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PRESSER ATTACHMENT FOR SEWING MACHINE

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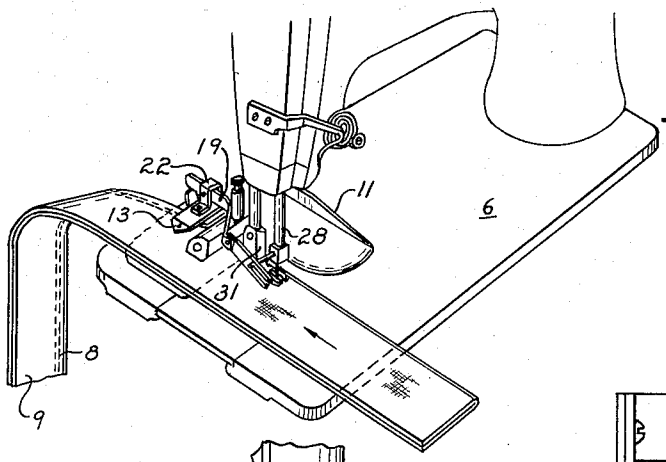


Fig. 1

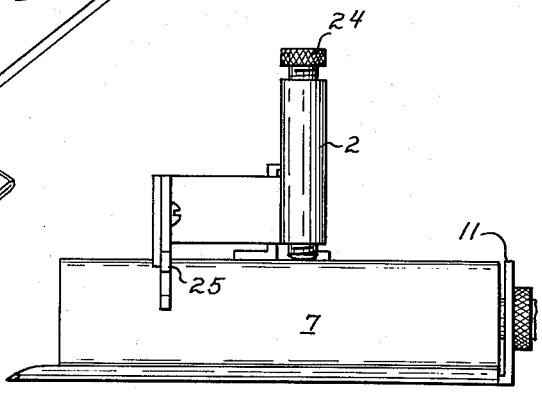


Fig. 4

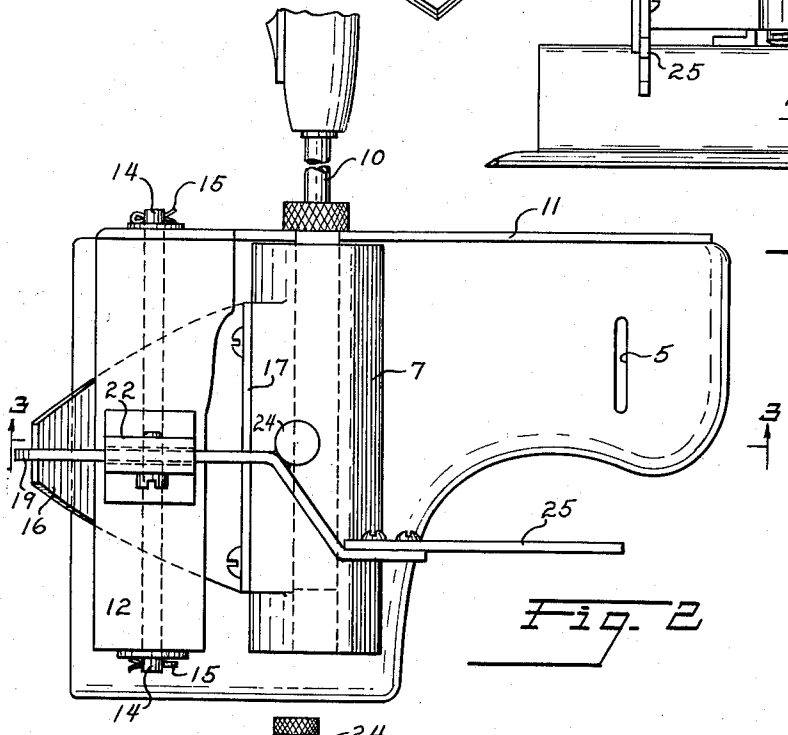


Fig. 2

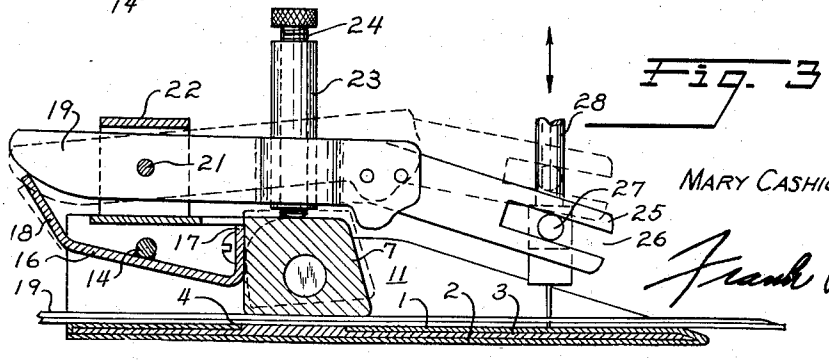


Fig. 3

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PRESSER ATTACHMENT FOR SEWING MACHINE

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This invention relates to sewing machines and more particularly to an attachment adapted to be applied to sewing machines for pressing the fabric after the stitching operation.

The attachment includes a flat plate which may be readily secured to the bed plate of the sewing machine, a presser element, incorporating electrical heating means, mounted on the flat plate so as to overlie the flat plate, a spring secured to the presser element and biased to elevate the latter and a pivoted lever bearing on the top of the presser element and adapted to be coupled to the needle bar of the machine, the combination functioning to raise and lower the presser element from and to a position wherein it engages the stitched fabric. The fabric may for instance be a hem or pleat.

One object of the invention is to provide an attachment actuable by the conventional needle bar of a sewing machine for moving a presser element up and down, from and into compressive relation with stitched fabric after it has passed the needle in a sewing operation.

