

March 24, 1959

C. D. WELSHENBACH ET AL

2,878,984

ARTICLE PACKAGING MEANS

Filed May 6, 1957

2 Sheets-Sheet 1

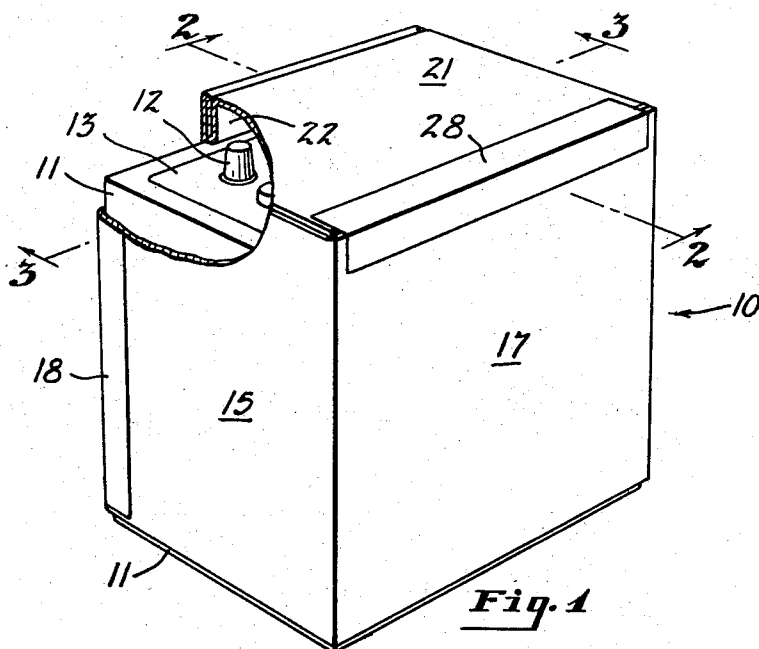


Fig. 1

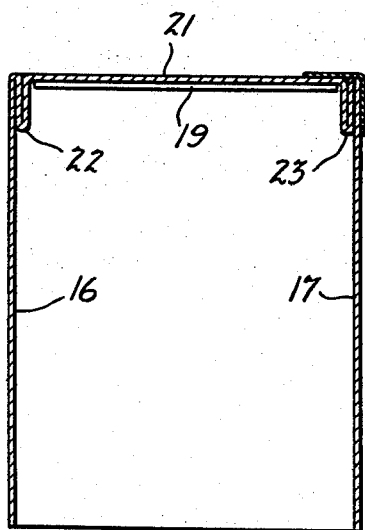


Fig. 2

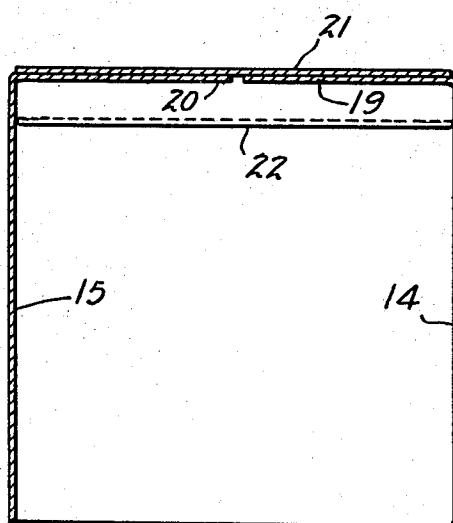


Fig. 3

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2 Sheets-Sheet 2

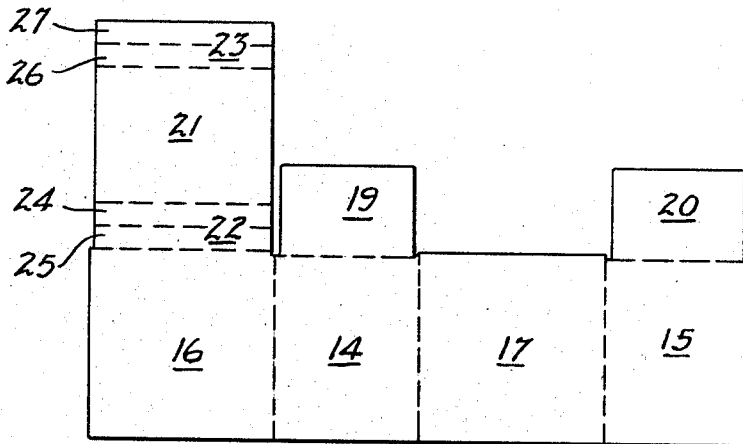


Fig. 4

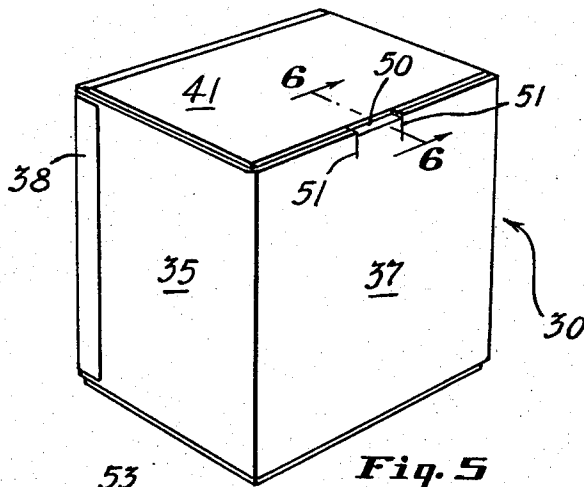


Fig. 5

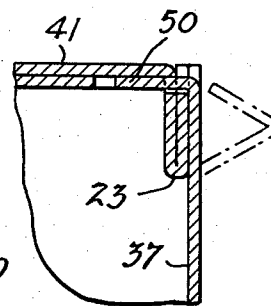


Fig. 6

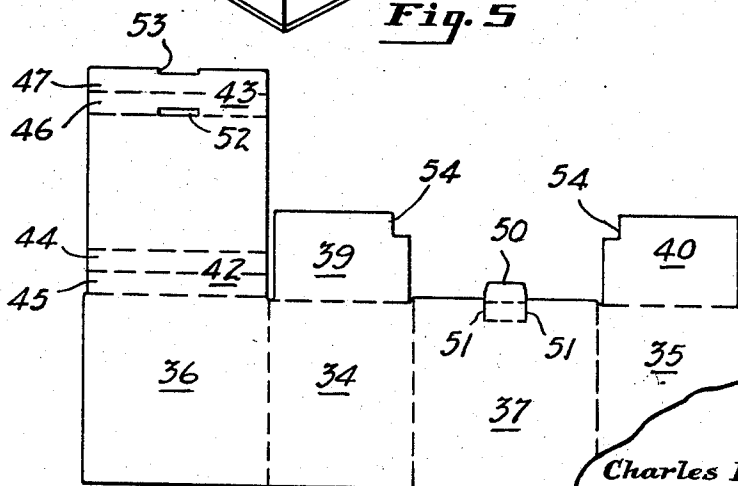


Fig. 7

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ARTICLE PACKAGING MEANS

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Application May 6, 1957, Serial No. 657,359

3 Claims. (Cl. 229—37)

This invention relates to containers or packaging means for packing articles when stacking loads are to be imposed on at least some of the packages constituted by the packed articles and when the walls of the load-bearing face of each package is spaced above the main bulks of the contained article in order to accommodate within the package protuberances such as automatic battery terminals or the like. The invention is specifically illustrated as embodied in a bottomless cover for automobile storage batteries, but it will be understood that the invention may also have application in bottomed containers.

The general object of the invention is to provide an improved container of the type described.

In one aspect, the invention provides container structure which may be shipped flat to the user (such as a battery manufacturer) who may erect the container and use it to package a battery or other article, all without the necessity of placing spacers on the top of the battery or applying tape to fasten the container and all at a relatively low cost.

Accordingly, an object of the invention is to provide a battery cap or container which simultaneously realizes the following advantages to the user:

- (1) Reduction of packaging cost.
- (2) May be received in collapsed but completely fabricated condition thereby minimizing shipping costs.
- (3) Makes it unnecessary to employ tape or other separate fastening means.
- (4) Makes it unnecessary to place spacers on the top of each battery as a separate step during the packaging operation.

