Feb. 1, 1938. J. P. BRUNT ET AL 2,106,908

CHANNEL VENTED BOX

Filed Jan. 6, 1936 2 Sheets-Sheet 1

Fig. 1.

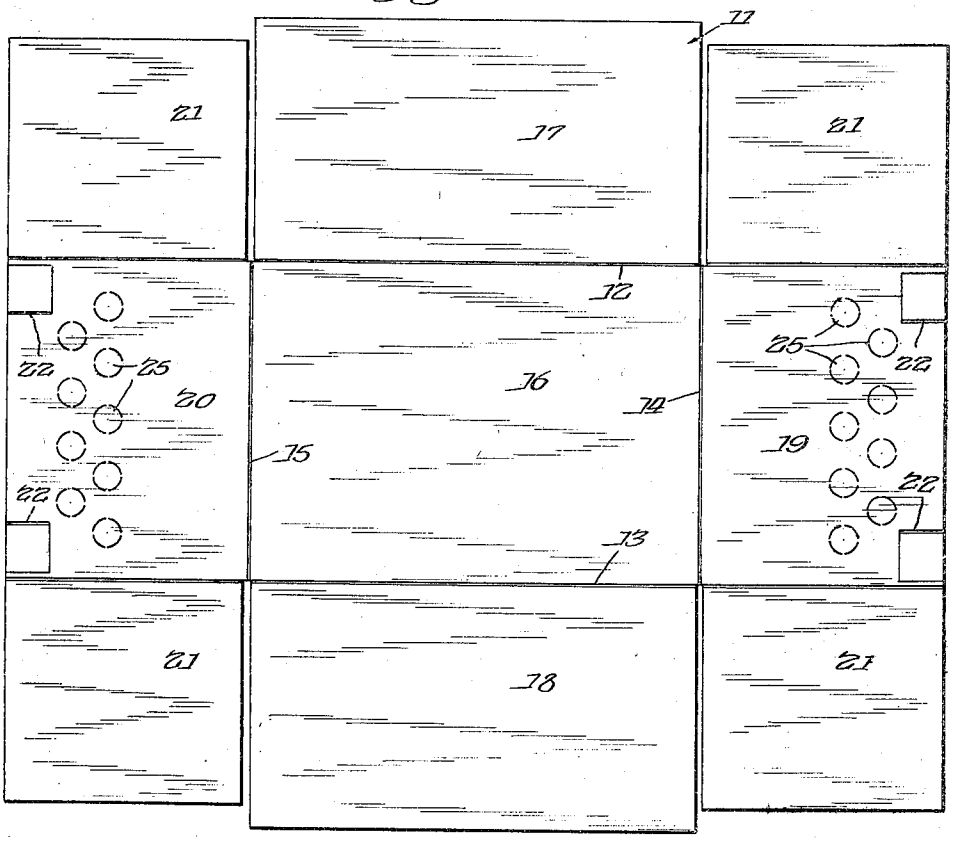
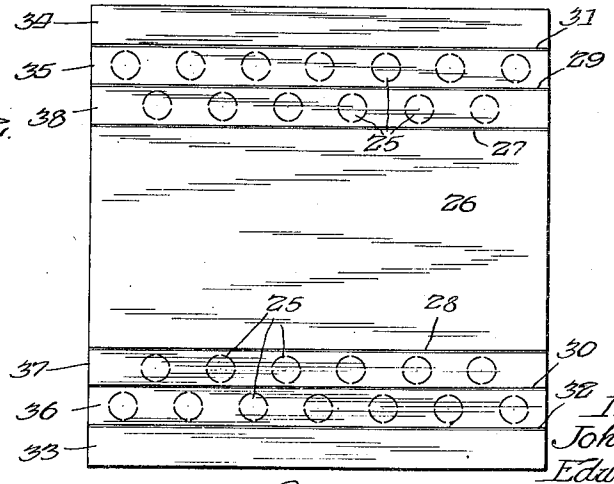


Fig. 2.



