

No. 815,670.

PATENTED MAR. 20, 1906.

J. ADAMS.
KNOCKDOWN BOX.

APPLICATION FILED JUNE 5, 1905.

2 SHEETS—SHEET 1.

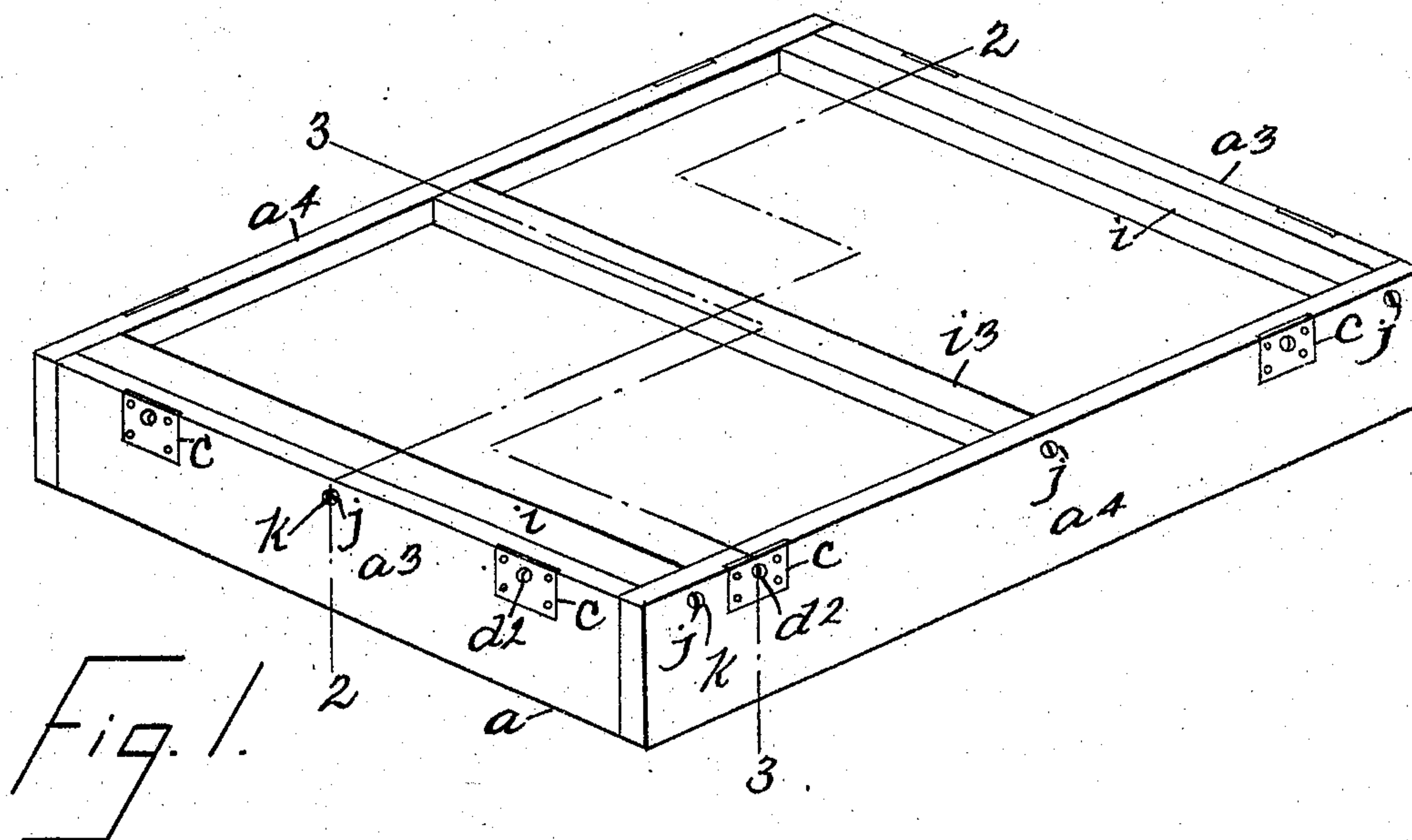


Fig. 2

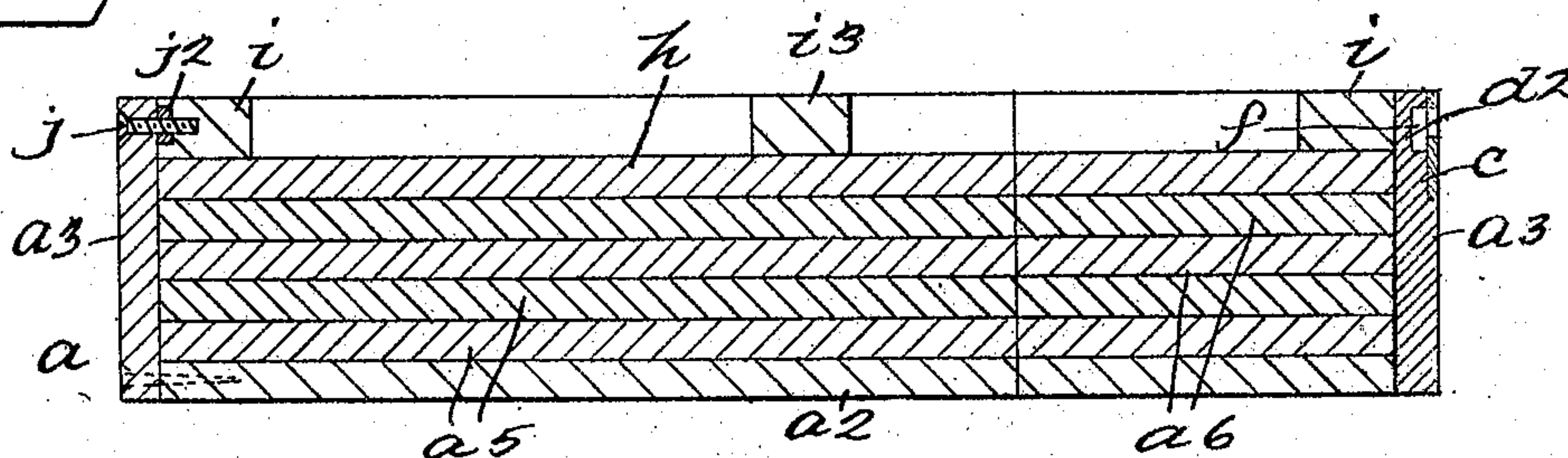
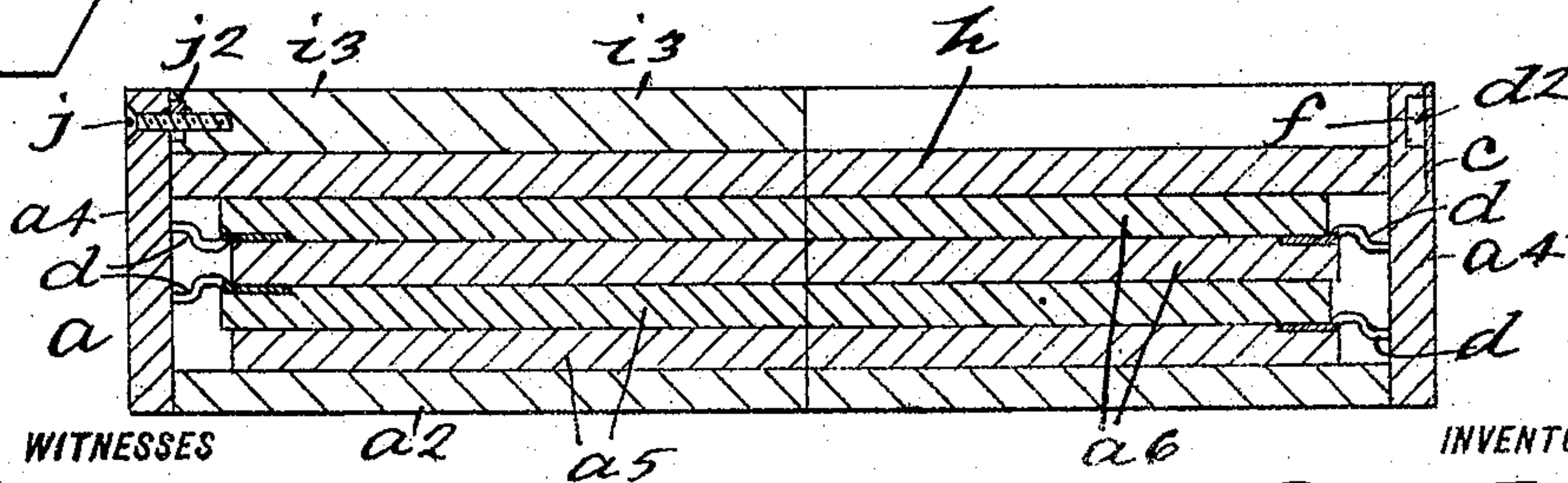


