R. DOUGLASS.

KNOCKDOWN CRATE.

APPLICATION FILED APR. 20, 1912.

1,041,755.

Patented Oct. 22, 1912.

3 SHEETS—SHEET 1.

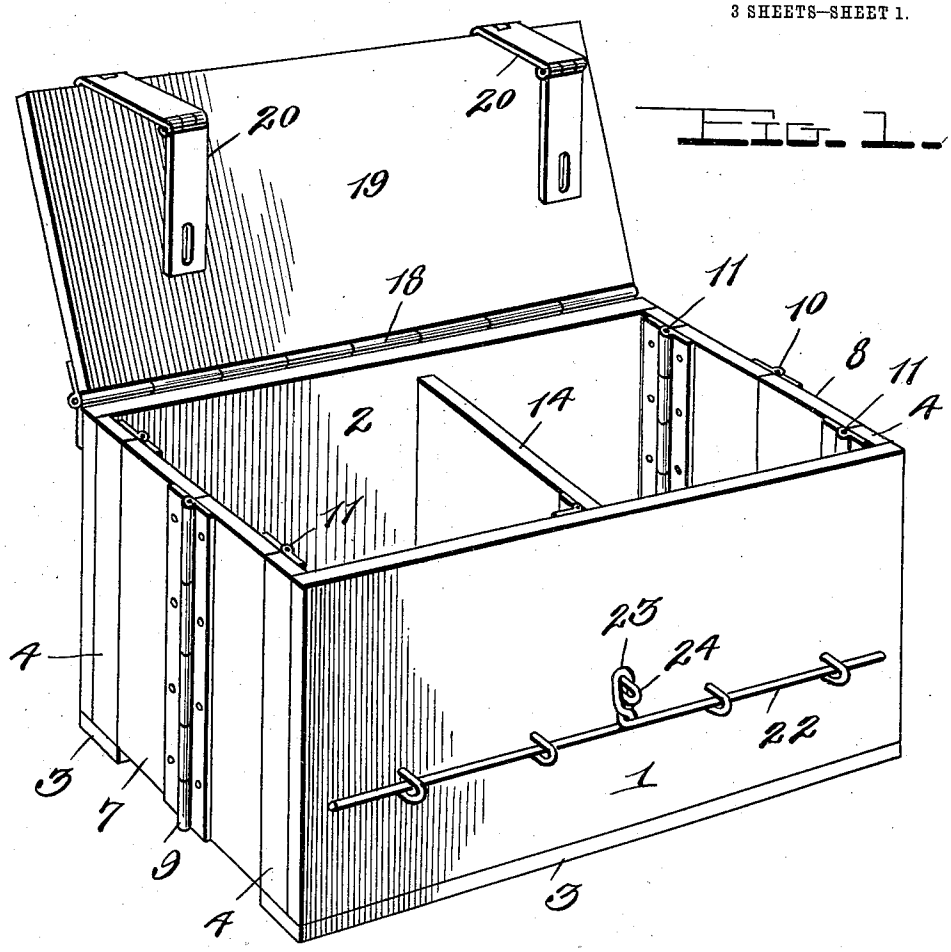

Fig. 1.

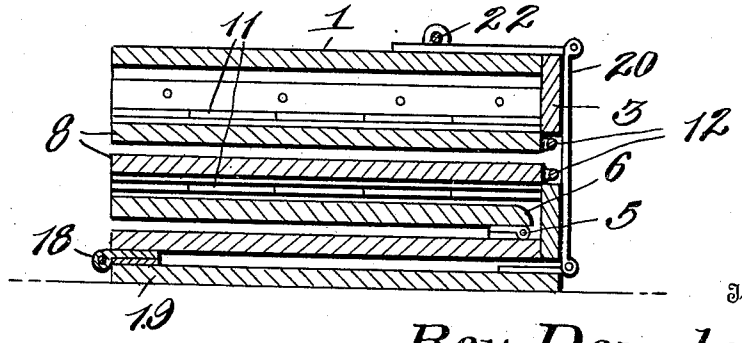

Fig. 6.

Witnesses

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3 SHEETS—SHEET 2.

Fig. 2.

