

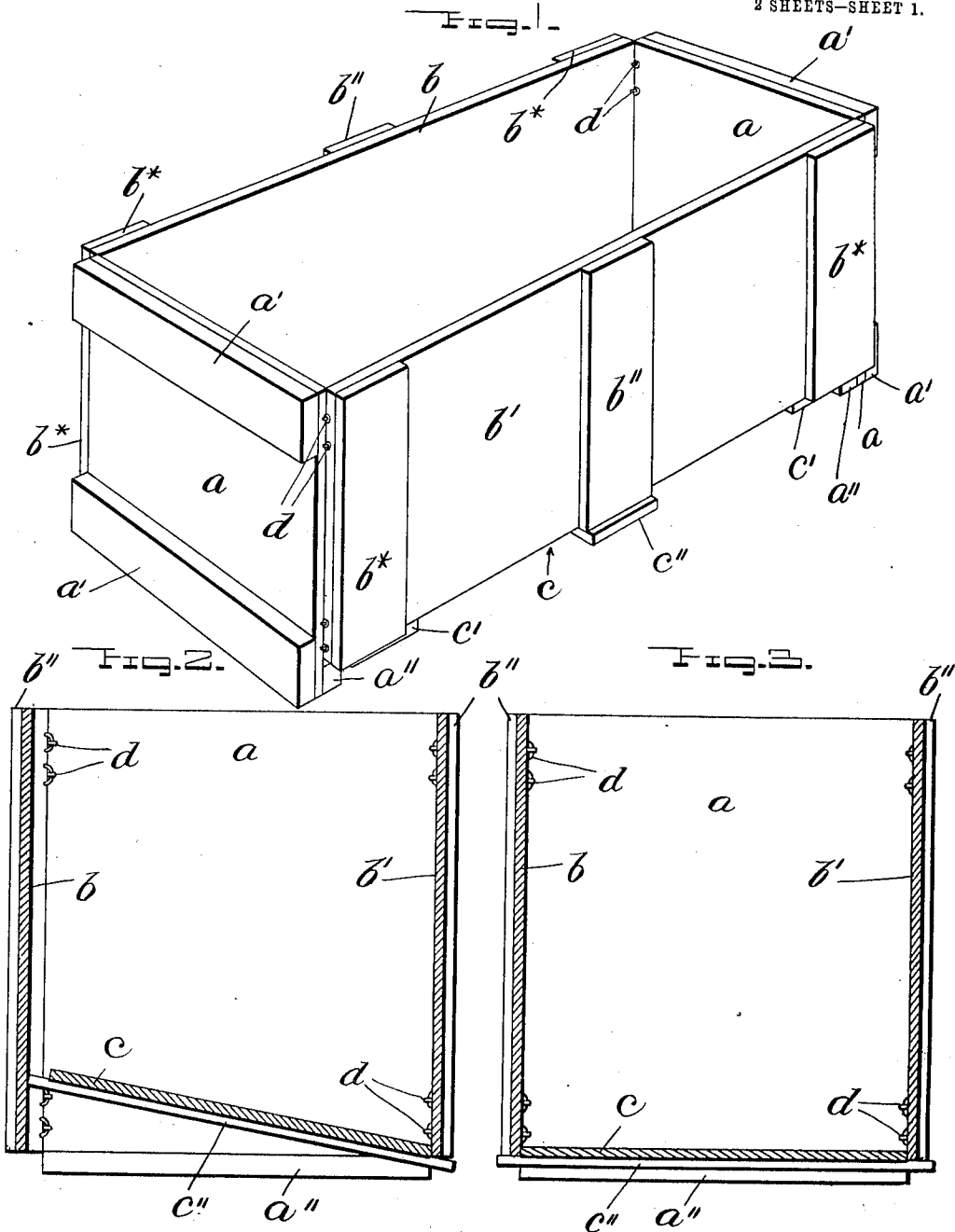
H. M. BRANHAM.
BOX.

APPLICATION FILED DEC. 7, 1910.

