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HOSIERY PREBOARDING FORM

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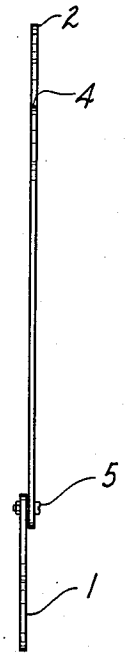


Fig. 2

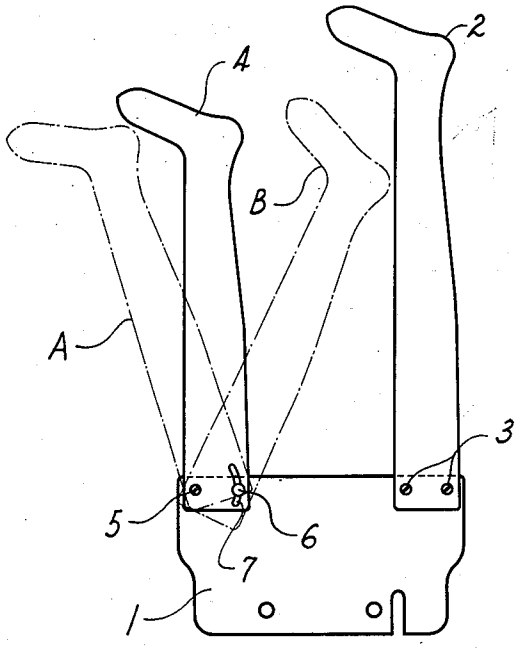


Fig. 1

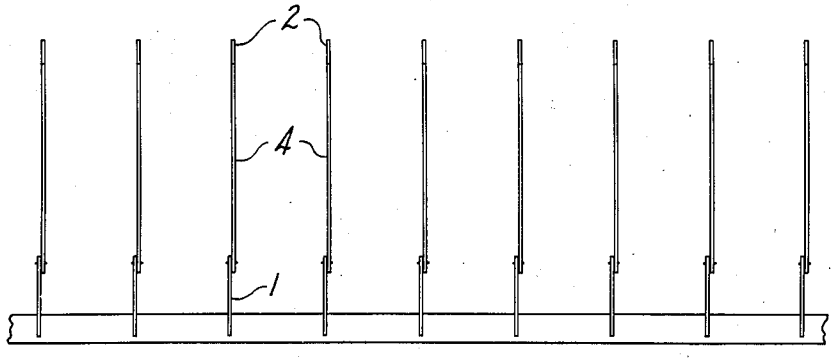


Fig. 3

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HOSIERY PREBOARDING FORM

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2 Claims. (Cl. 223—75)

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The present invention relates to a garment form, and more particularly to a form adapted to receive thereover hosiery for treatment such as in a pre-boarding machine.

In the fabrication of nylon hosiery, a setting operation is generally performed by a suitable agent under pre-determined conditions of heat and moisture for a pre-determined period of time before the hosiery is entered into the dye bath, thereby eliminating wrinkling and stitch distortion by the heated dyeing fluid. This setting operation is known as "preboarding" and comprises, after the knitting of hosiery, placement thereof on suitable forms having contours substantially representing the finished outline of the stocking; the form with the mounted stocking is then placed in a steam box or chamber for the setting treatment by filling the chamber with saturated steam at a temperature of, say 240° F. and the hosiery is permitted to remain in the chamber for approximately three minutes. A large number of such forms are mounted in side by side relationship for mass production of hosiery. After this setting or "preboarding" operation has been completed, the hosiery is sufficiently fixed to resist further change under the action of the hot dyeing fluid. Following the dyeing operation the hosiery is usually finally again boarded for a simple pressing operation, generally known as "boarding," which also may take place over a similarly shaped form. Following this the hosiery is removed and is ready for packing.

An outstanding disadvantage of the above described "preboarding" process is that despite the fact that large numbers of forms are used at the same time when placed in the steam box. the optimum mass production efficiency is still not attained.

An object of the present invention is to provide an improved "preboarding" form for hosiery, or garments generally, which will enable doubling of the number of pairs of hosiery that may be placed in the steam bath at a given time during the "preboarding" operation.

A more specific object of the present invention is to provide a novel hosiery form unit upon which to mount hosiery, which unit will accommodate two instead of a single stocking, as is common in conventional stocking form units in "preboarding" machines of well known types.

A more specific object of the present invention is to provide an assembly of hosiery form units, each unit of which is so constructed so as to accommodate a pair of hosiery, and wherein

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the two forms of each unit are disposed in a manner so as to prevent the possibility of burning of the fingers of the operator as she is mounting the second of a pair of hosiery on the unit.

Other objects and advantages of the invention will become more apparent from a study of the following description taken with the accompanying drawing wherein—

Figure 1 is a side elevational view of a unit of a pre-boarding hosiery form embodying the present invention;

Figure 2 is a side elevational view of the hosiery form unit shown in Figure 1, and

Figure 3 is a side elevational view of an assembly of units such as shown in Figures 1 and 2, mounted on a common base in a "preboarding" machine so that the assembly may be inserted in a steam box for the "preboarding" treatment.

