

(No Model.)

2 Sheets—Sheet 1.

J. W. NORRIS & T. M. BRINTNALL.
BURGLAR PROOF SAFE.

No. 350,266.

Patented Oct. 5, 1886.

Fig. 1.

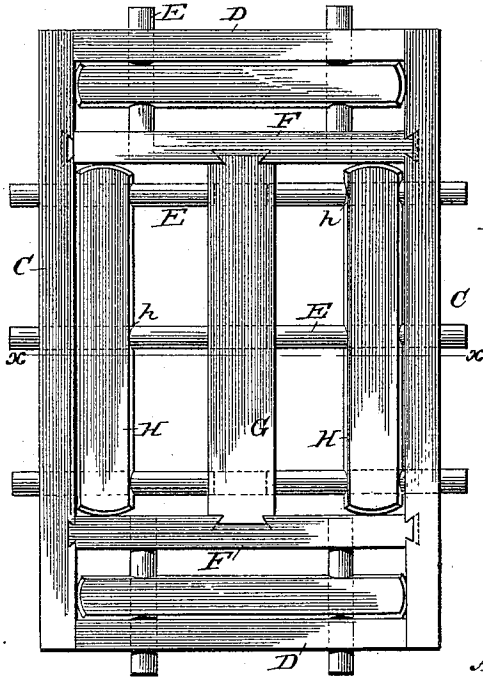


Fig. 2.



Fig. 2^a

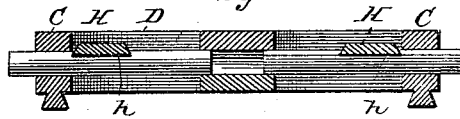


Fig. 4.

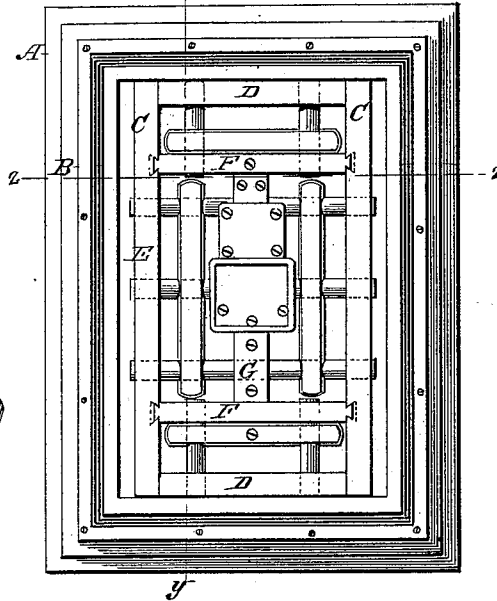


Fig. 11.

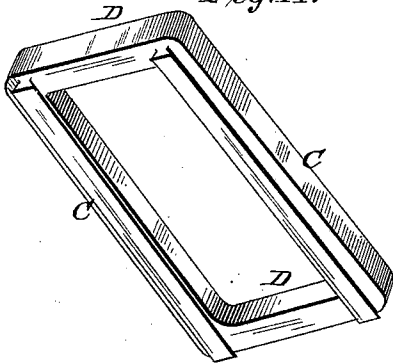
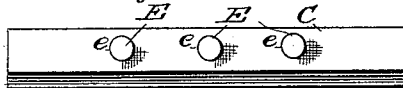


Fig. 3.



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Fig. 5.

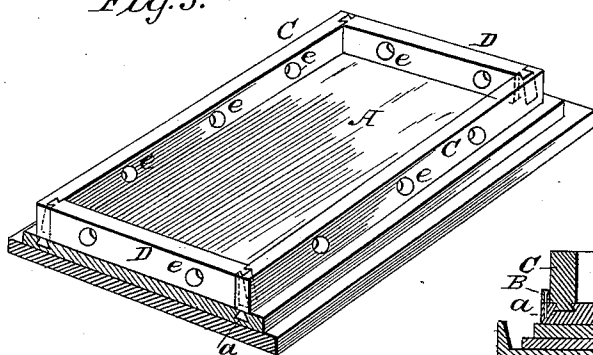


Fig. 6.

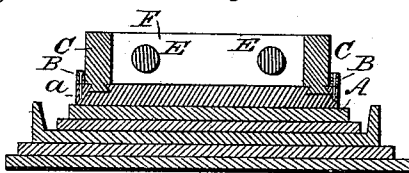


Fig. 7.