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Fig. 3.

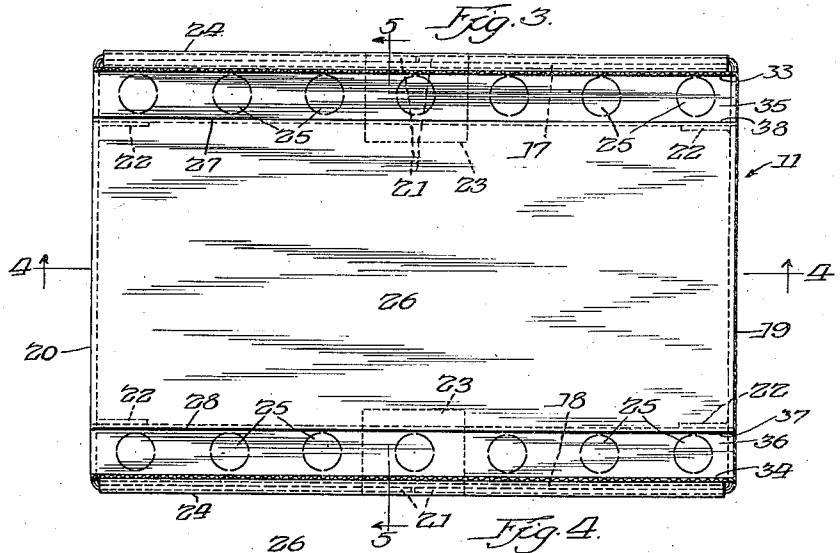


Fig. 4.

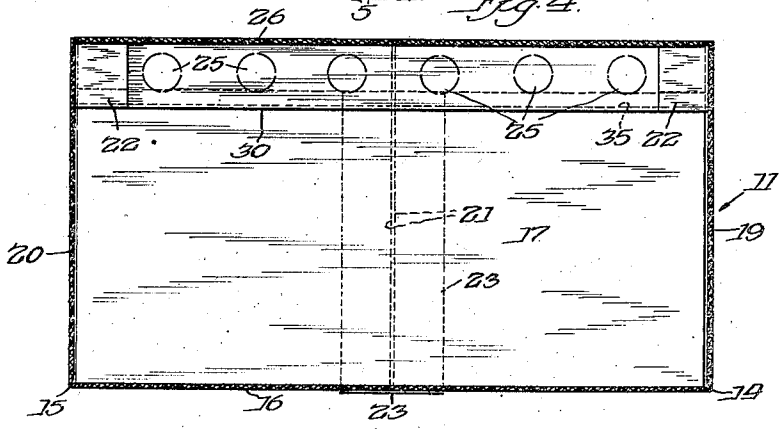
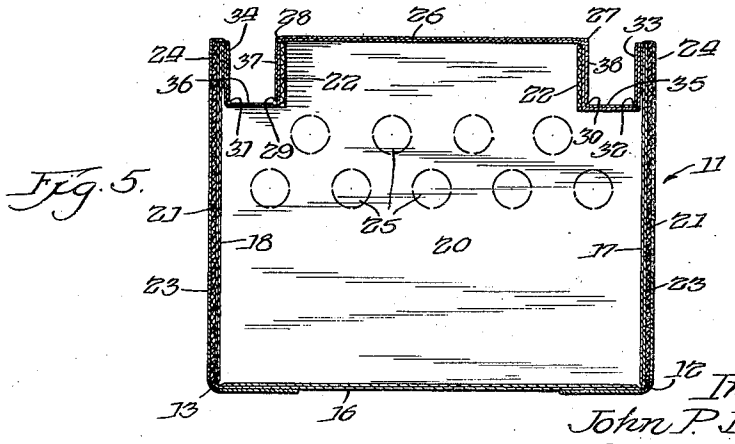


Fig. 5.



