

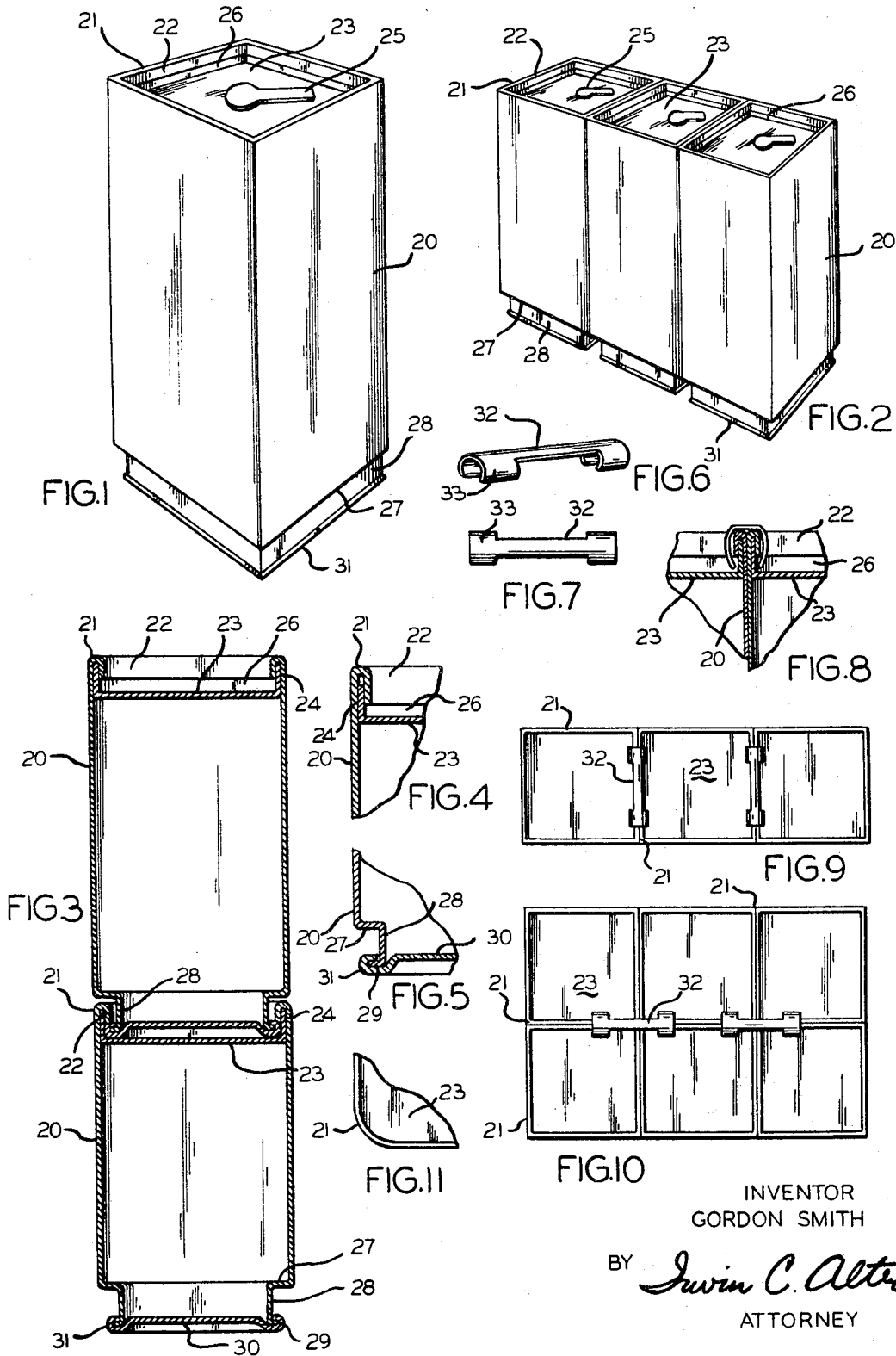
June 25, 1968

G. SMITH

3,389,830

CAN CONSTRUCTION

Filed June 29, 1966



INVENTOR
GORDON SMITH

BY *Irwin C. Alter*
ATTORNEY

1

3,389,830
CAN CONSTRUCTION
Gordon Smith, 2804 N. 44th St.,
Milwaukee, Wis. 53210
Filed June 29, 1966, Ser. No. 551,473
9 Claims. (Cl. 220-97)

ABSTRACT OF THE DISCLOSURE

Parallelepipedon containers having non-flaring sides. The containers are integrally provided with complementary tops and bottoms that lock together to facilitate stacking. A clip is provided to laterally interlock the containers for storage or transportation purposes.

