

Feb. 4, 1941.

K. CARTIER

2,230,559

PACKAGING STOCKINGS

Filed Feb. 3, 1938

2 Sheets-Sheet 1

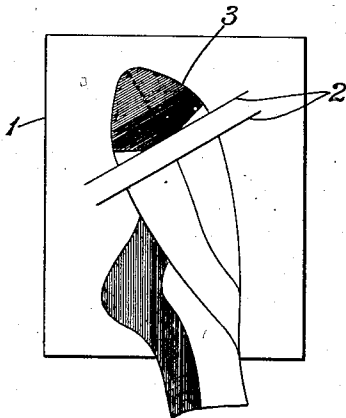


Fig. 1

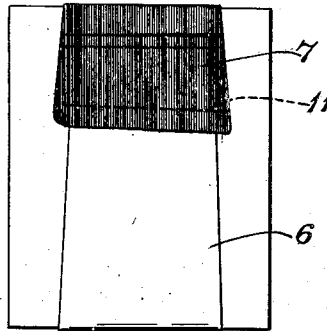


Fig. 2

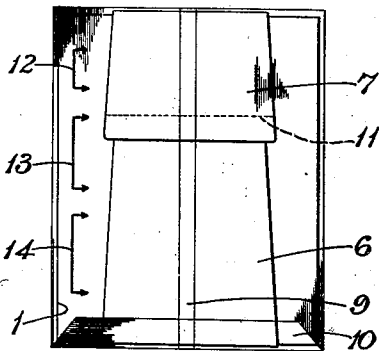


Fig. 3

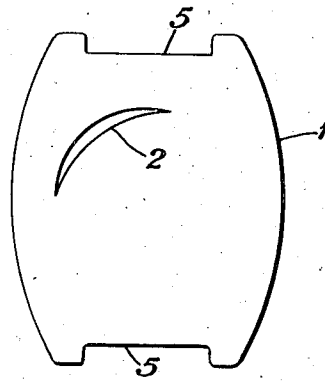


Fig. 4

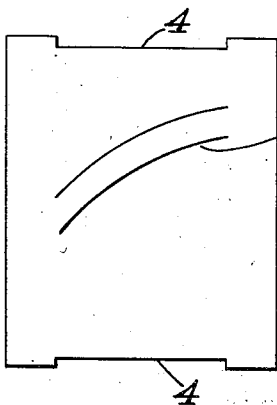


Fig. 5

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2 Sheets-Sheet 2

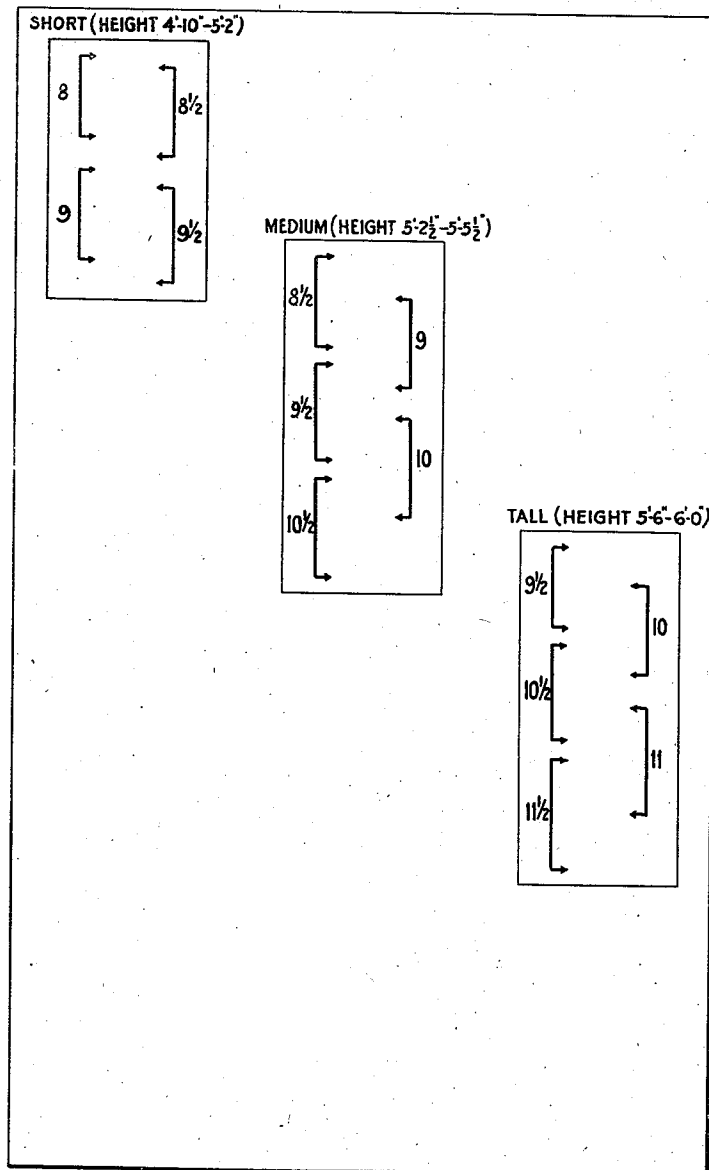


Fig. 6

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UNITED STATES PATENT OFFICE

2,230,559

PACKAGING STOCKINGS

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Application February 3, 1938, Serial No. 188,446

9 Claims. (Cl. 206—46)

This invention relates to the packaging of ladies' stockings. More particularly, it relates to the packaging and displaying of stockings in such a manner that the length of the stockings is automatically determined during the wrapping operation. This invention further relates to a stocking package in which the length of the stockings is visually indicated, together with an explanation enabling a purchaser to select stockings the proper length for her particular stature.

Until very recently, ladies' stockings have been selected almost entirely on the basis of foot size. The leg dimensions of all the stockings have been designed to fit an average leg. Wide deviations from this average caused the stockings when worn to have an unsightly appearance.

During the past several years certain manufacturers have attempted to correct this situation by making hosiery of different lengths and widths to correspond to a wide range of leg dimensions. These efforts have been successful, but they have in turn created very serious merchandising problems.

It has resulted in the demand by many women of a particular length hose. Very frequently, the choice is an arbitrary one resulting in a poor fit and subsequent dissatisfaction. However, to satisfy this demand, many retailers have been forced to have their sales people measure each pair of stockings until those of the requested length are found. This is a very inefficient, time consuming, and expensive manual operation and many mistakes are made due to the inexperience and carelessness of the clerks. Not only does this frequent handling tend to soil and wrinkle the stockings and cause snagging and other injuries which render them unattractive or unsalable, but it also wastes the time of the customer and requires a large sales force.

