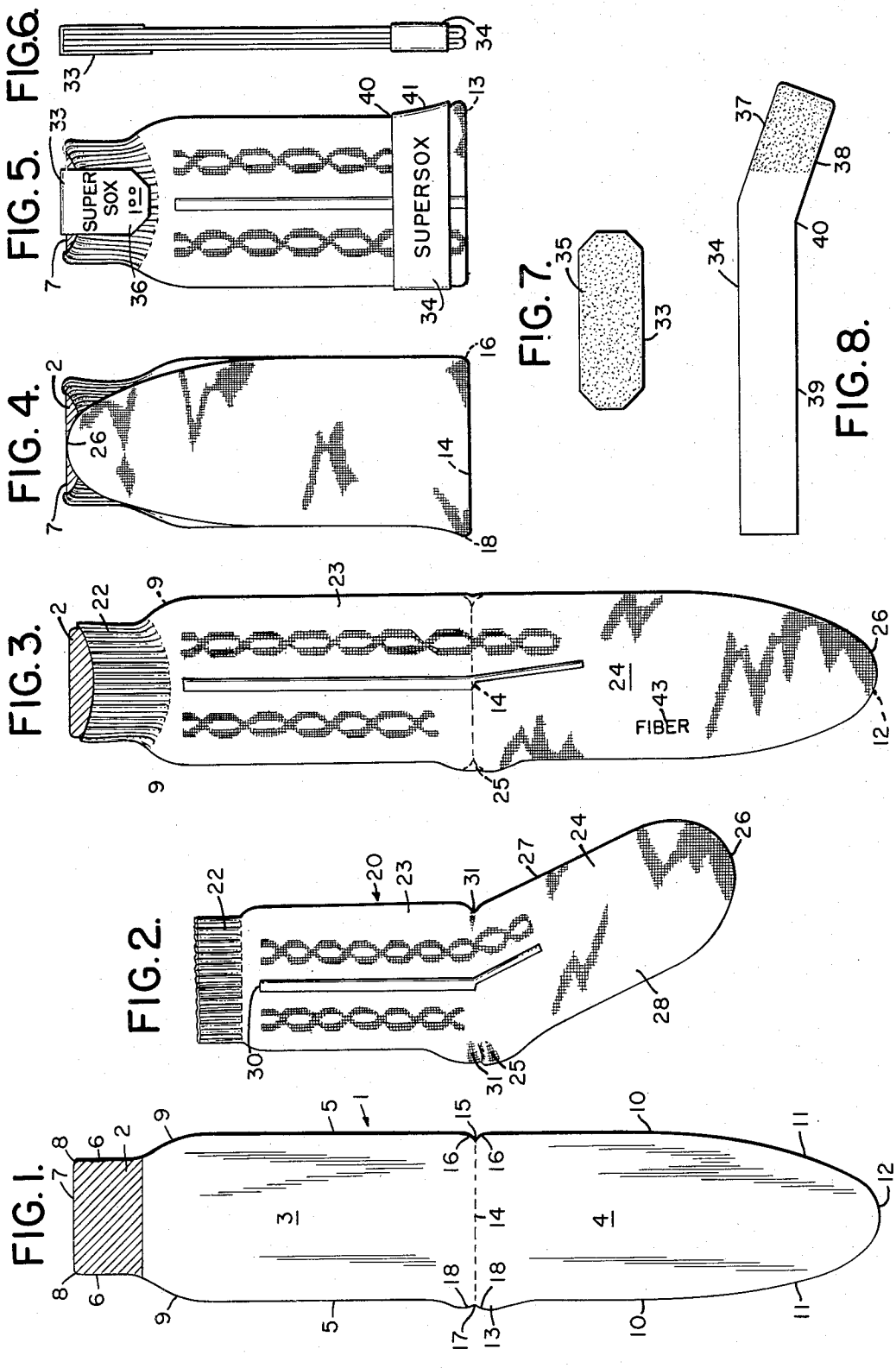
June 5, 1956 J. A. POWER ET AL 2,748,930

DISPLAY PACKAGE FOR STRETCH SOCKS

Filed Feb. 16, 1955 2 Sheets-Sheet 1



June 5, 1956 J. A. POWER ET AL 2,748,930

DISPLAY PACKAGE FOR STRETCH SOCKS

Filed Feb. 16, 1955 2 Sheets-Sheet 2

FIG. 11.

