

(No Model.)

2 Sheets—Sheet 1.

J. MYERS.
KNOCKDOWN CRATE.

No. 505,061.

Patented Sept. 12, 1893.

Fig. 1.

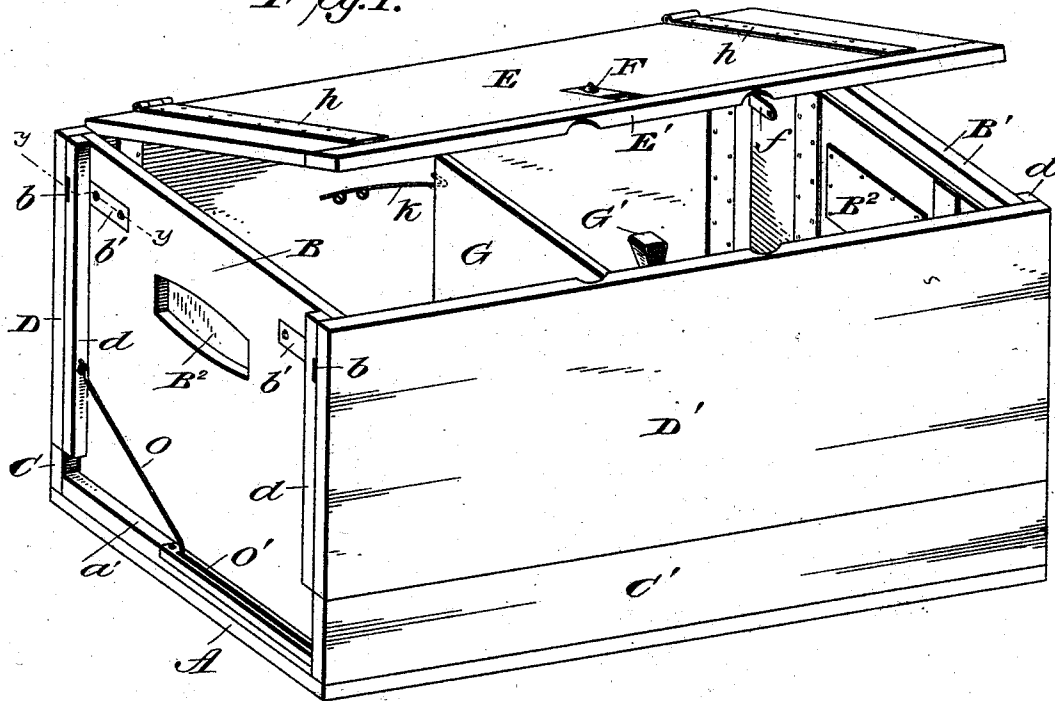
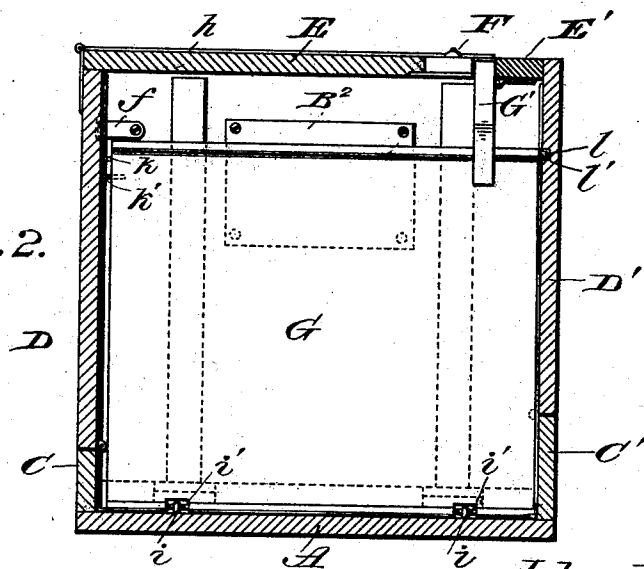


Fig. 2.

