(No Model.)

G. E. BRUSH.

MACHINE FOR FITTING SWEAT LEATHERS IN HATS.

No. 418,498. Patented Dec. 31, 1889.

Fig. 1.

Fig. 3.

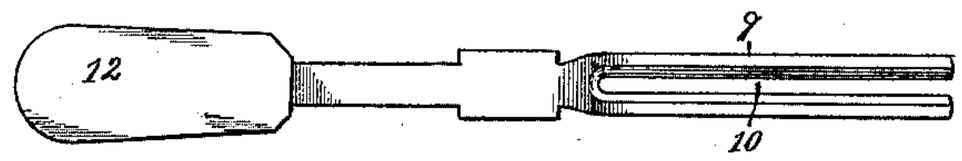

Fig. 5.

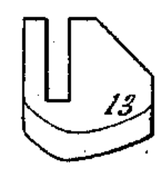

Fig. 2.

Fig. 4.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR FITTING SWEAT-LEATHERS IN HATS.

SPECIFICATION forming part of Letters Patent No. 418,498, dated December 31, 1889.

Application filed May 8, 1889. Serial No. 309,998. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. BRUSH, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Machines for Fitting Sweat-Leathers in Hats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to produce a novel and inexpensive machine, which may be operated without skilled labor, to rapidly and accurately cut and fit sweat-leathers in hats. Heretofore, so far as I am aware, this operation has been performed entirely by hand-shears, and has been an operation requiring skilled labor and considerable time, and which, even when performed by skilled operators, was not always neatly done, as the ends of the sweat-leathers were apt to overlap slightly or else to spread apart.

By the use of my novel machine I am enabled to cut both ends of the sweat-leathers, the facing, and the reed at a single operation, thus effecting a great saving of time, and, moreover, to cut them all with absolute accuracy, so that the ends of the sweat-leather and the facing and reed fit closely together without overlapping in the slightest and without spreading apart.

With these ends in view I have devised the simple and novel mechanism of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to denote the several parts.

Figure 1 is a side elevation of my novel machine, the slide being in position to permit the insertion of a hat, the machine being shown as attached to a suitable support; Fig. 2, a side elevation, a portion of the bed-plate being in section, and a portion of the hat-body in section being shown as in the machine, and the cutter as in the act of making the cut; Fig. 3, a view of the clamp detached; Fig. 4, a view of the guard or go-between detached, and Fig. 5 is a view of the cutter detached.

1 denotes a supporting-plate, which I preferably make in the form of an angle-plate and secure rigidly to a suitable table or support 2. The vertical portion of this angle-plate is made highest at the ends and lowest at the center, as is clearly indicated in Figs. 1 and 2, so as to serve as a support for a hat-body in use.

3 denotes a bracket by which the operative parts of the machine are carried. This bracket also is shown as constructed in the form of an angle-plate, the lower end of the vertical portion being attached to the vertical portion of the supporting-plate, as is clearly shown, the vertical and horizontal portions of the bracket being made rigid by a brace 4. In practice the supporting-plate and the bracket may be made in a single piece, or may be made in separate pieces and rigidly secured together. Between the bracket and the supporting-plate is a slot 5, of suitable width and depth to receive a hat-brim.

The operating mechanism is all carried by a carrier 6, which moves upon the horizontal portion of the bracket, a friction-spring 7 being provided, which bears against the bracket, so as to hold the slide in any position in which it may be placed. The exact shape and construction of this carrier are of course not of the essence of my invention. The essential features are a clamp to hold the sweat-leather, reed, &c., firmly in place, a knife to cut the ends of the sweat-leather, reed, &c., and a guard for the knife.

As I have shown it in the drawings, the carrier incloses the horizontal arm of the bracket, upon which it is adapted to slide, a plate 8, resting on the top of said horizontal portion, serving as a bearing. 9 denotes a clamp pivoted to the carrier, (see Figs. 1 and 2,) the operative end of which is provided with a slot 10, in which the cutter slides.

11 is a spring for holding the clamp down firmly upon the sweat-leather, reed, &c., and 12 a hand-piece for convenience in operation.

13 denotes a cutter, which is caused to reciprocate in any suitable manner. The exact shape of the cutting-edges is not essential, although it is necessary that the edges should cut in both directions. I preferably make the front edge slightly longest, as is shown in Fig. 5. In the present instance I have shown

the cutter as rigidly secured to a slide 14, which incloses an arm 15, projecting forward from the carrier directly over the clamp. I have furthermore shown the slide as provided with a rack 16, which is engaged by a segmental gear 17, pivoted in the upper portion of the carrier, stops 18 being provided at opposite ends of the segment to limit the movement of the carrier in both directions, and a handle 19, for convenience in operating the cutter. Directly under the cutter and the clamp and secured to plate 8 is a guard, or, as I term it, a "go-between," against which the lowest portion of the cutting-edge rests. This guard or go-between, which is shown detached in Fig. 4, is made quite thin, so as not to raise the sweat-leather to any appreciable extent, which would make it too short after trimming. The guard may be made of any suitable material—as, for instance, soft metal or wood. In practice I ordinarily make it of wood. The expense is practically nothing, and it can readily be replaced when worn out.

