(No Model.)

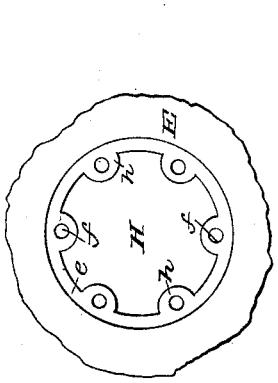
2 Sheets—Sheet 1.

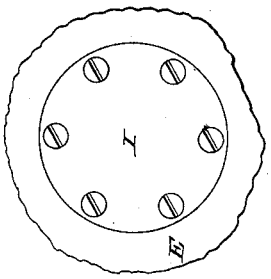
J. WHITE.

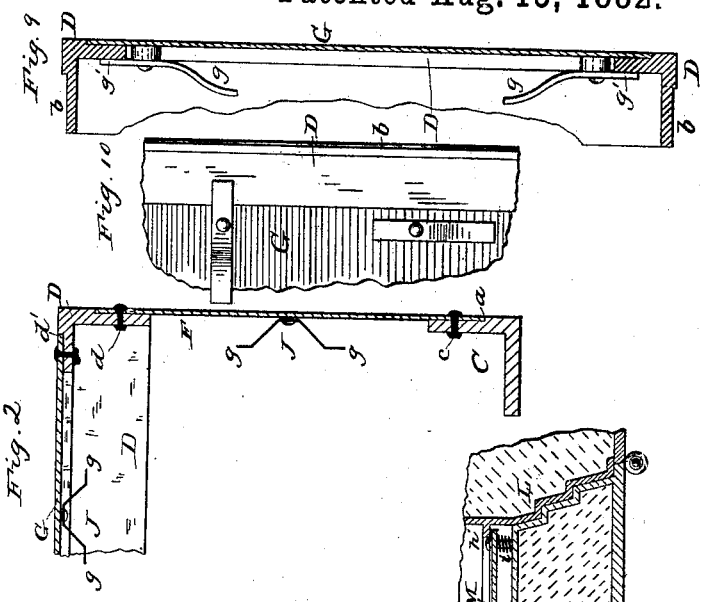
FIRE PROOF SAFE.

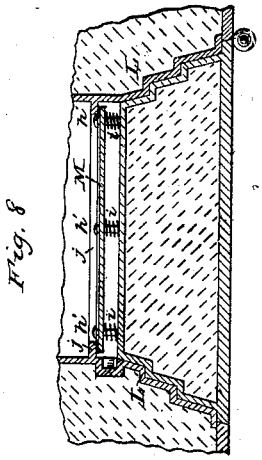
No. 262,872.

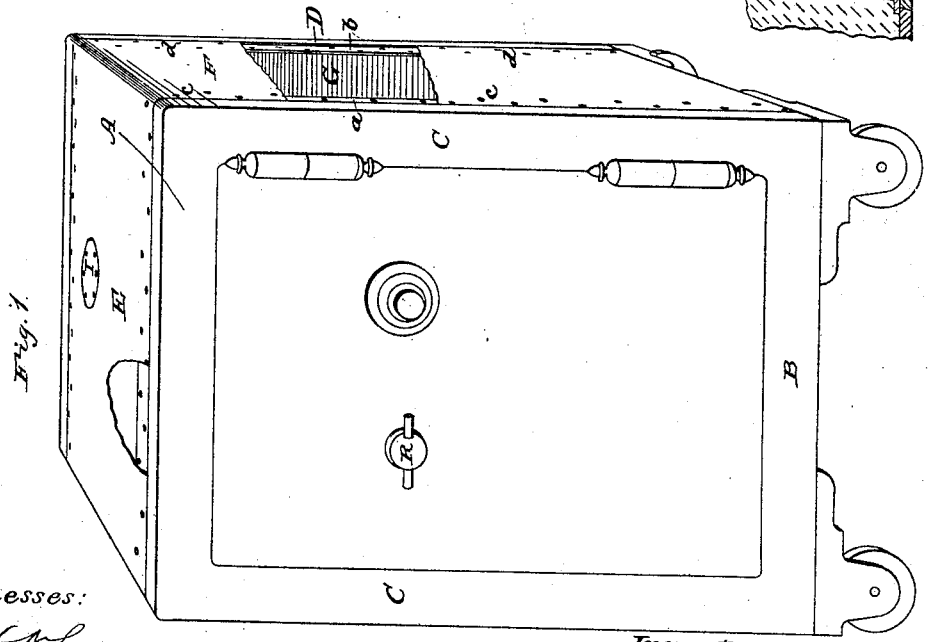
Patented Aug. 15, 1882.











