(No Model.) 3 Sheets—Sheet 1.

G. E. BRUSH.

MACHINE FOR ATTACHING SWEATS AND BANDS TO HATS.

No. 494,365. Patented Mar. 28, 1893.

Fig. 2.

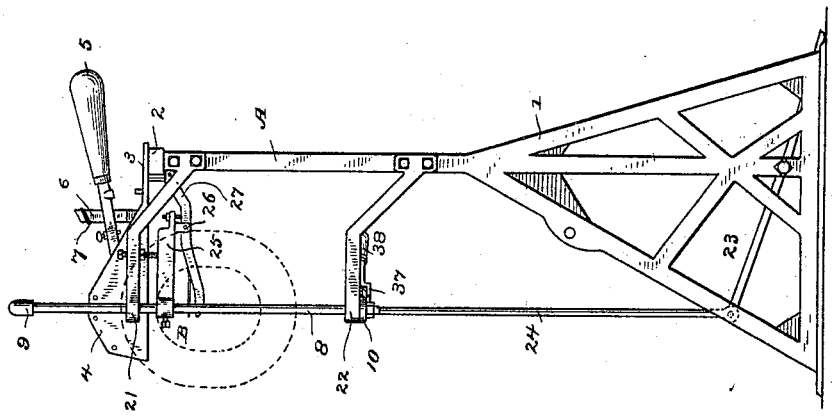
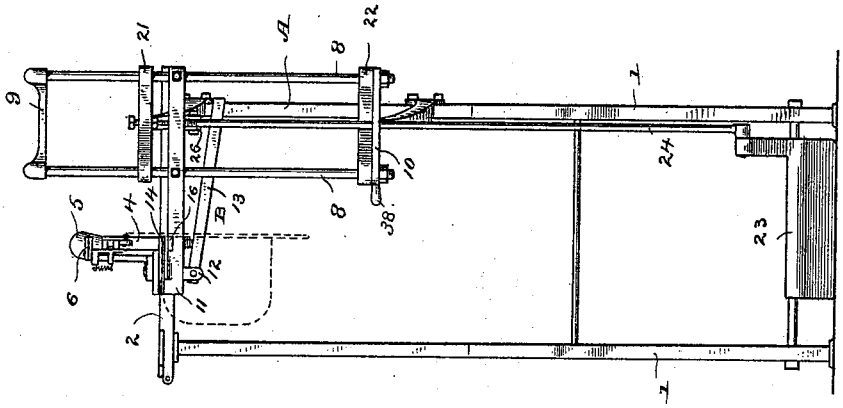


Fig. 1.



WITNESSES

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Fig. 3.

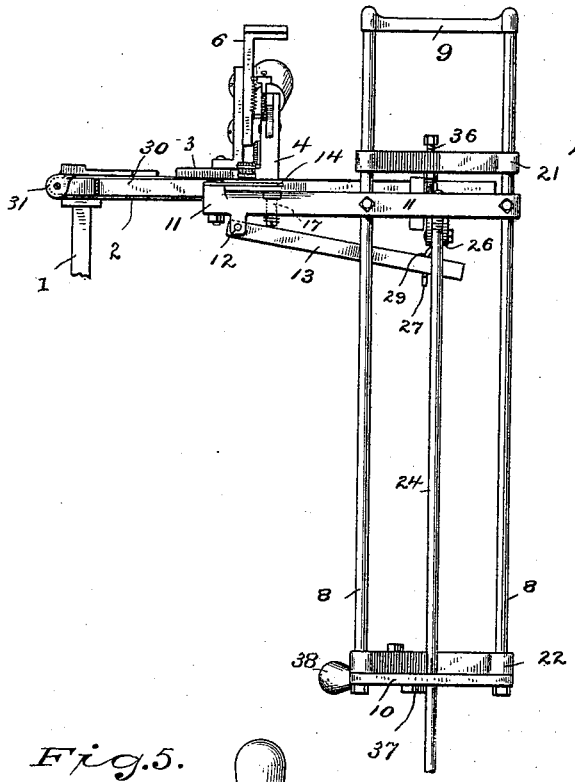

Fig. 4.

