

(No Model.)

5 Sheets—Sheet 1.

G. L. DAMON & G. W. ADAMS.
SAFE.

No. 470,818.

Patented Mar. 15, 1892.

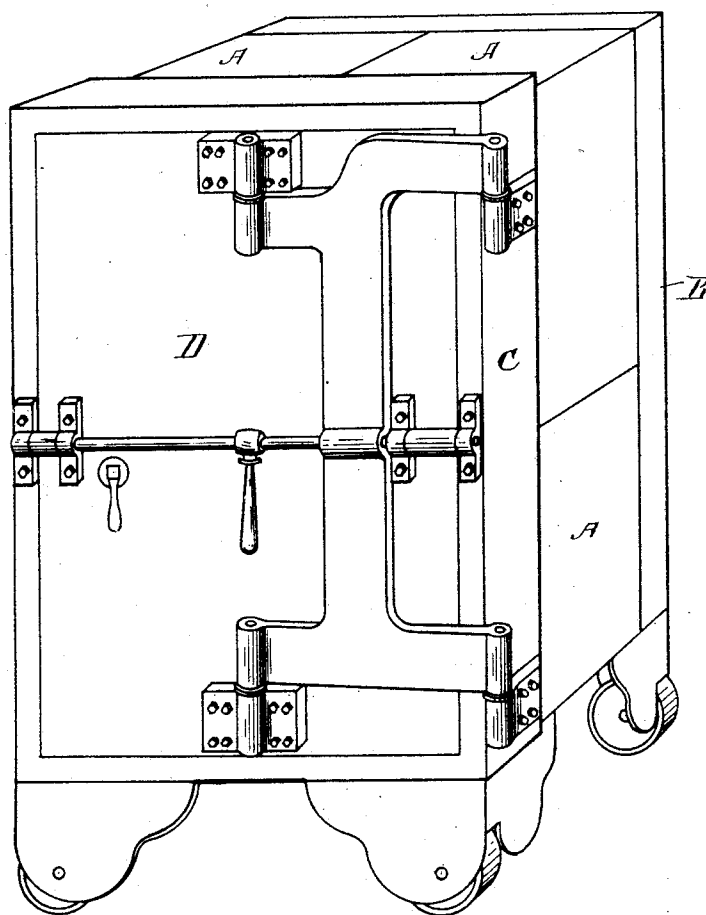


Fig. 1.

