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A. WALLWORK

2,471,380

METHOD OF WEAVING TEXTILE CONTAINERS

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Fig. 2.

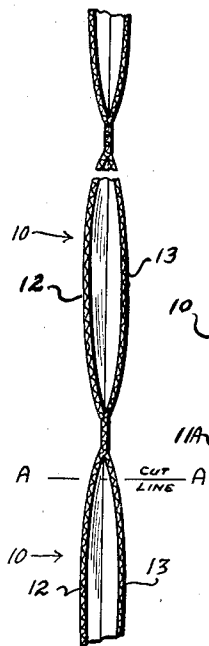


Fig. 1.

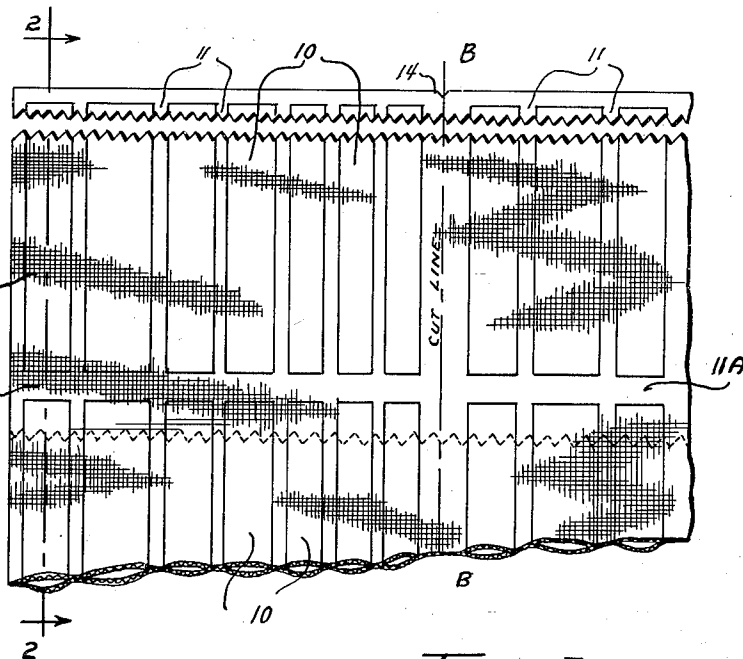


Fig. 4.

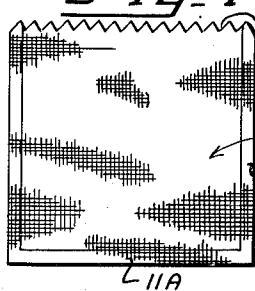
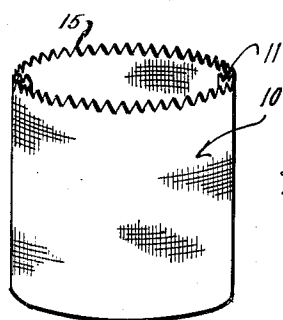


Fig. 3.

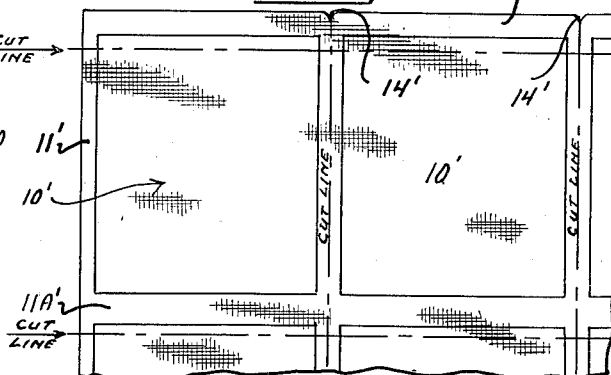


Fig. 5.

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UNITED STATES PATENT OFFICE

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METHOD OF WEAVING TEXTILE
CONTAINERS

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1 Claim. (Cl. 28—72)

1

The present invention relates to a method of weaving textile containers, such as bags, pockets and sacks of seamless construction and the resultant article which is of uniform appearance and strength.

I am, of course, aware that the broad idea of weaving a bag or pocket in such a manner as to eliminate the use of seams is old. However, this invention possesses certain novel features not heretofore employed.

Broadly, the invention comprises weaving a multi-thickness fabric to form the walls defining the container, weaving a portion along each edge of the container of a single thickness, providing empty dents longitudinally of the fabric at the locations where the fabric is to be severed, cutting the fabric along these predetermined lines and thereafter severing the fabric transversely with pinking shears or blades to form an opening at the upper end of the container and leave the portion of single thickness along the bottom thereof.

The invention may be employed for making containers in one operation wherein the containers are of uniform width, and a particularly important aspect is that a plurality of containers of varying widths may be woven in one operation and each container is separated from the adjacent container by a split portion which will form separate containers after the containers are severed along longitudinally and transversely extending lines. In situations where it is desired to have the containers of different widths forming part of an integral structure such as tool kits and the like, it is unnecessary to employ a split portion. With respect to this latter situation, if more than one tool kit is being woven at the same time, it is, of course, necessary to leave a portion separating the respective kits longitudinally and the line of cutting will be indicated by dents at the midpoints of the selvage.

The container after being woven and cut as above described may then be turned inside out, disclosing no margins, and the article is of uniform appearance and of double strength along the sides and lower edge of the container.

Accordingly, an important object of the present invention is to provide a method of weaving in a single operation a textile fabric in such a manner as to provide a plurality of containers of varying widths without seams along the edges of the containers.

