

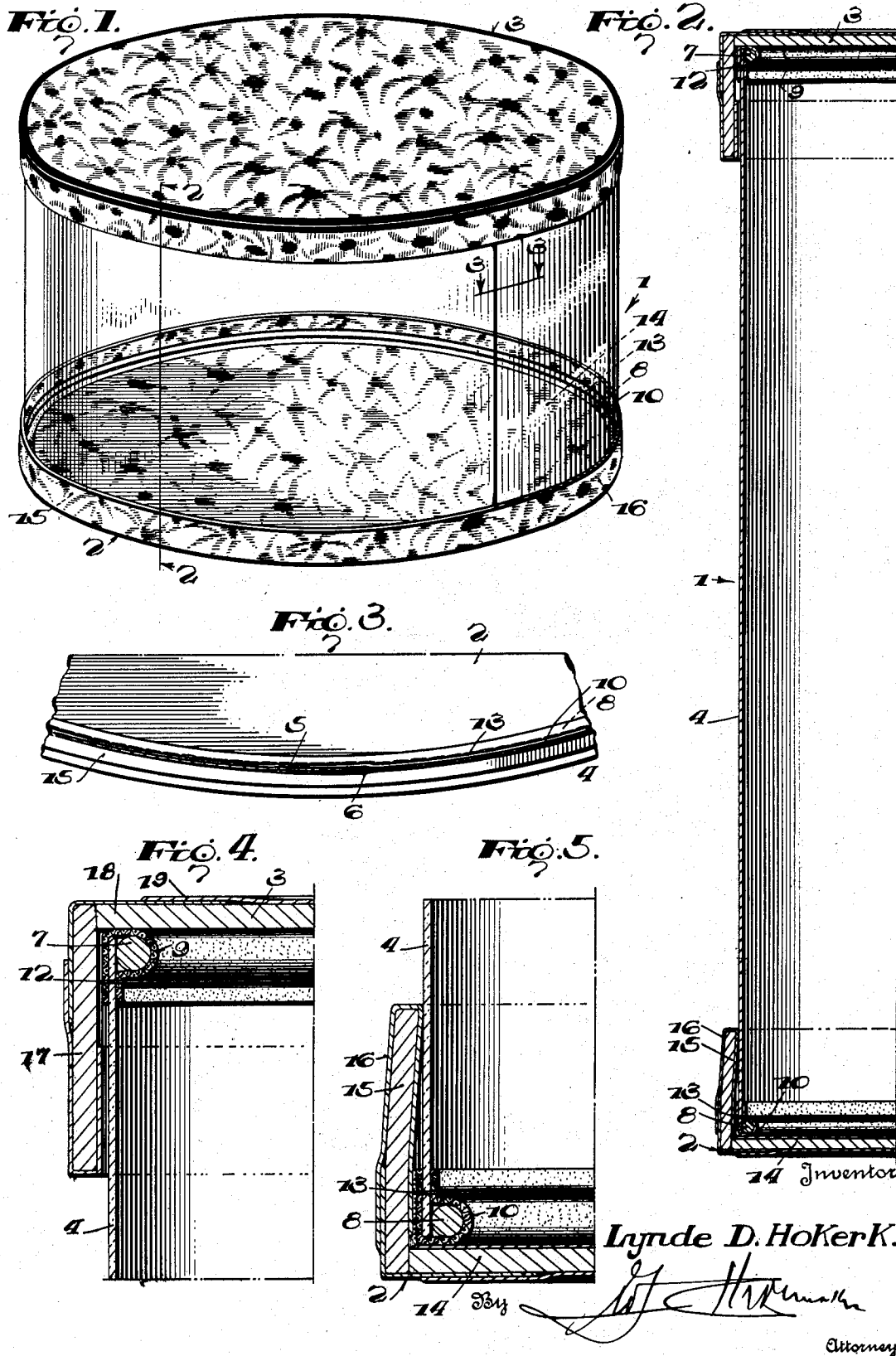
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TRANSPARENT CONTAINER AND METHOD OF MAKING SAME

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TRANSPARENT CONTAINER AND METHOD
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3 Claims. (Cl. 229-5.5)

The invention relates to transparent containers and method of making the same.

The object of the present invention is to improve the construction of transparent containers such as transparent boxes for hats, gloves, handkerchiefs, lingerie and various other articles and commodities and to provide an ornamental and attractive container of this character having an opaque cover and an opaque bottom portion and adapted to be made in various shapes and dimensions and capable when partially crushed or pressed out of shape of immediately springing back into its true original shape as soon as relieved of pressure.

A further object of the invention is to provide a stronger, more rigid and more serviceable transparent container adapted to enable sheets of Celluloid material lighter in weight to be employed than has heretofore been practical, thereby materially lessening the manufacturing cost of such containers.

Another object of the invention is to eliminate wrinkles and prevent warping of the Celluloid or similar material employed in the construction of transparent containers and to provide means adapted to hold in true shape the transparent sheet constituting the body of the container and at the same time give a very attractive and finished appearance to the assembled container.

