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HOSIERY DRYING AND PRESSING DEVICE

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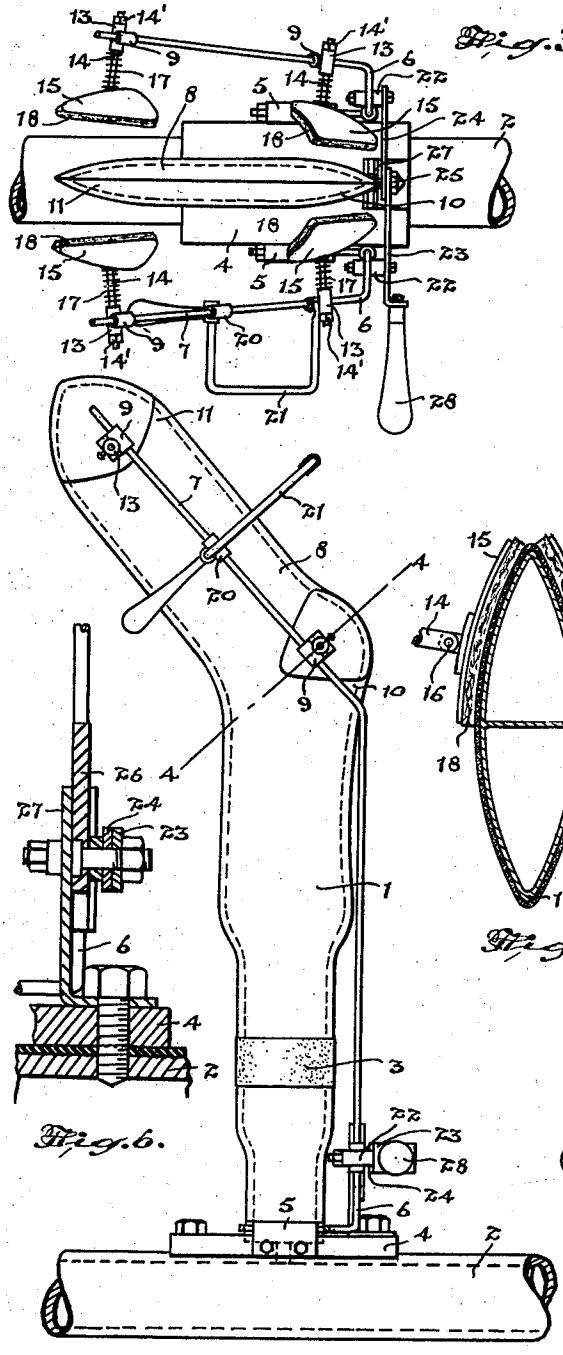


Fig. 1.

Fig. 3.

Fig. 4.

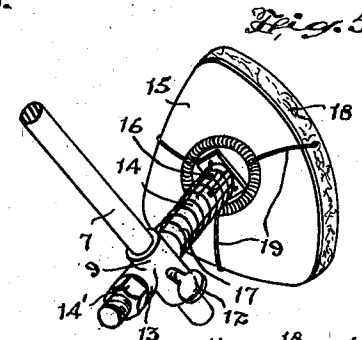


Fig. 5.

Fig. 6.

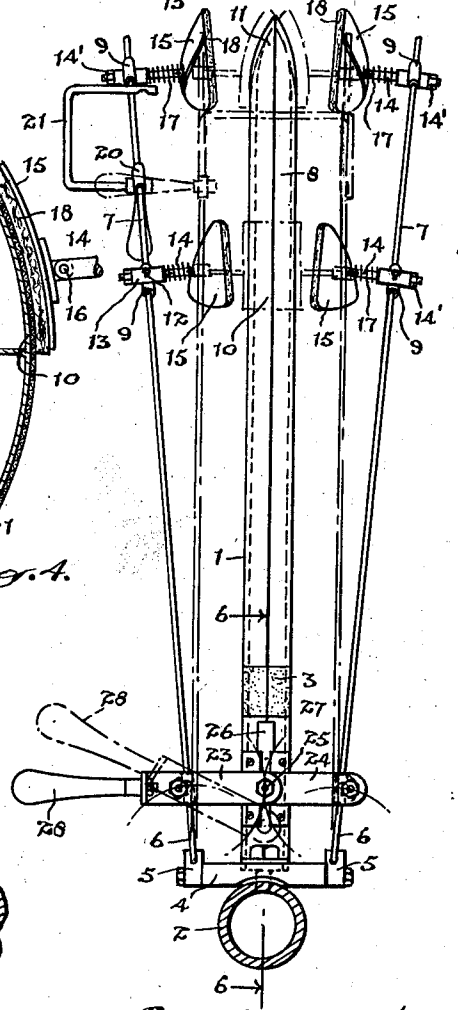


Fig. 2.