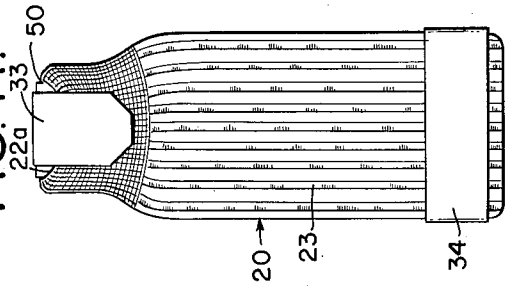


FIG. 12.

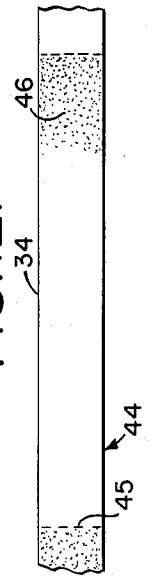


FIG. 10.

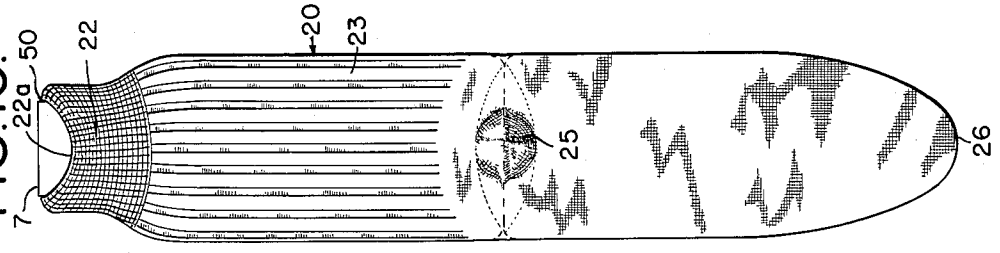
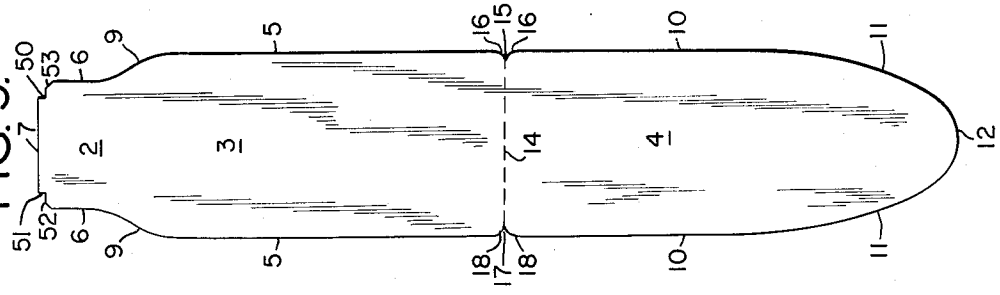


FIG. 9.



United States Patent Office 2,748,930 Patented June 5, 1956

2,748,930

DISPLAY PACKAGE FOR STRETCH SOCKS

James A. Power and Jay S. Hallowell, Martinsburg, W. Va., assignors to Interwoven Stocking Company, New Brunswick, N. J., a corporation of New Jersey

Application February 16, 1955, Serial No. 488,494

9 Claims. (Cl. 206—46)

The present invention relates to a novel method of packaging hosiery, particularly hosiery of the type known as "stretch socks," to provide an economical, yet highly attractive, display package.

A highly stretchable yarn can be produced from heat-settable fibers by separately twisting two strands of fibers in opposite directions until they have a high twist, setting the twisted strands by heat treatment, untwisting the strands and then plying the oppositely twisted strands together with a relatively low twist. Nylon and other synthetic fibers which are thermoplastic or thermosetting are suitable for the production of such yarn, one type of which is known as "Helanca" yarn. When socks are knit of yarn of this kind, they have the property of being highly stretchable so that they readily fit any foot size within wide limits. Such socks, known in the trade as "stretch socks," hence need be made in only one or two sizes instead of all of the sizes customary in the hosiery trade. Moreover, they fit the foot snugly without being uncomfortably tight.

