(No Model.) 2 Sheets—Sheet 1.

# S. E. McDOUGAL.

## SHIPPING CRATE.

No. 587,995 Patented Aug. 10, 1897.

Fig. 1.

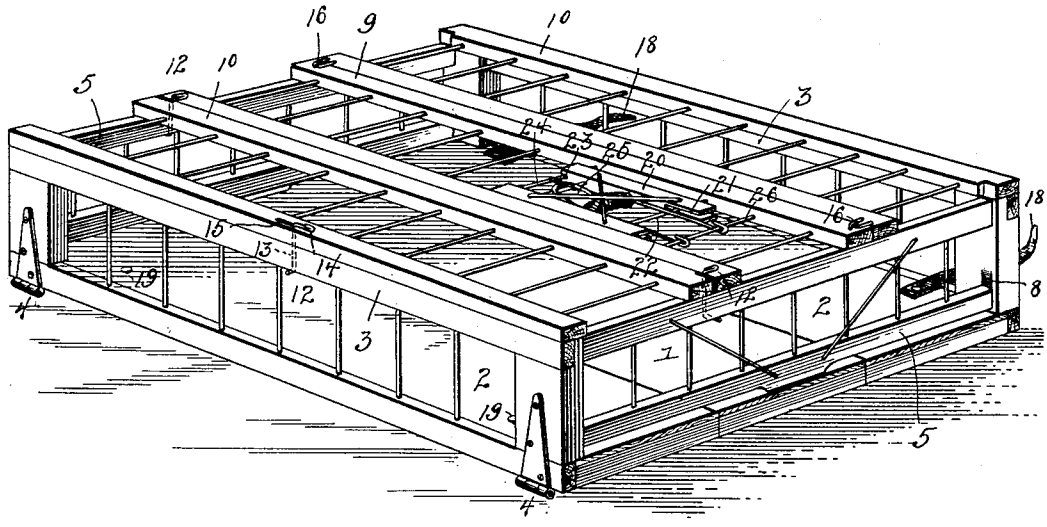



Fig. 4.

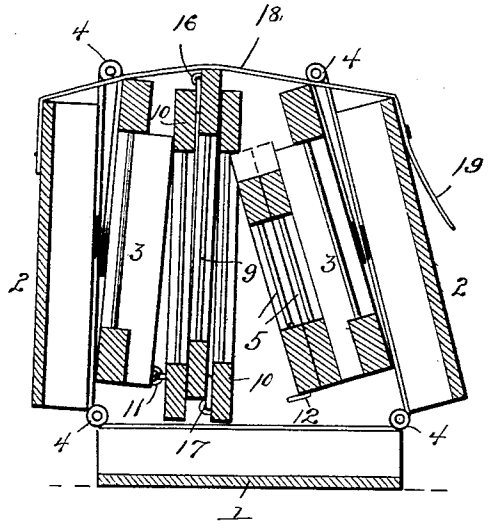
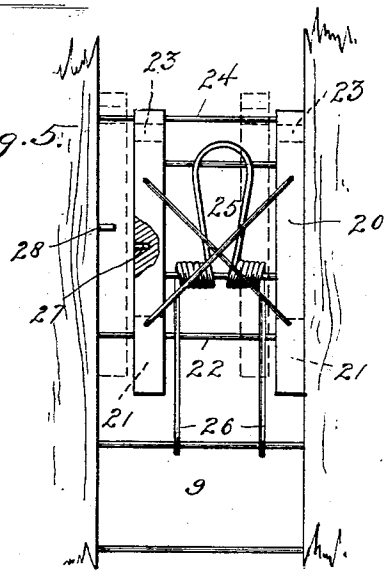



Fig. 5.

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(No Model.) 2 Sheets—Sheet 2.

# S. E. McDOUGAL.

## SHIPPING CRATE.

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Fig. 3.