Fig. 3



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Fig. 4.

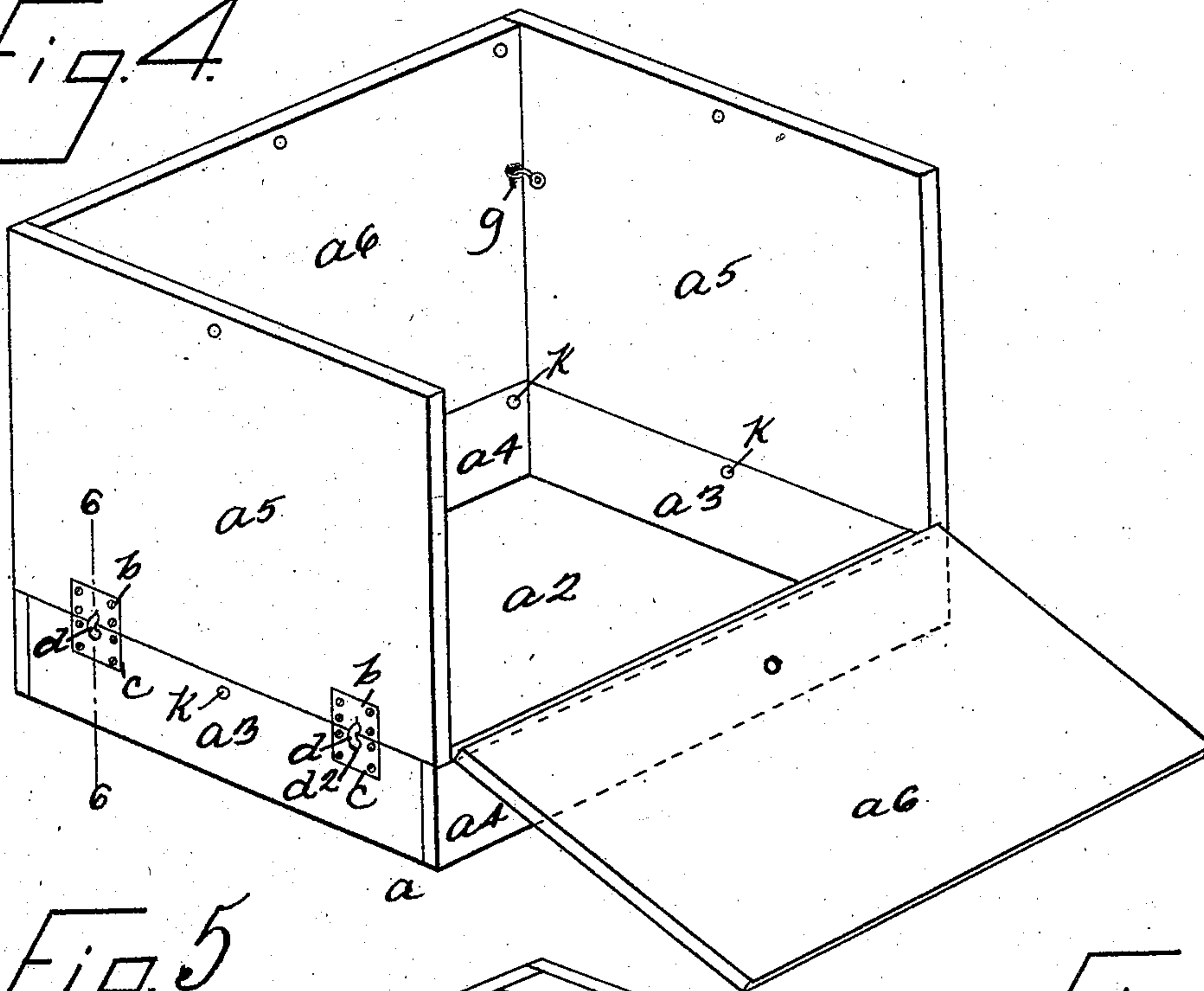


Fig. 5.

