

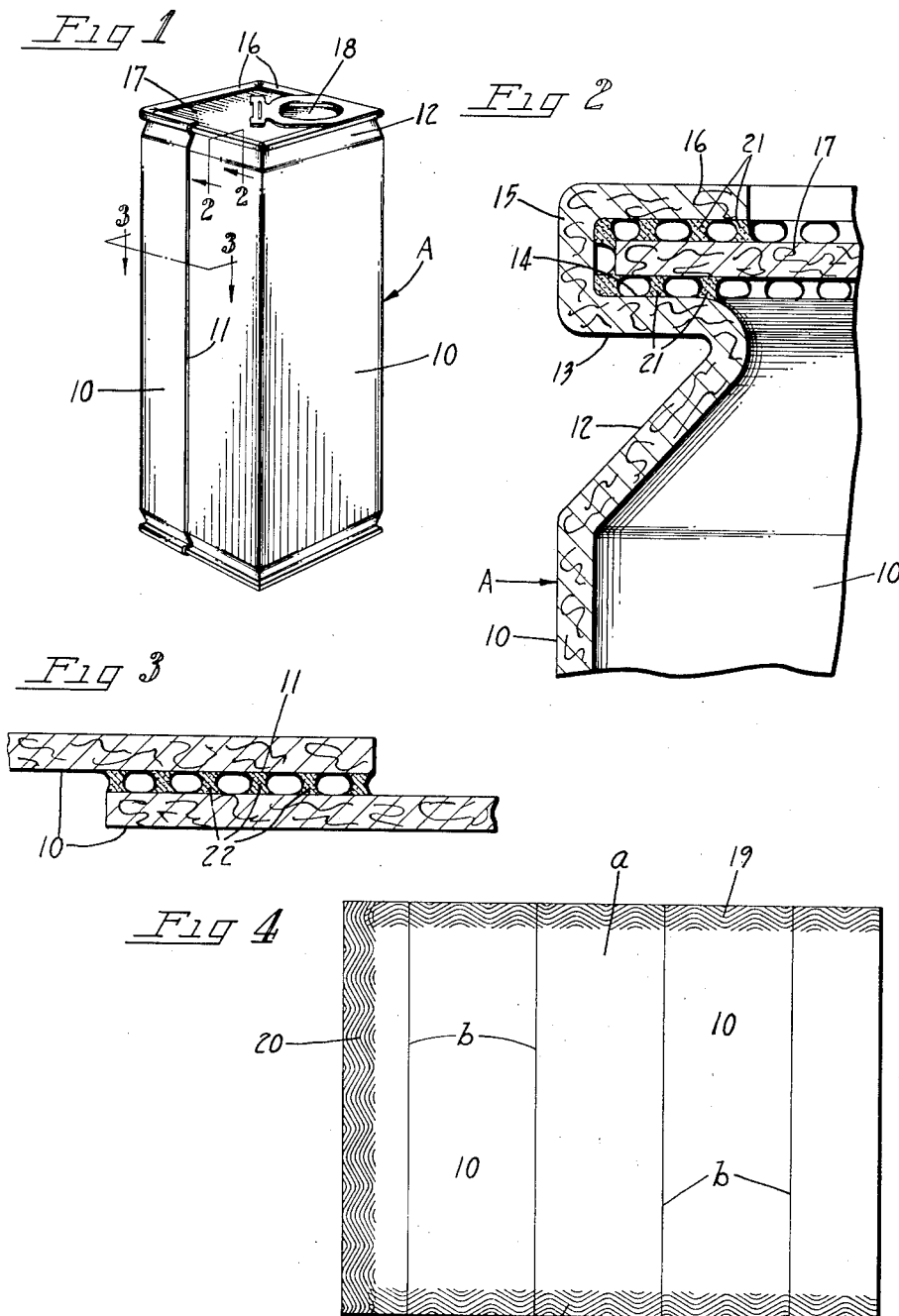
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FIBER CONTAINER

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FIBER CONTAINER

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1 Claim. (Cl. 229—5.5)

The present invention relates to containers in which the seam edges are bonded together with adhesive and has particular reference to a container blank on which the adhesive is applied in a uniform and positive pattern which forms barriers effective in preventing seepage of moisture through the seams of a container produced from such a blank.

In the manufacture of fiber and the like containers the seam edges of the containers are usually bonded together by a suitable adhesive. Where such containers are produced in large quantities and at high speed the adhesive is usually applied to a continuous web of material in a design which permits of subsequent cutting out of blanks having the required adhesive coated edges. The application of the adhesive to the web is usually done in a coating machine and where an intaglio roller operating in a bath of the adhesive is used in the machine, a doctor blade is usually desirable to scrape the excess adhesive from the exterior or intaglio surface of the roller.

