No. 711,664. Patented Oct. 21, 1902.

C. KEMPF & E. & C. BAUR.

SHIPPING CRATE.

(Application filed Jan. 23, 1902.)

(No Model.)

Fig. 1.

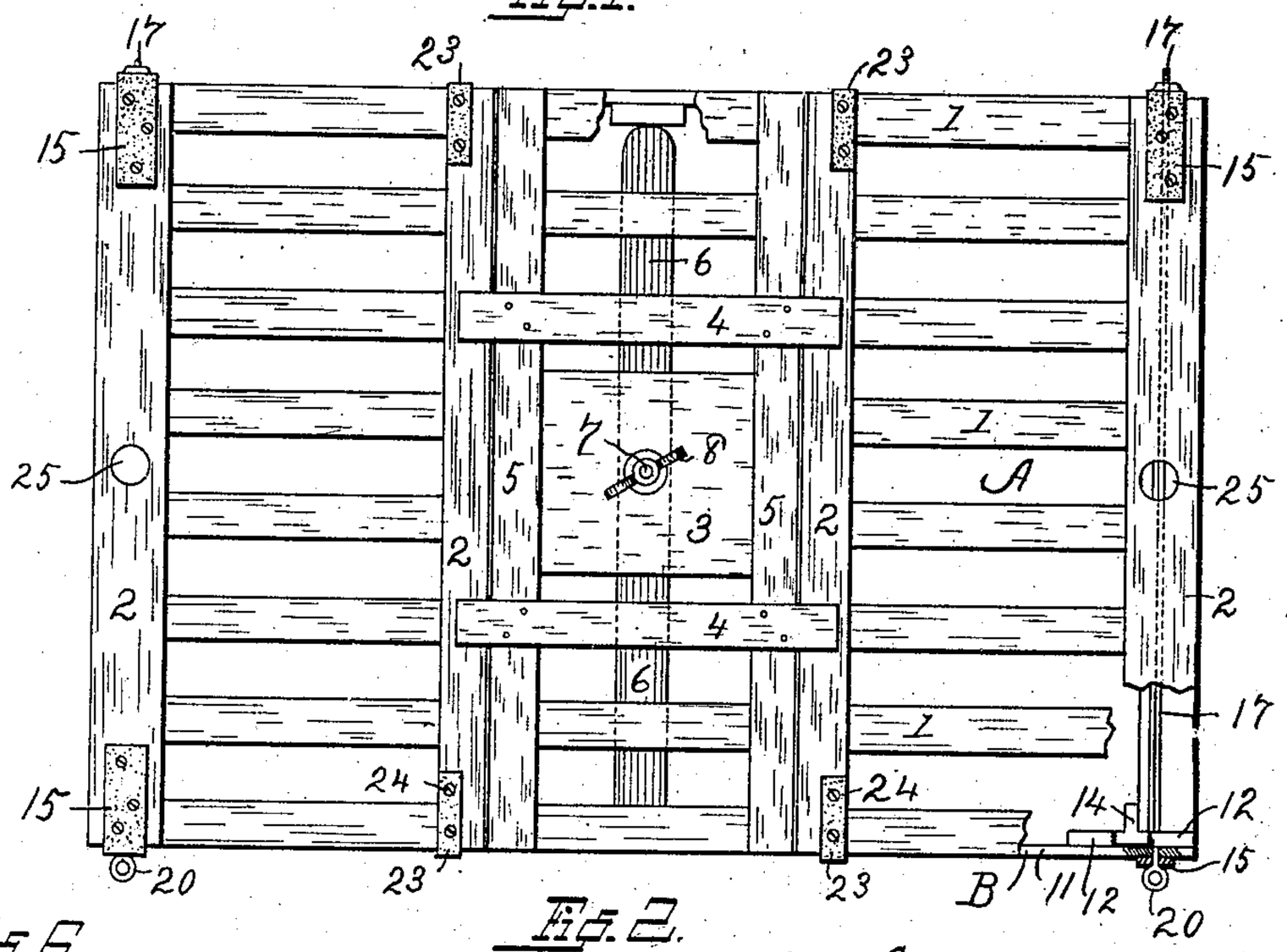


Fig. 2.

