

April 28, 1953

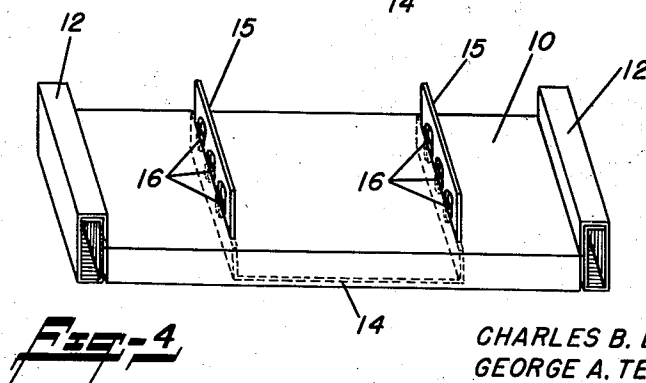
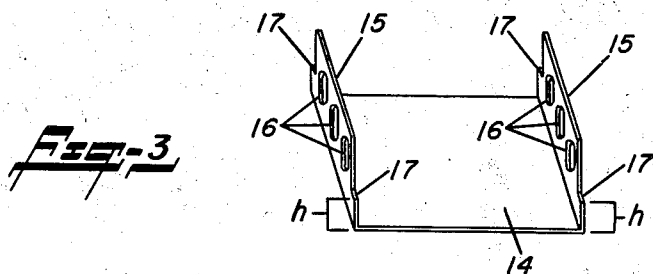
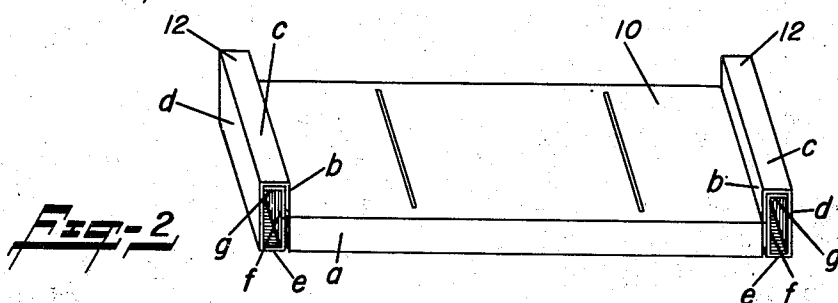
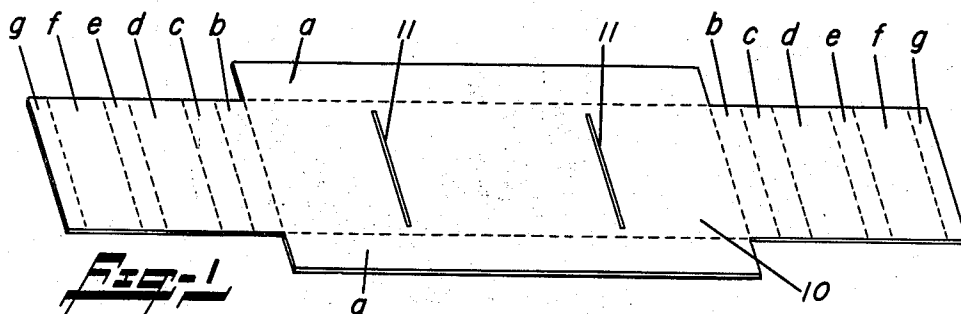
C. B. DENTON ET AL

