July 17, 1951 M. KOHLSDORF 2,561,210

FORM FOR EXAMINING AND FINISHING STOCKINGS

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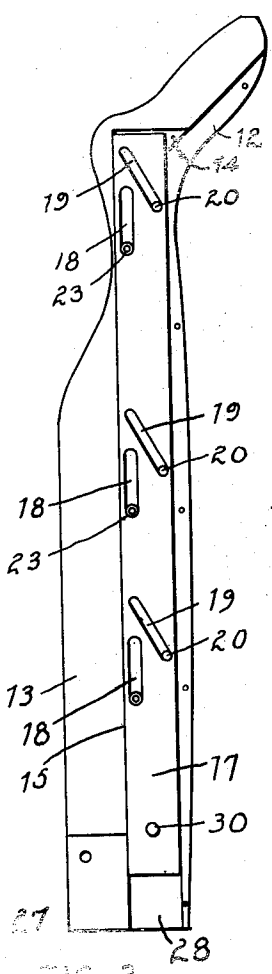


FIG. 3.

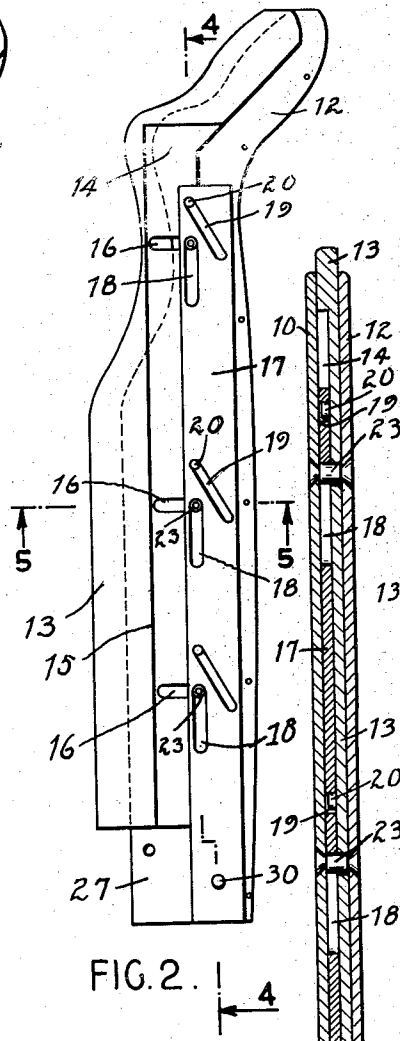


FIG. 2.

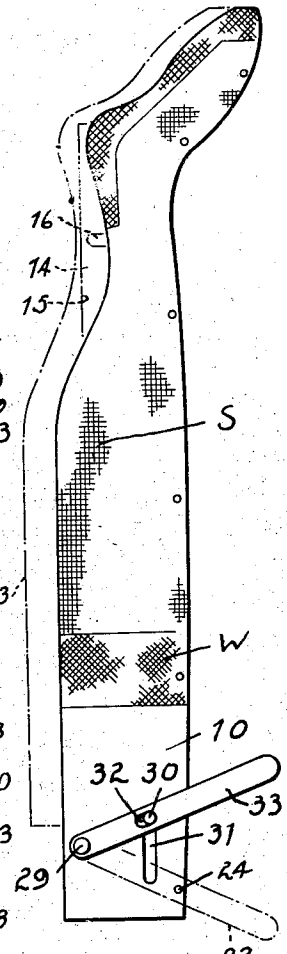


FIG. 1.

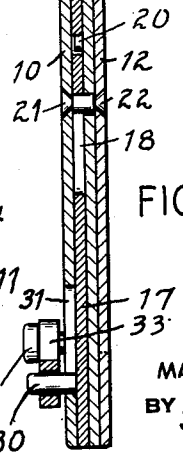
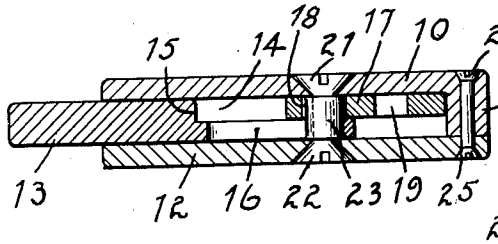


FIG. 4

FIG. 5.



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FORM FOR EXAMINING AND FINISHING STOCKINGS

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2 Claims. (Cl. 223—77)

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This invention relates to stocking leg forms for examining and finishing stockings, or the like.