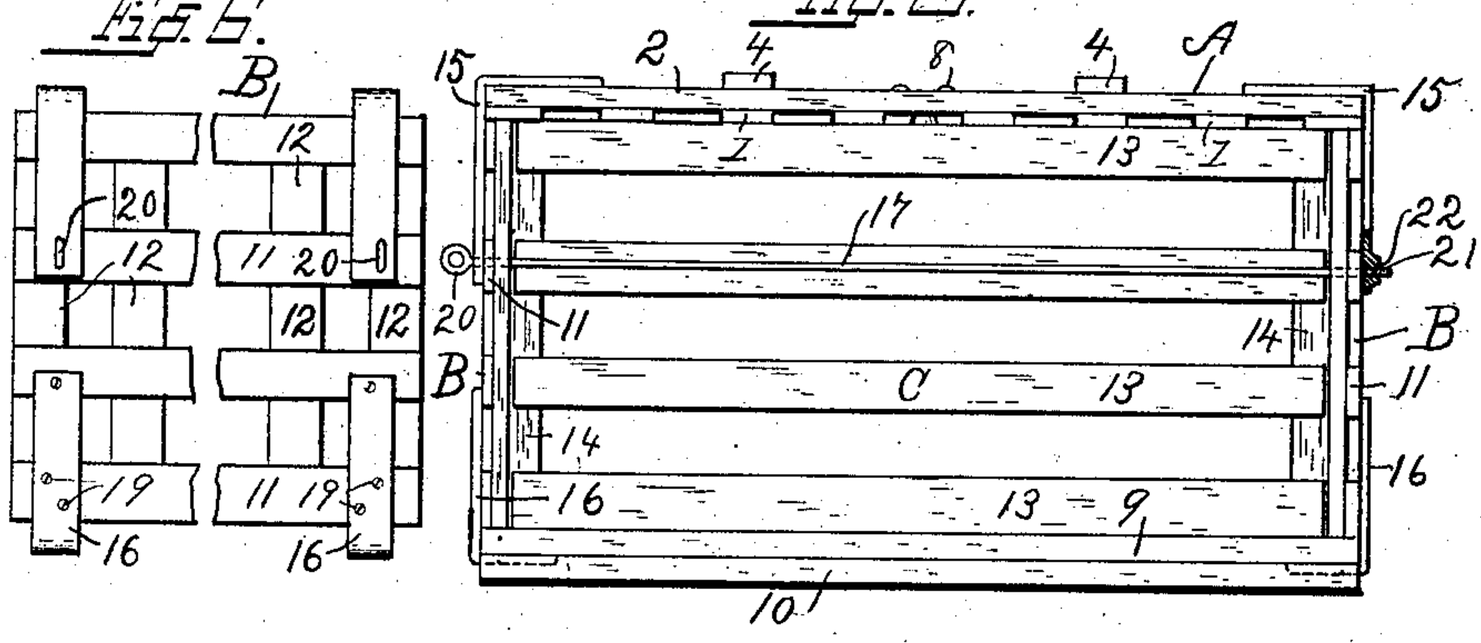


Fig. 3.

