No. 776,242. PATENTED NOV. 29, 1904.

A. E. HARRIS.

KNOCKDOWN CRATE OR SHIPPING CASE.

APPLICATION FILED JUNE 9, 1904.

NO MODEL.

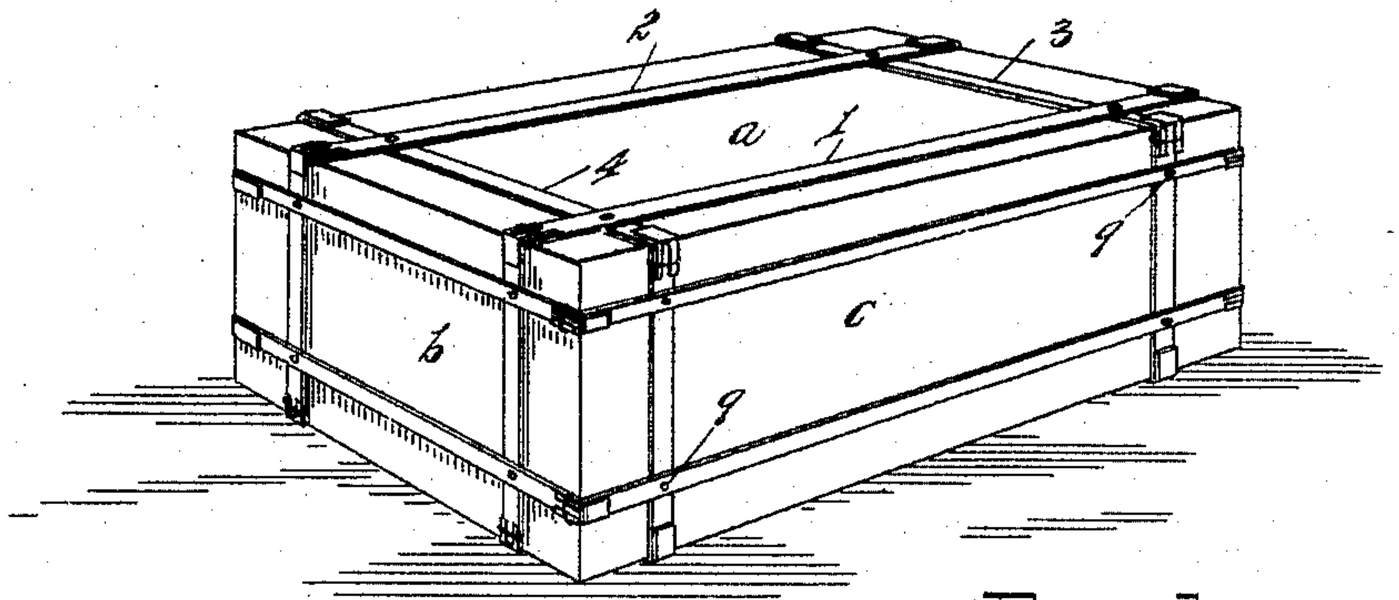

Fig. 1.

