May 14, 1940. P. ZALKIND 2,200,320

COLLAPSIBLE CONTAINER

Original Filed Sept. 3, 1932 2 Sheets-Sheet 1

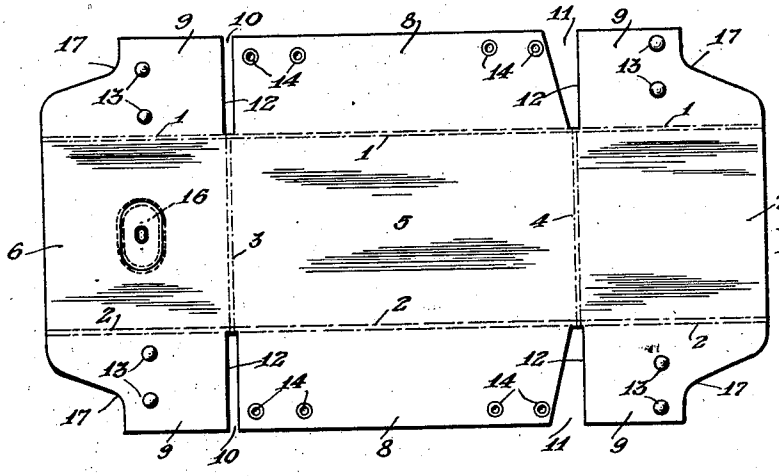


Fig. 1

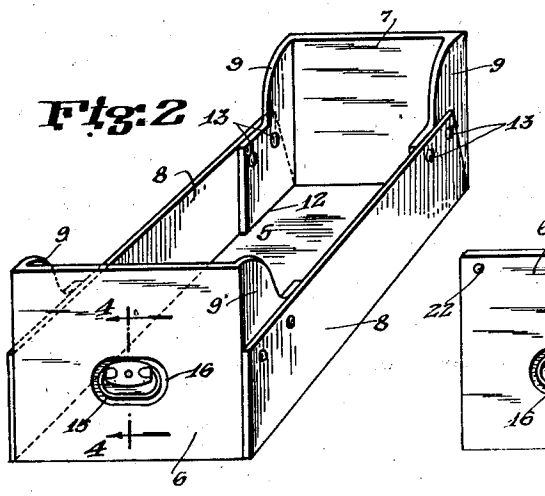


Fig. 2

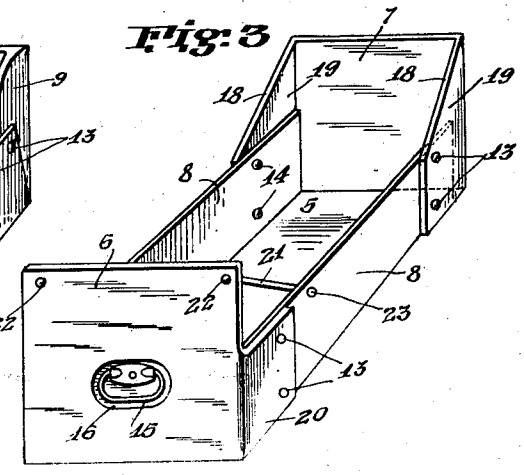
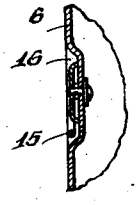


Fig. 3

Fig. 4



INVENTOR.
Philip Zalkind
BY Samuel Petrokubi
ATTORNEY.