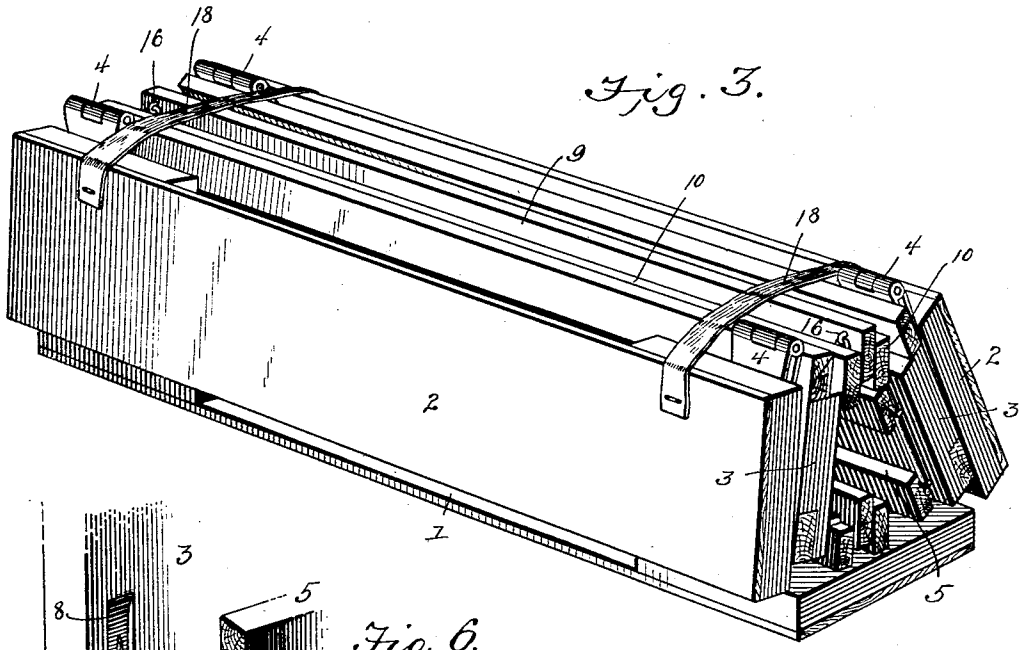





Fig. 6.

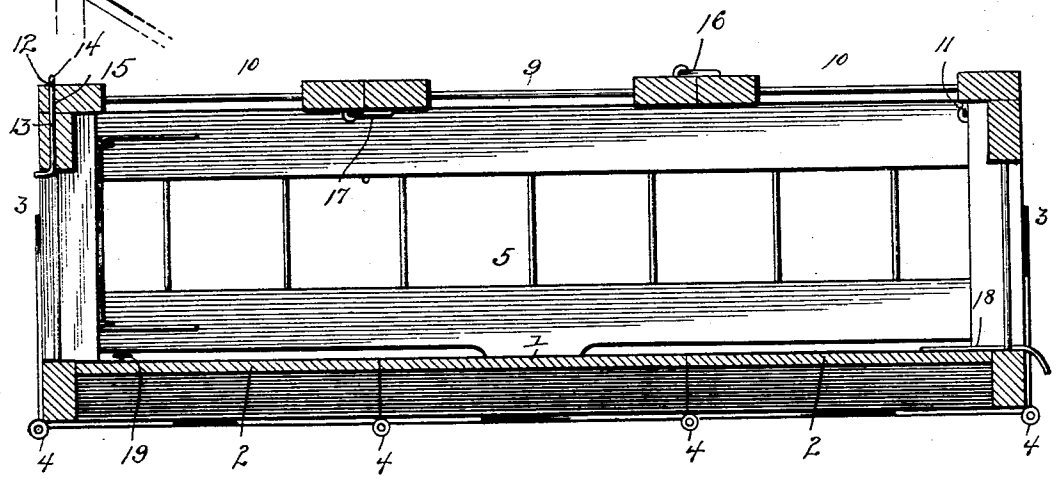


Fig. 2.

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# UNITED STATES PATENT OFFICE.

SIMON E. McDOUGAL, OF PAGE, WEST VIRGINIA.

## SHIPPING-CRATE.

SPECIFICATION forming part of Letters Patent No. 587,995, dated August 10, 1897.

