

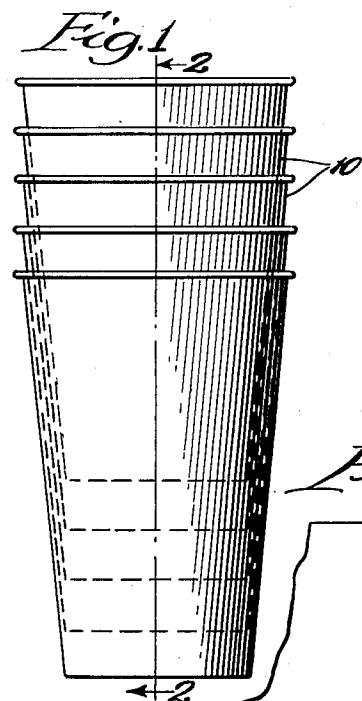
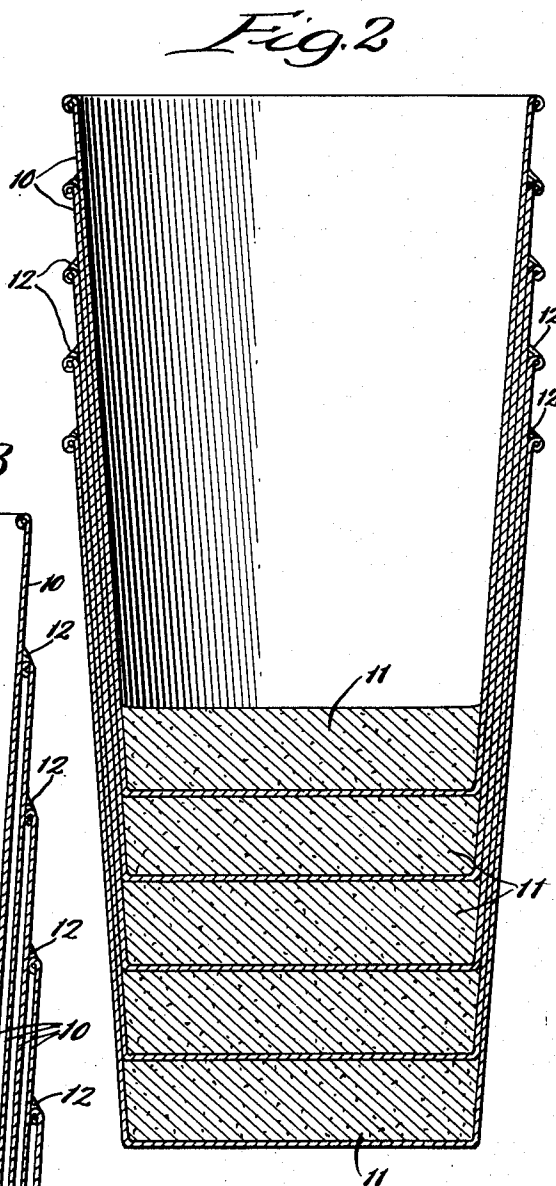
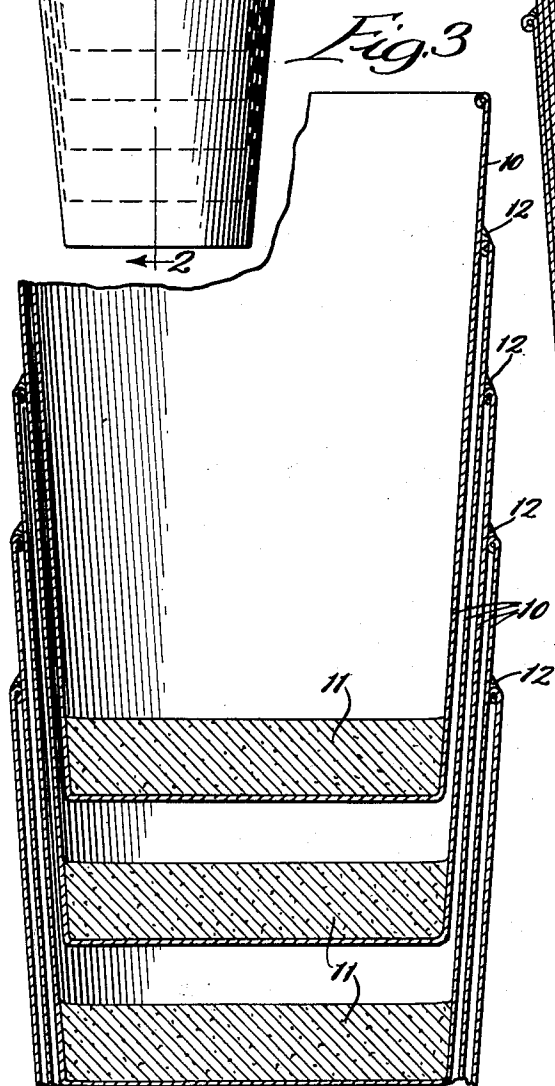
Aug. 18, 1953

