L. D. MERRILL.

KNOCKDOWN BOX.

APPLICATION FILED APR. 22, 1913.

1,107,174.

Patented Aug. 11, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

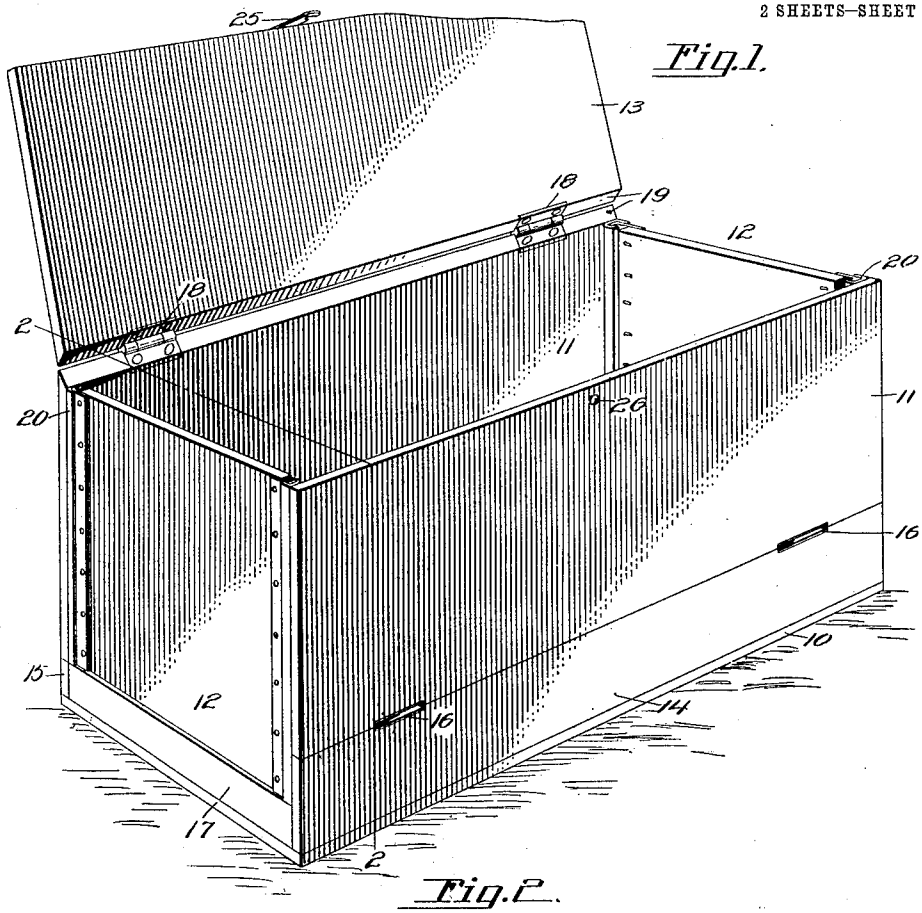
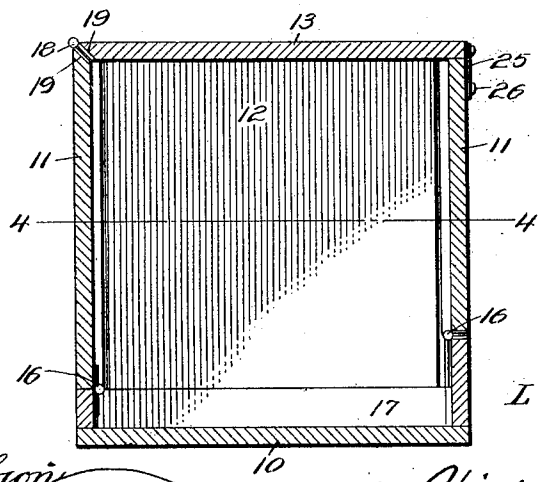


