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3,214,076

CONTAINERS REQUIRING LIFT TRUCKS

Filed March 18, 1964

3 Sheets-Sheet 1

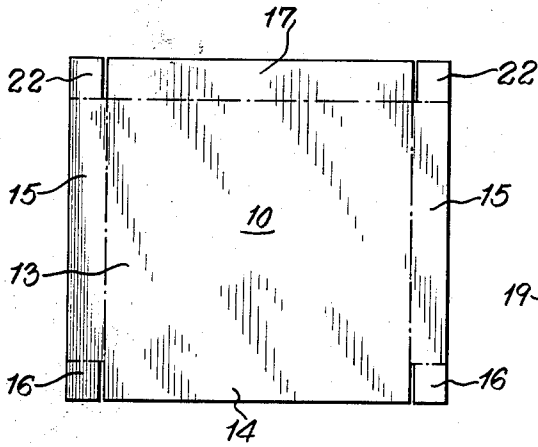


Fig. 1.

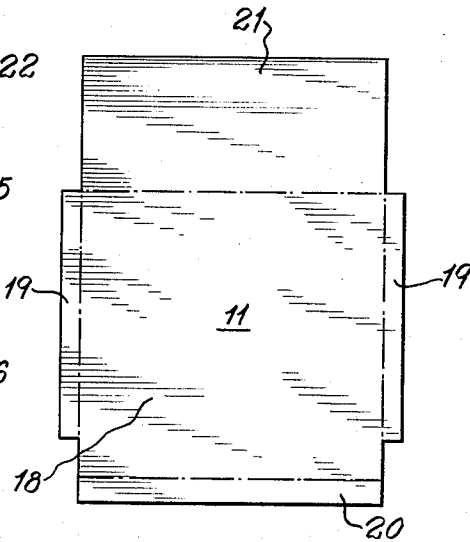
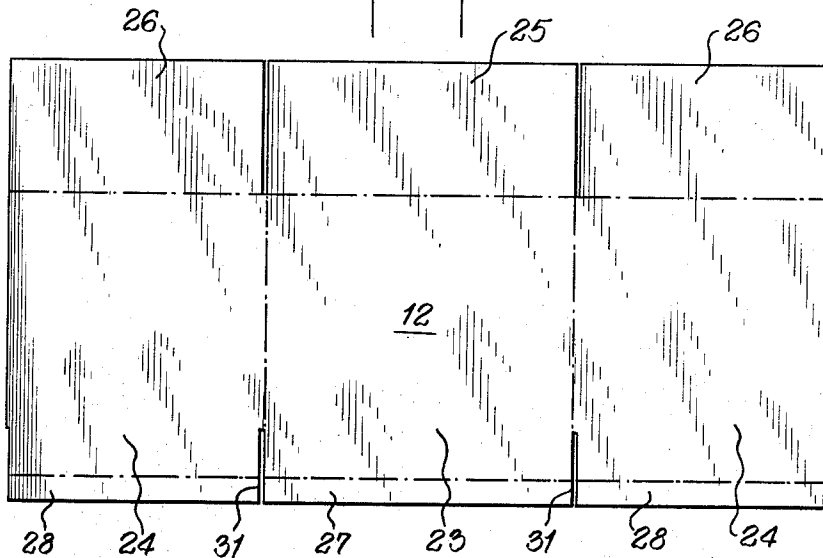


Fig. 2.

Fig. 3.



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Fig. 4.

