Aug. 13, 1957 E. C. VOIGHT 2,802,589

STACKABLE CARRYING CASE

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Fig. 1

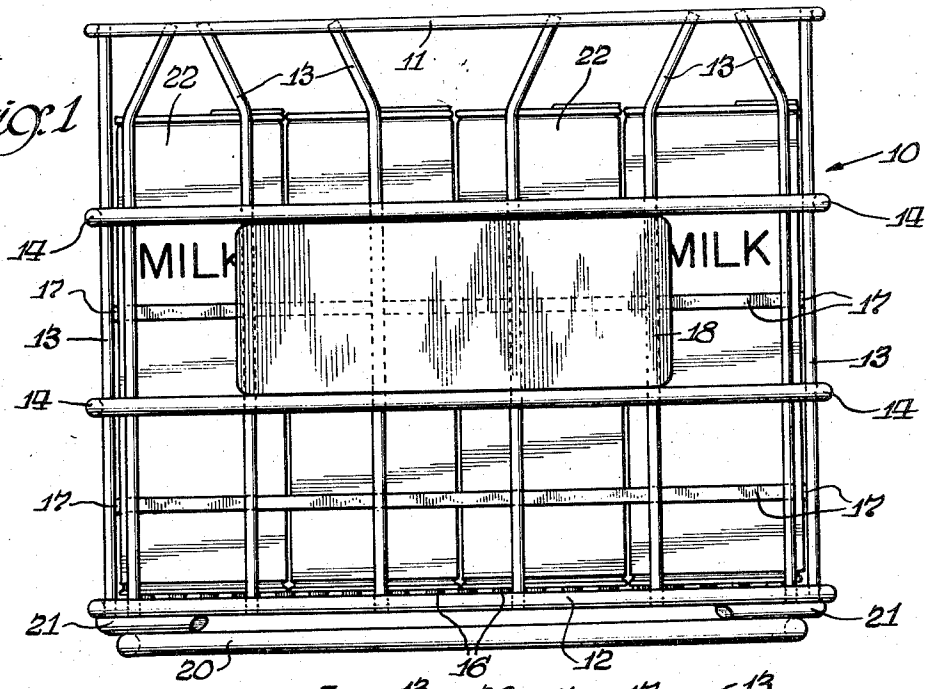
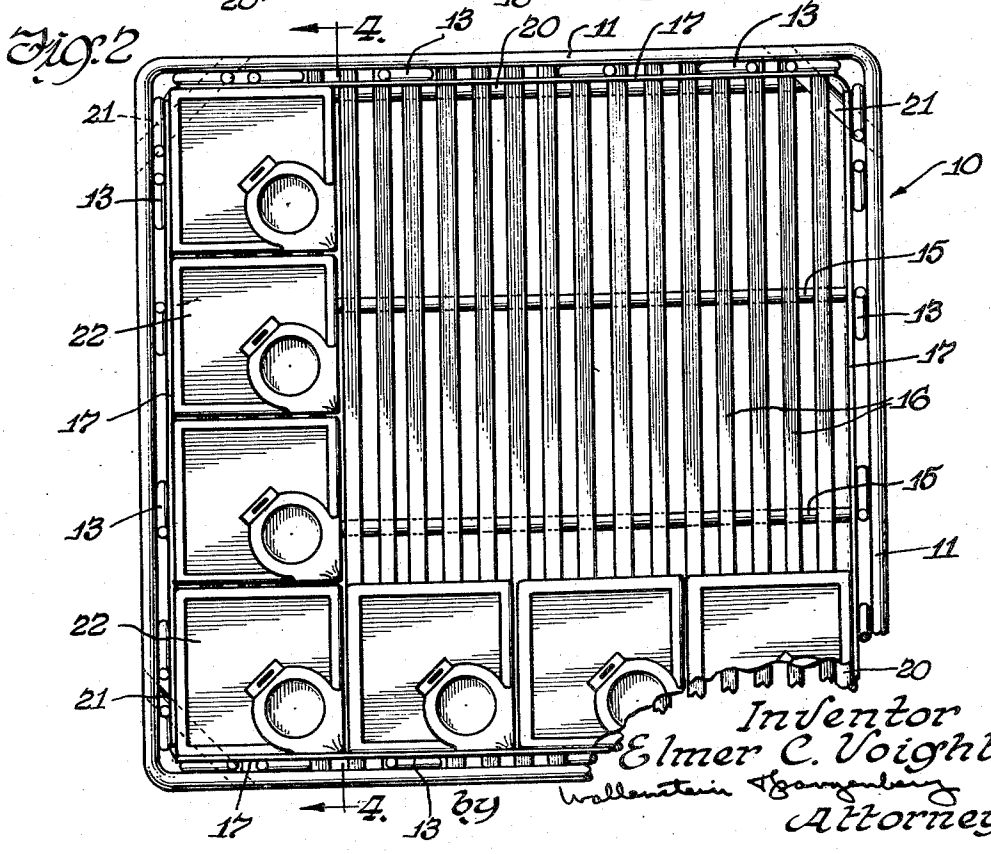


