L. A. FRANK.

COLLAPSIBLE AND EXTENSIBLE TRUNK AND THE LIKE.

APPLICATION FILED AUG. 5, 1911.

**1,119,503.**

Patented Dec. 1, 1914.

3 SHEETS—SHEET 1.

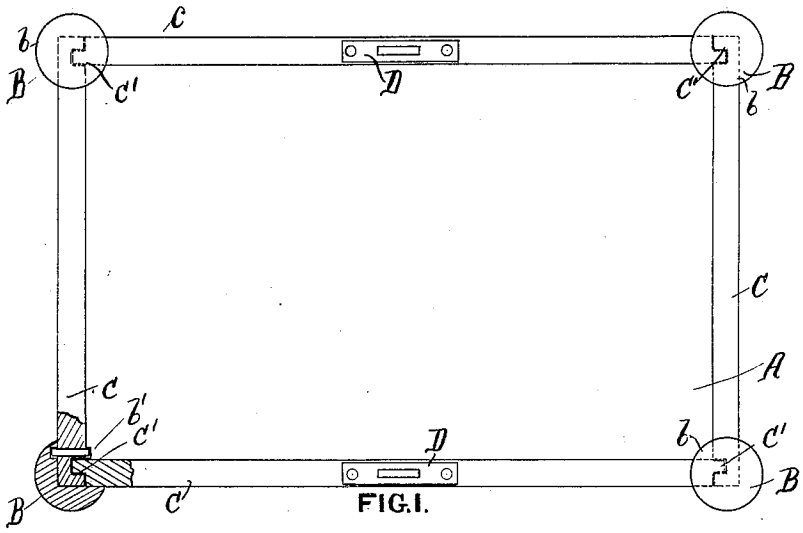



FIG. 1.

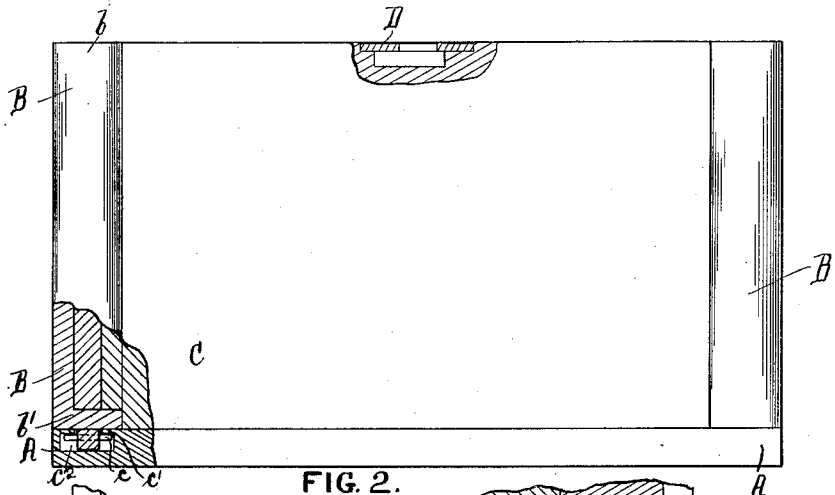



FIG. 2.

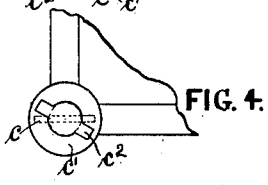



FIG. 4.

FIG. 3.

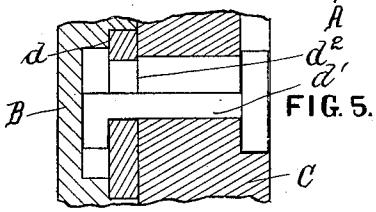
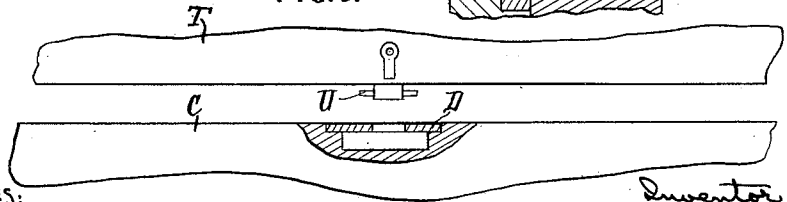



FIG. 5.




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3 SHEETS—SHEET 2.

