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S. P. BELSINGER

2,094,783

FIBERBOARD CONTAINER

Filed March 24, 1937

FIG. 1.

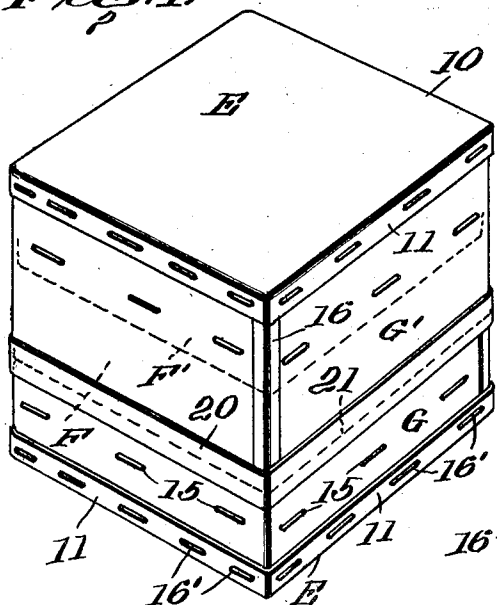


FIG. 2.

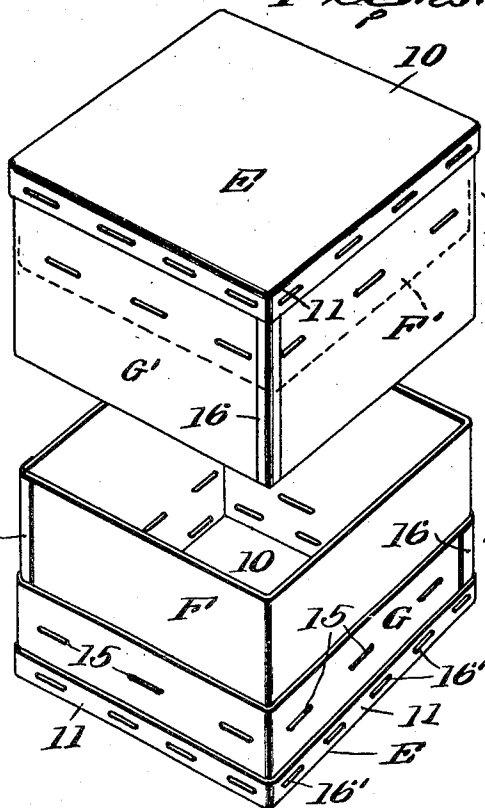


FIG. 6.

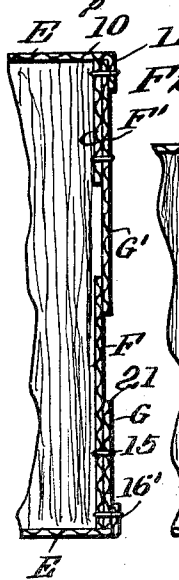


FIG. 7.

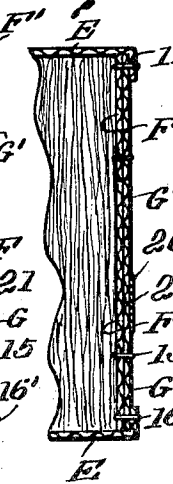


FIG. 8.

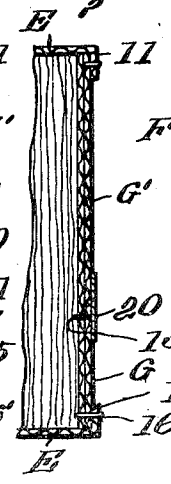


FIG. 3.

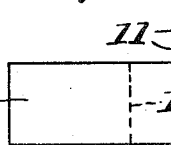


FIG. 4.

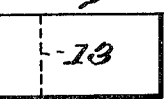
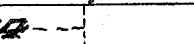


FIG. 5.



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UNITED STATES PATENT OFFICE

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FIBERBOARD CONTAINER

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Application March 24, 1937, Serial No. 132,860

3 Claims. (Cl. 229—23)

This invention relates to improvements in containers, more particularly of the type in which a container is made of upper and lower sections, with the free edges thereof brought into abutting relationship in closing, these abutting edges being secured together and the container sealed by the employment of a cemented strip extending over the line of abutment.

According to the present invention, the container is composed of sections, at least the lower section having a side wall structure composed of a plurality of layers which terminate at different points of height, the inner layer extending upwardly to retain and support the lading while the container is being filled, and the upper section having its side walls adapted to telescope outside of the aforesaid inner layer of the lower section, and to come into abutting relationship with the outer layer of the lower section, so that the parts may be secured together by a cementing strip which extends flush from one section to the other.

