UNITED STATES PATENT OFFICE.

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HOLDING AND GUIDING ATTACHMENT FOR SEWING-MACHINES.

1,220,303.


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To all whom it may concern:
Be it known that I, CORNELIUS WEISS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Holding and Guiding Attachments for Sewing-Machines, of which the following is a specification.

My invention relates to a holding and guiding attachment for sewing machines, and is particularly adapted for use in sewing the plies of frusto-conical hat bands such as are used in the construction of sailors' canvas hats.

Heretofore in this art it has been known to place a flat hat brim on the bed of a sewing machine and to advance the brim longitudinally toward the sewing needle while the needle works a spiral stitching about the brim, but where it has been desired to sew a curved or bent hat brim it has been necessary to feed the brim to the needle manually, thus requiring the constant attention of the operator and should there be any releasing of the pressure holding the fabric to the guiding element of the fabric advancing mechanism, a resultant irregularity in the spiral stitching results.

It is one of the objects of my invention to provide an attachment for sewing machines for automatically guiding the circular curved frusto-conical bands to the sewing needle without the necessity of attending to the operation after the hat band has been set in position.

Various other objects and advantages will be in part obvious and in part more fully set forth in the following description of a preferred form of my invention which also includes certain novel features of construction and combination of parts heretofore set forth and claimed.

In the drawings:

Figure 1 is a side elevation of a sewing machine with a preferred embodiment of my invention attached thereto, a different position of the guide rollers from the position shown in full lines being shown in dotted lines, and

Fig. 2 is a plan view of the same with a portion of the sewing machine head removed.

In the drawings is shown a sewing machine 1, having a needle head 2 forming a broad bearing for the upper edge of the bands being sewed, and needle 3 actuated from some suitable source of power which also actuates a longitudinally movable arm 4 of a feeding mechanism 5 for advancing an edge guiding roller 6 transversely relative to the normal line of feed so that the needle will describe a spiral stitching about the fabric as is done at present with flat work.

Suitably mounted preferably on the front side of the bed 7 of the machine is a bracket 8 pivotally supporting a guide roller 9 which roller is disposed slightly above the bed of the machine so as to feed the fabric to the needle in practically a horizontal plane in which position the fabric is retained by the spring finger 10 which maintains the fabric on the bed of the machine.

Also mounted on the bracket 8 or other suitable support is a roller 11 disposed above the roller 9 and preferably closer to the sewing machine head than the roller 9.

Preferably both of the rollers and particularly the roller 9 extends longitudinally of the machine on opposite sides of and offset from the needle across the advancing side of the fabric, and are inclined relatively to the direction of feed of the material and extend from a position in advance of the head 2 inwardly toward the bed 7 of the machine.

The rollers are adjustable relative to each other and to the bed of the machine and for this purpose are affixed to the bracket 8 and a bracing link 13 by means of the screw and slot connections 14.

Affixed to the moving arm 4 is a transversely disposed roller 15 which extends at an angle to and above the roller 9 and is spaced from and in advance of the head 2.

For the purpose of fitting the attachment for different widths of material the roller 15 is adjustable relative to the rollers 6 as by mounting a portion thereof in a sleeve 12 pivoted for horizontal movement on the arm 4.

In operation, the frusto-conical fabric band 16 is positioned with the upper portion of one edge disposed adjacent or bearing on the head 2 and the lower portion of this edge in engagement with the rollers 6. The roller
15 is adjusted to bear lightly on the opposite or outer edge of the band and the arm 4 is set so that the needle 3 is adjacent the outer edge of the band.

The band is inserted over the rollers 9 and 11 and the roller 9 is so inclined that as the fabric is drawn across and under the same by the advancing action of the needle, the tendency of the band to slide or to be drawn down this roller, will maintain the inner edge of the band in operative engagement with the needle and in engagement with the guide rollers 6.

