Feb. 22, 1966 C. M. ROSSNER 3,236,197

COLLAPSIBLE CARRIER FOR TRANSPORTABLE GOODS

Filed March 20, 1964 4 Sheets-Sheet 1

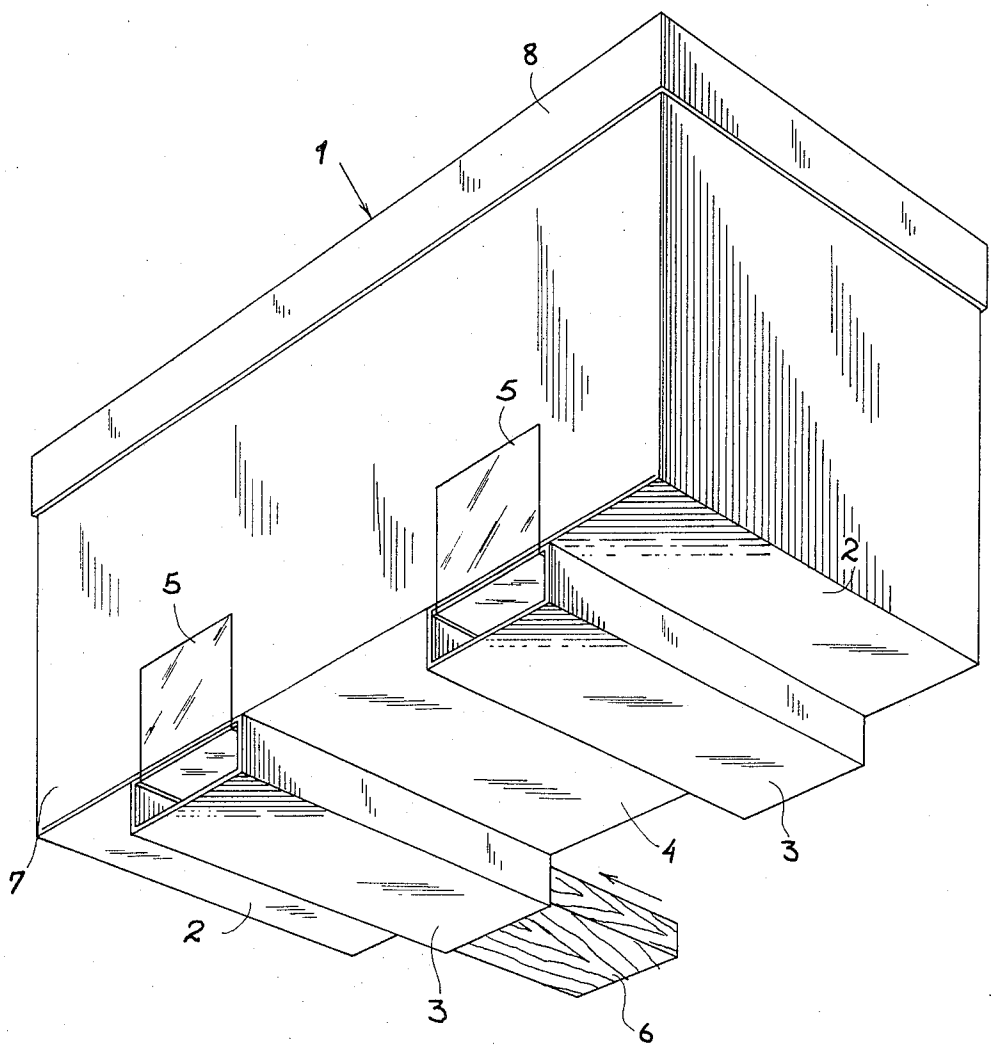

Fig.1

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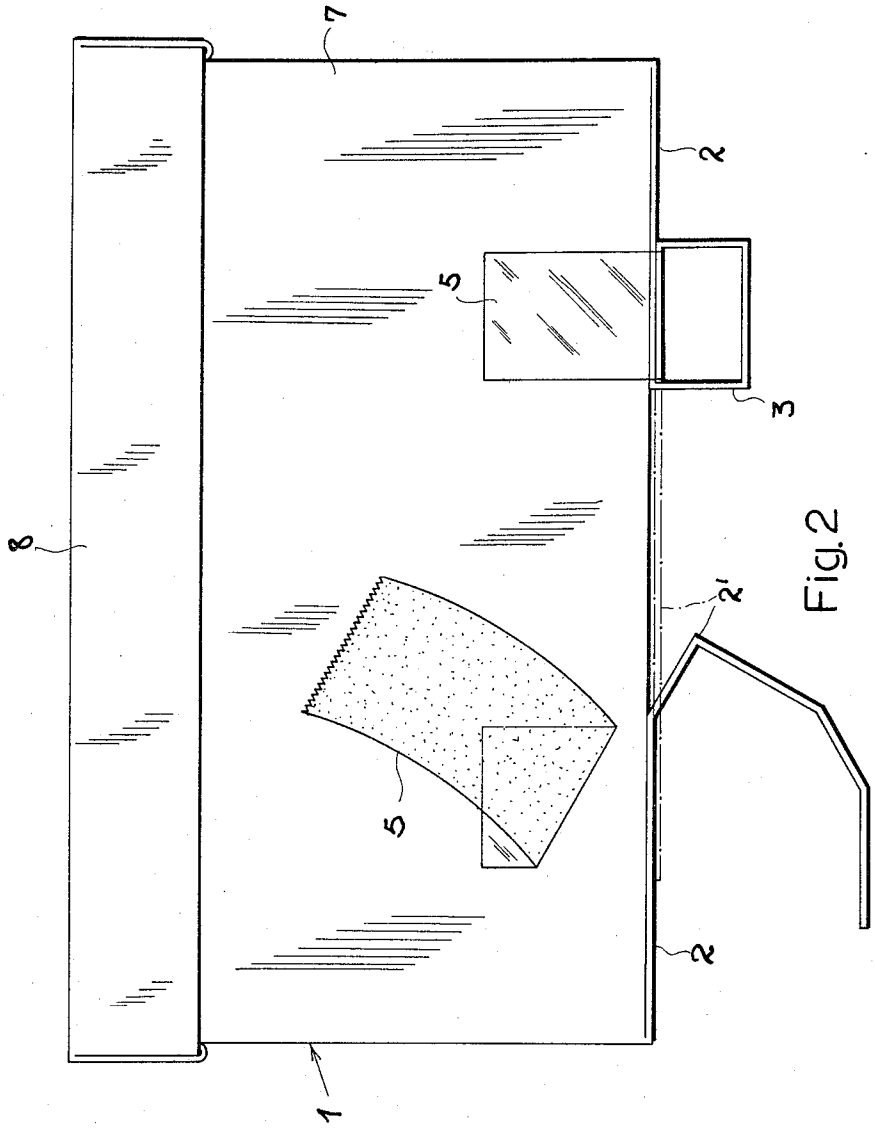