It is also an object of the invention to provide an opaque bottom section having a rim or band encircling the lower end of the transparent body portion of the container, and adapted in the process of manufacturing the container to be shrunk on the body portion whereby the transparent body portion will be firmly clamped within the bottom section of the container and securely held therein whether or not adhesive material or other fastening means be provided for securing the transparent body portion to the opaque bottom section of the container.

It is also an object of the invention to enable a top or cover constructed substantially the same as the bottom section to be applied either permanently or comparatively loosely to the top or upper edge of the transparent body portion of the container so that the top or cover may be easily removed to obtain access to the interior of the container or to remain permanently in closed position when other means is provided for access to the interior of the container.

It is also an object of the present invention to provide an improved method of assembling the parts of the container whereby wrinkling, warping and similar imperfections in the transparent

material will be effectually prevented and a stronger, cheaper and more serviceable container of true, accurate shape is produced.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts herein-after fully described, illustrated in the accompanying drawing and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion and details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing—

Fig. 1 is a perspective view of a transparent container constructed in accordance with this invention.

Fig. 2 is a vertical sectional view on the line 2-2 of Fig. 1.

Fig. 3 is a horizontal sectional view on the line 3-3 of Fig. 1.

Fig. 4 is an enlarged detail sectional view of the top portion of the container.

Fig. 5 is a similar view of the bottom portion of the container.

In the accompanying drawing in which is illustrated one embodiment of the invention 1 designates a substantially cylindrical hat box having an opaque bottom 2, an opaque top or cover 3 and transparent walls 4 constructed of Celluloid or similar material and constituting the body portion of the container 1. The transparent walls are formed from a single sheet of transparent material bent into cylindrical shape and having overlapped vertical edges 5 and 6 and permanently maintained in cylindrical form by upper and lower circular frame members 7 and 8 and secured to the same by fabric binding 9 and 10.

The circular frame members are each constructed of suitable metal, preferably round wire cut to the proper length and bent into true circular form and having its terminals abutting and welded together. The upper and lower frame members 7 and 8 constitute forms for enabling the sheet of transparent material to be bent into the proper shape and they may be circular or any other desired shape to provide a container of the desired form and the sheet of transparent material is arranged on the exterior of the upper and lower frame members. The binding 9 and 10 may be fabric, leather or any similar fibrous or other material and each binding consists of a strip of the material which is folded over the wire frame member and the con-

tiguous edge of the transparent sheet and secured to the transparent sheet by stitching 12 or 13 arranged close to the frame member as clearly illustrated in Figs. 4 and 5 of the drawing. The binding, the frame member and the sheet of transparent material are also preferably secured together by an adhesive such as cement which will work through the thread needle holes in the binding and make a solid uniform combination structure of binding, Celluloid and wire. The arrangement of the stitches very close to the wire form and the cementing of the binding, the Celluloid and the wire form results in a firmer, tighter non-slipping form in the binder and provides a stiff construction for reinforcing the transparent walls and for maintaining the same in their true original shape, whether the receptacle is cylindrical or any non-circular or polygonal form.

Transparent walls 4 are fitted within and secured to a bottom section comprising an opaque bottom 14 of well seasoned cardboard or other suitable material and an upstanding rim 15 of shrinkable material such as single ply or laminated cardboard or analogous material such as wood veneer. The upstanding band 15 which is arranged exteriorly of the transparent walls is secured to the peripheral edge of the bottom 14 preferably by cement or other adhesive material and the bottom 14 and the upstanding band or rim are covered with decorative paper 16 or other suitable material such as cloth. In the construction of the bottom section the opaque bottom is die-cut to the desired shape and the material forming the rim or upstanding band is cut to exact length to fit snugly around the edge of the bottom. The opaque bottom 14 is of a diameter slightly greater than the body and extends slightly beyond the outer face of the bottom binding 10, and this in conjunction with the outer portion of the binding 10 offsets the band 15 from the plane of the flexible transparent walls 4 of the body portion prior to the shrinking of the band on the body portion, and the upper edge of the outer portion of the lower binding 10 forms a shoulder exteriorly of the transparent wall 4, so that when the band 15 is shrunk on the body portion the band will engage said shoulder of the lower binding 10 and interlock the band with the body portion of the container. The paper or veneer band is of such construction and consistency as to shrink considerably when allowed to dry after being wet. One edge of the rim-forming band is in contact with the edge of the bottom and consequently after it has been wet with glue containing water it cannot shrink because it cannot compress the stiff well-cured bottom piece 14. The portion of the upstanding rim above the bottom piece shrinks considerably and such shrinkage when complete produces a decided and definite inward pitch to the upwardly projecting portion of the rim from the bottom piece to the top edge of the band and this shrinkage is utilized for interlocking the band with the upper edge of the outer portion of the lower binding 10 and firmly and securely fastening the transparent walls to the bottom of the container. Soon after the band is wet with glue and moisture in the assembly of the bottom section and the application of the decorative paper or other material and before the bottom section has started to shrink permanently or materially the wire reinforced side wall is inserted and at the same time glued with strong cement to the bottom and part way up the side wall. Care is

taken to keep all measurements constant so that when the wire-formed side wall is inserted in the bottom section it will fit accurately and tightly against the wet side of the bottom, so that as the upstanding band 15 starts to dry and to shrink it closes tightly around the inserted wire form. This shrinkage of the projecting portion of the rim against the transparent wall, in addition to securely clamping the opaque bottom to the wire bottom form so that no cement is really required to hold the side wall firmly and securely in the bottom section, also fills in and closes the space between the transparent side wall and the inner face of the projecting portion of the upstanding rim making a smooth connection between the transparent wall and the bottom section and materially enhancing the appearance of the container.

