Feb. 11, 1958 A. S. TARTAGLIA 2,822,951

CASE

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Fig. 1.

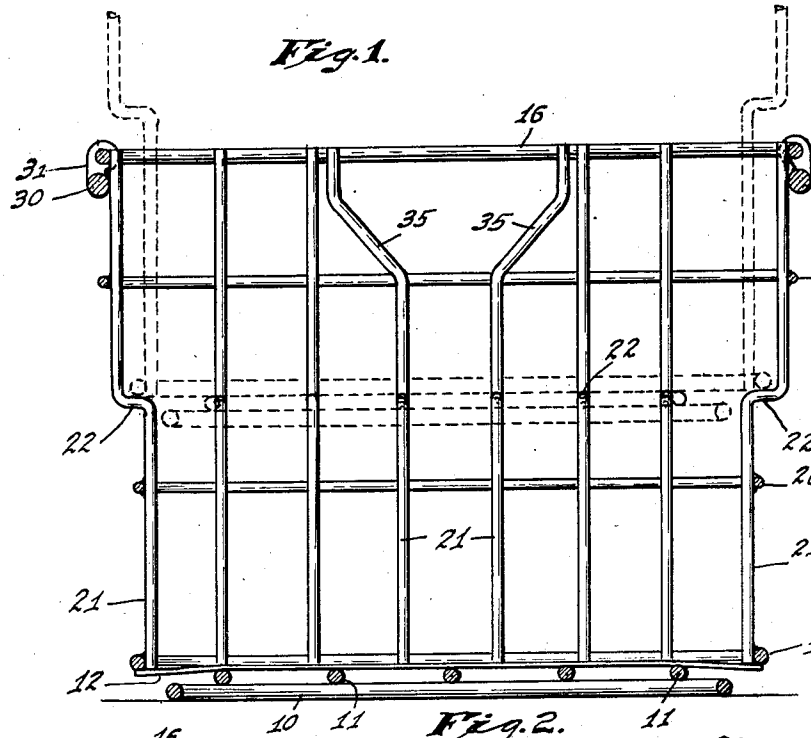


Fig. 3.

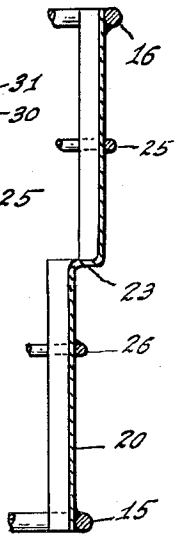
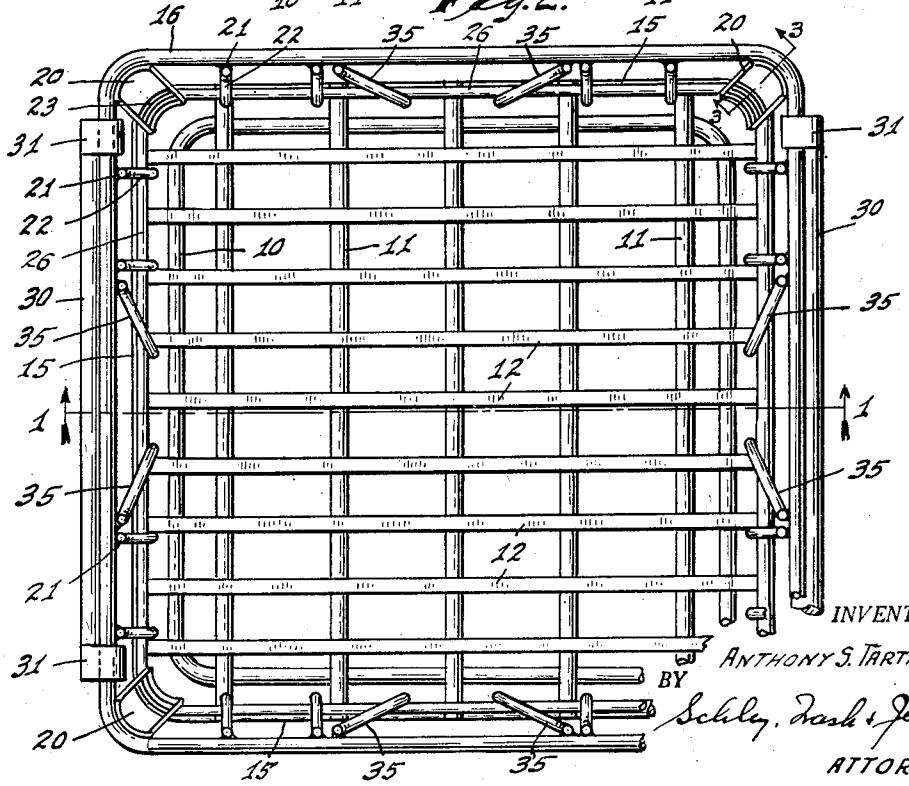


Fig. 2.