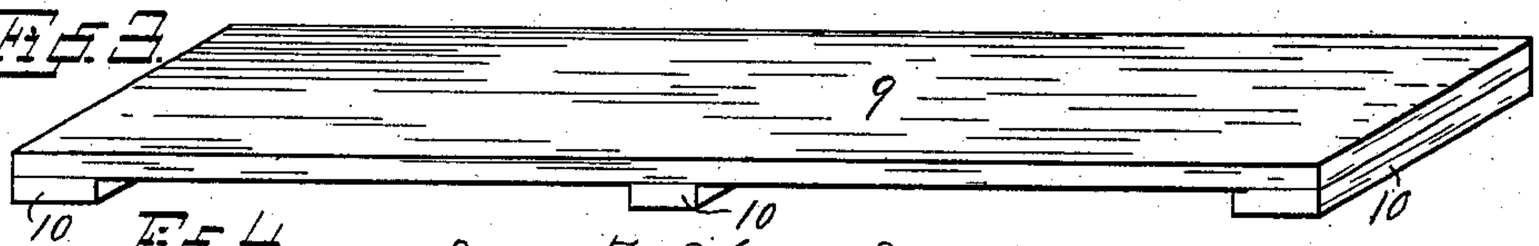


Fig. 4.

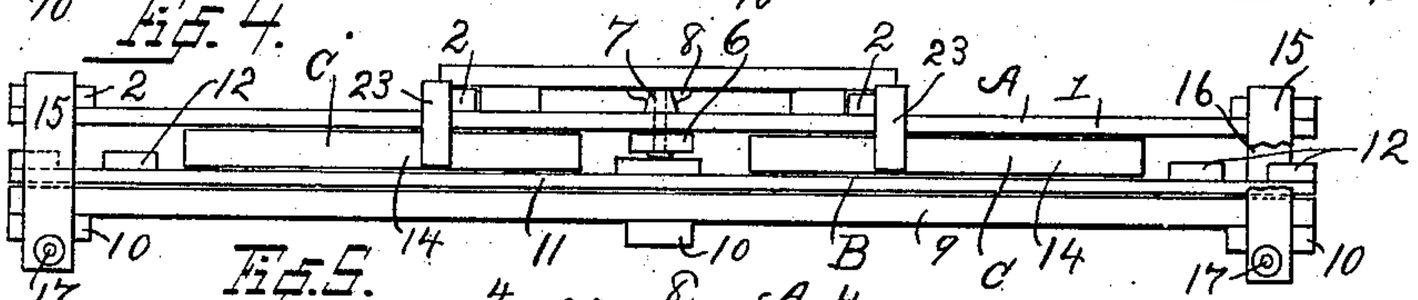
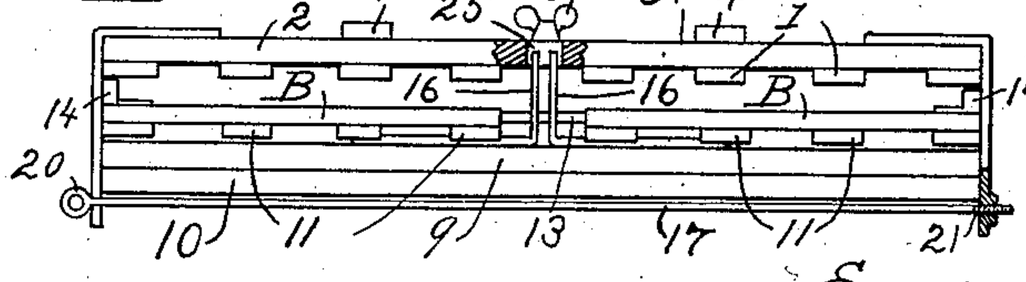


Fig. 5.



Witnesses:
F. A. Otto.
C. L. Roesch.

Inventors
Carl Kempf
Eugen Baur
Carl Baur
Erwin & Thurman
Attorneys.

By

UNITED STATES PATENT OFFICE.

CARL KEMPF, EUGEN BAUR, AND CARL BAUR, OF MILWAUKEE, WISCONSIN.

SHIPPING-CRATE.

SPECIFICATION forming part of Letters Patent No. 711,664, dated October 21, 1902.

Application filed January 23, 1902. Serial No. 90,876. (No model.)

To all whom it may concern:

Be it known that we, CARL KEMPF, EUGEN BAUR, and CARL BAUR, citizens of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Shipping-Crates, of which the following is a specification.

