July 23, 1968 J. C. FREEMAN 3,393,822

REUSABLE PACKING CRATE

Filed Aug. 18, 1966

Fig. 1

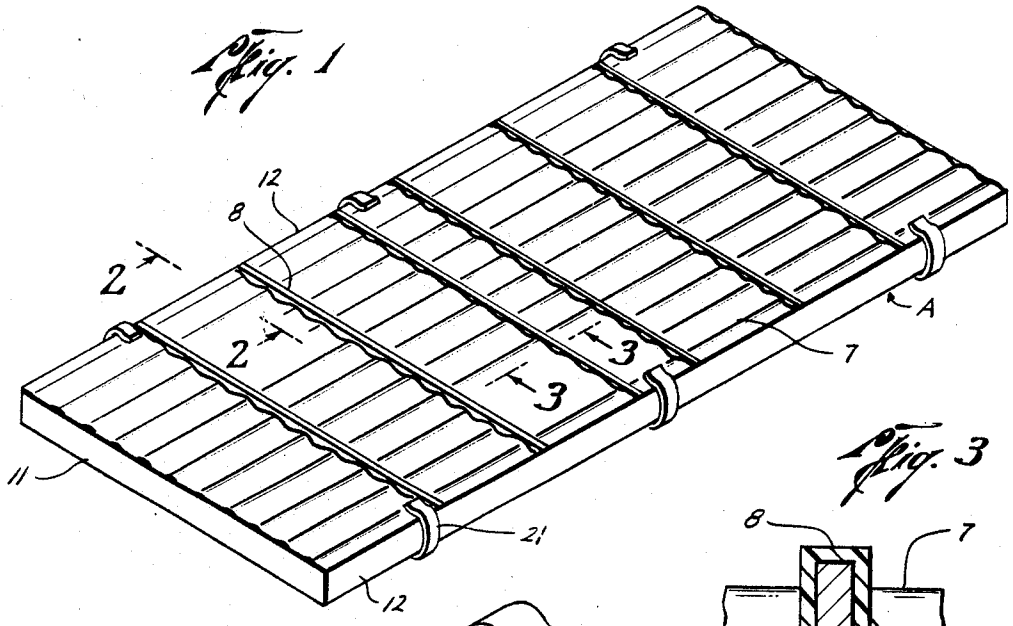


Fig. 3

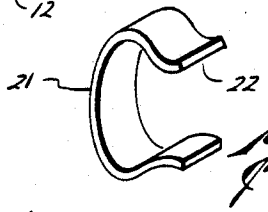
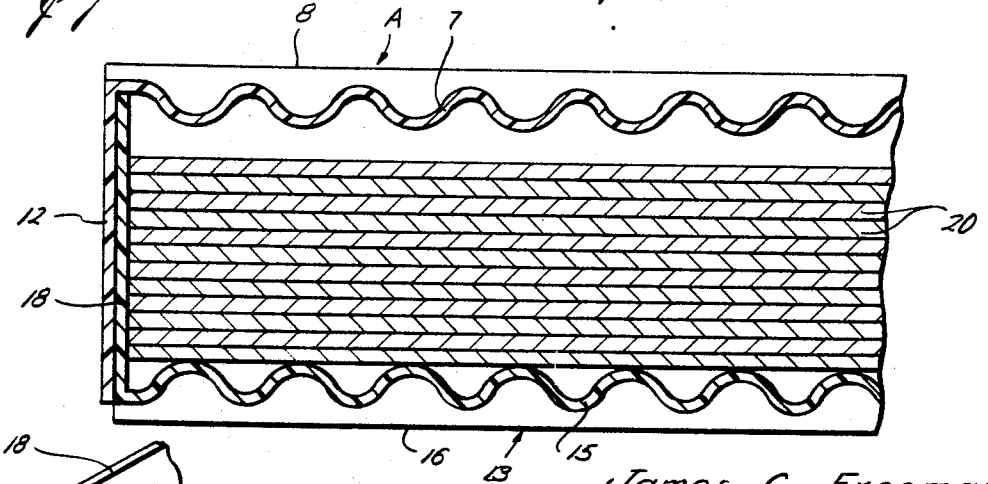


Fig. 5

Fig. 2



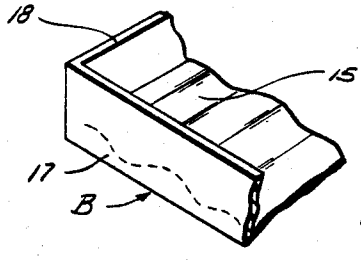


Fig. 4

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REUSABLE PACKING CRATE

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ABSTRACT OF THE DISCLOSURE

A novel packing crate particularly adapted for transporting thin metal sheets and including interfitting box sections having transverse corrugated walls with reinforcing ribs.

This invention relates to packing cases or crates, particularly reusable crates, for protectively shipping metal sheets and the like.

