

No. 746,199.

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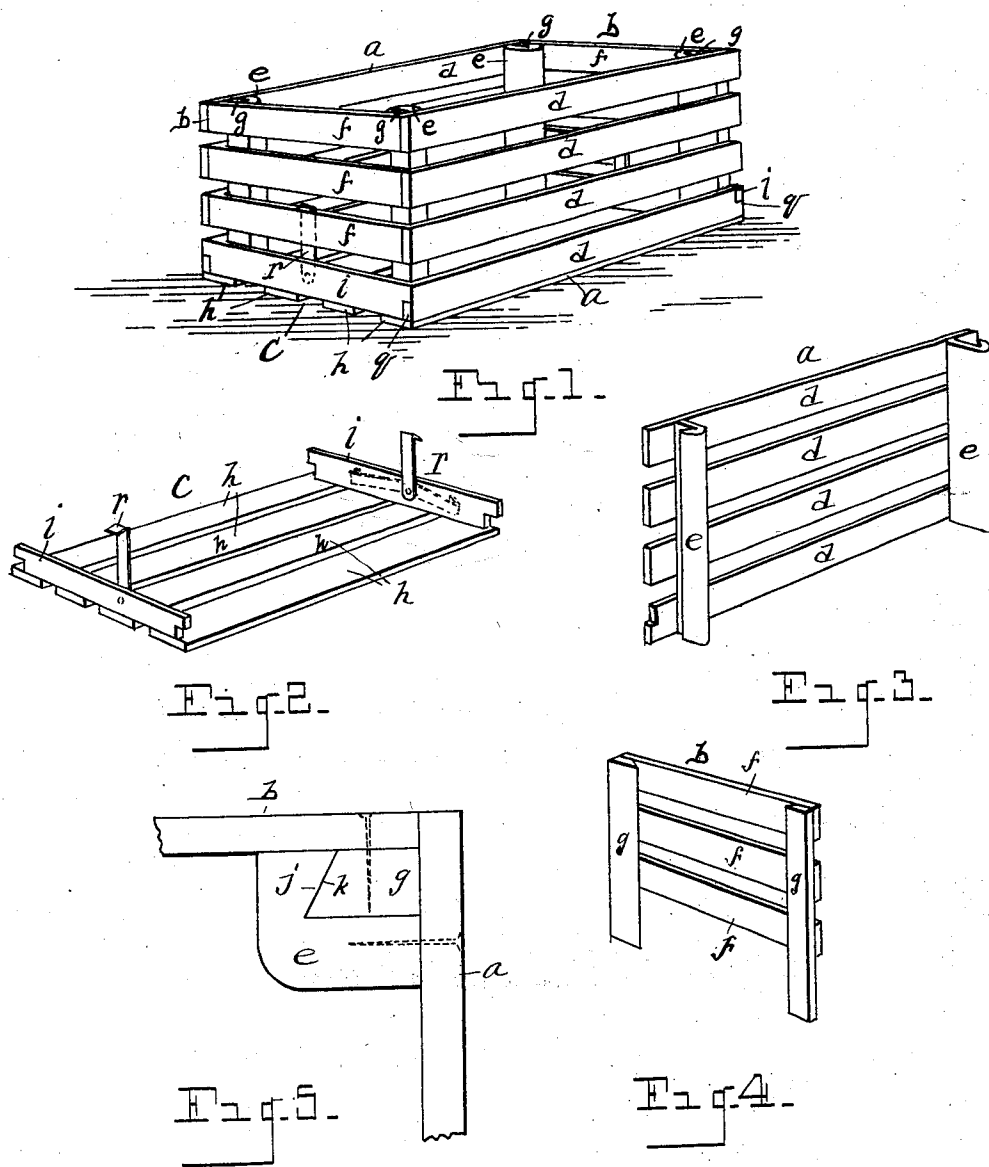
J. E. SYMES & B. K. BOYD.

KNOCKDOWN CRATE.

APPLICATION FILED AUG. 23, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES.