Our invention relates to improvements in so-called "knockdown crates" or crates for shipping poultry and similar purposes which when emptied of their contents can be taken apart and the several parts of which they are composed secured together in a compact form or package and returned to the shipper.

The construction of our invention is explained by reference to the accompanying drawings, in which—

Figure 1 represents a top view. Fig. 2 is an end view. Fig. 3 is a perspective view of the bottom of the crate. Fig. 4 is a side view, and Fig. 5 is an end view, of the crate as packed for return shipment. Fig. 6 is a front view of one of the sides of the crate.

Like parts are identified by the same reference characters throughout the several views.

The top of the crate consists of a series of longitudinal slats 1 1 and transverse bars 2, which parts are rigidly secured together in the ordinary manner. The top is provided with a door which consists of the central board 3 and a rectangular frame surrounding said board consisting of the bars 4 4 and 5 5, which board and frame are also rigidly secured together.

6 is a fastening-bar which is pivotally secured to the center of the board 3 by the bolt 7 and hand-nut 8. The respective ends of the fastening-bar 6 are inserted beneath the longitudinal slats 1, while the bars 4 and 5 bear upon the upper surfaces of the longitudinal slats 1 and transverse bars 2, as shown in Fig. 1. When the door, with its rectangular frame, has been thus placed in the top of the crate, it is securely locked in place by turning down the hand-nut 8 on the bolt 7.

The bottom of the crate consists simply of a plain board 9 and transverse bars 10. The respective sides are alike. Each side consists of the series of longitudidal slats 11 and the transverse bars 12. The respective ends are alike and consist of the longitudinal slats 13 and the transverse bars 14, which are rigidly secured together. When the said several described parts comprising the inclosing walls of the crate have been thus formed, they are secured together, as shown in Fig. 2, by the angle-irons 15 15 and 16 16 and binding-rods 17 17, two binding-rods only in connection with said angle-irons being necessary to hold the entire crate together. The four angle-irons 15 are rigidly secured by bolts or screws to the respective corners of the top, (shown in Fig. 1,) while the four similar angle-irons 16 are secured to the lower edges of the respective sides, as shown in Fig. 6, by screws 19. Thus it will be obvious that when the top, which we will refer to as A, Fig. 2, has been secured to the two sides, which we will refer to as B B, Fig. 2, the lower arms of said angle-irons 15 engage against the upper edge of the sides B and hold them in place, while the lower arms of the angle-irons 16, which are permanently secured to the sides B, engage beneath the bottom 9 at its four several corners and hold it in place against the edges of the sides. When this is done, the binding-rods 17 are inserted through the angle-irons 15 and across the respective ends of the crate. One end of said rods 17 is provided with an operating ring or bearing 20, while their opposite ends are provided with screw-threads 21, which engage in the screw-threaded apertures 22, formed in the lower end of the angle-irons 15, whereby it is obvious that by turning in said rod 20 all of said parts will be bound firmly together, said rods coöperating with said angle-irons to retain them rigidly in place. The respective end pieces of the crate are held in place between the transverse bars 12 12 of the sides B B. The respective parts of the crate being thus secured together, the door of the top A is readily removed by loosening the nut 8 on the bolt 7, whereby the crate may be filled, when said door may be replaced, as described.

To lend additional strength to the crate, the cover is preferably provided near its center with additional angle-irons 23, which are secured to the cover by the screws 24, and their

downwardly-projecting ends are adapted to engage over the upper edges of the respective sides B, whereby said sides are prevented from being sprung apart.

