SHAPING HATS.

No. 277,035.

Patented May 8, 1883.



UNITED STATES PATENT OFFICE.

LUCIUS H. HOYT, OF DANBURY, CONNECTICUT.

APPARATUS FOR SHAPING HATS.

SPECIFICATION forming part of Letters Patent No. 277,035, dated May 8, 1883.

Application filed August 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS H. HOYT, of Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Shaping Hats; and I do hereby declare that the following is a full and exact description thereof.

The object of my invention is to provide an apparatus by means of which the brims of hats of various sizes may be conveniently and rapidly shaped. The shaping-surfaces are composed of a number of pieces, which are made adjustable, so that one apparatus may serve for giving any ordinary or required shapes to hat-brims of various width.

I use the term "shaping" in the ordinary acceptation as employed by hat-manufacturers—that is to say, giving to the hat-brim the desired "scope" and roll; in other words, giving the proper inclination in front and back and at the sides, exclusive of the curling or turning over the rim of the hat-brim toward the hat-body, which is preferably done previously to the shaping, when my improved apparatus is employed for the latter purpose.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a central vertical section of my apparatus. Fig. 2 is a central vertical section taken at right angles to Fig. 1. Fig. 3 is a plan.

The right-hand portion of Fig. 1 and the left-hand portion of Fig. 2 show certain parts contracted for the purpose of shaping hats with narrow brims, while the left-hand portion of Fig. 1 and the right-hand portion of Fig. 2 show the parts extended for shaping hats with wider brims. The position of the adjustable parts in the upper portion of Fig. 3 corresponds to the right-hand side of Fig. 2, and the position of the parts in the lower portion of Fig. 3 corresponds to the left-hand side of Fig. 2. Fig. 4 is a plan of some of the adjustable parts detached. Fig. 5 is a plan showing the means for adjusting some of the parts. Fig. 6 is a plan showing the means for adjusting the entire apparatus to various sizes of hats.

Similar letters of reference indicate corresponding parts in all the figures.

A is a base-plate, formed with suitable legs, A', and with a raised rim or crown, A².

B B are two castings adapted to slide upon the base-plate A, and held down on the latter by means of two bars, B', held in position by the screws B², which latter pass through guiding-slots formed in the castings B, and are firmly screwed down into the base-plate A, thus serving to steady and guide the pieces B in their forward-and-backward, or, rather, inward-and-outward, motion. The movement of the castings B is effected by means of the gear-wheels *b*, which receive their motion from a pinion, *b'*, and shaft *b²*, which latter is provided with a suitable handle or crank, as shown. The wheels *b* gear into racks *b³*, each casting B carrying one of these racks in such manner that one rack *b³* engages with one wheel *b*, while the other rack *b³* engages with the other wheel *b*, as illustrated in Fig. 6.

B³ are standards cast in one piece with the respective pieces B, and to the upper ends of which are joined the front and back shaping-pieces, C. The inclination of the latter, and consequently the scope of the hat-brim may be varied by turning said pieces C on the joints *c*, and then securing them in the desired position by means of the thumb-screws *c'*, which are tapped into the castings B, and serve to confine the slotted extensions C', as will be readily understood.

C² are the front and back extension-pieces. They are formed with slots *c²*, through which extend rivets which confine them to the main pieces C, with liberty to move inward and outward thereon.

c³ are rods slightly bent, as shown, and capable of sliding up and down in the sockets *b⁴*, which latter are capable of turning to a small extent on their ends in suitable depressions formed in the castings B.

c⁴ are springs, which, acting on the collars *c⁵* on the rods *c³*, have a tendency to press the extension-pieces upward and outward, this tendency being counteracted by the thumb-nuts *c⁶*, by means of which the pieces C² may be pressed and kept inward.

The shaping-surface between the pieces C is formed by the lateral pieces D, which are attached to rods D'. The latter slide in sockets A³, which form part of the base-plate A. Springs *d* serve to press the rod D' upward, and thus constantly hold the lateral shaping-pieces D in close contact with the pieces C.

D² are the lateral extension-pieces, carried

on springs d' , which are attached to the sleeves d^2 , surrounding the sockets A^3 , and pressed upward by the springs d^3 . The eccentrics d^4 , turning loosely on the rods D' , serve to press the
 5 pieces D^2 outward into a more or less extended position against the force of the springs d' .

D^3 are intermediate pieces arranged between the main pieces D and the extension-pieces D^2 . The latter are formed with a transverse slot
 10 d^5 , into which projects a pin extending downward from the pieces D^3 , so that when not extended the pieces D^2 will apply under the pieces D^3 , the latter themselves being entirely or nearly entirely covered by the main pieces
 15 D , while in the extended position of the parts the intermediate pieces, D^3 , constitute a bridge between the pieces D and D^2 , thus making the shaping-surface on the sides continuous.

In order to also make the edge of the shaping-surface continuous in every adjustment of the apparatus, I provide pieces D^4 , which are capable of swinging on pivots c^7 , set in the front and back shaping-pieces, C , near the center line thereof, as shown. The other ends of
 25 the pieces D^4 are provided with downwardly-projecting pins d^5 , which slide in slots d^7 , formed in the extension-pieces D^2 . It will be seen that by this arrangement the entire edge of the combined shaping-surfaces forms a continuous graceful line, howsoever the parts be
 30 adjusted.

