United States Patent

Rau

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[54] **APPARATUS FOR FELLING LININGS ON FUR GARMENTS**

[72] Inventor: **Winfried Rau**, Turkenfeld, Germany

[73] Assignee: **J. Strobel & Soehne, Spezial-Naehmaschinen-Fabrik,** Postfach, Germany

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[52] **U.S. Cl.**.....**112/177**

[51] **Int. Cl.**.....**D05b 7/14**

[58] **Field of Search**.....112/176, 174, 203

[56] **References Cited**

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Primary Examiner—Patrick D. Lawson

Attorney—Craig, Antonelli & Hill

[57] **ABSTRACT**

A double lock-stitch blind-stitch sewing machine with a lower cloth feeder installed in such a manner that, upon feeding the cloth, it will move only parallel to the stitchplate and sufficiently downward in relation to the thickness of heavy material such as fur for felling linings on fur garments.

5 Claims, 7 Drawing Figures

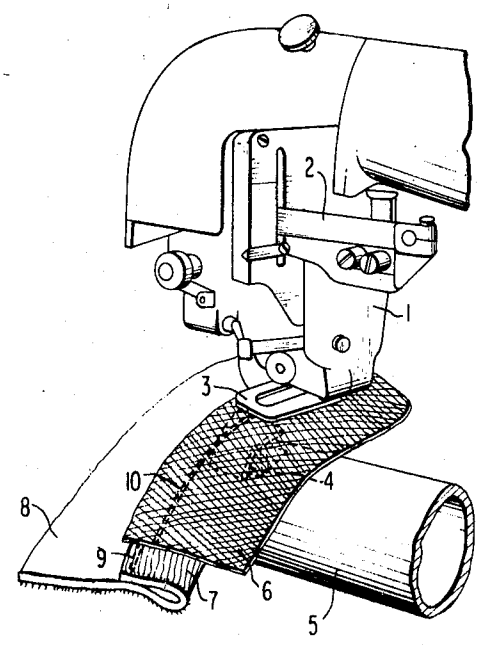


FIG.1

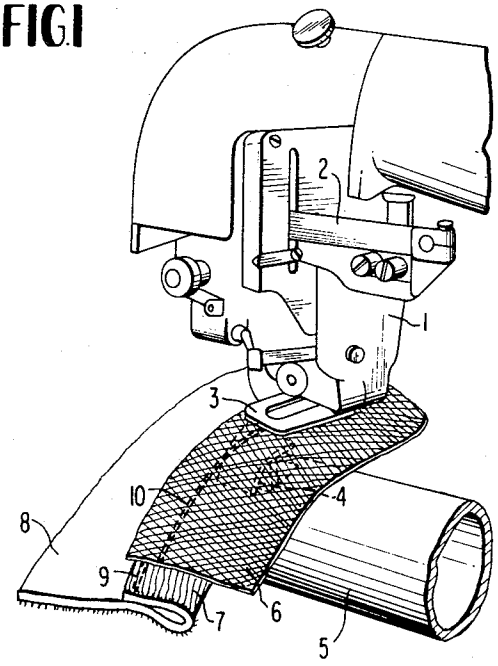
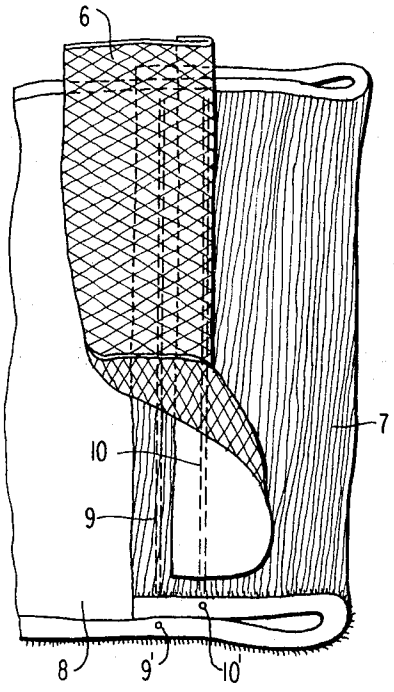