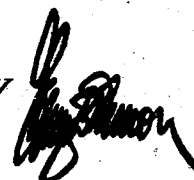


WITNESSES

L. S. Elliott.

E. M. Johnson.

John Myers.
INVENTOR

by  Attorney

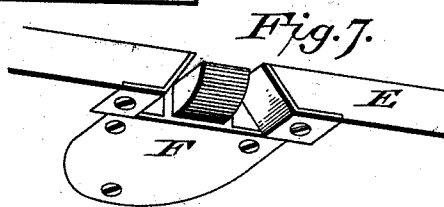
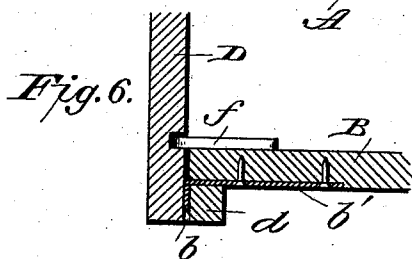
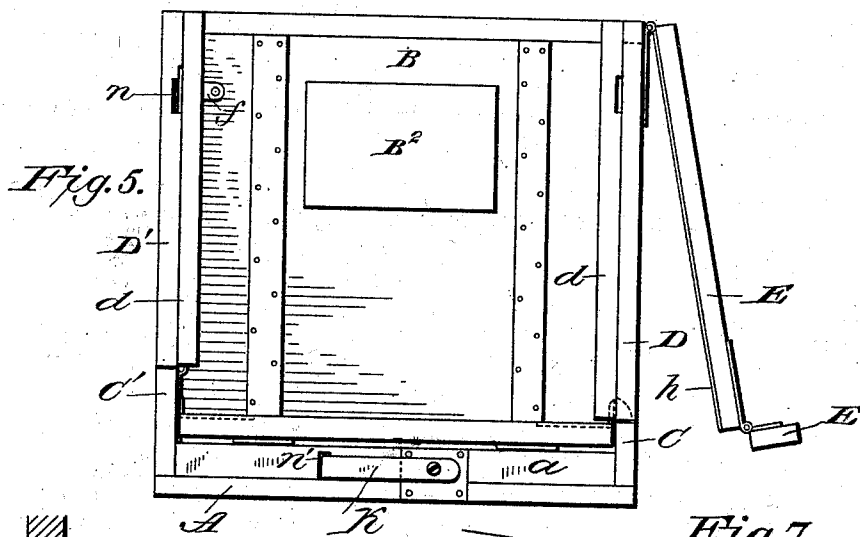
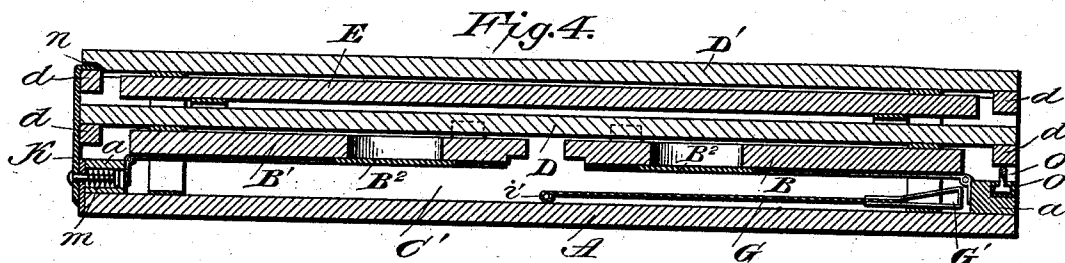
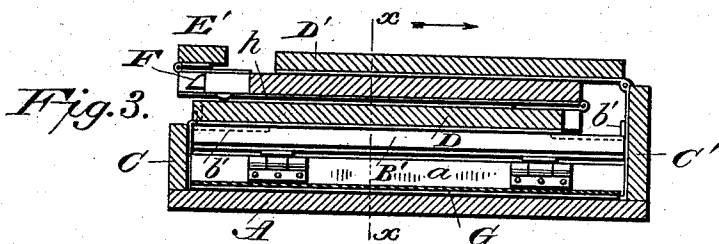
(No Model.)

2 Sheets—Sheet 2.

J. MYERS.
KNOCKDOWN CRATE.

No. 505,061.