INVENTOR.
ANTHONY S. TARTAGLIA,
BY
Schley, Dash & Jenkins
ATTORNEYS.

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Fig. 4.

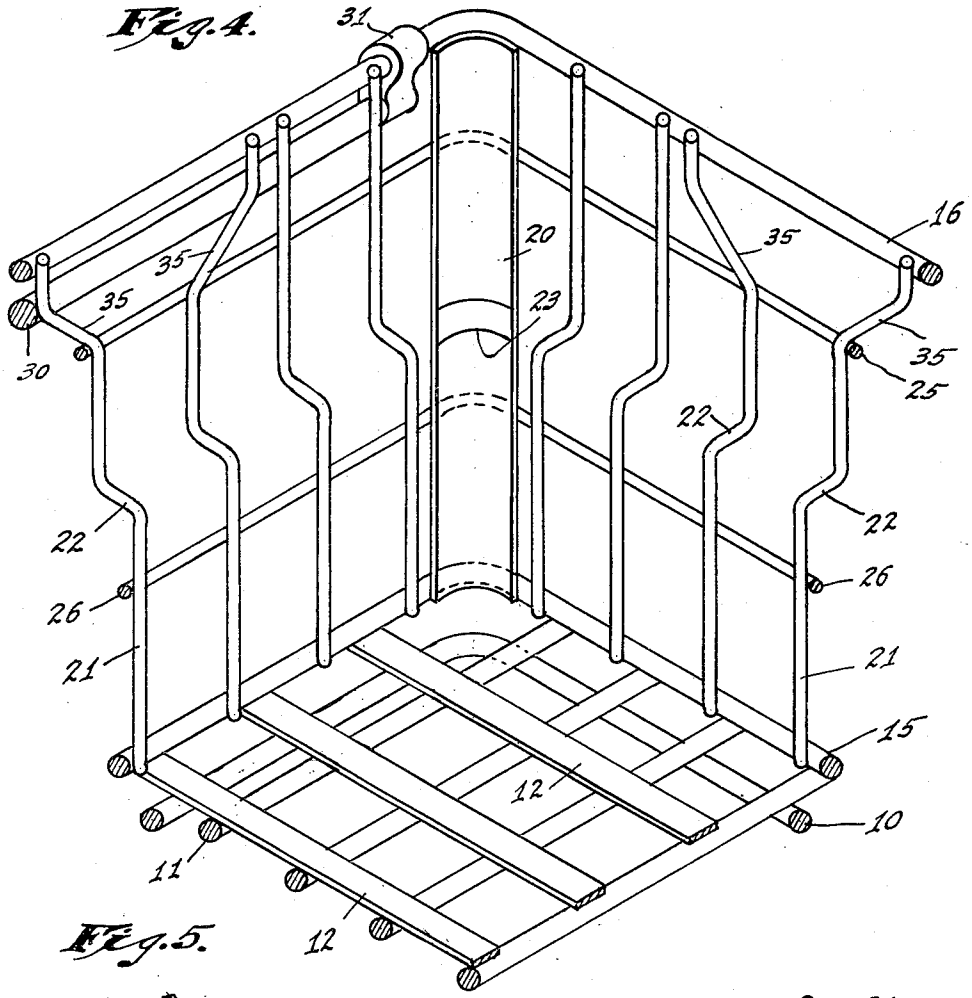
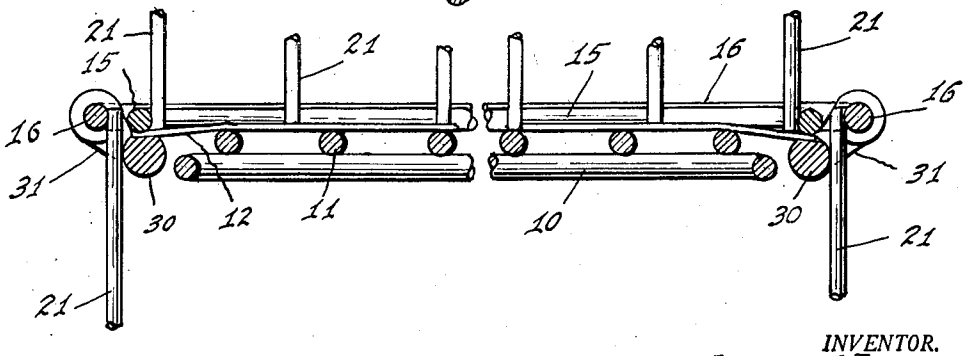


Fig. 5.



