# E. K. Hall,

## Safe.

No. 113,877. Patented Apr. 18, 1871.

Fig. 1.

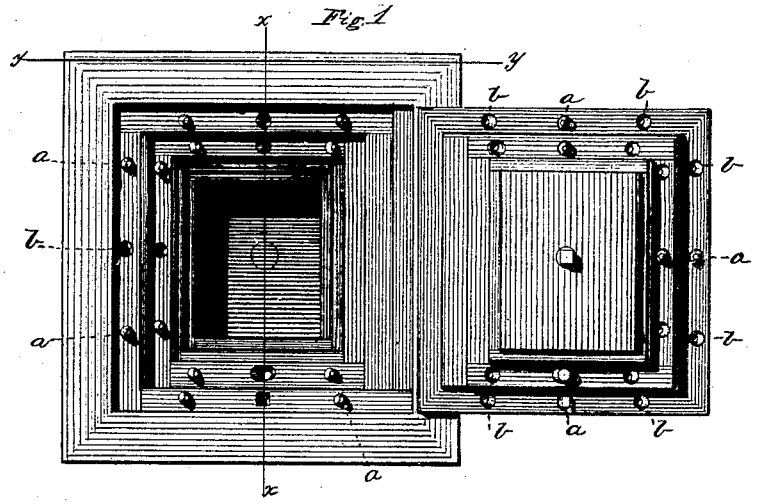



Fig. 2.

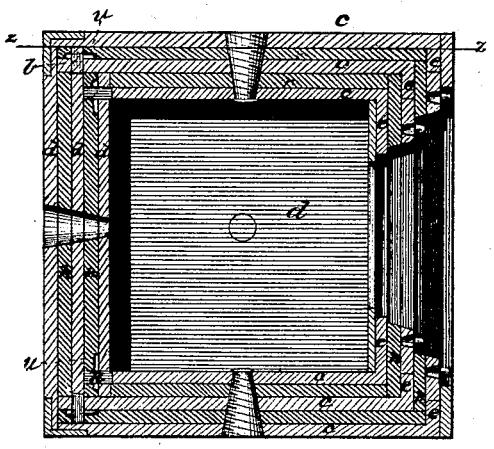



Fig. 3.

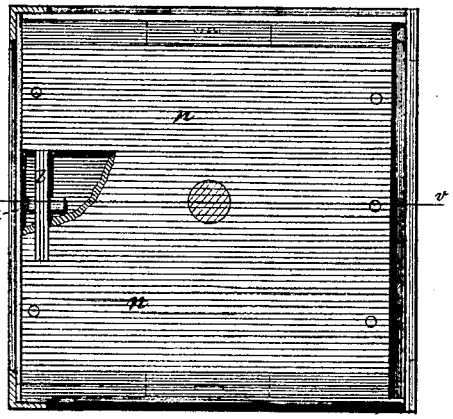



Fig. 4.

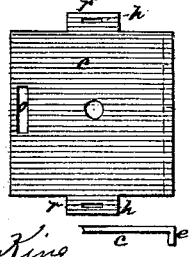



Fig. 5.

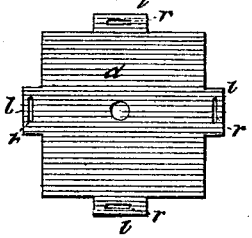
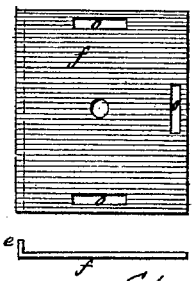



Fig. 6.

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EDWARD K. HALL, OF LOUISVILLE, KENTUCKY.

Letters Patent No. 113,877, dated April 18, 1871.

## IMPROVEMENT IN BURGLAR-PROOF SAFES.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, EDWARD K. HALL, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain Improvements in Safes, Vaults, and Cells, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to safes for the preservation of papers and other valuables; and

The invention consists in uniting the series of plates which form the body of the safe by means of mortises and tenons and keys at their edges, all as hereinafter more fully described.

Figure 1 is a front view of the safe with the door open;

Figure 2 is a vertical section on the line *x x* of fig. 1;

Figure 3 is a transverse section on the line *z z* of fig. 2; and

Figures 4, 5, and 6 are views of the various plates detached.

In constructing my safe I cut from proper sheets of iron a series of plates for the top and bottom, of the form shown in fig. 4, these plates having one edge turned at right angles to form a flange, *e*, along one side, and having near the opposite edge a mortise, *o*, while on each of the two remaining edges, a projection or tenon, *h*, through each of which is a hole, *r*, for the reception of a wedge or key.

I then construct a back plate, *d*, of similar metal, left flat without any flange, and having a similar projection or tenon, *l*, with a hole, *r*, for a wedge or key on each of its four edges, as shown clearly in fig. 5.

I then prepare two side plates, *f*, of similar metal, which has a flange, *e*, formed along one edge, the same as on the top and bottom plates, and which has also a mortise, *o*, made through it near each of its three remaining edges, as shown in fig. 6.

These five plates—two of fig. 4 for top and bottom, one of fig. 5 for the back, and two of fig. 6 for the sides—constitute, when properly united, the five closed sides of the cubic chest or safe, the remaining or sixth side being occupied by the door, as usual.

The manner of uniting these plates is as follows:

The back-plate *d* is set up and a plate, *c*, is placed on the top, with its mortise *o* fitting over the upper tenon *h*, and a key, *u*, put through the hole *r* of the tenon, the plate *c* having its flange *e* at the front.

Another plate *c* is then secured to the bottom of the back plate *d* in the same manner. This will form three sides of the cube, with a tenon projecting from the edge of each of the three plates on opposite sides.

Now I take a plate, *f*, and secure it to one of these sides by means of its three mortises, *o*, fitting onto the three tenons, to which it is keyed in a similar manner.

On the opposite side, in the same manner, I secure a corresponding plate, *f*, thus closing up or forming five solid sides of the cubic body.

Over these I then fit a series or layer of steel plates, *n*, as represented in fig. 2, and then over these again I secure in the same manner as before another set of the iron plates *c*, *d*, and *f*, the top and bottom plates *c* and the side plates *f* always being arranged with their flanges *e* at the front so as to lock over the steel plates *n*, as represented in fig. 2, and in this way I build up the body to any required thickness, the drawing representing a safe composed of five thicknesses, three of iron and two of steel.

It will, of course, be understood that these series of plates will be all firmly secured together by bolts, rivets, or any suitable means, preference being given to the conical drill-proof bolts for that purpose.

Angle-irons are secured upon all the corners except where the flanges *e* come at the front, and thus there are no cracks or joints into which a wedge can be driven under any of the plates.

It is, of course, obvious that any number of mortises and tenons may be formed along each side or edge of the plates where they occur, and that thus the plates may be very securely fastened together.

This method or plan of forming the body by a series of plates united in this manner is equally applicable to all kinds of safes, vaults, and cells, and I so intend to apply the invention.

Having thus described my invention,

What I claim is—

1. A safe, vault, or cell composed of a series of plates, united at their edges by means of mortises, tenons, and keys, substantially as herein described.

2. The plates *c* and *f*, provided with flanges *e* along their front edge, and with mortises or tenons along their remaining edges, for use in the construction of safes, vaults, or cells, substantially as herein set forth.

EDWARD K. HALL.

Witnesses:
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