A further feature of the present invention is the provision of a container of great strength and particularly adapted for the packaging of textile materials which, when initially folded for placing in a container, occupy a greater bulk than after they have been permitted to stand and settle; and to this end the parts are so constructed and arranged as to confine and contain the textile material while such shrinkage is permitted, and to be effective for closely confining and exerting a downward pressure upon the material during the shrinkage, and ultimately to assume a position in which side wall structures are in abutting relationship for receiving a sealing strip.

A further feature of the present invention is the provision of a strong and simply arranged container, in which the upper and lower end walls and the multiple side walls are joined together permanently by stitches, and the closure is completed by a sealing member, so that the closed and sealed container has smooth upper and lower surfaces for easy sliding and storage in stacks, and will immediately reveal any tampering therewith.

With these and other features as objects in view, illustrative forms of the container are set forth in the accompanying drawing, in which:

Figure 1 is a perspective view showing a filled and closed container of the present type.

Figure 2 is a similar perspective view showing the upper and lower sections separated for indicating the relationship of their parts.

Figures 3, 4 and 5 are lay-out views of the blanks employed in making the container.

Figure 6 is an upright sectional view through the portion of the container, on an enlarged scale, showing the position of the parts when a textile material has been folded and first placed in the container.

Figure 7 is a similar view, showing the relationship of the parts after the textile material has subsided or shrunk, and indicating the presence of a sealing strip.

Figure 8 is a view corresponding to that of Fig. 7, showing a modification of the construction of the container.

In the making of containers of corrugated board or like material, it is necessary to take advantage of the characteristics of this material which yield strength and cheapness to the products; and to avoid defects arising from certain known weaknesses and defects of such material. Thus, it can be prepared in large sizes very cheaply, and can be cheaply cut to given shapes. When these shapes are rectangular, or when their edges are rectilinear, the material can be easily cut by a bandsaw, circular saw, or the like, or even by plain rotating circular knives. Further, impressions or indentations can be made upon it by wheels having blunt edges, which thus provide so-called "scoring lines" which determine an axis of folding. The material is very strong in tension, but is relatively weak in compression when in single thicknesses. Likewise, in single thicknesses, it is subject to bulging unless supported closely adjacent the line at which bulging may occur. Parts formed thereof may be easily secured together by stitching, which includes the operation of employing staple-like devices which are passed through the several thicknesses and clinched: such securing means are easily employed and provide an adequately strong joint when it is possible to operate from both sides of the material.

According to the forms illustrated in the drawing, the container of Figs. 1 and 2 is made of an upper and lower section. Each of these sections comprises an end member E which can be formed from a blank providing a surface 10 of rectangular form which is substantially of the same dimensions as the outer horizontal cross-section of the container, and is integrally joined to flanges 11. Such a blank may be cut in rectangular form, by the usual means, and the corners notched away so that the flanges 11 are of the same length as the corresponding sides of the container. This notching may be accomplished either before or

after forming the scoring lines 12 which provide axes about which the flanges may be turned to positions at right-angles to the area 10.

The side walls are formed of rectangular blanks 5 such as shown in Figs. 4 and 5. The blank of Fig. 4 is provided with scoring lines 13 which determine the vertical edges of the section.

The blank of Fig. 5 is similar to the blank of Fig. 4, but is illustrated as being of slightly greater length and thus having the scoring lines 14 at a slightly greater spacing than the scoring lines 13.

The parts shown in Figs. 3, 4 and 5 may be assembled to provide the lower section of Fig. 2, 15 by folding about the scoring lines, and slipping the folded blank G outside of the folded blank F. The free vertical edges may thus be positioned diagonally opposite one another in such an arrangement. These parts are then joined by the stitching staples 15 (Fig. 2) which pass through the double layers thus provided and secure these parts together. It is preferred to join or seal the vertical edges by cemented tapes 16 to assure the integrity of the structures. The 20 folded end member E is then presented with its flanges overlapping the outer side wall portion G, as shown in Fig. 2, and stitching is then employed to secure these parts together, the staples 16' for this purpose being passed through the triple thickness of material.

The upper section is formed in similar manner, but in this instance the outer wall portion G¹ is of a greater vertical dimension than the inner wall portion F¹.

Thus, the two sections are composed of two layers, the outer layer G in the lower section having an upper exposed or free edge into which the lower exposed or free edge of the layer G¹ of the upper section may come into abutting relationship at the same time that the exposed or free upper edge of the inner portion F of the lower section comes into similar abutting relationship with the lower edge of the portion F¹ of the upper section.

