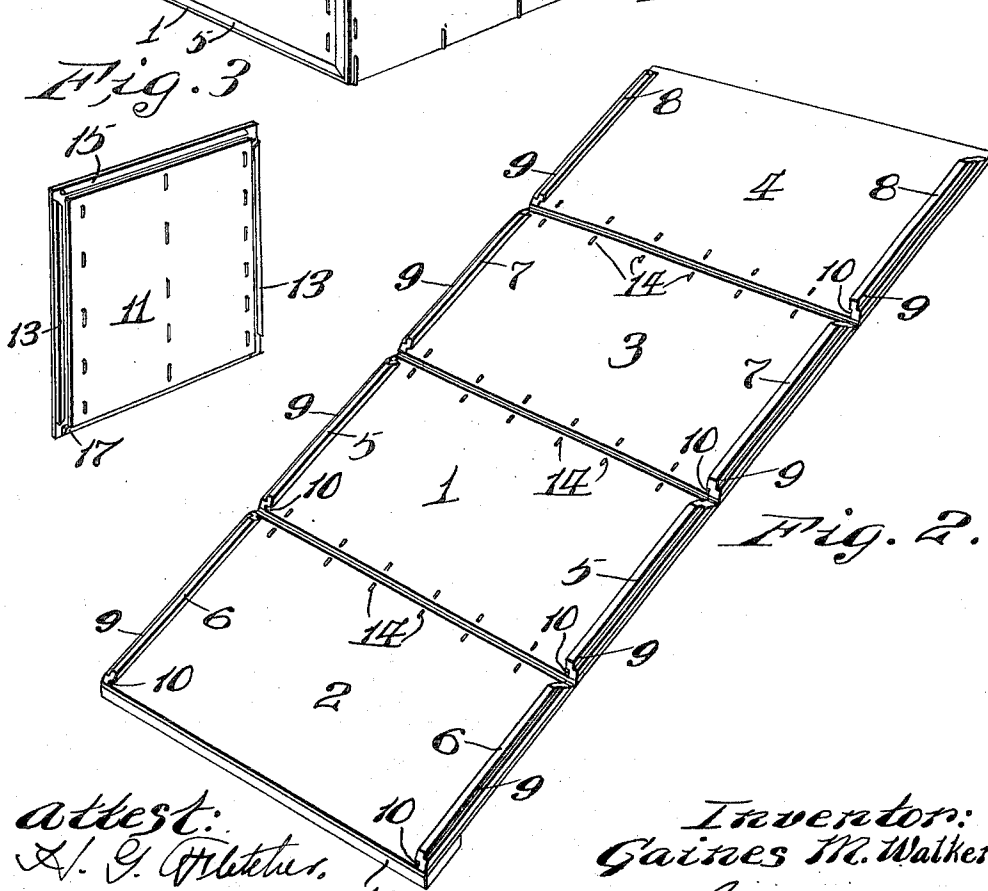
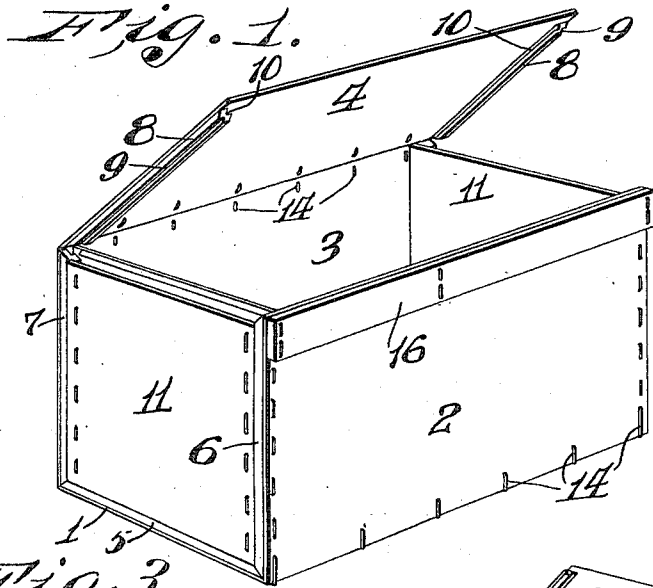


1,032,315.