Fig. 2



Inventor
Elmer C. Voight
by Wallenstein & Wagner
Attorneys

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Fig. 3

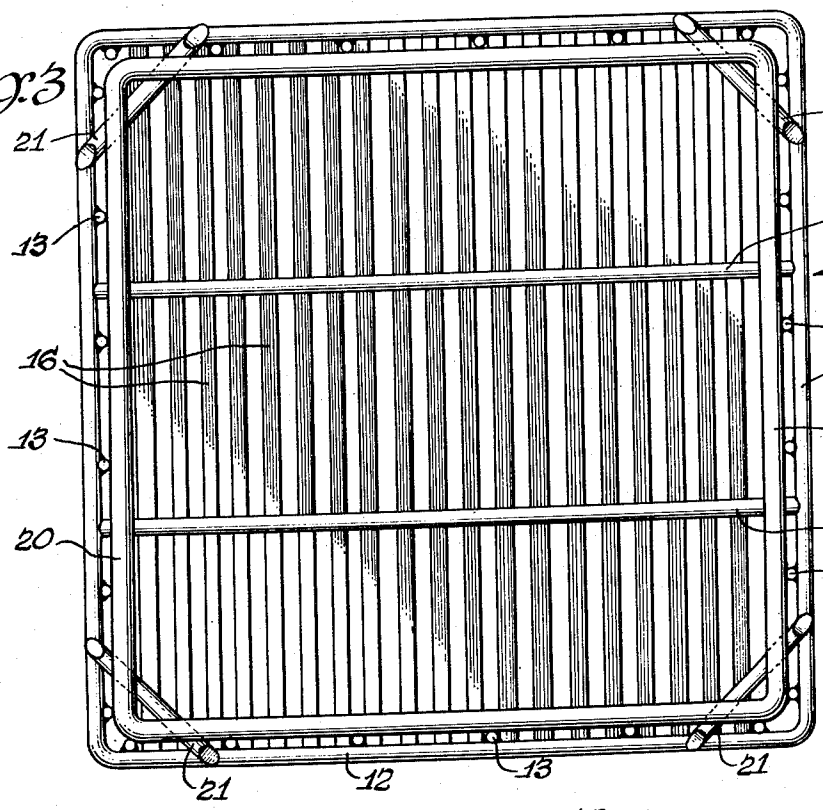
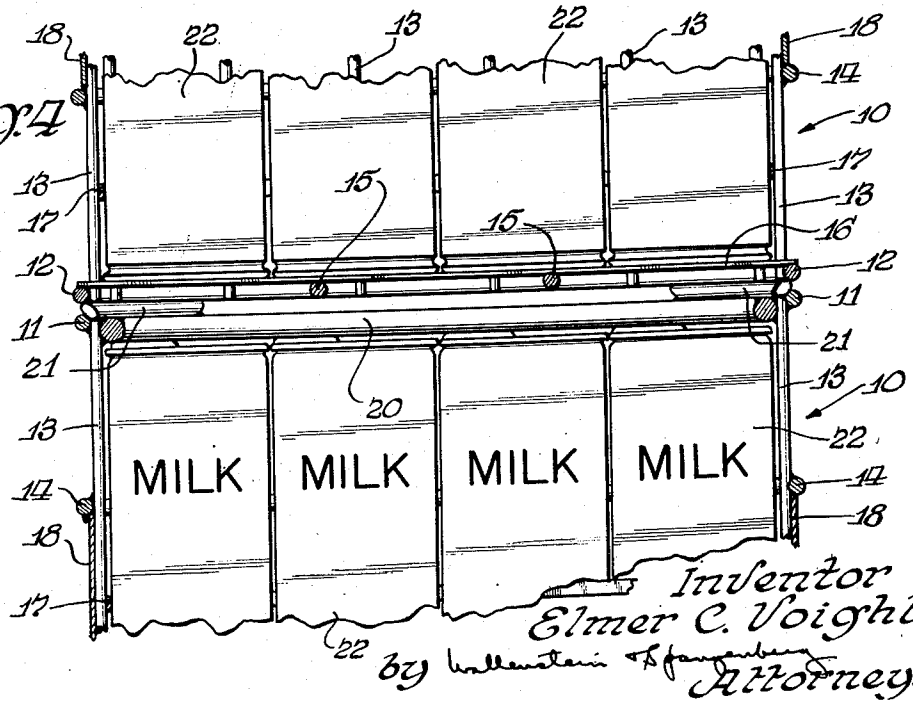