WITNESSES

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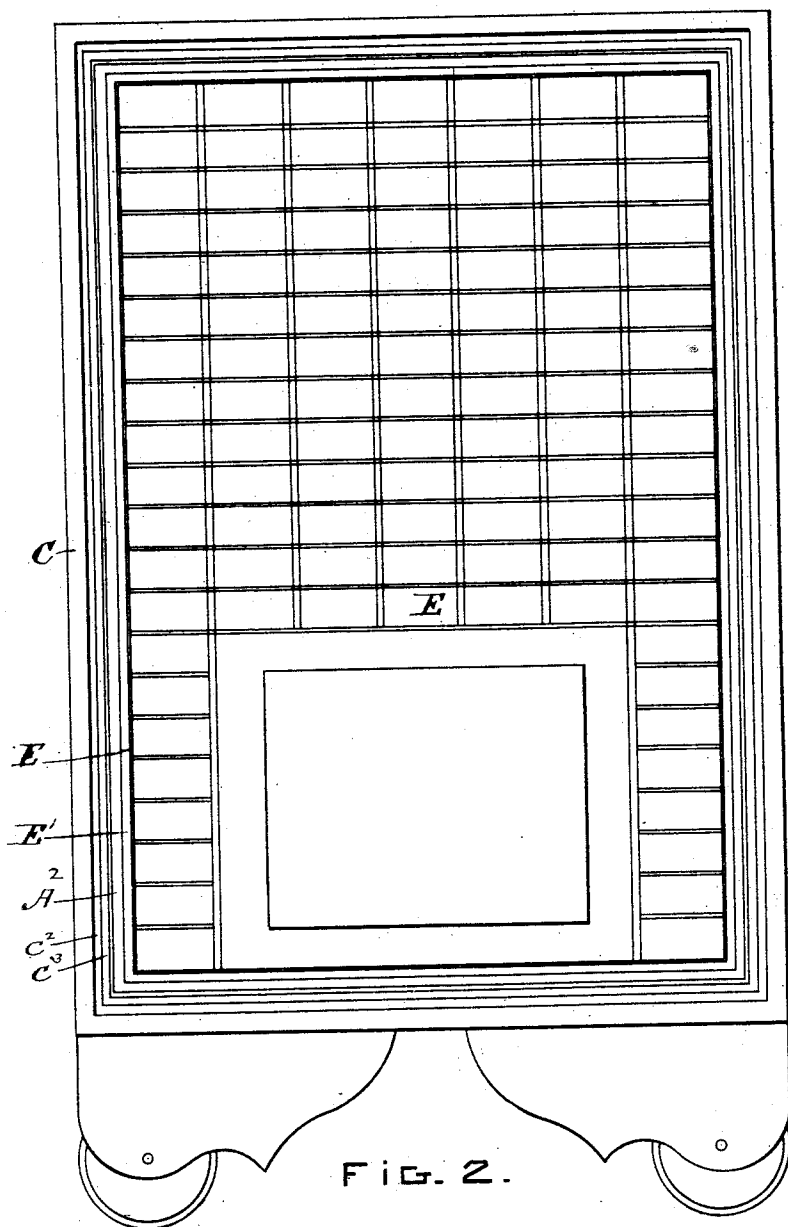
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