In the manufacture of stockings, many steps are commonly employed in turning out the average full-fashioned stocking including the inspection of the stocking for damage. They are:

1. Knitting.
2. Looping to close the open toe.
3. Seaming
4. Preboarding.
5. Dyeing.
6. Post boarding for drying and heating to iron.
7. Pairing according to length.
8. Transfer application of brand or gauge identification to the welt.
9. Packaging.
10. Inspection. This step in conventional practice may take place between any two of steps 3 to 9 inclusive or all of them and requires mounting of the seamed stockings upon a separate leg form. This conventional practice requires the use of at least three leg forms, one for preboarding, one for post boarding and a third special form for inspection. Besides the cost of the additional inspection leg form, the time involved in transferring the stocking to the third leg form for inspection and its removal therefrom adds to the manufacturing costs. Also, likelihood of damage is increased by the use of the additional form with resultant waste.

A principal object and feature of this invention are to provide a novel leg form useful in the manufacture of stockings for both inspection and finishing which will eliminate the necessity for the special inspection leg form of conventional practice and which will serve both as an inspection form and post boarding or finishing form, and, also, eliminate the described additional expense of time involved in conventional practice.

A further object and feature of the invention are to provide a novel stocking leg form that is simple in construction, is capable of mass production, is relatively inexpensive to manufacture and assemble, which has a minimum of working parts, with which damage to stockings is unlikely and whereby waste is greatly reduced over that common in conventional practice.

Other objects and novel features will become apparent from the following specification and drawings wherein:

Fig. 1 is an elevational view of a device embodying the invention and illustrative of its operation;

Fig. 2 is a plan view of the device of Fig. 1 with one face removed and illustrating one operative position of working parts thereof;

Fig. 3 is a similar plan view illustrating a second working position of the same parts;

Fig. 4 is a longitudinal section taken along line 4—4 of Fig. 2 and viewed in the direction of the arrows; and

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Fig. 5 is a transverse section, on an enlarged scale, taken along line 5—5 of Fig. 2 and also viewed in the direction of the arrows.

Referring to the drawing, the leg form of this invention comprises a side plate 10 having a substantially leg-shaped profile in plan view provided along a front side edge with a laterally extending flange 11 serving as a spacer, which, however, may be replaced by any equivalent spacing mechanism or means. A second side plate 12 also having a substantially leg-shaped profile in plan is positioned in parallelism with the first side plate 10 with its inner face along its front edge abutting the flange 11.

A slide plate 13 also having a substantially leg-shaped profile in plan is sandwiched between the two plates 10 and 12 and movable laterally outwardly from a concealed position, wherein its peripheral edges lie alined with corresponding peripheral edges of the side plates 10 and 12 and concealed thereby as seen in Fig. 3, to an exposed or stretching position as seen in Fig. 2, wherein its curved peripheral rear edges lie misalined with and outwardly of the corresponding rear edges of the side plates 10 and 12. This slide plate 13 has a substantially rectangular longitudinal recess 14 in one surface defining a longitudinally extending shoulder 15 for purposes to be presently described. Transversely extending guide slots 16 are provided in the slide plate 13.

A substantially rectangular operating plate 17 is slidably borne in the recess 14 of slide plate 13. Longitudinally extending guide slots 18 corresponding in number to the transverse guide slots 16 and crossing the latter are provided in the operating plate 17. Diagonally extending cam slots or surfaces 19 are also provided in the operating plate 17. Cam follower members or pins 20 fixed to the slide plate 13 and upstanding from the surface of recess 14 extend into the cam slots 19.

Securing members, each in the form of a bolt having a countersunk head 21 and a threaded nut with countersunk head 22, extend through the side plates 10 and 12, each passing through a transverse slot 16 and a longitudinal slot 18 and each provided with a guide member or sleeve 23 lying in the respective transverse and longitudinal slots 16 and 18, and the securing bolts with countersunk heads 24 and threaded nuts 25 extending through holes in the flange 11 of side plate 10 and the side plate 12 act to secure the two side plates 10 and 12 and internally located slide plate 13 and operating plate 17 in assembled relationship. The countersunk heads of the securing bolts and nuts lie flush with the outer faces of side plate 10 and 12 to prevent snagging of the stocking S which, as will be described, is mounted on the assembly or leg form.

A guide member 27 having a longitudinal recess 28 whose width is substantially that of the operating plate 17 is positioned between the two side plates 10 and 12 adjacent one end of the slide plate 13. This member 27 is secured in place by the pivot bolt 29 which extends through holes in the plate 10 and member 27 and is threaded into an appropriate threaded opening in plate 12. This guide member 27 supplements the action of transverse slots 16 in preventing longitudinal displacement of slide plate 13 and, also, supplements the action of longitudinal slots 18 in preventing lateral displacement of operating plate 17.