Application filed March 31, 1897. Serial No. 630,145. (No model.)

*To all whom it may concern:*

Be it known that I, SIMON E. McDOUGAL, a citizen of the United States, residing at Page, in the county of Putnam and State of West Virginia, have invented a new and useful Shipping-Crate, of which the following is a specification.

My invention relates to shipping-crates designed especially for poultry, eggs, and other produce; and the object in view is to provide a simple and improved construction and arrangement of parts whereby the crate may be folded in a compact form for return shipment when empty.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a crate constructed in accordance with my invention, the same being shown open or extended. Fig. 2 is a tranverse section of the same. Fig. 3 is a perspective view of the crate folded. Fig. 4 is a transverse section of the same. Fig. 5 is a detail plan view of the door to show the means for locking the same in its closed position. Fig. 6 is a detail view in perspective of the means for securing the free extremities of the end walls to the contiguous extremities of the side walls.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The bottom of the crate embodying my invention is of sectional construction and comprises an intermediate section or fold 1 and side sections or folds 2, and hinged to the outer edges of the side bottom sections are the side walls 3. The hinges 4, by which the bottom sections are connected and the side walls are mounted thereon, have their axes approximately in the plane of the lower surface of the bottom, whereby the side bottom sections are adapted to fold downwardly from the plane of the intermediate bottom section, but are prevented from folding upward beyond a position in the same plane with said intermediate section, and also whereby the side walls are adapted to fold outward and downwardly to occupy positions parallel with and beneath the side bottom sections, but are prevented from being folded inwardly beyond a position perpendicular to the planes of the side bottom sections.

Hinged to one of the side walls, at its extremities, are end walls 5, mounted to swing in a plane parallel with the bottom of the crate and fold in contiguous planes approximately parallel with the side wall to which they are hinged. (See Fig. 4.) The free extremities of the end walls are provided, in common with the contiguous extremity of the adjacent side wall, with securing devices, which in the construction illustrated consist of an eye 6 on the end wall adapted to engage a stud 7 on the contiguous side wall, said stud being preferably countersunk in a recess 8. (See Fig. 6.)

The crate-top is also of sectional construction and comprises an intermediate section 9 and side sections 10, one of the side top sections being hinged, as at 11, to the upper edge of the contiguous side wall and the outer edge of the opposite side top section being secured to the opposite side by means of a catch 12, which in the construction illustrated consists of a stem 13, swiveled in the upper bar of the side wall and provided with a lateral arm 14, which, after extending through a slot 15 in the contiguous bar of the side top section, is adapted to be turned out of alinement with said wall to prevent accidental displacement. The hinged side of the top section is mounted, as shown by the position of the hinge 11 at the inner side of the side wall, to fold inwardly or downwardly to occupy a position parallel with the plane of said contiguous side wall, while the members of the top are hinged together to fold in such a way as to bring the intermediate section between the side sections. To accomplish this, a hinge 16 connects the intermediate top section to the hinged side of the top section, said hinge being arranged at the upper surface of said parts, while the hinge 17, by which the intermediate section is connected with the outer or catch side top section, is arranged at the under surface of the connected parts. The relative positions of the top sections may be seen by reference to Fig. 4. The extremities of the bars at the contiguous edges of the intermediate and outer side top sections may be secured to the contiguous top bars of the

end walls by means of catches 12 similar to that employed for securing the free edge of the outer side top section.

From the above description it will be seen that the bottom sections are connected to fold downwardly, (or outwardly with relation to the crate;) that the side walls are connected to the side bottom sections to fold outwardly and downwardly and thereby occupy positions respectively contiguous to and parallel with the lower surfaces of the side bottom sections; that the end walls are mounted upon one of the side walls to fold contiguous to and parallel with the inner surface of said side wall, and that the top of the crate is constructed to fold contiguous to and parallel with the inner surface of the other side wall. Hence when the top and end walls are folded in contact with the opposite side walls and the side walls are folded under the side bottom sections it is simply necessary to fold the bottom to inclose the other members of the crate between the bottom sections, as indicated in Figs. 3 and 4, the outer or free edges of the side bottom sections being connected by suitable fastening devices, such as straps 18, terminally secured to one of the bottom sections and adapted at their free ends to engage headed studs 19 on the opposite bottom section.