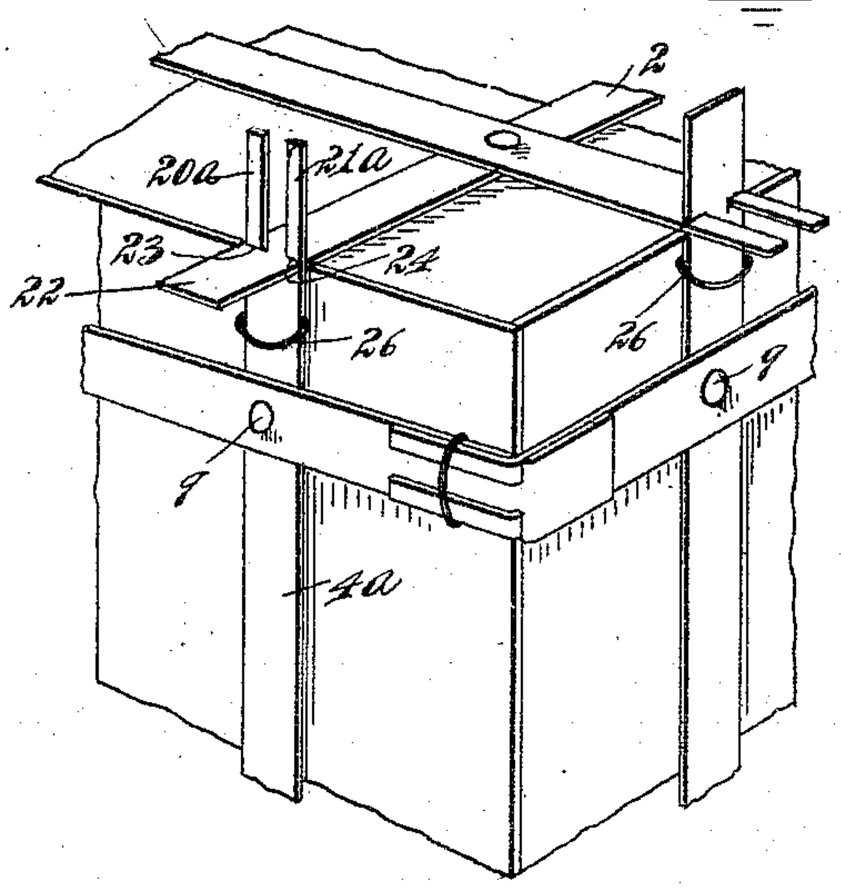

Fig. 2.

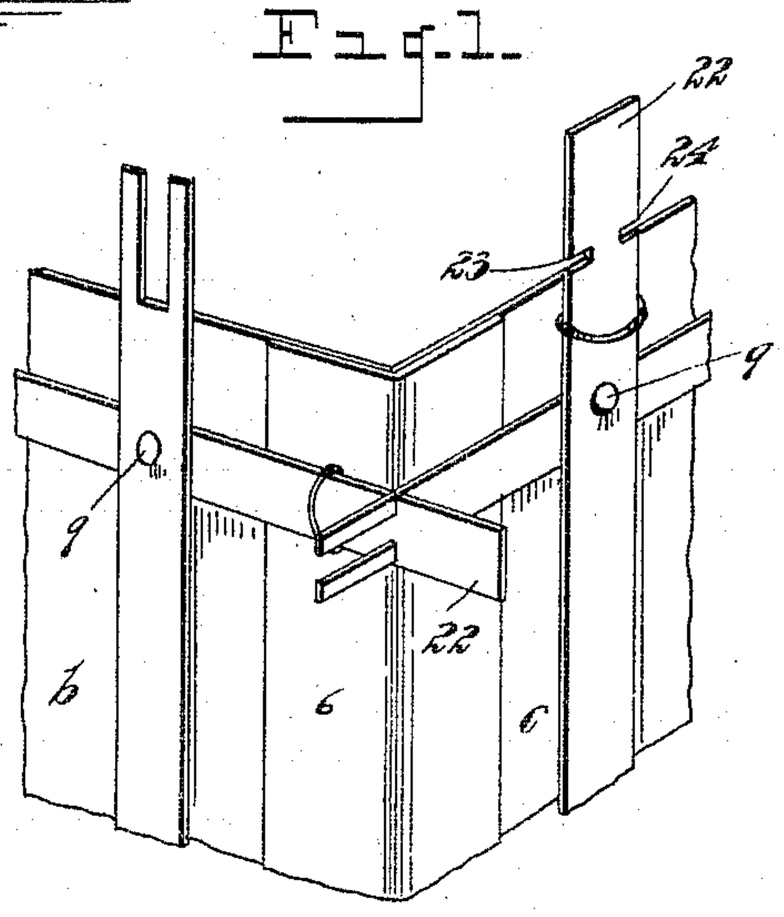

Fig. 3.

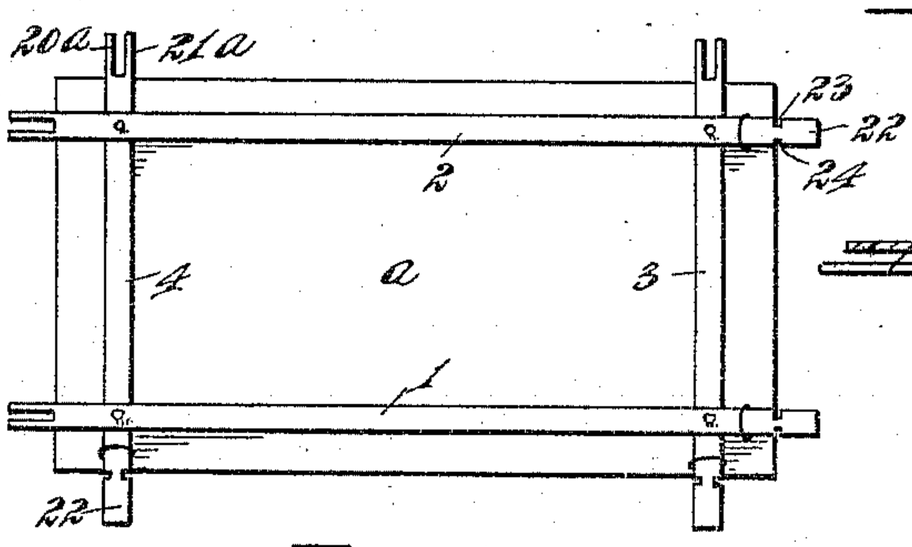

Fig. 4.

