April 15, 1947. W. F. NEWHOUSE 2,419,026

COLLAPSIBLE CRATE

Filed Dec. 17, 1943

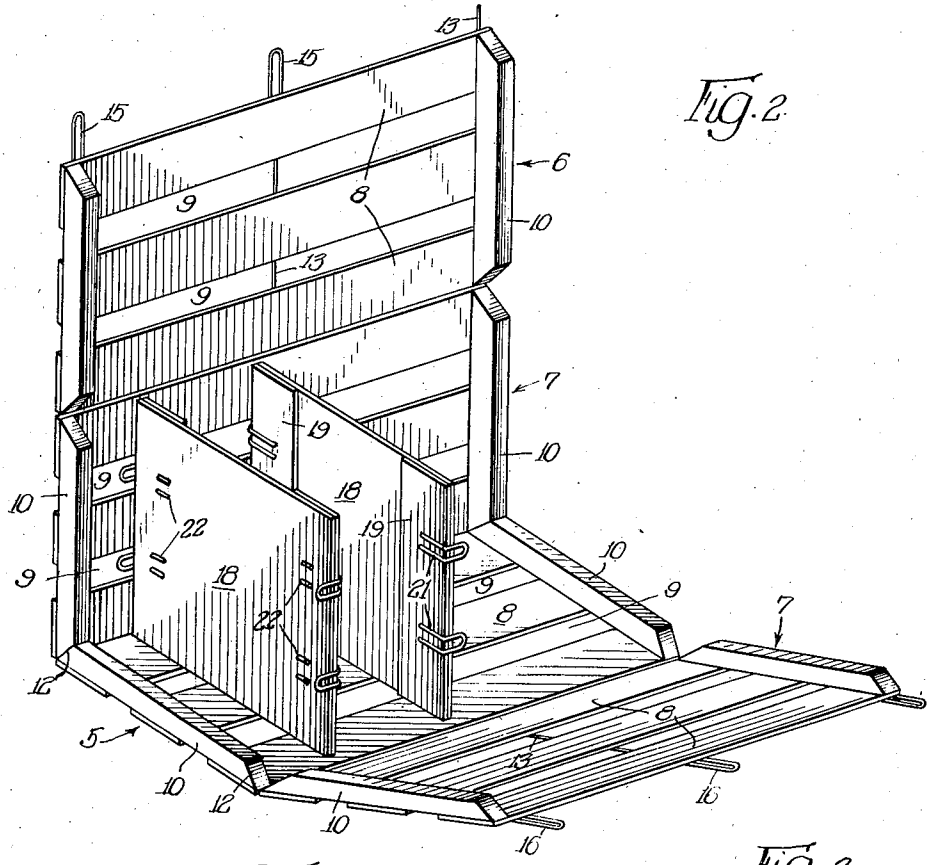


Fig. 1

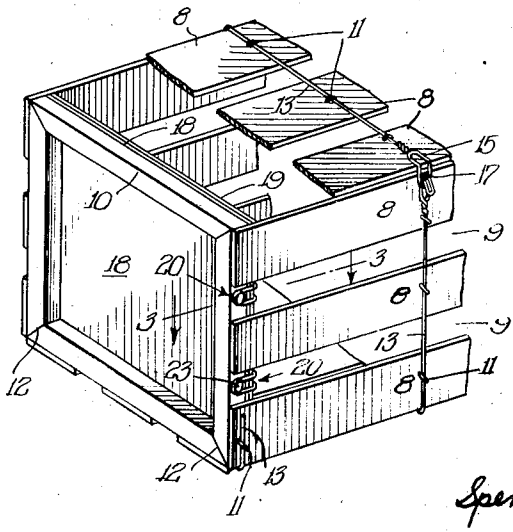


Fig. 2

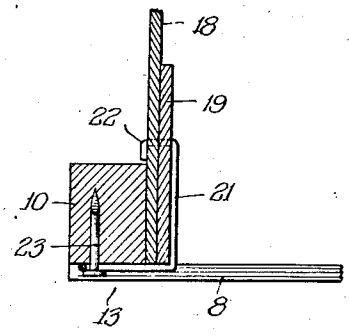


Fig. 3

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Patented Apr. 15, 1947

2,419,026

UNITED STATES PATENT OFFICE

2,419,026

COLLAPSIBLE CRATE

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Application December 17, 1943, Serial No. 514,602

1 Claim. (Cl. 217—47)

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This invention relates to a crate which is constructed with the several walls or side portions bound together with wires, the wires being stapled to the walls and serving as hinges during the assembly of the parts. The invention particularly relates to means for securing the end or head walls of the crate to the side walls thereof.

An object of the invention is to provide safe, simple means for readily, economically and effectively fastening the end walls of foldable crates in position, especially crates made of wood veneer, solid fibre, corrugated fibre board, or combinations of wood veneer and fibre board, and other materials and substitutes therefor.