Fig. 2

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COLLAPSIBLE CARRIER FOR TRANSPORTABLE GOODS

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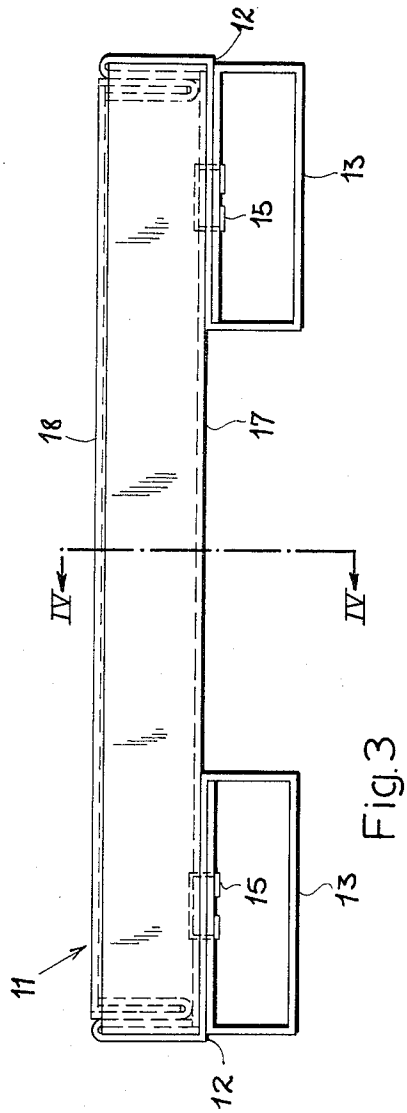