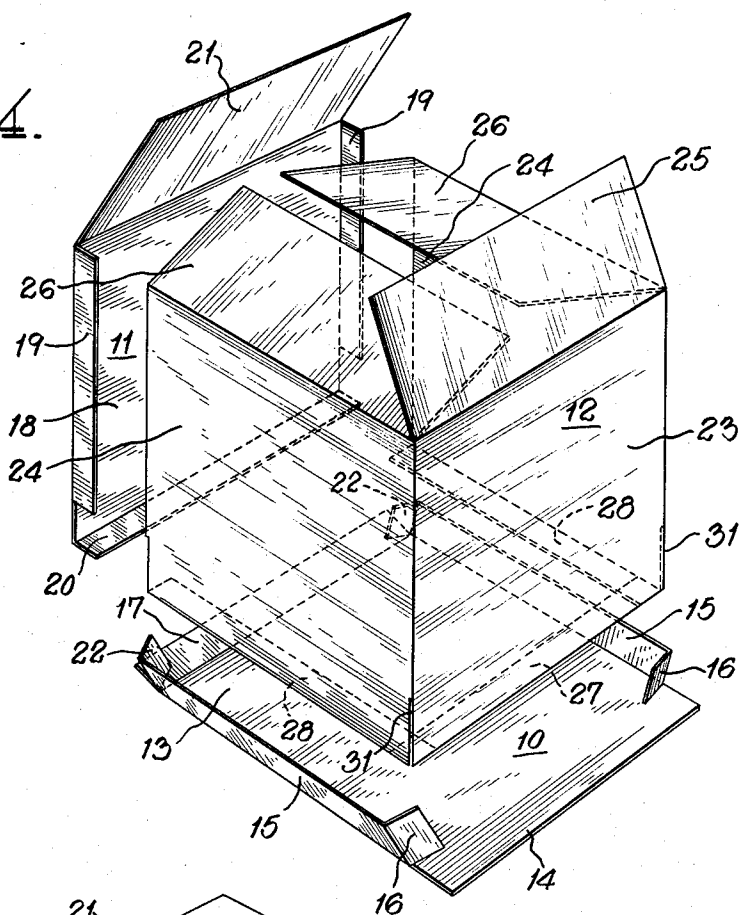
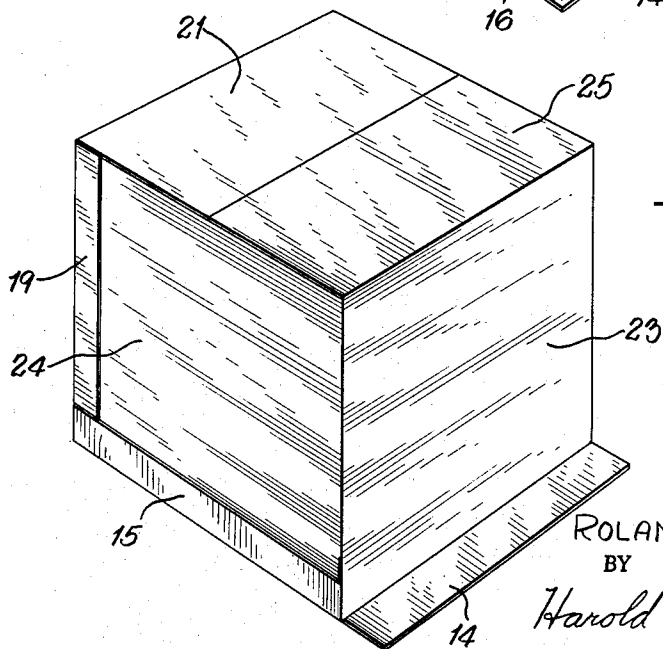


Fig. 5.



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Fig. 6.

