

C. H. MATTHEWS.
 KNOCKDOWN SHIPPING CRATE.
 APPLICATION FILED DEC. 28, 1911.

1,040,369.

Patented Oct. 8, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

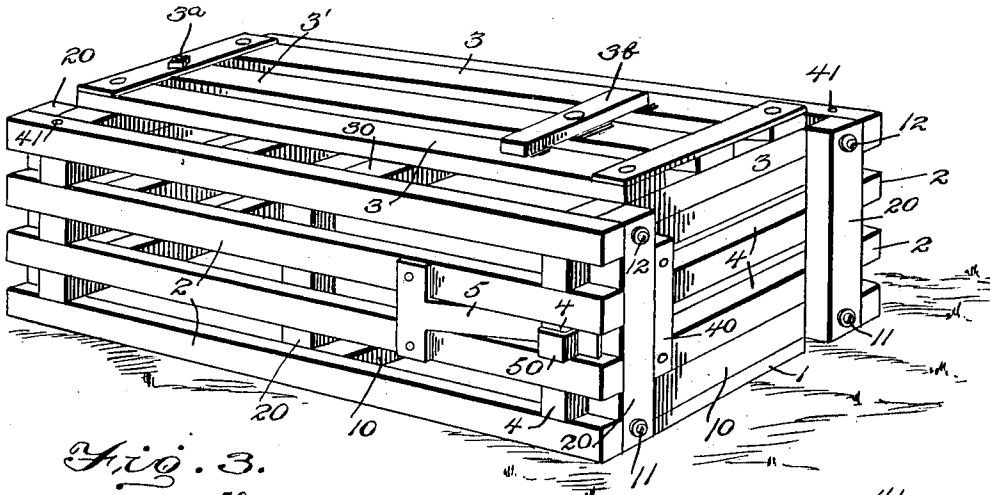


Fig. 3.

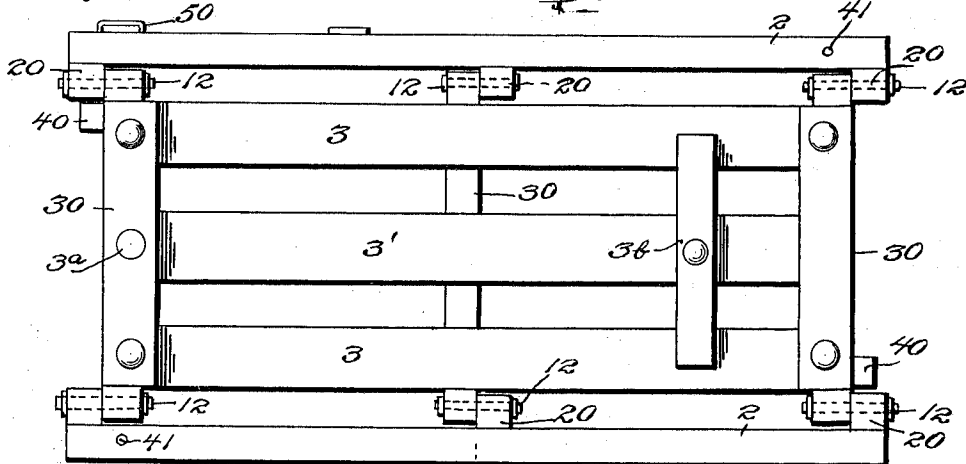
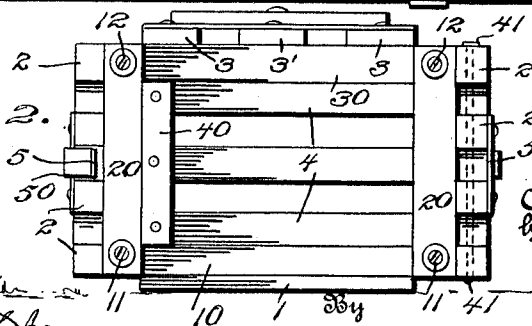


