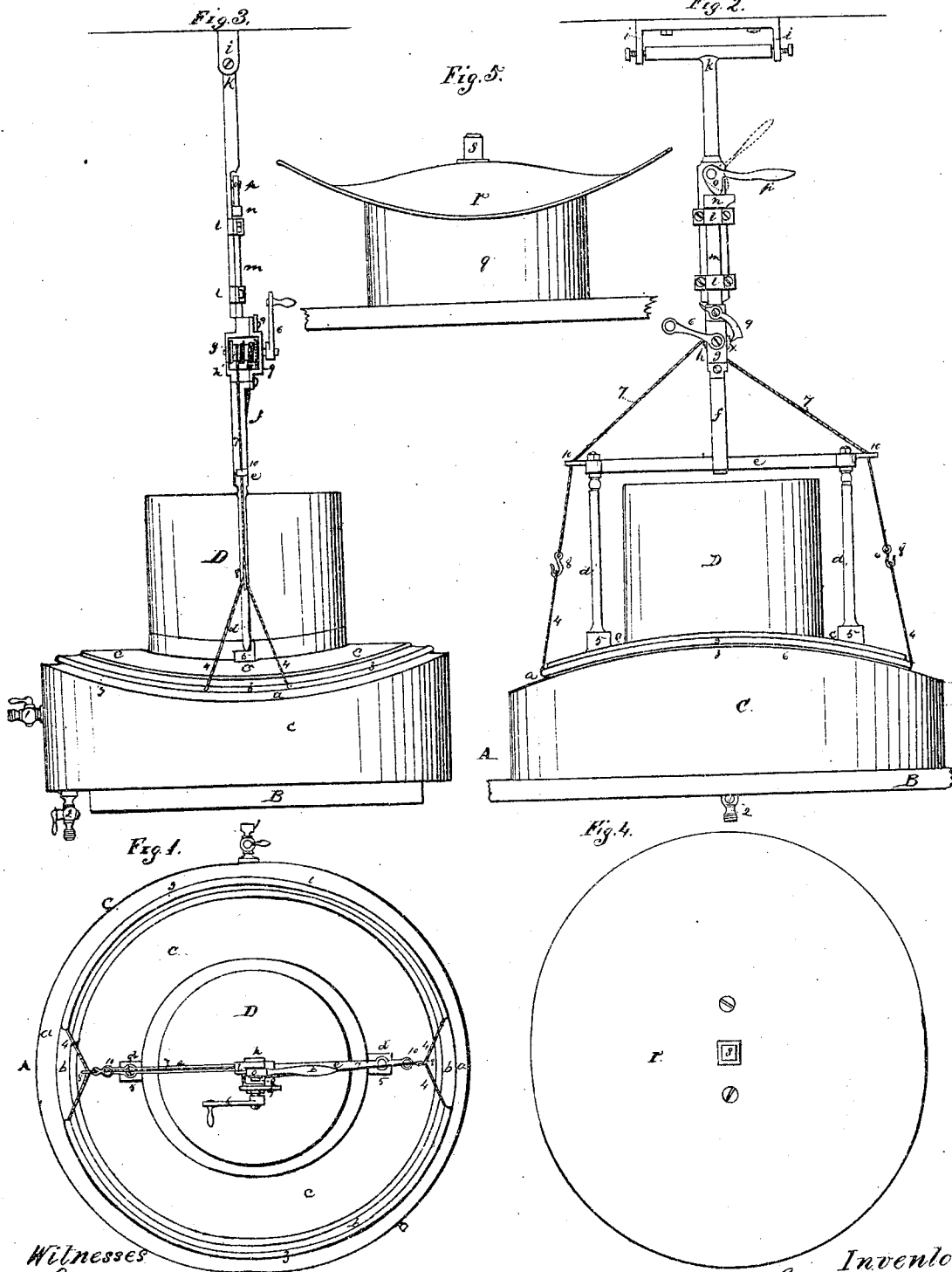


F. Degen
Curling Hat Brims.

N^o 6867

Patented Nov. 13, 1849.



Witnesses

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FRANCIS DEGEN, OF NEW YORK, N. Y.

CURLING HAT-BRIMS.

Specification of Letters Patent No. 6,867, dated November 13, 1849.