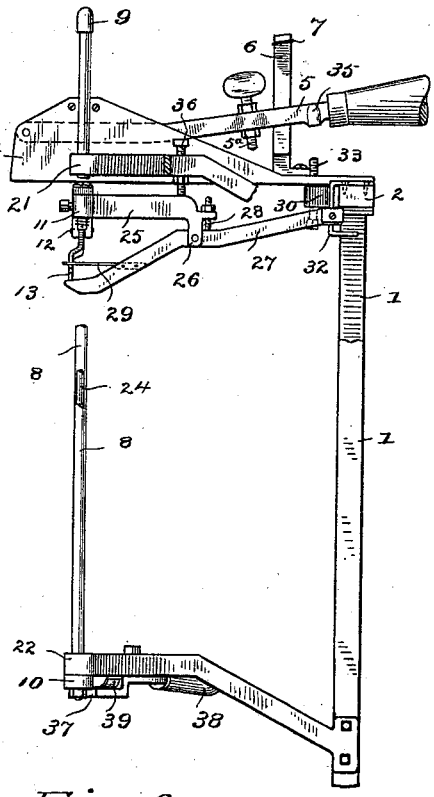

Fig. 5.

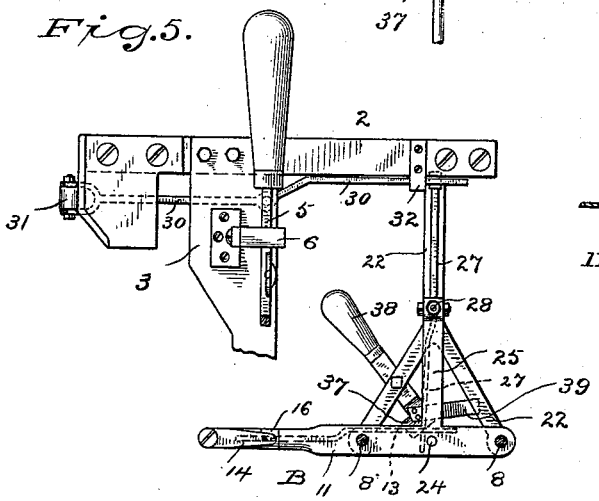

Fig. 6.

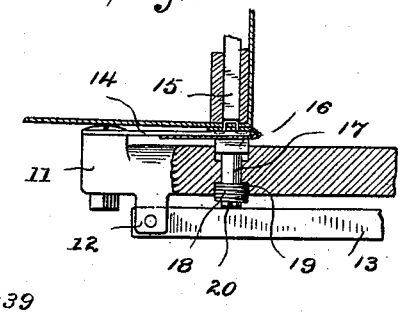

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Fig. 7.