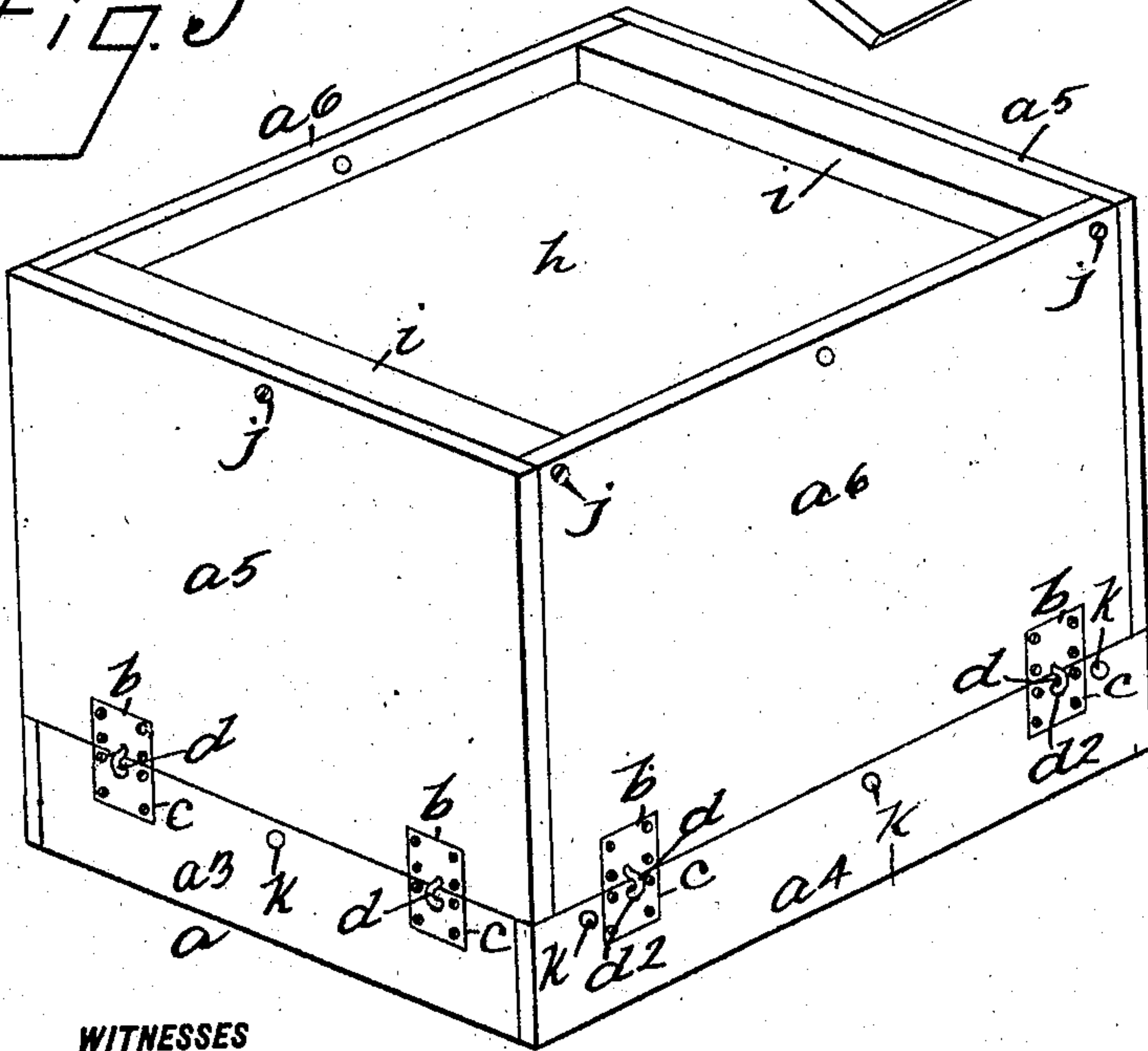
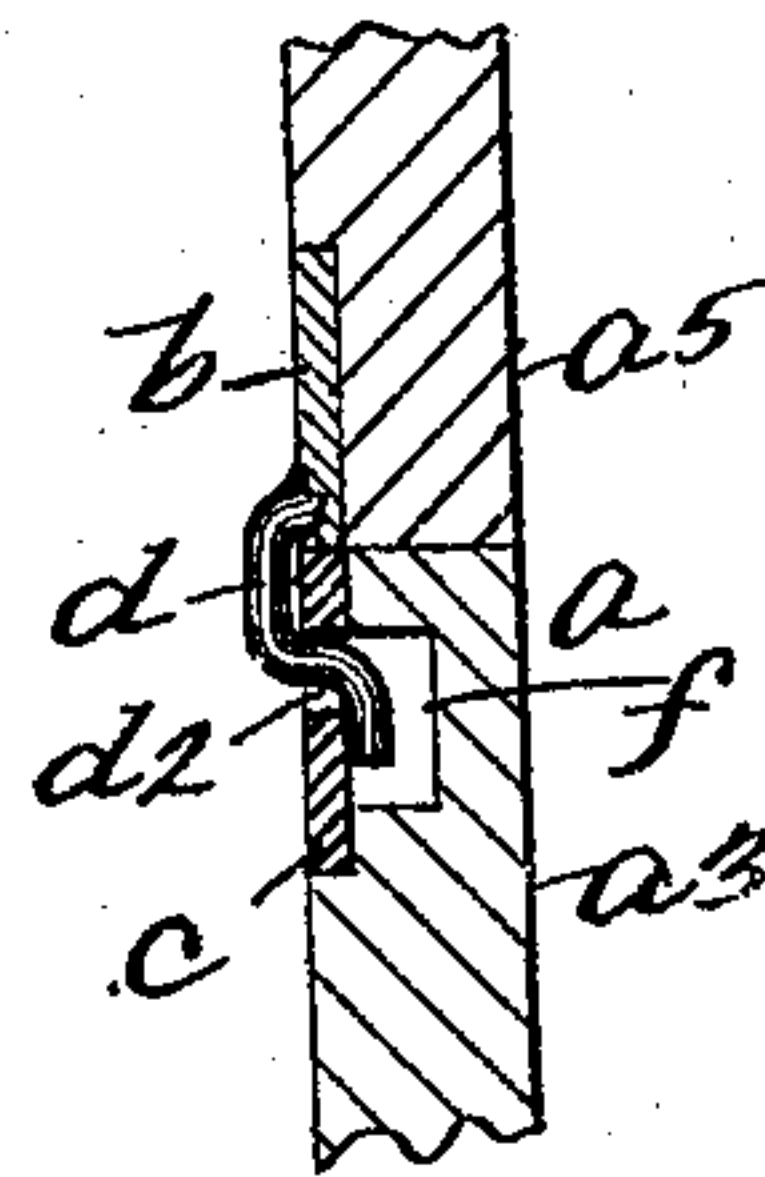


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES ADAMS, OF PHILLIPSBURG, NEW JERSEY.

KNOCKDOWN BOX.

No. 815,670.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed June 5, 1905. Serial No. 263,732.

