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N. SULZBERGER

1,592,395

COMBINED STORAGE AND SOLUTION CONTAINER

Filed July 26, 1920

Fig. 1.

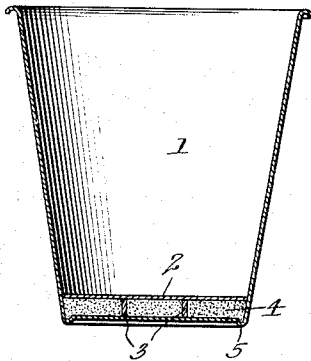


Fig. 2.

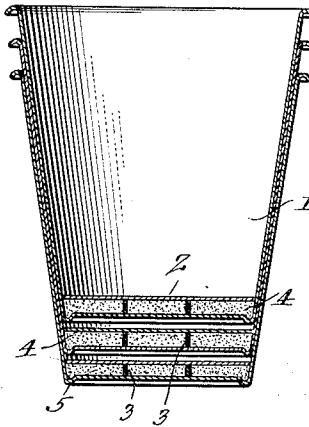


Fig. 4.

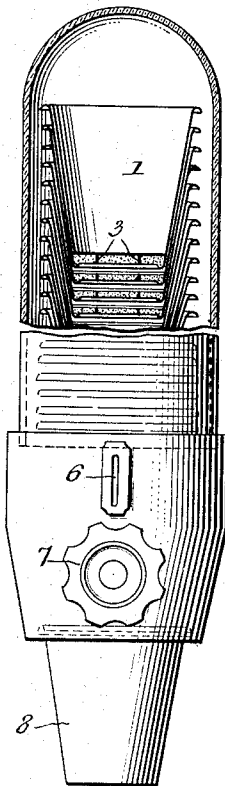


Fig. 3.



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COMBINED STORAGE AND SOLUTION CONTAINER.

Application filed July 26, 1920. Serial No. 399,031.

This invention consists in a combined receptacle or container containing combined therewith a plurality of mutually reactive ingredients separated by partitions from each other and covered with a soluble covering.

It is one of the objects of the invention to provide for sanitary containers for dispensing effervescent salts or other beverages requiring the interaction of a plurality of ingredients in water solution. The invention is particularly applicable to the dispensing of effervescent material.

In the dispensing of beverages at soda fountains and other places where glasses are employed the edge of the glass is sometimes chipped by contact with the heavy bottles from which syrups, salts, and the like are dispensed and also by contact with faucets from which the glasses are filled or by pieces of ice through which the glass may be partly filled. When the glasses are thus chipped the resulting small chips or pieces of glass being practically colorless may settle to the bottom of the glass or may even float and be carried in suspension in the soda, particularly where the chips are small and flake-like in character. It will be evident that such chips or glass, entering the soda, are apt to be swallowed therewith with serious if not fatal consequences. Furthermore the unsanitary character of many soda fountain glasses has long been a matter of common notoriety and has in some cases resulted in stringent regulations and precautions for attempting to insure sanitary and sterile conditions. Such precautions however frequently extend only to the extent of providing sanitary paper drinking cups, or supposedly sterilized glasses, while the receptacles which contain the syrups or salts used in compounding soda or other beverages which are constantly handled by the soda dispensers have not received appropriate consideration from the sanitary standpoint. Furthermore, even where individual paper cups are provided, or individual paper finger bowls, it is difficult to insure that the same paper receptacles may not be used over again, thus defeating the very purpose for which the supposedly sanitary containers were provided.

Paper cups having the ingredients to be used in producing the beverage incorporated therewith and separated by partitions and

by soluble diaphragms are sanitary, can be kept in a sterile condition, protect the ingredients from deterioration or from infection. It is also immediately evident in the containers according to the present invention when a container has been used before as the effervescent or other ingredients will not be present after the container has been once used.

