J. COCHRAN.

BOX.

APPLICATION FILED DEC. 20, 1907.

926,640. Patented June 29, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

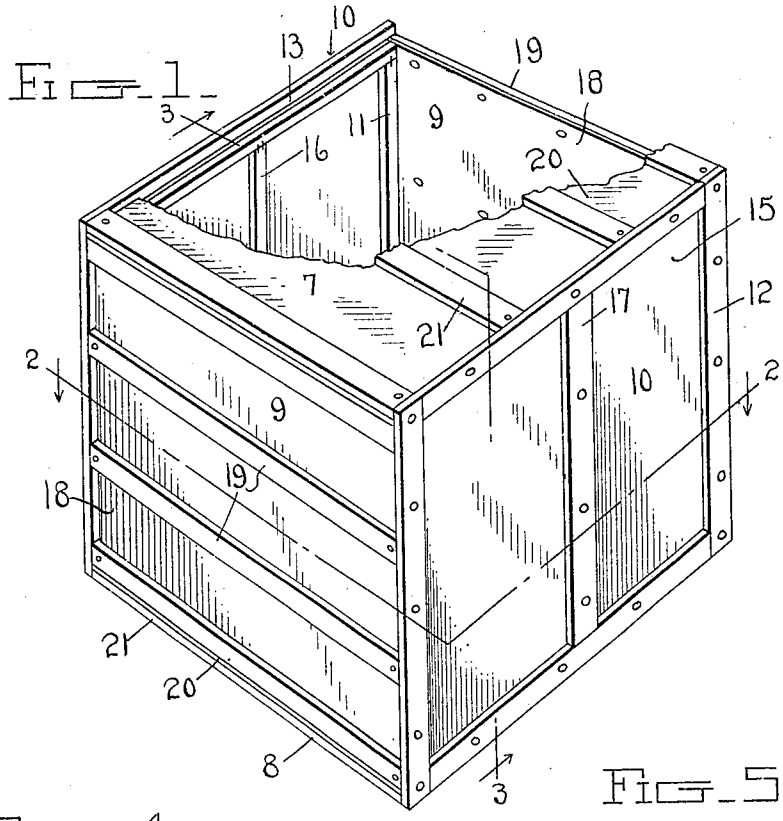


Fig. 4.

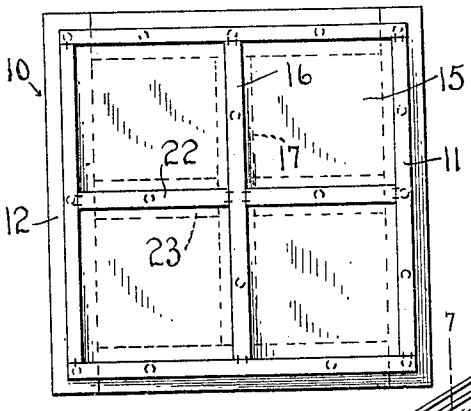


Fig. 5.

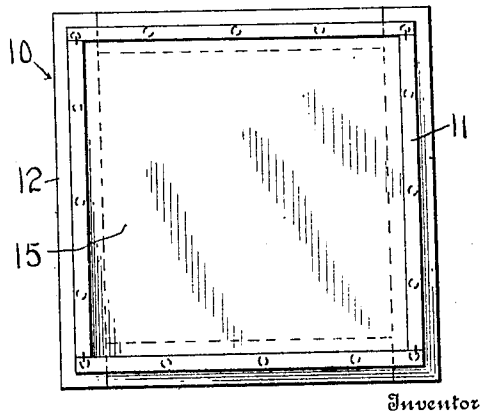
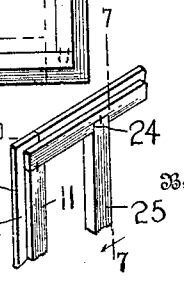