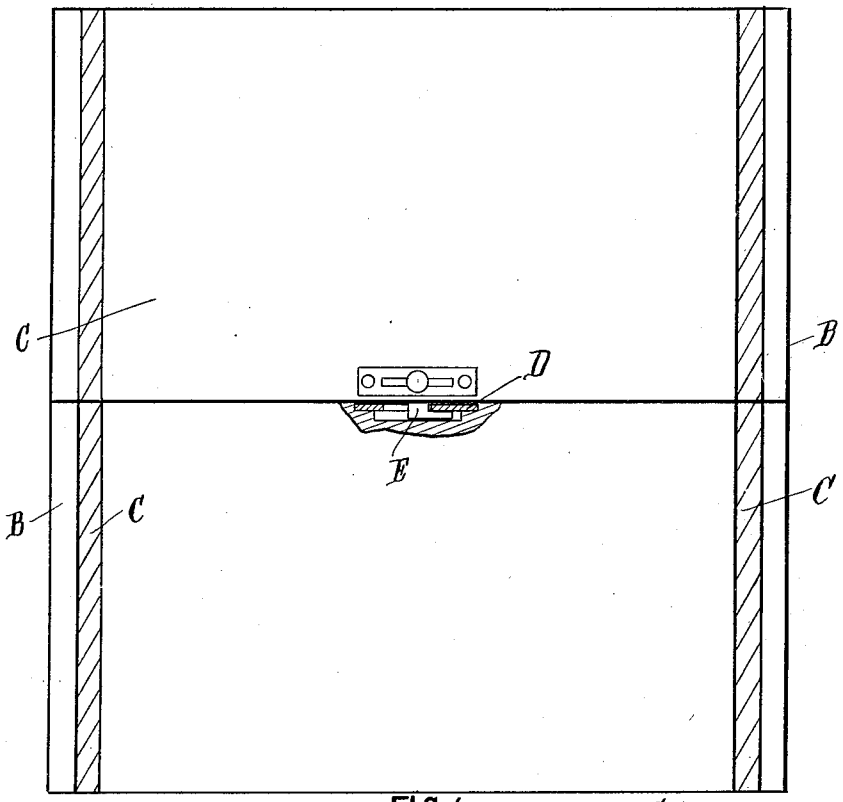



FIG. 6.

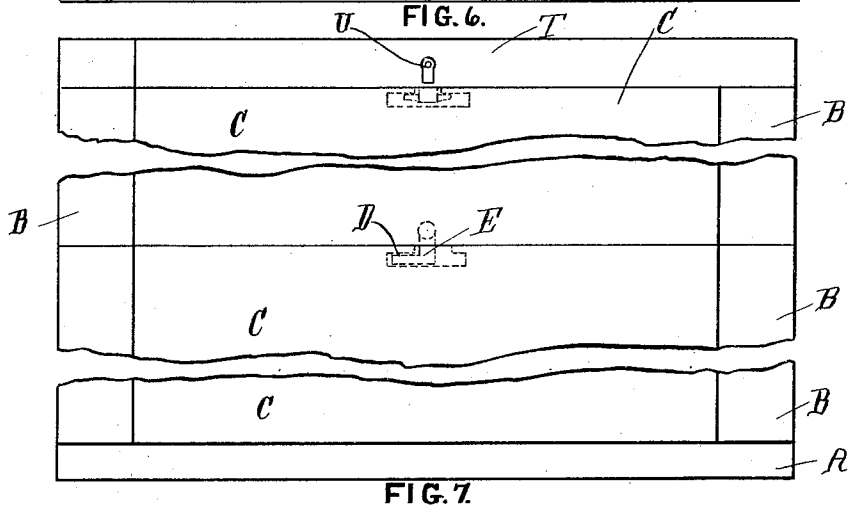



FIG. 7.

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3 SHEETS—SHEET 3.