Fig. 5.

Witnesses:
T. H. Massey
May E Kott.

Inventor
Arthur E. Harris

By his Attorneys
Parker & Burton

No. 776,242. Patented November 29, 1904.

UNITED STATES PATENT OFFICE.

ARTHUR E. HARRIS, OF DETROIT, MICHIGAN.

KNOCKDOWN CRATE OR SHIPPING-CASE.

SPECIFICATION forming part of Letters Patent No. 776,242, dated November 29, 1904.

Application filed June 9, 1904. Serial No. 211,728. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. HARRIS, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Knockdown Crates or Shipping-Cases; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to boxes or shipping-crates, and has for its object an improved fastening or binding by which the several parts of the box are secured together.

In the drawings, Figure 1 is a perspective of a completed box. Fig. 2 is a corner showing the horizontal band in locked condition and two bands which have vertical parts and horizontal parts in the condition they are in before the locking is effected. Fig. 3 shows a corner with a reinforce under the locking-band. Fig. 4 is a plan and shows the four bands which are secured to the top of the box. Fig. 5 shows in section two bands crossing and secured to the material of the box.

The box is preferably made from paste-board, pulp-board, canvas-board, or similar material, any of which materials are preferable to wood.

The box is made with six rectangular sides bound together by bands or straps, which may be of any suitable number sufficient to bind the box strongly and securely. To each piece or side are secured bands or straps that cross each other at right angles. Preferably each piece, as the top *a*, is provided with four straps 1 2 3 4, the ends of which project beyond the edges of the piece. Each strap has in one of its projecting ends a deep notch that divides the projecting end into two parallel flanges, and the bottom part of the notch is substantially in the line of the edge of the piece beyond which the strap projects. The other end of the same strap is provided at the line where it leaves the edge of the side with two side notches of a width about equal to the thickness of the band itself, and beyond the two notches 23 and 24 the material of the band is left full width and forms a head 22. The four bands on each side piece, each of which has two projecting ends, is thus arranged with eight projecting ends, four of which are notched from the end inward and four of which are provided with the side notches, and the heads and the several pieces of the crate are assembled and bring the headed ends of the bands of one piece into association with the notched ends of the bands of a contiguous piece with the neck between the notches 23 and 24, engaging between the flanges 20^a and 21^a; but before the parts are interlocked in the way last described a ring 26 is slipped over the end of the strap and pushed down until it is beyond the reach or out of the way of the front edge of the head-piece 22. The strap 2 is engaged with the strap 4^a by engaging the flanges 20^a and 21^a in the side notches 23 and 24, after which the projecting ends of both pieces are bent over until they engage against the body part of the contiguous strap, and the ring 26 is then slipped back until it engages over the body part and the end.

In Fig. 3 the crate is shown with a reinforcing corner-piece 6, placed at the meeting edge of two of the side pieces *b* and *c* of the box. The straps are crossed and secured to the box by rivets 9 or by any other suitable fastening.

The structure can be assembled, taken to pieces, and reassembled, and constitutes a knockdown box which is secured without nails or screws, but wholly by the bands interlocked as described.

What I claim is—

1. In combination with the side of a box, flexible bands projecting beyond the edge of said side and provided with interlocking means for engaging a similar band projecting beyond the edge of an adjacent side, the said sides being held together after the interlocking by bending the projecting end of each band into contact with the body of the strap with which it interlocks, substantially as described.

2. In combination with the side of a box, a securing-band of flexible material fastened

thereto provided with a notch opening from the end thereof, a second side of the box and a securing flexible band fastened thereto provided with notches opening from the sides thereof, the two notched parts being adapted to interlock and to be secured by bending the projecting end of each band against the body of the band with which it interlocks, substantially as described.

3. In combination with the side of a box, a flexible securing-band fastened thereto, provided with a notch opening from the end thereof, a second side of the box and a securing flexible band fastened thereto and provided with notches opening from the sides thereof, the two notched parts being adapted to interlock, a sliding ring engaging over the body of one of said bands adapted to slide over and also engage over the turned-back end of the band interlocking with the band upon which the ring slides, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ARTHUR E. HARRIS.

Witnesses:

CHARLES F. BURTON,

WILLIAM M. SWAN.