J. O. NORRIS.

COLLAPSIBLE SHIPPING BOX.

APPLICATION FILED OCT. 11, 1912.

1,066,838.

Patented July 8, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

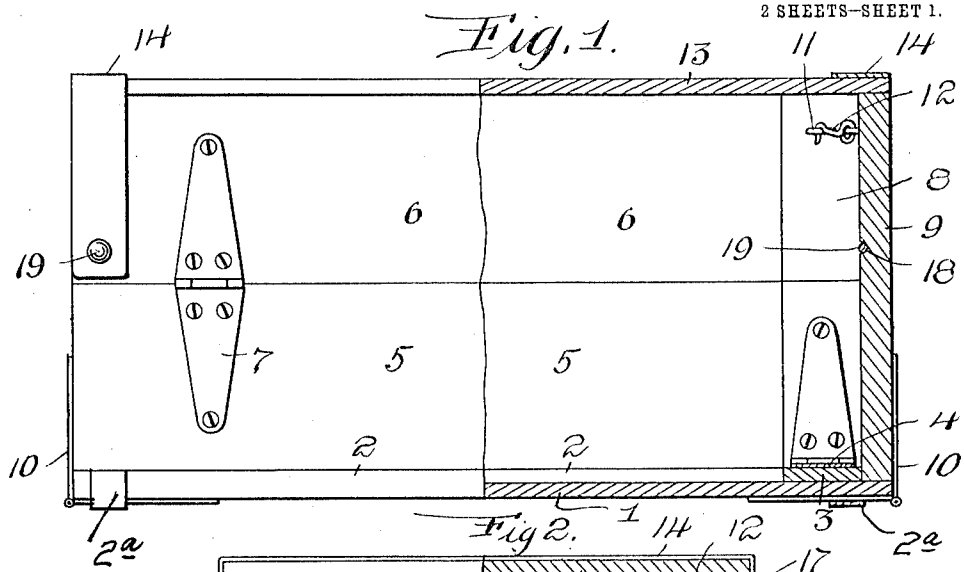


Fig. 2.

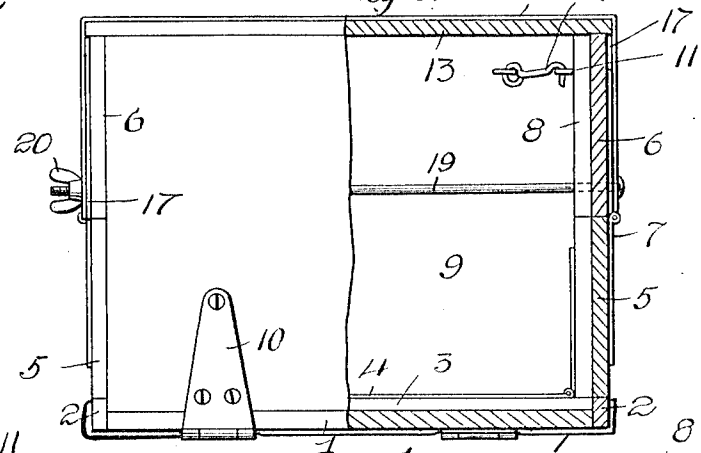


Fig. 3.

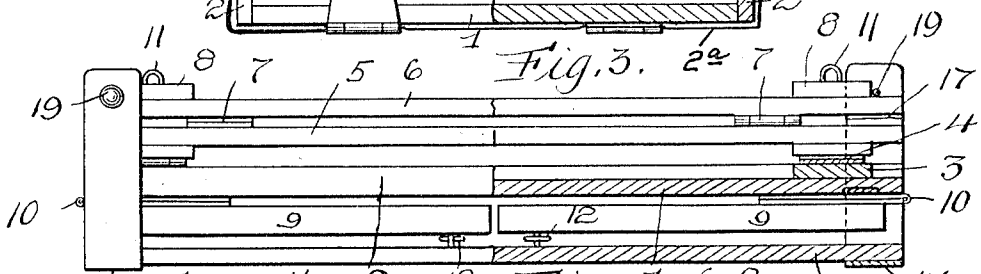
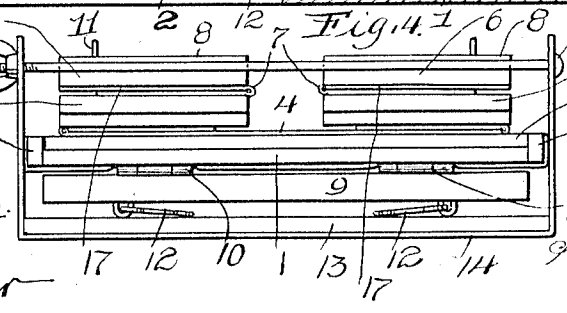


Fig. 4.



