SAFES, BANK PROTECTION
AND RELATED DEVICES.
84

(No Model.)

3 Sheets—Sheet 1.

# J. H. NOLAN.

## FIRE PROOF CHEST.

No. 268,819. Patented Dec. 12, 1882.

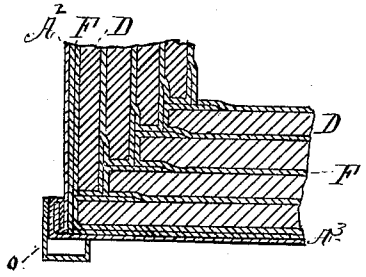



Fig. 3.

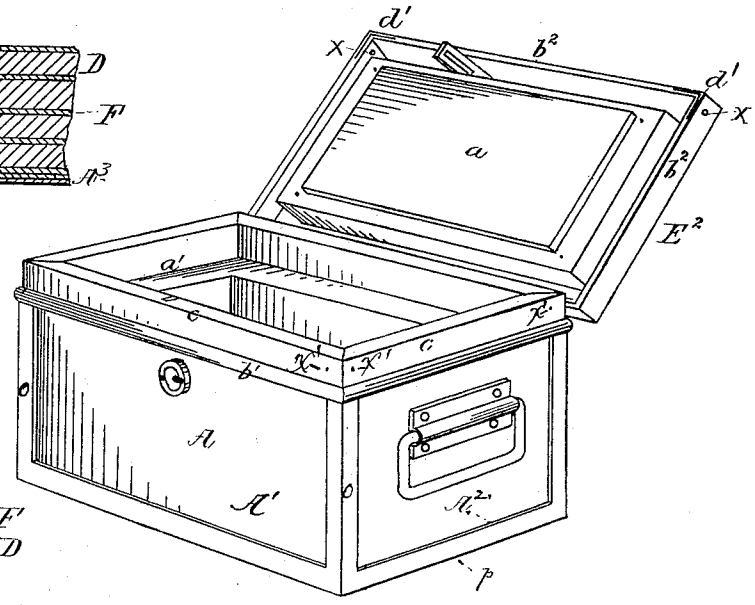



Fig. 1.

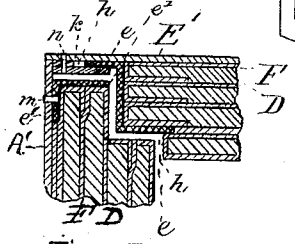



Fig. 8.

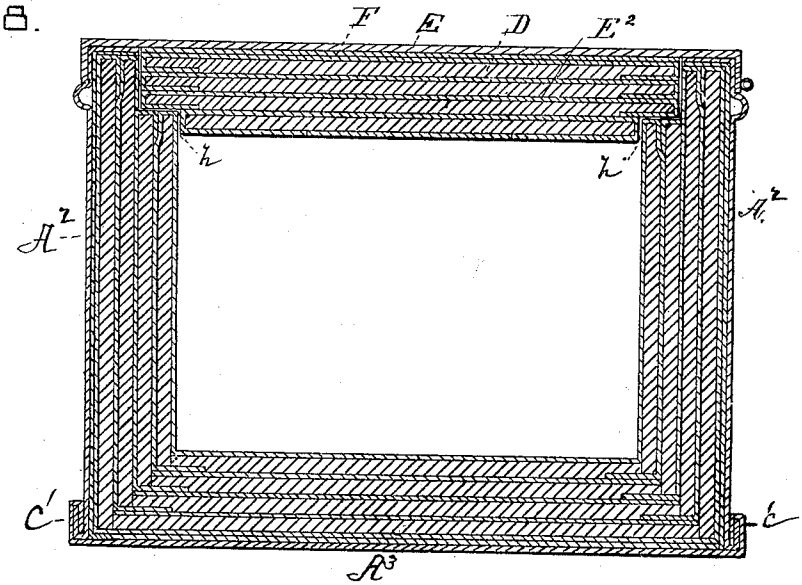



Fig. 2.

