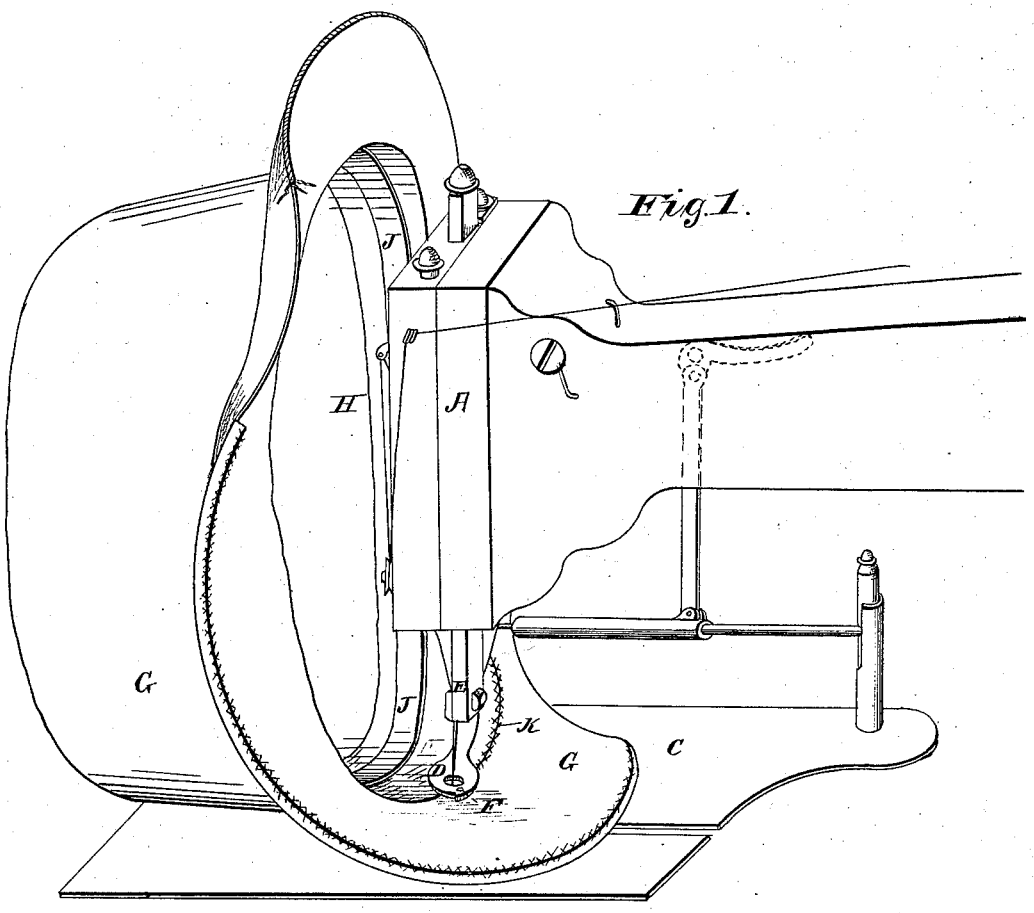
2 Sheets—Sheet 1.

J. BIGELOW.

Method of Attaching Sweat-Leathers to Hat-Bodies.

No. 198,868. **Patented Jan. 1, 1878.**

Fig. 1.



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2 Sheets—Sheet 2.

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Fig. 5.

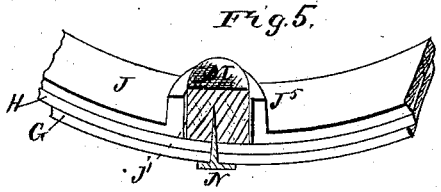


Fig. 6

Fig. 4.

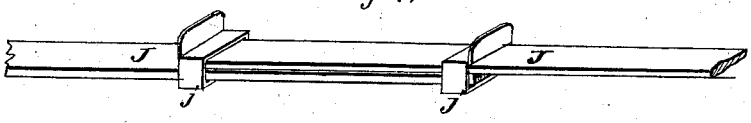


Fig. 3.

