May 31, 1955 M. W. NIEDRINGHAUS 2,709,547

CONTAINERS

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FIG. 1.

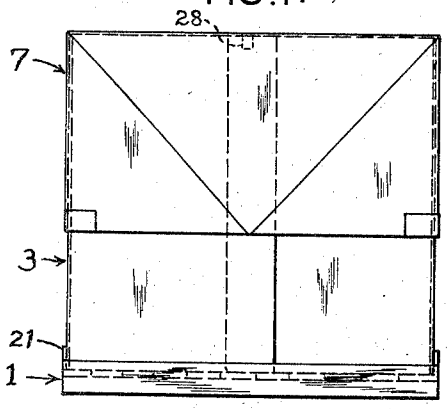


FIG. 2.

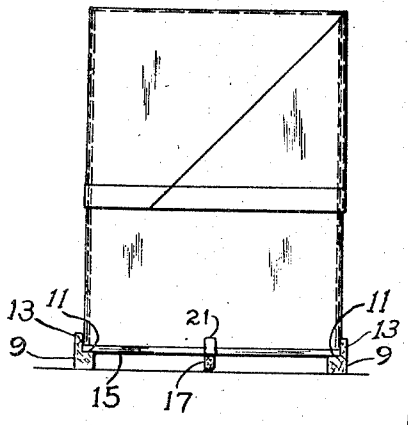


FIG. 3.

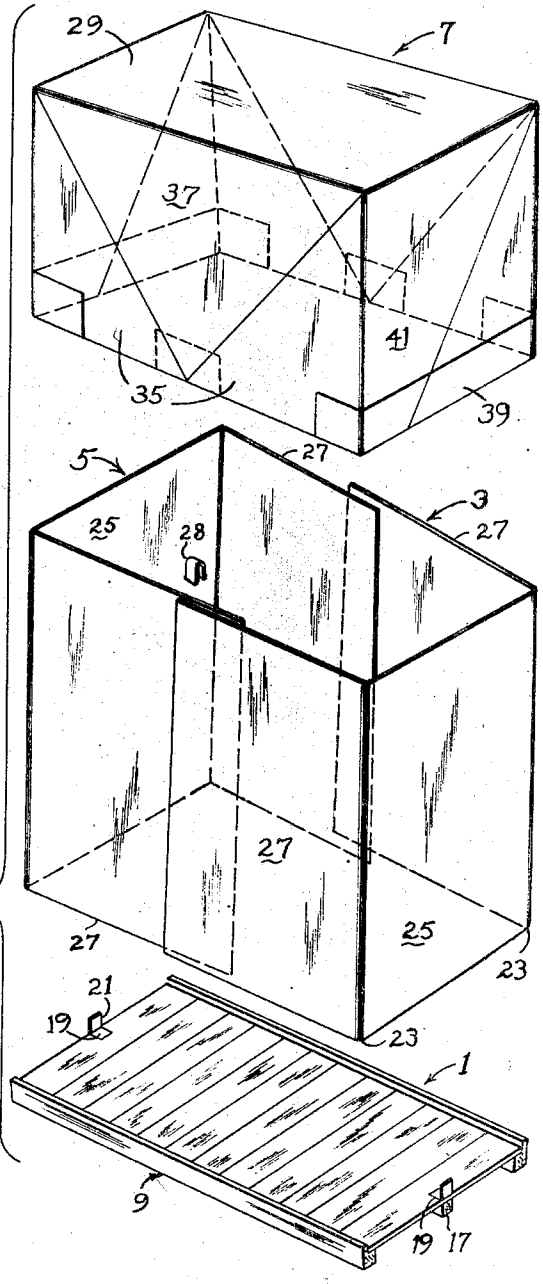
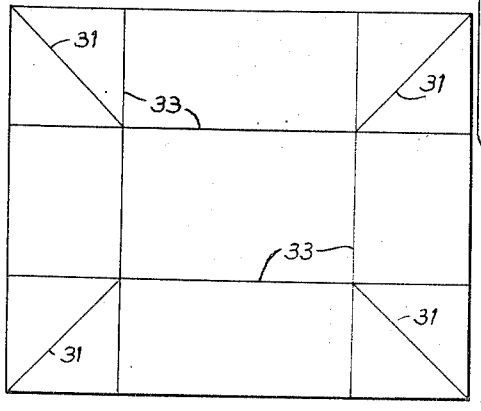


FIG. 4.



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CONTAINERS

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This invention relates to containers, and more particularly to containers for use in the storage and intrawarehouse transporation of household furnishings and the like.

One of the principal concerns of those engaged in the business of furniture storage has been that of intrawarehouse handling expenses. Heretofore, it has been the general practice to handle the articles making up a lot of furniture piece by piece, each article being individually loaded onto and off of the elevator, wrapped, transported to and stacked at the space set aside in the warehouse for the particular shipment. In an endeavor to reduce handling expenses, some use has been made of dollies, but while satisfactory from the point of view of transshipping, dollies are not entirely satisfactory from the view point of storage, a prime consideration being the high cost of such dollies.