In addition to the compactness with which a crate constructed as above described can be folded it will be seen that a further advantage resides in the fact that the inner surface of the bottom is folded outwardly, and is therefore exposed to the air, whereby it may be readily cleansed and is allowed to dry, this feature being of special importance when the crate is used for poultry. Also, another important advantage of the above-described construction resides in the fact that as the top and the side and end walls, which are necessarily of comparatively light construction in order to give ventilation to the contents of the crate, are folded within the bottom or between the sections of the bottom it is obvious that the more fragile portions of the crate will be protected from injury during return shipment. The bottom may be made of sufficient strength to afford all necessary protection. In addition to the above-described construction also when the crate is to be employed for shipping poultry a door 20 is mounted between the side bars of one of the top sections and having its parallel frame-bars slotted, as shown at 21, to receive a transverse hinge-rod 22, the free ends of the frame-bars of the door being slotted, as at 23, to engage a catch-rod 24 also connecting the side bars of the top section. The door is normally held in its closed position by means of an actuating-spring 25, of which the terminals 26 are secured to a transverse rod connecting the side bars of the top section, and said door is capable in addition to its longitudinal sliding movement of transverse sliding movement between the side bars of the top section to cause the engagement of a socket 27 with a stationary pin 28. By means of this pin and engaging socket the door may be locked firmly in its closed position.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A crate having a sectional bottom of which the members are connected to fold outwardly, side walls hinged to the side edges of the bottom and adapted to fold outwardly to occupy positions contiguous to the plane of the outer surface of the bottom, end walls terminally hinged to one of the side walls to fold into planes contiguous thereto, and a sectional top hinged to the other side wall and having its members arranged to fold in parallel planes contiguous to the inner surface of said side wall, whereby when folded the side and end walls and the top of the crate are folded between the planes of the bottom sections, substantially as specified.

2. A crate having a sectional bottom comprising intermediate and side sections hinged together to fold outwardly, side walls hinged to the outer edges of the side bottom sections to fold outwardly, a sectional top having intermediate and side sections adapted to fold in parallel planes contiguous to one of the side walls, and end walls carried by the opposite side wall and adapted to fold contiguous to the inner surface thereof, whereby when the crate is folded the top, side and end walls are arranged between the planes of the side bottom sections, substantially as specified.

3. A crate having a sectional bottom comprising intermediate and side sections adapted to fold outwardly, side walls hinged to the outer edges of the side bottom sections to fold outwardly, end walls terminally hinged to one of the side walls to fold parallel therewith and terminally provided with eyes to engage studs on the opposite side wall, a sectional top comprising intermediate and side sections connected to fold in parallel planes, one of the side top sections being hinged to the contiguous side wall to fold inwardly to occupy a position parallel with said side wall, and catches for engaging the top at points near its free edge, to secure the same to the walls of the crate, substantially as specified.

4. A crate having a sectional bottom including hinged sections adapted to fold to occupy approximately parallel planes, said walls hinged respectively to said hinged bottom sections to fold contiguous to those surfaces of the bottom sections which are innermost when the bottom is folded, end walls hinged to one of the side walls to fold parallel therewith, and a sectional top hinged to the opposite side wall and adapted to fold in a plane parallel therewith, whereby when folded, the top, side and end walls are arranged

between the planes of said hinged bottom sections, substantially as specified.

5. A crate having a door of which the side frame-bars are terminally slotted to engage transverse hinge and latch rods, and are capable of longitudinal and transverse sliding motion thereon, an actuating-spring for normally holding the door in its closed position, and a fixed stud for engagement with a socket in the contiguous side bar of the door, when the door is moved laterally toward the same, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SIMON E. McDOUGAL.

Witnesses:
W. V. BIRD,
J. G. SHAWVER.