Feb. 26, 1952 H. RICHTER 2,586,994

HOSIERY DRYING FORM

Filed July 28, 1948 2 SHEETS—SHEET 1

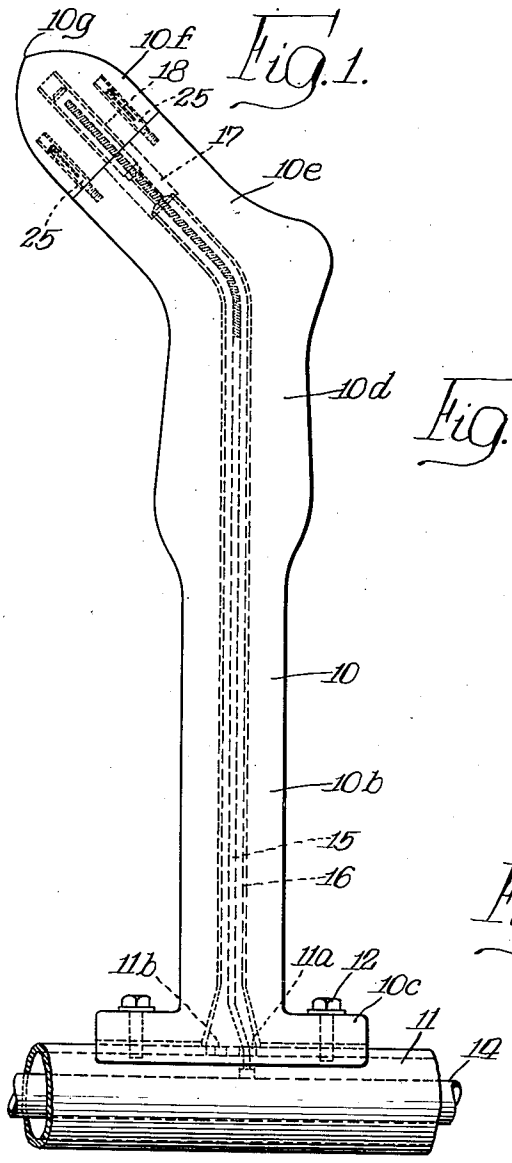


Fig. 1.