A pin 30 extends outwardly of the operating plate 17 through a longitudinally extending slot 31 in side plate 10. This pin 30 also extends through a slot 32 in a manipulating lever 33 which is pivotally supported on the pivot bolt 29.

Rotation of the manipulating lever 33 from the full-line position of Fig. 1 to its dot-dash position therein causes longitudinal displacement of the operating plate 17, from its position shown in Fig. 3 to its position shown in Fig. 2. Since the operating plate 17 is prevented by sleeves 23 in longitudinal slots 18 from moving transversely, the cam follower pins 20, moving in the diagonal slots 19 and which are fixed to slide plate 13, cause the latter to move laterally from the concealed and alined position shown in Fig. 3 to the displaced or stretching position shown in Fig. 2 and illustrated in dot-dash outline in Fig. 1. Similarly, return movement of manipulating lever 33 to the full-line position of Fig. 1 causes oppositely directed or retractive movement of the slide plate 13 from its position shown in Fig. 2 to its initial position shown in Fig. 3. All peripheral edges of the assembled device or composite leg form are rounded to prevent damage to stockings to be mounted thereon.

In utilizing the device for its intended purposes, it is mounted in appropriate manner to a table or bench in substantially vertical position with its toe end up. A plurality of these forms may be so mounted. A stocking after dyeing is post-boarded on each of the leg form devices of this invention, each while its lever 33 is in the full-line position of Fig. 1 at which time the stretcher or slide plate 13 has its retracted position. Lever 33 is then rotated to its dot-dash position shown in Fig. 1 causing an outward lateral movement of slide plate 13 to its stretching position shown in Fig. 2 and in dot-dash outline in Fig. 1. This stretches the entire stocking throughout its length and facilitates its inspecting for damage or defects. Preferably the outer surfaces of the device are of light color so that any stocking defects will be readily visible. Upon completion of the inspection, the lever 33 is returned to its initial position of Fig. 1, retracting the stretcher slide plate 13 to its initial position. The stocking, if found free of damage defects, is then left on the device and finished by heating on the same form. This heating irons the stocking. It then can be paired with other finished stockings on identical forms, for size, have a transfer (brand or gauge identification) put on the stocking welt W and thereafter be removed from the leg form of the invention and packaged.

The use of the leg form device of this invention eliminates the necessity for the use of the third or additional leg form for inspection purposes and, also, saves time by eliminating the necessity for application to and removal of the stocking from the additional leg form. Thus, manufacturing costs are reduced both in time and in cost of equipment.

While a specific embodiment of the invention has been disclosed, variations in structural detail are possible and are contemplated within the scope of the claims. There is no intention of limitation to the exact details shown and described.

What is claimed is:

1. A device of the character described comprising a pair of side plates having substantially leg-shaped profile, spacing means separating the two side plates, a stretcher slide plate also having substantially leg-shaped profile positioned between the two side plates and slidable outwardly from between the two side plates, said stretcher plate having a recessed portion and transverse slots in said portion, an operating member received in said recessed portion and slidable longitudinally relative to said stretcher slide plate, said operating member having longitudinal slots and diagonally extending cam surfaces, cam follower members extending from said stretcher plate into engagement with said cam surfaces, collar carrying bolts extending through the transverse and longitudinal slots, a pivotally supported manipulating lever and pin and slot engagement means between said lever and said operating member for sliding said operating member.

2. A device of the character described comprising a pair of side plates having substantially leg-shaped profile, one of said plates having a lateral spacing flange along one peripheral edge for spacing the two plates, a stretcher slide plate also having substantially leg-shaped profile positioned between the two side plates and slidable outwardly from between the two side plates, said stretcher slide plate having a longitudinally recessed portion and transverse guide slots in said portion, a substantially rectangular operating member lying in said recessed portion and slidable longitudinally relative to said stretcher slide plate, said operating member having longitudinal guide slots positioned to cross the transverse slots and also having diagonally extending cam slots, cam follower members extending from said stretcher slide plate into engagement with said cam slots, bolts extending through said transverse and longitudinal guide slots, collars carried by said bolts and lying in said guide slots, a manipulating lever, a pivotal support for said lever secured to one of said side plates, and a pin extending from said operating member and engaged by said lever for sliding said operating member on rotation of said lever whereby rotation in opposite directions of said lever will alternately slide said stretcher slide plate transversely outwardly of said side plates and retract it into concealed position between said side plates.

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