To all whom it may concern:

Be it known that I, FRANCIS DEGEN, of the city of New York, hat-manufacturer, have invented and made and applied to use
5 certain new and useful Improvements in the Application of Mechanical Means to Assist in and Facilitate the Giving Any Required Shape to the Brims of Hats, such improvements consisting in the adaptation and combination of well-known parts to use with
10 each other and with parts invented or improved by me to effect what is technically known as "curling the brims of hats" more easily and quicker than is usually done and
15 setting or securing the shape given by quicker cooling after the shape is given, for which improvements I seek Letters Patent of the United States, and that the said improvements are fully and substantially set
20 forth and shown in the following description and in the drawing annexed to and making part of this specification, wherein—

Figure 1, is a plan, Fig. 2, is a front elevation, and Fig. 3, is an end elevation; at the
25 end A, of Figs. 1, and 2, representing the curling apparatus; Fig. 4, is a plan, and Fig. 5, is an elevation of the cooling apparatus; the whole as fitted with my improvements, as in place for use; and the
30 same letters, numbers, and other marks of reference, applying to the like parts, in each of the several figures. In these, B is a bench, or frame, which may be made, or adjusted, to any convenient height, and of any fit material, carrying the steam heater box C,
35 which may be made of copper, or any fit metal, and has a cock 1, or any like contrivance, to admit steam, from any competent supply; and a cock, or valve 2, to pass
40 out any water of condensation. The top of this steam box C, may be made in any fashionable form, or the form may be varied, by the use of a changeable surface piece, similar to that designated by the letter
45 c, in my patent of the seventeenth day of April, one thousand eight hundred and forty seven. Upon the top of the box C, or upon a changeable surface piece, a disk of felt cloth, a, or of any similar substance, is laid,
50 to prevent the heat, below, acting too severely on the hat brim; and over the cloth a, is a similar disk b, made of strong hemp, flax, or cotton material, cut round on the

outer edge, so as to come outside of, and over the edge of the brim around the hat D. 55
A helical expansion spring, 3, is secured, not tightly, but strongly, on or into the edge of the cloth b, so as not to prevent the action of the spring; and a strong fine cord 4, is passed through the fakes of the spring 3, 60
with the ends secured at a sufficient length, to form a loose bight, at the front and back of the hat. A changeable metal former or curling piece, c, is made to fit upon the brim, all around the hat, instead of going about 65
one half around it; and the lower face is so formed, as to press the brim of the hat equally down on the steam box, or intermediate piece beneath; and the outer edges are so made, that they receive and form the 70
curling parts around the edges of the hat brim, in any shape the fashion may demand. On the curling piece, c, two studs 5, 5, are so rebated in the back, that they receive the points of two chisel pointed rods, d, d, these 75
are pendant from the ends of a cross yoke e, which is suspended by a short vertical arm, f, that at g, spreads out, to form a small frame, this frame receives and contains a small grooved winch barrel, h, on an axis, 80
with a crank handle 6, outside, in front of the machine; and the winch 9, receives one end of the two counterplaced cords 7, 7, which pass through two guide eyes, 10, 10, on the yoke e, the outer ends of which are 85
each fitted with a hook 8, 8, to take the bights of the line 4, a small ratchet w, on the winch, h, is fitted to take the holding pawl, 9, and hold the winch, with any needful tension on the lines, 7, 7, when hooked 90
to the line 4.

Above the apparatus, two pendant studs i, i, are attached to the ceiling, or to any convenient fixture; and are fitted with center screws, or in any convenient manner, that 95
will support a cross yoke and swinging arm k, the lower end of this is widened and flattened out, to take two staple slides l, l, that inclose and hold a continuation m, from and above the frame g, with a head n, that 100
underlies the cam point o, of the pressing lever p.

From the foregoing it will be understood, that when a hat is ready for the workman to curl the brim on it, the workman swings 105
the pendant parts back, and places the hat