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

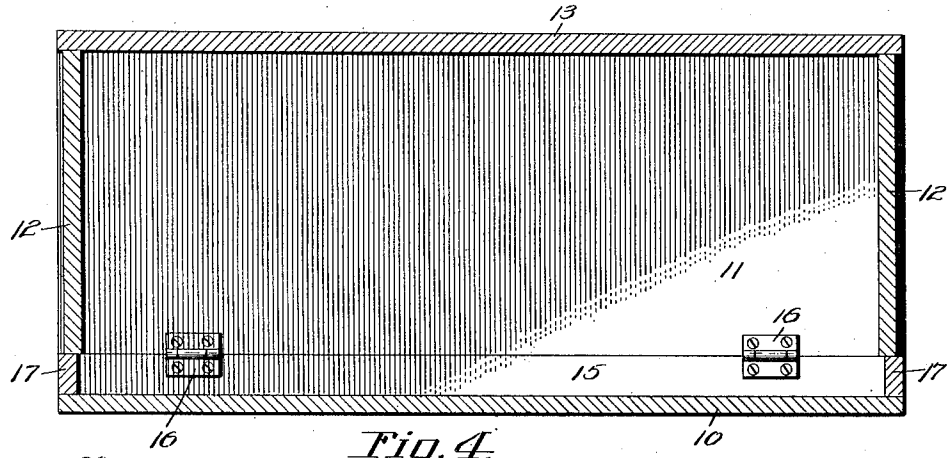


Fig. 4.

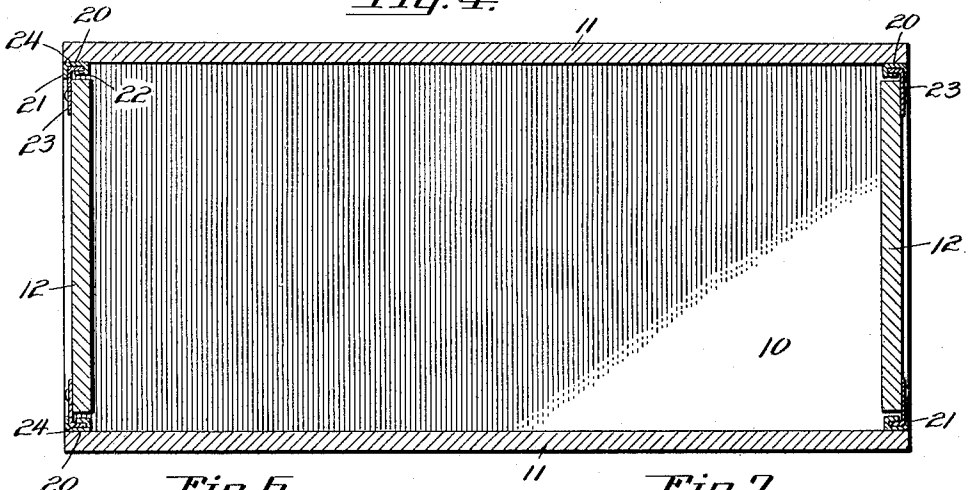


Fig. 6.

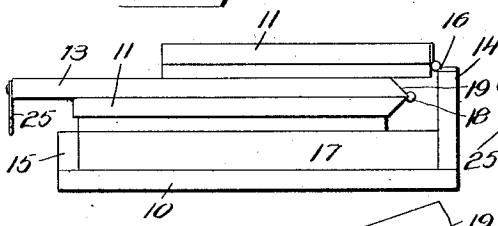
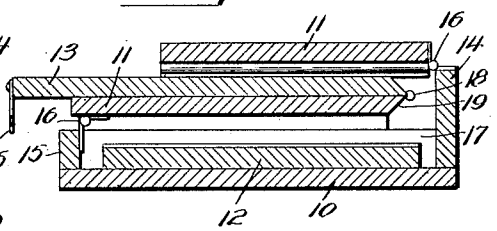


Fig. 7.



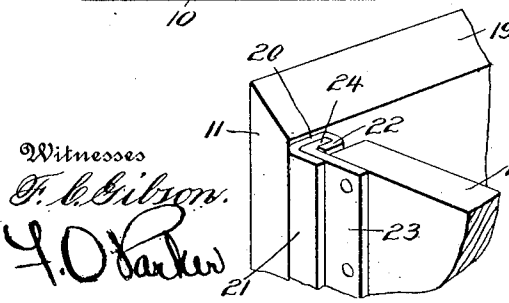


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS D. MERRILL, OF CLARKSBURG, WEST VIRGINIA.

KNOCKDOWN BOX.

1,107,174. Specification of Letters Patent. Patented Aug. 11, 1914.

Application filed April 22, 1913. Serial No. 762,859.

To all whom it may concern:

Be it known that I, LOUIS D. MERRILL, a citizen of the United States, residing at Clarksburg, in the county of Harrison and State of West Virginia, have invented new and useful Improvements in Knockdown Boxes, of which the following is a specification.

The invention relates to boxes and more particularly to the class of knock-down boxes, crates or the like.

The primary object of the invention is the provision of a box wherein the end walls are detachably connected with the side walls, which latter are swingingly joined to the bottom of the box so that on the removal of the end walls the said side walls can be folded inwardly and downwardly in superimposed relation to each other on to the bottom, thereby bringing the box into compact form when not in use to permit the convenient handling and shipment thereof from one point to another.