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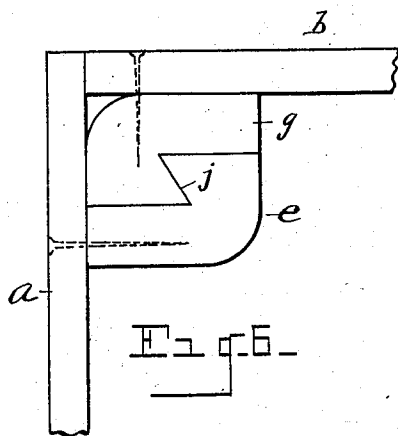
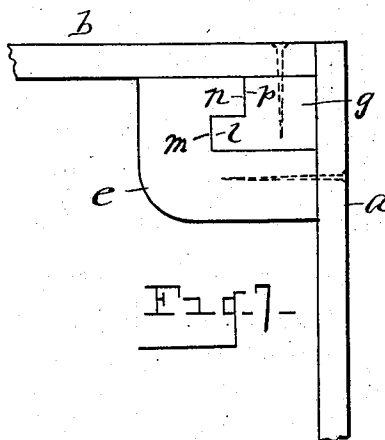
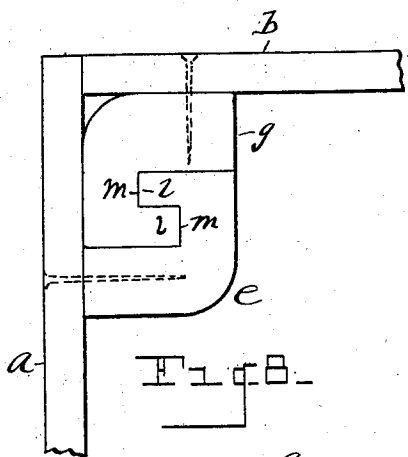
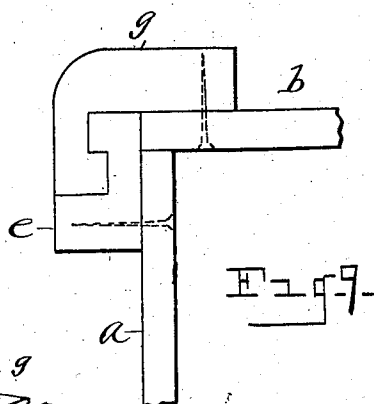
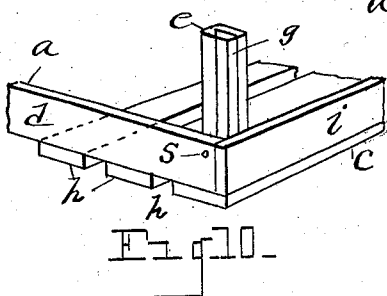
J. E. SYMES & B. K. BOYD.

KNOCKDOWN CRATE.

APPLICATION FILED AUG. 23, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JAMES E. SYMES AND BERTRON K. BOYD, OF BANCROFT, MICHIGAN.

KNOCKDOWN CRATE.

SPECIFICATION forming part of Letters Patent No. 746,199, dated December 8, 1903.

Application filed August 23, 1902. Serial No. 120,776. (No model.)

To all whom it may concern:

Be it known that we, JAMES E. SYMES and BERTRON K. BOYD, both citizens of the United States, residing at Bancroft, county of Shiawassee, State of Michigan, have invented a certain new and useful Improvement in Knock-down Crates, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

Our invention has for its object certain new and useful improvements in knockdown crates; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective. Fig. 2 is a detail view of the bottom in perspective. Fig. 3 is a detail view in perspective showing one of the sides. Fig. 4 is a detail view of one of the ends. Fig. 5 is a plan view of one of the corners. Figs. 6, 7, 8, and 9 are similar views to Fig. 5, showing modifications of construction. Fig. 10 illustrates in detail another modification.

The aim of our invention is to form a knock-down crate of simple and economical construction. We carry out our invention as follows:

In the drawings, *a* represents the sides of the crate, *b* the ends, and *c* the bottom thereof. The sides are preferably formed of slats *d* and vertical corner-posts *e*. The ends may be formed in a similar manner of slats *f* with corner-posts *g*. The bottom may be formed of bottom slats *h* and transverse end slats *i*.

One of the chief features of our invention is to provide a crate with sliding corner-posts, or, in other words, in which the corner-posts of the end portions and the corner-posts of the side portions have vertically-sliding engagement the one with the other, so that the end portions, for example, may be lifted out of engagement with the side portions when it is desired to knock down the crate. To this end the corner-posts of the sides and ends are constructed the one to slide into the other, the two sets of posts thus interlocking to hold the sides and ends together. Our invention contemplates various modifications in the construction of the side and end posts to thus

slides vertically the one into the other, the various modifications all embodying the same general principle of construction. Thus in Fig. 5 one of the portions of the frame—as a side portion, for example—is provided with a corner-post having an undercut groove *j*, while the adjacent portion, as the adjacent end portion, is provided with a post beveled at one edge, as at *k*, to form a dovetailed engagement in the groove *j*.