Fig. 4



Inventor
Elmer C. Voight
By Wallenstein & Wagner
Attorneys

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Fig. 5

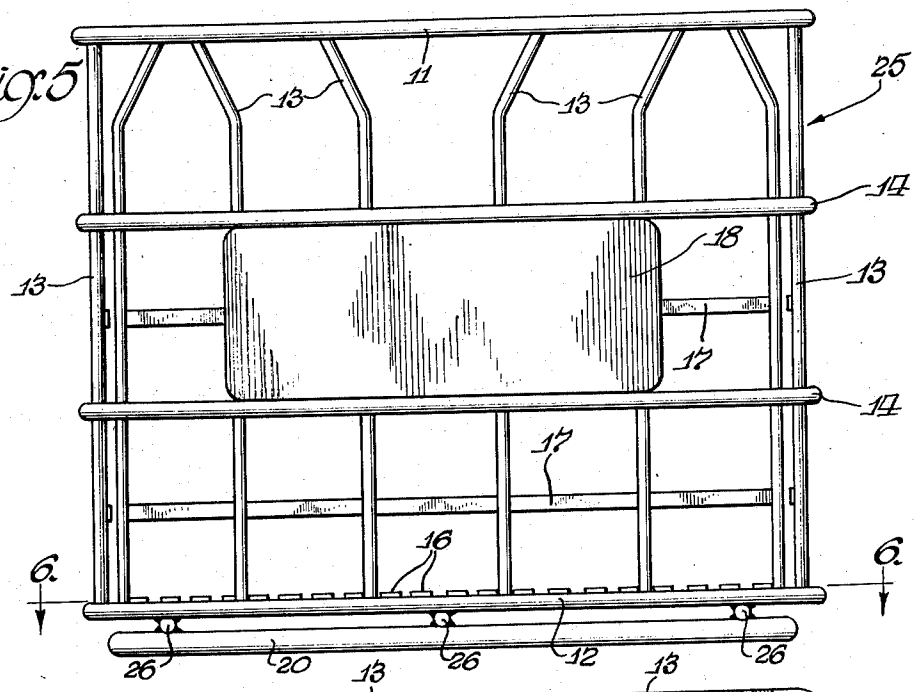
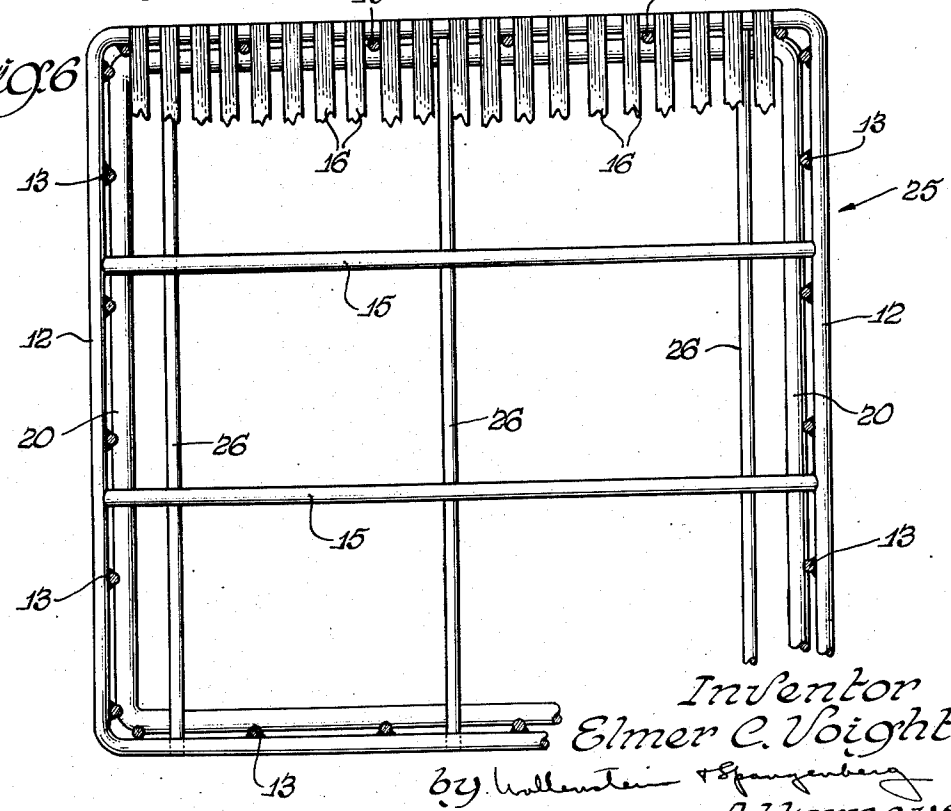


