2 Sheets—Sheet 1.

J. BIGELOW.

Attaching Sweat-Leathers to Hat Bodies.

No. 211,547. **Patented Jan. 21, 1879.**

Fig. 1.

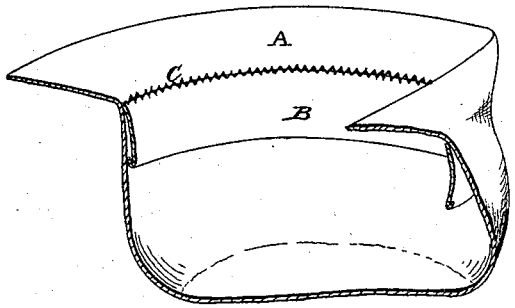


Fig. 2.

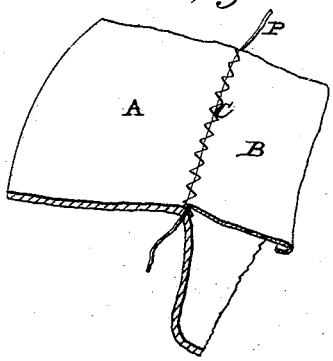


Fig. 3.

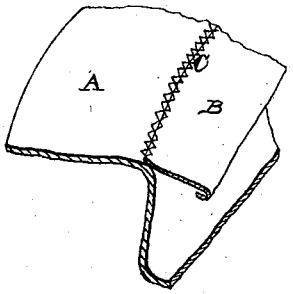


Fig 5

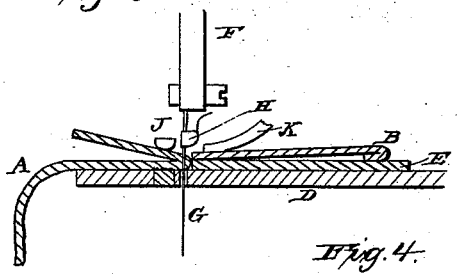


Fig. 6.

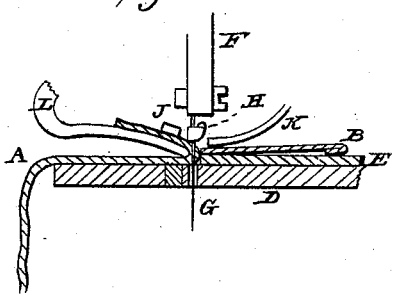
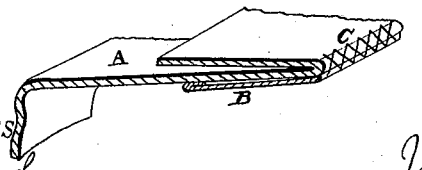


Fig. 4.



WITNESSES.

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2 Sheets—Sheet 2.

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Attaching Sweat-Leathers to Hat Bodies.

No. 211,547. **Patented Jan. 21, 1879.**

Fig. 7.

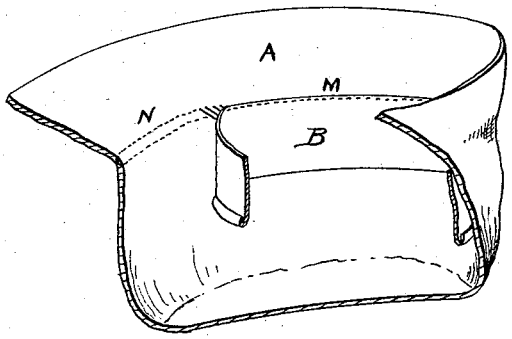


Fig. 8.

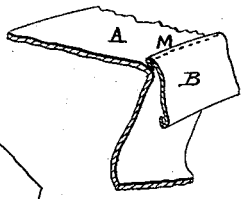


Fig. 9.

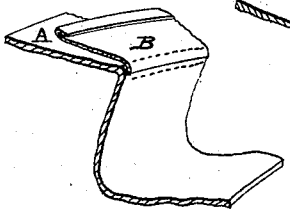


Fig. 10.

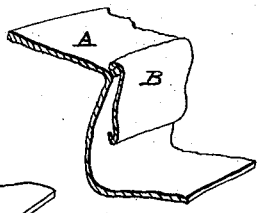


Fig. 13.

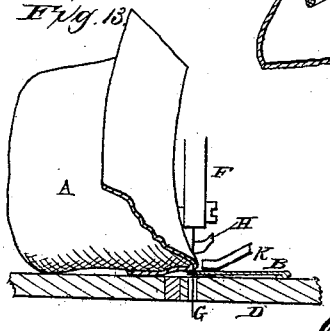


Fig. 11.