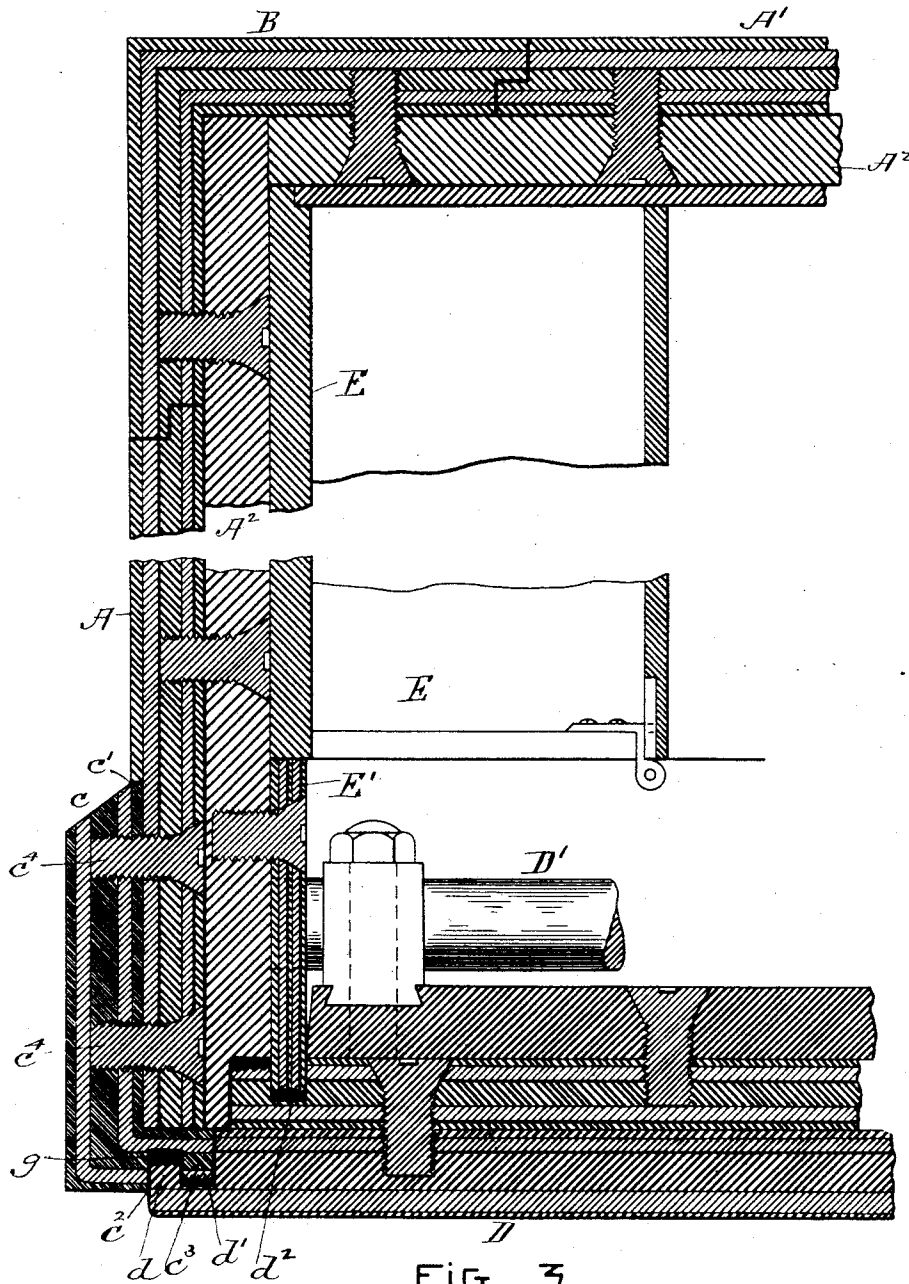
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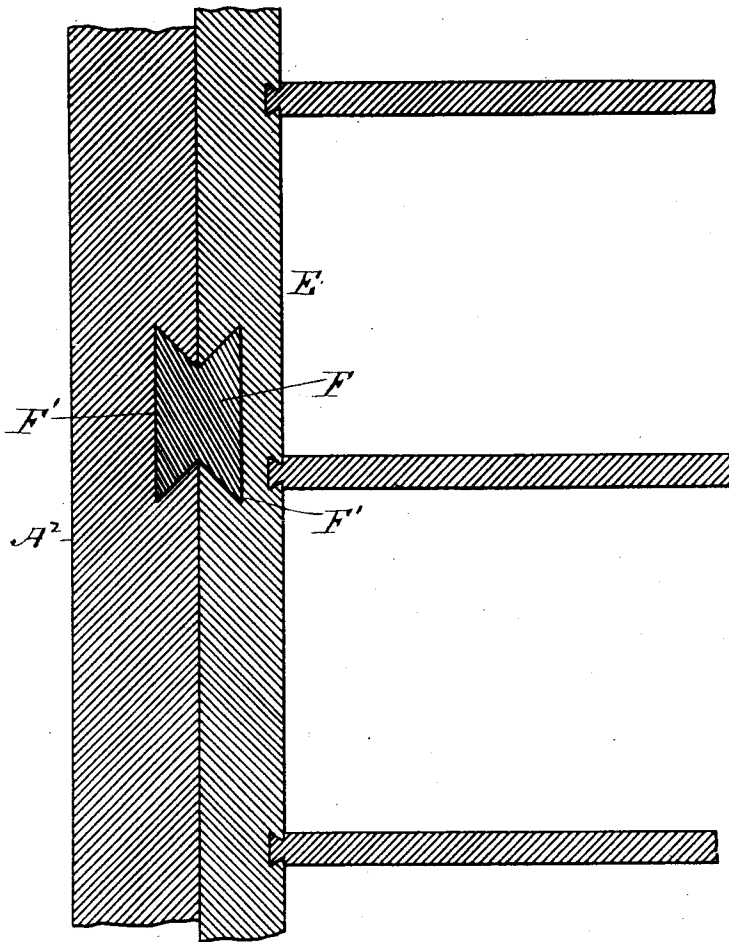