WITNESSES

H. H. Raymond Jr.

Bowdoin S. Parker.

INVENTOR

John H. Nolan

N. PETERS. Photo-Lithographer, Washington, D. C.

AND RELATED DEVICES.
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(No Model.) 3 Sheets—Sheet 2.

# J. H. NOLAN.

## FIRE PROOF CHEST.

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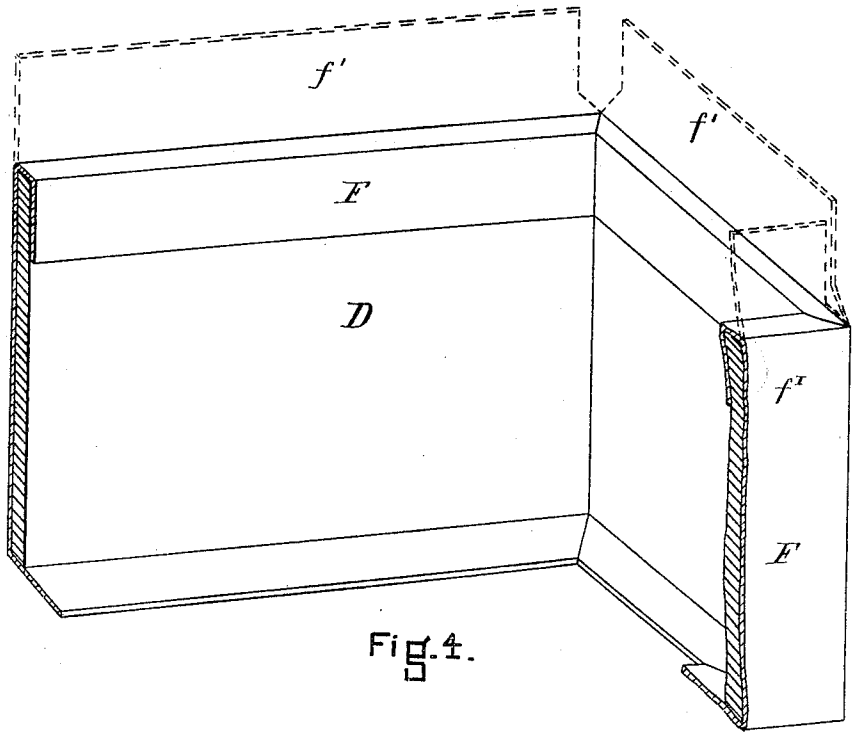



Fig. 4.

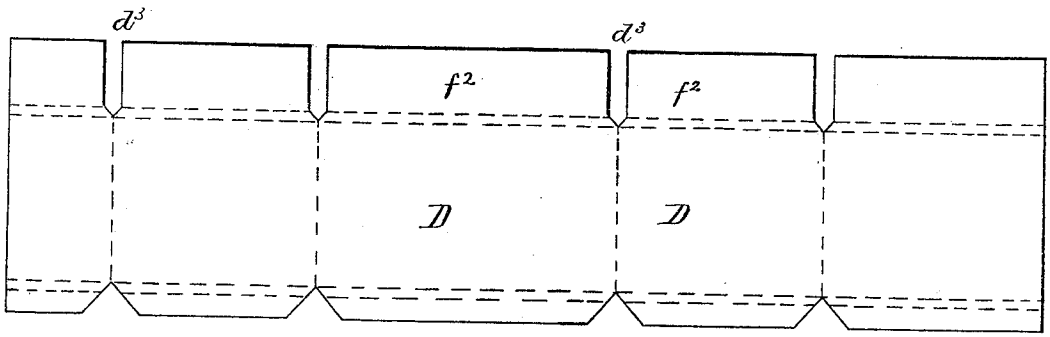



Fig. 5.

WITNESSES

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(No Model.) 3 Sheets—Sheet 3.

