

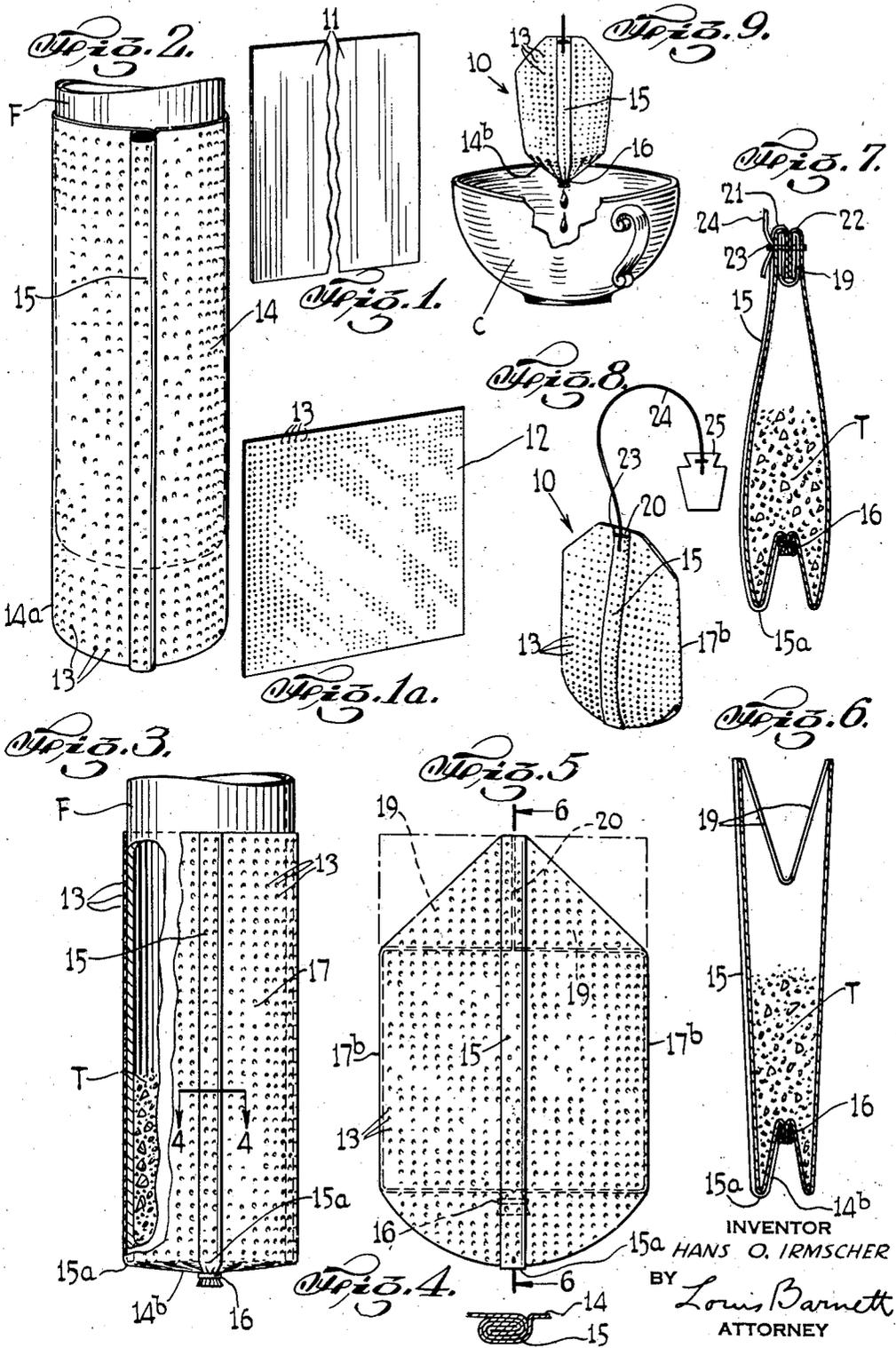
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PACKAGE AND METHOD OF MAKING THE SAME

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PACKAGE AND METHOD OF MAKING THE SAME

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This invention relates to the manufacture and filling of containers or bags. Although in practising the invention containers or bags may be made for use to package various materials, the embodiment of the invention as herein described is directed to the packaging of tea, coffee and similar essence containing products made and sold as complete articles of manufacture for use in brewing beverages, as for example, in making so-called tea-balls in packages or bags formed of crease-retaining sheet material, such as filter paper or perforated vegetable parchment paper and Cellophane, and is also directed to the novel method of producing the same.

Among the objects of the invention is to generally improve packages of the character described and the methods of manufacturing same, which shall have joint seams formed by folding and creasing alone, said seams being firmly retained against separation without the use of any adhesives, which shall comprise of few and simple fastenings arranged to provide an inexpensive article of new, neat and attractive appearance, the improved method of manufacture of which shall be particularly adapted for large scale production, and which method and article shall be efficient and practical to a high degree.