It is accordingly an object of this invention to provide an improved system for the storage and intrawarehouse handling of household furnishings. To that end, it is proposed that a shipment of articles be unloaded from the van directly onto a pallet-like base forming a part of a container of this invention. This base is constructed with marginally-disposed members, which project a slight amount both above and below the base proper. As such, the base is elevated to accommodate a lift fork for intrawarehouse transportation, and has side retainers cooperable with the remainder of the container. The side walls of this container are formed from a pair of self-supporting paperboard panels of substantial height, each panel being folded to provide an end wall and a pair of side-wall sections of such length as to overlap with similar sections of the other panel. After loading the base, the side panels are erected on the base about the furniture and within the confines of the side retainers. A paper bag-like cover having a rectangular bottom is then placed over the top of the side panels to confine the panels at their upper margin.

Other features of the invention will be in part apparent from and in part pointed out in the following detail description taken in connection with the accompanying drawings, in which:

Fig. 1 is a view in side elevation of the container of this invention;

Fig. 2 is an end view of the container shown in Fig. 1;

Fig. 3 is an exploded perspective view showing the elements of the container; and,

Fig. 4 is a plan view of a paper blank from which the cover element of the container is made, fold lines being indicated.

Preparatory to a detailed description of the container, it may be noted that there are certain problems peculiar to general storage warehouses, such as those that accept furniture and the like. Necessarily, the various articles making up a lot of furniture are of different sizes and shapes, hence are not conveniently handled. For this reason, it has been customary to handle the articles piece by piece in their movement from the van through the elevator and to the ultimate place of storage. There, the

articles are individually wrapped and stacked in as compact a floor area as convenient, although it may be noted that there is generally a minimum charge, which entitles the customer to a space of about two hundred cubic feet. Frequently, there is also a wrapping charge based upon the size of the lot, but even apart from the extra charges, there is the greater possibility of damage when the articles are individually handled many times.

These problems can be substantially solved if the articles of a given customer can be stored within a container immediately upon receipt from the van and subsequently handled as a unit. It will be apparent, however, that a lot of furniture does not lend itself readily to such treatment. The amount of space required (two hundred to three hundred cubic feet) for the average lot is in itself a serious limitation. Additionally, the container must be of adequate strength, dust-tight, readily moved about the warehouse, and of low cost, preferably not much greater than the charge otherwise made for wrapping, which is about ten dollars for the average lot.

Referring now to the drawings, this invention contemplates the use of a container, which is utilized as a portable storage repository to permit handling of a lot of furniture as a unit during its movement through and storage within the warehouse. The container is made up of certain discrete elements, which may be shipped as a compact unit and readily assembled immediately prior to use. Broadly, a base **1** functions as the bottom of the container and as a pallet, by means of which an entire lot of furniture may be conveniently moved about the warehouse. The other parts of the container include a pair of side-forming panels **3** and **5** and a cover **7**. In use, the articles of a shipment are unloaded from the van and stacked on the bare base **1**. The side-forming panels are then erected and the cover is dropped over the top thereof. A conventional lift fork may then be employed to move the entire lot without danger of injury to the goods.

In the illustrated embodiment of the invention, the base **1** comprises a pair of marginal beams **9**, each having an inner shoulder **11** and an outer flange or retainer **13** rising above the shoulder. Bottom-forming material **15** is secured onto the shoulders **11**, and a third beam **17** is secured to the underneath side thereof between the marginal members **9**. Finally, angle brackets **19** are fastened to the ends of the base generally over the member **17**, so as to provide end retainers **21** turned up, as shown.

It is contemplated that the base will be made of wood, but that only the marginal members **9** and brackets **19** will be supplied to the warehouse with elements **3**, **5** and **7**. As such, each marginal beam **9** may be a six-by-two, with a recess one inch wide and about two inches deep cut away to form the shoulder **11** and flange **13**. In the preferred size of the container, these beams **9** will be six feet long and will form the sides of a pallet six feet by four feet in area. The remainder of the pallet is formed from conventional lumber of a type already on hand at most warehouses. For example, one inch planking may be used at **15** and two-by-four stock used at **17**. Inasmuch as the elevation of the bottom **15** is about four inches, a conventional lift fork is accommodated for subsequent transportation of a loaded pallet.

It is to be understood, however, that while a wooden form of base is presently considered the preferred construction, in some applications, it may be feasible to utilize a paperboard base having marginal members in the general shape of the members **9**.