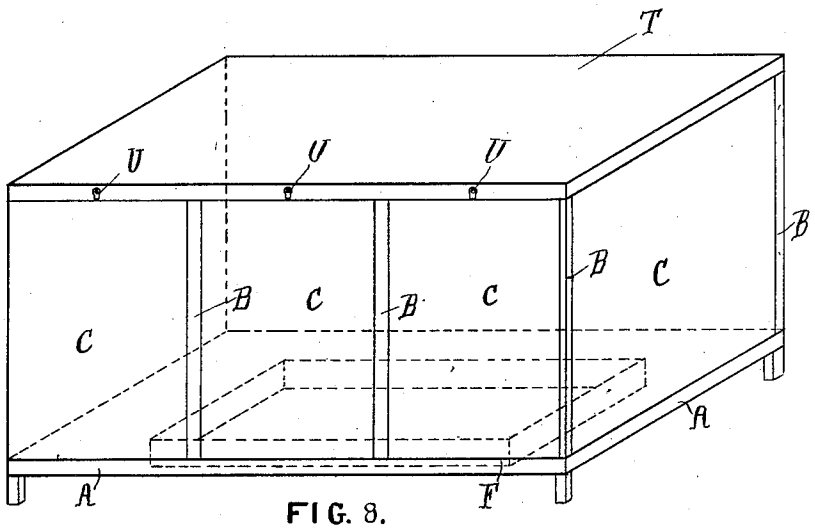



FIG. 8.

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# UNITED STATES PATENT OFFICE.

LEOPOLD ARON FRANK, OF WEMBLEY PARK, ENGLAND.

## COLLAPSIBLE AND EXTENSIBLE TRUNK AND THE LIKE.

1,119,503. Specification of Letters Patent. Patented Dec. 1, 1914.

Application filed August 5, 1911. Serial No. 642,443.

*To all whom it may concern:*

Be it known that I, LEOPOLD ARON FRANK, a subject of the Emperor of Germany, residing at Iris, The Drive, Wembley Park, Middlesex, England, have invented certain new and useful Improvements in Collapsible and Extensible Trunks and the like, of which the following is a specification.

This invention relates to improvements in collapsible and extensible trunks, packing cases, boxes, and the like, and has for its object so to construct the same that they may be readily enlarged or made smaller without weakening the structure, as hereinafter specified and particularly pointed out in the claims.

I have illustrated my invention in the accompanying drawings, in which Figure 1 is a plan view of a trunk or the like with the lid or cover removed, one corner part being in section. Fig. 2, is a front elevation, parts being in section. Fig. 3 is a view showing a form of lock on the lid or cover that may be used with this form of apparatus as will presently appear. Fig. 4 is a plan view of one corner part. Fig. 5, is a sectional elevation to an enlarged scale, of an arrangement for locking the sides to the corner pieces. Fig. 6 is a view showing two sections of the side of a trunk in position as they would appear when in use, part being shown in section to disclose the locking arrangement and, Fig. 7 is a similar view of as much as is necessary of two sections and the lid or cover, to show the same in the position the parts occupy when in use. Fig. 8 is an isometric perspective view of a trunk or the like provided with longitudinal sections.

In the construction shown the trunk or the like consists of a base A to which are secured pillars or corner pieces B. These corner pieces are so constructed as to receive the ends of the sides C of the box and are secured to the base in any suitable manner, say by a bayonet joint. I have shown the corner pieces secured to the base by a pin or bolt $c$ engaging in a recess $c^2$ provided with a striking plate $c'$. The parts $b$, $b'$ at the ends of the corner pieces are circular, and one end $b'$ is provided with an extension carrying the pin $c$, while the other end $b$ has a recess similar to that in the base. The sides are made to engage one another as shown at C', C', in Fig. 1, and each side is locked to the corner piece as shown clearly in the enlarged section shown in Fig. 5. To this end, each corner piece B has a recess with a striking plate $d$ and the sides are provided at both ends with locking bottom bars $d'$ sliding in slots $d^2$, and engage the striking plates $d$ on the corner pieces. The top and if necessary the bottom, of two or more sides are also provided with a locking arrangement. In this case, as seen in Fig. 1, the striking plate D is fitted on the top edge of the sides. The sides are locked at the bottom to the base say, or to another extension piece, by a sliding bolt E engaging a striking plate D, see Figs. 6 and 7.

As is usually the case with light, wooden articles, connection between the corner pieces B and base A is not rigid and the corner pieces, when locked in place and standing alone, may be forced out of perpendicularity to the extent of several degrees. This permits easy assemblage of the trunk.

In order to assemble the trunk, the corner pieces B are inserted and locked and the ends C are placed in position without forcing the corner pieces. Then both ends C together with their adjacent corner pieces are forced to incline outwardly in directions away from each other until the distance between the plates $b$ on the same side of the box are a distance apart greater than the length of the sides C yet to be inserted. This permits the easy sliding of the sides C into the grooves C' of the ends C, with a downward movement, after which the bars $d'$ and bolts E are locked. The trunk is taken apart in a reverse manner.