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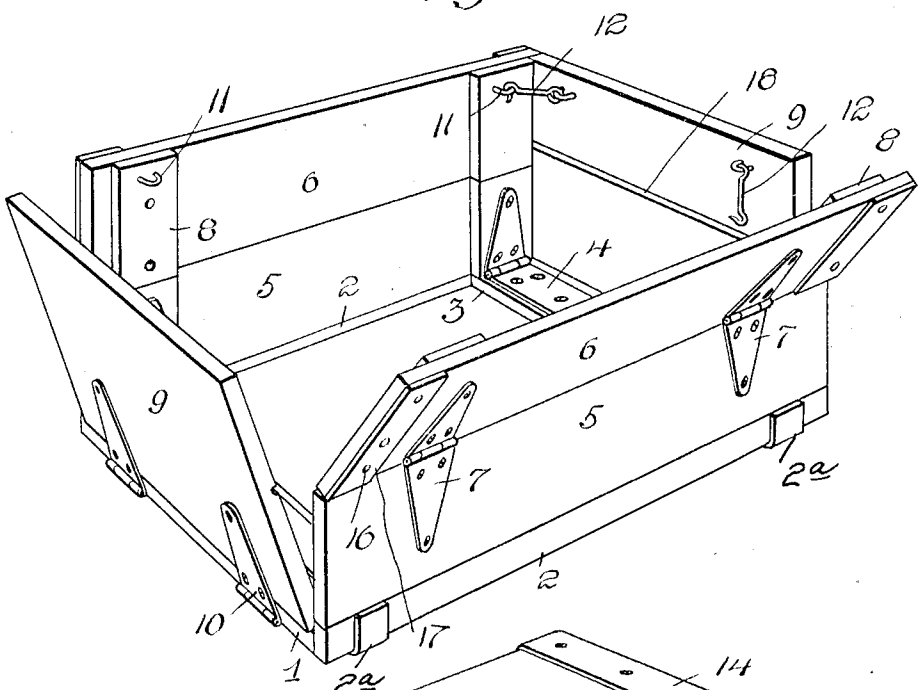
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2 SHEETS—SHEET 2.

Fig. 5.



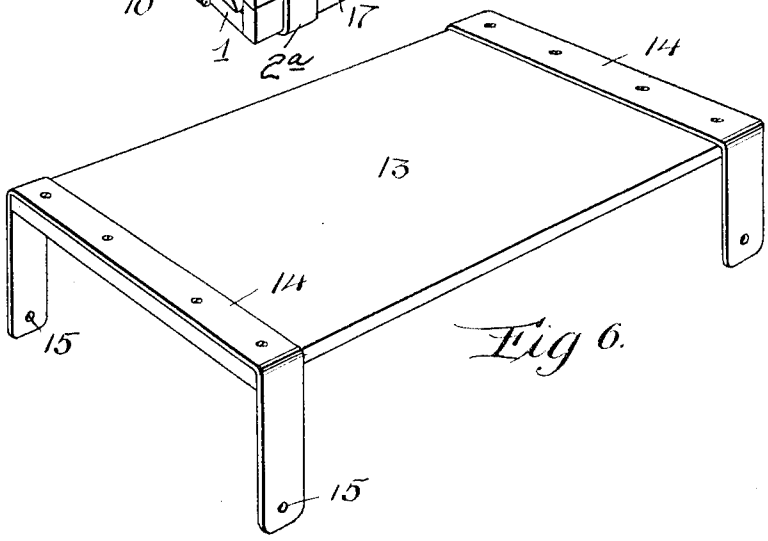


Fig 6.

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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE SHIPPING-BOX.

1,066,838. Specification of Letters Patent. Patented July 8, 1913.

Application filed October 11, 1912. Serial No. 725,188.

To all whom it may concern:

Be it known that I, JAMES OLIVER NORRIS, a citizen of the United States, residing at Bakerstown, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Collapsible Shipping-Boxes, of which the following is a specification.