It has been customary to ship sheets of metal, such as aluminum, the surfaces of which must be protected in transit, by enclosing the same in crates especially made up of wood framing with fillers of heavy cardboard-like material. Such crates are relatively fragile in that the fillers are subject to damage when struck or abraded by hard or sharp elements. Furthermore, the cartons are destroyed during unpacking and, therefore, of course, are not reusable. Such cases or crates, therefore, are a source of substantial shipping expense and, in addition, the construction of the special crates requires substantial time and manpower and the crates do not perfectly protect the product transported.

Accordingly, it is an object of the present invention to provide an improved case or crate for use in shipping items such as metal sheets.

Another object is to provide a reusable crate of the above type.

Still another object is to provide a crate which provides superior protection for the product contents.

The above objects and others are attained by the novel crate herein disclosed which consists in general of interfitting box sections each having a transverse corrugated wall traversed by reinforcing ribs and having side and end flanges or walls which fit together slidably but sufficiently closely to provide good weather and dust protection. The box sections preferably are formed of integral molded Fiberglas material and are repeatedly reusable. This material, while of light weight, is rugged and adequately rigid and, in addition, has substantial insulating properties.

In the accompanying drawing which illustrates the invention:

FIG. 1 is a perspective top view of the assembled shipping crate ready for transport;

FIG. 2 is an enlarged, partial transverse section taken substantially on line 2—2 of FIG. 1;

FIG. 3 is a detail longitudinal section taken on line 3—3 of FIG. 1;

FIG. 4 is a detail perspective showing a corner of the bottom section; and

FIG. 5 is a perspective view of the securing clip.

The crate is made up of top and bottom box sections A and B, each of integral molded Fiberglas. Top section A has a transverse, longitudinally-corrugated top wall **7** with transverse reinforcing ribs **8**. The ribs are constructed as shown in FIG. 3 of strengthening cores **9** and plastic sheathing **10** which firmly binds the ribs to the transverse wall **7** as well as side walls or flanges **12**. The ribs are provided on the top side only of wall **7** and the under surfaces of the longitudinal corrugations are continuous

for strengthening purpose. Depending from top wall **7** are end and side walls or flanges **11** and **12**.

Bottom box section B is similarly constructed of a transverse bottom wall **15** longitudinally corrugated and provided with transverse reinforcing ribs **16** on its under side. End and side walls or flanges **17** and **18** are constructed so as to slidably but reasonably snugly fit within the corresponding walls or flanges of the top section so that the two sections can be assembled, somewhat as a suit box.

FIG. 2 shows metal sheets **20** piled within the bottom section more or less filling the product space of the crate. The vertical space within the crate need not be completely filled because of the inherent strength and rigidity of the top box section. However, preferably, the sections should be designed to fit a particular size of metal sheet. The top section is slipped over the loaded bottom section to complete the crating.

The assembled, loaded box sections are then secured together, for instance, by means of resilient C-clips **21**. Each clip has an upturned tip **22** to facilitate both assembly and disassembly of the clip. As thus assembled, the crate is ready for loading on a truck or other conveyance, and several of the loaded crates may be stacked together, if desired. When the crate is ready for unloading, clips **21** are snapped off by hand or with the use of a prying tool and top section A lifted off to expose the sheet metal load. After removal of the load, additional product may be stacked within the lower section and the two sections reassembled thereabout as before, or the two sections may be reassembled empty and returned to the point of original loading.

In either case, the packing of the product, such as metal sheets, is very much simpler than where special wood and cardboard cartons must be constructed, as heretofore, and substantial time and money are saved both because of the facility of packing and unpacking and the reuse of the interfitting molded Fiberglas box sections.

The invention may be modified in various respects as will occur to those skilled in the art, and the exclusive use of all modifications as come within the scope of the appended claims is contemplated.

I claim:

1. A reusable packing crate comprising a pair of boxes each of integral construction with a transverse wall and side and end walls and each of said boxes being constructed of molded material with reinforcing molded ribs, the side and end walls of a first of said boxes being constructed for slidable reception within the corresponding walls of the other box to form a product-protecting enclosure.

2. A reusable packing case as described in claim **1** in which the transverse wall of said first box forms the bottom thereof and the transverse wall of said other box forms the top thereof, said other box enclosing the top, sides, and ends of said first box when assembled therewith for substantially protecting the interior of the case.

3. A reusable packing case as described in claim **2** in which each of said boxes is constructed of molded Fiberglas with reinforcing molded ribs extending across the transverse wall thereof.

4. A resuable packing case as described in claim **2** in which the transverse walls of said boxes are corrugated and the end and side walls thereof are planar and fit together sufficiently closely to provide a substantial weather and dust seal.

5. A reusable shipping case as described in claim **2** further including resilient C-clips embracing the edges of the assembled boxes for securing the same together.

6. A reusable protective shipping crate for metal sheets comprising top and bottom interfitting box sections of integral molded Fiberglas material each having a corrugated

transverse wall and end and side flanges, the end and side flanges of said lower box sections closely but slidably fitting within the flanges of said top section for weather and dust sealing of the contents of the crate, molded reinforcing ribs traversing said corrugated walls and firmly secured to said side flanges, and means for securing together said box sections.

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