No. 734,933. PATENTED JULY 28, 1903.

E. G. O'DONNELL.

HAT SEWING MACHINE.

APPLICATION FILED MAY 17, 1902.

NO MODEL.

Fig. 1.

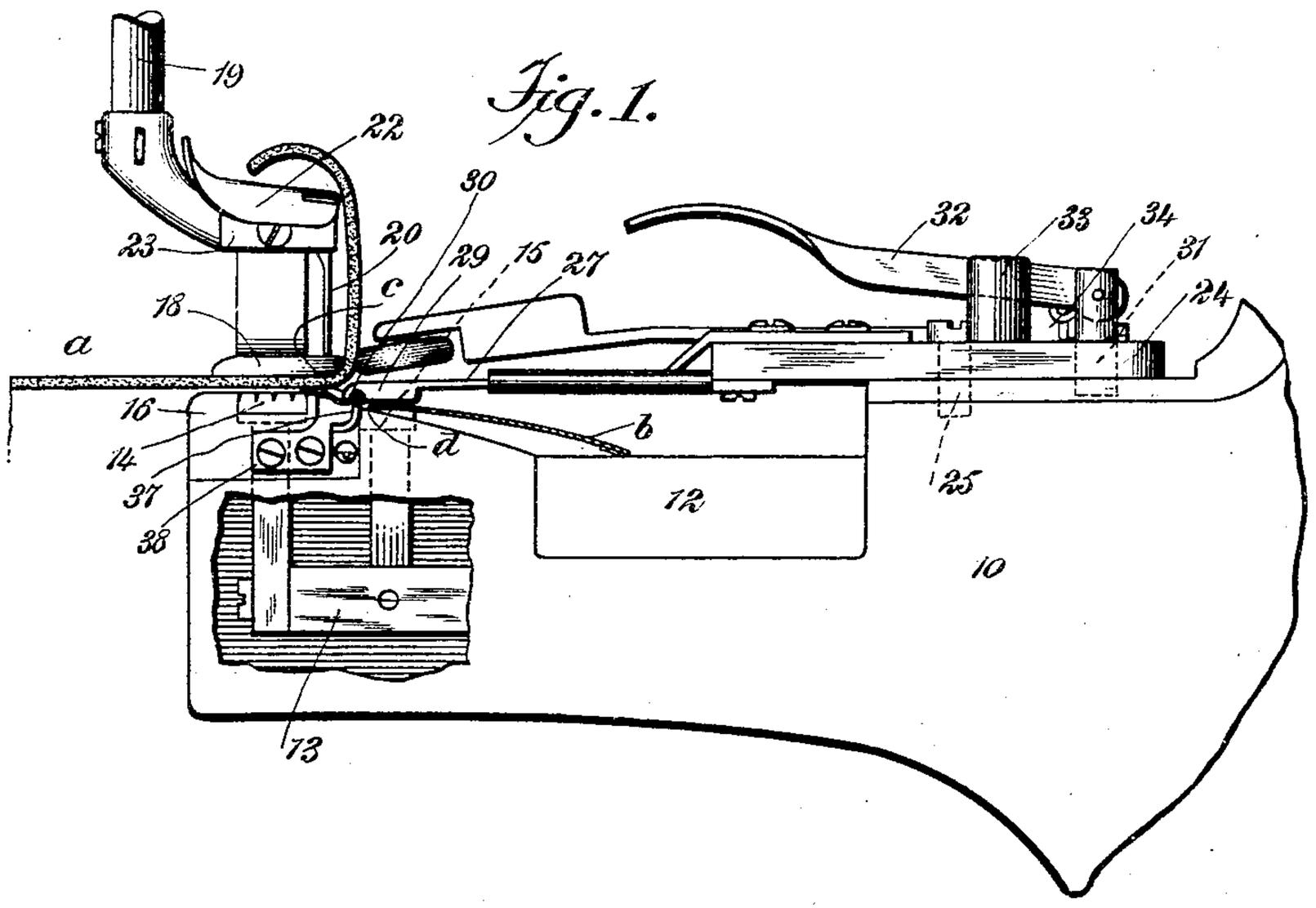
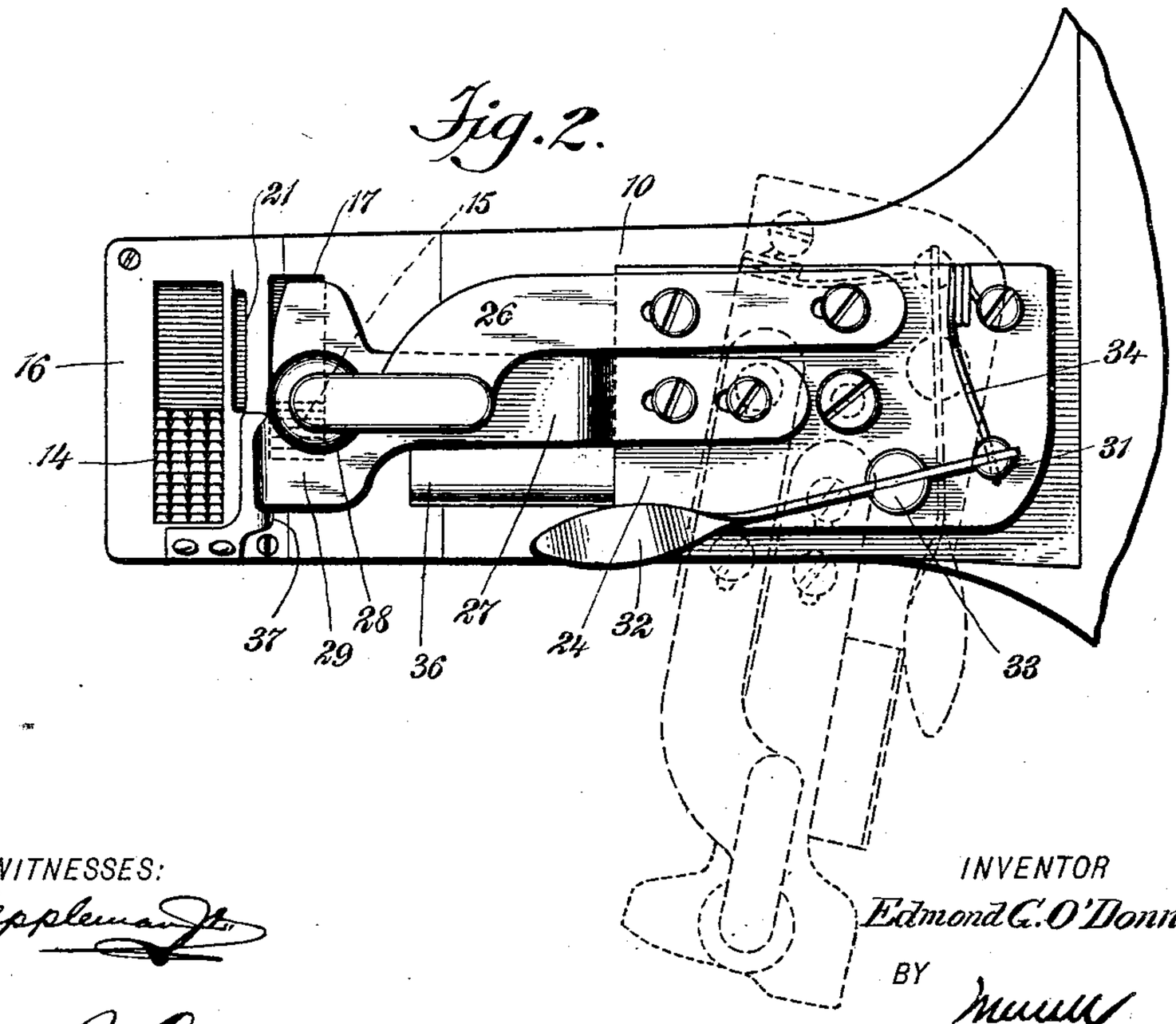


Fig. 2.