Other objects of the invention will in part be obvious and in part hereinafter pointed out. The invention accordingly consists of features of construction and method, combinations of elements, arrangements of parts and steps in the process of manufacture which will be exemplified in the construction and method hereinafter described and of which the scope of the application will be indicated in the following claims.

In the accompanying drawing in which is shown various possible illustrative embodiments of this invention,

Figs. 1 and 1a are perspective views showing an unperforated and perforated sheet material, respectively, in cut blanks for use in practising the invention;

Fig. 2 is a perspective view of a blank wrapped around a form to provide a seamed tubular structure;

Fig. 3 is a view similar to Fig. 2 showing the tubular structure provided with a bottom closure;

Fig. 4 is a fragmentary cross-sectional view of the seam taken on lines 4—4 in Fig. 3;

Fig. 5 is a front elevational view of the partially filled bag in flattened condition with the bottom closure tucked in and the top closure flaps infolded, the dot and dash lines indicating

the position of the flaps before being infolded; Fig. 6 is a cross-sectional view taken on lines 6—6 in Fig. 5;

Fig. 7 is similar to Fig. 6 but shows the finishing of the top closure stapled to anchor the string handle;

Fig. 8 is a perspective view showing a completed tea-ball made in accordance with the invention; and

Fig. 9 is a perspective view showing a tea-ball during brewing operations in an expanded condition and the control of the drip therefrom.

Referring in detail to the drawing 10 denotes a tea bag manufactured and constructed to embody the invention.

In practising the embodiment of the invention for making tea-balls 10, a suitable sheet material 11 may be used either cut from a roll or precut in strips or blanks of required size in the well understood manner. Said sheet material when used merely as a protective cover in embodiments of the invention for small packages of any product other than here shown may be made of any of the various commercially obtainable forms of paper, "Glassine" or Cellophane. In practising the invention for making tea-balls, however, where the product contains an essence to be extracted by brewing and the like, there may be used as the sheet material, suitable filter paper 11 of a character that will withstand emersion in boiling water without damage or disintegration, or said sheet material may be made of vegetable parchment paper or Cellophane 12 finely perforated as at 13 to permit passing therethrough liquids forming the brew with the contents of the package.

In carrying out the improved method for making tea-balls 10, a strip of sheet material 11 or 12 may preferably be applied to or wrapped around a hollow form F and joined by creasing and folding aligning edge portions that extend lengthwise thereof as shown in Figs. 2, 3 and 4 to provide a tubular structure 14. Said creased and folded joint portions form a seam 15 for the tubular structure 14 without the use of any adhesives or other securing means. The lower end 14a of the tubular structure 14, which is seen in Fig. 2 to extend beyond the form F, may next be infolded all around and the extreme end of the portion infolded gathered together to make a bottom closure 14b. A metallic staple or band 16 or other suitable securing means is then applied to the gathered to form a bag 17 as shown in Fig. 3. The infolding of the end portion 14a as above described provides a cross

fold at 15a which retains the seam 15 against separation.

Next the bag 17 as now formed is partially filled with a product T, such as tea through the center of the hollow form F. Thereafter the filled bag 17 is removed from the form F, preferably simultaneously with such removal of said filled bag 17 from the form F, the bottom closure 14b may be tucked in, and the filled bag 17 flattened so that the staple or band 18 and gathered portion is concealed from view as shown in Figs. 5 and 8. The other or top end portion of the partially filled flattened bag 17, shown in the dot and dash line position in Fig. 5, is next infolded from opposite longitudinally extending single fold creased edges 17b to provide flaps 19 which preferably have edges thereof come into a position of abutment or slight overlapping as shown in Fig. 5 at 20 in dotted lines and form a tapered shaped end for the package as shown in Figs. 5 and 8. Each of the unfolded flat tapered sides of the bag is then cross-folded at 21 and 22 to cover any openings at the joint 20 between the flaps 19. The fold at 21 which extends across the seam 15 serves to retain and co-act with the fold 15a on the bottom closure 14b for retaining the seam 15 against separation to assure that the joint at said seam 15 stays tight. A small staple 23 or other anchoring means may be applied to retain the folds at 21 and 22 together to make the top closure tight and form an additional securing means for said seam 15. Where a string handle 24 and tag 25 is used on the package as in making tea-balls 10, an end of the string handle is anchored by the staple 23 as shown in Figs. 7 and 8.

The tea-ball 10 made by the improved method and construction above described can be utilized in the well-known manner by holding the string handle 24 and immersing the tea-ball 10 in a cup C or like container having preferably water at boiling temperature to make a brew in the well understood manner. As the tea-ball 10 is lifted out of the cup to drain the brewing liquid, the bottom end of the tea-ball is expanded from its normally flattened condition and the draining will take place by the brew following the gathers at the bottom closure 14b dripping from the tea-ball 10 in a guided stream from the end adjacent the staple 16 as shown in Fig. 9. Thus it is seen that the dripping is facilitated and confined so that it can easily be managed, a feature greatly desired in this type of article as it aids in avoiding accidental spillage.