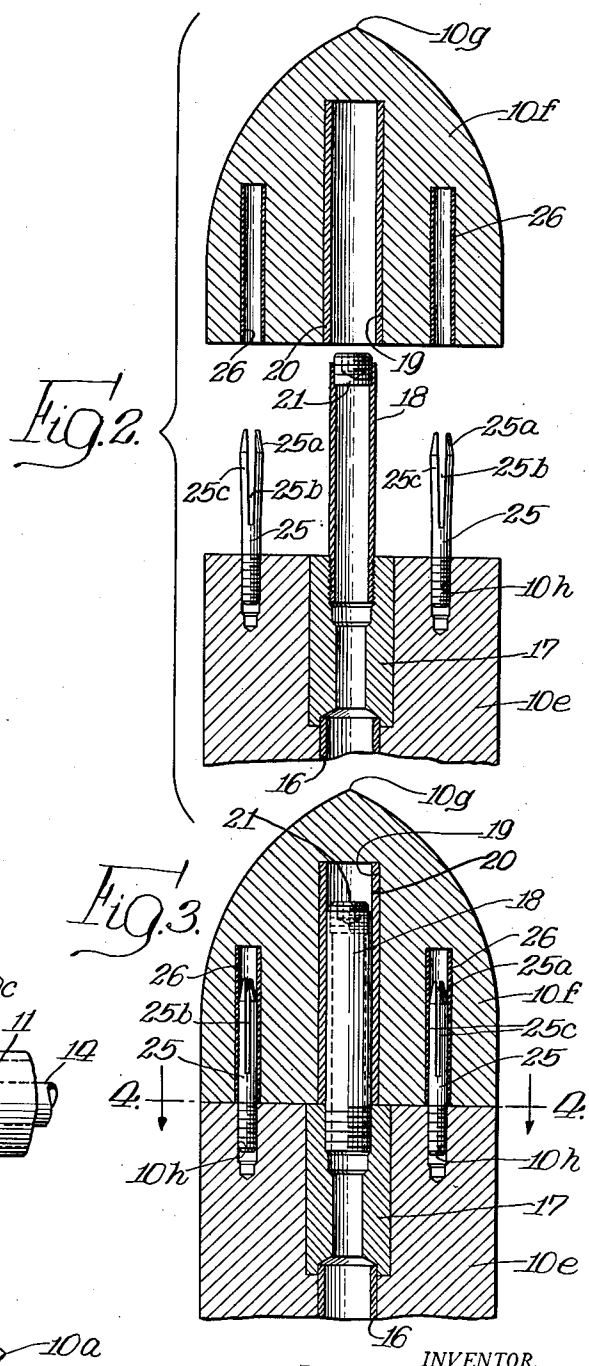


Fig. 2.

Fig. 3.

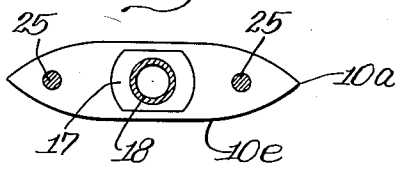


Fig. 4.

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Fig. 5.

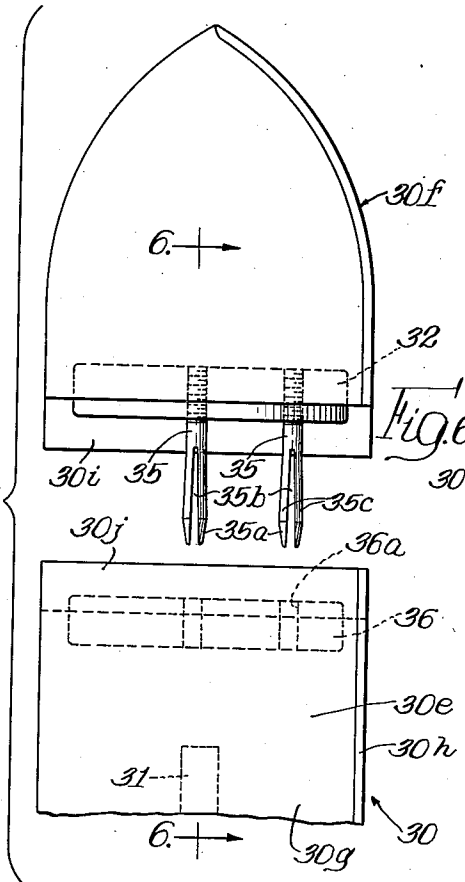


Fig. 6.

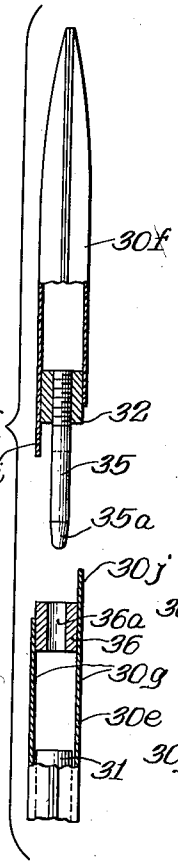


Fig. 8.

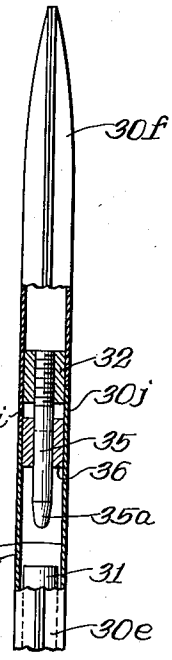


Fig. 7.