INVENTOR.
ANTHONY S. TARTAGLIA,

BY
Schley, Lash & Jenkins
ATTORNEYS.

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CASE

Anthony S. Tartaglia, Seelyville, Ind.

Application December 10, 1956, Serial No. 627,482

4 Claims. (Cl. 220—19)

This invention relates to a rigid, open-top case adapted primarily to contain and support a plurality of cardboard milk cartons, although the invention is equally adapted to incorporation in a case adapted to contain other articles. It is desirable that such cases be so constructed that they can be telescopically nested when empty, in order to conserve space in the storage of empty cases. The capability of nesting, however, is undesirable when the cases are full; for if full cases were to be superposed, the weight of the superposed cases would be imposed on the cartons of the lowermost case.

It is an object of my invention to produce a case so constructed that empty cases can be nested together while, in a stack of superposed cases, the weight of the cases and their contents will be transmitted directly from case to case without being imposed on the contents of any case.

In carrying out my invention in its preferred form, I provide a case-bottom comprising a rectangular peripheral frame and cross-members extending over and secured to said frame to support the contents of the case. Some of such cross-members extend outwardly beyond the frame and support side walls conveniently comprising vertically extending wires the upper ends of which are surrounded by and secured to an upper marginal frame. Intermediate their height, the side walls are offset outwardly so that the horizontal dimensions of the upper portion of the case will be larger than those of the lower portion, thus permitting similar cases to be telescopically nested. The offsetting of the side walls provides upwardly presented shoulders limiting the extent to which two cases may be nested together. On the upper marginal frame, I mount abutment members movable from a first position in which they engage the bottom of a superposed case to prevent nesting and a second position in which they permit such nesting.

In the accompanying drawings, which illustrate a preferred embodiment of the invention:

Fig. 1 is a vertical section through a case on the line 1—1 of Fig. 2;

Fig. 2 is a plan view of the case;

Fig. 3 is a vertical section on the line 3—3 of Fig. 2;

Fig. 4 is a fragmental isometric view of a corner of the case; and

Fig. 5 is a fragmental view similar to Fig. 1, but on an enlarged scale and illustrating the provisions which permit similar cases to be superposed without imposition of weight on the case-contents.

The case illustrated in the drawings has a bottom comprising a rectangular peripheral frame **10** conveniently formed of round metal rod. Transverse members **11**, which may also be of circular metal rod, extend in parallel relation on and across the frame **10** with their ends projecting beyond opposite sides of such frame. Cross members **12**, desirably of metal strip, extend across the frame **10** perpendicularly to the rods **11** to provide a lattice-like construction for the case-bottom, the ends of the strips **12** conveniently extending into contact with the frame **10** to which they are secured, as by welding.

Resting on the projecting ends of the rods **11** is a rectangular frame **15** which is larger in both dimensions than the frame **10** and which is secured as by welding to the rods **11**. At the top of the case is a third rectangular frame **16** which, in turn, is larger in both dimensions than the frame **15**. The frames **15** and **16** may be formed of the same material as the frame **10** and rods **11**.

The frames **15** and **16** are interconnected at the corners of the case by struts **20** and by side members **21**. The struts **20** are desirably formed of sheet-metal strips, while the side members **21** may be of wire. The upper portion of each side member **21** is offset outwardly with respect to the lower portion to provide a shoulder **22**, the shoulders of the several side members desirably being all located at the same elevation. The upper portion of each strut **20** is also offset outwardly, the offsetting being so preformed as to provide an intermediate portion **23**. To reinforce the side members **21** and lessen the likelihood of their becoming bent in use, I may provide upper and lower reinforcing members **25** and **26** which surround the case in contact with the side members **21** and struts **20**. The struts **20** and side members **21** are secured, conveniently by welding, to the frames **15** and **16** and the reinforcing members **25** and **26**.

On opposite sides of the upper frame **16** there are mounted movable abutment members **30**. Each of such abutment members has a long intermediate portion extending parallel to the associated side of the frame **16** and provided at its ends with laterally projecting arms **31** pivotally connected to the associated side of the frame **16**. Conveniently, such pivotal connection is affected by providing the ends of the arms **31** with aligned openings receiving the circular stock from which the frame **16** is formed. The abutment members **30** are swingable between two positions—namely, the exterior positions shown in Figs. 1, 2, and 4 and the interior positions shown in Fig. 5. In their exterior positions, the abutment members **30** merely hang downwardly under the influence of gravity on the outside of the case; and from this position they may be swung upwardly, inwardly, and then downwardly until they engage the inner faces of the side members **21**, which engagement determines the respective interior positions of the abutment members.