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HOSIERY DRYING AND PRESSING DEVICE

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7 Claims. (Cl. 223—76)

The principal object of this invention is to provide a means for drying hosiery in such a manner that the toe and heel gores will be finished with a smooth and uniform surface from which "puckers" or "dog ears" are eliminated in the final manufacturing operation, thereby producing a stocking having a very desirable appearance and one that will be extremely comfortable to wear.

The principal features of the invention consist in the novel arrangement of pressing pads at either side of the toe and heel portions of a drying form, upon which the hose are stretched while in a damp condition, and in the novel construction of means for supporting such pressing pads whereby they are spaced from the drying form to permit the stretching of the hose thereon and then brought into pressure contact with the toe and heel portion and held thereto during the drying and again withdrawn to clear the hose and permit its easy removal from the form when dry.

In the accompanying drawing, Figure 1 is a side elevation of a hosiery drying form to which the present invention is applied.

Figure 2 is an edge elevational view of the device shown in Figure 1 showing the pressing pads and their operating supports in the extended position in full lines and in the closed or pressing position in chain lines.

Figure 3 is a plan view of the device showing the pressing pads spaced from the drying form.

Figure 4 is an enlarged cross sectional view taken on the line 4—4 of Figure 1 and showing the presser pads in pressure contact with a stocking stretched upon the drying form.

Figure 5 is an enlarged perspective detail of one of the presser pads and its supporting arm.

Figure 6 is an enlarged vertical sectional detail on the line 6—6 of Figure 2 through the centre guide for the member for operating the presser pad-carrying arms.

In the manufacture of hosiery the hose are washed upon the completion of knitting to remove the dirt accumulated by the yarn in the knitting operation, and also the natural oils in the yarn, and the damp hose is usually stretched upon a steam heated hollow metal form to dry, but no matter how carefully the hose is stretched on the form, the sutures of the toe and heel gores can not be drawn taut enough to eradicate the "dog ears", and it is the purpose of this invention to apply external pressure over the sutures to effectively eliminate "dog ears" and raised welts.

In the apparatus here shown, the hollow, steam-heated drying form 1, which is of a well known construction, is mounted on the steam pipe 2 and steam is circulated through the form around a central partition. A collar 3 of an abrasive or rough material surrounds the form near the bottom end to engage and hold the cuff of the hose when it has been stretched on to the form.

Secured to or forming part of the base 4 of the drying form are a pair of lugs 5 arranged on either side thereof, and in each of these lugs is pivotally mounted a rod 6, which is bent at right angles at the bottom and extends upwardly substantially parallel to the sides of the form 1, the upper ends 7 being bent to extend longitudinally of the foot portion 8 of the form.

Sleeve brackets 9 are slidably mounted on the upper ends 7 of the rods 6, one being secured adjacent to the heel portion 10 of the form and another adjacent to the toe portion 11 of the form on each rod, being clamped in place by set screws 12. These brackets 9 are each formed with a cross sleeve 13 in which a rod 14 is slidably mounted, such rods being threaded at the outer end and provided with a nut 14' to adjust the position of the inner end of the rod in relation to the form. A plate 15 of substantially triangular form is secured on the inner end of each rod 14 by a hinge joint 16, and a coiled compression spring 17 surrounds each rod and presses against the end plate thereof. The plates 15 are each provided with a suitable pad 18 preferably of heavy felt, which is secured in place by wire clamps 19, though other suitable means may be provided.

The pads at the toe end are shaped to conform to the outline shape of the toe and to extend inwardly so that the pad will cover the toe section of the hose and extend completely over the suture, and the heel pads are shaped to cover the heel section of the hose completely covering the heel suture.

The hinge joints between the rods 14 and the pads permit the pads to adjust themselves to contours of the drying form when end pressure is applied to the rods.

A sleeve 20 is rotatably mounted on one of the rods 14 midway between the toe and heel pad supports and carries an arched clamp bar 21, which swings over and bridges the foot section of the drying form and engages the other rod 14. In operation both rods 14 are sprung inwardly to apply tension to the clamp. This springing may be accomplished by the operator pressing upon the clamp as it is moved into place,

or the clamp may perform the operation automatically.

