

March 8, 1966

K. W. WOODSON

3,239,105

DISPENSING CONTAINER OR SPECIAL PACKAGE

Filed Aug. 10, 1964

FIG. 1.

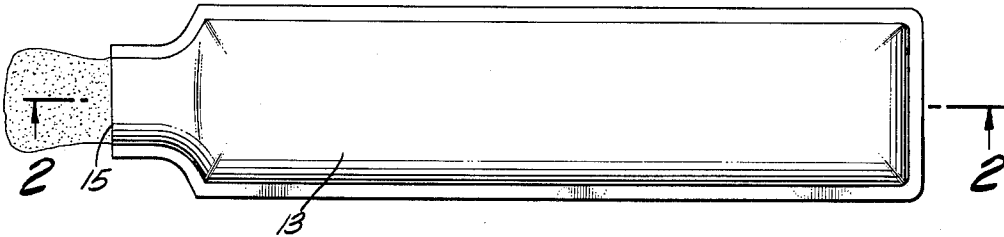


FIG. 2.

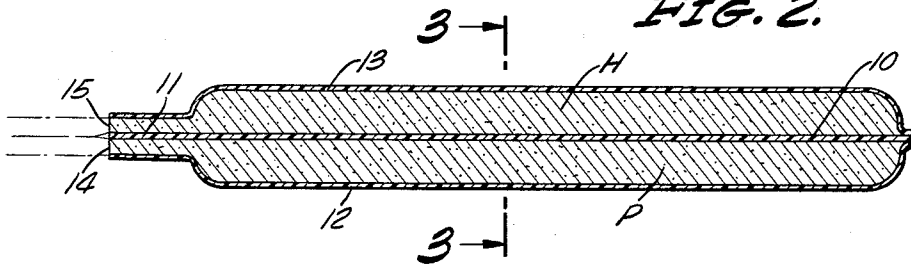


FIG. 6.

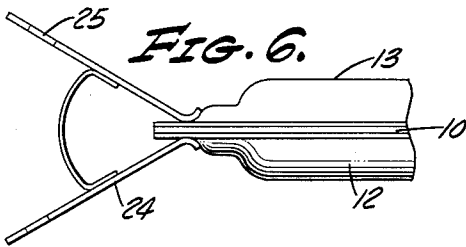


FIG. 3.

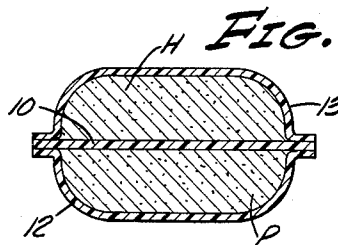


FIG. 4.

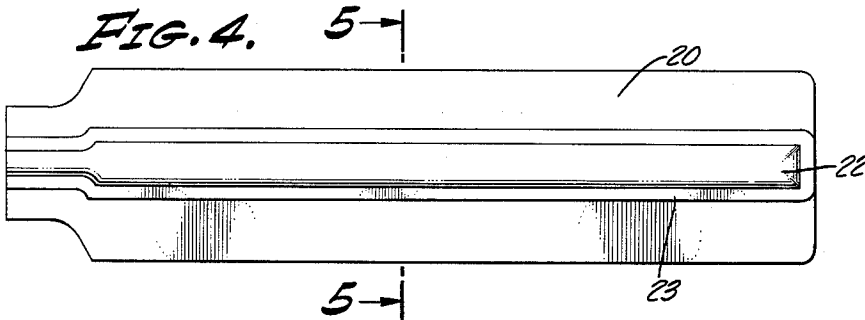
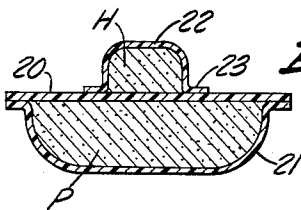


FIG. 5.



INVENTOR.
KENNETH W. WOODSON

BY

Hazard & Miller

ATTORNEYS

1

2

3,239,105 DISPENSING CONTAINER OR SPECIAL PACKAGE

Kenneth W. Woodson, 251 Ocean View,
Newport Beach, Calif.

Filed Aug. 10, 1964, Ser. No. 388,576

5 Claims. (Cl. 222-94)

This invention relates to improvements in dispensing containers or special packages designed to contain two semi-viscous substances, which are either incompatible with one another or which should not be mixed with each other until the time of use.

Explanatory of the present invention, epoxy putties and their catalysts or hardeners have heretofore been usually marketed in separate containers. At the time of use, a definite volume or weight of the epoxy putty is removed from its container and a proportional volume or weight of the hardener is removed from its container. These volumes or weights are then thoroughly mixed together which commences a chemical reaction which, when completed, causes the putty to harden. Usually, the proportions have heretofore been approximately $\frac{1}{4}$ of the volume or weight of the hardener to one volume of epoxy putty, and unless these proportions are rather closely maintained, either the putty will not harden satisfactorily or it will harden so rapidly that there is not sufficient time to apply the putty to the desired locality before the hardening is completed.