Witnesses:

H. T. Low

J. S. Barker

Inventor:

James White,

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(No Model.)

2 Sheets—Sheet 2.

J. WHITE.

FIRE PROOF SAFE.

No. 262,872. Patented Aug. 15, 1882.

Fig. 7

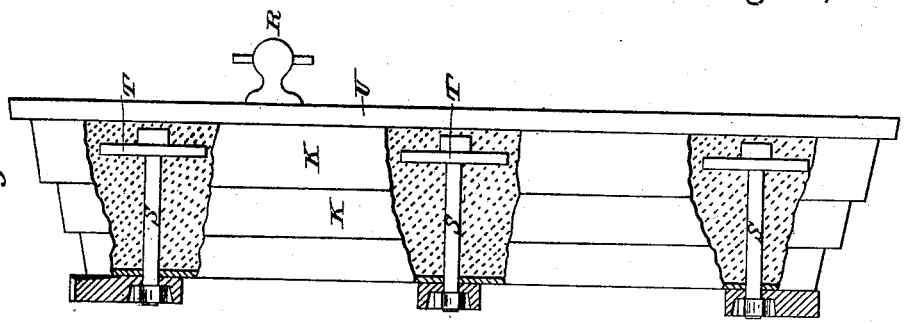


Fig. 6

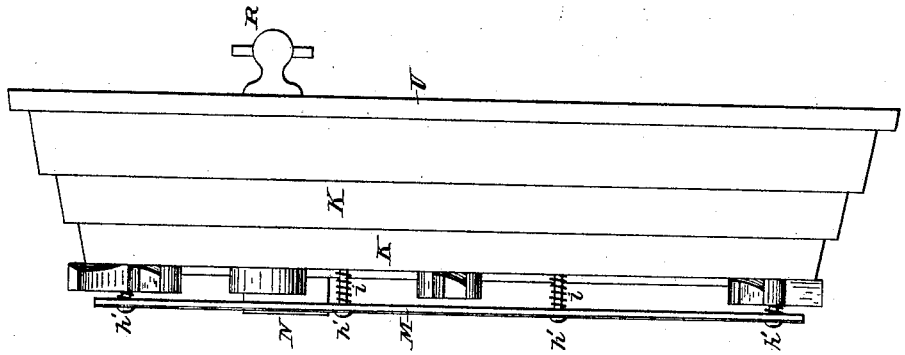
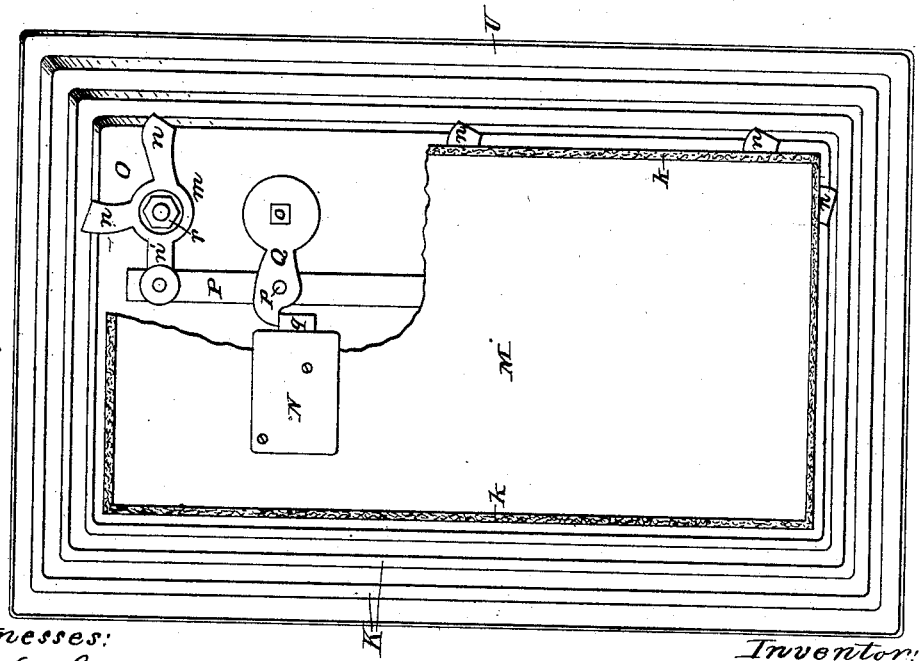