The roller 11 may be omitted, but its use tends to prevent the band from collapsing and provides an easy feeding of the band around the lower roller to the needle.

With the parts in the position indicated, the machine is started and automatically moves the rollers 6 toward the needle thus advancing the band transversely as the needle describes the stitches circumferentially about the same and at the same time the band is held to the rollers 6 by the guiding roller 9 and edge engaging roller 15.

Should it be desired to insert a different size band, the feed of the arm 4 is adjusted as is known in devices of this character; the position of the roller 11 changed if necessary and the roller 15 brought to bear on the edge of the band.

By means of a construction such as that herein disclosed, it is possible to insert the hat band in position on the rollers and in operative position relative to the needle and by starting the machine the band is automatically sewed without any further attention on the part of the operator and the device may be utilized in connection with some conventional form of mechanism for shutting off the power of the machine when the hat band is sewed.

It is further apparent that the device may be readily set for any form of band and for different sized bands and while the invention has been particularly described with reference to sewing of hat bands it is adapted for general application for any form of fabric particularly a fabric having a ring formation.

Although I have shown one form of mechanism embodying my invention, it is obvious that various changes within the skill of the mechanic may be made therein without departing from the spirit of the invention, provided the means set forth in the following claims are employed.

I claim as my invention:

1. In a sewing machine, the combination with the machine head having a sewing needle, said head adapted to form a stop for one edge of a frusto-conical band to be sewed, a guide for said edge and means for advancing said guide relative to the needle, of a roller adapted to guide a portion of said band horizontally to the needle and means above said roller carried by said advancing means adapted to engage the opposite edge of the band above the horizontal portion of the band.

2. In a sewing machine, the combination with the machine head having a sewing needle, said head adapted to form a stop for one edge of a frusto-conical band to be sewed, a guide for said edge and means for advancing said guide relative to the needle, of a roller adapted to guide a portion of said band horizontally to the needle and means above said roller carried by said advancing means adapted to engage the opposite edge of the band above the horizontal portion of the band.

3. In a sewing machine, the combination with the machine head having a sewing needle, said head adapted to form a stop for one edge of a frusto-conical band to be sewed, a guide for said edge and means for advancing said guide relative to the needle, of a roller adapted to feed a portion of said band horizontally to the needle, an edge guiding means carried by said advancing means and inclined at an obtuse angle to the bed of the machine adapted to engage the opposite edge of the band, and resilient means engaging one side of the band for maintaining said horizontal portion of the band flat on the bed of the machine.

4. In a sewing machine, the combination with the needle, a guide, and means for automatically advancing said guide relative to the needle, of an attachment comprising a guiding means disposed above and to one side of the needle, and inclined relatively to the direction of feed of the material, whereby the material in passing across said guiding means will tend to be drawn down said incline into engagement with the guide and needle.

5. In a sewing machine, the combination with the needle, and means movable transversely of the line of feed for advancing material to be sewed relative to the needle to form spiral stitches therein, of a holder for supporting the material above the needle when the same is above its sewing position, said holder inclined to guide the material downwardly to the needle and said advancing means, said holder being freely movable about a fixed axis.

6. In a sewing machine, the combination with the needle and a stop for limiting the travel of the material transversely of the general line of feed of the material, of a material guiding means including a member positioned in advance of and above the needle and inclined downwardly relative to the direction of feed of the material where by as the material is drawn down the inclined member by the sewing action of the needle, the material will be held against the stop and thus fixed against movement transversely of the line of feed.
7. In combination with a sewing machine, an attachment comprising a material guiding roller positioned in advance of the needle and having its axis inclined to the line of feed of the material and downward toward the bed of the machine and vertical guiding means engaging opposite ends of the roller and adjustably connected thereto for supporting the same in a plurality of positions relative to the bed of the machine.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

CORNELIUS WEISS.

Witnesses:

Wm. J. O'CONNOR,

FRANKLIN W. MESSLOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."