May 14, 1940. P. ZALKIND 2,200,320

COLLAPSIBLE CONTAINER

Original Filed Sept. 3, 1932 2 Sheets-Sheet 2

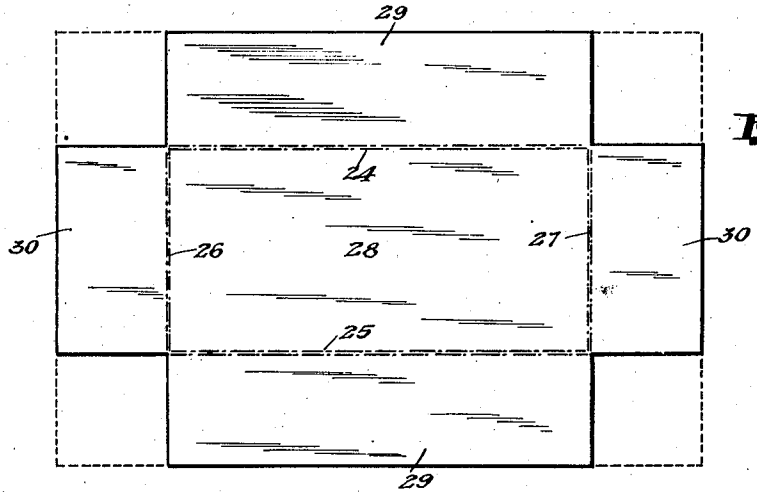


Fig: 5

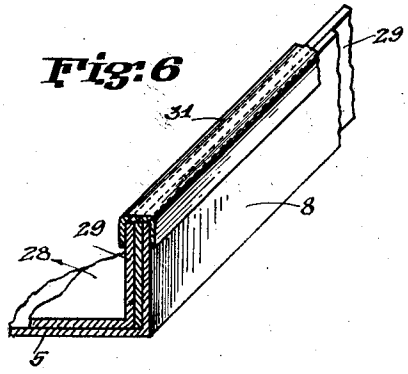


Fig: 6

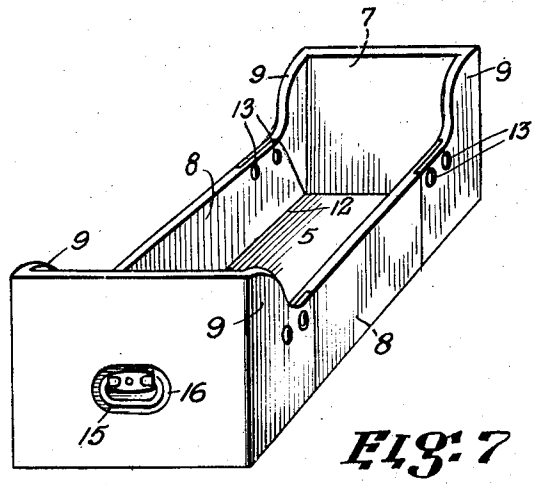


Fig: 7

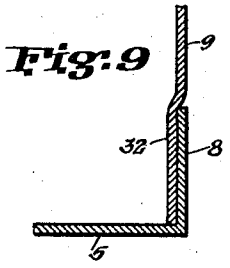


Fig: 9

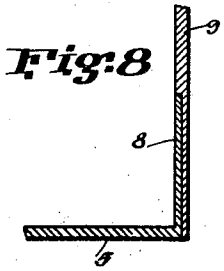


Fig: 8

INVENTOR.
Philip Zalkind

BY Samuel Astrolabe

ATTORNEY.

Patented May 14, 1940 2,200,320

UNITED STATES PATENT OFFICE

2,200,320

COLLAPSIBLE CONTAINER

Philip Zalkind, New York, N. Y.

Application October 10, 1933, Serial No. 692,937, which is a division of application Serial No. 631,682, September 3, 1932. Divided and this application December 3, 1935, Serial No. 52,730

4 Claims. (Cl. 229—32)

My invention relates to containers and casings therefor and more specifically relates to drawers adapted to be pushed into and pulled from a casing made of suitable sheet material.

My invention is a division of S. N. 692,937, filed October 10, 1933, Patent No. 2,128,341, August 30, 1938, which in turn is a division of S. N. 631,682 filed September 3, 1932, Patent No. 1,946,516, February 13, 1934.

In general, my invention embodies a container and casing combination made of sheet material such as a cardboard or paper box board, corrugated board, fibre board, and/or any other material adaptable or adapted to be stamped and bent upon creased, scored, or otherwise formed and predetermined lines for the purposes hereinafter described after the same has been suitably cut, creased, stamped or blanked out in outline form.

Drawers of the type described above, must be sufficiently rugged to withstand the strains to which they are subjected in being pushed into and pulled from a casing. To justify their construction from sheet material of the type described above, they must be of low cost and be adapted for shipment in a collapsed state.

Accordingly, objects of my invention are: to provide means for making inexpensive and yet rugged containers of sheet material: to make containers adapted for shipment in a "knocked-down" condition and arranged to be simply and easily assembled and erected by the user: and to make containers which in "knocked-down" or collapsed condition lie substantially flat, so as to occupy a minimum of space for shipping and storage.

In order to readily push and pull a drawer into and from a casing, it must obviously be provided with a handle. I have discovered a special formation for the handle which not only insures a secure support therefor, but also does not interfere with the packing of the collapsed containers for shipment.

Accordingly, further objects of my invention are to provide a handle secured to an integral extension of the front wall bent on a scored line to lie behind the front wall; and a handle mounted on a separate reinforced sheet of material adapted to be placed in face to face relation with the front wall of a collapsible container made of sheet material suitably scored to be assembled into the form of the container.