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

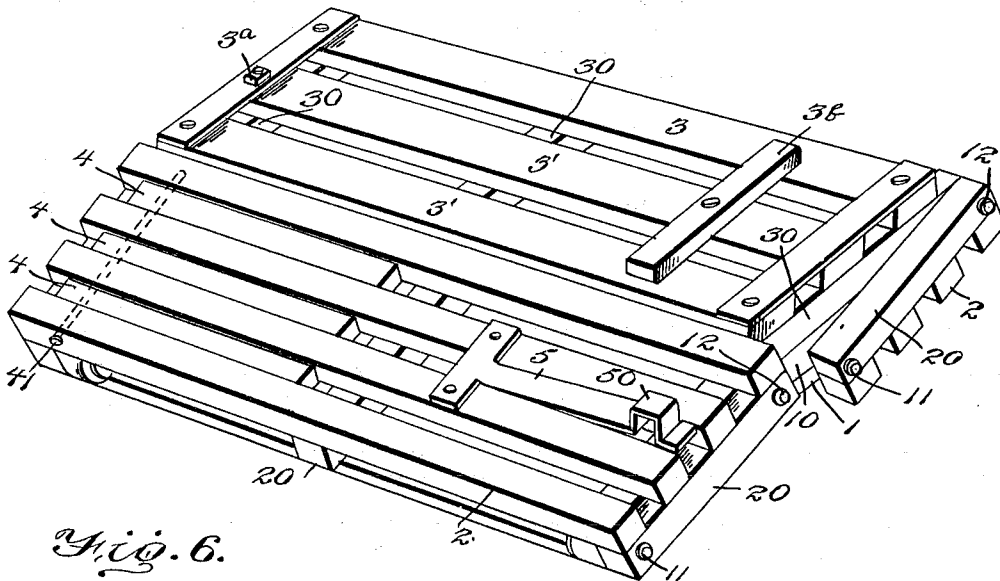


Fig. 6.

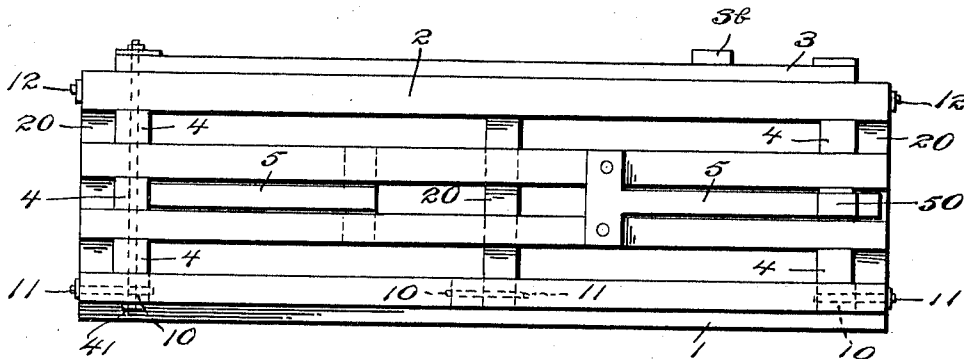
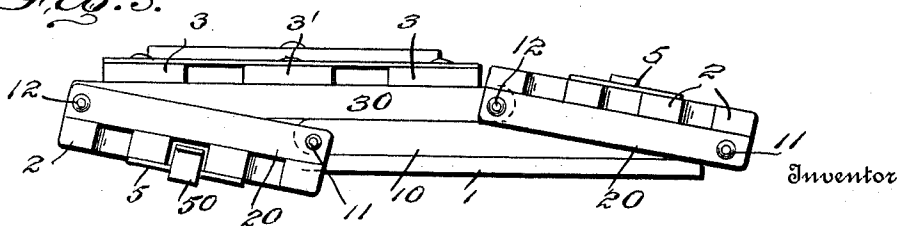


Fig. 5.



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UNITED STATES PATENT OFFICE.

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KNOCKDOWN SHIPPING-CRATE.

1,040,369.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed December 28, 1911. Serial No. 668,385.

To all whom it may concern:

Be it known that I, CHARLES H. MATTHEWS, a citizen of the United States, residing at Clinton, in the county of Dewitt and State of Illinois, have invented certain new and useful Improvements in Knock-down Shipping-Crates, of which the following is a specification.

This invention relates to certain improvements in knock down crates, or the like; and the objects and nature of the invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawings illustrating what I now believe to be my preferred embodiment from among other formations and arrangements within the spirit and scope of my invention.

The invention consists in certain novel features in construction and in combinations and arrangements as more fully and particularly set forth and specified hereinafter.

Referring to the accompanying drawings;—Figure 1, is a perspective view of a crate, built in accordance with my invention, in set up or operative position. Fig. 2, is an end view thereof. Fig. 3, is a top plan thereof. Fig. 4, a perspective view of the crate knocked down or in folded inoperative position. Fig. 5, is an end view thereof, and Fig. 6, is a side elevation of the crate in set up or operative position.

The crate shown consists of a horizontal longitudinal floor or bottom 1, having battens or cleats 10, fixed thereto and traversing the upper side thereof and usually having projecting ends; two parallel longitudinal laterally-swingable sides, each consisting of spaced parallel longitudinal slats 2, and battens or cleats 20, fixed thereto, and traversing the inner edges thereof and at their lower ends lapping the projecting ends of cleats 10, and pivotally joined thereto, respectively, by transverse pivots 11; a horizontal longitudinal top consisting of longitudinal slats 3, 3', and battens or cleats 30, fixed thereto and traversing the bottom faces thereof and at their projecting ends lapping the upper ends of the cleats 20, of the two sides and pivotally joined thereto by transverse pivots 12; two horizontally swingable ends, each consisting of spaced horizontal slats 4, connected by a vertical cleat 40, fixed thereto and traversing the outer faces thereof of near the free end of the end, the slats 4, at

the hinged end of the end projecting between the slats 2, of a side and pivotally connected thereto by a vertical pivot 41, extending transversely through the slats of the side and end; and catches 5, secured to the sides and adapted to lock the ends in operative or set up position.