# J. H. NOLAN.

## FIRE PROOF CHEST.

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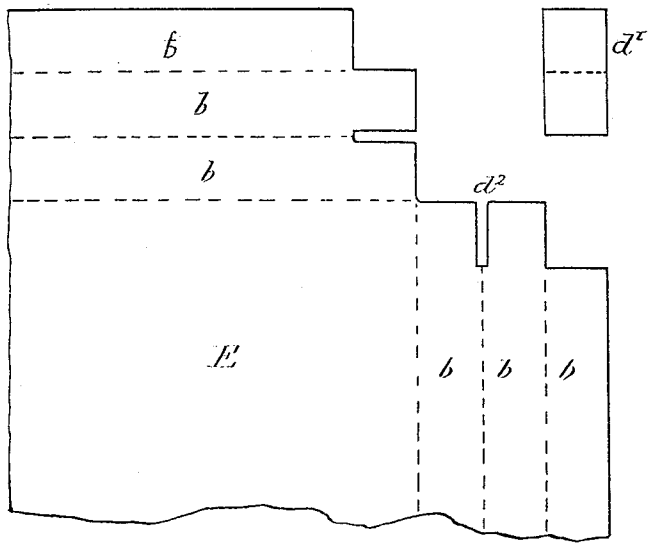



Fig. 6.

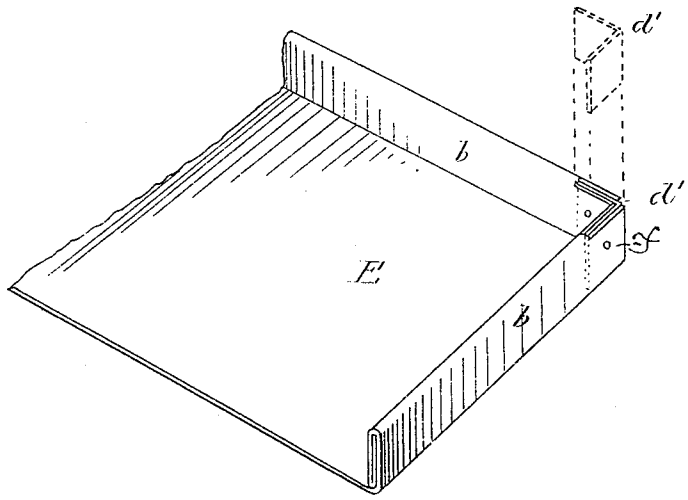



Fig. 7.

WITNESSES

F. H. Raymond 2d

Bowdoin S. Parker

INVENTOR

John H. Nolan

N. PETERS. Photo-Lithographer, Washington, D. C.

AND RELATED DEVICES.

Search Room

84

# UNITED STATES PATENT OFFICE.

JOHN H. NOLAN, OF BOSTON, MASS., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE MAGNESO CALCITE FIRE-PROOF COMPANY, OF SAME PLACE.

## FIRE-PROOF CHEST.

SPECIFICATION forming part of Letters Patent No. 268,819, dated December 12, 1882.

Application filed March 27, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. NOLAN, of the city of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Fire-Proof Chests or Boxes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which like letters indicate corresponding parts.

Figure 1 is a perspective view of the box with cover lifted. Fig. 2 represents a cross-section of the box midway of its width, at point indicated by *p*, in which the top plate, E, and bottom plate, $A^3$, are shown. It also represents the general arrangement of the sheets of incombustible fire-proof material overlaid with the carbonizable material, as usually constructed by me. Fig. 3 is a corner section of the metal plates and fire-proof material enlarged. Fig. 4 is a side and end elevation of a sheet of the carbonizable material, showing the general manner of its use in overlapping the non-combustible fire-proof material shown in Fig. 5. Fig. 5 represents the fire-proof material, which is formed in layers or sheets, and which is placed inside the carbonizable material, as shown in Fig. 4. Fig. 6 represents a sheet of the metal as cut out preparatory to being folded and lapped together to form the cover to the box. Fig. 7 represents the manner of folding the sheets for the cover and the device employed to secure the folded laps at the corners. Fig. 8 represents a section of the box and cover, in which are shown a modified form of securing the metal plates when heavy material is used, also the mode of securing the fire-proof lining by the use of metallic flanges or angle-irons sustained in place by bolts or appropriate securing devices.