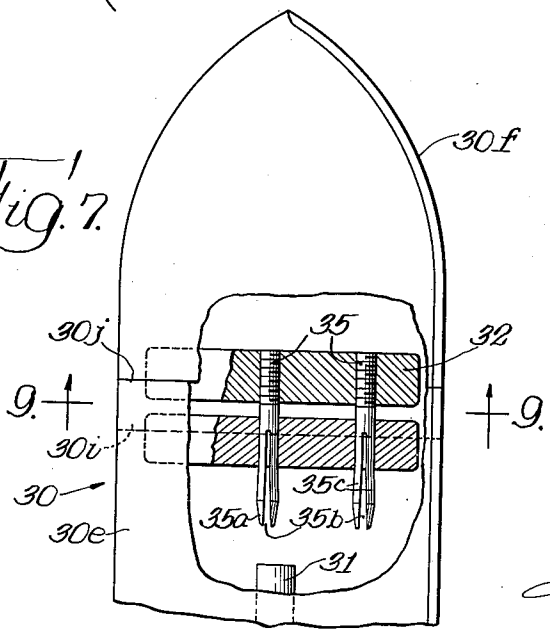
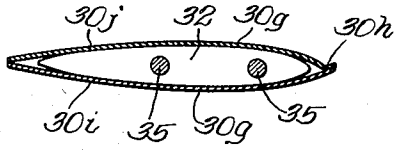


Fig. 9.



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HOSIERY DRYING FORM

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7 Claims. (Cl. 223—76)

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This invention relates to improvements in forms for shaping, setting and drying hosiery, such as forms of the type described and claimed in United States Letters Patent No. 2,306,350, granted December 22, 1942, on an application of John H. Wahlbeck, and No. 2,433,470, granted December 30, 1947, on an application of Arthur S. Mann.

A hosiery drying form of that type comprises a body or foot portion and a detachable toe or end portion, the latter portion being removable and interchangeable with other similar portions of different sizes so that the form may be used with different sizes of hosiery. It has been the practice to heat these forms internally by the passage of steam or the like through suitable pipe connections and this heating means may be extended into the detachable toe or end portion. In either form of construction, it has heretofore been the practice to hold the body or foot portion and the detachable toe or end portion in assembled relationship by means of dowel pins mounted upon one portion and detachably fitting into apertures formed in the other portion. It has been found that with the types of construction heretofore used, the operation has been satisfactory when the forms are new and for a considerable period thereafter but, after the dowel pins have become worn substantially, the detachable toe or end portions are not held firmly in place, with the result that when the hosiery is stripped from the forms, the toe or end portions sometimes become accidentally removed with the hosiery. This causes a considerable loss of time because of the necessity of removing the toe portions from the hosiery and replacing these toe portions on the body or foot portions of the drying forms.

The principal object of the present invention is to provide an improved hosiery drying form of the type referred to comprising improved means for holding the toe or end portions in assembled relationship to the foot or body portions. A further object is to provide a hosiery drying form comprising a foot or body portion and a detachable toe or end portion, one of which portions is provided with a plurality of holes or recesses to be engaged by dowel pins carried by the other portion, the dowel pins being split and rendered expansible and contractible so that they maintain a tight frictional engagement with the holes in the other portion and may be readily altered after continued use in order to increase their frictional engagement. Other objects of the invention relates to various features of construction and arrangement which will appear more fully hereinafter.

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The nature of the invention will be understood from the following specification taken with the accompanying drawings in which two embodiments are illustrated. In the drawings,

Figure 1 shows a side elevation of a hosiery drying form having a foot portion and a detachable toe portion held in assembled relationship by the improvement of the present invention and provided with means for internally heating both the foot portion and the toe portion;

Fig. 2 shows an enlarged longitudinal section through the foot portion and the detachable toe portion illustrated in Fig. 1 with the toe or end portion removed from the foot portion;

Fig. 3 shows a longitudinal section similar to that of Fig. 2 with the toe or end portion mounted in assembled relationship to the foot portion;

Fig. 4 shows a transverse section taken on the line 4—4 of Fig. 3 looking in the direction of the arrows;

Fig. 5 shows a side elevation of the end of the foot portion and the detachable toe portion of a type of hosiery drying form wherein the toe portion is not internally heated, the toe portion being removed from the foot portion and being provided with dowel pins constructed according to the present invention and adapted to engage holes in a member embedded in the foot portion;

Fig. 6 shows a longitudinal section taken on the line 6—6 of Fig. 5, parts of these portions being shown in edge elevation;

Fig. 7 shows a side elevation similar to that of Fig. 5 illustrating the parts when the toe portion has been assembled on the foot portion, the dowel pins and associated parts being illustrated in section;

Fig. 8 shows an edge elevation and partial vertical section similar to that of Fig. 6 illustrating the relative arrangement of the parts which is shown in Fig. 7; and

Fig. 9 shows a transverse section taken on the line 9—9 of Fig. 7.