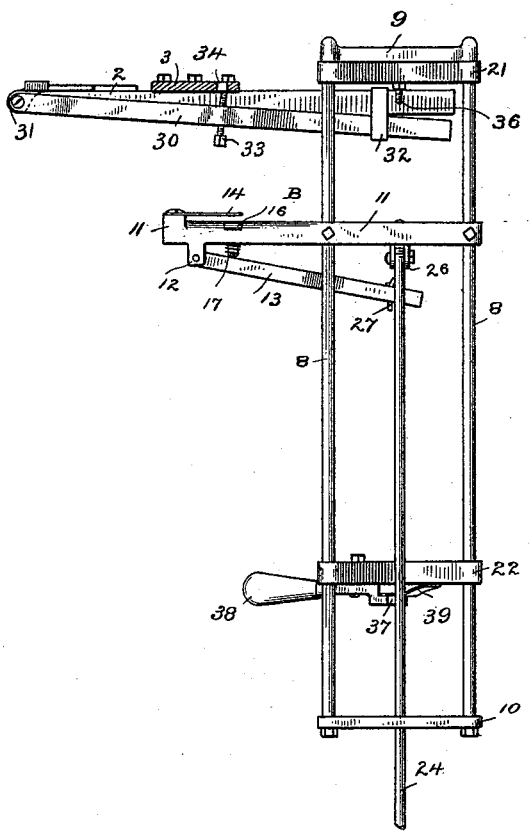
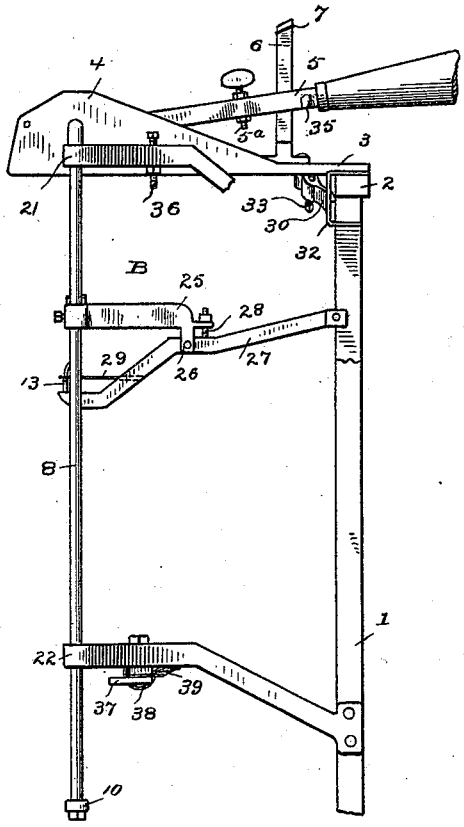


Fig. 8.



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UNITED STATES PATENT OFFICE.

GEORGE E. BRUSH, OF DANBURY, CONNECTICUT.

MACHINE FOR ATTACHING SWEATS AND BANDS TO HATS.

SPECIFICATION forming part of Letters Patent No. 494,365, dated March 28, 1893.

Application filed May 2, 1892. Serial No. 431,399. (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 Attaching Sweats and Bands to 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 relates to certain improvements in the machine for attaching sweats and bands to hats which forms the subject of my former Letters Patent, No. 424,458, dated April 1, 1890, and has for its object to simplify and improve the construction and operation of the machine.

With these ends in view I have devised the simple and novel construction which I will now describe referring by letters and numbers to the accompanying drawings forming part of this specification in which—

Figure 1 is a rear elevation of the machine complete, that is as seen from the left in Fig. 2; Fig. 2 a side elevation as seen from the right in Fig. 1; Fig. 3 an enlarged detail view corresponding with Fig. 1; Fig. 4 an enlarged detail view corresponding substantially with Fig. 2, certain of the parts being removed to show the operation of other parts; Fig. 5 a detail plan view on the same scale as Figs. 3 and 4, the rods which support the hat carrier being in section; Fig. 6 a detail view on an enlarged scale, illustrating the operation of the staple driving mechanism, the operating lever and anvil being in the raised position; Fig. 7 a detail view corresponding with Fig. 3, the hat carrier being in the lowered position, the bed plate being in section, and the staple forming and driving mechanism being removed, and Fig. 8 is a detail view corresponding with Fig. 4 the position of the hat carrier corresponding with Fig. 7.

A denotes the frame-work of the machine which consists ordinarily of two legs 1, and a top cross-piece 2. The staple forming and driving mechanism rests upon a bed-plate 3, bolted to the top cross-piece and is protected by a guard plate 4 which may be made integral with the bed plate. The staple forming and driving mechanism which I preferably use is fully illustrated and described in my said former patent referred to, and is not thought to require illustration and description in detail in this specification.

5 denotes the operating lever which is pivoted to the guard plate as shown in Fig. 4 and is provided with a set screw 5^a to limit its downward movement.

6 denotes a guard to limit the upward movement of the operating lever, the under side of said guard being preferably provided with a rubber pad 7 against which the lever strikes if raised to its highest position.