Where the design of the blank layout in the web requires lines of adhesive which extend transversely of the web, these lines are produced by intaglio recesses in the roller which extend parallel with the roller, i. e., along its longitudinal extent. In such cases it has been found that when the rotating roller brings one of these transverse intaglio recesses adjacent the doctor blade, the adhesive in the recess is partially or entirely wiped out by the doctor blade. Hence when the recess is brought adjacent the web for application of the adhesive thereto by further rotation of the roller, the line of adhesive is or may be partially or entirely lacking. Such conditions result in a non-uniform and sometimes a negative line of adhesive on the web and in the severed container blank, a condition which tends to produce weak and undependable seams in the container produced from such a blank.

The present invention contemplates overcoming this difficulty by providing the intaglio roller with longitudinal and peripheral adhesive receiving recesses or grooves of sinuous or undulatory configuration, to the end that all portions of said recesses are disposed at an angle to the doctor blade as the latter removes excess adhesive from the roller prior to the application of the adhesive in the grooves to predetermined portions of the fiber web. This insures against any possibility of any appreciable amount of adhesive being removed by the doctor blade from either the pe-

ripheral or longitudinal recesses of the roller, as will be readily understood.

By so constructing the recesses of the intaglio roller a further desirable result is obtained in that a stronger seam is produced which is highly resistant to seepage of moisture through the seam. This is for the reason that in the finished container the direction of the spaced undulating or wavy lines of material on the fiber blank at each seam edge, including the side and end seams, is substantially longitudinally of such edge rather than transversely thereof. This constitutes in effect a series of spaced barriers of adhesive against seepage of moisture or air into the container seams, so as to effectually prevent access of the same thereto.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Fig. 1 is a perspective view of a fiber container embodying the present invention, having adhesively secured side and end seams, and illustrating the same in complete sealed condition;

Fig. 2 is an enlarged fragmentary vertical sectional view on line 2—2 of Fig. 1;

Fig. 3 is a similar view in transverse section on line 3—3 of Fig. 1; and

Fig. 4 is a plan view of a scored fiber container body blank as cut from the web, and having spaced undulating sinuous or wavy lines of adhesive applied to the seam parts thereof in accordance with the present invention.

The fiber container A illustrated may be of the character shown in the Hothersall patent, No. 2,085,979, issued July 6, 1937. Such a container comprises a single or one-piece body blank *a* scored or creased at *b* so that when in folded condition the container is substantially of rectangular configuration, having side walls *10* adhesively secured at its meeting edges in a side seam *11*. The opposite ends of the container body are of identical construction and include an inwardly extended peripheral wall portion *12* in turn extended outwardly at *13* to provide a container end receiving ledge or seat *14*. The wall portions are thence extended upwardly at *15*, and terminate in inwardly extending flange portions *16* disposed substantially parallel to the ledge *14* so as to peripherally receive therebetween a substantially flat and separate end member *17*. The bottom end of the container is imperforate, while the top

or upper end is preferably provided with a filling and dispensing opening normally closed by a hinged secured plug closure element 18.

As best seen in Fig. 4 of the drawing, the substantially parallel and undulating or sinuous lines of adhesive as applied by the intaglio roller to the blank at the end portions of the latter are indicated at 19. Similar undulating or wavy lines of adhesive are applied by appropriately disposed recesses of the roller to the side seam portion of the body blank as indicated at 20. It will be observed that these described spaced lines of applied adhesive are disposed at an angle to each other so that the lines of adhesive at the end seam portions of the blank extend in the direction of the longitudinal edge of the blank, and the same is true of the undulating lines of adhesive at the side seam portion of the blank and at one end of the latter. This obtains the desirable two-fold result of insuring against substantial amounts of adhesive being removed by the doctor blade at either the side or end seam adhesive applying portions of the roller, prior to the application of said adhesive to the blank shown in Fig. 4. Due to all portions of the grooves in the roller being disposed at an angle to the doctor blade, the application of adequate adhesive is insured to both the side and end seam edge portions of the blank. Furthermore, since the said spaced and substantially parallel lines of adhesive extend in each instance longitudinally of the respective seams and intersect at the juncture of the side seam with the opposite end seam portions, a series of spaced barriers of adhesive are thus produced and which insure against seepage of moisture or air into any portion of the container end or side seams. These spaced barriers of adhesive at the end seam portions of the blank are best seen at 21

in Fig. 2, where it will be noted said barriers are disposed on opposite surfaces of the end closure member 17, while similar spaced barriers of adhesive at the side seam portion are indicated at 22 in Fig. 3.

The adhesive is preferably of a thermoplastic character and may be rendered effective by heating the seam edges of the blank shown in Fig. 4 immediately prior to folding the body blank into the form shown in Fig. 1 and applying the separate end closure members thereto.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

A fiber container comprising integral folded side wall members adhesively secured at their meeting edges in a side seam to constitute a tubular body, and end closure members adhesively secured to opposite ends of said tubular body in end seam joints extending substantially at right angles to said side seam, the adhesive of said side and end seams constituting a plurality of closely spaced parallel continuous undulatory sinuous lines of heat sealed adhesive extending longitudinally of its respective seam and intersecting at the juncture of said side and end seams, to provide continuous spaced barriers of adhesive at said side and end seam parts to prevent ingress of moisture and air through said seams.

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