Fig. 6



Inventor
Elmer C. Voight
by Wallenstein & Spangenberg
Attorneys

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2,802,589

STACKABLE CARRYING CASE

Elmer Charles Voight, Chicago, Ill.

Application March 4, 1955, Serial No. 492,286

6 Claims. (Cl. 220—19)

The principal object of this invention is to provide an improved stackable wire-work carrying case particularly adaptable for use in carrying containers of paper and the like, wherein damage to the containers and the like carried thereby is substantially completely prevented.

Briefly, the stackable wire-work carrying case of this invention includes a top frame wire and a bottom frame wire of substantially the same dimensional configuration, and a plurality of spaced vertical wire members secured to and interconnecting the frame wires. A plurality of spaced horizontal wire members are secured to the bottom frame wire and are arranged so as not to project below the bottom frame wire and they form supporting braces for the containers and the like. A stacking ring wire of smaller dimensional configuration than the frame wires is arranged in spaced relation below the bottom frame wire, and a plurality of horizontal wire support members are secured to the bottom of the bottom frame wire and the top of the stacking ring wire for securing the stacking ring wire in spaced apart relation to the bottom frame wire independently from the supporting braces for the containers and the like.

A plurality of spaced horizontal flat wires are arranged on and secured to the top of the bottom frame wire and supporting braces and form a flat platform for the containers and the like carried by the carrying case. Since the stacking ring wire is secured in spaced apart relation to the bottom frame wire by means which are independent from the supporting braces, distortion or dislocation of the stacking ring wire, which might be caused by banging and rough handling of the carrying case, is not transmitted to the supporting braces or the horizontal flat wires, so that the latter, at all times, form a flat and undistorted platform for the containers and the like carried by the carrying case.

Since the supporting platform is formed from flat wires, wide and flat surface areas are presented to the bottoms of the containers and the like carried by the carrying case, and jiggling of the containers and the like in the carrying case will not result in wearing of or damage to the bottoms of the containers and the like. The carrying case also preferably includes a plurality of spaced apart and horizontally arranged flat wires secured to the inside of the vertical wire members with the flats thereof vertically arranged to form flat lateral supports for the containers and the like carried by the carrying case.

Further objects of this invention reside in the details of construction of the stackable carrying case and in the relationships between the component parts thereof.

Other objects and advantages of this invention will become apparent to those skilled in the art upon reference to the accompanying specification, claims and drawings in which:

Fig. 1 is a side elevational view of the stackable carrying case of this invention and illustrating paper containers, such as paper milk bottles, located in the carrying case.

