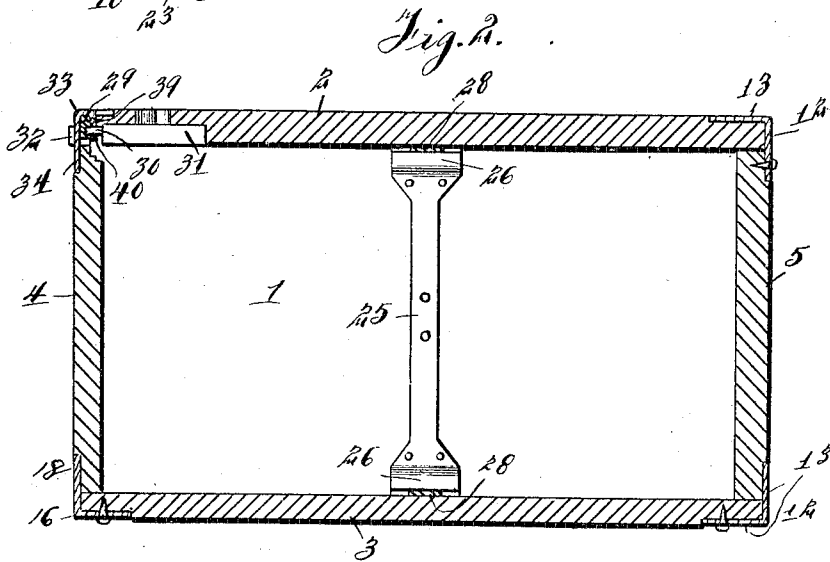
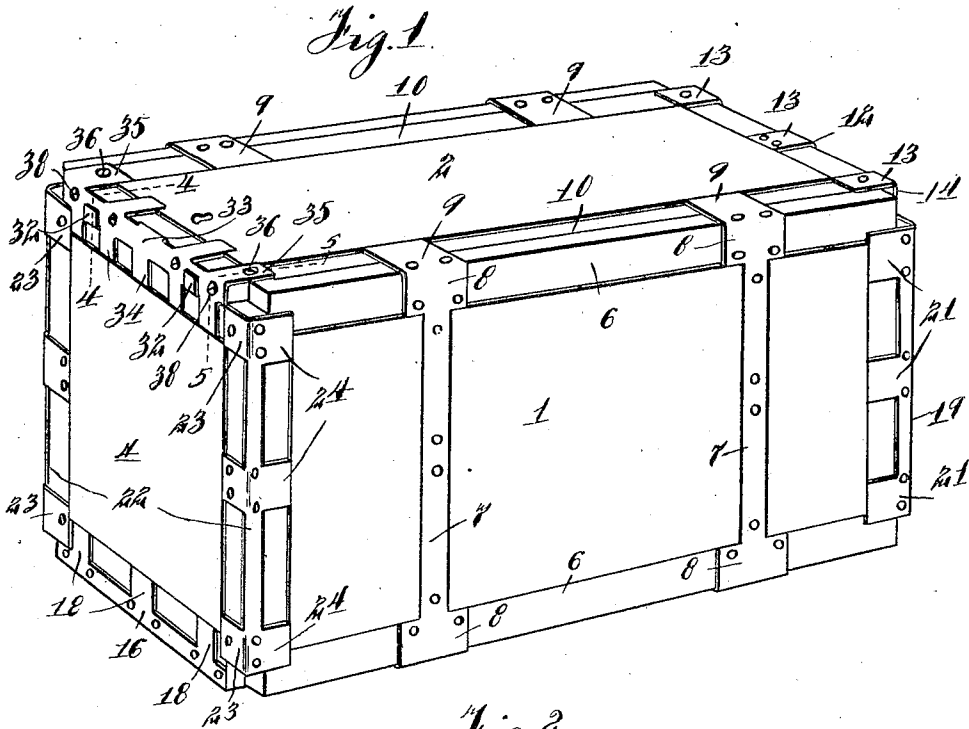


T. WERTZ.  
KNOCKDOWN BOX.

APPLICATION FILED JULY 9, 1906.