and curler *c*, as shown in the drawing; he then swings the parts toward him, so that the chisel points *d*, *d*, take the rebates on the studs 5, and the lever *p*, and cam *o*, being then in the position shown by dotted lines, in Fig. 2, the points *d*, *d*, hang loosely against the studs 5, 5, but on the workman placing the lever and cam in the position shown in the full lines, all the parts below slide down, so as to press the points *d*, *d*, on the studs, and hold the curler *c*, and hat brim, firmly down on the heater box, *e*, or on the intermediate parts above the box; the workman then places the hooks, 8, 8, in the bights of the line 4, and when the brim is sufficiently heated to yield to the operation, turns the winch *h*, by the handle 6, so as to draw the lines 7, 7, tight, and thereby draw the line 4, with a force, that turns the edges of the cloth 6, over the edges of the curler, *c*, and carries the edges of the hat brim with them, to any extent, that the case may need; when the small holding pawl 9, takes the teeth of the ratchet, and holds the whole fast, so that neither the hat, nor the curler, can move, while the workman gives the final finish to the hat, by ironing the edges of the brim, over the curler, so as to set these in the shape required; when the brim is so set, the pawl 9, is to be raised, the handle 6, turned so as to unwind the cords 7, 7; the expansion of the helical spring 3, immediately throws the cloth *b*, from around the brim of the hat, flat on the cloth *a*; the lever and cam are then to be thrown up, in the position shown by dotted lines, in Fig. 2; the hooks 8, 8, detached, and the whole frame swung back out of the way, and the former *c*, removed and the hat *D*, taken off, and placed to cool, as hereafter described; the parts are then ready for operation on another hat, as before. It will be seen that a rack and pinion, or any similar device, may be used, instead of the cam *o*, to hold the former *c*, and hat *D*, in place.

The principal distinctions between the means employed in this apparatus, and that for which a patent was issued to me, on the seventeenth day of April, one thousand eight hundred and forty seven, are, first, that by using an entire curler piece *c*, all around the hat, the form is given more equally, and no time is lost, by changing the half piece to the opposite side, with the risk of unequal adjustment; second, that by the means used, acting entirely around and above the hat brim, the workman can work, without changing any of the parts, in either edge of the hat brim; and third, that the parts described herein, acting quite independent of the stirrup, described and shown, in the patent of the seventeenth of April, one thousand eight hundred and forty seven, in which the former acted only on half the edge of the brim, and in this, acts all around the brim,

the workman has only to use his hands, when at work, instead of being hindered, and inconvenienced, by having to hold the parts with one foot, in the stirrup; so that by all these differences, the work is better done, in less time, than by the previous apparatus, through the additions and changes employed, as described herein.

When the curling the hat brim is effected, as described herein, it frequently happens, that on removing the hat to cool, the parts of the brim cool unequally, from unappreciable and avoidable causes; and in so cooling, the parts warp, or twist, so as to change the form given by the curling; therefore, to prevent this, I have successfully employed the parts, shown in Figs. 4, and 5. In these *g*, is a bearing block, of any convenient material, carrying a cooler *r*; this is fitted with a guide stud *s*, to take a mortise in the center of the band block in the hat; and the form of the upper face of the cooler, *r*, is to be correspondent with that of the underside of the hat brim: Hitherto, I have found thin brass to be the best material for making the cooler *r*, but any metal may be used, that will conduct the heat from the hat brim, provided the conduction of the metal is sufficiently rapid, to cool the hat brim, before that has time to warp out of shape.

I do not herein claim to have invented the steam heater *e*; nor to be the first, who has employed the shaping cloth *b*, with the spring 3, and cord 4, nor do I claim to have invented any one of the mechanical parts, described as used herein, irrespective of the manner in which I have adapted, applied, or combined them for these purposes, except the entire curler piece *c*, which I have been the first to invent and use, but

I do claim as new, and of my own invention, and desire to secure by Letters Patent of the United States,—

1. The exclusive application of a changeable curler or former piece *c*, that entirely surrounds the hat crown, and acts on the whole of the brim; and the combination therewith, of the pieces *d*, *d*, yoke *e*, swinging standard *k*, cam *o*, and lever *p*, to hold a hat in such a manner, that the workmen may iron and finish the curl on the edges of the brim, at one operation, effected substantially as described and shown.

2. The combination with the foregoing parts, of the winch *h*, lines 7, 7, and hooks 8, 8, to draw or turn the cloth *b*, on and over the edges of the hat brim, and turn the edges of the hat brim over the edges of the curler piece *c*, and hold them there, while the workman irons them, so as to set them in the required form, substantially as described and shown.

3. I claim the application of the metal cooler piece *r*, for the purpose of cooling the hat brim so rapidly, that the brim shall not

have time to warp, or change the form previously given to it; the shape of such cooler being conformable to the size, and shape, of the hat brim, so as to present an even bearing to the underside of the hat brim while cooling, substantially as described and shown.

In witness whereof, I have hereunto

signed my name, in the city of New York, this twenty fourth day of August, one thousand eight hundred and forty nine.

FRANCIS DEGEN.

Witnesses:

WM. SERRELL,

LEMUEL W. SERRELL.