Another object of the present invention is to provide a method of weaving containers from a textile fabric, wherein the longitudinal edges of

2

the fabric are so formed as to provide easily visible areas for designating the points where the fabric is to be cut to provide the finished article.

Yet another object of the present invention is to provide a method of weaving a textile fabric for forming one or more containers, wherein pinking shears are employed to sever the container transversely, thereby preventing raveling of the threads of the fabric.

And still another object of the invention is to provide a method of weaving bags of the above mentioned character which may be performed with a minimum of labor and at a relatively inexpensive cost.

The invention and the various objects thereof may be more clearly comprehended from the following drawings and specification.

In the drawings, wherein like characters denote corresponding parts in the several views:

Figure 1 is a plan view of a fabric manufactured in accordance with my inventive concept for producing a plurality of containers of uniform length but of different widths.

Figure 2 is a sectional view taken along the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a view generally similar to Figure 1, but illustrating the invention used in conjunction with containers of equal width.

Figure 4 is an elevational view of a container such as a bag or pocket made in accordance with the present invention.

Figure 5 is a view similar to Figure 4, illustrating the container turned inside out, with the margins thereof being within the walls of the container.

It is to be understood that the number of containers which may be woven in a seamless fashion in a single operation in accordance with the present invention depends upon the width of the fabric that can be woven in the width of the loom used and on the particular width of the final article desired. Hence, the invention is not to be limited to the specific number of containers illustrated in the drawings.

With reference to Figure 1 of the drawing, wherein I have illustrated the weaving in a single operation of a plurality of individual containers such as bags, the numeral 10 denotes a plurality of areas of equal length but of varying width and each area 10 is separated from the adjacent area along its longitudinal and transverse edges by portions or margins 11 and 11A. The areas 10 are woven of double thickness, thus providing walls 12 and 13, whereas the portions 11 and 11A are

of a single thickness, as clearly indicated in Figure 2. The portions must be of such width after the cutting operation as to provide sufficient strength along the longitudinal and transverse edges of the container. Many weaves may be employed for the areas 10 and a plain weave is used for the portions 11 and 11A. For example, if each area 10 includes forty warp and forty filling threads per inch, then the portions 11 and 11A would be made up of eighty warp and eighty filling threads per inch.

As hereinabove mentioned, an important feature of the present invention is the provision during the weaving process of points along the longitudinal edges of the fabric indicating clearly the lines along which the fabric should be cut to provide longitudinal edges of the container. This is accomplished by eliminating certain warp threads at predetermined intervals and these points form empty dents. As shown in Figure 1, a dent 14 indicates the cutting line for separating the containers along their longitudinal edges. The cutting may be accomplished on the loom by disposing a cutting blade on the loom at the locations designated by the dents 14.

The fabric is severed transversely along a line parallel to the portion 11A defining the bottom of each container, and this location is one of the salient features of my contribution. In other words, the cut is made so as to provide an opening for the upper end of the area 10 and yet leave the portion 11A along the bottom for strengthening purposes.

More specifically, the top and bottom of the finished container are formed by cutting the fabric along the line A—A and the cutting operation is performed with pinking shears or a pinking blade. The use of such shears will positively prevent raveling of the edge and, as a consequence, overcome the usual practice of sewing the edge which, of course, requires additional labor with the attendant expense. However, by making the necessary severances with shears of this type, no additional steps are required which, of course, is highly desirable from the economic viewpoint. As above indicated, the fabric is cut along the line B—B, thereby defining the longitudinal edges of the container, and in view of the fact that these edges are formed of a plain weave, the filling threads at the edges tend to open or ravel, thereby preventing the tightly woven warp threads from slipping, etc. The container now has the configuration shown in Figure 4 and the upper end of the container is open and formed with pinked edges 15, whereby there is little or no unraveling of the upper open end, and the portion 11A of single thickness is along the lower edge. The container may then be turned inside out, thus concealing the portion and providing a strong attractive container.

While the embodiment shown in Figure 1 illustrates the weaving of fabric for forming a final product having a plurality of interconnected pockets such as used for tool kits, carpenters' aprons or the like, it is, of course, to be understood that individual pockets or containers may

be fabricated by severing each area 10 from the adjacent area through the portion 11 along lines defined by the dents 14 extending longitudinally of the fabric.

The method of weaving the pockets illustrated in Figure 3 is substantially the same as that shown in Figure 1, with the exception that pockets of uniform width are being made. Hence, it is not seen necessary to describe in detail this form, and the same reference characters are applied with the exception that they are primed.

The longitudinal cutting operation may be performed either on or off the loom and the transverse cutting with the pinking shears or pinking shear is accomplished off the loom. These latter cutting tools may be power or hand operated, but I have found that the use of the power operated shear blade is more desirable, due to the speed with which the cutting may be accomplished.

From the foregoing description, it is thought apparent that by the present invention it is possible in one operation to weave a container of the seamless type. By weaving the empty dents at predetermined positions longitudinally, the operator may easily and quickly sever the fabric with a cutting blade and by severing the fabric transversely with pinking shears, it is unnecessary to sew the finished article along the lines of severance. The container is uniform in appearance and possesses great strength, and by turning the container inside out, the selvages will be concealed.

I claim:

A method of making textile fabric containers comprising weaving fabric areas having varying widths of double thickness, joining the areas by a portion of single thickness along each longitudinal and transverse edge of the areas, forming an indicating line by omitting warp threads in the desired longitudinal portions of single thickness, severing the fabric longitudinally along the indicating line, and cutting a pinked edge in the fabric transversely along a line parallel to the transverse portion of single thickness to provide an open upper end and a lower end having a portion of single thickness.

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