As seen from Fig. 8 the tea-ball 10 as supplied to the user is in a flat compact condition with the bottom closure 14b tucked in and concealed, the longitudinal edges 17b formed with smooth single folds, and a seam 15 extending across the middle of one of the flat surfaces of the tea-ball 10, said seam 15 forming a bracing as well as an ornamental trimming. The top closure of the tea-ball 10 is formed with tapered infolded flaps 19 which are also concealed, a string handle 24 and tag 25 being anchored at the staple 23 which secures the folds 21 and 22 of the top closure, the entire construction forming a harmoniously shaped article which is neat and attractive in appearance.

As stated above the embodiment of the invention shown in the drawing and described herein is directed to the manufacture of a package for brewing, such as a tea-ball. It is to be understood, however, that the identical package may be utilized for blueing or otherwise tinting clothes

in laundry work and also in household and factory dyeing operations. Packages for dispensing various dry products, samples thereof, medicinal products and the like, may be manufactured in accordance with the invention using sheet materials that are not to be immersed in liquids but on the contrary may be moisture-proof. Such package may be made with or without string handles.

It is thus therefore seen that there is provided an improved article of manufacture and a method for making the same in which the objects of the invention are achieved and which are well adapted to meet all conditions of practical use.

As various possible embodiments may be made in the above invention for use for different purposes and as various changes might be made in the embodiments and method above set forth, it is understood that all the above matters here set forth or shown in the accompanying drawing are to be interpreted as illustrative and not in a limiting sense.

Thus having described my invention, I claim as new and desire to secure by Letters Patent:

1. The method of making packages of the character described consisting in forming a tubular structure with a single interlocking adhesiveless seam from a strip of crease retaining sheet material, infold gathering an end portion of the structure and securing said gathered end portion to make a bag bottom closure, partially filling the bag formed with a product through the open end thereof, flattening said filled bag by providing spaced longitudinally extending edge folds, and infolding said edge folds at the open end portion of the bag and securing same to provide a top closure.

2. The method of the character described consisting of aligning, folding and creasing opposite free edges of a strip of crease retaining sheet material to form an interlocking joint seam and to provide a tubular adhesiveless structure, infolding all around an open end portion of said structure to retain the seam against separation, gathering together the extreme ends of said infold portion and securing same to form a tight bottom closure for said structure, partially filling said closed structure through an open end with a product, folding a portion at the other open end of said structure in cross relation to said joint seam to retain the latter against separation, and securing said last mentioned folded portion to form a tight top closure for the package.

3. A method of manufacturing packages of the character described consisting in partially filling with a product a tubular bag structure, flattening said filled bag structure to provide spaced longitudinally extending edge folds, infolding said edge folds at the open end portion of the bag structure to form inner abutting portions and outer tapered flaps, and folding the extreme end of said flaps in cross relation to said abutting portions and securing the cross fold to provide a tight top closure.

4. An article of the character described comprising a package having a flattened tubular bag structure formed of a strip of crease retaining sheet material containing a dissoluble product and having a bottom closure, said closure being tucked in position between the flattened sides of the bag, said package being constructed and arranged to expand on immersion in a liquid and said closure extended to provide a drip guiding means.

5. An infusion package provided with a normal flattened bag structure and a bottom closure therefor, said bottom closure positioned to extend between the flattened walls of the bag structure whereby the bottom closure will be extended beyond the normal length of said structure on immersion of said package in a liquid to provide a drip guiding means.

6. A package of the character described including a bag having a top closure and partially filled with a product, said bag having a flattened structure provided with spaced longitudinally extending edge folds, said closure comprising infolded portions of said edge folds positioned to form tapered outer flaps and cooperatively abutting inner members arranged to make said top closure tight when said flaps are in flat contact relation, and means for securing the flaps in said flat contact relation whereby the top closure is retained tight.

7. A package of the character described comprising a flattened tubular structure formed of a strip of crease retaining material folded and creased with a single adhesiveless joint seam extending along a flat side thereof, an end of said structure being infold gathered together and secured to provide a bottom closure for forming a

bag, a product retained in the bag, said bottom closure being normally tucked in between the flat sides of the bag and adapted to be extended therefrom for forming a drip guide.

8. The package defined in claim 7 in which said flattened tubular structure has spaced edge folds, infold portions of said edge folds extending substantially half the distance across the flat sides and cooperatively positioned with respect to each other to form top closure means.

9. The method defined in claim 1 including the step of tucking the bottom closure into a concealed position within said filled bag construction before said flattening thereof.

10. In the method of making packages of the character described, the steps of making a bag from a strip of crease retaining sheet material by forming a tubular structure thereof, infold gathering an end portion of the tubular structure and securing said gathered end portion to provide a bottom closure for the bag, partially filling the bag with a product through the open end of the bag, tucking in the bottom closure, and flattening said filled bag with the bottom closure in a concealed position within said filled flattened bag structure.

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