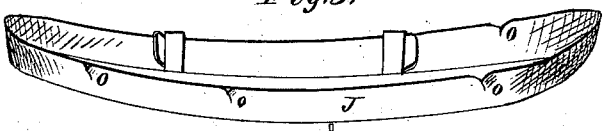
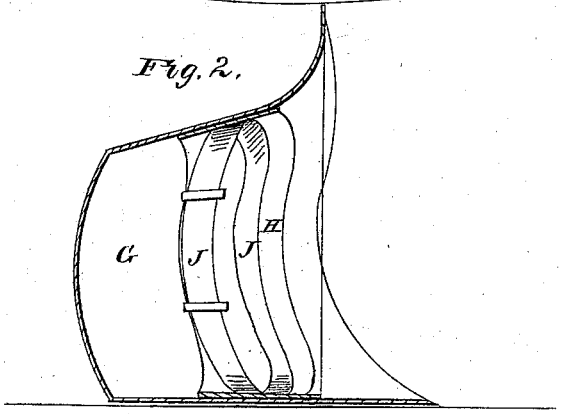


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN BIGELOW, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN METHODS OF ATTACHING SWEAT-LEATHERS TO HAT-BODIES.

Specification forming part of Letters Patent No. **198,868**, dated January 1, 1878; application filed October 6, 1877.

To all whom it may concern:

Be it known that I, JOHN BIGELOW, of the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Method of Attaching Sweat-Leathers to Hat-Bodies, of which the following is a specification:

Figure 1 is a perspective view, showing the process of sewing or attaching the sweat-leather to a hat according to the present invention. Fig. 2 is a view, in partial section, to show the position of the hat when set for sewing, in relation to a line drawn vertically to the bed-plate of a sewing-machine. Fig. 3 is a perspective of slip-spring. Fig. 4 is a detail, to show how the ends of the spring are slipped on each other. Figs. 5 and 6 are details, to show different methods of securing the slip to the hat.

The object of this invention is to devise means for securing the sweat-leather to a hat-body by mechanical instrumentalities.

The only sewing-machines now in use among the manufacturers gage from the bend of the brim on the outside of the hat, and are only used on the cheaper grades of goods, necessarily their bed-plates are cut away to the feed, in order to present the hat to the sewing mechanism; but by my invention all difficulty in machine-sewing on any straight-sewing machine is obviated, and this work can be done on all grades of goods with equal advantage.

While my said invention can be carried out on any such machine, I prefer to use the Blanchard overseaming or some herring-bone or zigzag sewing-machine, since with them the edge of the leather can be whipped down, and a cord can be put along the edge of the leather more evenly and with a better appearance than by hand, while the elasticity of the stitch will allow the hat to be blocked or fitted without danger of the stitches breaking.

My method allows the bed-plate of the machine to be perfectly flat, as indicated in Fig. 1. I use a slip-spring, J, Fig. 3, which can be placed on the inside of the hat before it is placed on the machine. This spring preserves the oval shape of the hat, which is essential in order that the operator may make the seam where required. Without it, or its equivalent, it will be found that the tubular top of the hat will be inclined to flatten, thus taking the circle, around which it is necessary to sew, out of the line of the feed, and, owing to the peculiar shape of the hat-body, the operator will find it exceedingly difficult, if not impossible, to make a perfect and regular seam, the more especially if he should attempt to feed in the edge of the sweat-leather at the same time. While this slip-spring J can be placed directly against the body of the hat, and the leather H fed under the presser-foot to a gage, as desired, the spring J is made to perform a double purpose—viz., preserve the shape of the hat, and also hold the sweat-leather H in its proper place while being sewed, so that the operator can use the edge of the leather thus set as the guide for his seam and sewing.