My invention relates to improvements in containers and more particularly to improvements in cans for foods and beverages and the like consumable materials.

The prime object of my invention is to provide a can or receptacle of a square, or rectangular, construction which eliminates the wasted space encountered when conveying or storing the same number of cans of the conventional cylindrical design.

Another object of my invention is to reduce the amount of space required when storing an equal number of cans.

Still another object of my invention is to provide a device of the character described that may be retained in close contact with one another, and held in engagement with one another by means of resilient clips.

A further object of my invention is to provide a type of can that may be nested above one another for conveying or storing purposes.

A still further object is to provide a device that may be constructed of any type of material, adaptable for use with any type of liquid, or solid particles or product although for purposes of illustration, the invention will be discussed in conjunction with beer cans.

These and still further objects, as shall hereinafter appear, are readily fulfilled by the present invention in a remarkably unexpected fashion as may be readily discerned from the following detailed description when read in conjunction with the accompanying drawing.

It is manifest to anyone familiar with the conveying or storing of beer in cans, for example, that the conventional "six-pack" or the like, which consists of six cylindrical cans packed in a container, that there is a considerable lost space adjacent to the outer surfaces of the cylindrical cans, which necessitates the use of a carton of a larger volume than is taken up by the volume of the cans themselves. This is also true when storing the cans on shelves or in shipping containers or in refrigerators.

The device of the present invention is adaptable for vertical and horizontal storage in a minimum of space and is especially predicated upon my development of a special can design having complementary features for vertical and lateral interlocking whereupon movement in such directions between adjacent containers is virtually obviated as is illustrated in the drawings in which:

FIG. 1 is a perspective view of a square can or receptacle for beer or the like, constructed in a manner to accomplish the function and purpose of my invention;

FIG. 2 is a perspective view of a plurality of cans disposed adjacent to one another, and in contact with one another;

FIG. 3 is a vertical cross-sectional view of two cans mounted one on the other, in accordance with my invention;

FIG. 4 is a fragmentary cross-section of the top edge of a container embodying my invention;

2

FIG. 5 is a similar fragmentary cross-section of the bottom edge of a container embodying the invention;

FIG. 6 is an isometric showing of the resilient clip of the invention;

FIG. 7 is a top view of the clip member shown in FIG. 6;

FIG. 8 is a fragmentary cross-section showing the coaction of my clip member with the upper edges of adjacent containers in accordance with the invention;

FIG. 9 is a top view of three cans secured relative to each other in accordance with the invention;

FIG. 10 is a similar view when six cans are so secured relative to each other; and

FIG. 11 is a top view of another container embodying the invention.

Referring now to the drawing wherein similar characters of reference indicate corresponding parts and features throughout the several views, the character 20 represents a can of design having a body portion defining a parallelepipedon with an axially extending top edge 21 which is folded inwardly to define inner edge 22.

Located at the top of can 20 is top plate 23 having its peripheral edge 24 bent vertically upwardly therefrom into engagement within channeled edge 21 of body 20. The top plate 23 may be equipped with any conventional type of "tear-top" openers or the like which is generally identified at 25 in FIGS. 1 and 2.

The downwardly disposed inner edge 22 of the edge 21 is of a length so as to provide a space 26 (see FIGS. 1, 2, 3, and 4) between its lower edge and the upper surface of the top plate 23. This space defines "receiving means" which functions as will be described herein.

The lower end of the can 20 is recessed inwardly at a neck portion 27 and defines a channel 28 which has an outwardly extending edge 29 which acts as a support for a bottom plate 30 which has a peripheral portion 31 folded back over the edge 29 as shown in FIG. 5. Folded peripheral portion 31 defines "engaging means" which coact with the receiving means as will be described.

