Feb. 12, 1924. 1,483,174

J. H. GREENSTREET

BOX

Filed Oct. 13, 1922

Fig. 1.

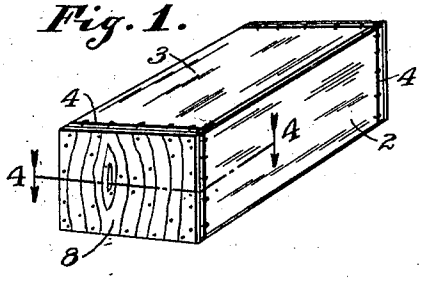


Fig. 2.

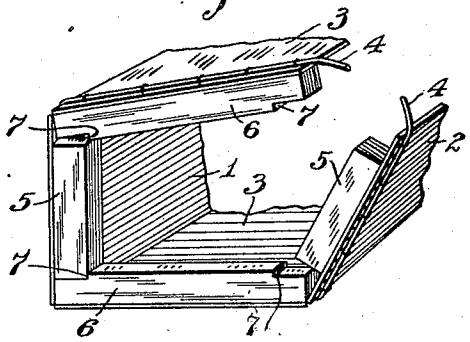


Fig. 3.

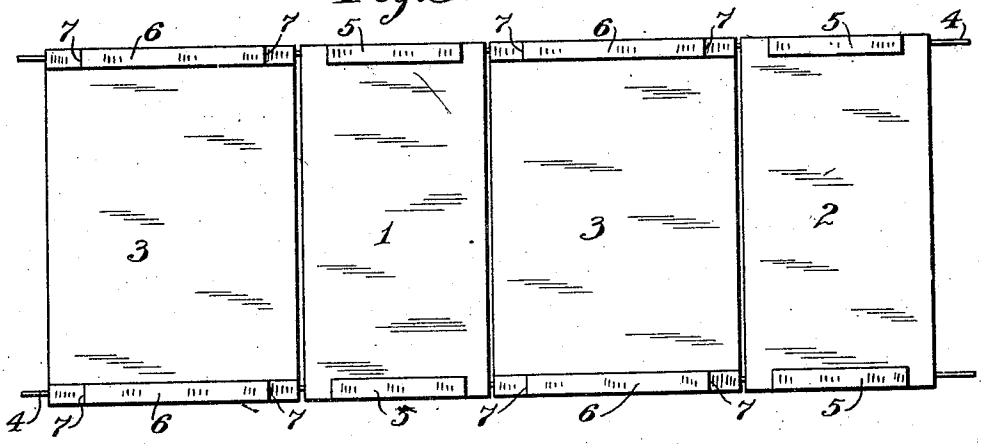


Fig. 4.

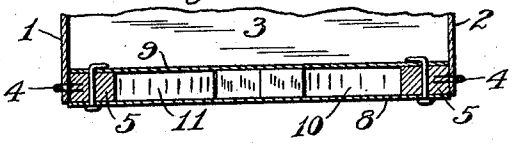


Fig. 5.

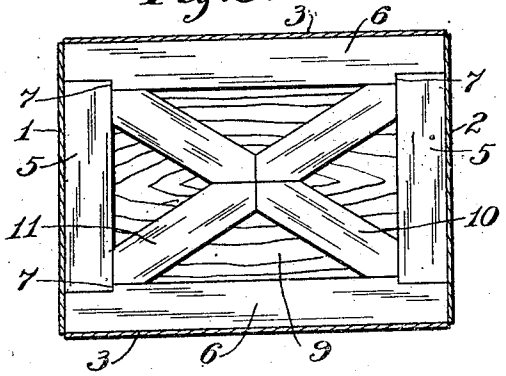
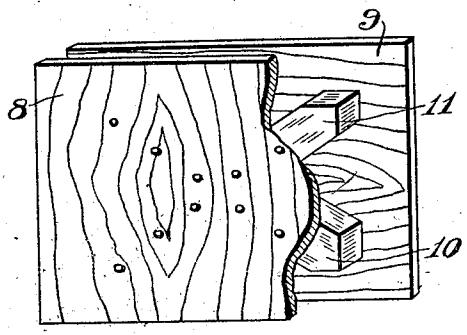


Fig. 6.