Patented July 9, 1912.

2 SHEETS-SHEET 1.



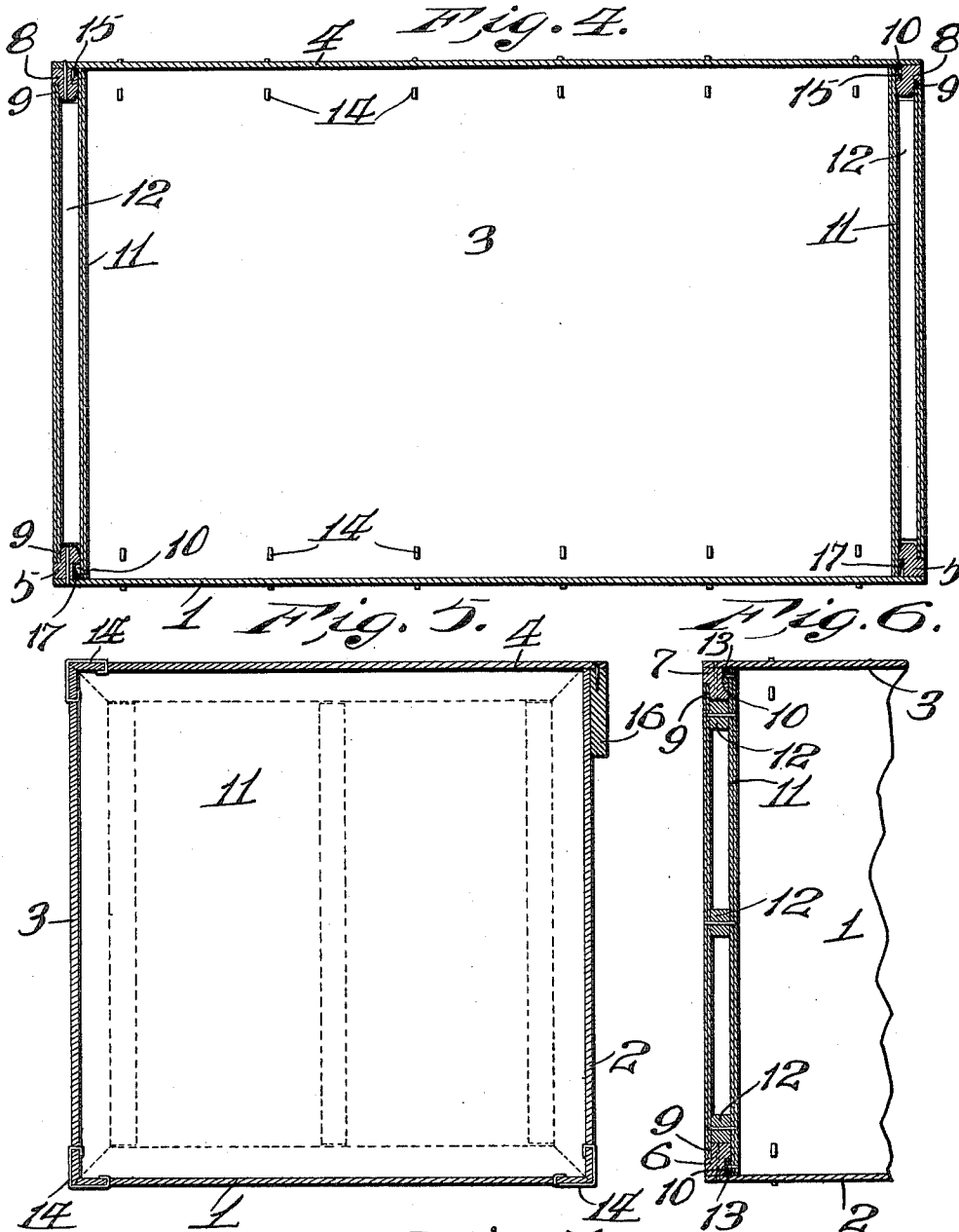
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1,032,315.

