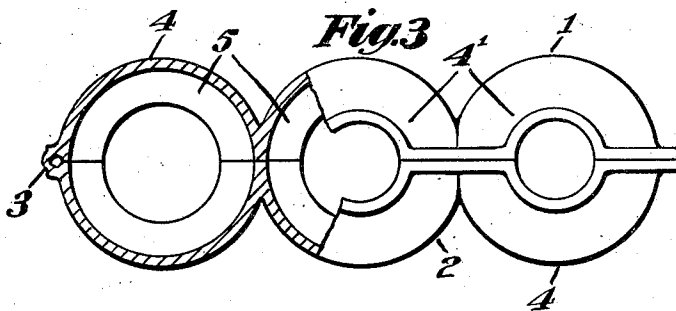
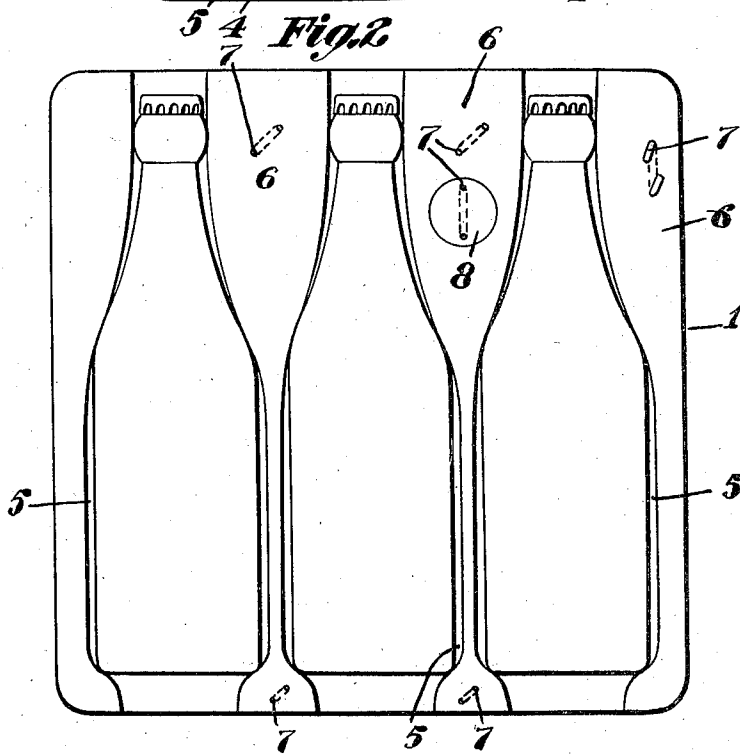
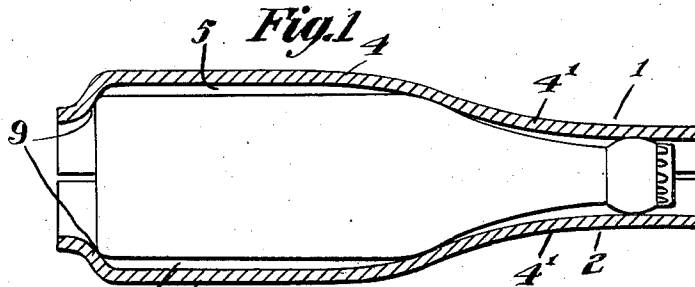


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S. BISBEE ET AL
MOLDED PULP ARTICLE
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2 Sheets-Sheet 1



INVENTORS
Spaulding Bisbee
Wallace E. Parsons
William M. Sheffield
BY *W. S. Spear*
ATTORNEY

Nov. 12, 1935.