Fig.3

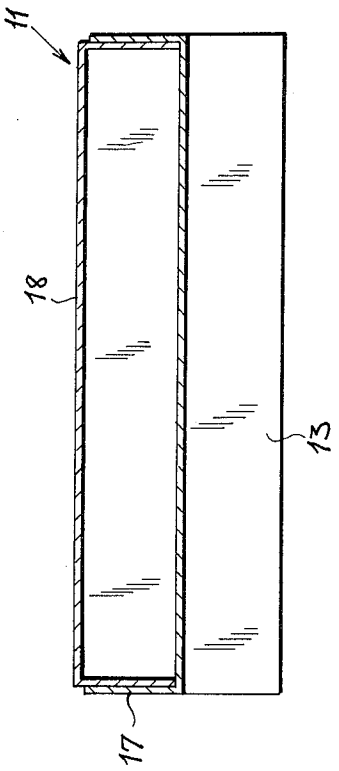

Fig.4

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COLLAPSIBLE CARRIER FOR TRANSPORTABLE GOODS

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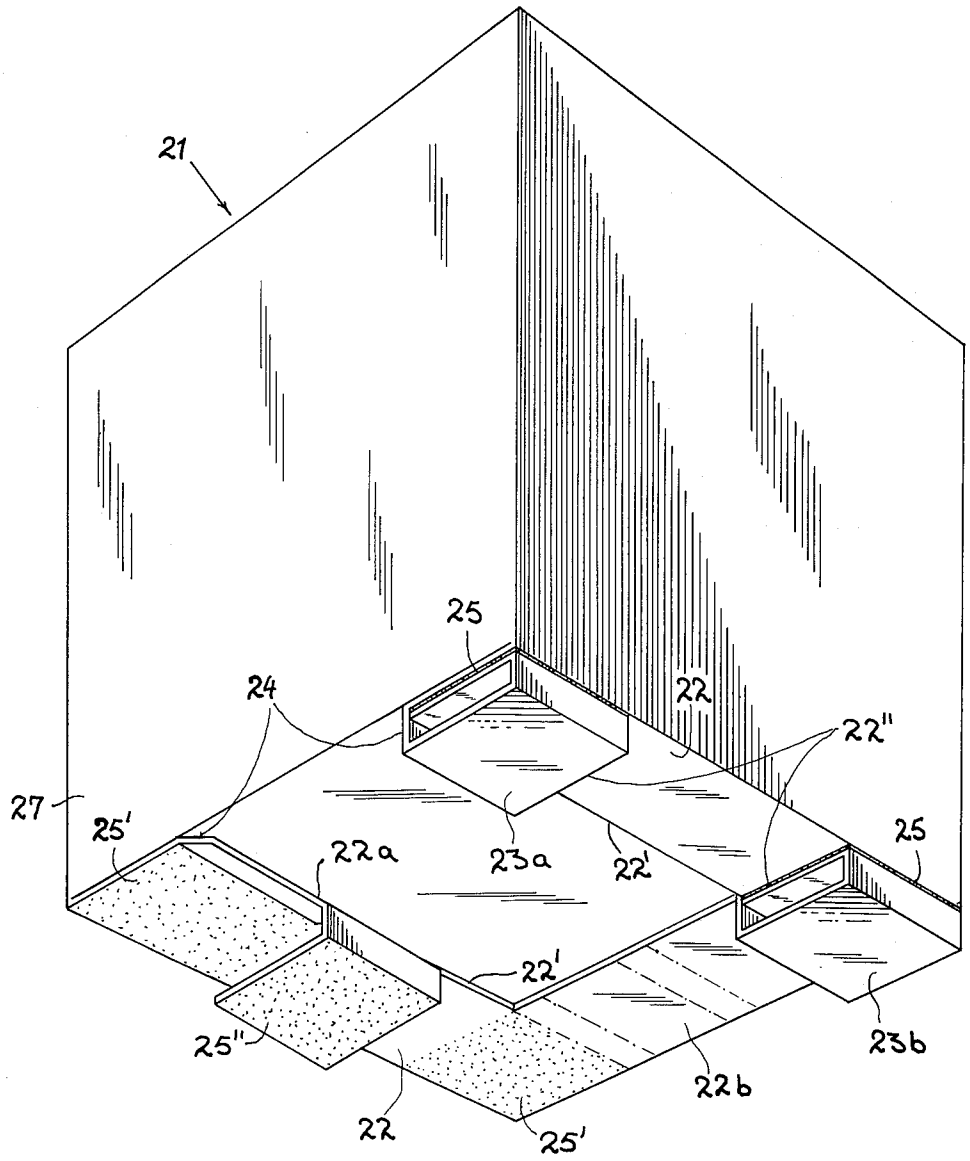

Fig.5

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United States Patent Office

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COLLAPSIBLE CARRIER FOR TRANSPORTABLE GOODS

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2 Claims. (Cl. 108—55)

This invention relates to a collapsible carrier for transportable goods, such as a container or a pallet, adapted for transportation by vehicles with fork-lift equipment.

Fork-lift vehicles of the type frequently used in industrial plants or on similar premises move loaded pallets or containers first by lifting them off the ground on pairs of narrow steel bars, called forks, which descend or ascend on chain-driven columns and thereafter by driving them in the elevated position to a desired location. This necessitates the provision of legs or similar supports on the carriers in order to form, between the bottom of the carrier and the ground on which it stands, a clearance sufficient for the fork to slide under the carrier and lift it.