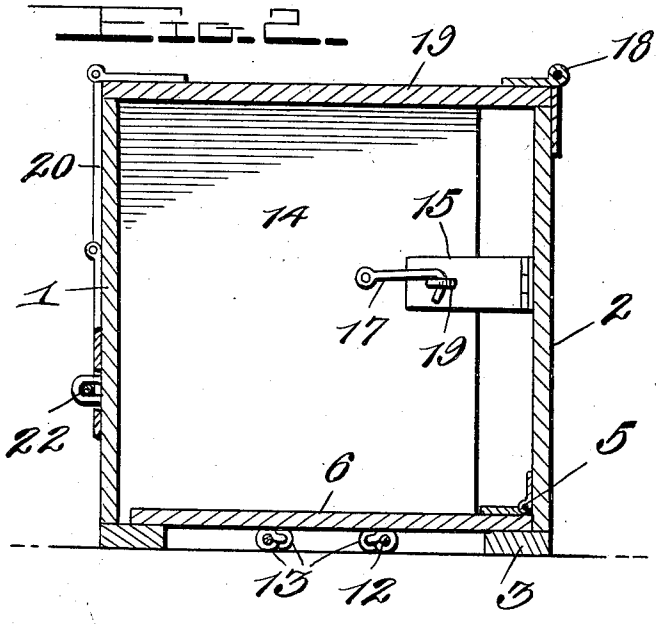
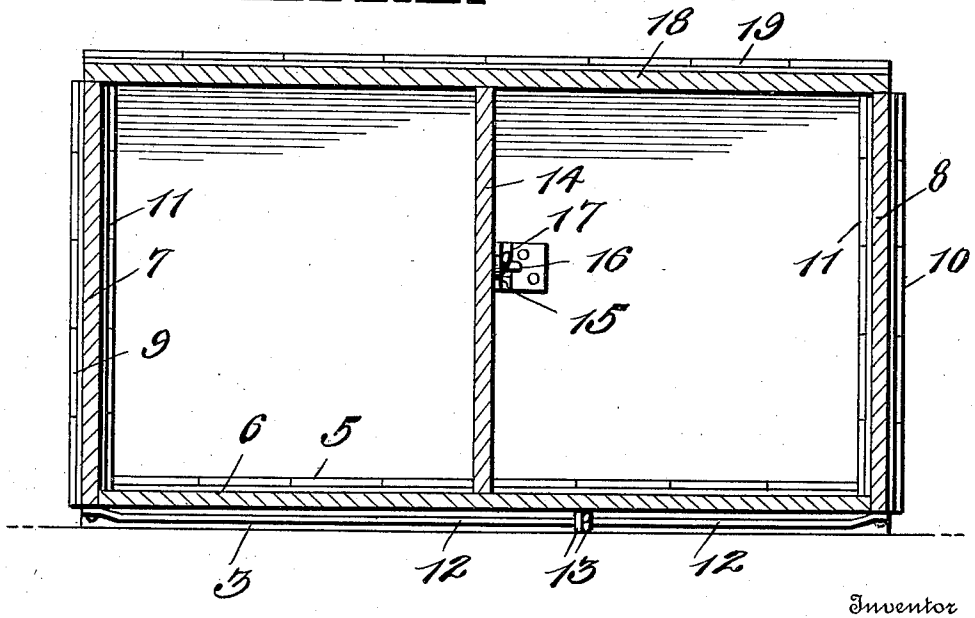


Fig. 3.



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3 SHEETS—SHEET 3.

