

2,759,651

CORRUGATED CONTAINER

Filed April 27, 1953

2 Sheets-Sheet 1

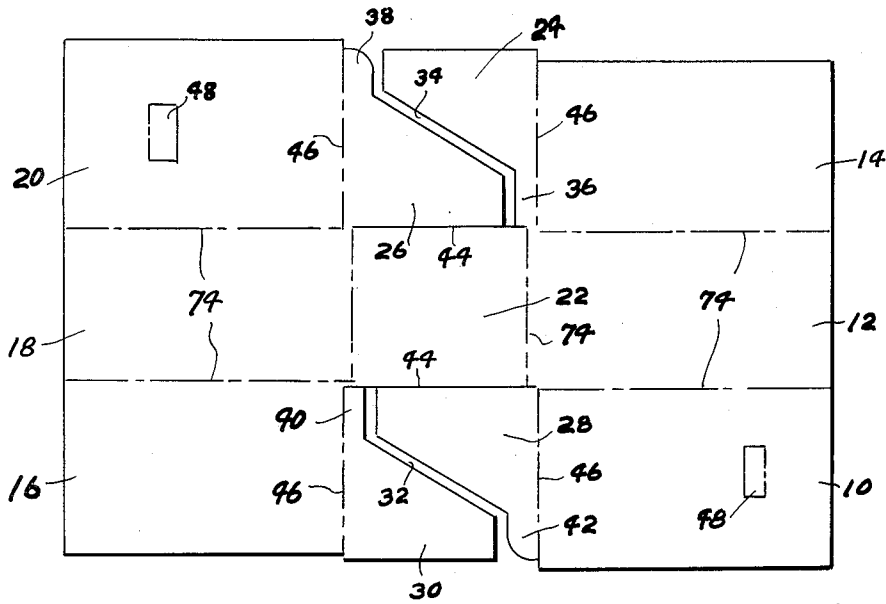


Fig. 1

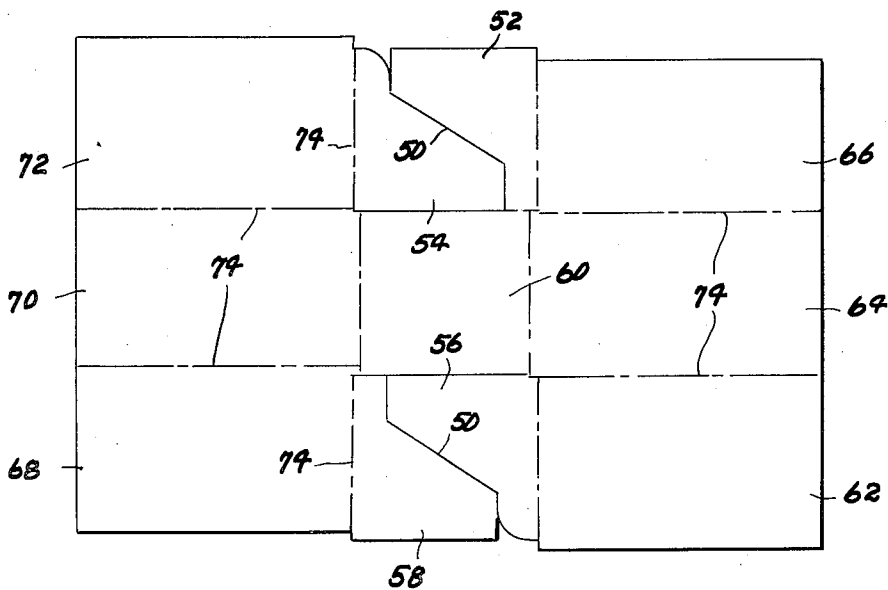


FIG. 2

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2,759,651

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2 Sheets-Sheet 2

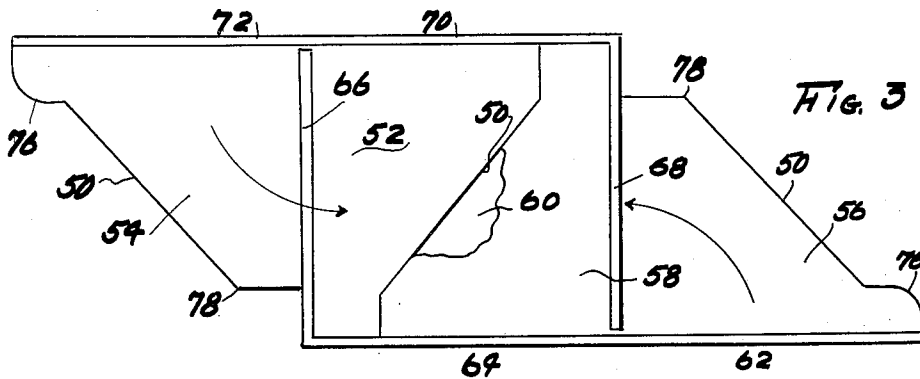
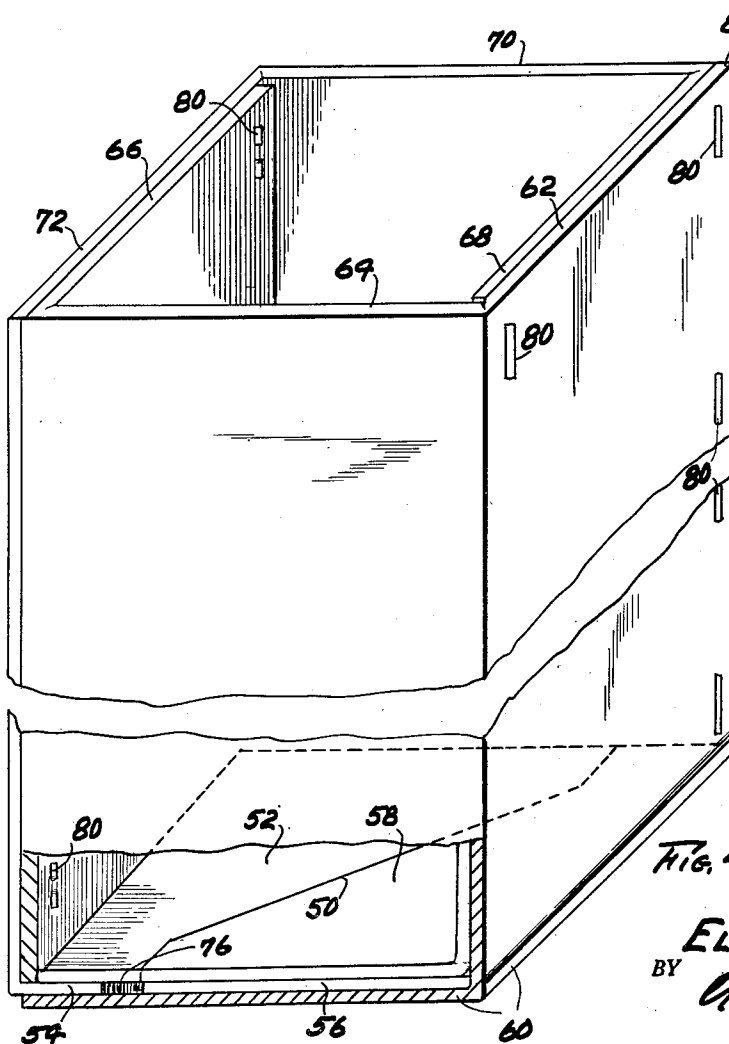
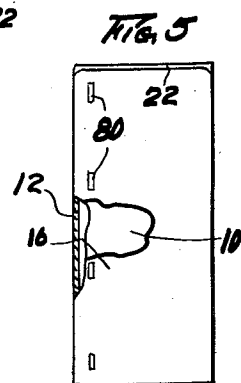
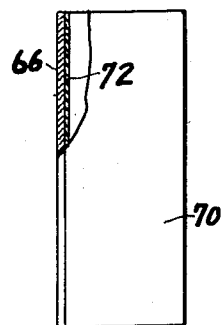


FIG. 4

FIG. 6

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1

2,759,651

CORRUGATED CONTAINER

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2 Claims. (Cl. 229—16)

This invention relates to a novel corrugated paper or cardboard container, and the principal object of the invention resides in the provision of providing a container of said material to contain nails, nuts, bolts, washers, and similar heavy materials for storage and shipment, and to the specific construction of said container which provides for sufficient strength to carry out the purpose recited.