Fig. 6.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

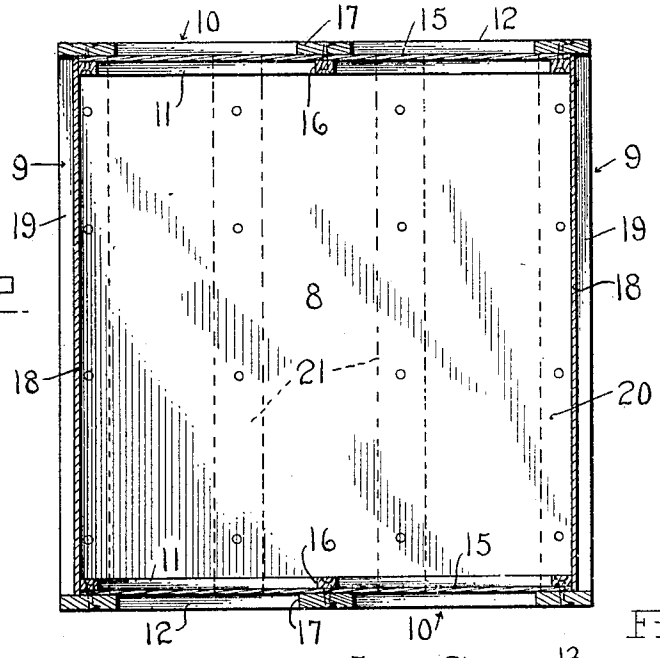


Fig. 3.

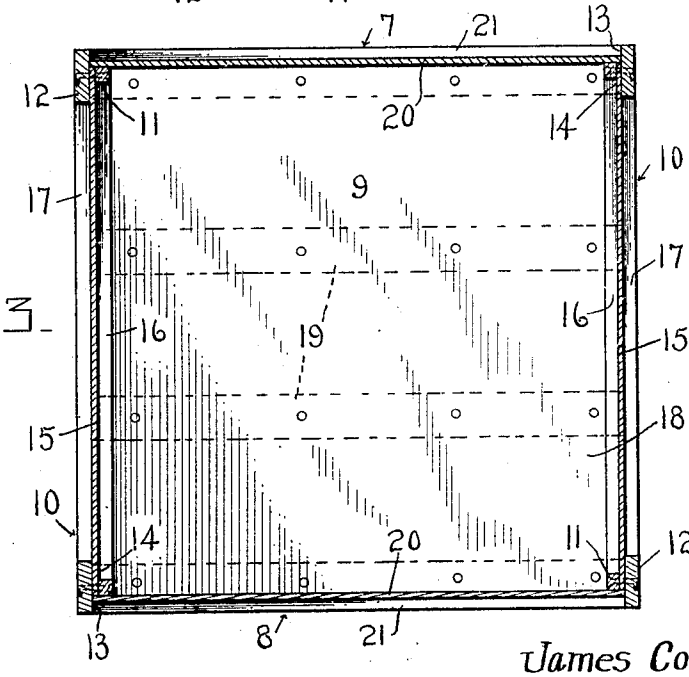
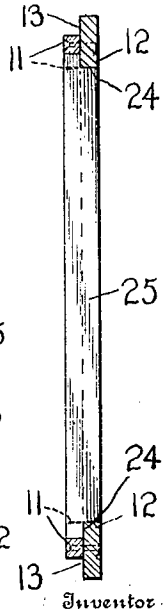


Fig. 7.



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UNITED STATES PATENT OFFICE.

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BOX.

No. 926,640. Specification of Letters Patent. Patented June 29, 1909.

Application filed December 20, 1907. Serial No. 407,293.

To all whom it may concern:

Be it known that I, JAMES COCHRAN, a citizen of the United States, residing at Lockport, in the county of Niagara, State of New York, have invented certain new and useful Improvements in Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has reference to box constructions, and it aims, primarily, to provide an exceedingly light and strong packing receptacle, consisting, essentially, of a skeleton wooden frame and a panel of paste-board or similar fibrous material secured thereto.

The invention further resides in the provision of a receptacle of the above specified type, in which each end section consists of an inner and an outer frame so arranged with respect to each other, as to form a continuous double rabbet, the inner rabbet affording a firm support for the panel interposed between said frames, the dimensions of which panel, are the same as those of the inner frame, and for the cross brace or braces, when used, while the outer rabbet in like manner, serves to support the adjacent edges of the side, top and bottom sections, as well as the panels, which form a part of said sections, thus providing a series of overlapping or locking joints between the several sections.