In pushing and pulling the drawer from its casing, it is subjected to shearing strains along the vertical edges of the front wall. I have discovered that by transferring these strains to the side walls, they can be distributed over a larger area and are therefore less likely to be destructive of the container.

Accordingly, still further objects of my invention are to provide means in a casing for transferring the shear along the vertical edges of the container to the side walls; bracket arrangements for connecting the front and side walls; and tongues integral with the front wall and suitably secured to the side walls, as by extending the tongues between an outer and inner integral side wall.

Other objects of my invention will be apparent from the following description taken together with the drawings in which

Figure 1 shows a blank or development made from a sheet of material and adapted to be formed or folded into a container or file drawer having the corners thereof secured by means of snap fasteners.

Figure 2 shows a perspective view of a drawer formed by folding and fastening the blank shown in Figure 1.

Figure 3 shows a drawer similar to that shown in Figure 2, except that the upper portion of the front wall is supported by means of a tension brace secured between the front wall and the side wall of the drawer and tongues of a modified shape to support the back wall.

Figure 4 is a vertical section on line 4—4 of Fig. 2 showing the way in which the drawer pull or handle is fastened to the front wall of the drawer in a depression formed therein.

Figure 5 shows a development of an inside auxiliary sheet adapted to fit in the drawer or container shown in Figures 2 and 3.

Figure 6 shows the manner of securing a strengthening channel strip to the side walls of a drawer like shown in Figure 2 in which an auxiliary sheet has been inserted.

Figure 7 is a view in perspective of a drawer of the type of Figures 2 and 3 showing, however, a modified form of corner which may be used when it is desired to make a smooth lapped area between the parts of the floor.

Figure 8 is a view taken on line 8—8 of Figure 7 and looking in the direction of the arrows.

Figure 9 is a modified form of the joint of the general type of Figures 7 and 8 in which the outside surfaces of the tongues and side walls lie in substantially the same plane and the material of the side wall is adapted to furnish support to the tongue.

Referring now to the drawings described above,

and particularly to Figure 1 thereof, wherein I illustrate a blank from which a container of the class described may be constructed from a single sheet of suitable material, it will be understood that the material is first cut, scored, stamped or blanked out in any suitable manner as indicated at lines 1, 2, 3, 4. The blanking and creasing operations form the material into areas or sections which for want of better names I shall describe as bottom 5, front wall 6, rear wall 7, side walls 8, and tongues 9, because these parts of the blank are adapted to form such parts of a drawer or container when properly set up and secured in the manner to be hereinafter described.

The tongues 9 of the blank are separated from the side walls 8 by notches or slots 10—11 of any width or shape suitable to permit the bottom edge 12 thereof to be positioned in the plane of the bottom 5 when the blank is folded to form a finished container.

A plurality of snap fasteners comprising a ball member 13 and a socket member 14 are secured to the tongues 9 and side walls 8 respectively, for holding the parts together when folded to form the drawer shown in Figure 2. A handle 15 is secured to the outside surface of the front wall 6 in any suitable manner and preferably so that it will not extend beyond the front surface of the drawer. Accordingly a depression 16 may be formed in the material of the front wall, as shown in Figures 1 to 4 inclusive, to receive the handle 15. Alternatively a raised boss may be provided around the handle.

From the above description it will be seen that a drawer like that shown in Figure 2, made from the blank shown in Figure 1, comprises a front wall 6 adapted to be subjected to transverse strains in being pushed into and out of a suitable container and that said wall is supported by and secured to side walls 8 of the drawer by tongues 9 adapted to be suitably fastened to the side walls to transmit said strains to the side walls in the form of tensile strains when the drawer is pulled open; and compressing strains when said drawer is pushed closed.

Figure 3 illustrates a drawer similar to that shown in Figure 2 and in which the tongues attached to the front and back walls 6 and 7 respectively are of modified shape. The tongue 9 having a reentrant angle 17 (see Figure 1) may be modified as shown at 18 to form a tongue 19 shown at the rear of the drawer in Figure 3. Moreover a modified tongue 20, like that shown at the front end of the drawer, may be used. In this case, the tongue is cut away from the front wall down to a point corresponding to the height of the side wall of the container and is not adopted to support the top of front wall 6 as in the case of the tongue 9 shown in Figure 2. Hence a brace or strut rod 21 is suitably secured to the top of the front wall at 22 and to the side wall at 23 to afford such support. In the drawer shown in Figure 3, the tongues and side walls are secured by means of snap fasteners as above described. However, if desired, this tongue may be lapped over the outside of the side walls instead of being disposed on the inside thereof as shown in Figure 2.