INVENTOR

Jason H. Greenstreet,

BY

Arthur M. Hood.

ATTORNEY

Patented Feb. 12, 1924. 1,483,174

UNITED STATES PATENT OFFICE.

JASON H. GREENSTREET, OF INDIANAPOLIS, INDIANA; CHARLES J. GREENSTREET EXECUTOR OF THE ESTATE OF SAID JASON H. GREENSTREET, DECEASED.

BOX.

Application filed October 13, 1922. Serial No. 594,255.

To all whom it may concern:

Be it known that I, JASON H. GREENSTREET, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Box, of which the following is a specification.

My invention relates to improvements in boxes and more particularly to the end members of packing and shipping boxes.

One of the objects of my invention is to provide a packing and shipping box having an end member which is materially stronger than the packing and shipping boxes now in commercial use and which at the same time may be produced at a minimum expense. For the purpose of disclosing my invention I have illustrated one application thereof in the accompanying drawing, in which,

Fig. 1 is a perspective view of a wire bound box embodying my invention;

Fig. 2 is a perspective end view of a wire bound box and cleats partly assembled;

Fig. 3 is a plan view of that portion of the box comprising the sides, top and bottom;

Fig. 4 is a detail section taken on the line 4—4 of Fig. 1;

Fig. 5 is an end view of the box end with one of the panels removed;

Fig. 6 is a perspective view of the box end partially broken away.

In the embodiment illustrated, my invention is shown as being applied to what is commercially known as a wire bound box and in constructing this type of box, to embody my invention the panels comprising the two sides 1 and 2 and top and bottom 3 are secured to the binding wires 4, whereby a single foldable blank is provided and the same means which is used for securing the wires to the panels also secure on the inner face of the panels, the end cleats. These end cleats as shown preferably comprise a pair of end cleats 5 for the sides of the box and end cleats 6 for the top and bottom. The ends of the cleats 5 are so spaced from the edges of the panels that when the panels are folded into box form the ends will abut against the ends of the cleats 6 and to add rigidity to the structure and the cleats 6 are preferably shouldered as at 7 against which shoulder the sides of the cleats 5 are adapted to abut. By this arrangement an extremely rigid and strong structure is provided as it will be noted that the cleats abut against one another for the full width of material comprising the cleats.

The end members of the box comprise a pair of panel veneers 8 and 9 which are spaced apart to receive between them the cleats 5 and 6 and also between the veneers 8 and 9 I dispose diagonal braces 10 and 11, these braces extend diagonally from one corner of the frame formed by the cleats to the opposite corner thereof and the ends of these braces abut for the full width of the material against the cleats 5 and 6. The braces may be formed of a plurality of separate sections as shown in the drawing, in which event the inner abutting ends of the sections comprising the braces also abut against one another for the full width of the material. These braces are preferably secured to the side panels by staples or nails passing therethrough so that when the end is used in connection with a wire bound box the end member comprises the two panels 8 and 9 and the braces assembled therewith. However, while this end member is primarily designed for use in connection with the wire bound type of box it will be understood that it may be used in connection with other types of box and that if it were desired, instead of attaching before assembly the cleats 5 and 6 to the side, top and bottom panels, these cleats may be secured in position between the end panels 8 and 9 and the side, top and bottom panels, then secured in position on the end members.

The end panels 8 and 9 are formed of veneer material and the grain of one panel extends transversely to the grain of the other panel. The end member is secured to the cleats 5 and 6 by nails or staples which extend through both veneers and through the cleats whereby an extremely rigid structure is provided.