These and other features which form the subject matter of the present case, will be fully understood from a consideration of the following detailed description, and their preferred embodiment is illustrated in the accompanying drawings, in which corresponding parts are designated by similar reference numerals in the several views.

Of the said drawings:—Figure 1 is a perspective view of the box. Fig. 2 is a horizontal section on the line 2—2 of Fig. 1. Fig. 3 is a vertical section on the line 3—3 of the same figure. Figs. 4 and 5 are detail views of modified forms of the end sections. Fig. 6 is a fragmental view of a further modified form of end section. Fig. 7 is a section on the line 7—7 thereof.

In Fig. 1, a portion of the top section of the box is broken away for clearness of illustration.

Referring more particularly to the drawings, 7 and 8 designate respectively, the top and bottom sections of the box, 9 the side sections, and 10 the end sections. The last mentioned sections, in the particular construction of which, the invention chiefly resides, comprise each separate inner and outer rectangular skeleton frames 11 and 12, the edges of the frame 11 being spaced away from those of the frame 12, so as to provide continuous outer and inner rabbets, 13 and 14 respectively. In addition to the frames, above referred to, each end section further includes an interposed panel 15 of card board, paste-board, veneer, or other suitable material, the edges of said panel resting against the adjacent face of the inner rabbet and extending between the frames of the end section, the nails or other fastening devices employed, being passed through said frames and through the panel. The interposition of the panels between the frames of the end sections, and the formation of the continuous inner rabbet, effect the retention of the panels in place and firmly support the same.

The construction above described, may be further strengthened to a considerable extent by the provision of a pair of inner and outer cross braces 16 and 17, which are likewise disposed upon opposite sides of each panel 15, and are secured together by a series of fasteners as shown in Fig. 1. The opposite ends of each brace 16 fit in the top and bottom portions of the inner rabbet 14 and are connected to the corresponding members of the inner frame, while the ends of the braces 17 contact with the adjacent members of the outer frame, as likewise shown in said figure. It will therefore be apparent that while the end sections and their panels are strengthened by the provision of the pairs of braces, each inner brace is positively supported by having its ends projecting into and fitting in the corresponding portions of the inner rabbet, thus presenting a compact, strong, and at the same time, exceedingly light structure.

The side sections 9 of the box, which are fitted between the end sections, above described, consist each of a fibrous or other panel 18 and a series of spaced horizontal braces 19, whose length is co-extensive with that of the panels. The ends of said braces, and the vertical edges of the panels to which they are secured, fit in the vertical portions of the rabbets 13 and are held in place therein by fastening devices which extend into the

vertical members of the inner frames 13 of the end sections, the vertical edges of said end sections overlapping those of the side sections, as shown in Fig. 1. In like manner, the top and bottom sections 7 and 8 which likewise each comprise a fibrous or other panel 20 and a series of spaced parallel braces 21, have their end edges fitting in the top and bottom portions of the outer rabbets 13, and overlap the top and bottom edges of the side sections 9. While the number of cross braces secured to the top and bottom sections and to the sides, is immaterial, it is essential that in the last mentioned section, braces be secured to the top and bottom edges to form a support for the panels of the top and bottom sections at such points, while the top and bottom sections should be likewise provided with front and rear braces which overlap those on the side sections just referred to. This disposition of the braces serves to strengthen the box at the several edges thereof, and to firmly clamp the several panels in place.

While each end section of the box has been shown and described as provided with a single pair of braces, it is to be understood that a second pair of braces may be employed, in which instance, they are arranged at right angles to the first-mentioned pair, as shown in Fig. 4, in which figure, the supplemental braces are indicated by the numerals 22 and 23. If desired, however, the braces may be entirely dispensed with, as shown in Fig. 5, although such braces materially strengthen the end sections, as above stated.