FIG.2



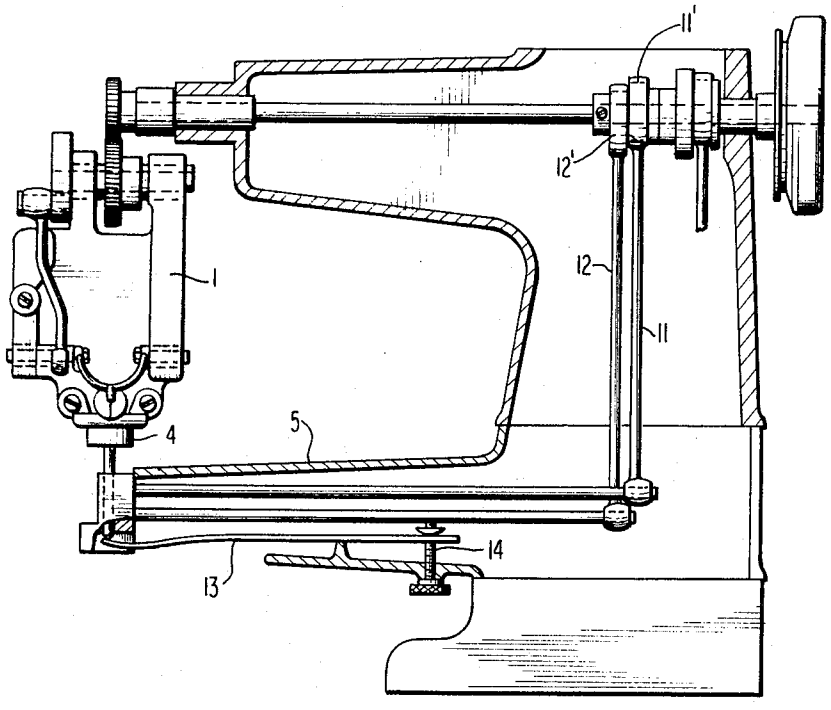


FIG.3

INVENTOR
WINFRIED RAU

BY Craig, Antonelli, Stewart & Hill
ATTORNEYS

FIG.4

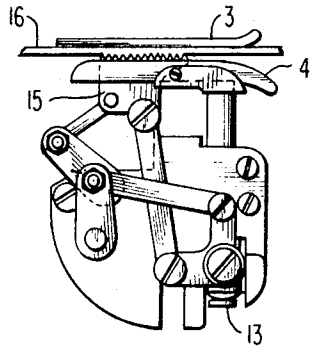
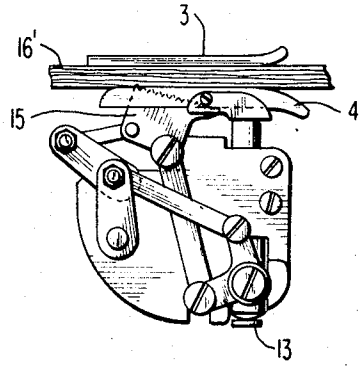