2,636,600

THERMOMETER PACKAGE

Filed May 22, 1950

2 SHEETS—SHEET 1



CHARLES B. DENTON AND
GEORGE A. TERHUNE JR.
INVENTORS

BY *Rudolph J. Jurick*
ATTORNEY

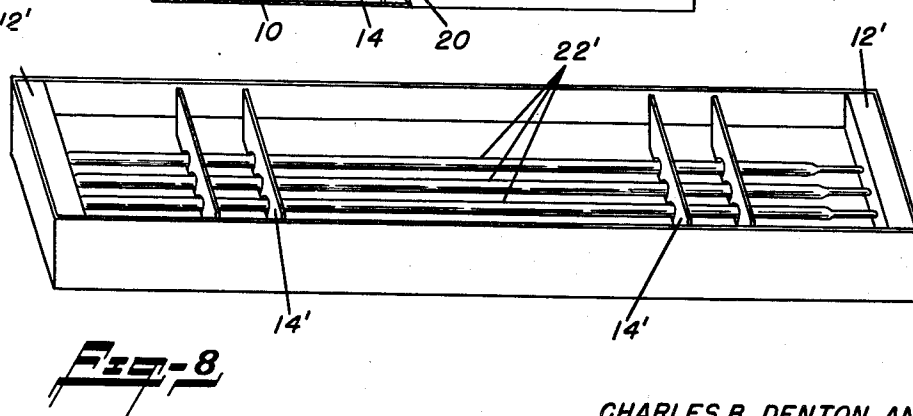
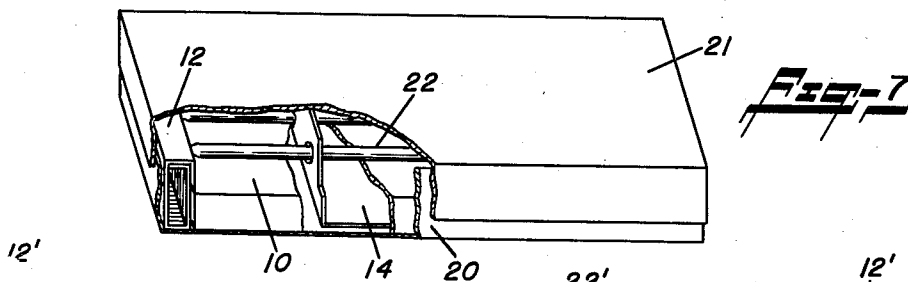
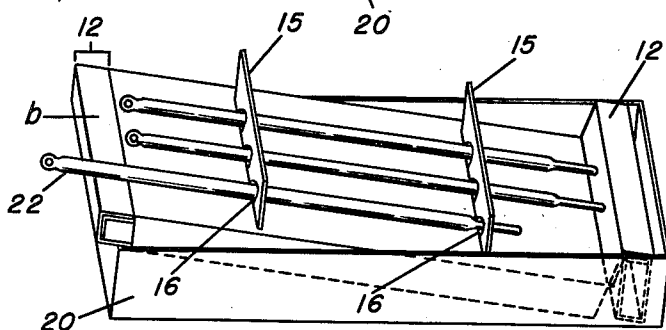
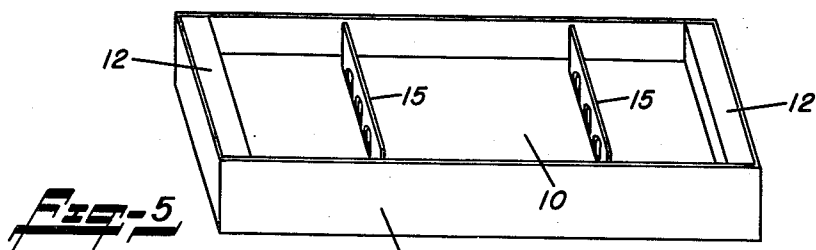
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2 SHEETS—SHEET 2



CHARLES B. DENTON AND
GEORGE A. TERHUNE JR.
INVENTORS

BY *Rudolph J. Gurick*
ATTORNEY

UNITED STATES PATENT OFFICE

2,636,600

THERMOMETER PACKAGE

Charles B. Denton and George A. Terhune, Jr.,
Elizabeth, N. J., assignors to Weston Electrical
Instrument Corporation, Newark, N. J., a cor-
poration of New Jersey

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3 Claims. (Cl. 206—65)

1

This invention relates to a package for elongated, fragile articles and more particularly to an improved shipping and storage package for glass thermometers or the like.