The extent of offsetting of the side members **21** is such, that with the abutment members in their exterior positions, the lower portion of one case may be inserted into the upper portion of another until the lower frame **15** of the former engages the shoulders **22** of the latter as shown in dotted lines in Fig. 1. However, the diameter of the members **30** is such that when such members are in their interior positions, the bottom frame **10** of a second case may be passed between the two abutment members while the frame **15** of the second case will overlap and rest upon such abutment members as shown in Fig. 5. In this manner, the weight of the superposed case and its contents may be transmitted directly to the case below and the contents of the lower case are not subjected to any of such weight.

When it is desired to stack empty cases, the abutment members **30** are swung to their exterior positions, as shown in Fig. 1, whereupon the relatively small lower portion of any case may be telescoped into the relatively large upper portion of another case, with the lower frame **15** of the upper case resting on the shoulders **22** of the lower case. The offset portions **23** of the struts **20** are located below the shoulders **22** so as to avoid interference with the nesting of one case into another.

While I have referred above to the frames **10**, **15**, and **16** as being rectangular, they are desirably square. The wire side members **21** lying immediately on opposite sides

of the midpoint of each side of the case may be spread apart above the upper reinforcing member **25**, as indicated at **35**, to provide a space for entry of fingers when the case is to be lifted.

It will be noted from Fig. 5 that the bottom frame **10** of the superposed case, in being lowered to its final position and in passing between the abutment members **30** will guide the superposed case to a position in vertical alignment with the lower case.

I claim as my invention:

1. A case, comprising a rectangular bottom frame, cross members extending on and across said bottom frame and secured thereto, the ends of said cross-members projecting beyond opposite sides of said bottom frame, a lower peripheral frame on and secured to the projecting ends of said cross members, side members extending upwardly from said lower peripheral frame, said side members lying against and being secured to the inner side of such lower peripheral frame and being offset outwardly intermediate their height to provide a shoulder adapted to be engaged by and to support the lower peripheral frame of another similar case, an upper peripheral frame surrounding and secured to the upper ends of the side members, and a pair of abutment members pivotally mounted on opposite sides of said upper peripheral frame, each of said abutment members being swingable from a first position outside the case to a second position in which it lies against the inner faces of the side members, said abutment members extending along the sides of the frame on which they are pivotally mounted and being of such diameter that when in their respective second positions the bottom frame of a superposed case can pass between them while the lower peripheral frame of such superposed case will not pass between them but will instead rest on and be supported by said abutment members.

2. A case, comprising a rectangular bottom frame, cross members extending on and across said bottom frame and secured thereto, the ends of said cross-members projecting beyond opposite sides of said bottom frame, a lower peripheral frame on and secured to the projecting ends of said cross members, side members extending upwardly from said lower peripheral frame and secured thereto being offset outwardly intermediate their height to provide a shoulder adapted to be engaged by and to support the lower peripheral frame of another similar case, an upper peripheral frame secured to the upper ends of the side members, and a pair of abutment members pivotally mounted on opposite sides of said upper peripheral frame, each of said abutment members being swingable from a first position outside the case to a second position in which it lies against the inner faces of the side members, said abutment members extending along the sides of the frame on which they are pivotally mounted and being of such diameter that when in their respective second positions the bottom frame of a superposed case can pass between them while the lower peripheral frame of such superposed case will not pass between them but will instead rest on and be supported by said abutment members.

3. A case, comprising a substantially square bottom, substantially similar side walls secured to and projecting upwardly from said bottom and substantially perpendicular thereto, said side walls being offset outwardly intermediate their height to provide an upwardly presented shoulder, and abutment members mounted adjacent the upper edges of opposite side walls for movement between first and second respective positions, said abutment members when in their said first positions lying outwardly beyond said shoulder to permit passage of the bottom of a superposed similar case into engagement with said shoulder and when in their second position lying above and spaced upwardly over said shoulder to be engaged by and to support a superposed case.

4. A case, comprising a bottom, side walls secured to and projecting upwardly from said bottom, said side walls being offset outwardly intermediate their height to provide an upwardly presented shoulder, abutment members mounted adjacent the upper edges of opposite side walls for movement between first and second respective positions, said abutment members when in their said first positions lying outwardly beyond said shoulder to permit passage of the bottom of a superposed similar case into engagement with said shoulder and when in their second position lying above and spaced upwardly over said shoulder to be engaged by the bottom of a superposed similar case to support the same, and means located below and rigid with said bottom and engageable with the abutment members of a subjacent case to limit relative horizontal movement of the two cases.

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