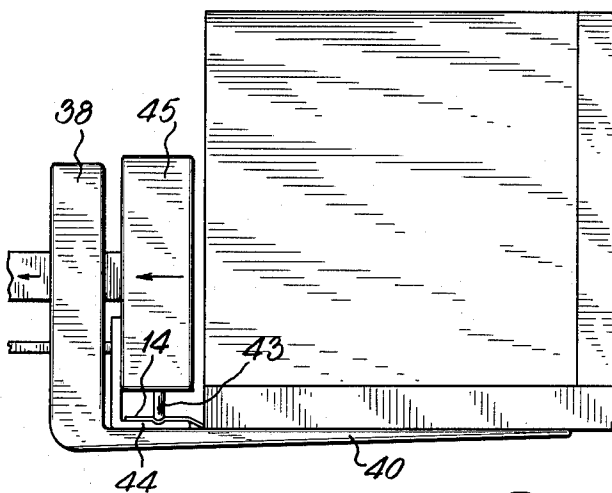
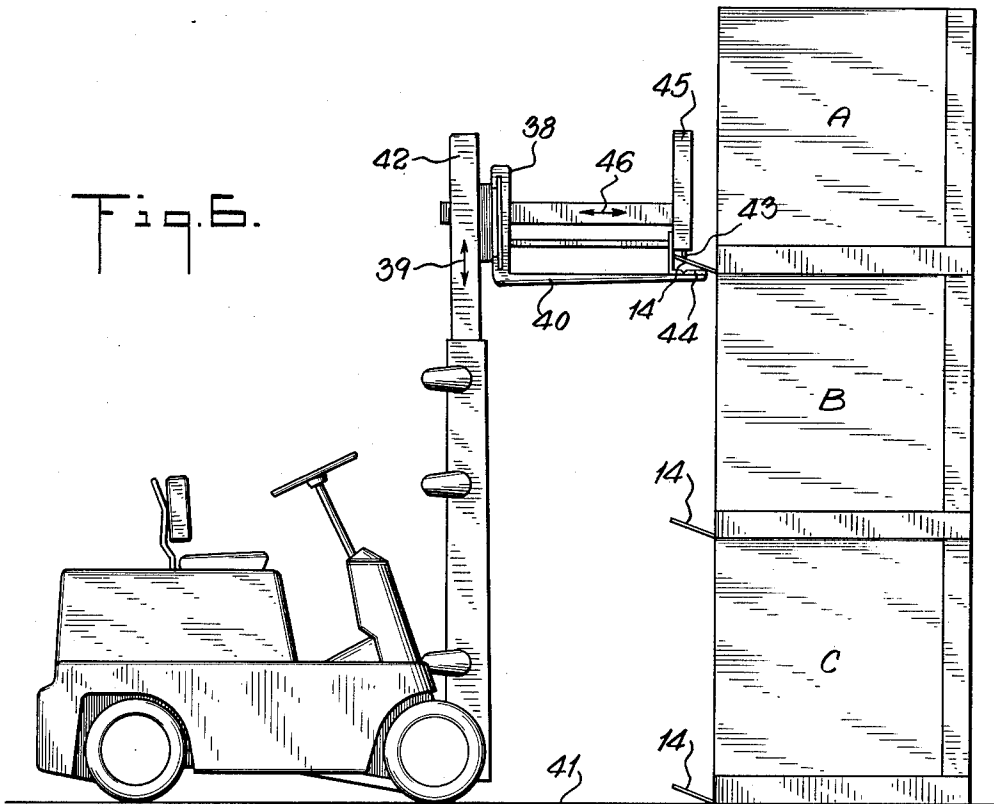


Fig. 7.

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CONTAINERS REQUIRING LIFT TRUCKS

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4 Claims. (Cl. 229—23)

The invention relates to containers and, more particularly, to paperboard boxes or cartons which are large enough and heavy enough, when filled, to need lift trucks for transporting them. Such containers may be used to carry asbestos fiber or other merchandise.

According to one conventional prior practice, asbestos fiber is compressed and packed in 3-ply paper bags which weigh, when filled, about 100 lbs. apiece. These bags are placed on heavy paperboard pallets, 20 bags to a pallet, making a pallet load of 2,000 lbs. The loaded pallets are then moved by conventional lift trucks to a storehouse, or to a truck or railroad car for shipment to the customer. The loaded pallets are usually arranged in piles or stacks with margins of the pallets protruding for engagement by the pull-pack attachments of lift trucks.

According to a preferred form of the present invention, it is proposed to pack the asbestos fiber in cardboard or paperboard boxes of a size sufficient to contain a pallet load of asbestos. The boxes may be filled with twenty 100-lb. bags of asbestos, or the asbestos may be baled or compressed into a 2000-lb. cube and then placed in the box without pre-bagging. These boxes may be of the order of 4 feet on a side. The bottom of the box is made of a heavier material than the sides and top, and is provided with a reinforced margin and with a projecting front lip which can be pinched by a pulling attachment and pulled onto the fork of a lift truck without requiring a separate pallet.