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2,106,908

CHANNEL-VENTED BOX

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Application January 6, 1936, Serial No. 57,773

3 Claims. (Cl. 229—6)

Our invention relates to a channel vented box and has particular reference to a box of the type in which various live objects are transported, such as baby chicks and the like, and may also be used for other articles, as vegetables, fruit, and the like, which require ventilation during the course of shipment.

Our invention has to do primarily with a box having a cover with one or more channel portions therein which may extend either longitudinally or transversely of the box with vent openings in the channel portions so that regardless of how these boxes may be packed during the course of shipment, there is an opportunity for the free circulation of air from the inside of the box and regardless of how other boxes or cartons are packed at the sides of the container or on top thereof, the vents will not be closed nor the circulation of air prevented even though the boxes may be stacked in close formation.

Another and further object of our invention is the provision of a vented channel box which is made of corrugated fiber board, solid fiber board, paper board or other similar material which is shipped in flat sheets and can be set up at the place where the box is intended to be used by taping, stitching, stapling or riveting, or by any other appropriate means, thus foregoing a material saving in freight rates and allowing for easy transportation of the parts used for making the box.

Another and further object is the provision of a box in which the sides are formed of a double thickness of material, adding to the strength of the box and provides a strong durable box which effectually protects the contents of the box during transportation.

Another further object is the provision of a channel vented box which is easy and simple to manufacture and which effectually provides means whereby air may pass in and out of the box without the vents thereof being closed, either by the piling of boxes in among other boxes, or by piling material on top of the box, as is usually the case in ordinary boxes of this type in which vent openings are provided.

These and other objects of the invention will be better understood by reference to the accompanying drawings, in which—

Figure 1 is a plan view of the blank forming the lower or container section of the box;

Figure 2 is a plan view of the blank for the top of the box;

Figure 3 is a top plan view of the box in assembled relation;

Figure 4 is a longitudinal sectional view on line 4—4 of Figure 3;

Figure 5 is a transverse sectional view on line 5—5 of Figure 3.

Referring now specifically to the drawings and in which like reference characters refer to like parts throughout, a blank 11 is shown from which the lower section of the container is formed, this blank being fashioned from corrugated fiber board, solid fiber board, paper board or like material, having longitudinally extending fold lines 12 and 13 therein which extend for the full length of the blank and transverse fold lines 14 and 15 extending partially across the blank whereby a bottom portion 16, side portions 17 and 18 and end portions 19 and 20 are formed. The fold lines 14 and 15 extend only partially across the blank in a transverse direction and are of a length equal to the width of the bottom portion 16 and end portions 19 and 20. At the corners of the blank extension members 21, 21 are formed, by being severed from the side portions 17 and 18 but are integrally formed with the end portions 19 and 20. In each of the end members 19 and 20 at the ends thereof in the blank (upper edges of these members when the box is in formed position) are rectangular shaped cut-outs 22, 22, these portions being cut free on two sides but are preferably left attached to the end sections at the opposite sides and are turned inwardly when the lower section of the box is in its final form. The lower section or receptacle portion of the box is formed by folding the side members 17 and 18 along the fold lines 12 and 13 to a vertical position, thereafter folding the end members 19 and 20 into a vertical position, and then folding the extension members 21 longitudinally against the side portions 17 and 18 so that they are in face-to-face relation therewith, the ends of these extension members 21 meeting in substantially abutting relation. Gummed strips 23, 23 are placed in vertical position overlapping the ends of the members 21 and are carried around to the bottom of the box for a substantial distance, particularly as shown in Figures 3 and 4. Other gummed strips 24, 24 are placed over the registering upper edges of the side portions 17 and 18 and the extension members 21, thereby providing a lower receptacle which has double side walls and is quite strong and substantial to withstand weight placed upon it and rough handling in transportation.