Referring now to Figure 5, it will be seen that I illustrate a blank of what I shall describe as an inside auxiliary or stiffening piece adapted when cut to the outline shown and creased or folded on lines 24, 25, 26, and 27 to form a bottom 28, sides 29, and ends 30, adapted to fit into the drawers shown and to assist in holding the tongues against the sides 8. When the stiffening piece is inserted as described, I may provide a channel strip 31, of U-shaped cross-section, adapted to fit over the upper edge of the wall 8, tongue 9, and side 29 to still further stiffen the assembled drawer, if desired, as shown in Figure 6.

It will be understood that the channel 31 may be secured to the wall 8 in any suitable manner when the blank is manufactured and the tongue and/or auxiliary stiffening piece slipped under the same when the container is set up. It will also be understood that the channel 31 need not extend the entire length of the side wall but instead may be what amounts to short U-shaped clips adapted to be used where and as needed. If desired, a piece having the area 28 alone may be inserted into the bottom of the drawer to hold the tongues against the sides or any combination of the part 28 and parts 29 and 30 as desired. Moreover, an auxiliary inside of this kind may be used to amplify or increase the side walls and/or rear height wall.

In Figure 7 I have shown a modified form of drawer similar in all respects to the type of drawer shown in Figures 2 and 3, having side walls 8, end walls 6 and 7, and tongues 9. In this embodiment, however, I have shown a construction in which the tongue 9 and a portion of the wall 8 may be compacted or crushed and reduced in thickness over the area at which these parts cooperate in order to make the thickness of the joined or lapped parts the same as the material used in other parts of the drawer. This arrangement is more clearly shown in Figure 8 which is a cross-sectional view taken on line 8—8 of Figure 7. In Figure 9, which is a view corresponding exactly to that of Figure 8 showing, however, a slightly different conformation of the members for the purpose of producing the lap joint, the said figure representing a joint of the type shown occupying the same position in a modified form of drawer as that occupied by the type of joint of Figure 8 illustrates in a cross-sectional view the manner in which the tongue 9 may be offset for a short distance, as shown at 32, in order to make the outside surface of the tongue 9 and side wall 8 lie in the same plane.

Although I have herein illustrated various applications of my invention, it will be understood by those skilled in the art that it may take other forms and I do not wish to be limited thereby except as set forth in the appended claims.

I claim:

1. A collapsible container to be placed within an outer shell having an open front; said collapsible container being formed from an integral sheet and having side walls and an end wall; tongues extending from said end wall and lying in contact with said side wall; means for securing said tongues to said side walls for manually setting up said container and for maintaining the walls in predetermined relation with each other; conformations in the sheet to produce a substantially flush condition of the tongues and the side walls when the tongues and side walls are united, the side margins of the end wall being thereby arranged to fit snugly against the corresponding walls of the shell at the open end thereof.

2. A collapsible container to be placed within an outer shell having an open front; said collapsible container being formed from an integral sheet and having side walls and an end wall; tongues extending from said end wall and lying in contact with said side wall; means for securing said tongues to said side walls for manually set-

ting up said container and for maintaining the walls in predetermined relation with each other; the said tongues and the side walls being compressed to produce a substantially flush condition of the tongues and the side walls when the tongues and side walls are united, the side margins of the end wall being thereby arranged to fit snugly against the corresponding walls of the shell at the open end thereof.

3. A collapsible container to be placed within an outer shell having an open front; said collapsible container being formed from an integral sheet and having side walls and an end wall; tongues extending from said end wall and lying in contact with said side walls; means for securing said tongues to said side walls for manually setting up said container and for maintaining the walls in predetermined relation with each other; compressions in the sheet to produce a substantially flush condition of the tongues and the side walls when the tongues and side walls are united; an inner blank having end and side extensions mounted within the container for reinforcing said container; the side margins of the end wall being arranged to fit snugly against corresponding walls of the shell at the open end thereof.

4. A collapsible container to be placed within an outer shell having an open front; said collapsible container being formed from an integral sheet and having side walls and an end wall; tongues extending from said end wall and lying in contact with said side walls; means for securing said tongues to said side walls for manually setting up said container and for maintaining the walls in predetermined relation with each other; and compressions in the sheet to produce a substantially flush condition of the tongues and side walls when the tongues and side walls are united; said means comprising metallic fasteners for securing said tongues to said side walls and maintaining the walls in predetermined relation with each other, the forces applied in pulling and pushing said drawer acting in a direction to shear said metallic fasteners; the side margins of the end wall being arranged to fit snugly against corresponding walls of the shell at the open front thereof.

PHILIP ZALKIND.