WITNESSES:

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No. 734,933. Patented July 28, 1903.

UNITED STATES PATENT OFFICE.

EDMOND GREGORY O'DONNELL, OF FALL RIVER, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WHEELER & WILSON MANUFACTURING COMPANY, OF BRIDGEPORT, CONNECTICUT.

HAT-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 734,933, dated July 28, 1903.

Application filed May 17, 1902. Serial No. 107,784. (No model.)

To all whom it may concern:

Be it known that I, EDMOND GREGORY O'DONNELL, a citizen of the United States, and a resident of Fall River, in the county of Bristol and State of Massachusetts, have invented a new and Improved Sewing-Machine, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in machines for sewing sweat-bands into stiff hats.

The present machine is of the same general character as that shown in my previous patent, No. 646,756, April 3, 1900, and also in my copending application, Serial No. 56,941, filed April 22, 1901. The principal improvement lies in providing two feed-dogs with the needle arranged to work between them, one feed-dog working with the presser-foot in the usual manner and engaging the hat, and the other feed-dog working with a certain peculiarly-arranged gage and serving to engage and feed the leather of the sweat-band. By means of this arrangement the sweat-band is fed with absolute uniformity with respect to the hat, and stretching or yielding of the cloth backing of the sweat-band is not permitted to interfere with the accuracy with which the sweat-band is placed in the hat.

The present invention also involves various minor improvements, which will be fully set forth hereinafter.

This specification is an exact description of one example of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a side view with parts of the lower arm or work-support broken away to indicate the general position of the feed-bar, and Fig. 2 is a plan view with the presser and needle bars and their appurtenant parts removed and showing by dotted lines the gage devices thrown sidewise into inoperative position.

10 represents the lower arm or work-support of the machine, in which is formed a depression 12 to permit the proper positioning of the sweat-band.

13 indicates the feed-bar, and 14 and 15 indicate, respectively, the two feed-dogs or feed-points. The feed-dog 14 works through a slot in the needle-plate 16 in the usual manner, and the feed-dog 15 works through a slot 17 in the work-support 10 immediately inward of the needle-plate.

18 indicates the presser-foot, which lies over the dog 14 and coacts therewith, this presser-foot being carried by a presser-bar and being offset therefrom after the manner disclosed in my prior patent and copending application above referred to.

19 indicates the needle-bar, and 20 the needle, which latter works in a slot 21 in the needle-plate 16 in the ordinary manner. The stitch-forming mechanism (not shown) lies between the feed-dogs and within the work-support.

22 indicates a shield which extends essentially horizontal and is carried from the presser-bar, such shield extending over the lateral arm 23 of the needle-bar, which arm carries the needle, these parts being all essentially the same as disclosed in my copending application.

Mounted on the upper side and at the inner portion of the work-support is a carrier-plate 24, which swings around the center of a pivot-screw 25 and which carries two arms 26 27, these arms being mounted adjustably on the carrier-plate and extending toward the outer end of the work-support, the arm 26, as shown in Fig. 2, being turned laterally to extend over the arm 27, and this laterally-turned extremity carries a gage-roller 28. The arm 27 is widened laterally at its extremity, as indicated at 29, and this laterally-widened extremity lies immediately over the feed-dog 15, so as to coact therewith after the manner of a presser-foot in ordinary sewing-machines. The laterally-widened end 29 of the arm 27 also serves as a gage for the reed of the sweat-band, for which purpose said extremity of the arm is grooved on its under side, as indicated

at 30, this groove extending transversely of the arm or work-support 10 in position to receive the reed of the sweat-band.

31 indicates a stop-pin for holding the carrier-plate 24 in proper position on the arm or work-support 10, and 32 indicates a finger-lever fulcrumed on a stud 33 on the carrier-plate, by which means the pin 31 may be disengaged from the work-support 10, thus allowing the carrier-plate 24 and the parts attached to be thrown to the position shown in Fig. 2.

34 indicates a spring for holding the pin 31 normally active.