As will be seen from the drawings, the striking plates are so arranged that if necessary they may receive the bolt of another section placed in position above or beside the same, or if no further enlarging section is required, to receive the lock, U, of the lid or cover, T as seen in Figs. 3 and 7.

I may, if necessary, provide locking arrangements to extend the dimensions of the trunk or the like longitudinally. In this case pillars or supports having a similar locking arrangement with the base as the corner pieces, may be used provided with striking plates on the sides as will be well understood. The lid and bottom will then similarly be made extensible, as described with reference to the extension in height. The top is locked or hinged to the sides, or to the part A by any well known means.

Although the drawings only illustrate one

extension it is self evident that two or more may be used, that is the side of the trunk or the like may be built up until it is of the necessary size.

In some cases it is convenient to provide for storing the corner pieces B and sides C in the trunk or the like. In this case I adopt the arrangement shown in Fig. 8. It will be seen that in Fig. 8 the long side is shown as consisting of three of the pieces C, C. It is evident that the shorter sides may be divided in like manner. Stays or uprights B, B, are fitted where required. The parts are of the construction already described, but their dimensions are such that they may be stored within the trunk say in a recess F provided in the base A. It must further be understood that the base A may if desired be made with sides permanently secured thereto and of sufficient depth to serve with the top T as a complete trunk, or shallow so as just to inclose the sides C when not in use.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a collapsible and extensible container, the combination of a base; detachable pillars uprising therefrom; means for locking the pillars to the base, said locking means allowing a certain degree of play; end walls having grooves; means for locking said end walls directly to said pillars; side walls having tongues engaging in said grooves, and means for locking said side walls directly to said pillars, substantially as described.

2. In a collapsible and extensible container, the combination of a base; detachable pillars uprising therefrom; means for locking the pillars to the base with a certain degree of play; detachable end walls formed with grooves; means for locking said detachable end walls directly to said pillars; detachable side walls provided with tongues engaging in said grooves; means for locking the detachable side walls directly to the pillars; and means for locking said detachable side walls directly to said base, substantially as described.

3. In a collapsible container, the combination of a base; detachable pillars uprising therefrom; walls having tongue and groove connections directly connecting the walls to each other; striking plates on said base and on said pillars; and bolts on said pillars and on said walls and engaging said striking plates for locking the pillars to the base and the walls to the pillars; substantially as described.

4. In a collapsible container, the combination of a base provided with recesses therein; striking plates covering said recesses; detachable pillars; bolts on said pillars projecting into said recesses and engaging said striking plates with a certain amount of play; walls directly engaging with each other by tongue and groove connections; recesses in said pillars; striking plates covering said recesses in said pillars; and bolts on said walls projecting into said recesses in said pillars and engaging the covering striking plates for locking the walls to the pillars; substantially as described.

5. In a collapsible and extensible trunk, the combination of a base provided with recesses formed at each corner thereof; pillars detachably secured in said recesses; detachable end and side walls disposed between adjacent pillars and directly engaging with one another; means for detachably securing each of the end and side walls directly to the pillars; and a top detachably secured to the top edges of the walls; substantially as described.

6. In a collapsible and extensible container, the combination of a base having a bayonet-slot socket in each corner thereof; a vertical pillar at each corner and having a bayonet-slot socket at its upper end, a longitudinal groove intermediately of its ends, and a reduced extension at its lower end and fitting in the adjacent bayonet-slot socket of such corner; a transverse pin in said extension and holding the same in its socket; an end wall at each end of the base and having its ends fitting in the triangular grooves of the adjacent pillars, the inner face of said wall being provided with a vertical groove near each opposite end of the wall; a side wall at each side of the base and provided with a tongue on each end, said tongues each engaging in the groove in the respective adjacent end of the end walls; undercut striking plates carried in the faces of said triangular grooves; sliding bars in said walls and engaging in said striking plates; undercut striking plates in the upper edge of each side wall; a top on said walls and pillars; and locking means on said top engaging the striking plates on the upper edge of each side wall, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

LEOPOLD ARON FRANK.

Witnesses:

HOWARD C. ELLIOTT,

H. D. JAMESON.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**