I have found that by the use of appropriate fillers or extenders the volume of the hardener may be altered so that for a proper mixture of hardener and epoxy putty the volumes and/or weights of putty and hardener may be equal or substantially so.

It is highly desirable to be able to market epoxy putty and its catalyst or hardeners in a single package somewhat in the nature of a collapsible dispensing tube, from which the estimated amount of putty and hardener can be simultaneously expelled. The putty and hardener that are expelled from the tube can then be mixed together and appropriately used. The remainder of the putty and hardener in the package are kept isolated from each other until the time of subsequent use.

A primary object of the present invention is to provide a dispensing tube or container of this character which will enable two incompatible viscous substances to be marketed in the same package, which will keep the substances isolated from each other until the time of use and which is so designed that, when the substances are simultaneously expelled, their proper proportions can be reasonably maintained.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

FIGURE 1 is a top plan view of a dispensing container or special package embodying the present invention.

FIGURE 2 is a longitudinal vertical section taken substantially upon line 2-2 upon FIGURE 1, in the direction indicated.

FIGURE 3 is a transverse vertical section taken substantially upon line 3-3 upon FIGURE 2.

FIGURE 4 is a top plan view of an alternative form of construction which may be employed.

FIGURE 5 is a sectional view taken substantially upon line 5-5 upon FIGURE 4.

FIGURE 6 is a partial view in side elevation illustrating the manner in which the improved container or package may be closed between successive uses of the contents.

Referring to the accompanying drawings wherein simi-

lar reference characters designated similar parts throughout, the construction illustrated in FIGURES 1-3 consists of an elongated central partition 10, on the opposite sides of which there are masses of incompatible viscous or semi-viscous substances, such as epoxy putty P and its catalyst or hardener H. The partition 10 is of suitable length and breadth, so that it can be conveniently handled and is of uniform width throughout its length except adjacent one end where it may be narrowed, as indicated at 11. The substances P and H are inclosed against the partition 10 by means of enveloping means 12 and 13. These enveloping means, as well as the partition are formed of materials which are inert to both the substances P and H. Preferably, the enveloping means and the partition are all formed of a poly-vinyl plastic, the edges of the enveloping means 12 and 13 being heat-sealed to the edges of the partition 10 around the entire perimeter thereof except adjacent the reduced end 11 of the partition, leaving open dispensing throats 14 and 15 through which the substances P and H can be expelled on the application of external pressures to the container.

The enveloping means 12 and 13 are preferably formed of highly flexible poly-vinyl plastic, and a feature of the present invention resides in the fact that the central partition 10 is materially stiffer or less flexible than the material used to form the outer envelopes 12 and 13. This stiffness of the central partition may be obtained either by making the partition of greater thickness or it may be obtained by using so-called rigid poly-vinyl plastic. Rigid poly-vinyl plastic still possesses some degree of flexibility, but it is materially stiffer than the flexible walls of the envelopes 12 and 13. The importance of using a partition 10 which is of less flexibility than that of the walls 12 and 13 is as follows.

If the substances P and H have substantially the same viscosity and substantially equal pressures are applied to the exteriors of the envelopes 12 and 13, substantially equal volumes of the substances will be expelled through the throats 14 and 15, these throats being of the same size. If the central partition is highly flexible, pressure applied to the wall 12 will be transmitted through the substance P and through the partition 10 and become applicable to the substance H causing an excess of the substance H to be expelled. Conversely, if the partition 10 is made quite flexible, pressures applied to the wall 13 will be transmitted through the substance H and the partition 10 to the substance P causing an excess of the substance P to be expelled through throat 14. If the partition 10 is relatively stiff, as compared with the flexibility of the walls 12 and 13, the pressures are not transmitted as readily therethrough and, consequently, equal volumes will normally be dispensed when the container is squeezed manually.

As above explained, I have found that by the use of appropriate fillers and extenders the volume as well as the weight of the hardener H used with a volume and weight of epoxy putty P may be made substantially equal and, therefore, in the preferred form of construction the volume enclosed by the envelope 13 of the hardener H is equal to the volume of the putty P enclosed by the envelope 12. The two envelopes 12 and 13 in the preferred form of construction, therefore, are of equal sizes and shapes and conformed to the outline of the partition 10.

Some incompatible substances, however, must be mixed together at the time of use in unequal proportions, such as epoxy putty as now marketed and its hardener wherein the relationship of hardener to putty is approximately 1 to 4 in volume. In this situation, a construction as illustrated in FIGURES 4 and 5 may be employed, wherein the central partition 20 may be of the same size and shape as the partition 10 and which may have on one side thereof the envelope 21 corresponding to the envelope 12 that

is heat-sealed at its edges adjacent the edges of the partition. The envelope 22 corresponding to the envelope 13 is of equal length with the partition 20 but is of reduced width. It has its edges 23 heat-sealed to the partition inwardly of the side edges of the partition 20 so as to enclose a materially smaller volume. The throats that are left open at the ends of the two envelopes 21 and 22 at the same end of the partition 20 bear a similar relationship, the invention being to have a definite proportion of the contents of envelope 22 expelled simultaneously with a volume that is expelled from envelope 21 when pressures are manually applied to the opposite sides of the container.

