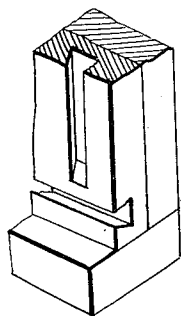
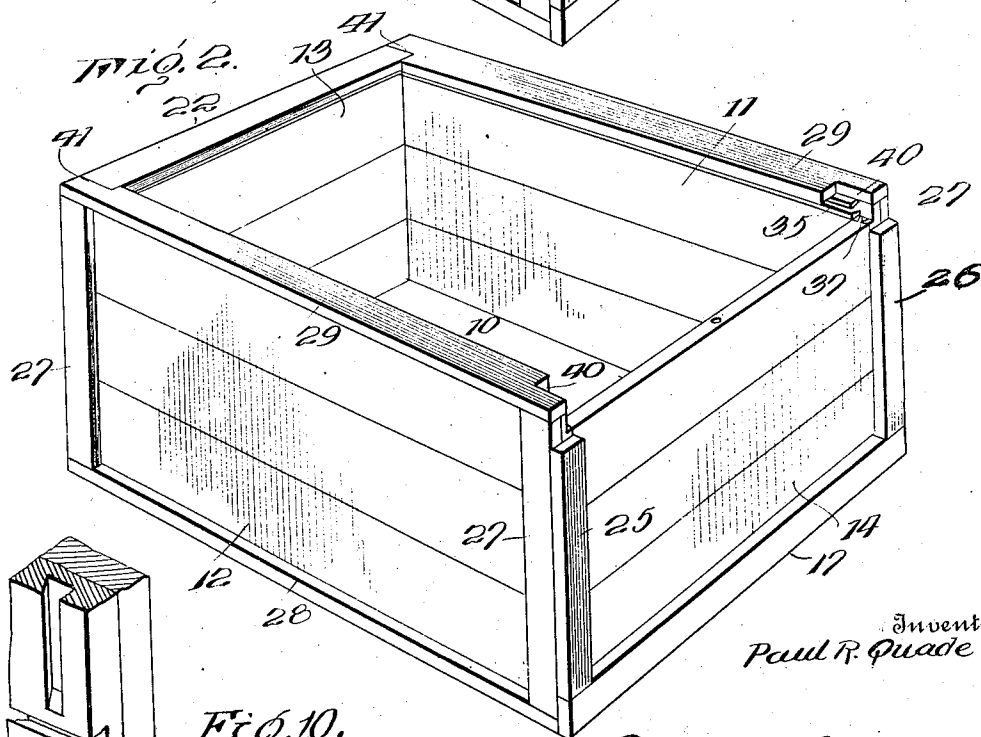
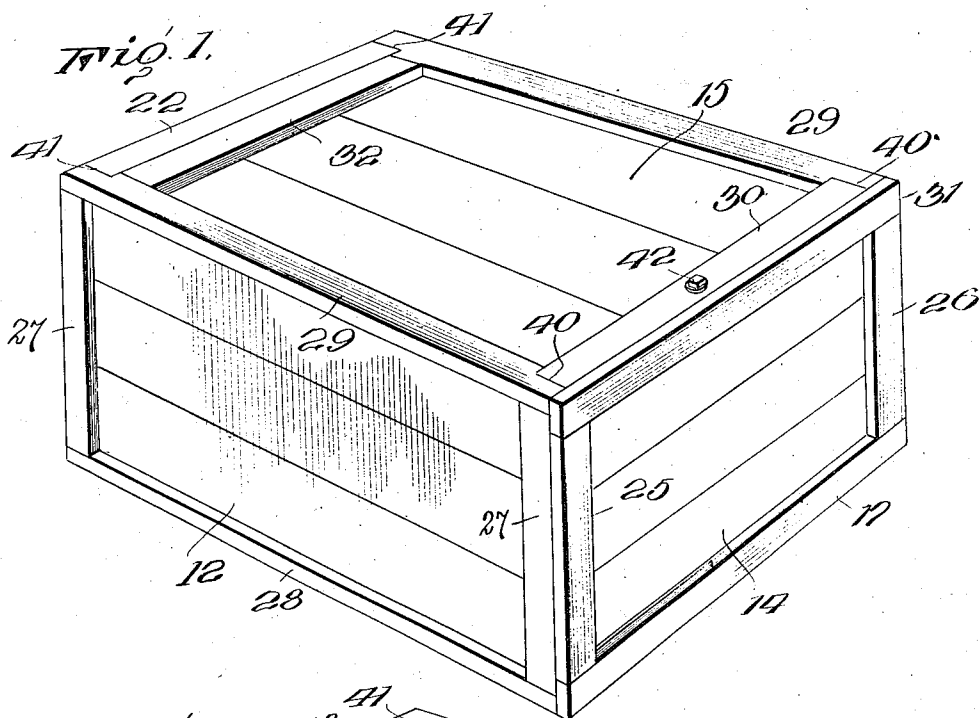