2 SHEETS—SHEET 1.



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No. 852,249.

PATENTED APR. 30, 1907.

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2 SHEETS—SHEET 2.

Fig. 3.

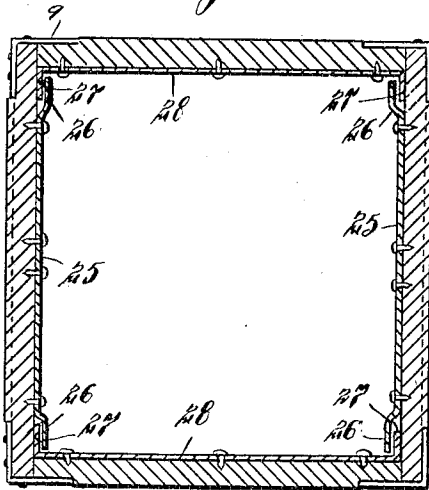


Fig. 4.

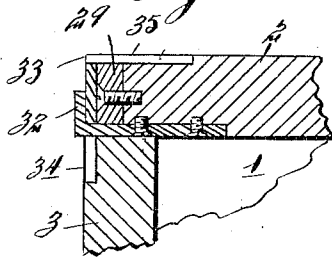


Fig. 6.

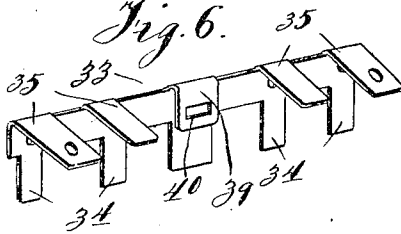
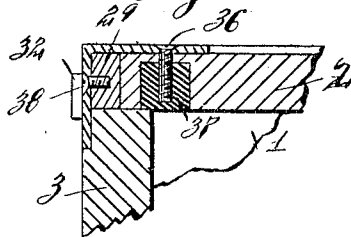


Fig. 5.



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# UNITED STATES PATENT OFFICE.

THOMAS WERTZ, OF ST. LOUIS, MISSOURI.

## KNOCKDOWN BOX.

No. 852,249.

Specification of Letters Patent.

Patented April 30, 1907.

Application filed July 9, 1906. Serial No 325,338.

*To all whom it may concern:*

Be it known that I, THOMAS WERTZ, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Knockdown Boxes; and I do 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.

This invention relates to improvements in knockdown boxes.

The object of the invention is to provide a box of this character which may be quickly knocked down or taken apart, the parts of which when in a set up position will be securely braced and held in place, means being provided whereby the parts may be locked in a set up position simultaneously with the locking of the top or cover of the box.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a perspective view of a box constructed in accordance with the invention; Fig. 2 is a vertical longitudinal sectional view; Fig. 3 is a central vertical cross sectional view; Fig. 4 is a detail sectional view on the line 4—4 of Fig. 1; Fig. 5 is a similar view on the line 5—5 of Fig. 1; and Fig. 6 is a detail perspective view of the inner side of the locking bar of the box.

Referring more particularly to the drawings, 1 denotes the side pieces of the box, 2 denotes the top, 3 denotes the bottom, 4 denotes the front end, and 5 denotes the rear end piece of the box. The side pieces 1 have formed around their outer sides adjacent to the edges thereof a continuous rabbet or recess 6, and across the outer side of said side pieces on each side of the center of the same are secured vertically disposed brace bars 7, which are seated in grooves or channels formed in said sides, so that the outer surface of the bars is flush with the sides of the box. The outer ends of the bars 7 are increased in width, as shown at 8, said enlarged portion being adapted to engage the rabbeted portion of the side pieces at the upper and lower edges of the same. The enlargements 8 of the brace bars project beyond the edges of the sides 1, and are bent inwardly at right angles thereto to form overhanging guide and brace

plates 9, which are adapted to engage rabbets or recesses formed in the adjacent side edges of the top and bottom pieces of the box.