In the further modified form of the end section shown in Figs. 6 and 7, the arrangement of the two frames is such that while the continuous outer rabbet 13 is produced as in the preferred form, the inner edges of the corresponding members of said frames occupy common planes. Instead of the inner rabbets formed continuously of the inner edges, they are shown in this modification of the invention, as formed only partway of the inner edges of two opposite sides of the inner frame, thus producing short seats 24. These seats are adapted to receive the rabbeted or halved ends of a brace 25 whose thickness is equal to the combined thickness of said frames, the outer face of said brace being flush with that of the outer frame, while its inner face is flush with the inner face of the inner frame.

The box may be constructed in various sizes, according to the purpose for which it is intended. The several panels with which the sections of the box are provided, may be constructed, as above stated, of any suitable material, fibrous or otherwise, while the frames of the end sections, and the several braces may be constructed of wood, or other suitable material.

What is claimed is:

1. A packing box, comprising, in combination, connected top, bottom, side and end sections, each end section consisting of an inner and an outer skeleton frame so arranged with respect to each other, as to form continuous inner and outer rabbets between the corresponding edges thereof, the outer rabbet being adapted to receive the adjacent edges of the first-mentioned sections.

2. A packing box, comprising, in combination, end sections, each consisting of an inner and an outer skeleton frame, so arranged with respect to each other, as to form continuous inner and outer rabbets between the corresponding edges thereof; a panel interposed between the frames of each end section; and top, bottom, and side sections having their edges supported upon the corresponding sides of the outer rabbets of the end sections and secured to the inner frames thereof.

3. A packing box, comprising, in combination, end sections, each consisting of an inner and an outer skeleton frame, so arranged with respect to each other as to form rabbets between the corresponding inner edges thereof; inner and outer braces secured to each end section, the inner braces each having its opposite ends supported upon said rabbets; a panel interposed between the frames and braces of each end section; and top, bottom, and side sections having their edges supported upon the adjacent edges of the end sections, the edges of the end sections overlapping those of the top, bottom and side sections.

4. A packing box, comprising, in combination, end sections each consisting of an inner and an outer skeleton frame, so arranged with respect to each other, as to form continuous inner and outer rabbets between the corresponding edges thereof; inner and outer braces secured to each end section, each inner brace having its opposite ends supported upon the inner rabbet; a panel interposed between the frames and braces of each end section; and top, bottom, and side sections having their edges supported upon the outer rabbets of the end sections.

5. A packing box, comprising, in combination, end sections, each consisting of an inner and an outer skeleton frame, so arranged with respect to each other, as to form continuous inner and outer rabbets between the corresponding edges thereof; inner and outer braces secured to each end section, each inner brace having its opposite ends supported upon the inner rabbet; a panel interposed between the frames and braces of each end section; and supported at its edges upon the inner rabbet thereof; and top, bottom and side sections having their edges supported upon the outer rab-

bets of the end sections and secured to the inner frames thereof.

6. A packing box, comprising, in combination, end sections, each comprising separate inner and outer skeleton frames and an interposed panel, the edges of each inner frame being spaced from those of the outer frame to form a continuous rabbet; and top, bottom, and side sections having their edges fitted in the rabbets in said end sections, and secured to the inner frames thereof.

7. A packing box, comprising, in combination, end sections, each consisting of separate inner and outer skeleton frames, the edges of each inner frame being spaced from those of the corresponding outer frame, to form continuous inner and outer rabbets braces secured on opposite sides of each panel, each inner brace having its ends supported in the corresponding inner rabbet; and top, bottom and side sections having their edges fitted in the corresponding sides of the outer rabbets of said end sections and secured to the inner frames thereof, each top, bottom and side section consisting of a panel, and a series of braces secured to a face thereof, the ends of said braces and the edges of said sections fitting in the corresponding sides of the outer rabbets of said end sections and secured to the inner frames thereof.

8. A packing box, comprising, in combination, sections, each consisting of a pair of skeleton frames so arranged with respect to each other as to produce inner rabbets and continuous outer rabbets, a brace having its ends seated in the inner rabbets, and additional sections having their edges seated in the outer rabbets of the first mentioned sections.

In testimony whereof, I affix my signature, in presence of two witnesses.

JAMES COCHRAN.

Witnesses:
FRED D. MOYER,
J. M. COCHRAN.