W. JAMESON

2,649,197

CONTAINER PACKAGE STRUCTURE

Filed June 23, 1951



INVENTOR:  
*William Jameson,*  
BY  
*Jameson & Co.,*  
ATTORNEYS.

## UNITED STATES PATENT OFFICE

2,649,197

## CONTAINER PACKAGE STRUCTURE

William Jameson, Miami, Fla.

Application June 23, 1951, Serial No. 233,130

3 Claims. (Cl. 206—47)

1

This invention relates to a container package structure. The invention is particularly useful in the packaging of water-soluble materials in the bottom portions of nested containers, such as paper or other cellulosic containers.

The present application constitutes a continuation-in-part of my co-pending application Serial No. 703,983, for Container Package Structure filed October 18, 1946, now abandoned.

Nested containers containing water-soluble material in the bottom portions thereof have been employed for many years, but have not been found satisfactory and have not gone into extensive use. One difficulty with such packages is that a lid or cover has been employed to extend over the material in the bottom of the container and to provide a separation between the material and the bottom of the container above. Such covers or lids when placed loosely within the container do not provide a covering sufficient to exclude air or to form a seal about the material. Further, if the lids are sealed tightly within the container, the difficulty of removing such lids, when it is desired to bring water into contact with the water-soluble material, is considerable. In every instance where such lids are employed, whether tightly secured or loosely placed within the container, it is necessary to remove the lids by the fingers which contaminate the interior of the cup or container, or else instruments or complicated means have to be employed for withdrawing the lids.

If it were possible to produce a package forming a tight seal for the material within the nested containers without employing any member that has to be removed other than the container itself and if such sealing means could be made frangible to permit the ready separation of containers, it is believed that the problem could be solved and the above difficulties overcome.

An object of the present invention is to provide a container package structure in which a plurality of containers is housed in nested relation with soluble material in the bottoms of at least part of the containers while forming a frangible seal between the containers themselves for the protection of the enclosed soluble material. A further object is to provide a nested container structure in which soluble material is packaged in the bottom of the containers, the only separating member between such material units being the bottom of the container, while at the same time providing an effective seal for each of the packaged units of material. Yet another object is to provide an effective package

2

for maintaining water-soluble material in the bottom of a plurality of nested containers and a frangible seal protecting the material until an upper container has been removed. Other specific objects and advantages will appear as the specification proceeds.

The invention is illustrated, in a single specific embodiment, by the accompanying drawing, in which—

Figure 1 is a side view in elevation of structure embodying my invention; Fig. 2, an enlarged vertical sectional view; and Fig. 3, a broken enlarged vertical sectional view of a modified form of the invention.

In the illustration given in Figs. 1 and 2, 10 designates a container formed of paper or other treated or untreated cellulosic material, etc. A quantity of material, as indicated by the numeral 11, is placed in the bottom of each of the containers 10, as, for example, effervescent salts, fruit juices, and other liquid-soluble materials. The most commonly employed material would be one that is water-soluble. A large quantity of water-soluble powders forming drinks of various types is today being packaged, and it will be understood that any of such materials may be satisfactorily packaged and dispensed in the container structure herein described.

In the illustration given in Figs. 1 and 2, 12 designates a film of frangible material resting upon the bead of each cup. Between such bead and cup is a V-shaped cavity which receives sealing material such as paraffin and other waxes, resins, and a large number of coatings now commonly employed for the treating of paper cups or containers.

As a specific illustration, the following may be set out. A plurality of nested paper cups 10 are provided, the cups being treated to render them waterproof, if desired. The soluble material, which may be in the form of powder or in any other desired form, is placed within each of the containers 10 and the containers are brought into the nested relation shown best in Fig. 2. In the position shown in Fig. 2, the paper cups lie in closely-nested relation with their beads providing a flat shelf-like space adjacent the wall of the cup therein so as to provide a V-shaped channel for receiving the sealing wax or other compound 12. The fluid wax flows into these areas and forms a thin, sealing ring about the top of each bead of the cup.