The wire for the transparent wall is cut to the exact length and formed to the desired shape before the ends of the wire are welded together and the wire forms are always constant for each size of container. In applying the Celluloid or other transparent sheet to the forms or frame members 1 and 8 one end and one edge of the transparent sheet is properly arranged on one of the wire forms and the stitching of the binding to the transparent sheet and wire form is commenced. This stitching is continued until the entire form has been covered and a suitable overlap of the binding stitched on at the point of closure. The necessary lap for joining or cementing the seam and joining the transparent side wall is then in proper position for cementing. It is necessary and desirable to wait until the stitching has been applied to at least one edge before cementing the overlapped edges of the sheet because the stitching close to the wire form or peripheral frame member produces a constant tension on the transparent sheeting. This is done to obtain a straight and true shape without wrinkling the side wall when stitched. In fact this tension is so great that the material is definitely stretched during the stitching and all the slack is thus automatically taken up at the seam or point of closure before the seam or overlapped edges in the transparent side wall is cemented. This method produces a taut, tight and true shape side wall without wrinkles or other imperfections which would mark the appearance and affect the saleability of the merchandise. The other wire form or peripheral frame member is then stitched in a similar manner and the seam or overlap of the ends of the transparent sheet is then cemented together making a strong, tight and true form or shape of the Celluloid or other transparent sheeting.

If additional strength is desired then a very strong combination of binding, thread, transparent side wall and wire peripheral frame member is formed by applying cement with suitable solvents to the binding at the point of stitching as heretofore explained. The cement which enters the binding where it is perforated by the needle not only forms a solid bond between the transparent sheeting, thread and binding with the wire frame member but it also closes any rupture in the transparent sheeting where the same is pierced by the needle and thereby making the sheeting even stronger at this point than anywhere else in the side wall.

The time required for maximum shrinking of the bottom band or rim 15 varies with weather conditions and the type and quality of decorative covering employed. Usually, however, shrinkage

is practically complete at the end of 26 hours and the container is ready to ship.

The cover is made in substantially the same manner as the bottom section except that shrinkage of the side band or rim 17 on the top wall or die-cut piece 18 of opaque material is not necessary for construction purposes. The rim 17 and the opaque top wall 18 are covered with suitable decorative material 19 and the cover is designed to have a loose fit on the transparent side wall 4, but should it be desired to permanently secure the top wall to the transparent side wall the rim 17 may be shrunk on the transparent side wall in the same manner as the rim of the bottom section. The permanently attached top wall or cover is designed to be employed where access to a container is provided at some other point and by some other means such as an opening in the transparent side wall or other portion of the container.

The taut, stretched, transparent sheet by being firmly supported and maintained in true accurate shape at the top and bottom of the container renders the transparent sheet highly resilient and should the container be partially crushed it will automatically shrink back and regain its original true shape as soon as relieved of pressure.

What is claimed is:

1. A container including upper and lower peripheral frame members of the form of the container, a sheet of thin flexible transparent material impervious to liquid secured to the upper and lower frame members to form a body portion, and a bottom section composed of an opaque bottom and an upstanding rim having a definite inward pitch and shrunk on the lower end of the body portion, said body portion and rim having cooperating means for interlocking the rim with the body portion.

2. A container including a body portion comprising upper and lower frame members of the form of the container, a sheet of transparent material stretched on the upper and lower frame members sufficiently to take up all slack, a binding securing the transparent sheet to each of the frame members and tensioning the said sheet and forming an exterior shoulder at the lower end of the body portion, said frame members maintaining the container in its original shape at all times, and a bottom section having an upstanding rim receiving the lower end of the body portion and shrunk on the same in intimate frictional engagement with the transparent sheet and interlocking relation with the exterior shoulder of the binding of the lower frame member.

3. The method of making a cylindrical container which consists in stretching upon separate and independent upper and lower rigid circular ring-like forms a thin sheet of flexible material having the characteristic of Celluloid and impervious to liquid, securing the sheet of material to the outer peripheries of said forms and tensioning the same sufficiently to take up all slack and eliminate wrinkles thus providing a closed cylindrical side wall structure, arranging against the lower end of the body portion a disk-like bottom section having an upstanding rim of shrinkable liquid absorbent material fitting closely against the exterior of the lower rigid form and in a moist condition and containing an adhesive, and allowing the moist rim to shrink and firmly engage the lower rigid form and side wall structure thus deforming the latter inwardly above the lower circular form and forming an interlocking connection between the rim and the body portion for permanently securing the bottom section to said body portion.

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