To all whom it may concern:

Be it known that I, JAMES ADAMS, a citizen of the United States, residing at Phillipsburg, in the county of Warren and State of New Jersey, have invented certain new and useful Improvements in Knockdown Boxes, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to what are known as "knockdown boxes;" and the object thereof is to provide an improved device of this class which is particularly designed for use as a packing crate for shipment of articles of various kinds and classes and which may also be made of any desired size or capacity.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a perspective view of my improved box or crate, showing the same in a knockdown position or condition; Fig. 2, a section on the line 2-2 of Fig. 1; Fig. 3, a section on the line 3-3 of Fig. 1; Fig. 4, a view similar to Fig. 1, showing the box in condition to be filled; Fig. 5, a view similar to Fig. 4, showing the box or crate completely filled and sealed; and Fig. 6, a section on the line 6-6 of Fig. 4.

In the practice of my invention I provide a box-shaped base or bottom member a , which is rectangular in form and of any desired width and length and which comprises a bottom a^2 , ends a^3 , and sides a^4 and with which in practice are connected supplemental end members a^5 and side members a^6 , said supplemental end and side members consisting of boards of suitable dimensions, according to the depth of the box or crate desired.

Each of the end and side members a^5 and a^6 is provided with two hinge-plates b , and the bottom of the base portion a is provided with corresponding hinge-plates c , and each of the hinge-plates b is provided with a hook member d , adapted to be passed through a corresponding hole d^2 in the hinge-plates c and the end of which is adapted to enter a recess f back of the hinge-plates c . (Clearly shown in Fig. 6.)

In connecting the end and side members a^5 and a^6 with the ends and sides of the bottom or base member a the said members a^5 and a^6 are held so that the lower ends of the hook

members d will pass through the holes d^2 in the hinge-plates c , and the said members a^5 and a^6 are then swung upwardly into the proper position, as shown in Fig. 4, and three of said members are preferably secured in such position by means of hooks or similar devices, as shown at g . The box or crate is then filled or partially filled with the desired contents, after which the other side member a^6 , which is shown open in Fig. 4, is swung into position, as shown in Fig. 5, and the filling of the said box or the crate is completed, after which a cover h is inserted into the top of the box or crate, and transverse end bars i are secured in position thereover.

The end bars i are secured in position over the cover h by screws or bolts j passed inwardly through the end members a^5 and through the side members a^6 into said transverse end bars i , as clearly shown in Figs. 2, 3, and 5, and the ends and one side of the bars i are provided with countersunk nuts j^2 , so as to strengthen said parts and through which the bolts or screws are passed.

In the form of construction shown only one screw or bolt j is passed through the end members a^5 into the bars i ; but any desired number thereof may be employed, and in Figs. 1 and 2 I have shown a supplemental transverse bar i^3 , which is intended for the same purpose as the bars i and which is held in place in the same manner.

When the crate or box has been emptied and it is desired to pack the separate parts thereof together in a small and compact form, the bars i are removed and the end and side members a^5 and a^6 are placed or packed in the bottom or base member a , and the cover or top member h is placed thereon, and the transverse bars i are secured in place by means of screws or bolts j , the same as when the box or crate or the parts thereof are in the position shown in Fig. 5, said screws or bolts being passed through holes k in the ends and sides of the bottom or base member a .

It will be observed that the plates b and c , together with the hooks d , form a hinge the separate parts of which may be connected whenever desired in the operation of putting the parts of the box or crate together for use, or said parts of the hinge or hinges may be disconnected whenever desired in the operation of knocking down the box or packing the separate parts thereof together, as shown in Figs. 1 and 3, and in the operation of putting

the separate parts together, as shown in Fig. 5, the end and side members a^5 and a^6 are held in a slanting or horizontal position, so as to insert the hooks d into the holes d^2 , after which said members are folded upwardly, and in the operation of disconnecting these parts said members are turned outwardly and downwardly, as on a hinge.

It will be observed that the hooks d are of ogee form and are rigidly secured to the end and side members a^5 and a^6 , and when said end and side members are connected with the base or bottom portion of the box or crate in the manner described the free ends of said hooks are concealed or project into the chambers or recesses f , and this prevents said hooks from being broken off in the handling of the box or crate. It will also be observed that the said hooks project from the bottom edges of the end and side members in such manner that they do not interfere with the packing of said parts in the base or bottom portion of the box or crate, as shown in Fig. 3, and all of the parts when so packed lie close together.