This invention relates to collapsible shipping boxes, and the primary object of my invention is to provide a knock-down box that can be folded or collapsed to occupy a comparatively small space in storage or by return shipment, the box being especially designed for producers who ship merchandise to consumers and require that the boxes be returned.

Another object of this invention is to provide a collapsible box that presents a rigid structure when set up for safely transporting merchandise, the box when knocked down having the parts thereof compactly arranged whereby the folded parts of the box cannot become accidentally displaced.

A further object of this invention is to provide a collapsible structure that can be readily made in the form of a crate for use in shipping poultry and other live stock.

A still further object of the invention is to provide a collapsible box that is simple in construction, free from injury by ordinary use and highly efficient for the purposes for which it is intended.

With the above and other objects in view the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

Figure 1 is a side elevation of a box partly broken away and partly in section, Fig. 2 is an end view of the same, partly broken away and partly in section, Fig. 3 is a side elevation of the box folded and partly broken away and partly in section, Fig. 4 is an end view of the folded box, Fig. 5 is a perspective view of a portion of the box. and Fig. 6 is a perspective view of the lid of the box.

A collapsible box in accordance with this invention comprises a base plate 1 provided with longitudinal side cleats 2. These cleats are braced by transverse straps 2^a arranged at the ends thereof. The side cleats 2, at the ends thereof are connected by transverse cleats 3 and secured to the ends of said transverse cleats are strap hinges 4 supporting side walls composed of sections 5 and 6 corresponding in length to the cleats 2. The sections 5 have the outer sides thereof connected to the sections 6 by strap hinges 7, whereby after the sections 5 have been folded inwardly the sections 6 can be folded outwardly upon the outer sides of the sections 5.

Secured to the inner sides of the sections 5 and 6, at the ends thereof are stop cleats 8 and adapted to engage these cleats are end walls 9 that are connected to the ends of the base plate 1 by strap hinges 10, said strap hinges permitting of the end walls being swung under the base plate 1 in parallelism therewith, as best shown in Fig. 4. The cleats 8 limit the inward movement of the end walls 9 and said cleats are provided with staples 11 to receive hooks 12, carried by the inner sides of the end walls 9 for holding said walls in a vertical position relatively to the side walls of the box.

Detachably mounted upon the upper edges of the side and end walls is a lid 13 having the ends thereof provided with straps 14. The straps 14 are arranged transversely of the lid and the depending ends of said straps have openings 15. These openings are adapted to register with openings 16 formed in the sections 6 of the side walls, also in wear plates 17 carried by the outer sides of the sections 6 of said side walls. The openings 16 transversely aline with grooves 18 formed in the inner sides of the end walls 9 and said openings and said grooves receive tie rods 19 provided with winged thumb nuts 20. The lid 13 can be easily locked upon the rectangular structure and merchandise safely carried therein.

When the box is to be folded, the end walls 9 are swung under the base plate 1 and the base plate placed upon the inner side of the lid 13, as shown in Fig. 4. The side walls are then folded and the same tie rods 19 placed in engagement with the straps 14, the tie rods retaining the side walls folded and the folded parts of the box upon the lid 13. The folded parts of the box are therefore compactly held and the box can be packed or stored away whereby it will occupy a comparatively small space.

It is to be understood that the side walls and lid of the box can be slatted or made of frames provided with interwoven wire, whereby the box can be used as a crate.

While in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claim.

What I claim is:—

A collapsible box comprising a foldable rectangular body with the ends thereof foldable between the sides, each of the ends of said body having its inner face formed with a groove, each of the sides of said body provided at each end with an opening registering with one end of the groove, a cover mounted upon said body and provided with straps having depending portions capable of being positioned against the outer faces of said sides and formed with openings registering with the openings in said sides, transverse tie bars extending through said registering openings and seated in the grooves for maintaining the sides against said ends when the body is set up and said bars in connection with said depending portions further constituting means for connecting the sides and ends together when the box is collapsed, said bars having heads abutting against the depending portions at one side of the straps, said bars further projecting from the other depending portions of said straps, and nuts mounted upon the projecting ends of the bars for securing them in position.

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

JAMES OLIVER NORRIS.

Witnesses:
ROBERT N. NORRIS,
JOHN C. NORRIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."