FIG. 4.

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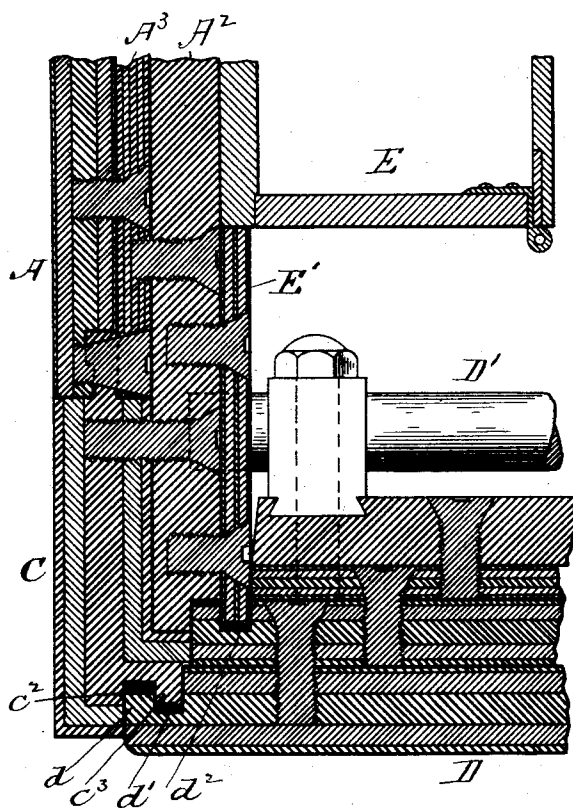


FIG. 5.

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UNITED STATES PATENT OFFICE.

GEORGE L. DAMON, OF CAMBRIDGE, AND GEORGE W. ADAMS, OF MALDEN,
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SAFE.

SPECIFICATION forming part of Letters Patent No. 470,818, dated March 15, 1892.

Application filed December 7, 1891. Serial No. 414,248. (No model.)

To all whom it may concern:

Be it known that we, GEORGE L. DAMON, of Cambridge, and GEORGE W. ADAMS, of Malden, both in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Safes, of which the following is a specification.

Our improvement relates to certain details of safe construction applicable especially to "flush-jamb safes," so called. In such safes heretofore constructed the door, which has been hung on a crane-hinge, has overlapped the safe on all sides like the cover to a box; but this construction is objectionable, because no matter how carefully the safe is built there is always an opportunity to wedge or blow the door off. With our construction, as hereinafter described, this is impossible, because we are enabled to set our door into the front of the safe in such a way that no edge is exposed to be wedged or chiseled. This result is largely due to the peculiar construction of the front of our safe. It is bound together with an angle-hoop, which may or may not be flush with the top, bottom, and sides of the safe. This hoop is narrow in front, but is wide enough to protect the front edges of the sides of the safe. It is grooved so as to form part of the jamb itself, into which the door sets, by means of which it is clamped against wedging. The importance of this improvement is great, as it enables a burglar-proof flush-jamb safe to be so constructed as to contain a nest of safe-deposit boxes without any waste of room, which has heretofore been impossible.

The first part of our invention relates to the general construction of the safe-shell, and the second to various details relating to the construction of the front and the fitting of the door thereto, above referred to.

In the drawings, Figure 1 shows in perspective a safe embodying our invention. Fig. 2 is an elevation with the door removed. Fig. 3 is a horizontal section, nearly full size, of one of the front and rear corners of the safe, showing one form of the jamb and rear corner construction. Fig. 4 is a vertical section showing a mode of attachment of an inner nest of safe-deposit boxes or inner chest to

the inner walls of the safe, and Fig. 5 is a horizontal section showing another form of front corner also embodying our invention.