Other customers insist on stretching the stockings before them to estimate the length or compare them with their legs. This handling results in damage to the stockings with little success in the selection of the correct length.

To solve the difficulties of selection, many manufacturers have made surveys and have determined the proper dimensions of hosiery to fit persons of various heights based on the theory that leg length and width bear a fixed relation, on the average to height, or to the combinations of height and weight, or at least that greater selection is possible. These manufacturers have then selected several lengths of stockings to fit people of the several ranges of stature. While the methods of classification vary among them-

self, they all possess the common principle of providing several lengths of stockings to accommodate various classes of persons.

To make these developments effective in the selection of the proper stockings, it is necessary to provide the customer with some means of identifying the correct class for her stature. Since height or weight is a fairly reliable criterion of the length stockings required and most women remember their height or weight more accurately than inches of stocking length, they have been chosen in some instances as the basis of selection.

It might be supposed that all that is necessary is to affix to the stockings a price tag which gives the foot size and the leg length either in inches or in terms of stature or height. Actually, however, when stockings are manufactured they do not measure out to an exact length in inches, but some variation occurs within a given range. Consequently, there is the possibility of an enormous inventory of goods on the dealer's shelf. It is better, therefore, to indicate the length by a range rather than by precise figures. This in turn permits a customer some further discrimination. For example, if a person is 5' 10" in height and somewhat over average weight for that height, with the presumption that the leg width of the stocking should be somewhat larger, it is well for her to select a stocking marked 5' 10", the length of which is in the upper part of the range. The transverse stretching of the stocking will reduce its effective length.