Fig. 2 is a top plan view of the stackable carrying case illustrated in Fig. 1.

Fig. 3 is a bottom view of the stackable carrying case illustrated in Figs. 1 and 2.

Fig. 4 is a vertical sectional view through the stackable carrying case taken substantially along the line 4—4 of Fig. 2 and also illustrating two of such cases stacked together.

Fig. 5 is a side elevational view of another form of the stackable carrying case of this invention.

Fig. 6 is a sectional view taken substantially along the line 6—6 of Fig. 5.

Referring first to Figs. 1 to 4, one form of the stackable carrying case of this invention is generally designated at 10 and for purposes of illustration it is shown to be of substantially rectangular or square configuration. It includes a top frame wire 11 and a bottom frame wire 12 of substantially the same dimensional configuration. A plurality of spaced vertical wire members 13 are secured to and interconnect the frame wires 11 and 12. In this connection the spaced vertical wire members 13 are arranged on the inner sides of the frame wires 11 and 12 and are firmly secured thereto as by welding. A pair of intermediate frame wires 14 of substantially the same dimensional configuration as the top and bottom frame wires 11 and 12 are secured to the vertical wire members 13, as by welding, for the purpose of bracing the same. A plurality of spaced horizontal wire members 15 are secured to the bottom frame wire 12 and they are arranged so as not to project below the bottom frame wire 12. In this connection the spaced horizontal wire members 15 have their ends abutting the inner side of the bottom frame wire 12 and they are secured thereto as by welding. These spaced horizontal wire members form supporting braces for the paper containers and the like, the supporting braces being wholly within the confines of the bottom frame wire 12. A plurality of spaced horizontal flat wires 16, which extend at right angles to the supporting braces 15, are arranged over and secured to the top of the bottom frame wire 12 and the supporting braces 15, these flat wires being secured in place by welding or the like. These flat wires 16 form a flat platform for the paper containers and the like which are carried by the carrying case.

A stacking ring wire 20 of smaller dimensional configuration than the frame wires 11 and 12 is arranged in spaced-apart relation below the bottom frame wire 12. A plurality of horizontal wire support members 21 are secured to the bottom of the bottom frame wire 12 and the top of the stacking ring wire 20 for securing the stacking ring wire 20 in spaced apart relation to the bottom frame wire 12 independently from the supporting braces 15. In this connection these wire support members 21 are relatively short and are diagonally arranged across the corners of the bottom frame wire 12 and the stacking ring wire 20, they suitably being secured in place by welding or the like.

The carrying case is adapted to carry a plurality of paper containers and the like such as paper milk bottles 22. The paper milk bottles 22 rest upon the flat platform formed by the plurality of flat wires 16, these flat wires 16 being firmly braced by the brace members 15. A plurality of spaced-apart and horizontally-arranged flat wires 17 are secured, as by welding, to the inside of the vertical wire members 13 with the flats thereof vertically arranged to form flat lateral supports for the paper containers 22. Thus, where the paper containers 22 engage the bottom and sides of the carrying case, they engage wide and flat surface areas so that if the paper containers are jiggled in the carrying case there will be no wearing of or damage to the bottoms and sides of the paper containers. Thus the paper containers are protected

against such wear and tear. Since the stacking ring wire **20** is secured in spaced-apart relation to the bottom frame wire **12** by means which are independent from the supporting braces **15**, distortion or dislocation of the stacking ring wire, which might be caused by banging and rough handling of the carrying case, is not transmitted to the supporting braces **15** or the horizontal flat wires **16**, so that the latter, at all times, form a flat and undistorted platform for the paper containers and the like carried by the carrying case. If the flat wires **16** were distorted or bent they would quickly wear through the bottoms of the paper containers and this possible wearing is entirely eliminated by the carrying case of this invention. A panel **18** may be secured, as by welding, to the sides of the carrying case, which panel may be utilized for identification purposes.