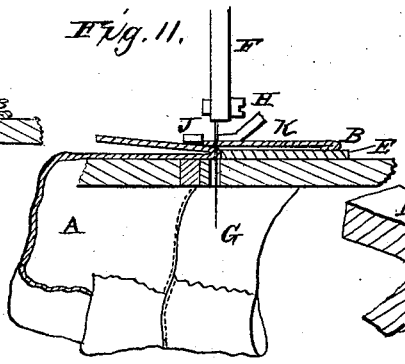
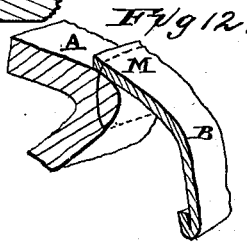


Fig. 12.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN BIGELOW, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ATTACHING SWEAT-LEATHERS TO HAT-BODIES.

Specification forming part of Letters Patent No. **211,547**, dated January 21, 1879; application filed December 18, 1878.

To all whom it may concern:

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

Figure 1 shows a sectional view of a hat with a sweat-leather attached by my method of zigzag stitching. Fig. 2 shows a smaller sectional view of the stitching, when taken alternately through the folded edge of the brim of the hat and then through the edge of the sweat-leather. Fig. 3 shows the appearance of the stitch when the folded brim is placed over the edge of the sweat-leather, and the stitch is taken alternately through both the hat and leather and then outside of the same. Fig. 4 shows, in section, how the hat and leather are placed when the stitch shown in Fig. 3 is made. Figs. 5 and 6 show different ways of placing the hat and leather in the machine to be sewed, as shown in Figs. 1 and 2. Fig. 7 shows a section of a hat with the sweat-leather attached by my method of straight stitching. Fig. 8 shows, in section, a sweat-leather with its outer edge turned in, attached by straight stitching. Fig. 9 shows, in section, a sweat-leather attached by sewing on its under side. Fig. 10 shows the sweat-leather of Fig. 9 brought over into its proper position, by which the sewing is covered. Fig. 11 shows, in section, how the hat-body and sweat-leather may be presented to a machine to be sewed, as shown in Figs. 7 and 8. Fig. 12 is an enlarged sectional view of a hat-body with the leather attached, showing the course of the thread through the hat-body; also the under course of the stitching. Fig. 13 shows my method of presenting the hat-body and sweat-leather to be united on other than an arm machine.

My invention relates to a new and useful method of attaching sweat-leathers to hat-bodies.

At present the cheaper grades of hats, such as wool and straw, have their sweat-leathers, for the most part, sewed to them by straight sewing—such, for instance, as is made by the Eickemeyer machine, or by zigzag sewing, as in the process patented by myself January 1, 1878. In each instance, however, the stitch passes through the body of the hat and is objectionable, because of the liability of the perspiration, when the hat is worn, following the stitching and passing to the outside, quickly disfiguring and impairing its appearance.

For the better class of hats I have devised and patented a prepared sweat made by machinery, in which, among other things, I combine a sweat-leather, reed, and oil-cloth as a preventive against perspiration, suitable alike for stiff or soft hats; but there still remains a large class, between the poorer and better grades before referred to, in which hand-sewing is still made use of for attaching the leathers, and the stitches are not allowed to pass through the hat-body.

It is this last class to which my invention more particularly relates, of which the following is a description: I take a sewing-machine of the class capable of making a zigzag stitch, and make an arm machine of it, having the feed operating at right angles with the length of the arm. It matters not whether the cloth-plate vibrates and the needle is stationary, like the Blanchard machine, or the cloth-plate is stationary and the needle vibrates, as in the Humphries machine or the Chicken machine. It is desirable that the arm shall be sufficiently narrow not to flatten the smaller arc of the oval of the hat-body when drawn over it, and so cause the sewing to encroach upon the hat-body, rather than to run up on the hat-brim. This smaller arc comes in the front and back of the hat-body; and since the perspiration is most profuse, generally, about the forehead of the wearer, and, besides, the forehead is most sensitive to roughness of finish by the threads of the sewing coming in contact with it, and the chafing of the head on the sewing would be likely to wear off the sewing-threads, it is customary to flare the edge of the sweat-leather, and attach it to the brim a little over the bend of the hat, where the brim joins the hat-body. A narrow arm, as before explained, allows this to be done.