It is desirable to have a means, integral with the packaging of the stocking, which will determine and indicate the desired stockings without handling. To create purchaser confidence that she is making the correct selection, the basis of selection; i. e., height or weight should be combined with the visual indication of the desired length stocking. To be further effective, this means should enhance the appearance of the stockings, it should protect them from injury and should be economical.

It is, therefore, an object of this invention to provide a satisfactory means for packaging stockings which will correctly indicate the length of stockings as related to the height of the purchaser whereby to eliminate the handling or measuring of stockings in selling the same to customers.

It is another object of this invention to provide a stocking package which will indicate the length of the stockings relative to the height of the wearer, without necessitating removal of the stockings from the package.

Other objects of the invention will appear hereinafter.

The objects of the invention may be accomplished by anchoring the feet of the stockings to a form or stiffener in a predetermined position which compensates for differences in foot length, and winding the stockings on this stiffener, the stiffener having a predetermined length. The effective length of the stockings above the feet is then indicated visually by observing the portion of the hose remaining after the last full turn about the stiffener.

The details of the invention and the advantages thereof will become more clearly apparent by reference to the following description, taken in connection with the accompanying illustrations of several illustrative specific embodiments thereof, and in which:

Figure 1 is a front elevational view showing a stiffener and a pair of stockings anchored thereto;

Figure 2 is a rear elevational view showing the stiffener with the stockings wound on it and the tops projecting beyond the last full turn;

Figure 3 is a rear elevational view showing the combination of the stiffener, stockings, and transparent envelope bearing printed scales;

Figures 4 and 5 are front elevational views showing stiffeners of different shapes and with various anchoring means;

Figure 6 is a rear elevational view showing another system of scales for use with a different classification of lengths.

In Figure 1 is shown a rectangular stiffener 1 made of heavy soft paper, cardboard, or other material which will not snag or injure the stockings. This card may be colored, lithographed, bear advertising matter, directions for washing, etc. In the central portion of this stiffener are shown two diagonal die cuts 2, placed approximately one-half inch apart. In the practice of the invention the reinforced toe portions 3 of each pair of stockings are inserted in these slots and folded, positively positioning, the stockings on the stiffener. By folding the stockings in this manner, the edge of the stiffener is at right angles to the length of the stocking.

To compensate for the variation of foot size the toes are drawn through these die cuts varying distances so that the position of the "joining point" always bears the same relationship to the edge of the stiffener. (The "joining point" marks the beginning of the leg of the stocking.) This placement may be facilitated by printing on the stiffener the proper position for stockings of different foot sizes.

After anchoring the feet of the stockings in the proper position on the stiffener, they may be wound or reeled on the stiffener, taking care to maintain an even tension during the winding operation so that the stockings are not stretched nor left slack. This may be done manually or mechanically. When the stockings are wound in this manner on a stiffener of the proper size a certain number of full turns is made, one of which is shown at 6 in Figure 2, and a partial turn remains as shown at 7. The length of this overlapping portion is directly dependent on the length of the stockings since the same number of full turns is made for any length stocking. For example, certain manufacturers make stockings in three lengths such as 27½-28½ inches for short women, 30-31 inches for average women and 33-34 inches for tall women. When these stockings are wound on a card 9 inches in

length, they will overlap beyond the last full turn, approximately ½-1½ inches, 3-4 inches and 6-7 inches, respectively, neglecting the length used in turning over the edge of the stiffener.