P. R. QUADE.
KNOCKDOWN SHIPPING BOX.
APPLICATION FILED JAN. 11, 1916.

Patented Dec. 19, 1916.
2 SHEETS—SHEET 1.

1,209,027.



Inventor
Paul R. Quade

By

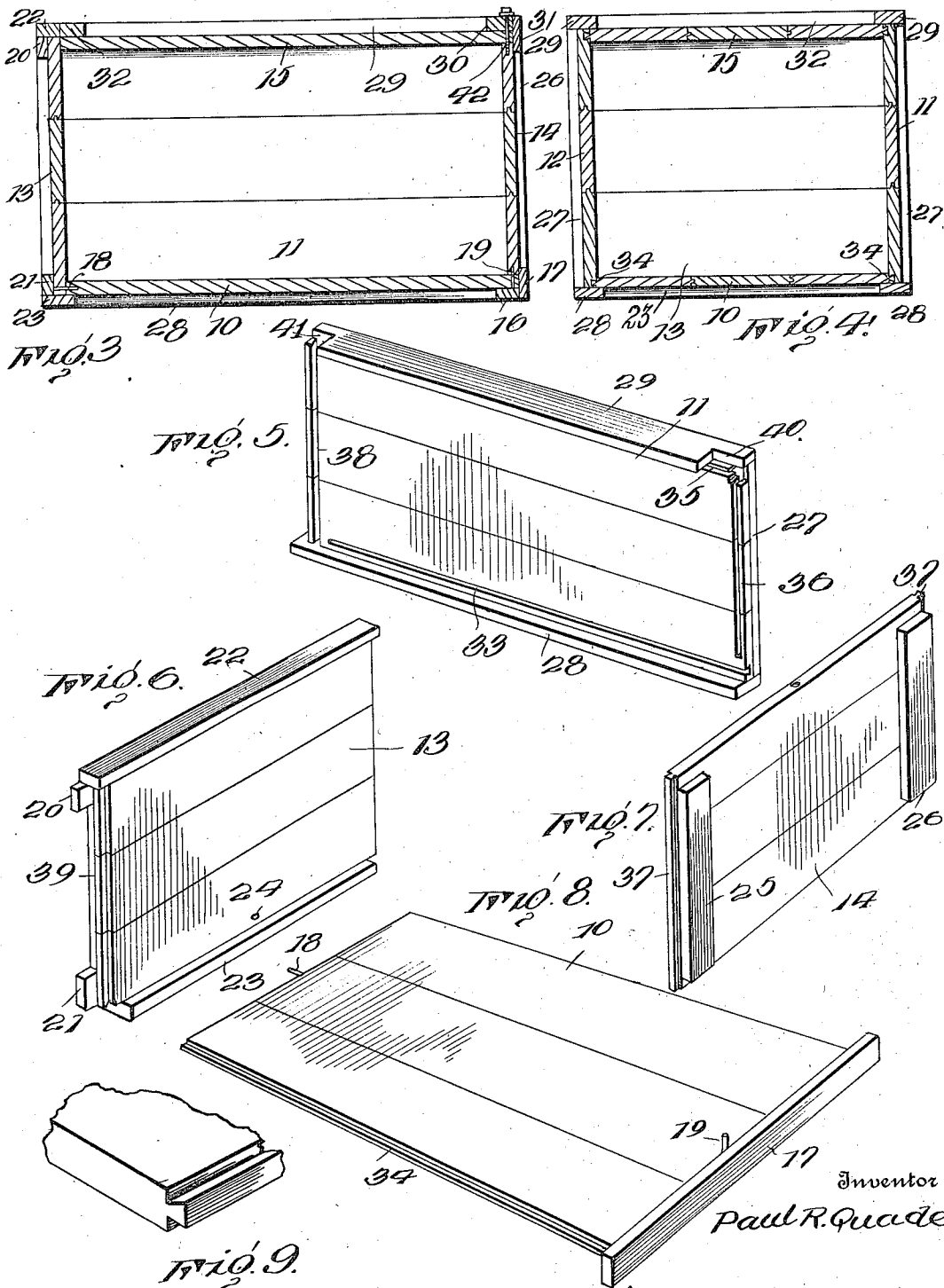
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UNITED STATES PATENT OFFICE.