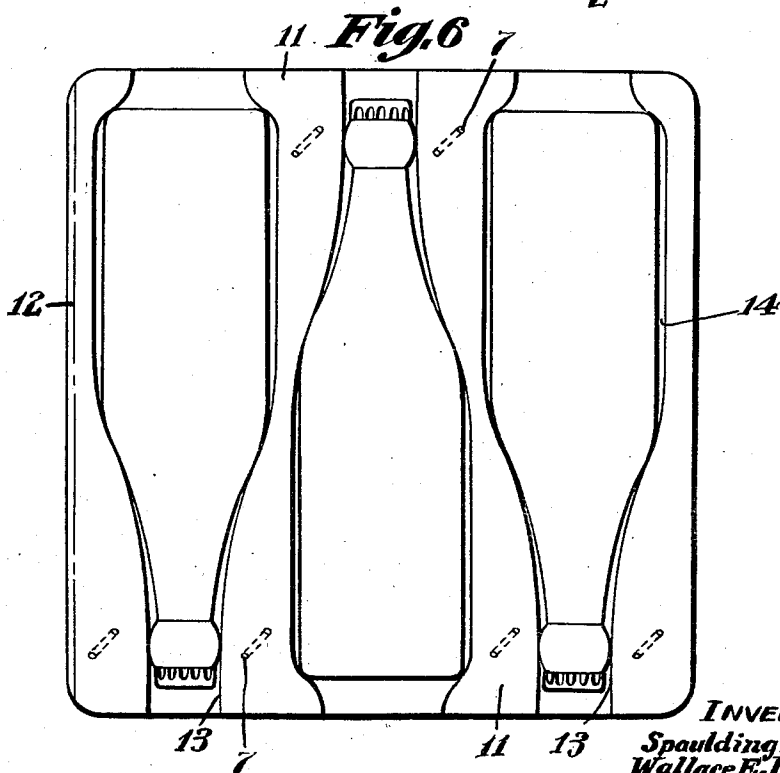
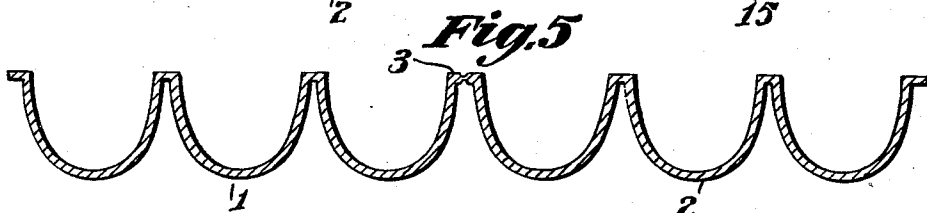
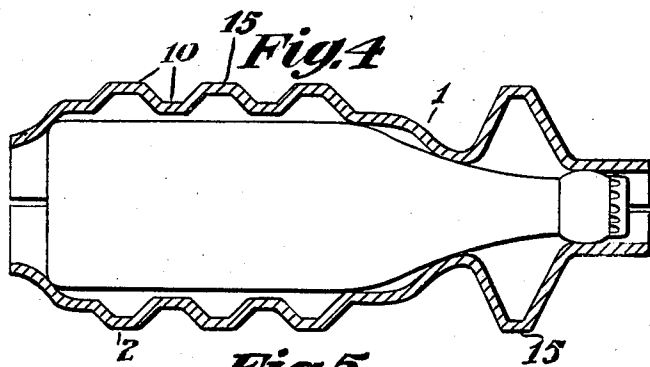
S. BISBEE ET AL

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MOLDED PULP ARTICLE

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INVENTORS
Spaulding Bisbee
Wallace E. Parsons
William M. Sheffield
BY *Allen S. Spaulding*
ATTORNEY

UNITED STATES PATENT OFFICE

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MOLDED PULP ARTICLE

Spaulding Bisbee, Portland, and Wallace E. Parsons, Waterville, Maine, and William M. Sheffield, New York, N. Y., assignors, by means assignments, to The Canal National Bank of Portland, Portland, Maine, a national banking association, trustee

Application October 18, 1930, Serial No. 489,568

1 Claim. (Cl. 217—21)

This invention relates to shipping packs or pack members and particularly for fragile articles of generally cylindrical or extended axes shape.

In the packing of fragile articles such as bottles, jars and like containers which in many instances contain fluids and are heavy, it is customary to use cases or crates divided into sections in each of which is placed a single bottle or jar. These cases must be of sufficient strength to withstand handling and in case of fragile articles each section must be provided with some cushioning means to prevent the article therein from being broken.

When any lesser number of articles than a standard case or crate contains are removed for delivery to a customer it has been necessary to re-pack and re-wrap these in a separate package for delivery.

The cases or crates usually employed for the shipment of bottled goods must necessarily be strong and heavy and are usually too expensive to be thrown away after use and so have to be returned for further use.

The concept of this invention is a packing member for bottles, jars and other fragile articles of similar nature which will form a resilient packing which may be used with any inexpensive box or case and which when removed can be delivered with their contents as units directly to the customer. Furthermore, as will be pointed out, these units are to a considerable degree thermally insulated, and also enable the use of inexpensive packing crates so that it will not be necessary to return these for re-use, although preferably the crates are of standard dimension.

As illustrative of the invention herein involved, simple embodiments are shown in the accompanying drawings. In these:

Fig. 1 shows a bottle enclosed in a moulded pulp casing for protection.

Fig. 2 is a plan view of a three-pocket container.

Fig. 3 is an end view of the container partly in section.

Fig. 4 illustrates a modification of the structure of Fig. 1.

Fig. 5 indicates such a member as illustrated in Figs. 1, 2 and 3, before it is folded together, and

Fig. 6 illustrates a similar packing where the bottles are alternatively reversed.

In the form illustrated in Figs. 1 to 3 there are provided pairs of packing members which are preferably of identical construction and preferably moulded as a single sheet-like member. These are indicated generally at 1 and 2 and

preferably as shown in Fig. 3 provided with a fold line or crease 3 so that one member can be bent over onto the other.