The arms 26 and 27 are adjustably mounted on the carrier-plate 24, so that they may be moved toward and from the work, as desired, so as to adjust them with respect to the operations intended to be performed.

36 indicates a shield which is carried under the arm 27 and which is adapted to be engaged by the sweat-band and to keep it out of contact with the comparatively sharp edges of the arm 27, which contact will tend to injure the sweat-band and also to entangle it and stop the operation of the machine. Coacting with the gage-groove 30 of the arm 27 is the flange 37. This flange extends longitudinally of the groove 30 and lies directly under it, its purpose being to press the reed of the sweat-band up into the groove and hold the reed in that position. This flange 37 is carried on a base or plate 38, which is fastened to the needle-plate 16.

a indicates a portion of the crown of the hat, *b* the sweat-band, *c* the cloth backing, and *d* the reed, which parts are shown in Fig. 1.

In the use of the invention to introduce the hat and sweat-band into the machine the arms 27 and 26 should be thrown to the position shown by dotted lines in Fig. 2, and the needle and presser bars should be raised. The hat should then be positioned, as shown in Fig. 1, so as to be engaged by the feed-dog 14, and the sweat-band should be placed over the feed-dog 15, whereupon when the arms 26 and 27 are returned the reed *d* lies in the groove 30 of the gage-arm 27. This gage-arm is of spring metal, so as to press its enlarged end 29 down firmly on the sweat-band, and the grooved portion of the arm coacting with the flange 37 will hold the reed of the sweat-band, and consequently the sweat-band itself, in a certain position with respect to the hat. The gage-roller 28 of the arm 26 will press against the brim of the hat at a point directly adjacent to the crown—that is to say, just above the end 29 of the arm 27. These two gage parts 28 and 29 working together serve to position the sweat-band in the hat. Referring to Fig. 1, it will be seen that should the arm 27 be adjusted farther to the left the reed, and consequently the sweat-band, will be moved farther into the crown, thus making what is known in the art as a "low" sweat-band. A reversal of this adjustment will reverse the effect on the position of the sweat-band with respect to the hat. The same results may be attained by adjusting the position of the roller 28 through the medium of the arm 26, or both of these arms may be adjusted. In case that the arm 27 is adjusted the plate 38, carrying the flange 37, must also be adjusted, and for this purpose said plate may be slotted at the point engaged by its fastening-screws. The parts being thus arranged, when the operation of the machine is started the two feed-dogs work, respectively, against the hat and the sweat-band, and these two parts are fed in exact unison with each other. This insures that the sweat-band is placed properly in the hat. Were I to depend upon feeding the leather sweat-band through the medium of the cloth backing thereof, this cloth, being of a relatively flimsy material, would sag and yield, and the sweat-band would not be placed correctly in position. The flange 37 presses the reed up snugly into the groove 30 and prevents the accidental disengagement of the reed. By providing the finger-lever 32, which extends slightly beyond the edge of the carrier-plate 24, I am enabled to very conveniently operate the stop-pin 31, since this finger-lever not only throws the stop-pin out of active position, but it also forms an arm for facilitating the swinging of the part 24 and those parts attached thereto.

Various changes in the form and details of my invention may be resorted to at will without departing from the spirit of my invention. Hence I consider myself entitled to all forms of the invention as may lie within the intent of my claims.

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

1. In a sewing-machine, the combination with the stitch-forming mechanism, of a presser-foot, a driven feed-dog working therewith, a gage member, a second driven feed-dog coacting with the gage member, said gage member having a groove for the purpose specified, and a flange mounted independently of the gage member and lying opposite the groove.

2. In a machine for sewing sweat-bands into hats, the combination with the stitch-forming mechanism, of a presser-foot, a driven feed-dog working therewith, a gage member, a second driven feed-dog coacting with the gage member, said gage member having a groove therein to receive the reed of the sweat-band, and a flange carried independently of the gage member and lying opposite of the groove therein.