As shown in Fig. 6, the post *e* of the side portion is formed with an undercut groove *j*, as in Fig. 5, while the post *g* of the adjacent end portion is similarly constructed, the two posts *e* and *g* interlocking and having a vertically-sliding engagement the one with the other. It will be evident that the two corner-posts in Fig. 6 are similarly constructed, but are reversed in their engagement with their adjacent parts. As shown in Fig. 7, the post *g* is provided with a tongue *l*, entering a groove *m* in the post *e*, the post *e* being also formed with a tongue *n*, entering a groove *p* in the post *g*.

In Fig. 8 the two posts are of like construction, both being formed like the post *e*, (shown in Fig. 7,) but being engaged with their adjacent portions in reversed positions.

In Fig. 9 the corner-posts *e* and *g* instead of being engaged upon the inside of the sides and ends of the crate, as shown in previous figures, are arranged upon the outside thereof.

It will be perceived that the separable bottom comprises a base having transverse end slats rising thereabove, the sides of the bottom between said end slats being normally open. It will be seen that by forming the bottom with the transverse end slats *i* they serve at the same time for the lower slats of the adjacent end portions, permitting the omission of a corresponding slat on the adjacent end portion. The lower slats on the side portions preferably have a tongue-and-groove connection, as shown at *q*, Fig. 1; but this form of connection may be omitted, however, as indicated in Fig. 10.

Any suitable fastening device may be employed to fasten the bottom with the side or end portions. Where the sides and end slats of the bottom have a tongue-and-groove connection, the tongue and grooves may be so ar-

ranged as to interlock the bottom and sides. We have shown the bottom provided with latches *r*, having a pivotal connection therewith to clasp over one of the slats of the adjacent end portion.

In case the tongue-and-groove connection of the sides and bottom is dispensed with they may readily be held together by a nail or pin *s*.

10 What we claim as our invention is—

1. A knockdown crate having in combination side and end walls each provided at its extremities with corner-posts, the adjacent corner-posts of the side and end walls having
15 a vertically-sliding engagement the one with the other, a separable bottom having a base and transverse end slats rising above the base, the sides of said bottom between said end slats being normally open, and means to
20 lock the parts together when set up, the transverse end slats of the bottom located outside the corner-posts and forming a part of the end walls when the crate is set up, the side walls extending downward to said base
25 between said end slats.

2. A knockdown crate having in combination side and end walls formed with vertical corner-posts, the adjacent side and end corner-posts having a vertically-sliding engagement the one with the other, a separable bottom having a base and transverse end slats
30 rising above the base, the sides of said bottom between said end slats being normally open, the extremities of said end slats of the bottom located outside said posts and having
35 a tongue-and-groove connection with the adjacent side walls, the transverse end slats of the bottom forming a part of the end walls when the crate is set up, the side walls extending
40 ing downward between said end slats.

3. A knockdown crate having in combination side and end walls each provided at its extremities with vertical corner-posts, the adjacent corner-posts of the side and end walls having a sliding engagement the one with the
45 other, a separable bottom having a base and transverse end slats rising above the base, the sides of said bottom between said end slats being normally open, the transverse end slats of the bottom located outside the corner-posts
50 and forming a part of the end walls when the crate is set up, the side walls extending downward between said end slats, the extremities of the transverse end slats having a rabbeted engagement with the adjacent portions of the
55 corresponding side walls.

4. A knockdown crate having in combination side and end walls each provided at its extremities with vertical posts, the adjacent corner-posts of the side and end walls having
60 a vertically-sliding engagement the one with the other, a separable bottom having a base and transverse end slats rising above the base, the sides of said bottom between said end slats being normally open, and means to lock the
65 parts together when set up, the said transverse end slats extending above the lower ends of the corner-posts and forming a part of the end walls when the crate is set up, the side walls extending downward between said end
70 slats.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JAMES E. SYMES.
BERTRON K. BOYD.

Witnesses:

CHAS. E. WARD,
ROGER SHERMAN.