

A. BRAEN.  
FOLDING CRATE OR CASE.  
APPLICATION FILED MAY 29, 1909.

969,455.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.

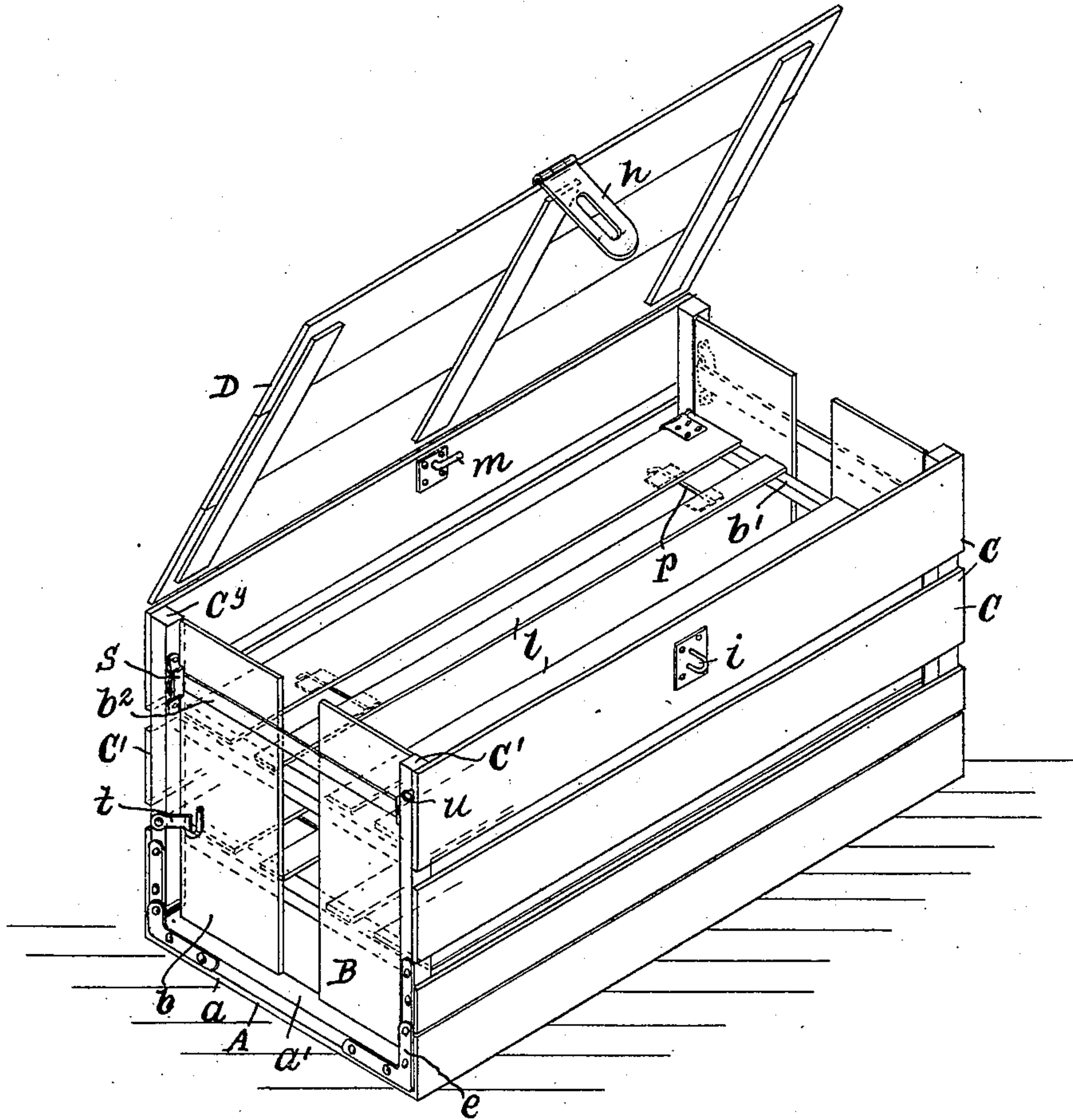


Fig. 1.