Patented Sept. 12, 1893.



WITNESSES

E. S. Elliott,
E. W. Johnson

John Myers.
INVENTOR

by *[Signature]* Attorney

UNITED STATES PATENT OFFICE.

JOHN MYERS, OF MECHANICSBURG, ASSIGNOR TO MAGGIE DOCK AND
SAMUEL C. MYERS, OF MIFFLINTOWN, PENNSYLVANIA.

KNOCKDOWN CRATE.

SPECIFICATION forming part of Letters Patent No. 505,061, dated September 12, 1893.

Application filed April 27, 1893. Serial No. 472,095. (No model.)

To all whom it may concern:

Be it known that I, JOHN MYERS, a citizen of the United States of America, residing at Mechanicsburg, in the county of Cumberland and State of Pennsylvania, have invented certain new and useful Improvements in Knockdown Crates or Boxes; and I do hereby 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in knockdown crates and boxes such as are generally used in shipping eggs, fruit, or produce and returned to the shipper; and it consists in providing a knockdown crate or box with a central partition having a bail or loop with which the catch or securing means carried by the cover is adapted to engage.

The invention also consists in providing the base or bottom board with a slotted plate with which engages an arm pivoted to the side carrying the top so as to hold said side in a vertical position while setting up the other parts of the box or crate.

The invention further consists in providing the top or cover with a catch and a strip hinged to said cover beyond the catch; and the invention further consists in the special construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a crate or box constructed in accordance with my invention, the top or cover being raised. Fig. 2 is a vertical section taken on one side of the central partition. Fig. 3 is a transverse sectional view, showing the crate folded. Fig. 4 is a longitudinal sectional view. Fig. 5 is an end elevation showing one of the ends lowered. Fig. 6 is a detail sectional view through the line $y-y$ of Fig. 1; and Fig. 7 is a detail perspective view showing the end portion of the latch.

A designates the bottom board of the box or crate on the upper side and near the ends

of which are secured strips a , to which the end pieces B and B' are hinged. The strips a are of such width as to leave a portion, a' , of the same beyond the end pieces when they are in a vertical position. The bottom board has also secured on its upper side, and near its side edges, upwardly projecting strips C and C', the strip C' being of greater height than the other, and to these strips the side pieces D and D' of the box or crate are hinged. The side pieces have attached at each end, and on a line with the outer portion a' of the strips a , narrow strips d , said strips being provided near their upper ends with recesses b , with which angle plates b' attached to the end pieces are adapted to engage when the side and end pieces are placed in a vertical position, and pivoted to the end pieces are turn-buttons f which are adapted to enter recesses in the side pieces and lock the parts in proper position with respect to the bottom board.

The top of the crate, E, is hinged to the side piece D, the upper leaf, h , of the hinge extending across the top to reinforce the same. When the top is closed it lies upon the upper edge of the side piece D and within the other side and end pieces upon ledges formed in or attached to said side and end pieces. The outer end of the top or cover is cut away centrally to receive a catch F, said catch consisting of a spring-actuated bolt the end of which is beveled to engage with the loop or hasp, the side walls of the recess being inclined to better guide the loop or hasp in contact with the bolt. To the outer edge of the top or cover, beyond the catch, is hinged a strip E', the hinges being on the under side so that said strip cannot be lifted when the top is down. The strip forms a continuation of the top or cover, and is provided with hand grasping portions on a line with which the side piece D' is cut away as shown.

Openings are cut in the end pieces B and B' of the crate to provide handles, the inner sides of the openings being covered by plates B², and the leaf of the hinge which connects said end pieces to the bottom board extends to near the upper end of the end pieces to reinforce the same. The leaves of the hinges which connect the side pieces to the bottom

board extend across the bottom board and to near the upper end of the side pieces.