In each of the end portions 19 and 20 circular partial punch-outs 25, 25 are provided, these partial cut-outs being left intact in the blanks

and substantially cut through so they can be easily punched out to provide adequate air circulation as desired by the shipper, depending upon the temperature, climate, distance of travel and the like, when the shipments are made. For example, if the temperature is low, a less number of these punch-outs will be made so as to allow circulation of the air through the ends of the box but restricting such circulation to a certain extent, whereas if the temperature is higher, more of these punch-outs can be made, leaving a larger number of holes for the more free circulation of air.

The blank for the lid of the box is illustrated particularly in Figure 2 and comprises a flat rectangular shaped section **26** of the same material as that of which the bottom section is made. Extending longitudinally of the member **26** are fold lines **27** and **28** with intermediate fold lines **29** and **30**, and outer fold lines **31** and **32**, whereby when the cover **26** is in position on the receptacle, channels along the box will be formed, consisting of outer strips **33** and **34**, bottom strips **35** and **36**, and inner wall strips **37** and **38**. The outer strips **33** and **34** and the inner wall strips **37** and **38** form the vertical sides of each of the channels, while the strips **35** and **36** form the bottoms of each of the channels. The width and height of these respective channel sections correspond to the depth and width of the struck-out portions **22** in the end portions **19** and **20** of the box blank **11** so that when these channel sections are formed, they project into and are supported by the end portions **19** and **20** of the box and the outer sections **33** and **34** are in vertical relation and rest against the inner sides of the side portions **17** and **18**. In sealing the box a gummed strip or the like can be placed over the edge of the strips **33**, **34** and the upper edges of the portions **17** and **18** and over the gummed strip **24**, whereby effectively sealing the two sections of the box together after the contents has been placed therein for transportation and the like. Punch-out sections, such as **25**, **25** are placed in rows in each of the inner side walls and bottoms of the channel portion of the lid, which may be removed in the same manner and under the same circumstances as the punch-outs heretofore described in the ends of the container. Particularly it will be noted that these punch-outs in the sides and bottom of the channel portion of the cover are in such position that they cannot be closed by another box or container placed on top of a receptacle such as we have described and if these containers are placed in close relation with other boxes, an opportunity for the passage of air is always afforded in the channel formed in the cover of the box.

It is believed that the description heretofore made is adequate to show the construction and assembling of the container and that further detailed description of the assembly thereof would be merely repetition and is unnecessary.

While we have described more or less precisely the details of construction, we do not wish to be understood as limiting ourselves thereto, as we contemplate changes in form and the proportion of parts and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit or scope of our invention.

We claim:

1. In combination, a receptacle having bottom, side and end walls, the end walls having struck-out portions at the upper corners thereof whereby openings are formed in said end walls, the struck-out portions remaining connected to said end wall at one of their sides, and a cover therefor having fold lines extending longitudinally thereof whereby channel portions are formed adapted to be fitted into the openings in said end walls, each channel comprising two side walls and a bottom wall, the outer wall of each channel portion being fitted against the adjacent side wall, the opposite side wall and the bottom wall having partial cut-outs therein.

2. A receptacle comprising, in combination, a bottom section and a cover therefor, the bottom section having a bottom and enclosure walls, one pair of oppositely disposed enclosure walls having recesses formed in the upper outer corners, the cover having channel sections at opposite edges thereof, each channel section comprising two vertical side walls and a bottom wall, the outer vertical side walls being fitted against the face of the adjacent enclosure wall.

3. A receptacle comprising, in combination, a bottom section and a cover therefor, the bottom section having a bottom and enclosure walls, one pair of oppositely disposed enclosure walls having recesses formed in the upper outer corners, the cover having channel sections at opposite edges thereof, each channel section comprising two vertical side walls and a bottom wall, the outer vertical side walls being fitted against the face of the adjacent enclosure wall, the edges of the said enclosure walls and the edges of the outer vertical channel sections of the cover being substantially in register with each other.

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