Referring more particularly to Figures 1 and 2, numeral 1 denotes a base plate of sheet metal having suitable apertures in the bottom portion thereof for mounting on a supporting structure shown, generally, in Figure 3. A sheet metal form 2 having a contour, particularly in its upper portion, substantially that of the finished stocking to be treated, is rigidly secured at its lower portion to base plate 1 by means of bolts and nuts 3 or any other suitable fastening means. On the upper portion of base plate 1 there is also supported a second sheet metal form 4, also shaped generally in the form of a finished stocking, but which is pivotally mounted on base plate 1 by means of a bolt and nut 5, or any other suitable pivotal mounting means. The pivotal movement of form 4 may be guided and limited in extent by means of a pin and slot connection 6, more specifically comprising a bolt and nut mounted on plate 1, the stud or shank portion of which bolt extends through slot 7 formed in the lower portion of form 4. Thus the ends of the arcuate slot 7 serve as stop members for limiting the pivotal movement of form 4 so that it will move no farther outwardly than position A, shown in dot and dash lines, and no farther inwardly than position B, also shown in dot and dash lines.

A plurality of units that have two forms, such as shown in Figures 1 and 2, are disposed in spaced parallel relationship and mounted on a common base as shown in Figure 3 so that the entire assembly, forming part of a "preboarding" machine (not shown), after stockings have been mounted on the forms, may be moved into a steam box or chamber for the setting or "preboarding" operation.

In operation, the operator first slips a stock-

ing on the stationary form 2 which is rearwardly, or most distant from the operator. The operator then slips a second stocking on the forward form 4 when it is in position A so as to be readily accessible to the operator as well as removed as far as possible from the rear form 2 so that while the operator is slipping the stocking thereon there is no possibility of her touching the rear form 2 which is quite hot and very apt to burn her hands. While or after the operator slips the stocking on form 4 she pushes the form rearwardly about its pivot 5 until it reaches its limit of rearward movement, that is, position B. It will be noted that in position B there is a slight separation between forms 4 and 2 so that these forms, although close together, to provide maximum compactness, will still not touch. By moving the forms close together in this manner, they will occupy a minimum amount of overall area so that a group of them, as shown in Figure 3, will easily fit in the limited space of the steam box into which the entire assembly shown in Figure 3 is slid after a pair of stockings has been mounted on each of the units forming the assembly.

Another important feature of the present invention is that of making the front form 4 of shorter height than the rear form 2. By making form 4 shorter, there is no danger either while slipping the stocking on form 4 or while pivotally moving the form rearwardly to position B of the operator's touching rear form 2 which is very hot and apt to burn her hands. Also it enables form 4 to move into the space generally below the toe portion of form 2 in almost but not quite touching relationship with form 2 so that both forms will occupy a minimum overall space, so that an assembly of such forms, as shown in Figure 3, can be easily fitted into a small volume steam box to expose the mounted hosiery to steam for a pre-determined period of time in order to effect setting of the stockings.

Thus it will be seen that we have provided an efficient "preboarding" hosiery form in which each unit comprises two (instead of the conventional single), hosiery forms thereby doubling the number of pairs of hosiery that may be placed in a steam box at one time for the "preboarding" operation; furthermore, we have provided a shorter heighth and a pivotal mounting to one of said forms, closest to the operator to enable the operator to have easy access to it when slipping on the stocking and enabling rearward movement of the forward form into the space immediately below the toe portion of the rear form so as to occupy a minimum overall space and at the same time preventing touching and possible burning of the hands of the operator during slipping on of the stocking onto or rearward movement of the forward form, additionally making it possible for both forms, in their final position, to assume a minimum overall space and thereby provide great compactness of a plurality of such units when placed in the steam box of a "preboarding" machine.

While we have illustrated and described a certain specific embodiment of our invention, it will be understood that this is by way of illustration only, and that various changes and modifications may be made within the contemplation of our invention and within the scope of the following claims.

We claim:

1. A "preboarding" machine assembly comprising a plurality of hosiery form units disposed in side by side spaced parallel relationship, each unit having a rearward stationary hosiery receiving form and a forward, pivotally movable hosiery form whose toes point forwardly in the same direction, and a base plate upon which both of said forms are mounted within the width of the base plate and in very close parallel relationship therewith so that said forms are in substantially a common plane, and means for limiting the pivotal movement of said pivotally mounted form in a direction towards the stationary form so as to bring it in close but non-contacting relationship with said stationary form, thereby providing minimum overall space and compactness for said units to enable fitting of said units in the restricted space of a steam box.

2. In a "preboarding" machine for hosiery, comprising a plurality of hosiery form units mounted on a common base in spaced, parallel relationship, each unit having a sheet metal base plate which is suitably apertured for mounting on said common base and having a pair of sheet metal forms mounted thereon within the width of the base plate and in very close parallel relationship therewith so as to be in substantially the same plane, and whose upper portions have contours corresponding to the shape of a finished stocking, the toe portions pointing in the same direction towards the operator, one of said forms being rigidly secured directly to said base plate and the other being pivotally mounted on said base plate and being of shorter heighth than the first mentioned form and being closest to the operator, whereby the operator may first place a stocking on the stationary form and then on the pivotally movable form without touching the stationary form and whereby the operator at the same time may push the pivotally mounted form rearwardly, close to the stationary form without the danger of touching the stationary form with her hands and at the same time obtain substantial compactness of the unit when said forms are brought close together.

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