Another object of the invention is the provision of a box of this character in which the end walls are detachably connected to the side walls thereof in a novel manner, the connections between the same being in the form of reinforcing metal strips which strengthen the walls and corners of the box so as to avoid the breaking of the same during transit.

A further object of the invention is the provision of a box of this character which can be readily and quickly brought to knock-down condition when not in use, or set up for use without requiring fasteners such as nails, screws or the like.

A still further object of the invention is the provision of a knock-down box which is simple in construction, strong, durable and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts as will be hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claim hereunto appended.

In the drawings:—Figure 1 is a perspective view of a knock-down box constructed in accordance with the invention, the same being set up ready for use, and showing its lid open. Fig. 2 is a sectional view on the line 2—2 of Fig. 1, with the lid closed. Fig. 3 is a vertical longitudinal sectional view through the box. Fig. 4 is a sectional view on the line 4—4 of Fig. 2. Fig. 5 is a fragmentary perspective view showing the manner of fastening the walls together. Fig. 6 is a similar view showing the box knocked down. Fig. 7 is a vertical transverse sectional view through the box when knocked down.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals, the box comprises a rectangular - shaped body including a bottom 10, swinging sides 11, detachable ends 12 and a lid or cover 13, the sides being connected to permanent strips 14 and 15 respectively, by means of hinges 16 which are fastened to the sides 11 and the strips 14 and 15 so that the said sides will swing inwardly and outwardly in superposed relation to each other on knocking down the box. The strips are fastened to the inner face of the bottom 10 at opposite longitudinal edges thereof, and the said strip 14 is of increased width with respect to the said strip 15 so that one side 11 when folded will lie beneath the other side, while the underlying folded side with respect to the last-named side will be disposed spaced from the bottom so as to accommodate the ends 12 between it and the bottom 10 of the box. Secured to the upper or inner face of the bottom 10 at opposite ends thereof are reinforcing cleats 17 which are also secured to the strips 14 and 15 so as to give strength and rigidity to the box and thereby increase the life of the same.

The lid 13 is connected to one of the sides 11 by means of hinges 18 to permit the opening and closing of the said lid in the ordinary well-known manner, the adjacent or meeting edges of the side 11 and the lid 13 connected thereto being beveled at 19 to permit the proper swinging of the lid to closed position. The manner of mounting the hinges on the beveled edges 19 allows the said lid to be swung upwardly and inwardly to superimposed position upon the side 11 carrying the same when the box is knocked down.

Fixed to the inner faces of the sides 11 at the ends thereof are channeled metallic strips 20, each being formed with a right-angular outer flange 21 and an offset inturned locking inner flange 22, while fixed to the outer faces of the ends 12 are L-shaped metallic strips 23, the free in-

turned flanged edges 24 of which slidably engage in the channeled strips 20 for locking engagement with the flanges 22 thereof for detachably fastening the ends to the sides of the box. The ends 12 when fastened to the sides 11 will rest against the outer flanges 21 of the channeled strips 20 so as to prevent the outward bulging or displacement of the ends 12 when the box is in use and in set up condition. The strips 20 and 23 materially reinforce the sides and ends of the body to prevent the splitting thereof or otherwise breaking of the same during transit of the said box, thereby materially increasing the life of the same.

The lid 13 carries a suitable hasp or other fastening device 25 which is adapted to engage a keeper, staple or lug 26 fixed in one side 11 of the box to project exteriorly thereof so that when the lid 13 is swung to closing position on the box it may be locked in such position.

On knocking down the box the ends 12 are detached and laid upon the bottom 10 thereof, and then the sides 11 are folded inwardly and downwardly in superposed relation to each other and the lid is swung between the sides 11. Thus the box will now be in compact form for the easy handling thereof or shipment of the same from one point to another.

What is claimed is:—

A knock-down box comprising a bottom, permanent strips fixed to the longer edges of the bottom, side sections swingingly connected to the permanent strips, end sections, channeled strips fixed to the side sections at the ends thereof and each having an inturned inner locking flange and an outer flange, L-shaped strips fixed to the outer faces of the end sections and engageable in the channeled strips to interlock with the inner flanges thereof, the outer flanges of the channeled strips being extended over the L-shaped strips to form abutments therefor, and a lid hinged to one of said side sections.

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

LOUIS D. MERRILL.

Witnesses:
W. F. BAIRD,
ROBERT W. DUTHIE.

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