1,020,534.

Patented Mar. 19, 1912.

2 SHEETS—SHEET 1.



Witnesses
W. H. Rodwell
W. Hamilton

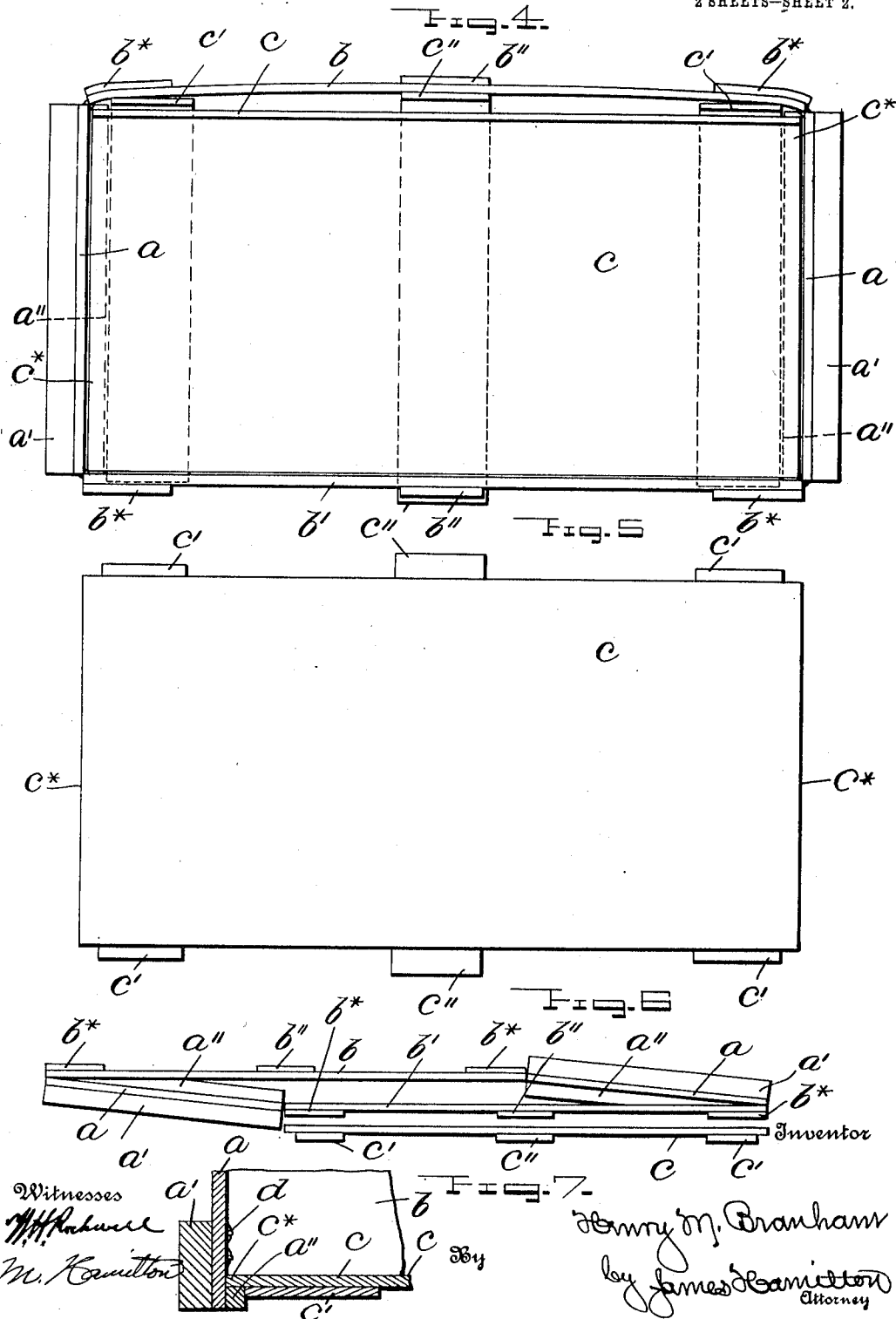
Inventor
Henry M. Branham
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UNITED STATES PATENT OFFICE.