Each of the members or areas 1 and 2 is provided with a series of contourings 4 which when brought in registry with each other form the chambers 5 in which the articles, such as the bottles shown, are lodged. The contourings 4 are made to conform generally to the article. In the case of a bottle the neck portion 4¹ is so contoured as to enclose the neck and as the article is preferably moulded from wet laid fibre has such resiliency as frictionally to engage the bottle and yieldingly support it in the pack.

Between the contoured portions 4 and 4¹ are lateral webs 6 which connect and support the contoured portions and provide for contact bearings between the superimposed portions of the member. These areas 6 may also be used for the stapling or like fastening of the members or member portions, such stapling being indicated at 7. Where it is desired to seal the pack against tampering, one or more of the staples 7 may be covered by a disc of paper or other seal, as indicated at 8.

The contourings 4 and 4¹ preferably extend to the edges of the member but are tapered at one or both ends as indicated at 9 to provide a resilient bearing against which end thrust tendencies are taken up. The ends of the contourings also constitute bearing or contact portions or abutments so that when a plurality of these units are packed in a case, endwise movement of the units is prevented. The open ends at the bottle neck also expose the caps or closures for inspection. Units of any size or number of compartments may be employed.

As shown in Figs. 1 to 3, the unit is a triple pack holding three bottles so that the customer may be served with one or more quarter dozen units without having to handle the individual bottles.

In Fig. 4 the contouring is shown as formed with ribs or corrugations 10 to further increase the resiliency and friction bearing of the receiving concavities. These ribs or corrugations may be variously disposed but they are preferably integrally moulded in the packing member itself. Such members may be conveniently wet moulded by deposit on suction dies, preferably on dies of laminated construction in which drainage is provided between the laminae. Dies of this type form an important basis in the construction of these members which are intended to receive articles which are usually of generally cylindrical type but having differences in diameter and more

or less taper. By the use of laminated dies the contourings may be of full depth without weakening the die and a thick uniform deposit of free laid fibre may be formed thereon. This character of the fibre deposit is important as it is resilient and cushions the fragile containers. Also, it has an insulating characteristic.

The members are preferably made flat as shown in Fig. 5 and as before described folded on the groove or line of weakening indicated at 3 so that the area 1 overlies the area 2. This view is diagrammatic and not detail. Members so formed in the flat are made with sufficient draft so that they can be nested and packed for shipment to the bottling works or other consumers for which they are intended. When so packed they take up very little room in shipment and in storage and afford a basis of great economy over previous packs or methods of packing.

The article receiving concavities may be arranged as shown in Fig. 2 or may be alternately reversed as shown in Fig. 6. In that figure contourings 14 are shown as adapted to receive bottles which are closely positioned by taking advantage of their taper. In this form they are shown as connected by webs 11, the median web being preferably provided with a fold line 12 and the units being preferably tapered as before as at 13 and sealed if so desired.

The receiving concavities may be made to fit the articles snugly or grip them only at certain zones as at the bottom or base of the necks or at additional zones by corrugations or projections which tend yieldingly to support the articles. These corrugations may also provide external bearings as at 15 for contact with adjacent units, thus affording an internal elastic support throughout the packing case. The bearings 15 may be flattened and afford surfaces for advertising or like matter. These ribs or annular corrugations also provide for a slight longitudinal elasticity so that a tight fit at the bottom of the bottle or the base of the

neck will be assured, firmly holding the article against any longitudinal movement.

The comparatively freely laid fibre of such a container affords a basis of insulation for filled containers such as bottles of ginger ale or the like. The pack when chilled tends to remain cold so that the chilled units are available even when removed from the source of refrigeration as on picnics and like occasions.

It will be obvious from the foregoing that various modifications in form and design are contemplated and the illustrative embodiments discussed are to be understood as such and not to be taken as by way of limitation.

What we therefore claim and desire to secure by Letters Patent is:

A protective pack for elongated articles of generally cylindrical shape and extended axes, consisting of a sheet of fibrous material having spaced depressions formed therein, the sheet forming by means of said depressions a plurality of contiguous open-topped article receiving cavities and said cavities being spaced from each other by means of intervening webs, said webs constituting in part the walls of said cavities and defining with each other article entrance spaces through which an article is inserted from above, said webs having a yielding lateral deformability to the insertion of such article there past into the cavity depression and snugly gripping and retaining the inserted article against relative movement within the cavity, said cavities adapted to register with similarly formed cavities in a complementary sheet when such complementary sheet is reversed and placed thereover, and said sheet being provided exteriorly thereof with one or more low ribs which extend transversely of the cavities and contribute to the yieldability of the same.

SPAULDING BISBEE.
WALLACE E. PARSONS.
WILLIAM M. SHEFFIELD.