PAUL R. QUADE, OF WAUSAU, WISCONSIN.

KNOCKDOWN SHIPPING-BOX.

1,209,027.

Specification of Letters Patent.

Patented Dec. 19, 1916.

Application filed January 11, 1916. Serial No. 71,601.

To all whom it may concern:

Be it known that I, PAUL R. QUADE, a citizen of the United States, residing at Wausau, in the county of Marathon and State of Wisconsin, have invented certain new and useful Improvements in Knockdown Shipping-Boxes, of which the following is a specification.

This invention relates to improvements in shipping receptacles, more particularly "knock-down" receptacles, or wherein provision is made for separating the parts and packing them in close relations to reduce the bulk for return shipment, or for storage purposes, and has for one of its objects to simplify and improve the construction and increase the strength without materially increasing the expense or bulk.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims.

The improved device may be constructed of any suitable size, and of any suitable material, depending upon the quality of the goods to be shipped, and it is not desired, therefore, to limit the invention in any manner in this respect, but for the purpose of illustration the improved device is shown as if constructed of wood of the ordinary packing box size and proportions, and in the drawings illustrative of the preferred embodiment of the invention. Figure 1 is a perspective view of one of the improved receptacles with the parts in closed relation; Fig. 2 is a view similar to Fig. 1 with the top or cover member removed; Fig. 3 is a longitudinal sectional elevation; Fig. 4 is a transverse section; Fig. 5 is a detached perspective view of one of the side members of the improved device; Figs. 6 and 7 are detached perspective views of the end members of the improved device; Fig. 8 is a detached perspective view of the bottom member of the improved device; Fig. 9 and Fig. 10 are enlarged perspective detail views illustrating the construction of the joints between the parts more fully.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved device comprises a bottom member, represented as a whole at 10, side members 11—12, end members 13—14 and

a top member 15. The members comprising the receptacle, if constructed of wood, are each formed with a plurality of parts connected by suitable supporting cleats. For instance, the bottom 10 is provided at one end with a transverse cleat 16 which extends across the bottom of the member and likewise provided with a vertically disposed cleat 17 across the same end. For the purpose of this description the end containing the cleats 16—17 will be referred to as the front of the receptacle. The bottom 10 is likewise provided with a dowel pin 18 at its rear end, as shown and another vertically directed dowel pin 19 at the front end, as shown in Fig. 8. The end member 13 is provided with transverse cleats 20—21, an upper cleat 22 which engages the upper edge of the member and overlaps the upper edge of the cleat 20, and another cleat 23 which engages the lower end of the end member and overlaps the cleat 21 and at its outer edge extends inwardly in advance of the inner face of the body of the end 13 to support the rear edge of the bottom 10, as indicated in Fig. 3. The end member 13 is likewise provided with a socket, indicated at 24, to receive the dowel pin 18 when the end 13 is disposed in position relative to the bottom.