A further advantage of the dispensing container of the present invention lies in the fact that the reacting ingredients in the case of effervescent salts are separated from each other so that they only react as they are dissolved and mixed in solution. Thus the evolution of gas is not sudden as when mixed dry salts are at once poured into water or where separate solutions are mixed and on the contrary takes place over a considerable period of time depending upon the solubility of the salts and on the shape of the container. The gradual evolution of gas prevents foaming and spilling over and also keeps the beverage from going stale or flat in a very short time as is the case with ordinary effervescent beverages which quickly foam up and then lose nearly all of their gas. The beverages prepared in the containers of the present invention continue to evolve gas for a considerable period of time.

The beverage dispensing containers of the present invention are readily applicable to sale in slot machines where a supply of water is available as it is only necessary to add water to the containers in order to produce the beverage. The expenses of a soda fountain may thus be avoided in locations where the amount of trade would not be sufficient to warrant the expense of a regular fountain.

The individual sanitary receptacles or containers may be put in various forms; for example, by nesting a series of cups together each cup setting in the next so that each cup will protect the cup below from exposure until used. Further protection may be provided by specially treating and preparing the bottom of the cups where they come into contact with the inside of the cup below by placing a layer of cotton or other protective material between the cups, or securing a layer to the bottom of the outside of each cup to protect the cup below. By drawing off the bottom cup, from such a nest, the remaining cups will be

kept protected, and their contents will likewise be kept protected until the cup is separated for use.

In addition to the construction of the combined receptacle for the purpose of combining therewith the desired composition, the receptacle may be provided with separate means for insuring that the container is an original and unused container or receptacle. A separate and easily broken strip of paper or other material may thus be provided which must be broken before the container is used, to show that the receptacle with the added strip has not been previously used. This separate cover, may, moreover, be a false bottom in the cup or receptacle, which must be removed before the receptacle is used. This false bottom may have a string attached which when pulled breaks the seal and separates the false bottom to be removed.

The containers may be collapsible in form with the composition combined therewith in the collapsed condition so that, upon unfolding, and the addition of the water or other liquid, the receptacle will become available for use and the composition will combine with the added liquid. Such collapsed containers may be provided in separate sanitary envelopes or casings such that the outer envelope or casing must be broken before the container itself can be used. Such collapsed drinking cups or containers are well adapted for use in the dispensing of medicine, such as effervescent salts, and they insure that the user will obtain exactly the proper amount of the medicine or other material, inasmuch as this amount can be uniformly regulated, and definitely indicated, by printing or otherwise, on the outside of the envelope or container. Salts or other compositions which are hygroscopic will likewise be protected by waterproof envelopes so that they do not deteriorate.

The containers of the present invention may be illustrated by the accompanying drawings in which Figure 1 is a section through a paper cup of the present inven-

tion. Figure 2 illustrates a nest of cups; Figure 3 illustrates a collapsible cup and Figure 4 illustrates a nest of cups in a dispensing machine.

In the drawings 1 is a paper cup containing a soluble diaphragm 2, relatively insoluble partitions 3 and a plurality of compartments containing the ingredients of the beverage 4. Ridges 5 may be formed on the bottom of cups to be used for nesting in order to prevent contact of the cup above with the diaphragm of the cup below over a large surface.

In Figure 4 the cups are shown at 1, a coin slot at 6, dispensing handle 7 and a dispensing cup ready for removal 8.

The containers illustrated may of course be varied in shape and size as it is found suitable for the particular purpose for which it is to be used. The outside of the cups may be printed to indicate the nature of the beverage ingredients in the cup. This is particularly important where the cups are to be used for the dispensing of medicine and avoids error in taking the wrong medicine.

I claim:

1. A cup or container containing a plurality of mutually reactive ingredients which are separated from each other by a partition and from the rest of the container by a diaphragm soluble in a chosen liquid.

2. A cup or container carrying a plurality of mutually reactive ingredients which are separated from each other by a permanently insoluble partition and from the rest of the container by a diaphragm soluble in a chosen liquid.

3. A cup or container containing two mutually reactive effervescent salts separated by a partition and covered by a water soluble false bottom.

4. A cup or container containing two mutually reactive effervescent salts separated by an insoluble partition and covered by a water soluble false bottom.

In testimony whereof I affix my signature.

NATHAN SULZBERGER.