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2 SHEETS-SHEET 2.



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Fig. 7.

1 14

2

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UNITED STATES PATENT OFFICE.

GAINES M. WALKER, OF ST. LOUIS, MISSOURI.

SHIPPING-BOX.

1,032,315.

Specification of Letters Patent.

Patented July 9, 1912.

Application filed September 13, 1910. Serial No. 581,913.

To all whom it may concern:

Be it known that I, GAINES M. WALKER, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Shipping-Boxes, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in shipping boxes, the object of my invention being to construct a box for shipping purposes which may be made up of extremely light material, preferably wood veneering, and assembled wholly by automatic stapling machinery, which box, in one form, automatically locks so that the receiver of the goods shipped in the box is assured of an original unbroken package and, in another form, when the box is not locked, may be readily knocked down and returned to the shipper.

The primary object of the invention is to construct solely by automatic machinery a box of a minimum weight and of a maximum strength, which box is practically dust-proof.

For the above purposes my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully described, pointed out in the claims and illustrated by the accompanying drawings, in which—

Figure 1 is a perspective of the complete box, the lid being partly open; Fig. 2 is a perspective showing the bottom, front, back and top portions of the box in an extended, flat condition; Fig. 3 is a perspective of one of the ends; Fig. 4 is an enlarged, longitudinal, sectional elevation of the complete box; Fig. 5 is a transverse, sectional elevation of the complete box, the reinforcing cleats being shown in dotted lines; Fig. 6 is a detail, sectional plan of one end portion of the box; and Fig. 7 is a detail, sectional elevation, illustrating the joint between two of the members of the body portion of the box.

Referring by numerals to the accompanying drawings: 1 designates the bottom of the box, 2 the front of the box, 3 the back of the box and 4 the lid or cover. These

parts are preferably made of a single piece of veneering which in the course of the construction of the box is placed upon a stapling machine for the purpose of fastening cleats thereon extending the full length of the piece, which cleats are placed flush with the side margins of the piece and then stapled at intervals throughout their lengths to said piece. The piece together with the cleats are then placed upon a machine which forms a groove or channel transversely of the piece and cleats, which grooves form lines of demarcation between the bottom, front, back and top. These grooves completely separate different portions of the cleats but are of a depth not extending through the piece of veneering.

The sections of cleats located on the bottom I will designate by the numeral 5 and the sections of cleats on the portions 2, 3 and 4 respectively I will designate by the numerals 6, 7 and 8 respectively.

As previously stated the cleats are all of the same formation and as shown the outer and inner faces of each cleat are provided with longitudinally disposed rectangular depressions 9 and 10 which are arranged diagonally opposite each other, the depression 9 being open to the upper face of the cleat and the depression 10 being open to the bottom face of the cleat.

The ends 11 of the box are identical in construction therefore I will explain in detail a single end.

Each end is made up of two walls, an outer and inner wall, spaced apart by cleats 12 one arranged on a median line and one arranged adjacent the ends of the walls. The inner wall is of a size larger than the outer wall and its margins project equal distances beyond the margins of the outer wall. On the outer face of the inner wall and flush with its front and back margins are cleats 13 which are of less length than the height of the inner wall. Like the main body portion of the box, the end walls may be formed solely by automatic stapling machinery and of extremely light material, preferably veneering and of such nature as to be slightly flexible for purposes hereinafter made clear.