The container may be filled with any desired type of lading. It is particularly advantageous with textile goods such as cloth, yarns, etc., which are inserted within the lower section while the latter is resting upon an appropriate support. The high inner layer F thus supports and retains the lading, and the latter is permitted to stand and settle so that it shrinks or subsides. In order to prevent accidental change or loss of the contents of the package, it is customary to place the upper section loosely over the lower section, with its wall layer G¹ overlapping and telescoping with respect to the wall layer F of the lower section, as shown in Fig. 6. Further, the packages thus 60 filled may be stacked, and the weights of the superposed packages will thus assist in causing a proper subsidence of yarn or other textile goods until the edges of the corresponding layers come into the aforesaid abutting relation. When this occurs, the closure can be completed by applying a strip 20, which may be accomplished by the employment of cement. This strip therefore extends over the line 21 (Fig. 7) at which the edges of the outer layer abut, and provides a smooth and flush finish at this point, and maintains the parts of the package stiffly supported by the double thicknesses thereat, this supporting relationship being increased by the provision of the staples 15 adjacent the points at which the layers abut. 75 Thus, a great strength is afforded for the pack-

age, and it is possible to stack them to heights representing great weights at the general supporting surface.

The package thus formed is entirely sealed, as a pilferer cannot remove the staples and cannot cut through them or through the material of the walls, without immediately revealing the fact; and further the cutting of the cementing strip 20 obviously results in a clear indication of the fact, as it is necessary to sever this strip throughout the periphery, before the two sections may be separated.

It will further be noted that the upper and lower surfaces are entirely smooth and adapted to receive any desired printing or other identifying matter thereon, and that the major portions of the outer surfaces of the side walls may likewise be so employed.

When the final assembly is completed, the structure appears as shown in Fig. 1.

In the modified form shown in Fig. 8, the inner layer F² of the lower section is secured to the outer layer G thereof, and to the flange 11 of the lower end member E by the employment of the staples 15, 16' in the manner described above. In this form, however, the inner layer F² extends from the upper surface of the lower end member E to the lower surface of the upper end member E, this being the position assumed when the lading has reached a stage of packing so that the outer layers G, G¹ are in abutting relationship, as stated above. The container is again closable by the sealing strip 20. In this form, the lading is placed within the inner layer F², as stated above. Since this layer F² in effect represents the final inside height of the container, the subsidence of the packed material occurs easily, as the upper portion of the inner surface of layer F² is smooth, and the lower surface has merely the minor deformations occasioned by the presence of the staples 15, 16, this latter being minimized by the normal operation of indenting the engaging portions of the staples into the structure of the board, so that there is no projection beyond the normal surface of the board.

It is obvious that the invention is not limited solely to the form of construction shown, but that it may be modified in many ways within the scope of the appended claims.

I claim:

1. A container of corrugated board or like material comprising upper and lower sections, each section having an end member with flanges, and also having a side member with walls located inside the flanges, the side and end members being connected permanently together by stitches through the lapping walls and flanges, the lower section having its walls composed of an inner and an outer portion, the inner portion being higher than the outer portion to retain the lading and prevent its contact with the outer portion, the walls of the upper section fitting closely around and being slidable along the walls of the inner portion of the lower section, the lower edge of each wall of the upper section being in abutting relation with the upper edge of a corresponding wall of the outer portion of the lower section, and a sealing member covering the outer abutting parts of said walls and being cemented thereto for closing and securing the container.

2. A container of corrugated board or like material, comprising upper and lower sections, each section having an end member with flanges and 75

also having a composite side member with walls located closely inside the flanges, the side and end members of the section being connected permanently together by stitches through the lapping walls and flanges, each composite side member having an inner layer and an outer layer, the inner layer of the lower section having a greater height than the outer layer to sustain the lading and prevent its contact with the outer layer of such section, the side members telescoping with respect to one another in closing the container until each layer of one section attains an abutting relationship with the corresponding layer of the other section, and an external sealing member covering the abutting parts of the outer layer of the two sections and being cemented to both said sections for closing and securing the container.

3. A container of corrugated board or like ma-

terial, comprising upper and lower end members each having flanges, side walls extending between the adjacent surfaces of the end members and fitting closely within the flanges, stitching securing said flanges and walls together, each side wall being composed of a plurality of layers with each layer being divided intermediate its height so the container may be separated into an upper and a lower section or the sections brought together for closing the container with each layer having its free edges in abutting relation, the inner layer of the lower section being higher than the outer layer, further stitching securing the several layers of each section together along their heights, and a sealing strip covering the outer abutting parts of said walls and being cemented thereto for closing and securing the container.

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