FIG. 4

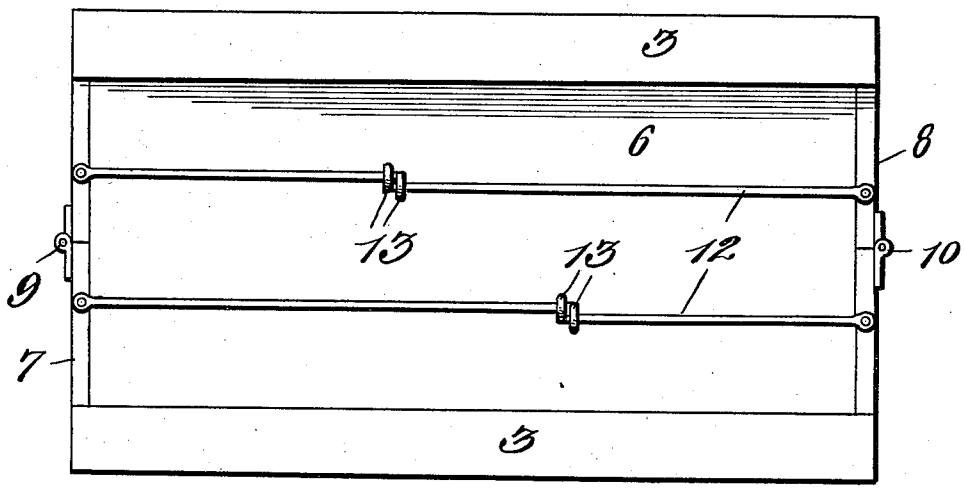


FIG. 5

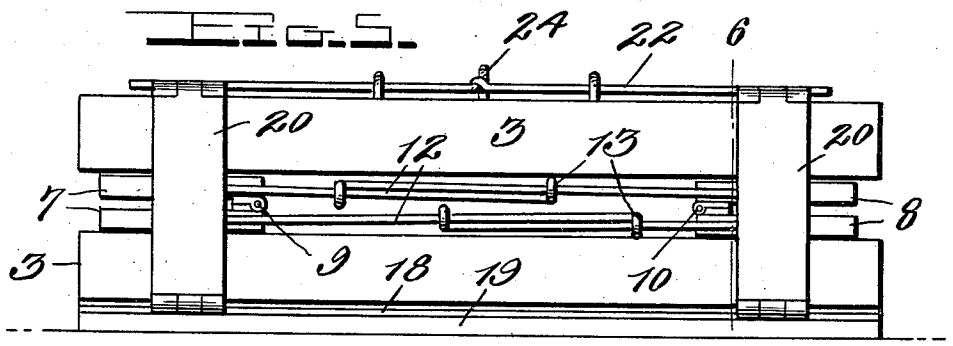
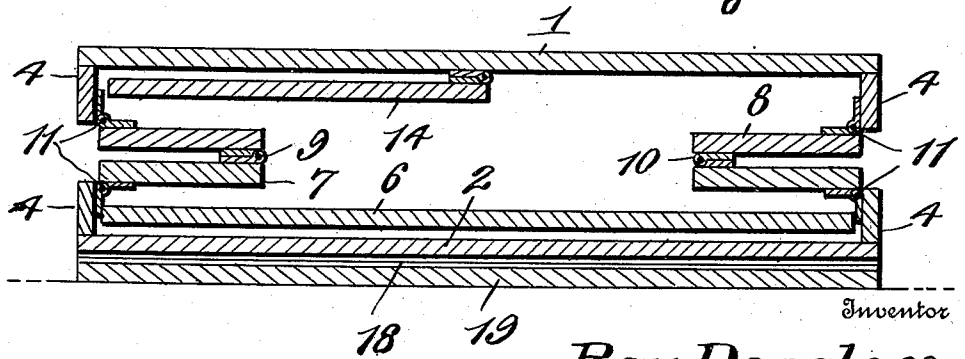


FIG. 7



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

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KNOCKDOWN CRATE.

1,041,755. Specification of Letters Patent. Patented Oct. 22, 1912.

Application filed April 20, 1912. Serial No. 692,011.

To all whom it may concern:

Be it known that I, ROY DOUGLASS, a citizen of the United States, residing at Pierceville, in the county of Finney and State of Kansas, have invented certain new and useful Improvements in Knockdown Crates, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in knockdown crates and more particularly to the class known as folding, horizontal and vertical pivot, and my object is to provide a device of this character which may be readily and quickly knocked down and folded into very compact form for shipping and storing purposes.

A further object of the invention resides in the provision of means which is adapted to retain and lock the crate in its upright position and also to lock the same in its folded position.

A still further object of the invention resides in providing end walls for the crate, which end walls are formed of hinged sections foldable inwardly, and a still further object resides in the provision of connecting means between said end walls which forms a brace between the same as well as a brace for the bottom of the crate.

Still another object of the invention resides in the provision of cleats on the side and bottom edges of the front and rear walls of the crate to form a means for receiving the bottom and partition wall of the crate when the device is folded.