The present invention is particularly adapted for replacing the usual nail keg, these being called "nail kegs" whether they contain nails or screws, nuts, bolts, washers, etc., and they are usually made of wood and sometimes metal. It is believed that the present invention provides the first successful paper or corrugated board nail keg. However, the invention is not by any means limited to such use, and many different sizes of the new box may be made and for many other purposes including general shipping and storage.

Other objects of the invention include the provision of a container as described comprising a bottom member and a similar but slightly larger and telescoping cover or top member, both of these members being rectangular and preferably having one side longer than the adjacent side, so that the top may be telescoped onto the bottom member in a predetermined position only; the provision of the above containers wherein the bottom member has a pair of opposite walls of single ply material and another and different pair of walls of double-ply material, and the top or cover is of the same construction; the proportions of the top and bottom being such that they can be telescoped together only in such a way as to provide a triple ply wall for sides when the top or cover is combined with the bottom.

Other objects of the invention include the provision of a container comprising a single blank which is scored, folded, and cut so as to be folded and fastened by a minimum number of fasteners into a strong, rigid container useful for the purpose described, said container having a multi-ply bottom and integral side walls, the bottom plies being of a special novel construction and the side walls also being of a novel but different construction.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which:

Fig. 1 is a view of the blank from which the top of the container is made;

Fig. 2 is a view of the blank from which the bottom of the container is made;

Fig. 3 shows the blank of Fig. 2 in partially folded condition;

Fig. 4 shows the top or bottom member in completed condition, parts broken away and in section;

Fig. 5 is a view in elevation of the top of the container on a reduced scale; and

Fig. 6 is a similar view showing the bottom portion of the container in aligned condition with the top of Fig. 5.

Referring first to Fig. 1, there is shown a blank of a

2

single sheet of material. This blank is generally rectangular and comprises three separate offset steps, each step embodying three separate rectangles, said rectangles being therefore arranged in three rows of three rectangles each. It will be seen that the first set of rectangles indicated at 10, 12 and 14 is considerably offset from the third row of rectangles 16, 18 and 20. Also the central row of rectangles is seen to comprise outlines that are much smaller than the others and are almost square but not quite. The central row of rectangles comprises the central rectangle 22 and two rectangles one at either side thereof, the latter being divided into two pairs of generally triangular elements 24, 26, 28 and 30.

The triangular elements are obtained by cutting out along the gaps 32, 34 and providing the non-triangular foot pieces 36, 38, 40 and 42, those at 38 and 42 being rounded for a purpose to be described.

Cuts are also made along lines 44 so that the triangular members are all separate except for their fold lines generally indicated at 46 by which they are individually attached to respective corner rectangles 10, 14, 16 and 20. Also, finger-hold flaps may be cut out and folded at 48.

Referring now to Fig. 2, the blank is substantially the same as that shown in Fig. 1 but it is smaller and the cuts 50 which form the triangular flaps 52, 54, 56 and 58 do not leave the gaps as at 32 and 34. The central rectangle 60 of the central row of rectangles is smaller than the corresponding rectangle 22 and the same is true as to the rectangles 62, 64, 66, 68, 70 and 72 which, however, are otherwise substantially the same as above described with relation to Fig. 1.

In both figures, the reference numeral 74 relates to score lines and these will of course result in folds to be later described.

In assembling the parts of the box into folded condition, the same procedure is adhered to as to both top and bottom and thus it may be fully explained with reference only to either the blank of Fig. 1 or that of Fig. 2.

Referring now to Fig. 3, this figure shows for instance the folding up or assembly of the bottom of the box of Fig. 2 and reference numerals in Fig. 3 correspond to those in Fig. 2. In the first place, the three rectangles 62, 64, 66 are folded up as a unit along transverse scores, and rectangle 66 is folded inwardly, so that its attached flap 52 overlies the bottom rectangle 60. The rectangles 68, 70 and 72 are folded up in a like manner with rectangle 68 folded inwardly and its attached flap 58 conjoining along the diagonal cut line to flap 52.