It is appreciated that one or the other of advantages 3 and 4 above may have been previously realized, but they have never been accomplished in combination while at the same time reducing packaging costs and providing a container adapted to be shipped to the user in collapsed condition.

The invention is illustrated, by way of example, in the following description and the accompanying drawings.

In the drawings:

Figure 1 is a perspective view, partly broken away, showing an example of the invention in the form of a bottomless cover for an automobile storage battery.

Figure 2 is a cross section taken on the plane of line 2—2 in Figure 1, without the battery.

Figure 3 is a cross section taken on the plane of line 3—3 of Figure 1, without the battery.

Figure 4 is a view on a reduced scale showing a blank from which the cover structure or container structure of Figure 1 may be formed.

Figure 5 is a perspective view, on a somewhat smaller scale than that of Figure 1, showing another example of the invention in the form of a bottomless cover for an automobile storage battery.

Figure 6 is a fragmentary cross section on an enlarged scale taken in the plane of line 6—6 in Figure 5, without the battery.

Figure 7 is a view on a reduced scale showing a blank

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from which the cover structure or container structure of Figure 5 may be formed.

As shown in Figures 1—4, there is provided a container generally indicated by the reference numeral 10 which is adapted to package a battery 11 of the automotive type provided with terminals 12 extending from the upper face 13 thereof. The containers used for packaging automotive batteries are customarily bottomless containers, the side walls of which are dimensioned to be spaced a fraction of an inch above the side surface on which the battery rest. It will be understood that a number of batteries so packaged may be stacked upon each other, and that therefore stacking loads are to be imposed on at least some of the packages and that the load-bearing faces of such packages must be spaced above the main bulk of the battery in order to accommodate within the package protuberances such as the terminals 12. As previously mentioned, the invention may also have application in bottomed containers.

The specific package illustrated will be understood, therefore, to constitute what is known in the trade as a battery cap or battery cover. The container shown in Figures 1—4 comprises a first pair of oppositely disposed side walls 14 and 15 and a second pair of oppositely disposed side walls 16 and 17, the side walls being held in tubular form by a corner tape 18. It will be understood that the tube comprising the side walls 14—17 may be collapsed for shipment with the various end flap or panel structure (to be described below) protruding from an end of the tube.

A pair of top flaps 19 and 20 extends from the side walls 14 and 15 respectively. In the erected condition of the container, these top flaps 19 and 20 will be seen to extend toward each other. A cover panel 21 extends over the top flaps. Spacer pleats 22 and 23 are provided at two opposite sides of the cover panel. The spacer pleat 22 has an inboard portion 24 downwardly extending from the top of the container structure where it is integrally joined to the main portion of the cover panel 21. The spacer pleat 22 also has an outboard portion 25 downwardly extending from the top of the structure where it is integrally joined to the side wall 16. The portions 24 and 25 are integrally joined at their lower extremities. The spacer pleat 23 has an inboard portion 26 downwardly extending from the top of the structure where it is integrally joined to the main portion of the cover panel 21. The spacer pleat 23 also has an outboard portion 27 which is integrally joined at its lower edge to the inboard portion 26. It will be apparent that the pleats 22 and 23 may comprise more than the single accordion folds shown in the drawings and described above. A means is provided for fastening the cover panel 21 and its associated elements to the side wall 17 in order to hold the cover panel in place. In the example of the invention being described, this means comprises the tape 28.

It will be seen that the spacer pleats 22 and 23 are each tucked in engaged supported relationship between one of the second pair of side walls 16 and 17 and one side of each of the top flaps 19 and 20, and that they extend downwardly partially into the interior of the container or cap 10 to constitute the required load-bearing and spacing means necessary to give the container a load-bearing capacity while at the same time allowing for clearance of the terminals 12 or like elements associated with the packaged article.

The container generally indicated by the reference numeral 30 and shown in Figures 5 through 7 comprises a first pair of oppositely disposed side walls 34 and 35 and a second pair of oppositely disposed side walls 36 and 37, the side walls being held in tubular form by a corner tape 38. It will be understood that the tubes

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comprising the side walls 34-37 may be collapsed for shipment with the various end flap or panel structure protruding from the end of the tube.