The object of my invention is to furnish a substantial fire-proof box or chest for the holding of papers and other valuables, made from metal plates fastened and connected in a new and improved manner, and combined with a lining of indestructible fiber incased in carbonizable fiber, making a light, strong, and convenient fire-proof box or chest, and which can be made at a much less cost for material and labor than the ordinary boxes or chests used for a similar purpose.

This invention is intimately connected with my former inventions upon analogous subjects, particularly to my improvement in fire-proof material for which my application for Letters Patent of the United States was filed February 23, 1882. The fire-proof material therein described I intend to use in this improved box which forms the subject of this present invention. Of course a lining could be used other than the one described in my application just referred to. For instance, the fire-proof lining described in the Fowler magneso-calcite patent, or other similar non heat-conducting fire-proof lining, could be used.

By reference to Fig. 1, A is the box; A′, the front sheet; $A^2$, the end sheet. $E^2$ is the cover; $b^2$, a rim which sets over the top edge, *c*, of the box and rests upon the molding *b′*. The metal plates of the box are turned in at right angles at the top edge to give additional strength, prevent warping, and to protect the fire-proof lining. This turned or folded upper edge or top is shown by *c c*, and is an important part of my present invention. The edge of the cover $b^2$, which sets over the box at *c*, also tends to prevent the warping and twisting of the ends or sides by the heat, and the molding or bead upon which the top rests protects the top as it sets over. Where light plates are used this form is quite important. The edges or corners of the sheet E composing the cover-top are held together by the small pieces *d′ d′*, which are slipped into slots left for the purpose and fastened in place by rivets, (represented by X X.) The part *a* of the cover is fastened to the top by rivets and cement or other suitable means, and when the lid is closed fits closely inside the top of the chest, (represented by *a′*.)

By referring to Fig. 6 a sheet of the metal will be seen, in which E is the sheet itself. *b b b* are edge flaps, which lap over and form the joints and edge of the cover, as shown in $b^2$, Fig. 1. *d′* is a piece which comes out from the waste metal. The plate is cut into the form shown in Fig. 6, and after the plate E is folded, as shown in Fig. 7, the parts or flaps *b b b* take the position as therein shown, and the holes or slits (represented by $d^2$ in Fig. 6) come together in the corner of the plate, and the piece *d′* is bent to an angle of forty-five degrees and slipped into the hole or slit $d^2$, as shown in Fig. 7.

The dotted lines in Fig. 7 indicate the way the box-cover is constructed and the manner of introducing the corner-stays $d'$, as already described. The piece $d'$ is secured in its place by a bolt or rivet, X. (Shown also in the cover of the box, Fig. 1, X.)

The box proper is formed of five plates of metal—A′ A′ the sides, $A^2$ $A^2$ the ends, and $A^3$ the bottom plate. The side and end plates are united at the corners by lap-joints, and the bottom sheet, $A^3$, being folded in its edges, is also lap-jointed to the side and end sheets, as shown at $c'$, Fig. 2. In order to square out the corner upon the outside, the corner-piece $o$, Fig. 3, is soldered or riveted on. This also finishes the box and makes the symmetrically-formed panels, as shown in Fig. 1. The box and cover-plates are further strengthened by a small angle-iron placed in the corner of the edge of the plates, Fig. 1, $b^2$ $b^2$ $c$ $c$, and this iron or brace is held in place by rivets or bolts X X X′ X′. One of the small angle-irons is shown in each corner edge of the cover, and indicated by $d'$ $d'$. When heavier plates of metal are used in constructing the box, the warping or twisting can be prevented by placing braces or irons inside, near the top, extending all around the box, and which will be understood by reference to Fig. 8, hereinafter more particularly explained.