In Fig. 2 I have shown a portion of a hat in section in the machine and being operated upon. The body of the hat is indicated by 21, the brim by 22, the overlapping folds of the sweat-leather by 23, the reed by 24, and the usual stay-piece which incloses the reed and by which it is secured to the sweat-leather by 25.

The operation of the machine is as follows: In placing a hat in position the carrier is moved to the left, as in Fig. 1, the hat is then placed in position, the brim lying in slot 5, and the lower edge of the body—that is, the portion at the intersection of the body and the brim—resting upon the upper end of the vertical portion of the supporting-plate, as is clearly shown in Fig. 2, the body being held in place by the raised edges of said plate, as already fully described. The clamp is then raised by pressing down the hand-piece 12, and the carrier moved forward to the position shown in Fig. 2, the guard or go-between passing under the sweat-leather, reed, and stay—that is, between the hat-body and said parts—after which the clamp is released and the spring causes it to rest firmly upon the top—that is, the inner side—of the sweat-leather, and to hold the parts firmly in position. The carrier will now be in the position shown in Fig. 2, but the cutter will be in the position relatively thereto shown in Fig. 1.

The cutting operation is performed by moving handle 19 to the position shown in Fig. 2. This moves the cutter forward and severs the overlapping edges of the sweat-leather, stay-piece, and the reed. The handle is then moved backward to the position shown in Fig. 1, which returns the cutter to its normal position, the back edge acting to finish the cutting should it happen that a clean cut of the stay-piece and reed had not been effected by the forward movement of the cutter. It will be seen from the position of the parts in Fig. 1 that the cutter in its retracted position passes considerably to the left of the reed, so that it is impossible that the reed and stay-piece should not be perfectly severed. Any shoving or buckling of the parts is prevented by the clamp, and the possibility of injury to the hat-body is prevented by the guard or go-between. The cutter is made quite thin and the movement is straightforward, trimming the necessary amount from both edges of the sweat-leather, stay-piece, and reed, so that when the carrier is moved back to its normal position, as shown in Fig. 1, the edges of the reed, stay-piece, and sweat-leather will lie close together, but without overlapping in the slightest, and without the slightest tendency to spread. It will be seen that by a single forward and backward movement of the cutter I fit the sweat-leather perfectly and effect a very important saving of time. As a matter of fact, the entire operation of placing a hat in the machine and trimming and fitting the sweat-leather is effected in very much less time than it takes to describe it.

Having thus described my invention, I claim—

1. A machine for fitting sweat-leathers, consisting, essentially, of a supporting-plate, a bracket secured thereto, a sliding carrier on said bracket, a guard and clamp upon the carrier adapted when moved forward to pass, respectively, on the inner and outer sides of the sweat-leather, stay-piece, and reed, and a reciprocating cutter, also upon the carrier, by which the ends of the sweat-leather, stay-piece, and reed are cut off.

2. The supporting-plate and bracket having between them a slot 5, and a sliding carrier upon said bracket, in combination with a clamp and guard upon the carrier, which are adapted when moved forward to pass on opposite sides of the sweat-leather, stay-piece, and reed, and a reciprocating two-way cutter by which the ends of the sweat-leather, stay-piece, and reed are cut off.

3. An angle-shaped supporting-plate the upper end of whose vertical piece is made highest at its sides to support a hat-body, a bracket secured to said vertical piece leaving a slot between them, and a carrier adapted to move on said bracket, in combination with a clamp and guard adapted when the carrier is moved forward to pass on opposite sides of the sweat-leather, stay-piece, and reed, and a reciprocating two-way cutter by which the ends of the sweat-leather, &c., are cut off.

4. In a machine for trimming and fitting sweat-leathers, the combination, with a suitable support, of a sliding carrier having a clamp and guard adapted to pass on opposite sides of the sweat-leather, and a reciprocating cutter adapted to trim the edges thereof.

5. In a machine of the class described, the combination, with a suitable support, of a sliding carrier having a guard adapted to

pass under a sweat-leather, a slotted clamp adapted to engage the outer side of the sweat-leather, and a cutter acting in said slot to trim the edges of said sweat-leather.

6. The combination, with the carrier, the guard, a spring-actuated clamp, and a suitable support, of a slide 14, carrying a cutter and provided with a rack, and a segmental gear engaging said rack, whereby the cutter is reciprocated.

7. The carrier, the guard, the slotted clamp, and a suitable support, in combination with slide 14, carrying a two-way cutter and having a rack, and a segmental gear engaging said rack and provided with stops to limit its movement in both directions.

8. The carrier having an arm 15, a guard 20, a slotted spring-actuated clamp, and a suitable support, in combination with a slide moving on said arm and carrying a two-way cutter acting in said slot, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. BRUSH.

Witnesses:

JABEZ AMSBURY,

GEORGE H. WILLIAMS.