While stretch socks have many desirable characteristics, it has been found difficult to package them in a way that is attractivee and, at the same time, convenient and economical. Because of the elastic nature of the yarn, the socks tend to contract both circumferentially and lengthwise when they come off the knitting machine. Socks of a size intended for men contract so much that they look like small children's sizes. Hence, customers looking for men's socks are apt to pass them up, thinking they are for children. Top tickets, bands, boxes, etc., intended for men's hose are disproportionately large for stretch socks in their normal contracted condition. As hosiery manufacturers make conventional socks as well as stretch socks, the radical difference in size presents a difficult problem since it is not convenient or economical to stock different sizes of boxes, top tickets, bands and labels.

A further difficulty experienced with stretch socks is that, when they contract, they have a tendency to pucker so as to have an unattractive appearance. Any designs on the socks, for example wrap or plated designs, are distorted from their true proportions by the "shrinking" of the socks. Thus, in their normal contracted condition, stretch socks lack sales appeal.

It is an object of the present invention to provide a novel method of packaging socks and, in particular, stretch socks, so that they present an attractive appearance on the counter or in the window or showcase of a shop. A further object of the invention is to package stretch socks in such a way that their size corresponds approximately to the size of conventional socks to which the public is accustomed. Thus, when packaged in accordance with the invention, stretch socks intended for men have a "men's" size instead of looking like children's socks. The invention further provides an attractive display package in which stretch socks are held flat and smooth and any designs on the socks are presented in proper size and proportions.

Another object of the invention is to provide a convenient and economical method of packaging stretch socks in an attractive manner which increases their saleability and, at the same time, makes the socks more convenient to handle.

In accordance with the invention, a form of relatively stiff, but foldable, material in inserted in each sock, the form being substantially larger than the sock so as to stretch it materially and hold it in stretched position. The forms with the socks on them are then folded so that the foot portion lies flat against the leg. The two socks of a pair are assembled in flat superposed relationship and are secured together, for example by bands or wrappers of transparent, translucent or opaque material. The forms hold the socks smooth and flat and materially increase their size so that they look more like conventional socks. The display packaging in accordance with the invention has been found greatly to increase the saleability of socks of this character.

The nature and advantages of the invention will be more fully understood from the following description and claims in conjunction with the accompanying drawings, in which:

Fig. 1 shows in flat condition a form for use in packaging socks in accordance with the invention;

Fig. 2 shows a stretch sock in normal contracted condition;

Fig. 3 shows the same sock stretched onto the form of Fig. 1;

Fig. 4 shows a form with the sock thereon folded so that the foot portion lies flat against the leg;

Fig. 5 shows a pair of socks in the completed package;

Fig. 6 is an edge view of the package shown in Fig. 5;

Fig. 7 shows a top ticket before it is applied, as shown in Fig. 5; and

Fig. 8 shows a band.

Fig. 9 is similar to Fig. 1, showing a modified form in flat condition.

Fig. 10 shows a sock stretched onto the form of Fig. 9.

Fig. 11 shows the completed package using forms like that shown in Fig. 9.

Fig. 12 shows a continuous strip severable into sections which are used for bands on packages, as shown in Fig. 11.

In Fig. 1, there is shown a flat form **1** made of cardboard or other suitable sheet material which is relatively stiff but yet sufficiently flexible as to be folded without breaking. Cardboard having a thickness of approximately 0.022 inch has been found suitable for this purpose. The form has a top portion **2**, leg portion **3** and foot portion **4**. The leg portion **3** is substantially rectangular with approximately parallel side edges **5**. The top portion **2** likewise has parallel side edges **6** but is substantially narrower than the leg. For example, the width of the top portion may be 60% to 80% that of the leg. The end edge **7** of the top joins the side edges **6** in rounded corners **8**. At the junction of the top portion **2** with the leg portion **3**, the side edges of the form flare outwardly to provide shoulders **9** which are reversely curved or S-shaped so as to join smoothly with the parallel edges of the top portion and leg portion, respectively. A decorative color or other finish is preferably printed on, or otherwise applied to, the top portion **2**, as indicated by the line shading.

The foot portion **4** forms a continuation of the leg portion and is preferably in line with the leg and approximately the same width so that side edges **10** of the foot portion form extensions of the side edges **5** of the leg portion. The side edges **10** of the foot portion **4** are approximately parallel for a major portion of their length and then curve inwardly with progressive curvature, as indicated at **11**, so as to merge with a rounded toe portion **12**.