As shown in Fig. 4 a plurality of the carrying cases may be stacked, with the stacking ring wire **20** of one carrying case being received within the top of the carrying case therebelow. The top carrying case is supported on the bottom carrying case by means of the wire support members **21** and since these wire support members are independent from the horizontal supporting braces **15** any pressures or distortion that might occur due to the stacking of the containers are not transmitted to the supporting braces **15** or the flat platform formed by the flat wires **16**. Thus the stacking of a plurality of the carrying cases will in no way operate to damage the paper containers carried therein.

Another form of the stackable carrying case of this invention is generally designated at **25** in Figs. 5 and 6. It is the same as the carrying case previously described with the exception of the construtcion of the horizontal wire support members which secure the stacking ring wire to the bottom frame wire and, accordingly, like reference characters have been utilized for like parts. In the arrangement shown in Figs. 5 and 6 a plurality of spaced horizontal wire support members **26** are utilized and they are arranged at right angles to the supporting braces **15** and are secured adjacent their ends, as by welding, to the bottom of the bottom frame wire **12** and the top of the stacking ring wire **20**. In this arrangement also the stacking ring wire **20** is secured to the bottom frame wire **12** independently from the supporting braces **15** so that distortion or dislocation of the stacking ring wire will not be transmitted to the supporting braces or the horizontal flat wires **16**. Here, also, when a plurality of carrying cases are stacked the upper case is supported by the lower case through the wire support members **26**. Thus the manner of operation and the beneficial results obtained by the arrangement of Figs. 1 to 4 are also present in the arrangement of Figs. 5 and 6 and, therefore, a further description of the arrangement of Figs. 5 and 6 is not considered to be necessary.

While the carrying case of this invention has been described, for purposes of illustration, for carrying paper containers, such as paper milk bottles, the carrying case may be utilized for carrying substantially any item which fits therein, such as glass or metal containers, packages, hides and so forth.

While for purposes of illustration two forms of this invention have been disclosed, other forms thereof may become apparent to those skilled in the art upon reference to this disclosure and, therefore, this invention should be limited only by the scope of the appended claims. Thus, for example, while, in the particularly preferred embodiments of this invention, the bottom of the container is formed from flat spaced wires **16**, preferably where the case is to be used for supporting paper containers, in the broader aspects of the invention the bottom of the case can be formed from round wire or wire of other cross sectional configuration, or it can be formed of sheet metal or wire mesh or even of synthetic plastic and the like.

I claim as my invention:

1. A stackable wire-work carrying case particularly adaptable for carrying containers of paper and the like comprising, a top frame wire and a bottom frame wire of substantially the same dimensional configuration, a plurality of spaced vertical wire members secured to the inner sides of the frame wires and interconnecting the same, a plurality of spaced horizontal wire members having their ends abutting and secured to the inner side of the bottom frame wire and forming supporting braces for the containers and the like arranged wholly within the confines of the bottom frame wire, a stacking ring wire of smaller dimensional configuration than the frame wires and arranged in spaced relation below the bottom frame wire, a plurality of horizontal wire support member secured to the bottom of the bottom frame wire and the top of the stacking ring wire for securing the stacking ring wire in spaced apart relation to the bottom frame wire independently from the supporting braces, said horizontal wire support members forming the sole support for said stacking ring whereby distortion or dislocation of the stacking ring wire is not transmitted to the supporting braces for the containers and the like.

2. A stackable wire-work carrying case particularly adaptable for carrying containers of paper and the like comprising, a top frame wire and a bottom frame wire of substantially the same dimensional configuration, a plurality of spaced vertical wire members secured to and interconnecting said frame wires, a plurality of spaced horizontal wire members having their ends abutting and secured to the inner side of the bottom frame wire and forming supporting braces for the containers and the like arranged wholly within the confines of the bottom frame wire, a stacking ring wire of smaller dimensional configuration than the frame wires and arranged in spaced relation below the bottom frame wire, a plurality of horizontal wire support members secured to the bottom of the bottom frame wire and the top of the stacking ring wire for securing the stacking ring wire in spaced apart relation to the bottom frame wire independently from the supporting braces, said horizontal wire support members forming the sole support for said stacking ring whereby distortion or dislocation of the stacking ring wire is not transmitted to the supporting braces for the containers and the like, and a plurality of spaced horizontal flat wires arranged on and secured to the top of the bottom frame wire and supporting braces and forming a platform for the containers and the like.