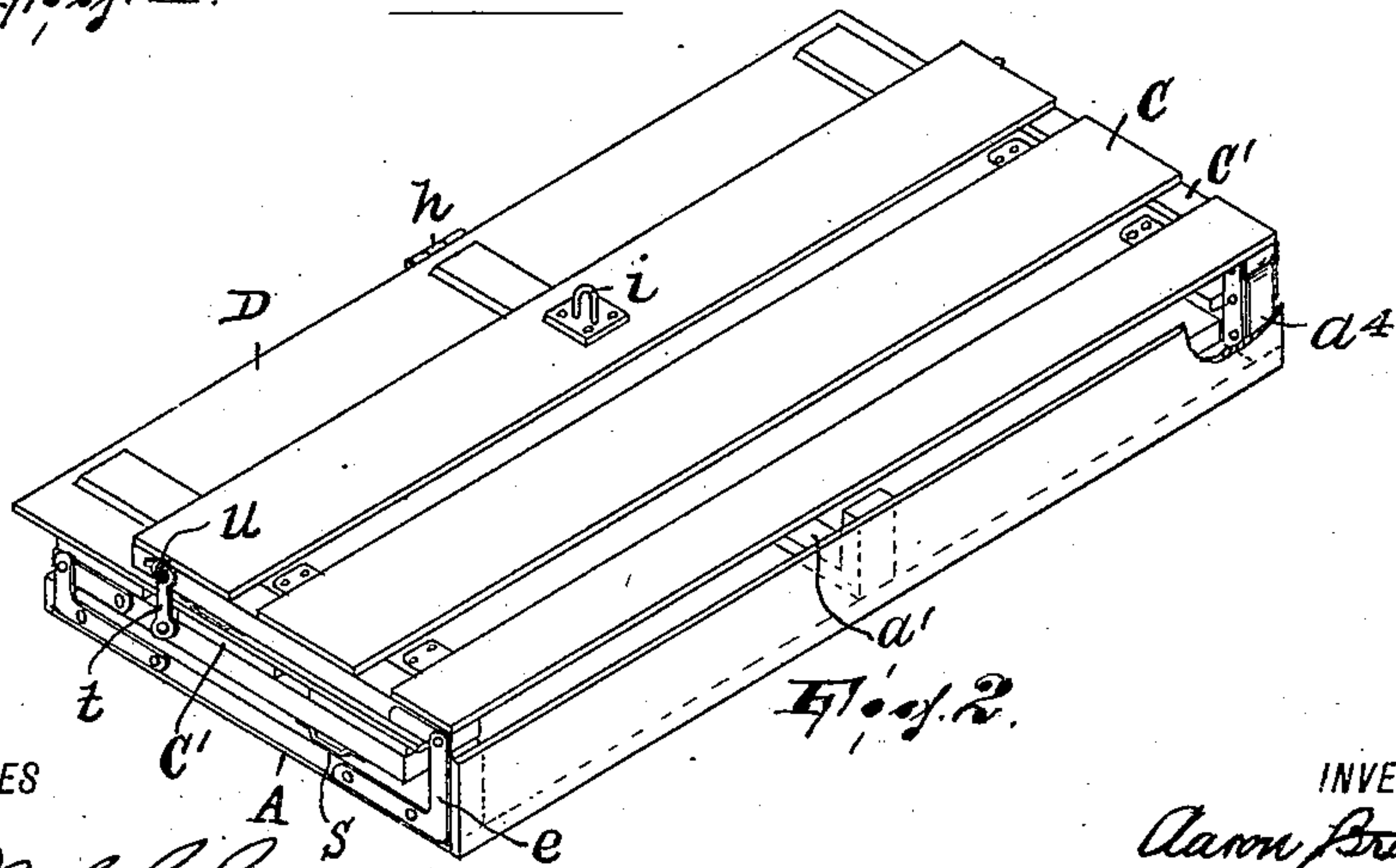


Fig. 2.

WITNESSES  
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# UNITED STATES PATENT OFFICE.

AARON BRAEN, OF NORTH PATERSON, NEW JERSEY.

FOLDING CRATE OR CASE.

969,455.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed May 29, 1909. Serial No. 499,208.

To all whom it may concern:

Be it known that I, AARON BRAEN, a citizen of the United States, residing in North Paterson, Passaic county, New Jersey, have invented a certain new and useful Improvement in Folding Crates or Cases; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention consists in certain improvements in crates or cases for berries, eggs and other similar produce whereby the crate or case may be collapsed into compact form and when in its open or expanded condition will insure protection of the contents from damage, particularly the bottom tiers from the weight of the upper ones.

In the accompanying drawings, Figure 1 is a perspective view of the improved crate or case in its open or expanded condition, the cover or top wall being shown partly open; Fig. 2 is a perspective view of the crate or case, showing it collapsed and a part being broken away; Fig. 3 is a longitudinal sectional view; Fig. 4 is a transverse sectional view; Fig. 5 is a view similar to Fig. 4, except that the case or crate is shown partly collapsed and the end walls appear in end elevation; and, Fig. 6 is a detail view illustrating a modification.

The crate or case comprises a bottom section A, end walls B B, side walls C C', and a top wall or cover D; these several parts are hinged together in the manner to be described and are provided with suitable means whereby to maintain them in either their open or collapsed arrangement.

The bottom section A comprises the bottom wall  $a$  braced by the cross-pieces  $a'$  which are secured to its top face; and the upright slats  $a^2$  and  $a^3$  secured at the long edges of wall  $a$ , the former being higher than the latter and having secured to its inner face at the ends thereof the vertical pieces  $a^4$ , each secured between the slat  $a^2$  and the end of the corresponding end cross-piece  $a'$ , and the slat  $a^3$  abutting against said cross-pieces  $a'$ .