I claim as my invention:

1. In a package the combination with a series of side forming sections each section

having secured at the opposite ends thereof cleats, of end members associated with said sections each comprising a pair of veneer panels the grain of one panel extending transversely to the grain of the other panel, diagonally disposed braces arranged between said panels spacing the same apart to receive said cleats and having their ends abutting against said cleats and means extending through the veneers and through the cleats for securing the end members in position with respect to the side sections.

2. In a package the combination with a series of side forming sections each section having secured at the opposite ends thereof cleats arranged, when the sections are folded into box forming position, to abut against one another for the full width of the material of the cleats, said sections being connected together by binding wire, of end members associated with said sections each comprising a pair of veneer panels the grain of one panel extending transversely to the grain of the other panel, diagonally disposed braces arranged between said panels and spacing the same apart to receive at their edges said cleats, said braces abutting for the full width of the material of the braces against said cleats, means for securing said braces to said panel veneers, and means extending through the veneers and through the cleats for securing the end members in position with respect to the side sections.

3. In a package the combination with a series of side forming sections each section having secured at the opposite ends thereof cleats, the cleats of one set of sections having shoulders formed thereon and being arranged to abut against the ends of the cleats of the other set of sections for the full width of the material of the cleats, said shoulders being arranged to prevent further displacement of the cleats relatively when the sections are folded together said sections being connected together by binding wire, of end members associated with said sections comprising a pair of veneer panels the grain of one panel extending transversely to the grain of the other panel, diagonally disposed braces arranged between said panels spacing the same apart to receive said cleats and having their ends abutting against said cleats and means for securing said braces to said panel veneers, and means extending through the veneers and through the cleats for securing the end members in position with respect to the side sections.

4. In a package the combination of series of side forming sections each section having secured at the opposite ends thereof cleats, said sections being connected together by binding wire, of end members associated with said sections each comprising a pair of veneer panels the grain of one panel extending transversely to the grain of the other panel, diagonally disposed braces arranged between said panels spacing the same apart to receive said cleats and having their ends abutting against said cleats the ends of said braces which abut against one another being arranged to engage one another for the full width of the material comprising the braces and means for securing said braces to said panel veneers, and means extending through the veneers and through the cleats for securing the end members in position with respect to the side sections.

5. In a package the combination with a series of side forming sections each section having secured at the opposite ends thereof, cleats arranged, when the sections are assembled into box forming position, to abut against one another for the full width of the material of the cleats, of end members associated with said sections each comprising a pair of veneer panels the grain of one panel extending transversely to the grain of the other panel, diagonally disposed braces arranged between said panels and spacing the same apart to receive at their edges said cleats, said braces abutting for the full width of the material of the braces against said cleats, means for securing said braces to said panel veneers and means extending through the veneers and through the cleats for securing the end members in position with respect to the side sections.

6. In a package the combination with a series of side forming sections each section having secured at the opposite ends thereof cleats, the cleats of one set of sections having shoulders formed thereon and being arranged to abut against the ends of the cleats of the other set of sections for the full width of material of the cleats, said shoulders being arranged to prevent displacement of the cleats relatively when the sections are folded together, of end members associating with said sections comprising a pair of veneer panels, the grain of one panel extending transversely to the grain of the other panel, diagonally disposed braces arranged between said panels spacing the same apart to receive said cleats and having their ends abutting against said cleats, means for securing said braces to said panel veneers and means extending through the veneers and through the cleats for securing the end members in position with respect to the side sections.

7. In a package the combination with a series of side forming sections each section having secured at the opposite ends thereof cleats, of end members associated with said sections each comprising a pair of veneer panels the grain of one panel extending transversely to the grain of the other panel, diagonally disposed braces arranged between said panels spacing the same apart to

receive said cleats and having their ends abutting against said cleats, the ends of said braces which abut against one another being arranged to engage one another for the full width of the material comprising the braces, means for securing said braces to said panel veneers and means extending through the veneers and through the cleats for securing the end members in position with respect to the side sections.

In witness whereof, I have hereunto set my hand at Indianapolis, Indiana.

JASON H. GREENSTREET.