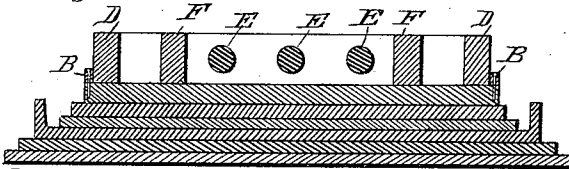


Fig. 8.

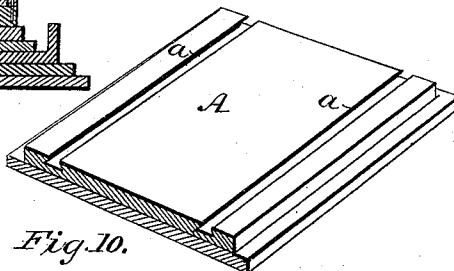


Fig. 9.

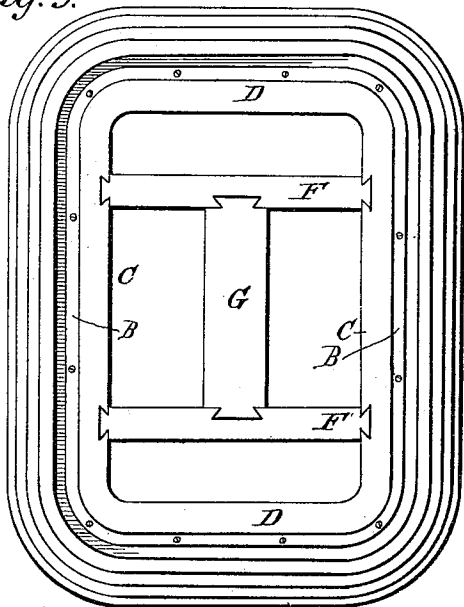
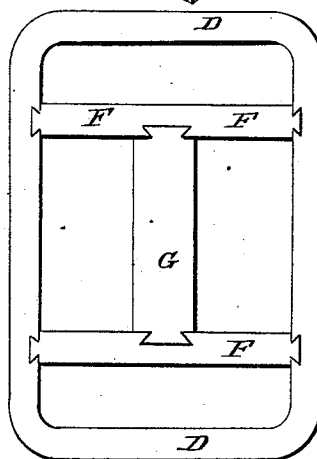


Fig. 10.



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UNITED STATES PATENT OFFICE.

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BURGLAR-PROOF SAFE.

SPECIFICATION forming part of Letters Patent No. 350,266, dated October 5, 1886.

Application filed January 20, 1886. Serial No. 189,231. (No model.)

To all whom it may concern:

Be it known that we, JOHN W. NORRIS, of Chicago, in the county of Cook and State of Illinois, and THOMAS M. BRINTNALL, of Maryville, in the county of Nodaway and State of Missouri, have invented a new and useful Improvement in Burglar-Proof Safes, of which the following is a description.

Figure 1 is a face view of our improved bolt-supports ready for application to the door. Fig. 2 is an end view thereof. Fig. 2^a is a cross-section on line *xx*, Fig. 1. Fig. 3 is a side view of one of the main bolt-ribs. Fig. 4 shows the improvement applied to a rectangular safe-door. Fig. 5 is a detail perspective view showing the side and end bolt-ribs in connection with portions of a door. Figs. 6 and 7 show cross-sections of the door and attachments on, respectively, lines *zz* and *yy*, Fig. 4. Fig. 8 is a perspective view of a portion of the door. Fig. 9 shows the invention applied to a safe-door having rounded corners. Fig. 10 is a detail view of the bolt-ribs used in such a door, and Fig. 11 is a perspective view of the outer frame of the construction shown in Fig. 10.

The invention relates to burglar-proof safes and vaults, in which we would include portable safes, vaults, and similar repositories.

The main object of the invention is to provide a simple and convenient construction, whereby to connect the bolt-carrying devices without the intervention of screws or threaded bolts, as now commonly used, and which are liable to loosen and obstruct the working of the bolts.

A further object is to provide a firmer and stronger connection between the door and the bolt-carrying devices.

The invention consists, essentially, in interlocking the bolt-ribs with the safe-door by dovetail joints.

It consists, further, in certain novel constructions and combinations of parts, as will be hereinafter explained.