Each end wall B comprises the spaced vertical slats  $b$  braced by the horizontal cleats  $b'$  secured on the inside thereof; and

the metallic cross-piece  $b^2$  having its ends turned outwardly and forming horizontally projecting hooks.

The side wall C comprises parallel spaced slats  $c$  secured together at the ends by the cross-pieces  $c'$ . The side wall C' comprises the parallel spaced slats  $c^x$  secured together at the ends by the cross-pieces  $c^y$ . The side wall C is of sufficiently less width than the side wall C' so as to bring their upper edges at the same level when said walls stand vertical, as in Figs. 1, 3 and 4.

The cover D comprises the slats  $d$  secured together by the cross-pieces  $d'$ .

The parts are hinged together as follows: Against the inner face and outer face at each end of each end cross-piece  $a'$  of the bottom wall A is secured a hinge  $e$ , the two hinges in each instance receiving between them the lower end of one of the cross-pieces  $c'$  ( $c^y$ ) of the side wall C (C'), (and those for wall C also receiving between them the vertical pieces  $a^4$ ). The walls C and C' fold inwardly, and they are limited against outward movement past the perpendicular by their lower slats abutting against the slats  $a^2$  and  $a^3$  (see Fig. 4) and also as hereinafter explained. The lower members of the inside hinges  $e$  also afford hinges  $f$  for the end walls B B. These walls fold inwardly flat against the bottom and they are limited against outward movement past the perpendicular by abutting against the inner faces of the cross-pieces  $c'$  and  $c^y$  of the side walls C C', as shown in Fig. 1.

Ordinary hinges  $g$  of any kind may be employed to attach the top wall or cover D to the side wall C' at the free edge of the latter, the wall D being adapted to fold against the outer face of the wall C', when the crate is collapsed, and to abut against the tops of the several walls B B C C' when in its closing position; a hasp  $h$  may be attached to wall D and a staple  $i$  to wall C so as to secure the cover in closed position, a pad-lock being employed if desired.

Articles of a perishable nature usually require to be separated in tiers by shelves; in the present instance, instead of having the shelves loose or detachable, and therefore likely to be lost, I hinge them to the side walls C C'. To this end, opposed pins  $j$  are driven into the cross-pieces  $c'$  and each forms one member of a hinge the other member of which is a piece of sheet metal  $k$  attached to the shelf  $l$  and folded around the



pin  $j$ . Each shelf  $l$  is adapted to be supported by a cleat  $b'$  when in position to sustain the contents of the crate, and it may be folded flat against the slats  $c$  ( $c^x$ ) of the side walls  $C$  ( $C'$ ), that is between the cross-pieces  $c$  (see Fig. 5).  $m$  denotes turn-buttions or hooks to hold the shelves flat against the walls  $C$   $C'$ .

A modification is shown in Fig. 6 involving a spring  $n$  which operates normally to hold each shelf flat against the side wall  $C$  ( $C'$ ), making the hooks  $m$  unnecessary. Each shelf is preferably made extensible by being formed of two or more slats  $o$  one of which has parallel pins  $p$  rigidly secured to it by clips  $q$  and the other of which has the clips  $r$  in which the pins  $p$  slide.

In Fig. 1 are shown loops  $s$  secured to the cross-pieces  $c'$  ( $c^y$ ). These receive the turned off ends of the cross-pieces  $b^2$ . When the crate is open or expanded, therefore, the shelves being down and resting on the cleats  $b'$ , the end walls are held against inward movement by the shelves and against outward movement by the cross-pieces  $c'$  and  $c^y$ ; the side walls  $C$   $C'$  are held against outward movement by the cross-pieces  $b^2$  engaging in the loops  $s$  and against inward movement by the end walls.

In order to collapse the crate, the shelves are folded against the side walls  $C$   $C'$ , then the end walls folded inwardly against the bottom section  $A$ , then the wall  $C'$  is folded down against the end walls, the cover  $D$  being folded back against the wall  $C'$ , and

finally the wall  $C$  is folded down against the cover. To hold the parts in their collapsed arrangement, I provide hooks  $t$  pivoted to the side wall  $C'$  and adapted to engage eye-lets  $u$  in the side wall  $C$ .

It will be understood that a crate or case constructed in accordance with my invention affords considerable economy in shipping, since when the crates are returned to the packer a number of them, folded, occupy only the space of one, expanded. Further, when the crate is open the lower tiers of its contents are protected from the weight of the upper tiers by the shelves, which are always attached parts of the crate.

I do not wish to be limited to details of construction, what I claim being:

A crate or case consisting, in combination, of a bottom section, comprising a bottom wall, end walls hinged to the bottom section and foldable over the bottom wall thereof, side walls pivoted in the bottom section and foldable inwardly, means for connecting said side walls and end walls together at their joints when in their elevated position, and extensible shelves carried by the side walls and foldable against the same, substantially as described.

In testimony, that I claim the foregoing, I have hereunto set my hand this 27th day of May, 1909.

AARON BRAEN.

Witnesses:

JOHN W. STEWARD,  
HENRY BRAEN.