Glass thermometers, because of their fragile character, require careful handling. It has been customary to package such thermometers in individual tubes made of wood or cardboard provided with a textile filler, a mode of packaging involving substantial expense in the materials as well as requiring considerable time to position the thermometer in the container. Various multiple-unit packages have been proposed but these are generally unsatisfactory either because of the complexity of manufacture and/or assembly, with attendant high cost, or because they do not provide a safe shipping container capable of protecting the thermometers in transit, or because the package is too complex in design to encourage the use of same for storage purposes by dealers, users, etc.

A package made in accordance with our invention is of simple construction, easy to put together, of maximum facility as respect the insertion or removal of one or more thermometers, and provides complete protection against breakage of the contained thermometers even under conditions of exceptionally rough handling.

An object of this invention is the provision of an improved and simplified package for glass thermometers, or the like, said package providing a sturdy structure by means of which such fragile articles can be safely and efficiently packaged with a minimum of expense in both material and time, and which will provide an improved display container for said objects in addition to assuring their safe handling and storage.

An object of this invention is the provision of a package for thermometers or the like comprising a body and cover member, a removable platform insert disposed within the body member, and a U-shaped spacer having ends extending through the platform insert, said ends having aligned apertures adapted to receive a thermometer.

An object of this invention is the provision of a package for thermometers comprising a body section, a removable platform in the body section, said platform having transversely scored ends adapted to be folded to form relatively rigid steps at either end of the body section, a U-shaped spacer member disposed under the platform and having ends passing upward through slots in the platform, aligned apertures in the ends of the U-shaped spacer, each set of aligned apertures adapted to receive a thermometer, and a cover member adapted to form a closed package when placed over the body section.

These and other objects and advantages will

2

become apparent from the following description when taken with the accompanying drawings illustrating two embodiments of the invention. The drawings are for purposes of illustration and are not to be construed as defining the scope or limits of the invention, reference being had for this purpose to the appended claims.

In the drawings wherein like reference characters denote like parts in the several views:

Figure 1 is an isometric view of platform as die cut from a single piece of stock and showing scored lines for folding purposes;

Figure 2 illustrates the platform with the sides folded downward and the ends folded to form the raised steps;

Figure 3 is an isometric view of the spacer member having aligned apertures in the upturned end sections;

Figure 4 shows the spacer member inserted under the platform with the end sections of the spacer extending upward through the slots in the platform;

Figure 5 illustrates the platform and spacer assembly disposed within a rectangular body that forms the bottom section of the box;

Figure 6 illustrates the method of inserting thermometers into, or removing them from, the package;

Figure 7 is a view of the completed package with parts broken away to show the shock-protected disposition of the thermometers within the package; and

Figure 8 is an isometric view of another embodiment of the invention wherein two apertured spacers are employed in a package designed for relatively long thermometers.

Referring now to Figure 1, the platform 10 comprises a single unit die cut from suitable stock, such as cardboard. The platform has two transverse slots 11 cut therein and is scored along each of the dotted lines for folding purposes. As shown in Figure 2, the longitudinally-extending sections, *a*, are folded downwardly to form the sides of the platform. The end sections *b*, *c*, *d*, *e*, *f* and *g*, are folded along the transverse score lines to form rectangular steps 12 which serve several useful purposes, as will be described below.

As shown in Figure 3, the spacer member 14 is also a single unit being scored at each end whereby the end sections 15 may be folded as shown. Each end section includes a series of aligned, elongated holes 16 and each end is also cut to form the ledges 17. The height of each of the ledges 17, as indicated by the letter, "h," is somewhat less than the inside height of the platform 10. Thus, these ledges serve as stops for the central portion of the platform when the spacer member 14 is mounted under the platform with the end sections 15 projecting

3

through the platform slots (see Figure 4). This arrangement, together with the steps 12 located at each end of the platform, results in a lightweight yet sturdy construction having numerous practical advantages as will become more apparent hereinbelow. It may here be pointed out that the main dimension of the elongated apertures 16 in each of the end sections 15 of the spacer member 14 is larger than the diameter of the particular thermometers to be contained in the completed package. Also, these apertures extend below the surface of the platform 10, as shown in the sub-assembly view of Figure 4.