Approximately midway between the ends of the form, one side edge curves outwardly to provide a heel portion **13**. The heel portion thus appears as a slight convex

bulge in one side edge of the form. At the junction between the leg portion 3 and foot portion 4, there is provided a transverse fold line 14 which at one end approximately bisects the heel portion 13. At the other end of the fold line, there is provided in the side edge of the form a V-shaped notch 15 providing rounded corners 16 which merge with the side edges 5 and 10 of the leg and foot portions, respectively. A similar notch 17 with rounded corners 18 may, if desired, be provided in the heel portion 13 where it is intersected by the fold line 14.

In Fig. 2, there is shown a stretch sock 20 in its normal unstretched condition after it has come from the machine and has been subjected to suitable finishing operations such as dyeing, boarding, etc. The sock 20 has a top portion 22, leg portion 23, foot portion 24, heel portion 25 and toe portion 26. The top portion 22 is elastic and normally somewhat narrower than the leg 23, being formed of narrow rib fabric or having rubber thread incorporated in plain knit fabric so as to give it a ribbed appearance. The upper portion 27 of the sole 24 is customarily termed the instep portion while the lower portion 28 is referred to as the sole. The leg portion 23 is provided on opposite sides with a decorative design 30 which may, for example, be a wrap or plated design and is shown as extending down into the instep portion of the sock. When the sock is laid out flat, as shown in Fig. 2, the foot portion is disposed at an angle to the leg portion and the sock tends to buckle up, as indicated at 31, in the heel and opposite instep portion. By comparing Fig. 1 and Fig. 2, which are drawn to the same scale, it will be seen that the sock shown in Fig. 2 is substantially shorter and narrower than the form shown in Fig. 1. For example, the sock may be only 60% to 80% as large as the form.

The form shown in Fig. 1 is inserted into the smaller sock shown in Fig. 2, thereby materially stretching the sock and causing it to conform to the shape of the form. The form is of such size that the sock is stretched at least 10% and preferably 25% to 50%. The elastic top portion 22 of the sock engages the top portion 2 of the form and adjacent portions of the sock engage the shoulders 9 of the form so as to keep the sock from slipping down on the form. The sock is thus held in stretched condition. The form is sufficiently stiff and strong to avoid being buckled or collapsed by the contracting force of the sock. The shape of the sock is somewhat modified by the sock being stretched on the form. The foot portion 24 is held substantially in line with the leg portion 23 and the heel portion 25 is less pronounced, conforming to the slightly bulged heel portion 13 of the form. The top portion 22 is somewhat narrower in relation to the leg portion 23, giving the sock a more graceful appearance. Also, the toe portion of the sock conforms to the toe portion of the form so that it is more gracefully tapered instead of being relatively blunt as in the unstretched sock shown in Fig. 2. The upper part of the top portion 2 of the form remains visible and it is for this reason that this portion of the form is preferably colored or otherwise given an attractive finished appearance.

After the form 1 has been inserted in the sock 20, as described above, the form with the sock on it is folded on the fold line 14, as shown in Fig. 4. As thus folded, the foot portion 24 lies flat against the leg portion 23. The side edges of the foot portion substantially coincide with the side edges of the leg portion. When, as in the example shown, the foot portion is of substantially the same length as the leg portion together with the top, the toe 26 approximately coincides with the upper end edge 7 of the top portion 2 of the form. The tapered toe portion 26 lies against the reduced top portion 22 and the proportions are preferably such that the toe portion does not project laterally beyond the top portion. While it is preferable for the foot portion and the leg portion—including the top—to be of approximately equal length, as shown, it will be understood that, in some instances, the socks may have longer legs, in which event the fold line 14 is so positioned as approximately to bisect the heel portion, although it would not then be equidistant from the ends of the form. When the form is folded with the sock on it, the notches 15 and 17 (Fig. 1) provide rounded edges 16 and 18, thereby avoiding sharp corners that might punch holes in the sock. The two socks of a pair are preferably folded oppositely for the reason pointed out below.