Another object of the invention is to provide a device which may be readily attached to the bed plate of a sewing machine and coupled to the needle bar for pressing stitched fabric as it is fed forward by the conventional feed dog of the machine.

Another object of the invention is to provide a pressing attachment for a sewing machine including a flat element which will permit the smooth forward movement of the fabric and will present an insulated surface for cooperation with a heated presser element.

Other objects will appear as the description proceeds.

Referring to the accompanying drawings—

Figure 1 is a fragmentary perspective view of a sewing machine with a pressing apparatus embodying the invention attached thereto.

Figure 2 is a plan view of the attachment shown as detached from the machine.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2 but showing also the fabric and a portion of the needle bar and the needle of the machine.

Figure 4 is an elevational view of the attachment.

Referring to the drawings in detail the attachment comprises a flat work-supporting plate made up of three laminations of which the outer two, 1 and 2 are metallic sheets and the inner 3 is asbestos insulation. An opening 4 is provided in the top sheet 1 which is filled with the asbestos insulations, the exposed surface of the insulation being substantially coplanar with the exposed surface of sheet 1.

A slot 5 is provided in the work-supporting plate for the reception of a screw (not shown) whereby it may be detachably secured to the bed plate 6 of a conventional sewing machine.

The work-supporting plate also supports movable parts of the attachment including an elongated presser element 7 which in operation extends transversely of a line of stitching 8 in a strip of fabric 9 and overlies substantially

the entire exposed area of the insulation lamination 3. A cord 10 for electrical conductors is connected to a heating unit in the presser element 7. A rheostat is mounted in the line 10 to regulate the amount of heat imparted to the presser element 7.

Extending along one edge of the flat plate and upstanding therefrom is a flange 11 and supported in cantilever fashion from the top thereof is an arm 12 extending in substantial parallelism to and in spaced relation with respect to the presser element 7 and having a free end from which an ear 13 substantially of triangular shape is downwardly directed.

An opening is provided in the ear 13 aligned with a similar opening in the flange 11 and a pivot bar 14 is loosely and detachably secured in the openings by means of cotter pins 15 at the ends of the bar 14.

Intermediately of the ends of the bar 14 a transversely extending spring 16 is secured, the latter having at one end an upturned flange 17 of substantial area bearing against and detachably secured to the presser element 7.

The other end 18 of the spring 16 is tapered outwardly and upwardly and bears resiliently against one end of a rocker arm 19. A pivot 21 extends transversely through the rocker arm 19 and through the legs of a support 22 having the shape of an inverted U which straddles the rocker arm 19 and is secured at its lower ends to the arm 12.

An upstanding sleeve 23 is secured to the rocker arm 19 intermediately of the length of the latter and has a threaded relation with a screw 24 the lower end of which engages the top of the presser element 7 intermediately of the length of the latter. The spring 16 is biased to maintain its end 18 in engagement with the end of the rocker arm 19 and to hold the presser element 7 in engagement with the end of the screw 24. Adjustment of the screw 24 varies the distance between the presser element 7 and the rocker arm.

The other end 25 of the rocker arm is in offset relation to but parallel to that portion of the latter which is adjacent the pivot 21 and the end 25 is bifurcated to provide a slot 26 receiving a pin 27 laterally directed from a needle bar 28 which carries a needle 29. Thus a coupling is provided between the rocker arm 19 and the needle bar 28.

A presser foot 31 such as is conventional with sewing machines is disposed between the presser element 7 and the needle bar 28. Below the presser foot is a feed dog, not shown, such as is conventional in sewing machines.

In the operation of the device the up and down motion of the needle bar 28 and the pin 27 thereon causes the arm 19 to rock up and down on the pivot 21. The screw 24 on the arm 19 engages the presser element 7 and transmits the up and down motion thereto and causes it to press the stitched fabric 9 against the exposed face of the asbestos insulation 3. The stitched fabric is fed forwardly by the conventional action of the feed dog and the raising of the presser element permits such motion of the fabric to continue.

The invention is not limited to the specific details of the apparatus described herein but a substantial range of equivalents is contemplated within the spirit of the invention and the scope of the claims.

I claim:

1. An attachment for a sewing machine comprising a flat plate, a lever arm mounted on said plate at one side edge thereof and extending transversely across said plate, a first pivot secured to and underlying said lever arm, a flat spring fixedly secured at an intermediate point to said pivot, a flat-bottomed presser element secured to one end of said spring, a support carried by the top of said lever arm at an intermediate point, a second pivot carried

by said support overlying and parallel to said first pivot, a rocker arm mounted on said second pivot, the other end of said spring being upturned and loosely engaging the underside of one end of said rocker arm, means carried by said rocker arm on the side of said pivot opposite said one end for engaging the top of said presser element, the other end of said rocker arm extending beyond said last mentioned means and said presser element, whereby reciprocatory movement applied to said other end of said rocker arm occasions, through said spring, reciprocatory movement of said presser element.

2. The structure of claim 1 wherein a connection is formed on said other end of said rocker arm adapted for attachment to the needle bar of the sewing machine to be reciprocated thereby.

3. The structure of claim 1 wherein said means for engaging the top of said presser element are provided with adjusting means for varying the relative distance between said rocker arm and said presser element.

4. The structure of claim 3 wherein said adjusting means comprises an internally threaded sleeve carried by said rocker arm and a screw rotatable in said sleeve.

5. The structure of claim 1 wherein said presser element is provided with a heating element.

6. The structure of claim 1 wherein said flat plate comprises a flat metallic sheet having an opening and a flat insulating element in said opening positioned beneath said presser element.

7. The structure of claim 6 wherein said insulating element comprises asbestos material.

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