B denotes the hat carrier which consists of vertical rods 8, a top cross-piece 9, a bottom cross-piece 10, and a carrying arm 11 which is rigidly bolted to the rods. The under side of the carrying arm is provided with ears 12 between which a lever 13 is pivoted. At the outer end of the carrying arm is a go-between or clinching plate 14. This plate is made of spring metal and extends inward a sufficient distance to allow it to pass under the hat sweat, that is between the hat sweat and the body of the hat as in my said former patent referred to.

The staple is driven by a staple driver 15 the same as in my former patent, and is clinched by an anvil 16 which is recessed into the top of the carrying arm, and is provided with a shank 17, which extends downward below the carrying arm and is engaged by lever 13 as will be more fully explained. A spring 18 bearing against the bottom of a recess 19 in the under side of the carrying arm and against a pin 20 at the end of the shank, acts to retain the anvil in its lowered position as in Figs. 1 and 3. The vertical rods of the hat carrier move in upper and lower V-shaped guides 21 and 22 which are bolted rigidly to the frame work as clearly shown in Fig. 2.

23 denotes a treadle and 24 a rod extending upward therefrom, which engages the carrying arm.

25 is an arm extending from the carrying arm, and provided with ears 26, in which a lever 27 is pivoted. A set screw 28 in arm 25 limits the upward movement of one arm of said lever. The other arm of said lever extends downward and engages the under side

of lever 13. A spring 29 secured to lever 27 bears upon lever 13 and retains said parts firmly in position in use.

30 is a lever pivoted to an eye 31 on the top cross piece. This lever extends across the machine, the other end thereof passing through a guard 32 secured to the other end of the top cross piece, as shown in Fig. 5 which limits the downward movement of said lever.

33 is an adjusting screw in lever 30, the upper end of which is adapted to extend through an opening 34 in the bed plate, as shown in Fig. 7. See also Fig. 4.

35 denotes a boss on the operating handle which engages the top of screw 33 when the downward movement of said handle is made, and by said engagement forces the free end of lever 30 downward, said lever in turn forcing the right end of lever 27, as seen in Fig. 4 downward which raises the left end of said lever as shown in Fig. 4, carrying the free end of lever 13 upward with it, and by engagement with shank 17 raises the anvil to the position shown in Fig. 6.

36 is a set screw in upper guide 21 which is engaged by the carrying arm when the upward movement of the hat carrier takes place thereby limiting the upward movement of said carrier, see Fig. 3. This is an important feature as it enables me to adjust the hat carrier to work upon different thicknesses of hats and avoids the possibility of the carrier coming into contact with the staple forming and driving mechanism.

37 denotes a latch which is pivoted to the lower guide 22 and is adapted to swing under the bottom cross piece 10 of the hat-carrier to lock the latter at the raised position. This latch is provided with a handle 38 for convenience in operation and with a spring 39 which engages guide 22 and acts to hold the latch in any position in which it may be placed.

The operation of the machine is practically the same as that of my former machine which is described at length in my said former patent referred to. Starting with the parts in the position shown in Fig. 8 the sweat is placed within the hat and the latter placed over the support, the end of the support extending into the crown of the hat as indicated by dotted lines in Fig. 1 and the clinching plate or go-between 14 lying between the usual covering strip and the sweat. Having placed the hat in position the operator raises the hat carrier with the hat upon it by pressing his foot upon the treadle and locks the hat carrier at the raised position by swinging latch 37 under cross piece 10, as clearly shown in Figs. 2 and 3. The staple is driven through the body and the covering strip from the outer side by means of staple driver 15 the same as in my former patent, said staple driver and all of the operative parts of the machine being driven by means of lever 5. The operation of the parts is so timed that the staple driver forces the staple through the hat body and the covering strip and the downward movement continuing springs the clinching plate downward slightly. At this instant the operating lever in its downward action will have engaged the adjusting screw 33 and by means of levers 30, 27, and 13 will raise the anvil from the position shown in Fig. 3 to that shown in Fig. 6 thereby clinching the staple upon the covering strip.