FIG.5



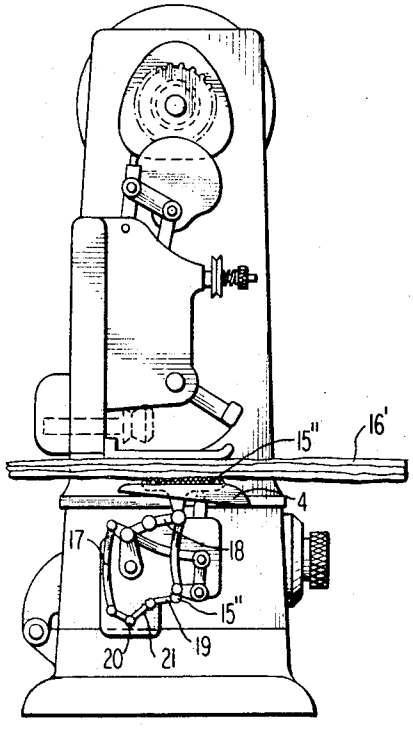


FIG.7

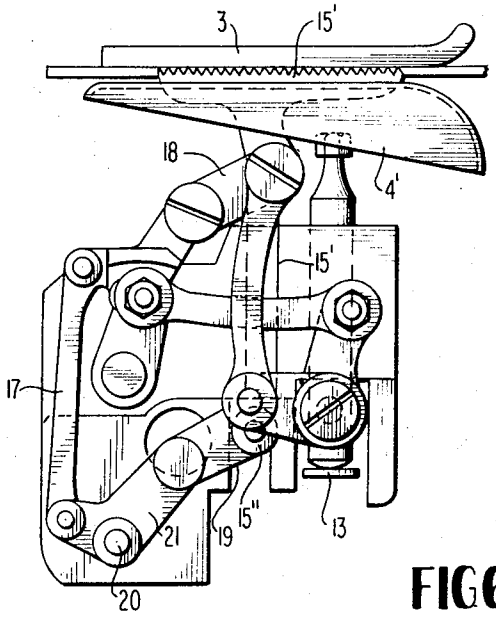


FIG6

INVENTOR
WINFRIED RAU

BY Craig, Antonelli, Stewart & Hill
ATTORNEYS

APPARATUS FOR FELLING LININGS ON FUR GARMENTS

BACKGROUND OF THE INVENTION

The present invention relates to an apparatus for felling linings on fur garments, and more particularly to a device employing a double lock-stitch blind-stitch sewing machine having a lower cloth feeder which is installed so that, upon feeding the cloth, it will be in relation with the width of heavy fur material.

In the past, known lower feeders could only be effectively used when pushing a relatively thin layer of cloth. If the layer became too thick, however, the feeding and clamping devices could not be used because the lower feeder would take an oblique position and the material would be caught, if at all, only by a few teeth. Up to the present, therefore, felling linings on fur garments has been executed manually since no suitable machine was available. However, the manual felling of linings on fur garments is a time-consuming process, and attaching linings with the use of a needle and by means of blind-stitching is difficult and the application of such stitches is not very accurate.

SUMMARY OF THE INVENTION

It is the aim of the present invention to overcome the problems and disadvantages encountered heretofore in the prior art.

It is a further aim of the present invention to facilitate the felling of linings on fur garments by reducing work time and increasing accuracy, thereby providing a significant technical advance.

The foregoing problems and disadvantages have been solved in accordance with the present invention by employing a double lock-stitch blind-stitch sewing machine with a lower cloth feeder installed in such a manner that, upon feeding the cloth, it will move only parallel to the stitchplate and sufficiently downwardly in relation to the width of the heavy fur material. A clamping plate also moves parallel to the stitchplate and sufficiently downwardly upon feeding the cloth, and a conventional upper feed can be adjusted during the sewing operations.

BRIEF DESCRIPTION OF THE DRAWING

These and further aims, features and advantages of the present invention will become more apparent from the following description when taken in conjunction with the accompanying drawing which shows, for purposes of illustration only, an embodiment of the present invention and wherein:

FIG. 1 is a perspective view showing the felling of linings on a double lock-stitch blind-stitch sewing machine;

FIG. 2 is a partial plan view of a piece of fur with felled lining;

FIG. 3 is a front elevational view of the double lock-stitch blind-stitch sewing machine with a partial cross-sectional front view thereof;

FIGS. 4 and 5 are side elevational views of the conventional cloth feeding and clamping plate devices for sewing thin material and thick material, especially fur, respectively;

FIG. 6 is a side elevational view of the cloth feeding and clamping devices in accordance with the present invention shown for sewing thin material; and

FIG. 7 is a side elevational view of the double lock-stitch blind-stitch sewing machine employing the cloth feeding and clamping plate devices in accordance with the present invention shown for manufacturing very heavy fur material.