By referring to FIG. 3, it will be noted that the edge or engaging means of the upper can is engaged in space 26, or receiving means of the lower can with the bottom of inner edge 22 juxtaposed to the top of portion 31 when the cans are stacked vertically on each other. Thus, when the containers are being transported or stored, the sliding action which characterizes vertically stacked conventional round cans is totally obviated since when stacked in accordance herewith, there is no relative movement between the stacked interlocked cans.

In FIGS. 6 and 7, I show a further aspect of the present invention comprising an elongated resilient clip 32 having at each end thereof, radially disposed clamping members 33. As shown in FIG. 8 clip 32 is employed to coact with edge 21 of adjacent cans and clamping members 33 obtain frictional contact within the receiving means or space 26 of each can.

When clip 32 is positioned as desired, adjacent cans 20 are locked relative to each other and cannot slide in the manner of cylindrical cans. Further, clip 32 retains cans 20 in contact with one another, as shown in FIGS. 9 and 10, while they are being conveyed from place to place whereupon the necessity of a carton or the like (not shown) is eliminated. And the lateral interlock provided by clip 32 is equally useful to lock adjacent vertical stacks into a pack.

As an optional feature, the corners of edge 21 may be curved to facilitate the use of the popular "church key" opener when tear-top openings are not employed. This feature is illustrated in FIG. 11.

From the above description it is apparent that the device described and illustrated herein performs a func-

tion and purpose for which it is intended in a remarkably unexpected fashion. Although I have shown a specific construction and arrangement, I am fully cognizant of the fact that many changes in the form, shape, and configuration of the features may be made without affecting their operativeness, and I reserve the rights to make such changes as I may deem convenient and necessary without departing from the spirit of my invention especially as it is defined by the scope of the appended claims.

I claim:

1. An improved container comprising a body portion having first and second ends, said first end having a peripheral flange extending axially of said body portion including receiving means defined on the inner surface thereof, said inner surface being a certain distance from the outer surface of said axially extending peripheral flange at the top of said container, said receiving means comprising a space below the top of said container where the distance between said inner surface and said outer surface is less than said certain distance, said second end having an inset neck portion extending to an outwardly extending peripheral flange and a recessed bottom plate having a peripheral portion folded back over said peripheral flange and defining engaging means therewith capable of fitting within the said space of said receiving means for vertically interlocking said containers.

2. A container according to claim 1 in which said body portion comprises a parallelepipedon.

3. A container according to claim 2 in which said first and said second ends are square in cross-section.

4. A container according to claim 3 including clip means for attaching said container to a like container abutting said body portion to secure said containers against lateral movement relative to each other and said clip means comprising an elongated body portion, a pair of radially disposed clamping members at each end of said body portion, said radially disposed clamping members each having an opening at the side opposite said body portion, said opening being less than said certain distance so that when said clamping members are inserted over

said certain distance into said space adjacent ones of said containers are thereby laterally interlocked.

5. A container according to claim 1 in interlocked relationship to a like container disposed in vertically stacked relationship thereto by the coaction of said engaging means of one of said containers and said receiving means of the other of said containers.

6. A container according to claim 4 laterally interlocked to a like container by said clip means.

7. A container according to claim 6 in which each of said laterally interlocked containers is vertically interlocked with a like container disposed in vertically abutting relationship thereto.

8. A container according to claim 1 in which the upper edge thereof is curved to complement a friction opener complementary thereto.

9. The improved container of claim 2 including top plate means fixedly associated with said first end, said inner surface including a folded back portion of said axially extending peripheral flange, said folded back portion forming a channel between the extending flange and the folded back portion, said top plate comprising a main body section and a bent up peripheral edge, said edge being designed to fit in said channel to fixedly attach said top plate to said first end, and said space occurring where said folded back portion does not reach the main body section of said top plate.

References Cited

UNITED STATES PATENTS

1,607,774	11/1926	Morse	220—97 X
1,650,520	11/1927	Johnson	220—97
1,743,283	1/1930	Porges	220—1 X
2,674,389	4/1954	Baker	220—23.4
2,845,174	7/1958	Ziehmer	220—65
2,978,142	4/1961	Novick	220—97

THERON E. CONDON, *Primary Examiner*.

40 GEORGE E. LOWRANCE, *Examiner*.