When the crate is in operative or set up position, the crate ends are closed outwardly against the inner side edges of the end cleats 20, of the crate sides which limit the outward swing of the crate ends, and are arranged between and approximately abutting the top and bottom edges of the end cleats 10, of the crate bottom and the end cleats 30, of the crate top, while the vertical cleats 40, of the crate ends are arranged between the end cleats 20, of the sides and approximately against one of said cleats, and the projecting free ends of the slats of each crate end are arranged between the slats of the side opposite the side to which the crate end is pivoted. The location of the crate ends between and abutting the crate bottom and top, maintains the crate in set up position and against collapsing. The crate ends are preferably arranged to swing in opposite directions, that is, one end is hinged to one side while the other crate end is hinged to the other side.

The spring catches 5, are secured to the opposite crate sides, and are usually arranged longitudinally thereof with shouldered free ends 50, designed to engage the free ends of the crate ends and detachably hold them in operative position and against inward swing.

The crate top, or any other part of the crate can be so formed as to permit access to the interior of the crate. For instance, I show the crate top provided with a longitudinally slidable door formed by slat 3', normally held in closed position by removable pin 3^a, and provided with a cleat 3^b, forming a brace and stop, although I do not wish to limit my invention.

When the crate is to be knocked down or folded into collapsed or inoperative position, the catches are swung out to release the free ends of the crate ends and permit inward swing thereof. The crate ends swing inwardly to the crate sides to which they are hinged and the slats of the ends fit in between the slats of the sides so that the sides and ends are parallel and virtually arranged

one within the other. The vertical cleats of the crate ends limit the swing of the ends into the sides. When the ends have thus been swung to inoperative position, the crate
 5 can be readily collapsed by swinging the sides laterally in the same direction and thereby carrying the top approximately down to the bottom. When in this position, the crate occupies a minimum amount of
 10 space and can be easily transported at minimum expense, and a large number of such knocked down crates can be stored in a comparatively small space.

The crate is comparatively light in weight
 15 and is very strong and durable and can be economically produced and is exceedingly economical in use and the parts thereof are so arranged that when collapsed, the crate is subject to minimum damage by breakage
 20 of parts.

The crate can be readily set up, by swinging the sides up to vertical or upright positions, and then swinging the crate ends out to normal positions against the side cleats,
 25 whereupon the spring catches will engage and automatically lock said ends in operative position.

It is evident that various changes, modifications, and variations might be resorted to
 30 without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact disclosure hereof.

What I claim is:—

35 1. A knock down crate comprising a bottom, sides hinged thereto to swing laterally, a top connecting the sides and hinged thereto by transverse pivots to move vertically therewith, ends hinged to the sides to swing
 40 outwardly between the top, bottom and sides and to operative position maintaining the crate set up and inwardly against the sides to inoperative position and to permit collapsing of the crate, and means for detachably
 45 locking the ends in operative position.

2. A knock down crate comprising a bottom, sides having vertical cleats at their lower ends hinged to the bottom by transverse pivots, a top connecting the sides and
 50 having transverse cleats at their outer ends hinged to the upper ends of the side cleats by transverse pivots, and laterally swingable crate ends hinged to the sides by a vertical pivot and adapted to swing outwardly
 55 against the cleats of the sides to operative position maintaining the crate against collapsing.

3. A collapsible crate consisting of a bottom having transverse cleats fixed thereto, sides consisting of longitudinal slats having transverse cleats fixed thereto and at their lower ends hinged to the cleats of the bottom by transverse pivots, a top having transverse cleats fixed thereto and hinged to the cleats of the sides by transverse pivots, and crate
 65 ends hinged to the crate to swing on vertical pivots and normally swing outwardly to operative position between the sides and top and bottom and holding the crate against collapsing. 70

4. A collapsible crate consisting of a bottom, sides consisting of longitudinal spaced slats and vertical cleats fixed thereto and hinged to the bottom by transverse pivots, a top hinged to the upper ends of said cleats
 75 by transverse pivots, ends consisting of spaced slats and transverse cleats fixed thereto, each end having its slats arranged between the slats of a side and hinged thereto by a vertical pivot, said end adapted to
 80 swing into parallelism with said sides with its slats between the slats of the sides, and spring catches adapted to engage the free ends of the ends and maintain them in operative position transversely of and between
 85 the sides and top and bottom and holding the crate against collapsing.

5. A collapsible crate comprising a bottom, sides at their lower longitudinal edge portions pivotally joined to the opposite
 90 longitudinal edge portions of the bottom, respectively, to swing laterally together in collapsing, a top at its opposite longitudinal edge portions pivotally joined to the upper longitudinal edge portions of said sides,
 95 respectively, to move therewith toward the bottom in collapsing, a pair of ends in operative position arranged transversely of the crate between said sides, bottom and top to maintain the crate set up, each end being at
 100 one edge hinged to a side to fold inwardly thereto to permit the crate being collapsed, said top having a longitudinal opening for filling and emptying the crate and being provided with a longitudinal door normally
 105 closing said opening, said door being longitudinally movable from said opening, and guide and stop means for said door.

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

CHARLES H. MATTHEWS.

Witnesses:

LEWIS ALEXANDER,
 EDWIN GIDEON.