The form of construction illustrated in Figs. 1 to 4, inclusive, illustrates the application of the present invention to the type of hosiery drying form which is illustrated in said Letters Patent No. 2,433,470. In this embodiment, a hosiery drying form 10 is mounted upon a conduit 11 which serves as an exhaust conduit for the steam which is employed in effecting the heating of the form. The form 10 is somewhat flat in transverse cross section, as illustrated in Fig. 4, and the opposite faces thereof taper toward each other and terminate in relatively sharp edges 10a. The

form comprises a standard portion 10b provided at its bottom with flanges 10c which conform to the contour of conduit 11 to which they are secured by studs 12. Above the standard 10b, there is an ankle portion 10d which is united with the foot portion 10e. This foot portion carries a detachable end or toe portion 10f which is of tapered form, terminating in a point 10g.

The parts of the hosiery drying form described above are internally heated by steam supplied from a pipe 14 through a small pipe 15 which extends centrally through a larger pipe 16 embedded in the form and extending throughout the form from the base thereof to a point adjacent the extremity of the foot portion 10e. The pipe 16 may be formed of stainless steel or the like embedded in the aluminum, stainless steel or other material of which the parts of the form 10 are made. The conduit 11 is provided with an aperture 11a through which the pipe 15 extends and also with another aperture 11b through which the exhaust steam is returned from the pipe 16 to the exhaust conduit from the interiors of the foot and toe portions.

Adjacent the extremity of the foot portion 10e, the pipe 16 enters a hard metal tubular member 17 which is embedded in the body of the foot portion and which is internally threaded near its extremity for engagement by the threaded end of a tubular cap member 18 which extends into an aperture 19 formed in the detachable end or toe portion 10f. This aperture 19 is of cylindrical form and is fitted by a hard metal lining 20, formed of stainless steel or the like, and this lining is, in turn, fitted by the tubular cap member 18. The cap member 18 is closed at its outer or upper end by a detachable threaded plug 21 and the small steam supply pipe 15 extends through the part 17 into the interior of the cap member 18, terminating adjacent the plug 21. The steam which is supplied through the pipe 15 is discharged into the tip portion of the cap member 18 and is returned about the pipe 15 within the cap member 18 and within the parts 16 and 17 with the result that the ankle portion 10d, the foot portion 10e and the toe portion 10f are all internally heated.

The toe or end portion 10f is held in position on the foot portion 10e by a pair of dowel pins 25 which threadedly engage the recesses 10h formed in the end of the foot portion and which are adapted to fit into the tubular hard metal members 26 embedded in the toe or end portion 10f at opposite sides of the hard metal liner 20. The dowel pins 25 are tapered at their ends as shown at 25a and are longitudinally split from their tapered extremities as shown at 25b, thus forming two complementary parts 25c which diverge slightly from each other. The dowel pins 25 are formed of hard metal which is resilient and the divergence of the parts 25c is such that they have to be compressed slightly to fit within the tubular liners 26. The tapered parts 25a permit the pins to be readily inserted in the members 26 and the pins have a tight frictional engagement therewith which prevents the accidental withdrawal of the toe portion 10f during the operation of stripping hosiery from the form. After the dowel pins have become worn with long continual use, a suitable instrument may be inserted in the notches 25b to effect a further spreading of the parts 25c, thus restoring the initial grip of these pins on the members 26 which are embedded in the toe portion.