The general object of the instant invention is to provide means for integrally forming such legs on carriers of the collapsible type, preferably in a manner facilitating the removal of the legs for storage of the carriers either in their made-up shape or in flattened condition.

A collapsible carrier according to my invention, made of cardboard or other rigid but foldable sheet material, is supported by a plurality of integral ribs provided on its underside, these ribs being substantially prismatic and formed from folded inward extensions of a pair of opposite bottom flaps which are integral with a body of sheet material constituting at least a bottom panel of the carrier.

According to an additional feature of the invention, the prismatic ribs are held in shape by temporary fasteners so as to be readily reconverted into flat sheet portions overlapping the bottom panel for purposes of storage and stacking of several carriers.

These and other features and advantages of my invention will become apparent from the following description given with reference to the accompanying drawing in which:

FIG. 1 is a perspective view of a container representing a first embodiment of my invention;

FIG. 2 is a front-elevational view of the container shown in FIG. 1, illustrating the formation of its bottom ribs;

FIG. 3 is a front-elevational view of a pallet representing a second embodiment of my invention;

FIG. 4 is a cross-sectional view of the embodiment shown in FIG. 3, taken on the line IV—IV thereof; and

FIG. 5 is a perspective view of a container representing a third embodiment of my invention.

The container **1** shown in FIG. 1 has a box-shaped body **7** of corrugated cardboard, topped by a lid **8** and integrally provided with bottom flaps **2** which are folded to form prismatic ribs **3** of rectangular profile. Strips **5** of adhesive tape, e.g. of the pressure-sensitive type, attached to the front and rear sides of the container **1**, restorably retain the prismatic ribs in their folded position, thus providing a gap **4** between the ribs **3** into which the fork of a fork-lift vehicle can be shoved. The ribs **3**, especially when reinforced by rigid inserts **6** (e.g. of wood) removably placed inside them, effectively constitute a pair of spaced-apart legs on a load-supporting platform represented by the bottom of the container.

FIG. 2 illustrates in its left-hand half the formation of the ribs **3** from extensions **2'** of the bottom flaps **2**, prior to attachment of the adhesive tape **5** to the rib-forming flap sections. The extensions **2'** can be inwardly bent and completely flattened, as illustrated in dot-dash lines, so that the container **1** rests on its underside for storage purposes rather than on the ribs **3** as required for fork-lift transportation.

FIGS. 3 and 4 show the construction of a pallet **11** consisting of an upwardly open shallow container body **17** and a complementary lid **18**, giving it the appearance of a solid plate, the body **17** again having bottom flaps **12** which are inwardly folded and form the prismatic ribs **13** which are here shown held in place by temporary fastening means in the form of staples **15**.

The body **27** of a carrier **21** shown in FIG. 5 has a bottom differing from those of containers **1** and **11** in that each of its flaps **22** is cut away at **22'**, between transversely spaced sections **22***a*, **22***b*, to establish a clearance **22''** between aligned rib portions **23***a*, **23***b* respectively formed from these sections. Thus, there is access to the underside of the container **21** through gap **24** and perpendicularly thereto through the aligned clearances **22''**. Adhesive bonds **25**, formed by layers **25'**, **25''** of rubber cement on confronting flap surfaces, releasably hold the prismatic ribs **23***a* and **23***b* in shape.

Although only a few representative embodiments have been particularly described and illustrated, it is to be understood that other types of carriers may be integrally formed with bottom ribs in the manner disclosed and that a variety of flexible sheet materials may be used in their construction; also, the type of fastener utilized for maintaining the shape of the ribs may be varied, likewise the kind of stiffener of which only one form has been illustrated at **6** in FIG. 1 but which evidently may also be employed in the other embodiments. These and further modifications, readily apparent to persons skilled in the art, are therefore intended to be embraced within the spirit and scope of my invention as defined in the appended claims.

I claim:

1. A collapsible carrier for transportable goods, comprising a collapsible rectangular loading platform of foldable sheet material, flaps of said material extending from two opposite sides of said platform, said flaps overlapping the underside of said carrier and having inward extensions outwardly folded into two parallel pairs of longitudinally aligned prismatic ribs spaced apart on said underside, and temporary retaining means for restorably maintaining the shape of said ribs by releasably holding said extensions in their folded position, the ribs of each pair being separated from each other and from the ribs of the other pair by clearances greater than the length and width of any of said ribs, said clearances being bounded by aligned edges of said ribs defining a pair of orthogonally intersecting passages for the selective introduction of a lifting fork in a direction parallel to either pair of parallel sides of the rectangular loading platform.

2. A carrier as defined in claim **1** wherein said ribs are disposed at respective corners of the rectangular loading platform.

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