A pair of top flaps 39 and 40 extends from the side walls 34 and 35 respectively. A cover panel 41 extends over the top flap. Spacer pleats 42 and 43 are provided at two opposite sides of the cover panel 41. The spacer pleat 42 has an inboard portion 44 downwardly extending from the top of the container structure where it is integrally joined to the main portion of the cover panel 41. The spacer pleat 42 also has an outboard portion 45 downwardly extending from the top of the structure where it is integrally joined to the side wall 36. The portions 44 and 45 are integrally joined at their lower extremities. The spacer pleat 43 has an inboard portion 46 downwardly extending from the top of the structure where it is integrally joined to the main portion of the cover panel 41. The spacer pleat 43 also has an outboard portion 47 which is integrally joined at its lower edge to the inboard portion 46. It will be apparent that the pleats 42 and 43 may comprise more than the single accordion folds shown in the drawings and described above.

A means is provided for fastening the cover panel 41 and its associated elements to the side wall 37 in order to hold the cover panel in place. In the example of the invention being described, this means comprises a tab means which is integral with the side wall 37 and which extends from the top edge thereof and cooperates with slot means associated with the adjacent side of the cover panel 41. Thus, there is provided a tab 50 which extends from the top edge of the panel 37 and which may be swung with respect thereto by virtue of the cuts 51. There are also formed the slots 52 and 53 in the inboard and outboard portions 46 and 47 respectively of the spacing pleat 43. The projecting end of the tab 50 is received in these slots 52 and 53. In order that the tab 50 be received in locking relationship in the structure without interfering with the top flaps 39 and 40, these flaps are cut away as at 54.

The invention is not restricted to the specific details of the examples described above. The scope of the invention is defined in the following claims.

What is claimed is:

1. A container comprising a first pair and a second pair of oppositely disposed side walls, a pair of top flaps extending toward each other and each integral with one of the first pair of oppositely disposed side walls, a cover panel extending over the top flaps, spacer pleats carried at two opposite sides of the cover panel, each of the spacer pleats being integrally joined to the cover panel, one of the spacer pleats integrally joining the cover panel to a first one of the second pair of oppositely disposed side walls, the spacer pleats each comprising a plurality of contiguous plies and the spacer pleats each being tucked in engaged supported relationship between one of the second pair of side walls and one side of each of the

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top flaps and extending downwardly partially into the interior of the container adjacent that one of the second pair of side walls with which it is associated, and means for fastening the cover panel to the second one of the second pair of oppositely disposed side walls for holding the cover panel in place, said last-named means comprising tape adhered to said second one of the second pair of oppositely disposed side walls and to the cover panel.

2. A container comprising a first pair and a second pair of oppositely disposed side walls, a pair of top flaps extending toward each other and each integral with one of the first pair of oppositely disposed side walls, a cover panel extending over the top flaps, spacer pleats carried at two opposite sides of the cover panel, each of the spacer pleats being integrally joined to the cover panel, one of the spacer pleats integrally joining the cover panel to a first one of the second pair of oppositely disposed side walls, the spacer pleats each being tucked in engaged supported relationship between one of the second pair of side walls and one side of each of the top flaps and extending downwardly partially into the interior of the container adjacent that one of the second pair of side walls with which it is associated, and means for fastening the cover panel to the second one of the second pair of oppositely disposed side walls for holding the cover panel in place.

3. A container comprising a first pair and a second pair of oppositely disposed side walls, a pair of top flaps extending toward each other and each integral with one of the first pair of oppositely disposed side walls, a cover panel extending over the top flaps, spacer pleats carried at two opposite sides of the cover panel, each of the spacer pleats being integrally joined to the cover panel, one of the spacer pleats integrally joining the cover panel to a first one of the second pair of oppositely disposed side walls, the spacer pleats each comprising a plurality of contiguous plies and the spacer pleats each being tucked in engaged supported relationship between one of the second pair of side walls and one side of each of the top flaps and extending downwardly partially into the interior of the container adjacent that one of the second pair of side walls with which it is associated, and means for fastening the cover panel to the second one of the second pair of oppositely disposed side walls for holding the cover panel in place, said last named means comprising tab means integral with said second one of the second pair of oppositely disposed side walls and extending from the top edge thereof, slot means associated with the adjacent side of the cover panel, the tab means being engaged in the slot means.

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