The sub-assembly, consisting of the platform 10 and the spacer member 14, is designed to fit snugly within a relatively rigid, rectangular body 20 that forms the bottom of the package or box, as shown in Figure 5. The box is completed by inserting a cover 21 over the body 20 as shown in Figure 7.

Figure 6 illustrates the simplicity of inserting one or more thermometers into the package, or removing same therefrom. One end of the platform is raised from the body section 20 as by grasping the available end section 15 of the spacer member. The corresponding step 12 of the platform is then folded as a unit such that the lower portion thereof moves under and into contact with the lower surface of the platform. In this position the section, b, of the step 12 forms a smooth, continuous surface with the platform proper whereby a thermometer 22 may be slipped through a set of aligned apertures 16 in the upright end sections 15, until the forward end of the thermometer rests against the step 12 at the other end of the platform. After the thermometers are thus properly positioned on the platform the ends of the thermometers will lie substantially along the scored line dividing the main platform section from the section, b, of the step, whereupon the step now may be folded back to its initial position and pressed down into the body 20. The thermometers now are supported firmly and safely.

The disposition of the thermometers within the package is shown in Figure 8. In this figure, however, there is shown another embodiment of the invention adapted for use with relatively long thermometers 22'. In such case we provide additional support for both the platform and the thermometers by employing two spacer members 14', disposed as shown.

It will be apparent that axial movement of the thermometers is limited by the steps 12 at each end of the platform. However, in the event a sudden shock is applied against the edge of the package the transmission of such shock to the ends of the thermometers is attenuated by a flexing of one of the steps 12 and any resulting motion of the thermometer is absorbed by a flexing of the other step. Lateral motion of the thermometers in any plane parallel to, or normal to, the platform is restricted by the upright end sections 15' and the platform surface. The upright end sections are spaced apart so as to reduce to a minimum the moment of inertia of a thermometer end in the event the package is struck at on corner in the plane of the platform. As stated hereinabove, the apertures in the end sections are elongated and extend below the platform surface. Thus, the thermometers rest upon the platform

4

and, consequently, when the package is dropped on a smooth surface the kinetic energy of the thermometers is dissipated by a downward flexing of the platform surface. Rigid shock tests have proven our thermometer package superior to any other type of commercially practical construction within our knowledge.

From the above description it will now be apparent our construction provides a handy, convenient and inexpensive package for fragile articles, such as thermometers, and one which protects the contents during the rough handling normally accorded articles in shipment. Additionally, the package is of pleasing appearance and serves as an ideal display container. The ease with which one or more thermometers may be removed from, or placed into, the package encourages the use of such package as a safe storage receptacle when the items are not in actual use. Inasmuch as the packages are flat they are convenient to store one on top of the other. In short, our package results in reduced packaging costs, reduced breakage, faster inspection, easier testing and uniform stocking.

Having now described our invention certain variations in the individual parts and the arrangement thereof will suggest themselves to those skilled in this art. Such variations may be made without departing from the scope and spirit of the invention as set forth in the following claims.

We claim:

1. A container for thermometers and the like comprising a rectangular body member having upturned sides and ends; a removable platform disposed within the body member, said platform having integral, longitudinally-folded sides spacing the platform surface from the bottom of the body member; a plurality of transverse score lines at each end of the platform, said platform being folded along said transverse score lines to provide integral, four-sided, rectangular steps at each end of the platform and abutting the adjacent upturned ends of the body member; transverse slots in the surface of the platform; a spacer member resting on the bottom of the body member, said spacer member including upturned end sections projecting through the slots in the platform; and aligned apertures in each of the said upturned end sections, said apertures extending above and below the platform surface.

2. The invention as recited in claim 1, wherein the folded steps rest upon the bottom of the body member and extend above the surface of the platform.

3. The invention as recited in claim 2, in combination with a cover positionable over the said body member to form a closed box.

CHARLES B. DENTON.

GEORGE A. TERHUNE, Jr.

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