When the clamp is closed in the position shown by chain lines in Figure 2, the pads on both sides are pressed tightly against the hose stretched on the drying form, and the coiled springs **17** are placed under compression, thus applying pressure against the hose directly over the sutures during the drying operation and effectively "pressing" out any inequalities between the sutures and the remaining fabric of the toe and heel pockets.

It is desirable that the pivoted rods **6** be moved toward and from the drying form in unison to permit the placing and removal of the hose, and for this purpose each rod is provided with a sleeve bracket **22** secured adjacent to its hinge support. A pair of levers **23** and **24** are pivotally mounted one on each of the brackets **22** and these are pivotally connected together at their inner ends by a pin **25**, which is mounted in a bar **26** mounted in a vertical guide **27** supported from the form base **4**. The lever **23** has an operating handle **28** mounted thereon.

In the use of this device, the operator, by moving the handle **28** to the position shown in Figure 2, causes the rods **6** to be swung outwardly as shown in full lines in Figure 2. The hose to be dried is then slipped over the drying form and stretched into place, the cuff being held by the collar **3**. The lever **23** is then raised and the sliding bar **26** retains a central position and causes the levers to swing the rods **6** uniformly inward bringing the pads simultaneously into contact with the hose as described. The clamp **21** is then swung over the form to engage the pad-holding bar on the opposite side and apply pressure to the pads.

A very effective pressing of the hose is accomplished with the minimum of expense and effort.

What we claim as our invention is:—

1. A hosiery drying apparatus, comprising a drying form upon which the hose are adapted to be stretched, means for applying pressure locally at spaced points to the toe and heel portions only of said hose during the drying thereof whereby the remaining foot and leg portions of the hose are free to conform naturally to the shape of the form, and means for adjusting the toe and heel pressing means in relation to the said form and to each other to bring the same into accurate co-operative pressing relation with the toe and heel portions of the hose.

2. A hosiery drying apparatus comprising a drying form upon which the hose are stretched, a pair of clamping pads for engaging the toe portions of the hose, a second separate pair of clamping pads for engaging the heel portions of the hose, and means for holding said respective pairs of pads in pressure contact respectively with the toe and heel portions only of said hose during the drying thereof the heel and toe pads of the respective pairs being relatively adjustable on said holding means to accurately vary their co-operative relation with the toe and heel portions respectively of the hose.

3. A hosiery drying apparatus comprising a drying form having a laterally turned foot portion over which the hose are adapted to be drawn, clamping pads adapted for engaging respectively the toe and heel portions only of the hose leaving the remaining foot and leg portions of the hose free to accommodate themselves to the form, and means for holding said pads in spring held contact with the hose, said means including displaceable arms having portions extending longitudinally of the laterally turned foot portion at opposite sides thereof from heel to toe and each having heel and toe pads mounted thereon.

4. A hosiery drying apparatus comprising a drying form over which the hose are adapted to be drawn, clamping pads adapted to engage the toe and heel portions of the hose, arms adapted to move to and from the form having portions substantially parallelling the foot portion of the form, sleeves slidably and rotatably adjustable on the parallelling portions of said arms at each side of the foot portion of the form, said clamping pads comprising heel and toe presser pads slidably mounted respectively in said sleeves, and spring means interposed between said sleeves and said pads to hold the latter in pressure contact with the hose.

5. A hosiery drying apparatus comprising a drying form on which the hose are adapted to be mounted, a pair of arms pivotally mounted to swing toward and from said form having end portions turned laterally to extend from heel to toe alongside the form, a pair of spring members carried by each of the laterally turned portions of said arms, a separate pad actuated by each of said springs to exert a pressure contact with hose mounted on said form, and means for adjustably positioning said springs and pads on said laterally turned portions of said arms to effect the desired relation of the pads to the toe and heel portions respectively.

6. A hosiery drying apparatus comprising a drying form, a pair of rods pivotally mounted at opposite sides of the base of said form to swing inwardly and outwardly, rods mounted to slide transversely of each of the aforesaid rods in substantial alignment with the heel and toe portions respectively of the form, heel and toe pads respectively mounted on the transversely operable rods of each of the first-mentioned rods to engage respectively the heel and toe regions only of the form, spring means for operating said rods toward the form, and means for clamping said pivotal rods in a position to hold said pads in engagement with said form.

7. A hosiery drying apparatus comprising a drying form upon which the hose are stretched, a pair of arms pivotally mounted to swing toward and from said form, presser pads mounted on said arms and adapted to engage the form, and an arched clamp member pivotally mounted on one of said arms intermediately between the heel and toe region of the form and adapted to be swung on the said arm to bridge the foot portion of the form and engage the other of said arms to press the presser pads into pressure engagement with the form.

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