Fig. 5 shows, in section, one way of presenting the hat and the leather to the machine for sewing. Folding the brim back against the hat-body A, the folded edge is placed under a suitable presser-foot, J, and against a gage, E, on the cloth-plate arm D. The leather B is placed flat upon the arm, with its edge to be united against the folded edge of

the brim, and is held against the cloth-plate D by a suitable presser-foot, K, so it will not lift with the needle and occasion missed or skipped stitches. The folded edge of the brim is so gaged that the needle G in needle-bar F will pass through the fold, but not through to the outside of the hat-body so that the stitches can show on the upper side, Fig. 1. In other words, the stitch passes partially through the hat-body, the needle entering and coming out on the same side. Since in entering the fold the needle is liable to shy, I have a needle-guide, H, which can be either stationary or lift and fall with the needle, to insure its entering at the proper place, and to keep it from shying and breaking.

With the parts thus arranged substantially as described, I stitch alternately within the edge of the brim and then through the edge of the leather, making a seam as is shown in Figs. 1 and 2.

Instead of folding the brim back against the body of the hat, as in Fig. 5, I also have used a second presser-foot, L, which passes around and under the brim, pressing on the body of the hat over the feed, and close in to the fold of the brim, as is shown in Fig. 6. The seam thus made is the same as in Figs. 1, 2, 8, and 9.

Another simple method of uniting the leather to the edge of the brim is shown in Fig. 4, where the leather B is placed under the folded edge of the hat A, instead of with its edge against the folded edge, as in Figs. 5 and 6. In this instance the stitch is taken through the folded edge of the brim and the leather, and then outside of the same, making a seam like that shown in Fig. 3.

With both of these seams the edge of the leather can be covered with a cord, P, Fig. 5, if desired, which should be fed in simultaneously with the sewing.

The feed acts on the inside of the hat-body, and so does not injure the outside by its action. The feed can either act on the leather or not, as may be preferred. In sewing as in Fig. 4 it would act on the leather surface.

Having described my method of attaching sweat-leathers to hat-bodies with zigzag sewing, I will now proceed to describe my second method, in which I sew straight, using, however, an arm machine, but vibrating neither the needle nor the plate.

Folding the brim back against the body of the hat, I place the folded edge under the presser-foot J, Fig. 11, and on the arm D, lapping the edge of the sweat-leather B to be sewed over the folded edge of the brim, and gaging the needle G so it will catch in the fold and the edge of the leather each stitch.

The feed of the machine, being at right angles with the length of the plate, takes on the inner side of the hat-body and feeds the same around the arm. H and K act as a needle-guide and a presser-foot for the leather B. The needle enters and comes out of the folded brim on the same side, Fig. 12, and the stitching appears as at N, Fig. 7; but when the leather is attached as at M, Fig. 7, instead of the leather having a raw edge, the edge can be folded back, as at M, Fig. 8; or the leather can be sewed on its reverse side, Fig. 9, and, when brought around, the stitching thus made is entirely covered, as in Fig. 10.

While I have thus described zigzag and straight stitch methods, it is evident that mere changes in the manipulations, or in mechanical devices, or in the method of presenting the parts to be united, may be made without materially affecting my invention, since any arm machine having a feed at right angles with its length may be used, though it may make a button-hole or whip stitch, and the leather may be presented to the hat-body to be united in various other ways than those which I have specially suggested, but with practically the same result.

Instead of an arm machine, the leather and hat-body can be presented to a regular sewing-machine, as is shown in Fig. 13, care being taken to gage the folded edge so the needle will pass through it, as has been before described.

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

1. A sweat-leather attached to a hat-body by a stitch passing alternately through the edge of the leather, and then through the folded edge of the hat-body, substantially as described.

2. A sweat-leather attached by a stitch passing alternately through both the folded edge of a hat-body and the edge of the leather, and then outside of the same, substantially as described.

3. A sweat-leather attached to a hat-body by a stitch passing each time through said leather, and not entirely through said hat-body, but only through the folded edge of the same, substantially as described.

4. A sweat-leather attached to a hat-body by a stitch which takes but one side of said body, but does not pass through the same, substantially as set forth.

5. A sweat-leather attached by mechanical means, substantially as described, to a hat-body by a concealed stitch, which does not show on the upper or outer side of said hat-body.

6. The process herein described for attaching a sweat-leather to a hat-body by bending the body in such a manner that the needle shall enter the body and pass out on the same side, and pass through the sweat-leather at every stitch or every alternate stitch, substantially as set forth.

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

JOHN BIGELOW.

Witnesses:
WILLIAM FITCH,
L. DEANE.