In working the device the operator first adjusts the various extension-pieces C^2 C^2 and D^2 D^2 according to the width of the brim of
 35 the hat-body which it is desired to set. For instance, if the brim measures in front and in back one and seven-eighths ($1\frac{7}{8}$) inch, the extensions C^2 C^2 should be set so as to make the entire width of the front and back shaping-
 40 surfaces one and three-fourths ($1\frac{3}{4}$) inch, leaving a small space to accommodate the slight curl at the front and back, the "curling" of the hat-brim being effected in a previous operation on a separate machine, or by hand, while
 45 the main body of the brim is left perfectly flat. The lateral extension-pieces D^2 D^2 are similarly adjusted according to the width of the hat-brim at the sides and according to the amount
 50 of "roll" which it is desired to give to the sides of the hat-brim. Then the shaping-surfaces C^2 C^2 are adjusted in a more or less inclined position, according to the scope or "pitch" which it is desired to give to the hat-brim. Finally, the shaft b^2 is turned to move the
 55 pieces C C C^2 C^2 toward or from each other until the opening formed by the entire combined shaping-surfaces conforms exactly to the size of the hat-body being treated. All the parts being adjusted in this manner, the hat-body,
 60 the brim of which should previously be warmed, so as to render the material mellow or soft, is placed in an inverted position upon the apparatus—that is to say, with the crown downward in the space between the shaping-surfaces
 65 and their supporting-arms. The operator then manipulates with a gentle pressure the brim, pressing it down upon the shaping-surfaces

until the brim assumes exactly the shape of the latter, giving the required scope in front and back and the required roll at the sides, so
 70 that the surfaces shall in no place present a sharp edge or corner, but shall show a continuous symmetrical and graceful curve. When this result is satisfactorily attained the lateral
 75 surfaces D D are slightly drawn together by partially turning the eccentrics d^4 , the hat-body is removed from the form, and another, previously warmed, is introduced, the lateral surfaces D^2 D^2 are returned to their proper position by a reverse movement of the eccentric
 80 d^4 , and the round of operations is repeated.

Any number of hats having a uniform width of brim may be "set" to a given shape without any further adjustment of the apparatus except the turning of the shaft b^2 for accommo-
 85 dating the apparatus to the various sizes. The adjustment of the other parts becomes necessary only when hats having a different width of brim are to be treated, or when it is desired to modify the shape of the setting.
 90

Instead of shaping the brims upon my apparatus by pressing them upon the shaping-surfaces by means of the hands of the operator, I prefer in some cases to use a bag of sand or other pulverous and sufficiently heavy material, simply laying it upon the apparatus
 95 after the hat is inserted therein, so that through its weight it will cause the hat-brim to apply snugly upon and assume the configuration of the shaping-surfaces. Such bag may be kept
 100 warm or may be used cold, as convenience may dictate.

Modifications may be made in the details without departing from the principles of the invention or sacrificing all the advantages
 105 thereof. I prefer to make those edges of the shaping-surfaces which, when the apparatus is fully or partly extended, apply upon other shaping-surfaces, tapered or beveled off, so as to leave the general shaping-surface as smooth
 110 as possible.

In many sizes and styles of hats it is not necessary to contract the lateral shaping-surfaces D D . They may be allowed to remain stationary, and the hats may be successfully
 115 removed and new ones applied by simply springing the brims slightly, enough to allow the movement.

I claim as my invention—

1. In an apparatus for shaping the brims of
 120 hats, the front and back shaping-surfaces, C C , adapted to give the desired scope or pitch to the hat-brim, arranged adjustably upon a common base-plate, A , in combination with means for moving them toward and from each other,
 125 and with the lateral shaping-surfaces D D , adapted to give the desired roll to the hat-brim, also arranged upon the base-plate A , substantially as herein specified.

2. In an apparatus for shaping hat-brims, the
 130 front and back shaping-surfaces, C C , in combination with extension-pieces C^2 C^2 , and means c^4 c^6 for confining the latter in the desired positions, substantially as herein specified.

3. In an apparatus for shaping hat-brims, the front and back shaping-surfaces, C C, mounted on transverse horizontal axes *c c*, in combination with means *c'* for confining them in the desired positions, substantially as herein specified.

4. In an apparatus for shaping hat-brims, the lateral shaping-surfaces D D, in combination with extension-pieces D² D², and with means *d' d'* for controlling the position of the latter, substantially as herein specified.

5. In an apparatus for shaping hat-brims, the lateral shaping-surfaces D D, in combination with the extension-pieces D² D², and with the intermediate pieces, D³ D³, carried by the pieces D², and with means for controlling the position of the latter, substantially as herein specified.

6. In an apparatus for shaping hat-brims, the combination of front and back shaping-surfaces, C C, extension-pieces C² C², lateral shaping-surfaces D D, extension-pieces D² D², and pieces D⁴ D⁴, arranged to connect the extension-pieces C² and D², and to render the edge or outline of the entire shaping-surface continuous, substantially as herein specified.

In testimony whereof I have hereunto set my hand, at Danbury, this 10th day of August, 1882, in the presence of two subscribing witnesses.

L. H. HOYT.

Witnesses:

CHAS. H. BIGELOW,
CHESTER G. AMBLER.