The stockings may be secured in their wound position by clips, bands, tabs, etc., but these are unnecessary in the preferred embodiment of the invention, since they are next inserted with the stiffener in an envelope or bag of a transparent, non-fibrous, cellulosic material such as regenerated cellulose, cellulose derivatives, etc. This envelope may have on its face the usual brand name, foot size, description and other advertising matter common to such packages. On the back is printed a series of arrows in predetermined relationship to serve as a scale. One form of this bag is shown in Figure 3 in which 8 is the back of a transparent bag made of regenerated cellulose. Through this envelope, which has a central seam 9 and a sealed bottom flap 10, can be seen the stiffener 1. On this stiffener is shown a full turn of the hose 6 and the partial turn over overlap 7. At 12, 13, and 14 are printed a series of arrows. The tops of the hose will fall between one set of these arrows, dependent on their length.

Many manufacturers knit into the top of a stocking a bright colored, dye resisting yarn. This forms a line of contrasting color definitely establishing the top of the stocking to one's vision. This thread may be placed at the junction of the top of the leg portion and the elastic top of the hose, but it is preferred to have it placed at the extreme top of the stocking. The arrows are so placed that this bright line falls between the proper set for each length as shown at 11. This then serves to visually identify the effective length of the stocking.

In the region opposite the arrows at 12 is then printed a statement such as: "If you are 4'10" to 5'2" in height, the red line on the hosiery showing between these arrows means that this hosiery is of the correct length in your proper foot size."

Similar inscriptions opposite the arrows at 13 and 14 would indicate that the stockings were of the proper length for heights of 5'2½" to 5'5½" and 5'6" to 6'0", respectively. Some manufacturers would prefer to substitute ranges of weight for these ranges of height. Space at the bottom could be used for additional advertising.

By packaging the stockings in this manner, not only has the range of length been mechanically determined and visually indicated, but they have been positively positioned on the stiffener so that they will not be disarranged, stretched or wrinkled. By enclosing them in a printed envelope of transparent material, they have been provided with a cooperating reference scale and basis of selection as well as a protection to keep the hose from wrinkling, soiling, snagging or other damage. The anchoring of the stockings to the stiffener and the several turns about it tend to prevent any shrinkage after packaging caused by changes in humidity. This condition is further improved by using a bag or envelope of a moistureproof material such as that variety of coated regenerated cellulose sheeting described in U. S. Patent No. 1,737,187. This has long been a problem since the stocking often changes slightly in length after leaving the factory, thus making it impossible to ticket stockings with their length when they leave the factory.

A rectangular stiffener, such as shown in Figure 1 is preferably made to measure about 6½

by 9 inches, since this is the size of the hosiery packages commonly accepted by the trade, and the stocking is preferably wound about the longer side; however, it is obvious that it could be wound around the shorter side. This stiffener may be square. (Similarly, the general shape of the stiffener might be circular, elliptical or of any attractive shape, provided that there are two opposite, parallel edges over which the hose may be wound as illustrated at 5 in Figure 4). In some cases it may be desirable to indent the edges over which the stockings are wound, to prevent any slippage after winding, as is shown at 4 in Figure 5.

In Figure 1 the feet of the stockings are anchored to the stiffener by drawing the toes through two parallel die cuts of the same length. It is apparent that these die cuts may be of any convenient length at any convenient distance apart and they may be inclined at any angle relative to the edges of the stiffener, or to each other. There need not be two cuts; there may be only one, in which case the toes of the stockings will project through on the opposite side of the stiffener or there may be more than two cuts, in which case the toes of the stockings would be laced through the cuts to more effectively anchor them.

Similarly, these cuts need not be straight lines. They may be one or a plurality of concentric or non-concentric, circular arcs, elliptical arcs, crescent-shaped cuts, tabs or any form or combination of cuts which will permit the stockings to be securely anchored to the stiffener. Examples of other types of cuts are shown at 2 in Figures 4 and 5. It is also possible to position the stockings without any cuts in the stiffener. This could be done in a variety of ways such as by clips or elastic bands, or by strings or bands attached to the stiffener at either edge under which the toes of the stockings could be inserted directly or by means of an adhesive label or tab.