The top piece of the box may be provided on its outer side and around its edges with a continuous rabbet or recess 10, with the side portions of which is adapted to be engaged guide or brace plates 9 on the upper ends of the brace bars 7 as hereinbefore described. The rear end of the top piece has secured thereto a brace bar 12, the upper edge of which is provided with right angularly bent attaching lugs 13, through which are passed nails or other fastening devices, which together with similar fastening devices in which are passed through the bar into the end of the top serve to hold said bar in place. The bar 12 is provided on its lower edge with a series of downwardly-projecting guide and brace plates 14 adapted to engage the upper portion of a continuous recess or rabbet formed in the rear end piece of the box.

The bottom of the box has formed on its outer side a continuous rabbet 15, to the side portions of which are adapted to be engaged guide plates 9 and the lower end of the brace bars 7. On each end of the bottom board 3 is secured a brace bar 16, said bars having integrally formed inwardly-projecting right angular attaching lugs 17, by means of which they are secured in the recess or rabbet on the ends of the bottom, as shown. The upper edges of the bar 16 are provided with upwardly-projecting guide and brace plates 18 adapted to engage the lower portions of continuous rabbets or recesses formed around the outer sides of the front and rear end pieces of the box.

The rear end piece of the box has secured to its vertical side edges brace bars 19, said bars having right angularly formed inwardly-projecting attaching lugs 20 adapted to engage the outer side of the end piece. The bars are also provided with a series of forwardly-projecting guide or brace plates 21 adapted to engage the rabbet along the end of the side pieces of the box, as shown.

The front end of the box has secured along its side edges brace bars 22, said bars being provided with inwardly-projecting right angularly formed attaching lugs 23 secured in the side rabbets of the end pieces by nails or other fastening devices, as shown. The bars 22 are also provided with rearwardly-projecting guide or brace plates 24 adapted to

engage the front end rabbet of the side pieces of the box.

Secured to the inner sides of each of the side pieces 1 of the box midway between their ends are vertically-disposed brace bars 25, the upper and lower ends of which are bent outwardly and upwardly to form catches 26, with which are adapted to be engaged the right angular, downwardly bent ends 27 of brace bars 28 secured to the inner side of the top and bottom pieces of the box, as shown. On the forward end of the top piece or cover of the box is secured a metallic bar 29, in the lower edge of which is formed a recess to receive the end of a locking bolt 30 of a lock 31 secured to the under side and at the forward end of the top piece, as shown. Secured to the forward end of the top piece 3 are upwardly-projecting catch lugs 32, between which and the bar 29 is adapted to be inserted a detachable locking bar 33. The locking bar 33 is provided on its lower edge with downwardly-projecting brace plates 34 adapted to engage the upper rabbet of the front end piece of the box. The bar 34 is also provided on its upper edge with right angularly bent rearwardly-projecting brace plates 35 adapted to engage a series of recesses formed in the upper side of the cover of the box, as shown. The two brace plates 35 are provided with apertures to receive fastening screws 36, which are adapted to be screwed through the top of the box and into nuts 37 set in the under side of the cover, as shown in Fig. 5 of the drawings. The nuts 37 are preferably formed of leather or similar fibrous material, whereby a tight grip is taken on the threads of the screws. Said fibrous construction of the nuts 37 also facilitating the continual removal and replacing of the screws without wearing the threads thereon. The locking bar 33 is also secured to the end of the cover by means of screws 38, which are passed through threaded apertures in the bars 29. The locking bar 29 is provided with a centrally-disposed inwardly and downwardly bent locking lug or keeper 39 provided with a slot 40 to receive the bolt 30 of the lock 31, which after being locked or projected through said slot will hold the cover or top piece closed and the parts of the box in a set up position.