After the forms with the socks on them have been folded as described above, the two socks of a pair are assembled, as illustrated in Figs. 5 and 6, and are suitably secured together. The socks are preferably assembled foot-to-foot so that the foot portions are sandwiched between the legs. If the two socks of a pair are folded in opposite directions, the two heel portions coincide. The two socks of a pair may be held together by means of a suitable wrapping, for example a wrapping of transparent material, such as cellophane, or by one or more suitable bands or stickers. In the form of package specifically shown in Figs. 5 and 6, the two socks of a pair, stretched on their forms, are held in assembled relationship by means of a top ticket 33 and a band 34. The top ticket 33 is coated on its inner face with adhesive, as indicated at 35 (Fig. 7). It is folded over the upper edges 7 of the two forms, as clearly shown in Figs. 5 and 6, and is adhesively secured to the opposite faces of the top portions of the socks. The top ticket 33 thus not only holds the tops of the forms together but also provides a further means of securing the socks against slipping down on the forms owing to the tendency of the socks to contract. The top ticket is formed of paper or other suitable material and provides a convenient medium for displaying trade marks, trade names, prices, etc. In the form illustrated, the top ticket has a tear line 36 so that an end portion carrying the price can, if desired, be torn off, for example when giving the socks as a gift.

The band 34 comprises an elongated strip of paper, plastic, or other suitable material, provided, adjacent one end, with an adhesive coating 37 so that the ends of the band can be joined to provide a circular band. When laid out flat (Fig. 8), the band 34 is preferably "dog-leg" in shape, comprising two straight portions 38 and 39 joined by an obtuse angle 40. The band 34 is placed around the lower portions of the folded and assembled forms with the socks thereon (Figs. 5 and 6) with the angle 40 disposed at the top of the heel portions. The dog-leg shape of the band results in an angular fold portion, as indicated at 41, so that the band is in effect tapered and corresponds to the taper resulting from the heel portions 13 of the forms. This taper serves to prevent the band from slipping off the lower ends of the folded forms. The band 34 also provides a convenient medium for the display of advertising trade marks, etc. Although the folded socks are held together only at their upper and lower ends, the forms are sufficiently stiff to keep them flat and together throughout their length.

If it is desired to apply trade marks or legends as to fiber content or other printing or indicia to the foot portion of the sock by printing, transferring or otherwise, this is preferably done after the form has been inserted as illustrated in Fig. 3 where such a legend is indicated at 43. The form holds the foot portion of the sock smooth and flat so that a legend can readily be applied. Moreover, the foot portion is held in a stretched or expanded condition corresponding to its condition when worn so that the legend can be of normal size and yet go in the space available on the foot.

When assembling the two socks of a pair, it is preferable to assemble them foot-to-foot so that the leg portions of the two stocks, which are normally more attractive than the feet, are on the outside and form both sides of the package. However, it will be understood that if, for any reason, it is desired to have the foot of one of the stocks exposed, for example so that a transfer on the foot

of the sock will be visible, the two socks of a pair can be assembled with the leg portion of one lying against the foot portion of the other. It is considered preferable for the foot portion 4 of the form (Fig. 1) to be a rectilinear extension of the leg portion 3 with the fold line 14 substantially perpendicular to the side edges of the form. However, if desired, the foot portion of the form can be disposed at a slight angle to the leg portion so that the form will have a shape similar to that of the sock shown in Fig. 2 but larger. In this event, the fold line 14 should bisect the angle between the leg portion and the foot. It will be apparent that, when such a form is folded, the fold line will not be perpendicular to the side edges of the form.

In Figs. 9 to 12, there are shown a form and package that are basically the same as those of Figs. 1 to 6 and like parts are therefore designated by the same reference numerals to avoid repetition of description. The form of Fig. 9 differs from that of Fig. 1 in two respects. In the first place, the heel bulge 13 of Fig. 1 has been eliminated, the side edges 5 and 10 of the leg portion 3 and foot portion 4 being straight and continuous except for the notches 15 and 17. The second difference is that at each corner, at the top of the form, there is provided a notch 50 having an edge portion 51 approximately perpendicular to the upper edge 7 of the form, an edge portion 52 approximately parallel to the edge 7 and a rounded or beveled corner 53 between the edge portion 52 of the notch and the side edge 6 of the top portion 2 of the form.

When the form of Fig. 9 is inserted into a sock, as shown in Fig. 10, the top edge 22*a* of the sock comes into the notches 50. The engagement of the top edge 22*a* of the sock with the notches 50 keeps the sock from coming in over the top edge 7 of the form owing to the contracting nature of the top portion of the sock and particularly the top edge 22*a*. The notches 50 also hold the sock from slipping downwardly on the form.