Spanning the lines of demarcation be-

tween the sections of the box proper are staples such as 14 which are preferably of some considerable length and of material which may be bent a number of times without breaking, the ends of which are inserted through the material of the box sections and clenched over the inner faces of said sections, it being understood that the body portion of the staples occupy positions outside of the box. After the pieces of the box are thus assembled and in order to form a box therefrom the operator folds the front and back at right angles to the bottom. Then, in order to hold the front and back in such position, the ends of the box are applied by slipping downwardly over the cleats 6 and 7, the front and back margins of the outer walls occupying the grooves 9 and the cleats 13 occupying the grooves 10. The said cleats and grooves serve to prevent spreading of the front and back and forming practically, with the overlapping front walls, a dust-proof box end or head. The lid is then folded downwardly to close the box. In order, now, to secure the lid in a permanently locked condition I have provided the triangular-shaped cleat 15 on each outer face of the inner wall adjacent its top and extending crosswise of the box.

As shown in Fig. 4 of the drawing, the cleats 8 on the lid or cover are chamfered on their lower inner corners as, of course, are the balance of the cleats 5, 6 and 7, thus readily permitting the cleats 8 to be introduced into the space between the walls of the ends or heads, and, by reason of the flexibility of the material in the heads, expand same sufficiently to permit the cleats 15 to "hook" over the cleats 8, thus permanently locking the lid or cover against being surreptitiously opened.

In order to secure the free margins of the lid or cover to the front of the box, I have provided the strip 16 which extends the length of the box flush with its top and to which the full length of the lid may be secured by nailing.

It is to be understood in connection with this box, that when the same is secured by the employment of the interlocking cleats, it will be necessary, in order to open the box, to partially destroy and disfigure the box. In some cases where it is not desired to lock the boxes I will make the reinforcing cleats on the lid in such manner as to not interlock with the cleats on the ends or heads. When this is done then, of course, I secure the box only by nailing the free margin of the lid to the nailing strip 16.

In order to hold the heads 11 against moving vertically I have provided a cleat 17 which is identically like the cleat 15 except that it is inverted relative the cleat 15.

Thus, it is obvious that it will be impossible for the ends or heads to fall from position and hence the box proper is held in shape at all times. By this arrangement I may form an open-topped box without a lid and the heads be permanently locked in position.

I claim:

1. In a box of the class described, the combination with the bottom, front, back and end sections, cleats arranged at each end of each of the bottom, front and back sections, and cleats adjacent the bottom and side margins of each of said ends, a number of said cleats being rigidly mounted and the remaining cleats being yieldingly mounted, and interlocking means carried by the cleats whereby the ends may be secured against removal, and the bottom, front and back held in box form.

2. In a box of the class described, the combination with the bottom, front, back and lid sections, means for hingedly connecting said sections, cleats arranged adjacent each end of each of said sections, of double-walled end sections, cleats arranged between the walls of each of said end sections and adjacent each of its margins, all of said cleats being provided with means for interlocking engagement with each other whereby the bottom, front and back sections are secured to the end sections in box form, the ends secured in place and the lid secured against opening.

3. In a box of the class described, bottom, front, back, and lid sections hingedly connected with each other, a hooked cleat at each end of each section, double-walled box ends, and hooked cleats carried between said double walls, whereby the ends may be secured against removal, the bottom, front and back sections held in box form and the lid held against opening, substantially as shown.

4. In a shipping box, bottom, front and back sections, a cleat at each end of each section, box ends having spaced apart walls the outer walls being of less width and height than the inner walls, cleats arranged between the walls of the box ends, the cleats carried by the sections of the box having depressions in their outer faces to receive the outer walls of the box ends, and the cleats carried by the sections of the box and the box ends having depressions on their inner faces whereby the cleats will interlock with each other.

5. In a shipping box, the combination with opposing wall sections and a cleat at each end of each wall section, said cleats being channeled on both their outer and inner faces, of double-walled box ends spaced apart to embrace said cleats and a cleat carried by one of the walls of the box ends to

occupy one of the channels of the first mentioned cleats whereby said ends may be slipped downwardly over the cleats of the opposing walls and prevent relative movements of the opposing walls and the box
5 ends.

In testimony whereof, I have signed my

name to this specification, in presence of two subscribing witnesses.

GAINES M. WALKER.

Witnesses:

E. E. LONGAN,

E. L. WALLACE.

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