The poultry having been shipped and removed from the crate, the same is taken apart by first withdrawing the binding-rods 17 17, when all the parts are readily disengaged from each other and secured together in a compact form or package, as indicated in Figs. 4 and 5, in which the respective parts are arranged in the relative position to each other as indicated, whereby the four angle-irons or fastening-brackets 15 of the cover are adapted to extend down past the several parts thus bound together, their lower ends being brought beneath the transverse bars 10 of the bottom 9, when the respective rods 17 are secured in place in said angle-irons or brackets, thus binding the side and end pieces securely together between the bottom and top pieces, whereby all of said parts are held rigidly together in a compact form or package. By this arrangement the respective angle-irons or fastening-brackets 16 of the side pieces are brought together at the center of the package, and their upper ends extend through the apertures 25 25, formed in the top of the cover. The end pieces, which are referred to as C in Figs. 2 and 3, are retained in the package by the angle-irons 23, which extend down past the ends of said end pieces, as shown in said Fig. 4. It will now be obvious that the same angle-irons and binding-rods which are used to hold the respective parts of the crate together when used for shipping have been constructed and arranged with a view of also being used for holding said parts together when taken apart and packed for return shipment and that the function they perform in thus holding the package together is of no less importance than that of holding the crate together when used for shipping purposes.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a shipping-crate of the class described, the combination of a top member; a plurality of L-shaped angle-irons having one of their arms permanently secured to the horizontal surface of said top member, and having their other arms temporarily secured to the vertical side members of the crate; an opposing bottom member; two opposing side and two opposing end members interposed between said top and bottom members; a plurality of L-shaped angle-irons having one of their arms permanently secured to the vertical sides of said side members, and their other arms temporarily secured beneath the horizontal surface of the bottom member; a plurality of horizontal binding-rods, communicating between the vertical arms of the opposing angle-irons; and means for securing the ends of said binding-rods in their bearings in said angle-irons, as set forth.

2. In a shipping-crate of the class described, the combination of a top member, comprising series of longitudinal slats and transverse bars secured together; a plurality of L-shaped angle-irons having one of their arms permanently secured to the horizontal surface of said top member, and having their other arms temporarily secured to the vertical side members of the crate; an opposing bottom member; two opposing side and two opposing end members interposed between said top and bottom members, said side and end members being respectively composed of series of longitudinal slats and transverse bars secured together; a plurality of L-shaped angle-irons having one of their arms permanently secured to the vertical sides of said side members, and their other arms temporarily secured beneath the horizontal surface of the bottom member; a plurality of horizontal binding-rods communicating between the vertical arms of the opposing angle-irons; and means for securing the ends of said binding-rods in their bearings in said angle-irons, substantially as and for the purpose specified.

3. In a shipping-crate of the class described, the combination of a top member, a removable door located in said top member; means for locking said door in its closed position, said top member comprising a series of longitudinal slats and transverse bars secured together; fastening-brackets secured to said top member; an opposing bottom member; two side pieces respectively comprising longitudinal slats and transverse bars connected together, said side pieces being interposed between the sides of said top and bottom members; angle-irons or fastening-brackets secured to the respective side pieces, and adapted to engage beneath the bottom pieces; end pieces located between the respective ends of the side pieces; and transverse binding-rods having unthreaded bearings at one end, and threaded bearings at their opposite ends in the fastening-brackets of said top member; said fastening-brackets and binding-rods being respectively so located in relation to each other and the several parts of the crate, that they are adapted to be used for binding the respective parts together, both as a crate and as a package, all substantially as and for the purpose specified.

4. In a shipping-crate of the class described, the combination of a top member, composed of series of longitudinal slats and transverse bars secured together; a rectangular aperture centrally located in said top member; a rectangular frame surrounding said aperture; a rectangular door rigidly secured to said frame; a transverse fastening-bar centrally secured to said door by a binding-bolt and hand-nut, said rectangular frame being

adapted to engage on the upper surface of said longitudinal slats, and said transverse fastening-bar being adapted to engage beneath the inner surface of said top member; said parts being adapted to be rigidly secured together by turning down the hand-nut on said bolt, all substantially as and for the purpose specified.

In testimony whereof we affix our signatures in the presence of two witnesses.

CARL KEMPF.
EUGEN BAUR.
CARL BAUR.

Witnesses:
JAS. B. ERWIN,
C. L. ROESCH.