HENRY M. BRANHAM, OF FORT VALLEY, GEORGIA.

BOX.

1,020,534.

Specification of Letters Patent. Patented Mar. 19, 1912.

Application filed December 7, 1910. Serial No. 595,993.

To all whom it may concern:

Be it known that I, HENRY M. BRANHAM, a citizen of the United States, residing at Fort Valley, in the county of Houston and State of Georgia, have invented certain new and useful Improvements in Boxes, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in boxes and particularly to improvements in foldable boxes having removable bottoms; and an object of this invention is to provide a box with a removable bottom which will be self-locking, secure, strong and rigid when inserted in place.

Another object of this invention is to provide a box of the character just referred to which will be simple in construction, comparatively cheap in manufacture and most efficient in use.

A third object of this invention is to dispense with metal fastening devices (which are expensive as a matter of first cost and which entail expense for the labor involved in their application) for the bottom.

A fourth object of this invention is to provide a box in which the bottom may be inserted through the top or mouth of the box and in which the bottom when inserted, will not fit loosely and require metal fastenings to tie it in place but will, on the contrary thereof, be self-locking and held rigidly in place against forces tending to force it either into the box or out of the same.

A further object of this invention is to economize in the cost of lumber, labor and hardware in this class of structures and to provide a better article at a substantially lower cost.

In the drawings illustrating the principle of this invention and the best mode now known to me of applying that principle, Figure 1 is a perspective view of my new box; Fig. 2 is a cross-section of the same with the bottom partly inserted; Fig. 3 is a cross-section showing the bottom fully in place; Fig. 4 is a plan showing the bottom partly inserted; Fig. 5 is a plan of the bottom; Fig. 6 is a view of the box folded and bottom removed; and Fig. 7 is a sectional detail of the end construction at the bottom thereof.

The box consists of the closed ends *a*, closed sides *b*, *b'* and bottom *c*. The ends *a* are hinged at *d* to the sides *b*, *b'* and are provided on the outside at top and bottom

with horizontal cross-strips *a'* and on the inside at the bottom with ledges *a''*. The sides are each provided with a vertical strip *b''* near the middle and with a vertical strip *b** near each end. To the outer face of the bottom *c* there is nailed near each of its ends a cross-strip *c'* and near its middle there is nailed a cross-strip *c''* which is longer than the cross-strips *c*. The ends *c** of the bottom *c* project beyond the end cross-strips *c'* and, when the bottom is in place, they rest upon and are supported by the ledges or flanges *a''*. (See Fig. 7.)

Since the ends and sides of my new box are closed, it is obvious that the wall *c* (which may be either the top or the bottom but which is herein called the bottom) must be inserted through the mouth of the box and between the sides. Figs. 2 and 4 illustrate the manner in which the wall *c* is inserted. One of the longitudinal edges of the latter is placed against the lower longitudinal edge of one of the side-walls (as the side-wall *b'*) with the ends of the cross-strips *c'*, *c''* at that side lying under the lower ends of the vertical strips *b''*, *b**, respectively. The wall *c* then lies diagonally inclined between the side-walls *b*, *b'* and is next forced downwardly at its upper longitudinal edge. The side-wall *b* is yielding and under the pressure bends outwardly (Figs. 2 and 4). When the wall *c* has been forced into place, its ends *c** rest squarely on the cleats or ledges *a''* and the side-wall *b* springs back into place so that its lower longitudinal edge overlies the ends of the cross-strips *c'*, *c''* at that side. It is perfectly obvious that the longer middle strip *c''* will bulge or force out the side-wall *b* against which its upper end is pressed in inserting the bottom *c* so that the ends of the shorter cross-strips *c'* slide past the inner face of the side *b* without much resistance. It will furthermore be obvious that by reason of the interlock between the ends of the cross-strips *c'*, *c''* and the lower longitudinal edges of the side-walls *b*, *b'*, the wall *c* cannot be forced inwardly and that the vertical strips *b''*, *b** tend to strengthen and reinforce the side-walls to resist any stresses acting upon the bottom to force it inwardly; and that by reason of the interlock between the ledges *a''* and the projecting ends *c** of the wall *c*, the latter cannot be forced outwardly. Hence, the wall *c* is without the use of metal fastenings of any description held rigidly in place, is strong,