A still further object of the invention resides in providing connecting rods between the end walls of the device, which rods are slidably engaged with one another.

Still another object of the invention resides in providing a device which is extremely simple, yet durable in construction, and one which is very effective and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a perspective view of the device in upright position and showing the top thereof raised. Fig. 2 is a transverse section through the device showing the same set up and in locked position. Fig. 3 is a longitudinal section therethrough. Fig. 4 is a bottom plan view of the device. Fig. 5 is a rear elevation of the device in folded and locked position. Fig. 6 is a transverse section therethrough as seen on line 6—6, Fig. 5, and, Fig. 7 is a vertical longitudinal section through the same in folded position.

In carrying out my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which—

1 and 2 indicate, respectively the front and rear walls of my improved crate, said walls being provided on their lower edges with the inwardly extending longitudinal cleats 3 and are also provided on their side edges with the inwardly facing vertical cleats 4, and hingedly mounted on the rear wall 2 adjacent the lower edge thereof by means of the hinges 5, is a bottom 6, said bottom being adapted to rest on the longitudinal cleats 3 of said front and rear walls when the same is lowered. The end walls 7 and 8 are formed in sections hinged one to the other by means of the hinge members 9 and 10, respectively, said hinge members being mounted on the outer faces of said sections, and the sections of said end walls 7 and 8 are in turn hinged to the vertical cleats 4 of the front and rear walls by means of the hinge members 11, whereby it will be seen that said end walls are adapted to be folded inwardly when the bottom 6 is not in its lowered position.

The opposed sections of the end walls 7 and 8 have engaged with the lower edges thereof, the outer ends of pairs of wires or rods 12 which extend longitudinally of the crate, said wires having their inner ends looped to form eyes 13, which eyes slidably receive therethrough, the body portions of the opposed wires, and thus, the same are slidable one upon the other. When the sections of the end walls are positioned so that the end walls are in perfect position, the eyes of the opposed wires are adapted to engage one another and limit the further movement of said end walls, at the same time forming a bracing means therefor as well as a bracing means for the bottom 6 which is adapted to rest on the longitudinal cleats 3. Also hinged with the inner face of the front wall 1, is the inner edge of a partition wall 14, said wall being foldable

against the wall 1, and when brought to its effective position transversely of the crate, is adapted to be secured by means of a hasp 15 carried on the inner face of the rear wall 2. The hasp 15 is adapted to receive therethrough, a staple 16, and the wall 14 has pivotally carried thereon, a hook member 17 which is adapted to be engaged with said staple after the hasp has been applied thereon, whereby the wall 14 may be held in its effective position transversely of the crate.

Hingedly mounted on the upper edge of the rear wall 2 by means of the hinges 18, and adapted to rest on the upper edges of said rear, end and front walls, is a top 19, and secured to the free or outer side edge of said top, are the double or sectional hasps 20. The front wall 1 of the crate is provided with a plurality of projecting staples 21 which are alined horizontally thereacross, the outer of the alined staples being adapted to receive in engagement therewith, the lower sections of the sectional hasps, 20, when the top is moved to its closed position, and slidably disposed through said staples, is a sliding rod 22 which is carried in said staples and adapted to be moved out of engagement with the outer staples to allow the hasps to be engaged therewith, and when the hasps have been properly engaged with the staples, said rod is slid into engagement with said staples so as to retain the hasps in their effective positions, whereby the cover will be retained in its locked position and the sliding rod is also provided with a handle member 23 which forms, in itself, a hasp adapted to engage an additional staple 24 also mounted on the front face of the front wall 1, and when a pin or the like (not shown) is applied to said last referred to staple after the handle hasp 23 has been applied thereto, the sliding rod will be retained in position.