The nested containers formed as above described were found to provide an excellent air-

3

impervious seal for the contents of the containers below the topmost, while at the same time the frangible wax layer permitted the uppermost cup to be readily withdrawn after it was turned slightly to break the seal. If desired, in the finished container package, the topmost container may be left free of the material 11 so that it will not be exposed to contamination, or, if desired, a special top cover or seal may be provided for it.

In actual operation, it is found that the cups, filled to the desired extent with the water-soluble powder or other material, can be expeditiously assembled by mechanical means and automatically sealed through the application of wax, resins, or other desired sealing material. At the same time, the frangible sealing material permits ready separation of the bottommost or topmost cup.

When the nested container structure is placed within an automatic dispensing means, it is found that a slight pressure brought against the lowermost cup serves to fracture the thin sealing material between it and the cup above and permits the cup to be readily dispensed from the machine. The purchaser of the cup thus released from a vending machine may fill the cup with water and thus provide a complete drink containing the water-soluble material.

In the practice of the above invention, it will be noted that at no time is it necessary for the fingers to be introduced into the container to remove a lid, separator, or other device within the container itself. It is merely necessary to run water into the untouched interior of the cup and a sanitary drink is thus made available.

In the modification shown in Fig. 3, the bead at the top of each container is rolled inwardly so as to lie against the wall of the container nested therein. Thus, while there is a space between the separate containers so that one may be readily separated from the other, the bead itself at the top of each container abuts the wall of the container nested therein so as to form a seal adapted to receive the wax layer 12. Liquid wax or other sealing material, when applied to the space above each bead, forms a small frangible seal completely around the bead, as shown more clearly in Fig. 3. At the same time, this form of seal, while being effective in preventing the entrance of air into the container, is very readily broken when it is desired to separate one container from the other.

While in the foregoing description, I have referred to the introduction of a sealing material within the spaces formed by the nested containers, it will be understood that in many modern processes where mechanized assembly means are employed, the impregnating of the paper or cellulosic cups may in itself provide a sealing solution so that after the introduction of the material 11 into the package and after the containers are assembled in nested relation, the treating material for the containers will itself provide the necessary seal therebetween, thus accomplishing the sealing of the containers and the impregnating of the paper cups in one operation. It will be further understood that the containers themselves may be treated so that after

4

the material 11 has been introduced into them and the containers are pressed together, such treating material will tend to seal the space between the cups under the pressure provided in the nesting operation and thus furnish the desired sealed or air-impervious condition.

The bead may be as shown in Figs. 2 or 3 or it may be in line with the container wall or extend laterally thereof on either side. The new process and product lend themselves to ready handling by machine so that the entire operation of filling or packaging and sealing through the nesting of the containers is accomplished without the containers being engaged by the hand. If desired, in the separate operations, the hand itself may be employed as a means for breaking the frangible sealing material or releasing one container from the friction-tight fit with the one above so as to render the lowermost or the topmost of the containers free for use without, however, disturbing the seal provided for the other containers.

While in the foregoing specification, I have set forth certain details as illustrative of one mode of practicing the invention, it will be understood that such details may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

1. A container package structure, comprising a plurality of containers in nested relation, at least some of said containers containing water-soluble material in the bottom portion thereof, at least one of said containers being provided at its top with an outwardly-turned bead, and a sealing material filling the space between said bead and the wall of the container nested therein and providing a frangible seal between the containers.

2. A container package structure, comprising a plurality of containers in nested relation, certain of the containers having a body of material in the bottom thereof and at least one of said containers having an inwardly-turned bead at its top abutting the wall of a container nested therein, and a seal material between said bead and said wall of the nested container forming a frangible seal between said containers.

3. A container package structure, comprising a plurality of containers in nested relation, certain of the containers having a body of material in the bottom thereof and at least one of said containers having a peripheral bead at its top abutting the wall of a container nested therein, and a seal material between said bead and said wall of the nested container forming a frangible seal between said containers.

WILLIAM JAMESON.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

| Number    | Name     | Date          |
|-----------|----------|---------------|
| 1,116,399 | Elsas    | Nov. 10, 1914 |
| 1,181,963 | Bohlman  | May 2, 1916   |
| 1,770,118 | Williams | July 3, 1930  |
| 2,507,443 | Hunt     | May 9, 1950   |