Objects of the invention are to provide a unitary container and pallet, to eliminate the need for the separate pallet, and generally to simplify the packing, transporting and storage of asbestos fiber and other merchandise.

Other objects and features of the invention will be more apparent from the following description when considered with the accompanying drawings in which:

FIGURES 1-3 show the three blanks from which the box according to the invention is made; scores are denoted by dot-dash lines.

FIGURE 4 is an exploded perspective of the box partially assembled and before packing.

FIGURE 5 is a perspective of the assembled box fully sealed.

FIGURE 6 is a diagrammatic view of a pile of boxes showing the lift truck with its pincers extended and open, preparatory to grasping the box lip to pull the box onto the fork of the truck.

FIGURE 7 is a diagrammatic view of a box after being pulled onto the fork of a lift truck, showing the pincers in closed position grasping the box lip.

In the accompanying drawings and description forming part of this specification, certain specific disclosure of the invention is made for the purposes of explanation, but it will be understood that the details may be modified in various respects without departure from the broad aspect of the invention.

In the following description and in the claims, various details will be identified by specific names for convenience, but they are intended to be as generic in their application as the art will permit.

Like reference characters denoted like parts in the several figures of the drawings.

Referring to FIGURES 1-5, the box according to the invention, comprises a bottom section 10 (FIG. 1), a

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back section 11 (FIG. 2), and a body section 12 (FIG. 3) forming the front and two sides.

The bottom section 10 is made of heavy cardboard or corrugated board. The back section 11 and body section 12 are made of paperboard heavy enough to carry the merchandise but lighter than the bottom section 10.

The bottom section 10 comprises a bottom wall 13 having a projecting front lip 14, side flaps 15 with end tabs 16 and 22, and a back flap 17.

The back section 11 comprises a back wall 18 having side flaps 19, a bottom flap 20 and a back cover panel 21.

The body section 12 has a front wall 23 and two side walls 24. The front wall 23 has a front cover panel 25, and the side walls 24 have side cover panels 26. The front and side walls have bottom flaps 27, 28, with slots 31.

The several sections are suitably cut and scored to form the walls, flaps, tabs and panels. The cuts are indicated by solid lines and the scores are indicated by dot-dash lines.

The sections are assembled as follows depending upon the merchandise and the manner of filling the container. Securement of the several flaps, tabs, panels and walls may be by glue, tape or staples, as desired.

Referring to FIGURE 4, asbestos fiber may be packaged as follows: The composite body section 12 and bottom section 10 (but not the back section 11) are first assembled with the flaps in the position shown in FIGURE 4.

The side flaps 15 on the bottom section 10 are secured to the outside surfaces of the side walls 24 of the body section 12. The bottom flaps 28 are secured to the inner surface of bottom wall 13. Front end tabs 16 are tucked in through slots 31 and secured to the inner surface of front wall 23. Back end tabs 22 are secured to back flap 17.

The top cover panels are left unsecured, and the back section is not assembled at this time.

The incomplete box comprising the assembled body section 12 and bottom section 10 is placed in a jig (not shown). The jig comprises a metal container the same size as the box and is for the purpose of reinforcing temporarily the side walls of the box until it is packed.

The twenty 100-lb. asbestos filled bags (which may now be of single ply paper) are then placed in the box through its open back. Or, if desired, the asbestos fiber may be compressed into cubes and packed into the box without pre-bagging.

When the box is filled, the back section 11 is secured in place. Bottom flap 20 is secured to the inner surface of bottom wall 13. Back flap 17 is secured to the outer surface of back wall 18. Side flaps 19 are secured to the outer surface of side walls 24. The top panels 21, 25, 26 are then secured together to close the box.