The special object of the present construction is to permit the staple to be driven entirely through the hat body and the covering strip before the clinching operation takes place.

Another advantage of my present construction is that the operator is not required to move the treadle until the hat is finished, the hat being shifted upon the carrier by the left hand and lever 5 being operated by the right hand. The operation is the same in attaching a band. When the hat is finished the operator moves latch 37 which permits the carrier and hat to drop down to the position shown in Fig. 7. The hat is then removed and a new one placed upon the carrier in the same manner as before, the clinching plate being placed between the sweat and the covering strip. The carrier with the new hat body and sweat upon it is then raised to the operative, that is, the position shown in Figs. 1 and 3, the carrier locked in position by the latch and the operation of stapling the sweat and band in position proceeded with as before.

While the general operation of the machine is the same as in my former patent, my present construction produces better work for the reason that it insures the staple being driven entirely through the hat and covering strip before the clinching operation takes place.

The machine is very much easier for the operator and is moreover much faster for the reason that no movements of the treadle are required except in removing and replacing a hat.

Having thus described my invention, I claim—

1. In a machine for attaching sweats and bands to hats the combination with the staple driver, of a hat carrier adapted to be moved into operative position with each new hat to be operated upon and provided with a clinching plate adapted to pass between the sweat and the body, and to be sprung downward slightly by the staple driver, a vertically movable anvil in said carrier, and independent means for raising said anvil against the clinching plate after each staple has been driven through the body, the carrier remaining stationary until the hat is finished.

2. The combination with the staple driver and a vertically movable hat carrier having a clinching plate and a vertically movable anvil, of the operating lever and levers 30, 27, and 13 by which the anvil is raised when the downward movement of the operating lever takes place.

3. The combination with the staple driver,

and a vertically movable hat carrier having a clinching plate and a vertically movable anvil, of the operating lever having a set screw 5^a to limit its downward movement and a guard 6 to limit its upward movement, and suitable intermediate connections whereby the downward movement of said lever causes an upward movement of the anvil.

4. The combination with the staple driver and a vertically movable anvil, of an operating lever having a boss 35, lever 30 having an adjusting screw 33 engaged by said boss, lever 27 engaged by lever 30 and lever 13 engaged by lever 27 and engaging the anvil to raise the latter when the operating lever is moved downward.

5. The combination with the staple driver, the operating lever and the lever 30, of the hat carrier, the anvil having a shank 17, a spring 18 for retaining the anvil in its normal position, a lever 13 pivoted to the hat carrier and engaging the shank of the anvil and a lever 27 also pivoted to the hat carrier which is engaged by lever 30 to raise the anvil when the downward movement of the lever takes place.

6. The combination with guides 22 and 21, the latter having a set screw 36, the staple driver and the operating lever, of a hat carrier consisting of rods sliding in the guides, an arm 25 which engages the set screw to limit the upward movement, a carrying arm a movable anvil in said arm and suitable intermediate connections whereby the anvil is raised when the operating lever is moved downward.

7. The combination with the staple driver and the operating lever, of a hat carrier consisting of rods 8, arm 25, lever 27 pivoted to said arm, carrying arm 11 having movable anvil 16, lever 13 pivoted to the carrying arm and engaged by lever 27, a spring 29 holding said parts in operative position and a lever 30 which engages lever 27 and is engaged by the operating lever as and for the purpose set forth.

8. The combination with the staple driver and the operating lever, of guides 21 and 22 a hat carrier moving in said guides, and having a yielding clinching plate adapted to pass between the sweat and the body and a vertically movable anvil adapted to engage the sweat, a treadle and rod for moving the hat carrier upward and a suitable latch for retaining the hat carrier at the raised position.

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

GEORGE E. BRUSH.

Witnesses:
JABEZ AMSBURY,
GEORGE H. WILLIAMS.