My improved knockdown box or crate may be made of any desired size and of any preferred material, and in practice the corners thereof may be provided with reinforcing-shoes or corner-guards of metal, so as to make the same strong and prevent mashing, cracking, or separating the same.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A box or crate of the knockdown class, said box or crate comprising a solid box-shaped bottom portion open at the top and the side and end parts of which are of equal height, and side and end members adapted to be placed on the tops of the side and end members of the bottom portion and to be detachably connected therewith and forming in connection with the bottom portion a complete box or crate, the devices for connecting the side and end members with the side and end parts of the box-shaped bottom portion being located on and secured to the outer sides of said members and said parts, and means for closing the top of the box or crate formed by said side and end members, substantially as shown and described.

2. A box or crate of the knockdown class, said box or crate comprising a solid box-shaped bottom portion open at the top and the side and end parts of which are of equal height, and side and end members adapted to be placed on the tops of the side and end members of the bottom portion and to be detachably connected therewith and forming in connection with the bottom portion a complete box or crate, the devices for connecting the side and end members with the side and end parts of the box-shaped bottom portion being located on and secured to the outer

sides of said members and said parts, and means for closing the top of the box or crate formed by said side and end members, the longitudinal and transverse inside dimensions of the box-shaped bottom portion being the same as the longitudinal and transverse dimensions of the side members, substantially as shown and described.

3. A box or crate of the knockdown class, said box or crate comprising a solid box-shaped bottom portion open at the top and the side and end parts of which are of equal height, and side and end members adapted to be placed on the tops of the side and end members of the bottom portion and to be detachably connected therewith and forming in connection with the bottom portion a complete box or crate, the devices for connecting the side and end members with the side and end parts of the box-shaped bottom portion being located on and secured to the outer sides of said members and said parts, and means for closing the top of the box or crate formed by said side and end members, the longitudinal and transverse inside dimensions of the box-shaped bottom portion being the same as the longitudinal and transverse dimensions of the side members, and the depth of said box-shaped bottom portion being greater than that of the combined thickness of the side and end members, substantially as shown and described.

4. A box or crate of the knockdown class, said box or crate comprising a solid box-shaped bottom portion open at the top and the side and end parts of which are of equal height, and side and end members adapted to be placed on the tops of the side and end parts of the bottom portion and to be detachably connected therewith and forming in connection with the bottom portion a complete box or crate, the devices for connecting the side and end members with the side and end parts of the box-shaped bottom portion being located on and secured to the outer sides of said members and said parts, and means for closing the top of the box or crate formed by said side and end members, comprising a board member adapted to fit in the top of the box or crate and means for holding said member in the top of said box or crate, substantially as shown and described.

5. In a box or crate of the knockdown class, a box-shaped bottom or base portion the side and end parts of which are of equal height, and supplemental side and end members placed on and detachably connected with the side and end parts of the box-shaped base portion, the side and end parts of the box-shaped base portion being provided with plates which are secured in the outer sides thereof and within which are recesses, and said supplemental side and end members being provided on their outer sides with corresponding plates having ogee hooks adapted

to be inserted into said recesses through said holes, substantially as shown and described.

6. In a box or crate of the knockdown class, a box-shaped bottom or base portion 5 the side and end parts of which are of equal height, and supplemental side and end members placed on and detachably connected with the side and end parts of the box-shaped base portion, the side and end parts of the 10 box-shaped base portion being provided with plates which are secured in the outer sides thereof and within which are recesses, and said supplemental side and end members being provided on their outer sides with corre- 15 sponding plates having ogee hooks adapted to be inserted into said recesses through said

holes, the depth of the box-shaped base portion being greater than the combined thickness of the supplemental end and side members, and said box or crate being also provided 20 with a cover adapted to fit in the top thereof, and means for securing said cover in position, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in 25 presence of the subscribing witnesses, this 29th day of May, 1905.

JAMES ADAMS.

Witnesses:

MARSHALL MILLER,
FRED A. HARLEY.