Since the form of Fig. 9 has no heel bulge, it is symmetrical, both sides being alike. When packaging plain socks or socks having an "all-over" pattern, it is desirable to place each sock on the form as illustrated in Fig. 10 with the heel portion 25 centered between the side edges 5 and 10 of the form. The form is then folded with the heel of the sock inside the fold and thereby concealed. When, on the other hand, the sock has a clock or other design on the side, it is placed on the form with the heel portion substantially centered on one side edge of the form, as illustrated in Fig. 3. Because of the stretching and contracting properties of stretch socks, the heel substantially disappears when the sock is stretched on a straight form like that shown in Fig. 9. Moreover, the heel is substantially concealed by the band 34 in the finished package (Fig. 11).

The two socks of a pair on their respective forms are folded, assembled, top ticketed and banded as described above and as illustrated in Fig. 4. In this connection, the form of Fig. 9 has important advantages over that of Fig. 1 in that it facilitates top ticketing and banding by means of automatic machinery. When applying top tickets by machine, it is important to keep the top edge 22*a* of the sock from coming in so as to lie between the top edge 7 of the form and the top ticket, as this would interfere with the smooth folding of the top ticket over the top edges 7 of the two forms. As described above, the notches 50 hold the top edge 22*a* of the sock in place and prevent it from coming in under the top ticket. Moreover, the elimination of the heel bulge makes it possible to use a straight band 34 (Figs. 11 and 12) instead of a "dog-leg" shaped band as illustrated in Fig. 8. Preferably the bands 34 are made up as a continuous strip 44 (Fig. 12) adapted to be severed on lines 45 into individual sections of proper length for banding a pair of socks. Patches of adhesive are preferably provided, as indicated at 46, adjacent the severance lines 45 for securing the band in place as illustrated in Fig. 11. The top tickets 53 are also preferably made up in the form of continuous strips for machine use. Except as otherwise described, the packaging illustrated in Figs. 9 to 12 is understood to be like that of Figs. 1 to 8. However, it will be apparent to those skilled in the art that still other modifications are possible within the spirit and scope of the invention and that the invention is hence in no way limited to the particular embodiments shown and described.

What we claim and desire to secure by Letters Patent is:

1. A display package for a pair of stretch socks comprising a pair of forms formed of stiff, foldable sheet material, each of said forms comprising a leg portion of approximately uniform width, a top portion of reduced width, and a foot portion constituting a downward extension of the leg and being approximately the same width as the leg, said foot portion ending in a rounded toe portion, said form having a single transverse fold line between the leg and foot portions, said forms having a length and width materially greater than the length and width of said socks in unstretched condition, a sock stretched widthwise and lengthwise on each of said forms with the top portion of the sock engaging said reduced top portion of the form to assist in retaining the sock in lengthwise stretched condition on the form, said forms being sufficiently stiff to withstand the contracting tension of said socks and to hold the socks in stretched condition, each of said forms with said sock on it being folded about said fold line so that the foot and leg portions are superposed, said folded forms and socks of a pair being assembled in flat superposed relationship and means cooperating with said forms to hold said pair of forms and socks together throughout their length in assembled relationship.

2. A display package for a pair of stretch socks comprising a pair of forms formed of stiff, foldable sheet material, each of said forms comprising a leg portion of approximately uniform width, a top portion of reduced width, a foot portion constituting a downward extension of the leg and being of approximately the same width as the leg, said foot portion ending in a tapered and rounded toe portion, said form having a single transverse fold line between the leg and foot portions, said forms having a length and width materially greater than the length and width of said socks in unstretched condition, a sock stretched widthwise and lengthwise on each of said forms with the top portion of the sock engaging said reduced top portion of the form to assist in retaining the sock in lengthwise stretched condition, said forms being sufficiently stiff to withstand the contracting tension of said socks and to hold the socks in stretched condition, each of said forms with said sock on it being folded about said fold line so that the foot and leg portions are superposed, said folded forms and socks being assembled in flat superposed relationship with the tops of both forms at the same end, a top ticket folded over the upper ends of said assembled forms and adhesively secured to each of said socks and a band surrounding the lower portions of the legs of said forms and socks and cooperating with said top ticket to hold said pair of forms and socks together throughout their length in assembled relationship.