A further object of the invention is to provide a crate construction with side walls having reinforcing members or cleats arranged with a surface in abutting relation with adjacent marginal portions of end or head walls and adapted to receive a loop of wire or other suitable material, one end of which may be stapled or otherwise secured in a marginal portion of an adjacent end wall, the other end or loop thereof being nailed, stapled or otherwise secured in fastening position against an end portion of a reinforcing member intermediately of adjacent slats forming the side walls of the crate, thus avoiding projecting clips and other objectionable fastening means extending outwardly of the walls or edges of a crate heretofore employed in crate construction.

Additional objects, advantages and capabilities inherent in this invention will become readily apparent from the description thereof which follows.

This invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawings, and while there is shown therein preferred embodiments of the invention, it is to be understood that the same are susceptible of modification and change without departing from the spirit of the invention.

The accompanying drawings illustrate a selected embodiment of the invention, and the views therein are as follows:

Fig. 1 is a perspective view of a portion of a crate embodying the invention, portions of the side walls being broken away to show the fastening means in place.

Fig. 2 is a perspective view of parts of a crate embodying the invention prior to assembly.

Fig. 3 is a sectional view along the line 3—3 of Fig. 1.

A particular crate construction here disclosed

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for the purpose of illustrating the invention comprises a plurality of spaced slats forming a bottom 5, a top 6 and side walls 7, which may be of wood veneer and are alike except that they may be of different dimensions. The opposed walls may be of like dimensions, but they may be of other and different configurations. Each side wall, including the top and bottom, comprises a plurality of longitudinally extending, spaced members or slats 8 arranged with spaces 9 therebetween and reinforcing cleats 10 extending along the edge of each wall at each end thereof. These cleats may be suitably secured to the inner face of the wall as by staples 11, and have their ends beveled correspondingly, generally to form a rectilinear fit as shown at 12 in Figs. 1 and 2. The cleats may be tongued or grooved or they may comprise any other suitable or conventional joint construction instead of the specific beveled construction shown.

The side walls, including the top and bottom, are secured together by means of spaced wires 13 which are secured to the walls by means of the staples 11 which also serve to secure the cleats 10 to the walls. The wires 13 are of sufficient length to permit tying or twisting their opposed ends together or arranged with male and female loops 15 and 16 at the ends of the wire to form interlocking loop fasteners so as to complete the assembly of a crate, such as shown at 17 in Fig. 1.

The end walls 18, which also may be of wood veneer, or other suitable material, may have reinforcing strips 19 along opposed edges and suitably secured thereto, as shown in Figs. 1 and 3. The end walls 18 are also provided with spaced fastening means adapted to be received upon adjacent end portions of the cleats 10 intermediate the slats 8 as shown at 20 in Fig. 1. The fastening means may be in the form of a staple 21 driven into the reverse side of the end wall as shown at 22 and turned about the lateral edge of the end wall as illustrated in Figs. 2 and 3, or they may be in other suitable form such as a loop made by turning opposed ends of a flexible binding material or wire upon themselves, or in the form of a single loop, or in the form of separate loops separately stapled to the end wall. Other forms of fastening means, such as a metallic hook, stamping of hook or loop form, or metal strapping, may also be employed.

When the parts of the crate are assembled as shown in Fig. 1, a nail 23 or other fastening means, for example a staple, may be driven through the staple 21, as shown in Fig. 3, or other fastening means, to fasten the parts in assem-

bled position, provision being made for the loops of one side of a crate to be secured to an adjacent crate wall, thereby providing for the assembly of both ends of the crate into the crate blank in knock-down condition, whereby all parts (crate side wall blanks and ends) are prepared as a unit at the factory or place of manufacture of the crate.

It will be readily appreciated that the means thus described provides a simple, economical, neat and efficient fastening arrangement which may be readily applied to crates. The placing of the fastening means intermediate the longitudinal members or slats of the side walls of the crate makes unnecessary the provision of niches or cut away portions in the cleats or other reinforcing members of the side walls. This is a distinct advantage as it avoids the use of fastening means which project outwardly from the side walls of the crate and are susceptible to disarrangement by snagging or catching adjacent objects, with resulting injury to the crate and contents as well as other merchandise, without incurring the expense incident to the provision of niches or recesses in the parts.

Changes may be made in the form, construction and arrangement of the parts without departing from the spirit of the invention, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claim.

The invention is hereby claimed as follows:

A collapsible crate of the character described comprising enclosing side walls each made up of slats with a space between adjacent slats of each side wall, cleats secured to opposite ends of the slats of each side wall, end walls adapted to be secured to the side walls, attaching means for securing said end walls to said side walls, said attaching means each comprising a tongue-like member having two legs the inner ends of both of which are secured to the inner face of an end wall and its outer end projecting a predetermined distance beyond an edge of an end wall, said outer end of said tongue-like member including a bent part extending perpendicularly of an end wall and engaging an outer edge of a cleat, said bent part being less in length than the thickness of a cleat so as not to extend beyond the outer face of the cleat, the space between adjacent slats being of sufficient size to permit an attaching means to extend through the space between adjacent slats, and said fastening means being positioned on an end wall at said space and a fastener member driven through the bent part of the tongue-like member and into an edge of a cleat to secure an end wall to a side wall.

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