3. In a hat-sewing machine, the combination with the stitch-forming mechanism, of a driven feed-dog arranged to engage the hat at one side, a presser-foot lying opposite said feed-dog and movable toward and from the same to engage the hat at the other side, said parts jointly holding and feeding the hat, a

second driven feed-dog arranged to engage the sweat-band at one side, a member lying opposite the second feed-dog and pressing toward the same to engage the other side of the sweat-band, the second dog and the said member jointly holding and feeding the sweat-band, and means for mounting the said member independently of the presser-foot, whereby the brim of the hat may be introduced between the presser-foot and the said member.

4. In a hat-sewing machine, the combination with the stitch-forming mechanism, of a driven feed-dog arranged to engage the hat at one side, a presser-foot lying opposite said feed-dog and movable toward and from the same to engage the hat at the other side, said parts jointly holding and feeding the hat, a second driven feed-dog arranged to engage the sweat-band at one side, and a member lying opposite the second feed-dog and pressing toward the same to engage the other side of the sweat-band, the second dog and the said member jointly holding and feeding the sweat-band, the said member having a guide-groove adapted to receive the reed of the sweat-band to gage the position thereof with respect to the hat.

5. In a hat-sewing machine, the combination with the stitch-forming mechanism, of a driven feed-dog arranged to engage the hat at one side, a presser-foot lying opposite said feed-dog and movable toward and from the same to engage the hat at the other side, said parts jointly holding and feeding the hat, a second driven feed-dog arranged to engage the sweat-band at one side, a member lying opposite the second feed-dog and pressing toward the same to engage the other side of the sweat-band, the second dog and the said member jointly holding and feeding the sweat-band, the said member having a guide-groove adapted to receive the reed of the sweat-band to gage the position thereof with respect to the hat, and a flange mounted independently of said member and lying opposite the groove therein.

6. In a hat-sewing machine, the combination with the stitch-forming mechanism, of a driven feed-dog arranged to engage the hat at one side, a presser-foot lying opposite said feed-dog and movable toward and from the same to engage the hat at the other side, said parts jointly holding and feeding the hat, a second driven feed-dog arranged to engage the sweat-band at one side, a member lying opposite the second feed-dog and pressing toward the same to engage the other side of the sweat-band, the second dog and the said member jointly holding and feeding the sweat-band, the said member also engaging the reed of the sweat-band for the purpose specified, and a gage member adjustable with respect to the first-named member and extending over the same to engage the brim of the hat.

7. In a hat-sewing machine, the combination with the stitch-forming mechanism, of a driven feed-dog arranged to engage the hat at one side, a presser-foot lying opposite said feed-dog and movable toward and from the same to engage the hat at the other side, said parts jointly holding and feeding the hat, a second driven feed-dog arranged to engage the sweat-band at one side, a member lying opposite the second feed-dog and pressing toward the same to engage the other side of the sweat-band, the second dog and the said member jointly holding and feeding the sweat-band, said feed-dogs having their working faces lying in essentially parallel planes and the presser-foot and said member exerting their pressure toward the respective feed-dogs in essentially parallel lines and means for mounting the said member independently of the presser-foot, whereby the brim of the hat may be introduced between the presser-foot and the said member.

8. In a hat-sewing machine, the combination with the stitch-forming mechanism of a mounted presser-foot, a driven feed-dog coacting therewith, a second driven feed-dog, a carrier-plate movably mounted for the purpose specified, an arm carried thereby and projecting toward the second feed-dog, to coact therewith, and a second arm mounted on the carrier-plate and serving to gage the position of the hat.

9. In a hat-sewing machine, the combination with the stitch-forming mechanism of a mounted presser-foot, a driven feed-dog coacting therewith, a second driven feed-dog, a carrier-plate movably mounted for the purpose specified, an arm carried thereby and projecting toward the second feed-dog, to coact therewith, a second arm mounted on the carrier-plate and serving to gage the position of the hat, the first-named arm having a groove therein, to engage the reed of the sweat-band, and a flange mounted independently of the said first-named arm and coacting with the grooved portion thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDMOND GREGORY O'DONNELL.

Witnesses:
HUBERT LEGARE,
JOSEPH MENARD.