3. A stackable wire-work carrying case particularly adaptable for carrying containers of paper and the like comprising, a top frame wire and a bottom frame wire of substantially the same dimensional configuration, a plurality of spaced vertical wire members secured to the inner sides of the frame wires and interconnecting the same, a plurality of spaced horizontal wire members having their ends abutting and secured to the inner side of the bottom frame wire and forming supporting braces for the containers and the like arranged wholly within the confines of the bottom frame wire, a stacking ring wire of smaller dimensional configuration than the frame wires and arranged in spaced relation below the bottom frame wire, a plurality of horizontal wire support members secured to the bottom of the bottom frame wire and the top of the stacking ring wire for securing the stacking ring wire in spaced apart relation to the bottom frame wire independently from the supporting braces, said horizontal wire support members forming the sole support for said stacking ring whereby distortion or dislocation of the stacking ring wire is not transmitted to the supporting braces for the containers and the like, and a plurality of spaced horizontal flat wires arranged on and secured to the top of the bottom frame wire and supporting braces and forming a platform for the containers and the like, and a plurality of spaced apart and

horizontally arranged flat wires secured to the inside of the vertical wire members with the flats thereof vertically arranged to form flat lateral supports for the containers and the like.

4. A stackable wire-work carrying case particularly adaptable for carrying containers of paper and the like comprising, a rectangular top frame wire and a rectangular bottom frame wire of substantially the same dimensional configuration, a plurality of spaced vertical wire members secured to and interconnecting said frame wires, a plurality of spaced horizontal wire members secured to the bottom frame wire and arranged so as not to project below the bottom frame wire and forming supporting braces for the paper containers and the like, a rectangular stacking ring wire of smaller dimensional configuration than the frame wires and arranged in spaced relation below the bottom frame wire, a horizontal wire support member secured to the bottom of the bottom frame wire and the top of the stacking ring wire diagonally at each corner thereof for securing the stacking ring wire in spaced apart relation to the bottom frame wire independently from the supporting braces, said diagonal horizontal wire support members forming the sole support for said stacking ring whereby distortion or dislocation of the stacking ring wire is not transmitted to the supporting braces for the containers and the like.

5. A stackable wire-work carrying case particularly adaptable for carrying containers of paper and the like comprising, a rectangular top frame wire and a rectangular bottom frame wire of substantially the same dimensional configuration, a plurality of spaced vertical wire members secured to and interconnecting said frame wires, a plurality of spaced horizontal wire members having their ends abutting and secured to the inner side of the bottom frame wire and forming supporting braces for the containers and the like arranged wholly within the confines of the bottom frame wire, a rectangular stacking ring wire of smaller dimensional configuration than the frame wires and arranged in spaced relation below the bottom frame wire, a horizontal wire support member secured to the bottom of the bottom frame wire and the top of the stacking ring wire diagonally at each corner thereof for securing the stacking ring wire in spaced apart

relation to the bottom frame wire independently from the supporting braces, said diagonal horizontal wire support members forming the sole support for said stacking ring whereby distortion or dislocation of the stacking ring wire is not transmitted to the supporting braces for the containers and the like.

6. A stackable wire-work carrying case particularly adaptable for carrying containers of paper and the like comprising, a rectangular top frame wire and a rectangular bottom frame wire of substantially the same dimensional configuration, a plurality of spaced vertical wire members secured to and interconnecting said frame wires, a plurality of spaced horizontal wire members secured to the bottom frame wire and arranged so as not to project below the bottom frame wire and forming supporting braces for the paper containers and the like, a rectangular stacking ring wire of smaller dimensional configuration than the frame wires and arranged in spaced relation below the bottom frame wire, a horizontal wire support member secured to the bottom of the bottom frame wire and the top of the stacking ring wire diagonally at each corner thereof for securing the stacking ring wire in spaced apart relation to the bottom frame wire independently from the supporting braces, said diagonal horizontal wire support members forming the sole support for said stacking ring whereby distortion or dislocation of the stacking ring wire is not transmitted to the supporting braces for the containers and the like, and a plurality of spaced horizontal flat wires arranged on and secured to the top of the bottom frame wire and supporting braces and forming a platform for the containers and the like.

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