While the utility of the brightly colored thread at the junction of the leg portion and elastic top portion of the stocking to indicate the length of the stockings by viewing them through the transparent scales has been described, this thread could be placed in any intermediate position in the top of the stockings. Similarly, the color, position, and nature of this stripe may be used to identify the products of a certain manufacturer or to identify various grades of stockings of the same manufacturer.

This brightly colored thread is not essential in the practice of the invention. The top of the stocking may be viewed directly or it can be indicated by the position of an elastic or inelastic band or tape encircling the stockings and stiffener at the top. The position of clips or tabs might also be used. While these would also serve to hold the top of the stocking in place, it would be preferable to have the stocking or some part of it register directly with the scale.

It is obvious that in place of arrows, printed individual transparent panels could be used through which the stockings could be viewed for each range of lengths in any of the modifications discussed. These might be rectangular or square, triangular or any other polygonal shape, such as star-shaped, diamond-shaped, etc. Similarly, they might be circular, elliptical or of any conceivable shape in which the top of the stocking is visible through a panel of confined area and location.

If it is desired to use a transparent envelope

which is not printed, a sheet of paper, cardboard or other material having apertures cut in it through which the top of the stocking could be observed may be inserted between the stocking and the envelope. This sheet would then bear the printing and explanation of the scales. The envelope would then serve to positively position this insert relative to the stockings and stiffener and to protect the stocking from damage. The scales could, if desired be printed directly on the stiffener, for example, on the margin thereof. The stiffener could also be provided with a flap or sheet to be folded over or around the wound stocking.

Similarly, a combination of these may be used; namely, a bag or envelope of opaque material with transparent windows. The opaque portions of the bag could bear the printing and the windows situated at the position of the top of each class of hose could be used to identify the length.

While the preferred use of transparent envelopes, bags or windows made from non-fibrous, cellulosic materials such as regenerated cellulose, cellulose esters such as cellulose acetate, etc., cellulose ethers such as methyl, ethyl, or benzyl cellulose or other derivatives of cellulose, have been described, it is obvious that any transparent sheeting could be used. Sheeting made from vinyl resins, mixed polymers of vinyl chloride and acetate, gelatin, casein, rubber hydrohalides, etc. might be used. Although for obvious reasons, the material used should be quite transparent, it is also possible to use sheeting which is somewhat translucent as long as it is possible to discern the top of the stocking through it. Glassine paper, waxed paper and other papers which have been treated to increase their transparency might be used as well as very thin tissue papers and other very thin sheets of material which are sufficiently translucent.

In Figure 3 the combination of the stockings, stiffener, envelope and scales where three different lengths of hose are made for all foot sizes is shown. If more lengths are desired, additional scales might be added. If the range extends beyond the length of the card, additional scales could also be printed on the opposite side, allowing for this additional turn. While the scales have been described as printed on the back of the bag, they could be printed on the front just as efficiently.

Some manufacturers believe that a better fit is obtained if foot size as well as weight and height is considered. There is some evidence that the circumference of the leg bears a relationship to foot size. The effective length of a stocking varies somewhat with the size of the leg since a larger leg will take up some of the length. Consequently, these manufacturers make different lengths of stockings for each of certain classes of foot sizes. For example, size 9 short, medium and long lengths may be 27, 30 and 33 inches long, respectively, while the three lengths for size 9½ might be 28, 31, and 34 inches long, respectively. It is obvious under these circumstances that three areas indicated previously would not be suitable since there would be overlapping, and it is undesirable for a manufacturer to use more than one variety of bag. For this reason a design of the type illustrated in Figure 6 might be substituted. In this case, three different sets of reference arrows are provided. This provides for the overlapping of the lengths for the various foot sizes. Opposite these panels could be printed in-

structions or statements similar to those mentioned above as to the significance of the appearance of the top of the stocking in a certain area, but relating also to the variation of foot size.

5 Since many changes and modifications of the details above set forth can be made without departing from the nature and spirit of the invention, it is to be understood that the invention is not to be limited except as set forth in the appended claims.