In both forms of construction, when the two substances H and P are simultaneously expelled from the container now may be promptly mixed together and then applied to portions of the substances remaining in the throats and can be squeezed therefrom, and the container can then be closed by the application of a spring clip or clamp 24, the handles of which may be apertured, as indicated at 25, enabling the clamp and the container and remaining contents to be suspended from a hook or other support until the time of subsequent use. The clamp merely holds the walls of the throats pressed against the opposite sides of the partition 10.

From the above described construction it will be appreciated that it is possible to conveniently and handily market two incompatible viscous substances in the same package in such a manner that, when the container is merely squeezed, corresponding amounts of both substances will be simultaneously expelled therefrom. In the form illustrated in FIGURES 1-3, equal volumes of both substances P and H will be expelled from their respective envelopes 12 and 13. In the form of construction shown in FIGURES 4 and 5, the volumes are unequal, but have a definite proportion or relationship to each other.

While the invention has been primarily designed to facilitate the marketing of epoxy putty and its hardener, it is not restricted thereto, but may be employed with other viscous or semi-viscous substances which should be maintained isolated from each other until the time of use. By employing a partition 10, which is either rigid or semi-rigid and which at all events is materially less flexible than the walls of the envelopes, proper proportions of the expelled substances can be maintained when the container is squeezed by the application of pressures to the opposite sides thereof.

Various changes may be made in the details of construction without departing from the spirit and scope of the invention, as defined by the appended claims.

I claim:

1. A dispensing container for simultaneously dispensing two viscous substances comprising a partition, enveloping means on opposite sides of the partition secured thereto adjacent their edges and adapted to envelope the substances against the opposite side of the partition, each enveloping means being detached from the partition adjacent the same end thereof forming dispensing throats on opposite sides of the same end of the partition through which the substances can be simultaneously expelled upon the application of pressures to the exteriors of the enveloping means, the enveloping means having flexible walls of greater flexibility than that of the partition.

2. A dispensing container, for simultaneously dispensing two viscous substances comprising a partition, enveloping means on opposite sides of the partition secured thereto adjacent their edges and adapted to envelope the

substances against the opposite side of the partition, each enveloping means being detached from the partition adjacent the same end thereof forming dispensing throats on opposite sides of the same end of the partition through which the substances can be simultaneously expelled upon the application of pressures to the exteriors of the enveloping means, the enveloping means having flexible walls of greater flexibility than that of the partition and being of the same length and breadth, the partition and the enveloping means being of reduced breadth adjacent the mentioned end so that the dispensing throats will be smaller in breadth than their respective enveloping means throughout the remainders of the lengths of the enveloping means.

3. A dispensing container for simultaneously dispensing two viscous substances comprising a partition, enveloping means on opposite sides of the partition secured thereto adjacent their edges and adapted to envelope the substances against the opposite side of the partition, each enveloping means being detached from the partition adjacent the same end thereof forming dispensing throats on opposite sides of the same end of the partition through which the substances can be simultaneously expelled upon the application of pressures to the exteriors of the enveloping means, the enveloping means having flexible walls of greater flexibility than that of the partition and being of the same length but of different breadth.

4. A special package comprising a central elongated partition of rigid poly-vinyl plastic, a supply of epoxy putty on one side of the partition, a supply of hardener therefor on the other side of the partition, enveloping means having their edges secured to the opposite sides of the partition in enveloping relation to the putty and hardener, respectively, except adjacent the same end of the partition so as to provide dispensing throats for the putty and hardener on opposite sides of the same end of the partition, the enveloping means being of the same length and being flexible and of greater flexibility than the partition.

5. A special package comprising a central elongated partition of rigid poly-vinyl plastic, a supply of epoxy putty on one side of the partition, a supply of hardener therefor on the other side of the partition, enveloping means having their edges secured to the opposite sides of the partition in enveloping relation to the putty and hardener, respectively, except adjacent the same end of the partition so as to provide dispensing throats for the putty and hardener on opposite sides of the same end of the partition, the enveloping means being of the same length and being flexible and of greater flexibility than the partition, and a spring clamp normally clamping the walls of the throats against the opposite sides of the partition to close the throats, said clamp being removably applied to the throat ends of the enveloping means.

References Cited by the Examiner

UNITED STATES PATENTS

1,894,115	1/1933	Murphy	222-94
2,428,261	9/1947	Bogoslowski	222-107
2,517,027	8/1950	Rado	222-94
2,653,120	8/1953	Adler	222-107 X

FOREIGN PATENTS

266,804	2/1950	Switzerland.
---------	--------	--------------

LOUIS J. DEMBO, *Primary Examiner.*

HADD S. LANE, *Examiner.*