The description of the securing of the hasps to retain the cover in position is when the device is set up in operative position, but I have also provided means for the locking of the same when in its knocked down and folded position. In knocking the crate down from its upright position, the cover is first thrown back over the rear wall 2 and as said top is of the same dimensions as said wall, the same will fold downwardly to the lower edge thereof, and the bottom 6 is then folded upwardly against the inner face of the rear wall 2 between the bottom cleat 3 and the side cleats 4 thereon, it being understood that the partition wall 14 has been first thrown to its inoperative position against the inner face of the front wall. The moving of the bottom 6 and the partition wall 14 to these positions, disposes the same out of the path of the end walls, whereupon said end walls may be collapsed by forcing the same inwardly, which action will cause the wires or rods 12 to slide upon one another until the sections of said end walls 7 and 8 completely rest upon one another. The sectional hasps 20 which hang from the free side edge of the top 19 may then be brought around the cleats 3 on the lower edges of the front and rear walls 1 and 2 until the same engage the outer of the alinement of staples 21, said staples being the same ones which are adapted to be engaged by said hasps when the crate is in upright position, and when said hasps are engaged with these staples, the sliding rod 22 is engaged with the staples in a manner, as heretofore described. Thus, it will be seen that the same hasps that are used for the securing of the device in an upright position are also used for securing the crate in its folded position.

From the foregoing, it will be seen that I have provided an improved crate which may be readily and quickly knocked down and folded into very compact form, whereby the same may be shipped or stored without requiring any great amount of space. It will further be seen that I have provided a crate in which the end walls are adapted to collapse while the top and bottom thereof fold against the rear wall. Furthermore, it will be observed that I have provided a means for locking the crate in its upright position, which means is also adapted to lock the crate in its knocked down and folded position. It will still further be seen that my device is extremely simple, yet durable in construction, and one which is very effective and useful in operation.

What I claim is:—

1. A folding crate, comprising a front wall, a rear wall, a top and bottom hinged respectively to the upper and lower edges of said rear wall, sectional end walls adapted to fold inwardly and means passing under the bottom of the crate and secured to the end walls, said means preventing an undue outward motion of said end walls, and also supporting the bottom of the crate.

2. The combination with a crate of the class described, comprising front and rear walls, a top and bottom hinged respectively to the upper and lower edges of said rear walls, and sectional end walls adapted to swing inwardly, of means for preventing an undue outward motion of said end walls, said means also supporting the bottom of the crate and comprising a plurality of longitudinal rods formed in section, the outer ends of said sections being secured to the lower edges of the sectional end walls and the corresponding inner ends being slidably secured to each other, said rods passing under the bottom of the crate and supporting the same.

3. The combination with a crate of the class described, comprising front and rear

walls, a top and bottom hinged respectively to the upper and lower edges of said walls, and sectional end walls adapted to swing inwardly, of means for locking said crate when in its upright or its collapsed position, said means comprising a longitudinally slidable rod, U-shaped fasteners adapted to secure said rod upon the outer face of said front wall, sectional hasps secured to the top of the crate adjacent its free front edge, said hasps being formed with slots in their free ends adapted for engagement over said U-shaped fasteners, said longitudinally slidable rod being movable out of engagement with the U-shaped fasteners which are adapted to secure said hasps, and means for locking said rod in its effective position.

4. The combination with a crate of the class described, comprising front and rear walls, a top and bottom hinged respectively to the upper and lower edges of said rear wall, and sectional end walls adapted to swing inwardly, of means for locking said crate both in its upright and in its collapsed condition, said means comprising a longitudinal rod, U-shaped fasteners carried by the outer face of said front wall and adapted to slidably support said rod thereon, the rod being bent intermediate of its ends to provide a loop adapted to engage with the innermost fasteners to limit the longitudinal movement of the rod, a plurality of sectional hasps secured to the top of the crate adjacent its forward edge, the hasps being formed with longitudinal slots in their outer ends for engagement over the outermost of the aforementioned U-shaped fasteners, said rod being longitudinally movable to disengage the same from the outermost fasteners and means for engagement with the loop of said rod for the purpose of retaining it in its effective position.

5. A folding crate comprising a front wall, a rear wall, a top and bottom hinged respectively to the upper and lower edges of said rear wall, sectional end walls adapted to swing inwardly and means for limiting the outward motion of said end walls, said means also supporting the bottom of the crate and comprising a plurality of rods formed in sections, the outer ends of said sections being secured to the lower edges of the sectional end walls and the corresponding inner ends being looped into engagement with each other.

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

ROY DOUGLASS.

Witnesses:
W. H. BRENNAMAN,
J. H. BORGER.