In carrying out the invention the door *A* is provided in its inner face with dovetail grooves *a*, usually extended vertically of the door, as shown. The door may be provided with a flange, *B*, for inclosing the bolt-supports. This flange projects inward beyond the face of the door, and is usually applied subsequent to the

placing thereon of the bolts and their supports. The bolt-ribs *C* are provided with dovetail tenons fitted to the grooves *a*. These tenons preferably extend the full length of the ribs and the frames of which they form a part to strengthen the connection. We preferably connect the ribs *C* at their opposite ends by end ribs, *D*, which may be formed integrally with said ribs *C*, as shown in Figs. 9 and 10, or be formed separately from such ribs, as shown in Fig. 1, and dovetailed at their ends thereinto, as shown in Fig. 2.

The frame formed of the side and end ribs, as shown, forms a guide for the bolts *E*, and is provided with openings *c* for the passage of said bolts. In such connection it is manifest the number of bolts may be varied, and the works for throwing and withdrawing such bolts may be of any approved variety.

Into the side ribs, *C C*, are dovetailed the ends of cross-ribs *F F*, such dovetail joints decreasing in size from the inner to the outer faces of the ribs, so the cross-ribs *F* may be slipped into joint when the bolt-support is off the door, but will be held rigidly in the side ribs when on the door, as will be clearly understood from Figs. 1, 4, and 5. These cross-ribs *F* have guide-passages for the bolts, as also has the central rib, *G*, which has its ends dovetailed into the said cross-ribs. As indicated in Fig. 1, the joints between the center rib and ribs *F* are similar to those between ribs *F* and the side ribs. The bolts are preferably arranged in a number of series, as usual, the bolts of each series being provided with coincident dovetail grooves *h*, fitted to be engaged by the bolt-carrying bars *H*.

We do not in this application claim the arrangement of the bolts, which may be varied, as well as the number thereof and the device for operating said bolts, as before indicated.

In Figs. 9 and 10 the bolt-supporting frame is shown adapted for use with a door having rounded corners. In this construction the end and side ribs are formed in a single piece. Manifestly, in such round-cornered frame the ends might be formed separate from and interlocked by dovetail joints with the side ribs. It will also be understood that the rectangular frame shown in Fig. 1 might be formed in a single piece; also, that instead of dovetailing

the end ribs of the frame into the ends of the frame, as shown in Fig. 2, they might be dovetailed into the side ribs of said frame from its under side, as shown in Fig. 5.

5 Aside from the convenience and additional security against becoming loose afforded by our invention, it will be seen that by it a much stronger joint and connection is secured than by the common screw-connection between the
10 bolt-supports and the doors of safes and vaults.

In erecting the parts constructed as described the side bolts and their carrying-bars would be placed in position, the cross and center ribs would then be applied, followed by
15 the end bolts and their carrying-bars and the end ribs, when the entire construction may be moved into connection with the door, the supporting-frame interlocking with the door, as before described. The flange B may then be
20 secured to the door in any suitable manner. This flange operates as a stop to prevent any displacement of the bolt-support in the plane of the door, as will be seen. It will be understood that an equivalent of the described construction would be obtained by forming the
25 dovetail ribs on the door and the grooves in the bolt-frame; but we prefer the construction shown, for the reason that thereby the grooves are formed in the most available part or section of the door.
30

Having thus described our invention, what we claim as new is—

1. The combination of a safe-door provided with a dovetail groove and a bolt-supporting
35 frame provided with a dovetail rib fitted to said groove, substantially as set forth.

2. The combination, with the bolt-frame and the bolts E, movable therein and provided with dovetail mortises *h*, of the bolt-carrying bars fitting in said dovetail mortises, substantially
40 as set forth.

3. The combination of the bolt-ribs having dovetail mortises opening at their inner sides, the cross-ribs having end tenons fitting the
45 mortises of the bolt-ribs and movable therein to form their under sides, and also having mortises opening at their inner sides, and the central rib having end tenons fitting and movable into the mortises of the cross-ribs from the
50 under side of the latter, substantially as set forth.

4. The combination of the door having a dovetail mortise, the bolt-frame having a dovetail rib fitted to and adjusted into said
55 mortise, and a flange encircling said frame and detachably secured to the door, substantially as set forth.

5. The combination of the ribs C, having dovetail mortises opening at their inner faces, and the cross-ribs having their ends formed
60 with dovetail tenons fitting said mortises and movable therein from the inner sides of the ribs C, substantially as set forth.

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