In order to open the box or to take the same down after being set up and locked, it is necessary to unlock or detach the bolt 30 from the keeper 39 on the locking plate 33, after which the fastening screws are removed from said plate. The locking plate may now be lifted upwardly from out of engagement with the catches 33 and the end of the cover, after which the cover may be slipped rearwardly between the side pieces of the box a sufficient distance to permit the front end piece to be drawn upwardly out of engagement with the side and bottom piece of the

box. After the end piece has been thus disengaged from the bottom piece, the latter may be slipped rearwardly from between the side pieces of the box, after which the remaining pieces will collapse, thus completing the separation of the parts and the taking down of the box.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention; as defined by the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:—

1. A knockdown box comprising side, top, bottom and end pieces, each of which is provided around its outer side with a continuous rabbet, transversely-disposed brace bars secured to the outer sides of said side pieces, guide and brace plates formed on the outer ends of said brace bars to engage the side rabbets of said top and bottom pieces, brace bars secured to the opposite ends of said top and bottom piece, guide and brace plates formed on said bars to engage the upper and lower rabbets of said end pieces, brace bars secured to the side edges of said end pieces, guide plates formed on said brace bars to engage the end rabbets of said side pieces, a locking bar adapted to be connected with the meeting ends of the top and one end piece of the box, a keeper on said locking bar and a lock arranged on said cover piece, the bolt of which is adapted to be engaged with said keeper to lock said cover in a closed position and thereby hold the parts of the box in a set up or operative position, substantially as described.

2. A knockdown box comprising side, top, bottom and end pieces, each of which is provided around its outer side with a continuous rabbet, transversely-disposed brace bars secured to the outer sides of said side pieces, guide and brace plates formed on the outer ends of said brace bars to engage the side rabbets of said top and bottom pieces, brace bars secured to the opposite ends of said top and bottom pieces, guide and brace plates formed on said bars to engage the upper and lower rabbets of said end pieces, brace bars secured to the side edges of said end pieces, guide plates formed on said brace bars to engage the end rabbets of said side pieces, brace bars arranged on the inner sides of said side pieces of the box, catches formed on the upper ends of said brace bars, similar bars arranged on the inner sides of the top and bottom pieces of said box, lugs on the ends

of said latter bars to engage the catches on the ends of said side brace bars, a locking bar secured to the forward end of the top piece and adapted to engage the upper edge of the forward end piece, removable fastening devices to secure said locking bar on the end of said top piece, a keeper formed on said locking plate, and a lock arranged on said top piece the bolt of which is adapted to be turned into engagement with said keeper, substantially as described.

3. A knockdown box comprising side, top, bottom and end pieces, each of which is provided around its outer side with a continuous rabbet, transversely-disposed brace bars secured to the outer sides of said side pieces, guide and brace plates formed on the outer ends of said brace bars to engage the side rabbets of said top and bottom pieces, brace bars secured to the opposite ends of said top and bottom piece, guide and brace plates formed on said bars to engage the upper and lower rabbets of said end pieces, brace bars secured to the side edges of said end pieces, guide plates formed on said brace bars to en-

gage the end rabbets of said side pieces, catch lugs arranged on the forward end of said top piece, a locking plate adapted to be engaged with said catch lugs, right angularly projecting top and end engaging plates 30 formed on said locking bar, a metallic bar arranged between said locking bar and the end of said top piece and secured to the latter, removable fastening devices to detachably secure said locking plate on the ends of said 35 top piece, a keeper formed on said locking bar, and a lock arranged on said top piece, the bolt of said lock being adapted to be turned into engagement with said keeper, thereby locking said top piece in closed position and 40 holding the parts of the box in a set up or operative position, substantially as described.

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

THOMAS WERTZ.

Witnesses:

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HERVEY T. CRIST.