I claim:

1. A stocking package comprising a stiffener in sheet form, a stocking of given length wound about two opposite edges thereof a predetermined number of times, means for anchoring one end of said stocking to said stiffener so that a predetermined place of reference on the stocking is associated with a predetermined place of reference on the stiffener, the other end of said stocking after said stocking is wound about the stiffener the predetermined number of times, terminating between the aforementioned edges of the stiffener about which said stocking was wound, a scale on an element of the package cooperating with the said other end of the stocking to designate the length of said stocking, and an envelope enclosing said stocking and stiffener, said envelope exposing to view said other end of said stocking and its position with respect to the said scale.

2. The package of claim 1 when the stiffener is slotted to receive the stocking end and to provide the said anchoring means.

3. In a stocking package, a stiffener about which a stocking of a given length may be folded a predetermined number of times, with the end of the stocking overlapping on one side of said stiffener, means for anchoring said stocking to said stiffener so that a predetermined place of reference on the stocking is located on a predetermined place of reference on the stiffener, transparent means through which the overlapping end of said stocking is visible, and a scale on said transparent means and cooperating with the top portion of the stocking to designate the length of said stocking.

4. In a stocking package, a stiffener about which a stocking of a given length may be folded a predetermined number of times, with the end of the stocking overlapping on one side of said stiffener, means for anchoring said stocking to said stiffener so that a predetermined place of reference on the stocking is located on a predetermined place of reference on the stiffener, transparent means through which the overlapping end of said stocking is visible, and a scale on said transparent means and cooperating with the top portion of the stocking to designate the length of said stocking with relation to the height of a wearer.

5. A package comprising a support, a folded stocking on the support with a predetermined place of reference on the stocking coinciding with a predetermined place of reference on the support and with the top overlapping one side thereof

and a transparent envelope of regenerated cellulose enclosing the support and stocking, the said envelope having a scale thereon registering with the said overlapping stocking top-portion whereby the length of the leg of the stocking is indicated.

6. A package comprising a stiffener, a stocking, and a transparent envelope of regenerated cellulose enclosing the stiffener and the stocking, the said stiffener comprising a relatively stiff sheet of material, said stocking being folded about the stiffener with a predetermined place of reference on the stocking coinciding with a predetermined place of reference on the stiffener and with the top portion overlapping one side thereof, the said stiffener having a slot therein through which the foot of the stocking extends for anchoring the stocking thereto, with the joining point in predetermined relationship to the edge of the stiffener, said stiffener having portions along opposite edges removed to afford indentations to receive the folded stocking and to afford side extensions on the support for preventing the folded stocking from slipping sideways, the said envelope having a scale thereon registering with the overlapping stocking top portion whereby the length of the leg of the stocking is indicated.

7. A package comprising a cardboard stiffener of predetermined length, a stocking and a transparent regenerated cellulosic envelop enclosing the same, the foot of the stocking being positioned on the stiffener in a predetermined position which compensates for differences in foot length, the stocking being wound about the stiffener lengthwise thereof, and a scale on an element of the package adjacent the portion of the stocking remaining after the last full turn about the stiffener, whereby the effective length of the stocking above the foot may be visually determined.

8. A package comprising a cardboard stiffener of predetermined length, a stocking and a transparent regenerated cellulosic envelop enclosing the same, the foot of the stocking being anchored to the stiffener in a predetermined position which compensates for differences in foot length, the stocking being wound about the stiffener lengthwise thereof, and a scale on the envelop associated with the portion of the stocking remaining after the last full turn about the stiffener, whereby the effective length of the stocking above the foot may be visually determined.

9. A package comprising a cardboard stiffener of predetermined length, a stocking and a transparent regenerated cellulosic envelop enclosing the same, the foot of the stocking being located on the stiffener in a predetermined position which compensates for differences in foot length, the stocking being wound about the stiffener lengthwise thereof, and a scale printed on the envelop associated with the portion of the stocking remaining after the last full turn about the stiffener, whereby the effective length of the stocking above the foot may be visually determined.

KENNETH CARTIER.