The end 14 is preferably provided with supporting cleats 25—26 and is provided also with a socket in its lower edge to receive the dowel pin 19. It will be noted by reference to Fig. 3 that the cleat 17 extends above the lower edge of the end 14 when the latter is in closed position. The side members 11—12 are substantially alike except they are rights and lefts, and a description of one will therefore suffice for both. The members constituting the sides are connected at their ends by supporting cleats 27, and each of the sides is likewise provided with a supporting cleat 28 at its lower edge and another supporting cleat 29 at its upper edge, the inner edges of the cleats 28—29 overlapping the interior of the receptacle. The top 15 of the improved receptacle is formed of a plurality of longitudinally directed members provided with a horizontal supporting cleat 30 and a vertical supporting cleat 31 at the forward end, and with a horizontal cleat 32 at the rear end. The confronting edges of the various members which constitute the improved receptacle are united by tongue and groove joints dove-

tailed, as more fully illustrated in Figs. 9 and 10. The sides 11—12 are each provided with a longitudinal lower groove, illustrated at 33 in Fig. 5, to receive corresponding
5 tongues, one of which is illustrated at 34 in Fig. 8. The sides 11—12 are likewise each provided with a longitudinally directed upper groove, a portion of which is represented at 35 in Figs. 2 and 5, to receive
10 corresponding tongues in the side edges of the top 10. The sides 11—12 are each likewise provided with a forward vertical groove 36 to receive corresponding tongues 37 in the ends of the front member 14, and
15 also provided with a vertical groove 38 at its rear end to receive corresponding tongues at the ends of the member 13, one of the last-mentioned tongues being illustrated at 39 in Fig. 6. The cleats 29 are each provided with terminal notches, indicated at
20 40—41 to receive the ends of the cleats 30—22 as illustrated in Fig. 1 when the parts are disposed in closed position.

The units composing the series of members of the receptacle may be arranged to extend horizontally, as illustrated, or to extend vertically as may be preferred, and it is not desired therefore to limit the improved device in any manner in this respect.

30 The cleat 30 is provided with an aperture to receive a locking pin, indicated at 42, which is threaded to engage in a threaded socket in the upper edge of the forward end 14.

35 The various cleats, it will be noted, extend over the joints between the parts and thus not only support the latter and reinforce the joints from both inward and outward pressure but likewise effectually prevent the entrance of moisture, dust or other foreign matter. The cleats likewise prevent leakage of the contents of the receptacle.

45 By the arrangement of the parts shown and described it is possible to lock the improved device in closed position by the application of only one of the devices 42, but a plurality of these devices may be used, if preferred.

50 To assemble the receptacle, the end 13 and the sides 11—12 are first united by engaging

their tongue and groove joints. The tongues of the bottom 10 are then inserted in the lower grooves of the sides until the ends of the cleats 17 bear against the adjacent ends 55 of the sides and the dowel pin 18 enters the socket 24. The end member 14 is then united to the sides by sliding its tongues 37 into the grooves 36 of the sides until its lower edge passes behind the cleat 17 and 60 the pin 19 of the bottom enters the socket in the lower edge of the member 14. The top 15 may then be disposed in position by inserting its tongues in the upper grooves of the sides and the side edges of the top 65 beneath the overhanging portions of the cleats 29 and its inner end against the end cleat 22. The single fastening device 42 is then inserted.

The improved device is simple in construction, can be manufactured of any suitable material, and modified to any required extent within the range of the appended claims without departing from the principle of the invention or sacrificing any of its 75 advantages.

Having thus described the invention, what is claimed as new is:—

1. A receptacle of the class described comprising a bottom, top, sides and ends, the 80 contiguous edges of the sides and ends having coacting tongues and grooves and the bottom and top and the sides having coacting tongues and grooves, and combined supporting and covering cleats connected to 85 the parts of the receptacle and extending over said tongue and groove joints.

2. A receptacle of the class described comprising bottom, top, side and end members with their contiguous edges united by co- 90 acting tongues and grooves, and combined supporting and covering devices connected to said side members and one of said end members and extending inwardly over the joints between them, whereby the tongue 95 and groove portions of the joints are relieved from lateral strains and protected from externally imparted crushing strains.

In testimony whereof, I affix my signature.

PAUL R. QUADE. [L. S.]