In Fig. 8 I show a section of a modified construction of the cover and box in which the angle-irons $e$ $e$ $e'$ $e'$ are represented, and which are so connected with the outside metal plates as to make a very strong and substantial box, but still of exceedingly light weight. The outside frame-plates of the box are bolted to the inside work, as shown in Fig. 8. The bolts or large rivets are represented by $m$ $n$. The space allowed for expansion is also shown, and is indicated by $h$ $h$. The angle-irons or metallic flanges $e$ $e$ $e'$ $e'$ protect the ends of the combined fire-proof material F D. A metal piece, $k$, Fig. 8, is placed beneath the edge of the cover-plate E′, and which also extends under the edge of angle-iron $e$ $e$ and tends to support it. The piece $k$ is secured to plate E′ by bolt or rivet $n$, space being left for expansion, as already described.

The front of the plate to the box is represented by A′, upon the top of which rests the cover-plate E′. This construction is used with heavy plates and when the cover to the box does not overlap, as shown in Fig. 1, but simply rests on the top of the box, as shown in the section, Fig. 8.

The form of the non-carbonizable or fire-proof material is shown in Fig. 5. It will be seen that it is made to conform to the shape of the metal plates out of which the box is constructed, the holes or slits $d^3$ being made in such a position that in folding, when placed between the sheets of the carbonizable fiber, a tight joint will be formed without creasing or overlapping, and the sheets of carbonizable fiber thus inclosing the non-carbonizable fire-proof material thus nicely fit inside the outside metal plates.

The manner of wrapping the carbonizable fiber about the non-carbonizable fire-proof material is shown in Fig. 4, and the position of both as laid in the metal sheets of the box is fully shown in the sections, Figs. 2, 3, and 8, F being the carbonizable fiber, and D the non-combustible fire-proof material.

It will be observed that my manner of constructing the box effectually protects the exposed ends or edges of the fire-proof material. In the light-metal-plate boxes the protection is afforded by the folded and lapped edge $c$, Fig. 1, and by $b^2$ in the cover, while in the heavy-metal-plate boxes the same protection is afforded by the angle-irons $e$ $e$ $e'$ $e'$, Fig. 8.

Thus I form fire-proof boxes or chests of metal plates, inclosing substances to render the box fire-proof, and only vary the mechanical construction of the top edge of the box and of the cover to correspond with the varying thickness of metal plates used. In either case the box can be made safe, strong, and light, of elegant appearance, and at a very moderate cost.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a fire-proof box, the plates A′ $A^2$ $A^3$, united by lap-joints, and the plate E, forming the cover $E^2$, combined with sheets of fire-proof material D F, substantially as and for the purposes set forth.

2. A fire-proof box formed of plates A′ $A^2$ $A^3$, with bead $b'$, a cover, $E^2$, having an overlapping edge formed of the plate E, with laps $b$ $b$ and openings or slits $d^2$, folded, joined, and secured at the corners of the plate by the pieces $d'$ $d'$ and the rivets X X, all combined with a fire-proof lining, as and for the purposes set forth.

3. In a fire-proof box, the plates A′ $A^2$, with top edges, $c$ $c$, formed by the folding or lapping of the upper edge of the plates, the bead $b'$, and corner-pieces $o$ $o$, all combined substantially as and for the purposes set forth.

4. In a fire-proof box, a cover formed of the metal plate E, arranged by doubling the edge of the metal sheet by folds $b$ $b$ to make the overlapping edge $b^2$, and secured in position by the insertion of bent pieces $d'$ $d'$ and the rivets X X, all substantially as and for the purposes specified.

JOHN H. NOLAN.

Witnesses:
F. F. RAYMOND, 2d,
BOWDOIN S. PARKER.