DETAILED DESCRIPTION OF THE DRAWING

Referring now to the drawing and, in particular, to FIG. 1, there is shown the head 1 of a double lock-stitch blind-stitch sewing machine. On the head, a lever 2 is provided for adjusting the upper feeder of the machine. In addition, there is provided a stitch plate 3, on the lower side of which the lining and fur material are pushed during the felling operation through a clamping plate 4 (shown in dotted lines). The clamping plate 4 is attached to the front part of a lower arm 5 of the machine.

In FIGS. 1 and 2, the turned-in facing 7 is shown on which lining 6 is to be sewn on. The piece of fur is designated by the numeral 8, and the facing 7 is sewn on prior to sewing in the lining by means of the seam 9 and by employing the double lock-stitch blind-stitch sewing machine. The double lock-stitch blind-stitch seam 10 which results after the lining 6 is sewn on is shown by the dot-dash lines in FIG. 1. The seam is more clearly shown in FIG. 2 where the sewn-in lining is drawn partially tipped-up. It is also seen that, upon sewing on the facing 7, the needle penetrates to the point 9', while the needle penetration upon sewing in the lining 6 is at point 10'.

As seen in FIG. 3, the rod connection for the backward and forward motions of the lower feeder is designated by numeral 11. Numeral 12 designates the connection rod for raising and lowering the lower feeder. The corresponding eccentrics for producing the motion of the connection rods are designated by the numerals 11' and 12'. A plate spring 13 is shown, the pressure of which can be adjusted by means of screw 14. The plate spring 13 pushes upwardly the clamping plate 4.

Referring now to FIGS. 4 and 5, a conventional lower feeder 15 is shown pushing a thin layer of cloth 16. If, however, a layer of cloth is very thick, as is the case of fur material 16', as shown in FIG. 5, the conventional feeding and clamping devices cannot be used, since the lower feeder 15 takes an oblique or canted position and, upon being fed, the material either is not caught at all or only, at most, by a few teeth.

The lower feeder 15' in accordance with the present invention is shown in FIG. 6. There, the lower feeder is fitted with a lower extension 15''. The lower feeder 15' moves vertically in relation to the stitch plate 3 along with the extension 15'', the lever 17, levers 18 and 19, and the angle lever 21 carried on pivot 20. Thus, the lower feeder 15' will feed even the heaviest fur material in a faultless manner as shown in FIG. 7 wherein the clamping plate 4' in accordance with the present invention only moves vertically downwards.

While I have shown and described only one embodiment in accordance with the present invention, it is to be clearly understood that the same is susceptible of numerous changes and modifications as will be apparent to one skilled in the art, and I, therefore, do not wish to be limited to the details shown and described herein but intend to cover all such changes and modifications that are encompassed by the scope of the present invention.

I claim:

1. A device for felling linings on thick garments in a double lock-stitch blind-stitch sewing machine, comprising a stitchplate for engaging and guiding an upper surface of a garment to be felled by the machine, a non-pivoting clamping plate arranged below said stitchplate for intermittent engagement with a lower surface of said garment, and movable lower feeder means arranged below said stitchplate, said lower feeder means being arranged in such a manner that a fur engaging portion thereof moves sufficiently downwardly and parallelly with respect to said stitchplate, whereby said arrangement adapts to various thickness garments fed between said stitchplate and said clamping plate without jamming on relatively thick garments.

2. A device according to claim 1, wherein the fur engaging portion of said lower feeder means comprises a substantially flat face with teeth extending upwardly over the surface of said flat face.

3. A device according to claim 1, wherein the lower feeder means is maintained parallel with said stitchplate by interconnected pivotal levers.

4. Device for felling linings according to claim 1, wherein the garment is a fur garment.

5. Device for felling linings according to claim 4, wherein upper feeder means are arranged to be adjustable during sewing operations.

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