It will be understood that the box may be made in other sizes and shapes and may be used to contain merchandise other than asbestos. For some purposes it may be desirable to assemble the back section 11 before filling the box, and then fill the box through the open top.

Referring to FIGURES 6 and 7, one manner of transporting and storing the packed boxes and utilizing the pull lip 14 will now be described. Only so much of the lift truck as is applicable to the invention will be described.

One type of lift truck with pull-pack attachment comprises a thin flat lifting fork 40 which is able to engage closely against the floor 41. The fork 40 has a base 38 mounted on a guide 42 to raise and lower the fork 40 as indicated by arrow 39, in a generally conventional manner.

The pulling attachment comprises a set of pinching members 43, 44 mounted on a reaching head 45. Head 45 may be projected away from the truck beyond the free

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end of the fork and retracted back against the base 38 of the fork by the truck operator, as indicated by arrow 46. The lower pinching member 44 has a recess and engages under the front box lip 14, and the upper member 43 is in the form of a blade and engages over the front lip to press the flexible lip firmly into the recess of the lower pinching member.

To remove a box A (FIG. 6) from a pile of filled boxes A, B, and C having integral lips 14, the truck is first advanced to place its fork 40 adjacent the projecting lip 14 of box A. The pulling attachment is then operated to extend the reaching head 45 adjacent the end of the fork to place the pinching members 43, 44 over and under the lip 14.

The operator then operates the pinching members 43, 44 to grasp the lip 14. He then retracts the head 45, which pulls the box A onto the fork 40 to a position with the reaching head 45 completely retracted (FIG. 7). The fork 40 may then be lowered or raised while carrying the box, and the truck maneuvered to move the box to any other desired position.

To discharge a box from the fork 40, the fork is lowered to the floor or elevated to the desired position to place the box on top of other boxes. The pulling attachment is then operated to extend head 45 to push the box off the fork 40 into the place selected for the box. The pincher members 43, 44 of the truck are then opened to disengage the lip 14, and the truck removed for further work.

Thus a carton and method of palletizing has been provided which has numerous advantages. There is no danger of the merchandise slipping off the pallet which now is the box bottom. The heavy bottom wall with its upstanding heavy side and back flaps strengthens the entire box. The carton, though large, is admirably adapted for shipping large bulky materials of large total weight, and the built-in pallet does not interfere with the containing and shipping qualities of the carton.

While certain novel features of the invention have been disclosed herein, and are pointed out in the annexed claims, it will be understood that, in accordance with the doctrine of equivalents, various omissions, substitutions

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and changes may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. A container adapted for palletizing by a lift truck having a pulling device with pinch members, said container comprising a bottom wall and upstanding back, front and side walls, said container walls being of fiberboard, said bottom wall being heavier than said upstanding walls, said bottom wall carrying a projecting front lip, said projecting front lip extending along the effective length of the front lower corner of the container, said lip being sufficiently long lengthwise of the corner, and sufficiently wide transversely of the corner, to enable it to be grasped by the pinch members of the pulling device, said lip being sufficiently heavy to withstand the pulling force of the pulling device, and sufficiently pliable to bend under the pressure exerted by said pinch members.

2. A container according to claim 1, said heavier bottom wall having flaps on its back and sides, means attaching said flaps to their respective back and side walls to strengthen said bottom wall, said upstanding walls comprising a plurality of blanks.

3. A carton made principally of paperboard comprising a first blank of heavy paperboard having a bottom wall with a projecting lip on its front margin, a second blank forming upstanding front and side walls, a third blank forming an upstanding back wall, said upstanding walls having panels to form a cover for the box, said second and third blanks being made of lighter material than said first blank.

4. A carton according to claim 3, said bottom wall having flaps on back and sides to engage said back and side walls respectively to strengthen the bottom wall.

References Cited by the Examiner

UNITED STATES PATENTS

429,960	6/90	Riedell	229—23
1,572,296	2/26	Kramer et al.	229—23
1,863,259	6/32	Van Buren	229—23
1,958,230	5/34	Blechman	229—23 X

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