After a lot of furniture has been stacked on the base **1**, the side-forming panels **3** and **5** are arranged to close the four sides of the container and support the top cover **7**. Each side-forming panel is formed from a sheet of corru-

gated paperboard with folds **23** extending parallel to the corrugations. In the case of a base four by six feet, the side-forming panels preferably are eleven by six feet, with the folds **23** forming an intermediate panel **25** four feet wide and side flaps **27** three and one-half feet wide. As such, these panels **3** and **5**, when folded flat, may be conveniently stored on top of the base. In being set up, these panels are arranged within the confines of the retaining parts **13** and **21**, the side flaps **27** being overlapped at the sides. This overlapped relationship of the side flaps provides a substantially dust-tight junction, it being understood that inward collapse of the flaps is prevented by the articles contained thereby. The invention contemplates that in some instances, it will be desirable to use clips **28** at the tops of the panels **3** and **5** to provide a proper junction at the overlapped sections.

The top cover **7** of the container is a large paper bag, preferably formed with a flat rectangular bottom **29**. Referring to Fig. 4, a sheet of paper, for example, ten by twelve feet, is folded along diagonals **31** and lines **33** spaced inward from the edges to form triangular flaps **35** which are folded over and adhered to side walls **37**. The side walls **37** are thus reinforced, and a reinforcing tape **39** may be secured across the end walls **41**. The bag bottom **29** should be the same size as that of the base, hence, in the case of the above-mentioned blank, the length of the bag would be three feet. This bag may also be initially folded flat and stored on the base **1**. In use, the bag is unfolded and slipped over the upper portions of the members **3** and **5** so that the side panels are embraced by the cover as well as by the retainers on the base. It may also be noted that the telescoping action of the cover affords some variation in the height of the finished package. In this instance, the height of the package may be varied from six to almost nine feet.

It will be understood that the term "flange," as used in describing the pallet base, means a slight projection as contrasted with a wall or panel, and by the same token, the "side walls" of the cover are to be distinguished from a mere flange.

From the foregoing description, it will be apparent that the finished container forms a neat, adequately strong but inexpensive repository for a lot of furniture or the like. Although the use of this container may necessitate slightly larger aisles than heretofore, the number of aisles may be considerably reduced. This is so because the containers may be arranged several deep, it being a simple matter to pull out an exposed container in order to reach a second container therebehind. From the point of view of expense, the component elements are of relatively light weight and low cost, as compared with dollies, it being here noted that most of the base structure will be supplied by the ultimate user. Other advantages will appear to those skilled in the art.

Whereas only one embodiment has been disclosed in detail, it is to be understood that the invention is not limited thereto, but the drawings and description thereof are to be understood as being merely illustrative. It is realized that many modifications and variations will present themselves to those skilled in the art without departing from the spirit of this invention or the scope thereof as set forth in the appended claims.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. A collapsible container for forming a self-sustaining and self-retaining enclosure for a stack of household goods, comprising a pallet having a rectangular load sustaining floor and a pair of upstanding confining rails at opposite margins of said floor, a pair of panel members formed of corrugated paperboard and each divided by parallel fold lines into a center panel and two side panels, said side panels being hinged to said center panel at the respective fold lines, said center panel having a width dimension between said fold lines corresponding to the distance between said confining members, said side panels having a width dimension perpendicular to said fold lines such that the cumulative width of the center and side panels of both panel members substantially exceeds the perimeter of the pallet floor, said panel members having a height dimension in the direction parallel with said fold lines approximately equal to the longer dimension of the pallet, and a foldable hood formed of material lighter and more flexible than the panel members, said hood having a central rectangular section and four side walls hinged to said central section, said side walls having a height dimension perpendicular to their hinge lines on the order of the shorter dimension of said pallet floor and being secured together at their corners to provide a closed rectangular band whose perimeter corresponds substantially to the perimeter of said pallet floor; whereby household goods may be stacked on said pallet floor to a height greater than the height of said panel members, the panel members thereafter erected on the pallet about the stack of goods thereon with the side panels of opposite panel members in overlapping relation, and the hood telescoped over the upper regions of the erected panel members to enclose the stacked goods extending thereabove.

2. The method of storing and protecting household goods which comprises: providing a pallet having a rectangular load sustaining floor and upstanding confining rails at opposite sides of said floor; providing a pair of panel members formed of corrugated paperboard, each panel member having a center panel and two side panels hinged to the center panel, the center panels having a width correpsonding substantially to one dimension of said floor, the side panels having a width such that cumulatively the width dimension of the two panel members substantially exceeds the perimeter of said floor, said panel members having a height dimension perpendicular to said width dimension approximating the longer dimension of said pallet floor; providing a hood formed of material lighter and more flexible than the panel members, said hood having a top section of dimensions substantially corresponding to said floor and a continuous band depending therefrom, said band having a perimeter corresponding substantially to the perimeter of said floor and being less than the cumulative width of said panel members, and said band having a height dimension on the order of the shorter dimension of said pallet floor; stacking household goods on said pallet to a height less than the combined height dimensions of a panel member and the band on said hood; then erecting said panel members at opposite sides of the pallet between the stacked goods thereon and the confining rails thereof so that the side panels of different panel members overlap at their free edges; and finally applying the hood telescopically over the top of the stacked goods and erected panel members with said band embracing the tops of said panel members and retaining the same in position.

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