- G designates a partition which is suitably hinged to the bottom board A of the crate, preferably by means of staples *i i* which engage with a rod *i'* attached to the lower end of the partition, said partition being cut away on each side of the staples to permit a lateral movement of the partition upon the staples.
- From the upper end of the partition projects a loop or bail G' with which the bolt of the catch is adapted to engage when the partition is in a vertical position and the top or cover is lowered. To the inner side of one of the side pieces of the crate is a spring catch *k* beyond which is a stop-pin *k'*, and with this spring catch and stop-pin the partition is adapted to engage, the other end of the partition having a projecting pin *l* which enters a hole *l'* in the side piece of the crate which is adjacent thereto. When the partition is raised to a vertical position one edge of the same will contact with the spring-catch *k*, which will move the partition so that the projecting pin *l* will enter the hole in the side piece, thus maintaining the partition in a vertical position.

The box or crate is adapted to receive cell cases of ordinary construction, above which are placed the ordinary division plates, and in practice these cell cases can be folded so that when the crate is knocked down or folded they can be packed between the partition plate and end pieces.

- When it is desired to knock down the crate the partition is first lowered or folded against the bottom board and the cell cases and division plates laid thereon, the catches or turn-buttons *f* are then disengaged so that the end pieces B and B' may be turned down, after which the side pieces are folded over, the side piece carrying the top or cover being lowered first, the strip E' being turned back to form with the side piece D' the top of the crate when it is folded for shipping. The parts are held together by a catch K, which is pivoted to one of the end strips attached to the bottom board and is provided with a bent end which enters a recess, *n*, in the edge of the side piece D', as shown in Fig. 4. The pin which pivots the catch to the strip *a* is encircled by a spiral spring *m* which retains the catch either in the recess *n* in the edge of the side piece or in the recess *n'* in the strip *a*, in which latter recess the bent end is held when not in use.

It will be noted that as the parts D, E and E' of the crate are connected to each other by hinges the hinges connecting the part D to the strip C will be subjected to a greater strain in setting up the parts than the other hinges, and to maintain this side in a vertical position I connect thereto a stay-brace O, the lower end of which is bent and provided with a cross-bar which engages with a slotted plate O' attached to the strip *a*, and when the side piece D is raised this stay-brace will en-

gage with the plate at the end of the slot and prevent said side piece swinging outward. When the parts are folded the stay-brace will lie on a line with the strip *d* immediately above the strip *a* attached to the bottom board.

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

1. A knockdown box or crate consisting of a bottom board having transverse strips to which the end pieces of the crate are hinged and longitudinal strips of different heights to which the side pieces of the crate are hinged, a top hinged to one of the side pieces, said top having a spring catch and a strip hinged thereto beyond the catch, said strip being adapted to be turned to lie over the catch when the crate is folded, substantially as shown, and for the purpose set forth.

2. In a knockdown box or crate constructed substantially as shown, a partition hinged to the bottom board of the crate, one of the side pieces of the crate having a spring catch and the other a recess, so that when elevated the partition will be moved to one side to engage with the recess so as to maintain the same in a vertical position, substantially as shown.

3. In a knockdown crate a swinging catch K attached to one edge of the bottom board of the crate upon a spring-actuated pivot-pin, the free end of the catch being bent at right angles with the body portion, a recess in the edge of the bottom board within which the end of the catch lies when not in use, and a board or part of the crate with which said catch is adapted to engage, for the purpose set forth.

4. In a knockdown box or crate constructed substantially as shown, a side piece D having hinged thereto a top or cover, a stay-brace O connected to the side piece of the crate and engaging with a slotted plate O' attached to the bottom board substantially as shown.

5. In a knockdown box or crate constructed substantially as shown and consisting of a bottom board having end strips of equal height and side strips C and C' of different heights, side pieces D and D' having strips *d* with recesses *b*, end pieces B and B' carrying angle plates *b'* which are adapted to engage with the recesses *b*, turn-button *f* pivoted to the side pieces, a cover E hinged to the upper end of one of the side pieces, said cover carrying strip E' and a spring catch, and a partition G hinged to the bottom board and provided with an upwardly projecting loop or bail with which the spring catch engages, said partition being adapted to be maintained in a vertical position, substantially as shown, and for the purpose set forth.

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

JOHN MYERS.

Witnesses:

H. H. MERCER,

THOMAS A. ADAMS.