To describe the process more in detail, the leather H is fitted to the hat G; then the ends of the leather H are seamed together by hand-sewing or the Blanchard overseam. The leather H, thus made circular, is put into its place in the hat so its edge will come properly on the bend of the brim; and, finally, the slip-spring J is placed inside of the leather, and set out until the leather is brought firmly against the body of the hat. Everything is thus made ready for sewing. If a straight seam is desired, the brim is slipped under the needle so that the seam will be made at a proper distance from its edge; then, gaging from the edge of the leather, stitch is made directly around the hat. If a Blanchard overseaming or zigzag sewing-machine is to be used, the hat is placed under the machine so the needle will take alternately within the leather and outside the same; then gage and sew as before.

If a cord is required around the edge of the leather, the machine is arranged so the cord will be fed into its proper place as the sewing is being done, and the stitch outside of the leather shall pass through or over it, as may be preferred. Either a stationary or rolling presser-foot can be used on the machine.

A sweat-leather can thus be stitched to a hat-body in one minute, which by hand-sewing now requires twenty minutes or longer.

The slip-spring can be either flat or, like a barrel-hoop, flaring, Fig. 3, with the ends, Fig.

4, brought around and by each other, and held in place by the bands *j j*, which are attached to either end, and pass over the body of the spring. Thus the ends are free to slip, and the spring can be made small or extended out until the ends of the band meet.

To put the spring into its place in the hat, the ends are slipped along until the circle of the spring is smaller than the body of the hat; then place it in the hat, and extend or press it out until it meets the size of the hat-body G, and it sets the leather H firmly in position. The tendency of the spring being to open, will keep it in place.

Figs. 5 and 6 show devices for preventing any tendency which the spring may have to slip, owing to the peculiar shapes which the hat-bodies may have. Fig. 5 shows a hollow base, *j'*, put on the spring J, in which is a piece of cork or other suitable material, M.

Having arranged the leather in the hat, and set in place the band J, the pin N can then be forced from the outside through both the hat-body G and leather H, and its point be embedded in, and held by, the material, as indicated at M.

Fig. 6 shows a simple dent or offset, *o*, made, when desired, on the front edge of the spring J. Indeed, the pin-points can be attached to the spring, and project outward, or any simple method used, when necessary, to keep the spring securely in its place and the leather also.

The pliable character of the spring allows the oval to be flattened at points when inclined to rise away from the needle and plate through careless guiding of the operator. Indeed, I find it to be much more convenient, and to answer as well, as to have the movements of the hat absolutely controlled by being made to revolve on variable centers, on the principle of the oval chuck, which I have also used.

When the hat-bodies are weak, or objection is found to marking the outside of the hat with the feed, I have placed on the outside a circular band of leather or other material, which serves to take the chafing of the feed, and also prevents the inside pressure from disturbing the hat-body.

Since the sewing penetrates through the body of the hat, in order to prevent the perspiration following the stitching, I water-proof the sewing with liquid rubber, or any of the other well-known substances.

It is not necessary that the ends of the leather H should be united before being sewed into the hat, as the leather can be placed in position with them free and lapped. The edge of brim of the hat can also be corded, as shown in Fig. 1; or it can be turned over and whipped down, as is also shown by the same figure. In cording, it is necessary to have a pressure on the cord as near as possible to the point of perforation of the needle, in order to prevent the cord from turning when the needle is first entering it, and so be shied off and broken.

Having thus described my invention, what I consider new, and desire to secure by Letters Patent, is—

1. The slip-spring J, with band *j* and dents or projections, as described, for preventing its slipping, substantially as and for the purposes set forth.

2. In machine hat-sewing, the process of holding the leather by spring-pressure independent of the sewing mechanism, and attached or applied inside the hat, substantially as and for the purposes set forth.

3. The band J, having boss *j'*, suitably filled with cork or like material, and adapted to be used in combination with the hat and sweat-leather, substantially as and for the purposes set forth.

4. The process herein described for sewing sweat-leathers to hat-bodies, which consists in placing the leather H between a circular spring, J, and the hat G, substantially as shown and described, so that the sewing may be done on the flat surface of the bed-plate of a sewing-machine, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN BIGELOW.

Witnesses:
ROBT. E. LESTER,
JOHN URIAN.