A A are compound plates made, preferably, of five thicknesses of material—for example, two of chrome-steel and three of wrought-iron, welded together—which are bent, as shown, into right-angle form to form the shell of the safe. Four of these angle-plates are rabbeted together, as indicated in Fig. 1, so as to form a seam in each side wall and in the top and bottom of the safe. They are held at the back by a solid welded hoop B, preferably of five-ply chrome angle steel and iron, which is rabbeted at both edges to receive the plates A and the back panel A', which is constructed of similar material, but is flat. This shell is lined with five plates A², two of which form the two inside side walls of the safe, one the back wall, one the top, and one the bottom. Another plate A³ is used in lining the form of safe shown in Fig. 5. Each of these plates is bolted into place, as shown. By means of the parts which have already been described the box or shell which forms the body of the safe is made. At the front edge these parts are bound together by a solid welded hoop C, also of five-ply chrome angle steel and iron, which is cut off so that on the front of the safe its leg has a bearing of not over one and one-eighth inches, while the side leg runs back six inches. We prefer to rabbet this front hoop C into an inset in the plates, about which it is bound, as shown in Fig. 3, and to shrink it in place where it is secured in part by the screws c⁴, or it may be secured by rabbeting to the plate A, being held in place by the plate A³ and cone bolts in the manner shown in Fig. 5, this joint being the subject of Letters Patent heretofore granted to the said Damon. In the form of our invention shown in Fig. 3 the rear edge of this hoop, forming an offset, we prefer to bevel off, as shown, with the exception of the small part which sets into the groove or inset in the plates forming the shell of the safe. This beveled part is marked c and the straight edge to which we have referred c'. The straight edge c' preferably should be of the thickness of the inner plate of which the

hoop C is made, our purpose being in this construction to set the hoop into the rabbet in the shell sufficiently far to bring the beginning of the bevel and the beginning also of the first layer of steel of which this hoop is formed on a line with the outer surface of the safe. By this means it will be seen to be practically impossible to force or wedge open the seam between this front hoop and the shell, as the wedge cannot get in at the joint and the beveled surface of hard steel tends to throw it off. The hoop thus forms a substantial reinforce to the front of the safe, being partially inset and having its rear edge beveled off, as shown. The door, when shut, tends to hold the loop in place, as will be understood from the following description:

The front leg of the hoop C is provided with a groove c^2 , into which fits a corresponding tongue d on the door D, the door being also provided with a groove d' to receive the tongue c^3 , formed in the hoop.

D' is the bolt, which may be connected to the door in any desired way. In case an attempt is made to force the hoop C off from the shell the bolted door will assist in keeping it in place, as any tendency to force the hoop forward will only bind it and the door move firmly together and jamb the tongues and grooves into one another.

E is an inner nest of safe-deposit boxes. This nest is of ordinary construction, except that it is held in place by a bar F, double dovetailed in cross-section and fitting a corresponding groove F', one part of which is in the outer surface of the nest and the other part of which is on the inner surface of the safe. When the boxes have been slid into place, the bar F, of a length equal to the depth of the nest, is driven in to fill the groove F'. The chest E is also held in place by an inner hoop E', which is driven in after the chest has been fastened in place, the front edge of this hoop forming a tongue, which sets into the groove d^3 in the inner surface of the door D. This door D is hung upon a crane-hinge of ordinary construction, except that, owing to the peculiar front hoop, we are

obliged to fasten this hinge around the corner of the safe, as shown.

The grooves in the safe and door should all be lined with felt, as shown at g , to make the joint air-tight.

What we claim as our invention is—

1. The safe-shell above described, consisting of four plates A A, each bent to form a right angle, all four being rabbeted together and combined with a front and rear hoop, each of substantially the kind described, all as set forth.

2. A burglar-proof safe provided with a shell of suitable construction having an inset on the outer surface of its front edge and a hoop shrunk about said shell into said inset, the projecting edge of said hoop being beveled and forming a slanting offset, as and for the purposes set forth.

3. A burglar-proof safe consisting of a shell of suitable construction and an angle-hoop, combined together in the manner described, said angle-hoop forming the front corner of said safe, the front leg of said hoop being shorter than its side leg and being provided with a groove and tongue, in combination with a door adapted to shut against said front leg and provided with a tongue and groove located to register with the groove and tongue in said front leg, all as set forth.

4. In a burglar-proof safe consisting of a shell of suitable construction having an angle-hoop binding it together, an inner hoop E, projecting forward beyond the edge of the inner wall of the shell and forming therewith a tongue and groove, all in combination with a safe-door adapted to shut over said hoop and having a groove and tongue located to register with the tongue and groove formed by said hoop and wall, all as set forth.

In testimony whereof we have hereunto subscribed our names this 1st day of December, A. D. 1891.

GEO. L. DAMON.
GEO. W. ADAMS.

Witnesses:

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