safe and secure and requires no skilled labor to put it in place. It is also clear that the bottom *c* may be inserted in a box which is not foldable (a solid box) and that, when so inserted, a saving in lumber and in labor has been effected over the ordinary method of nailing on a heavy bottom. Indeed, one of the most important features of this invention is that of economy of construction both in the matter of material and that of labor. The cross-strips *c'*, *c''* of the bottom *c* lend stiffness and strength to the latter and prevent thereby its being bowed. The bottom must be inserted in the manner shown in Figs. 2 and 4; and the feature of the middle cross-strips being longer than the end-cross-strips *c'* insures the bowing of the yielding side *b* and the easy slipping into place of the end cross-strips and the bottom as a whole.

I claim:

1. A box having closed end walls and side walls, one of the latter being yielding and having a vertically-extending, centrally-disposed cleat and the former being provided with inwardly-extending ledges; and a removable wall the length of which is greater than the distance between said ledges and which is provided with a cross-strip having projecting ends and a length greater than the distance between said side-walls; said removable wall when in position resting on said ledges, which prevent its outward movement, and the projecting ends of said cross-strip lying under the lower longitudinal edges of said side-walls, which prevents the inward displacement of said removable wall; one of said projecting ends lying under the lower end of said cleat.

2. A box having closed end walls and side walls, one of the latter being yielding and having a vertically-extending, centrally-disposed cleat and the former being provided with inwardly-extending ledges; and a removable wall the length of which is greater than the distance between said ledges and which is provided with a pair of end cross-strips and a middle cross-strip which is longer than the latter and the ends of which project, as do also the ends of said end cross-strips; said removable wall, when in position, resting on said ledges, which prevent its outward displacement, and the projecting ends of said cross-strips lying under the longitudinal edges of said side-walls and thereby preventing the inward displacement

of said removable wall; one of said projecting ends lying under the lower end of said cleat.

3. A box having end walls and side walls, one of the latter being yielding and having a vertically-extending, centrally disposed cleat and the former being provided with inwardly-extending ledges; and a removable wall the length of which is greater than the distance between said ledges and which is provided with a pair of end cross-strips and a middle cross-strip which is longer than the end cross-strips and one end of which lies under the lower end of said cleat when said removable wall is in place, the ends of said cross-strips projecting beyond the edges of the removable wall, which rests, when in place, upon said ledges, and the projecting ends of the cross-strips of which lie under the longitudinal edges of said side-walls and thereby prevent the inward displacement of said removable wall; said ledges preventing the outward displacement thereof.

4. A box having end walls and side walls, one of the latter being yielding and having a vertically-extending, centrally-disposed cleat and the former being provided with inwardly-extending ledges; and a removable wall the length of which is greater than the distance between said ledges and which is provided with a pair of end cross-strips and a middle cross-strip which is longer than the end cross-strips and one end of which lies under the lower end of said cleat when said removable wall is in place, the ends of said cross-strips projecting beyond the edges of the removable wall, which rests, when in place, upon said ledges with its end cross-strips closely adjacent to the same, and the projecting ends of the cross-strips of which lie under the longitudinal edges of said side-walls and thereby prevent the inward displacement of said removable wall; said ledges preventing the outward displacement thereof and in conjunction with said end cross-strips preventing shifting thereof back and forth.

In testimony whereof I hereunto set my hand at Fort Valley, Georgia, this 2nd day of December, 1910, in the presence of the two undersigned witnesses.

HENRY M. BRANHAM.

Witnesses:

A. C. RILEY,
C. E. MARTIN.