3. A display package for a pair of stretch socks comprising a pair of forms formed of stiff foldable sheet material, each of said forms comprising a leg portion of approximately uniform width, a top portion of reduced width, a foot portion constituting a downward rectilinear extension of the leg and being approximately the same width as the leg, said foot portion ending in a tapered and rounded toe portion and a heel portion comprising a rounded lateral projection at the junction of said foot and leg portions, said form having a single transverse fold line bi-secting said heel and extending to the opposite edge of the form, said form having a length and width materially greater than the length and width of said socks in unstretched condition, widthwise and

lengthwise on each of said forms with the top portion of the sock engaging said reduced top portion of the form to assist in retaining the sock in lengthwise stretched condition, said forms being sufficiently stiff to withstand the contracting tension of said socks and to hold the socks in stretched condition, each of said forms with said sock on it being folded on said fold line so that the foot portion lies flat against the leg portion and the tapered toe portion lies against the reduced top portion, said folded forms and socks of a pair being assembled with the foot portions engaging one another and between the two leg portions, and sheet material passing around said assembled forms and socks and holding them together in assembled relationship throughout their length.

4. A display package for a pair of stretch socks comprising a pair of forms formed of stiff foldable sheet material, each of said forms comprising a leg portion of approximately uniform width, a top portion of reduced width joining said leg portion with curved shoulders, a foot portion constituting a rectilinear downward extension of the leg portion and being approximately of the same width as said leg, said foot portion ending in a tapered and rounded toe portion, said form having a single transverse fold line between the leg and foot portions and notches with rounded corners in the edges of said form at opposite ends of said fold line, said forms having a length and width materially greater than the length and width of said socks in unstretched condition, a sock stretched widthwise and lengthwise on each of said forms with the top portion of the sock engaging the reduced top portion of the form and adjacent portions of the sock engaging said shoulders to assist in holding the sock in lengthwise stretched condition on said form, said forms being sufficiently stiff to withstand the contracting tension of said socks and to hold the socks in stretched condition, each of said forms with said sock on it being folded on said fold line, said folded forms and socks of a pair being assembled in flat superposed relationship with the tops of both forms at the same end and sheet material passing around said pair of forms and socks and securing them together in assembled relationship throughout their length.

5. A display package according to claim 4, in which said socks on said forms are assembled with the foot portions of the two socks sandwiched between the two leg portions and in which a top ticket is folded over the upper ends of said forms and adhesively secured to the top portions of said socks to secure the top ends of said forms together and to further secure the top portions of said socks from slipping down on said forms.

6. A display package for a pair of stretch socks comprising a pair of forms formed of stiff, foldable material, each of said forms comprising a leg portion of approximately uniform width, a top portion of reduced width joining said leg portion with curved shoulders and

a foot portion constituting a rectilinear downward extension of the leg portion and being of approximately the same width as the leg, said form being symmetrical about a longitudinal center line and having a single fold line extending across said form between the leg and foot portions and perpendicular to said center line, the top portion of said form having notches at its upper corners, said forms having a length and width materially greater than the length and width of said socks in unstretched condition, a sock stretched widthwise and lengthwise on each of said forms with the top portion of the sock engaging said reduced top portion of the form and the upper edge of the sock engaging in said notches to assist in holding the stretched sock from slipping down on the form, said forms being sufficiently stiff to withstand the contracting tension of said socks and to hold the socks in stretched condition, each of said forms with said sock on it being folded about said fold line so that the foot portion lies flat against the leg portion, said folded forms and socks of a pair being assembled in flat superposed relationship with the tops of both forms at the same end and sheet material passing around said pair of forms and socks and securing them together in assembled relationship throughout their length.

7. A display package according to claim 6, in which each of said forms has notches with rounded corners in its side edges at opposite ends of said fold line.

8. A display package according to claim 6, in which said pair of forms with the socks on them are assembled with the foot portions of two socks sandwiched between the two leg portions and in which a top ticket is folded over the upper ends of said forms and adhesively secured to the top portions of said socks.

9. A display package according to claim 8, in which said sheet material securing said socks in assembled relationship comprises a band surrounding the lower leg portions of said assembled forms and socks.

References Cited in the file of this patent

UNITED STATES PATENTS

478,751	Howard	July 12, 1892
736,314	Thus	Aug. 11, 1903
1,332,368	Wadsworth	Mar. 2, 1920
1,541,264	Holland	June 9, 1925
1,992,799	Aberle	Feb. 26, 1935
2,116,481	Sweeney	May 3, 1938
2,622,730	Sharp	Dec. 23, 1952
2,696,295	Berry	Dec. 7, 1954

FOREIGN PATENTS

790,536	France	Sept. 9, 1935
152,918	Austria	Mar. 25, 1938
665,689	Germany	Oct. 1, 1938