This leaves rectangles 62 and 72 erect but not folded relative to the adjacent rectangles 64 and 70. The rectangles 62 and 72 are then pivoted inwardly in the direction of the arrows in Fig. 3, with the respective flaps 54 and 56 sliding in and swinging in under flaps 52 and 58 respectively. This can be done because of the rounded-off portions at 76 which allow these corners to slide past the corners indicated at 78.

With the parts folded as described, fasteners of any type such as staples 80 are applied, there being one applied to the combined rectangles 68 and 62 which are now parallel and in flatwise contacting relation, see Fig. 4. Only one fastener is necessary at this point but where the edge of rectangle 62 terminates at 82, it is preferred to apply a line of four fasteners as shown. This arrangement is duplicated at the opposite side of the container and but ten fasteners in all are used in each bottom or top element of the container, although more fasteners may be used if desired.

It will now be seen that side 64 and side 70 are single-ply side walls and the two remaining side walls are combined by parts 62 and 68 on the one hand and 66 and 72 on the other hand, so that these are double-ply walls.

At the same time, the bottom is made up of three plies,

3

the rectangle 60, the combined flaps 52 and 58 which are seen from within the container, and the flaps 56 and 54 which are not visible being sandwiched between the ply 60 and the ply 52, 58. The construction of the box holds all of the parts, including the flaps, in substantially rigid condition.

Incidentally, the method of folding the blanks is variable by arranging the four triangular flaps to overlap one another in a series and then to fold up all of the sides simultaneously as will be apparent to those skilled in the art.

Since as the bottom parts 60 and 22 are rectangular, they will fit together in one of two positions only, and the blank is so arranged that the double ply walls of the top will only coincide with the single ply walls of the bottom, so that when the entire container is assembled, all four side walls are actually three-ply as are the top element and the bottom elements. This relation is shown by comparison of Figs. 5 and 6.

It will be seen that this invention provides a very strong paper or corrugated box which is strong enough so as to take the place of a nail keg and may be used for storing and transporting as much as 300 pounds of iron products in a container which has an over-all dimension of 9 x 9 x 19 inches. Other sizes of containers are proportionate, depending on the goods packaged and other factors. In other words, the entire container may be filled with metal products but still the construction is strong enough to accomplish the purpose. In some cases, the usual individual steel strapping may be applied to the filled container in order to prevent the top member escaping and also to provide a little extra lateral strength for shipping.

The container of the present invention may be made of any strong paper, board, or corrugated material. Especially, in A, B or C flutes may be used or any combination thereof which constitutes a double wall board. Also any pound test may be used, particularly within the ranges of 200, 275, 350, 500 test board.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. A container comprising a single sheet of corrugated board scored to form nine rectangles in three rows of three rectangles each, there being a central row and a pair of opposite end rows, both outer rectangles of the central row being cut diagonally and parallelly, each cut

4

rectangle forming a pair of triangular elements separate from each other but attached to a respective outer rectangle of an outer row, said triangular elements being positioned over the center rectangle of the central row with triangular elements from opposite sides of the board conjoining along the longest edges thereof to form a single co-planar ply, the three rectangles of each outer row standing erect to form sides for the container, said triangular elements and the center rectangle of the central row forming a multi-ply bottom for the container, the two triangular elements that conjoin co-planarly being those that are attached to diametrically opposite edge rectangles of the outer row of rectangles, and the conjoined triangular elements being superposed in pairs, the pair of triangular elements that underlie the other part of triangular elements having rounded corners.

2. A container comprising a single sheet of corrugated board scored to form nine rectangles in three rows of three rectangles each, there being a central row and a pair of opposite end rows, both outer rectangles of the central row being cut diagonally and parallelly, each cut rectangle forming a pair of triangular elements separate from each other but attached to a respective outer rectangle of an outer row, said triangular elements being positioned over the center rectangle of the central row with triangular elements from opposite sides of the board conjoining along the longest edges thereof to form a single co-planar ply, the three rectangles of each outer row standing erect to form sides for the container, said triangular elements and the center rectangle of the central row forming a multi-ply bottom for the container, the rows of rectangles being offset transversely of the board and the diagonal cuts being relatively wide to form substantial gaps, the center rectangle of the central row having one dimension longer than the other.

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