The form of the invention shown in Figs. 5 to 9, inclusive, illustrates its embodiment in the type of hosiery drying form disclosed in said Letters Patent No. 2,306,350. This embodiment is illustrated in connection with a portion only of the foot portion 30e and the detachable toe portion 30f of a form 30 which may be mounted and constructed generally according to the arrangement shown in Fig. 1 except that the drying form 30 is illustrated as being of a hollow formation having opposite sheet metal walls 30g which are arranged to form a structure having a substantially flat cross section, as shown in Fig. 9, and which are united along one edge as shown at 30h. The opposite walls are preferably spaced apart by an internal member 31 which may be a flexible cable or the like.

The detachable toe portion 30f has mounted in the base thereof a hard metal block 32 provided with internally threaded apertures in which are secured a pair of dowel pins 35 similar in form to the dowel pins 25 previously described. These pins have tapered extremities as shown at 35a and are split longitudinally as shown at 35b to form two complementary prongs 35c which are slightly divergent and resilient so that they may be compressed when these dowel pins are inserted into cylindrical apertures 36a formed in a block 36 carried by the foot portion 30e. The metal shell of the toe portion 30f projects beyond the block 32 at one side of the toe portion as shown at 30i and at the opposite side of the form, the metal shell of the foot portion 30e projects beyond the block 36 as shown at 30j, so that when the parts are assembled with the dowel pins 36 engaging the apertures 36a, as shown in Figs. 7 and 8, the part 30i overlaps the block 36 and the part 30j overlaps the block 32, while the edges of the metal shells of the foot and toe portions abut against each other. There is thus provided a firm connection between the foot portion and the toe portion of the embodiment shown in Figs. 5 to 9, inclusive, and, as in the form of construction previously described, the dowel pins retain a firm grip upon the block 36 even after continued use and may be spread apart after they have been worn to a considerable degree in order to renew their original gripping action.

Although two forms of the invention have been shown and described by way of illustration, it will be understood that the invention may be embodied in various other constructions without departing from the scope of the appended claims.

I claim:

1. A hosiery drying form comprising, a foot portion, a detachable toe portion, one of said portions having an aperture therein, and a substantially straight split pin carried by the other of said portions and engaging opposite walls of said aperture with a resilient pressure along a substantial length of said pin.

2. A hosiery drying form comprising, a foot portion, a detachable toe portion, one of said portions having a plurality of spaced apertures therein, and a plurality of spaced substantially straight split pins carried by the other of said portions and engaging opposite walls of said apertures with resilient pressures along a substantial length of each of said pins.

3. A hosiery drying form comprising, a foot portion, a detachable toe portion, one of said portions having an aperture therein, and substantially straight split pin detachably secured in the other of said portions and having resilient parts engaging the walls of said aperture along a substantial length of said pin.

4. A hosiery drying form comprising, a foot portion, a detachable toe portion, one of said portions having an aperture therein, and a substantially straight split pin carried by the other of said portions and having resilient parts normally slightly divergent and adapted to engage the walls of said aperture with a resilient pressure along a substantial length of said pin.

5. A hosiery drying form comprising, a foot portion, a detachable toe portion, one of said portions having an aperture therein, and a substantially straight cylindrical split pin carried by the other of said portions and having resilient parts normally slightly divergent and adapted to engage the walls of said aperture with a resilient pressure along a substantial length of said pin, said pin being tapered at its free end to facilitate its entry into said aperture.

6. A hosiery drying form comprising, a foot portion, a detachable toe portion, one of said portions having an aperture therein, a tubular member secured in place in said aperture, and a substantially straight cylindrical pin fixed in the other of said portions and projecting therefrom, said pin being divided longitudinally from its free end to form two slightly divergent resilient parts adapted to be inserted into said member with a

resilient pressure on the inner walls of said member along a substantial length of said pin.

7. A hosiery drying form comprising a foot portion, a detachable toe portion, one of said portions having an aperture therein, a tubular sleeve member secured in place in said aperture, and a substantially straight pin member carried by the other of said portions and engaging said sleeve member, one of said members having resilient parts exerting a resilient pressure on the other of said members in order detachably to secure said toe portion to said foot portion.

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The following references are of record in the file of this patent:

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