Fig. 5



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UNITED STATES PATENT OFFICE.

JAMES WHITE, OF CANTON, OHIO.

FIRE-PROOF SAFE.

SPECIFICATION forming part of Letters Patent No. 262,872, dated August 15, 1882.

Application filed November 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES WHITE, a citizen of the United States of America, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Safes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of a safe embodying my invention. Fig. 2 is a horizontal section, showing the relations of the angle-irons and the side and back pieces. Fig. 3 is a view of a part of the top plate. Fig. 4 is a view of the last said part and the filling-plate. Fig. 5 is an inside view of the safe-door. Fig. 6 is an edge view of the door. Fig. 7 is a similar view with parts of the edge broken away. Fig. 8 is a horizontal sectional view, showing the relations of the door to the inner parts of the safe. Figs. 9 and 10 illustrate a modified form of the back plate and of the anchors and fastening devices.

In the drawings, A represents the top, B the bottom, and C C the side pieces, of the front frame. It is formed of pieces of angle-iron of suitable size, welded together at the corners of the frame, and rabbeted, as shown at *a*.

The back frame, D, is constructed of angle-iron in rectangular form and corresponding in dimensions to the front frame, A B C. Its forwardly-projecting flange is rabbeted, as at *b*, to receive a jacket, to be hereinafter described. Its flange, which lies parallel with the front A B C, is rabbeted, as at *d'*, to receive the back sheet or panel, which is made in one continuous piece, extending from top to bottom and from side to side of the rabbeted portion of the back piece to which it is secured, as hereinafter described.

The central chamber of the safe may be of any of the usual styles, my invention pertaining more especially to the outer wall or casing and to the devices for securing the door.

The outer wall or casing which I have devised consists of a single sheet of metal, E F, bent at the corners. The casing thus provided is secured by means of two rows of rivets, *c d*, passing through the rabbeted portions of the angle-irons. Before the casing is fastened in place it is provided with an aperture, H, in the top for the admission of the fire-proof filling. The edge of this aperture H may be rabbeted, and the rabbeted portion may have rivet-holes or screw-holes formed therein. I prefer, however, to use a ring of metal, *e*, formed separately and riveted to the under side of the top sheet, so as to project beyond the edge of the aperture, and thus provide a support for the cover. In either case—that is to say, whether a ring or rabbets be used—there should be ears *h h* projecting inwardly, which, when the filling-funnel is in place in the aperture, will allow the free escape of air.

I represents the covering-piece, which fits the aperture H and rests upon the ring or rabbet.

The back sheet, G, is secured in the back frame D D, either in a manner similar that described for fastening the top and side parts, or preferably by means of the devices shown in Figs. 9 and 10. In said figures, *g g* are bent arms secured to the inner side of the back piece, G, by means of rivets, they being held in such manner that they can turn more or less. After the back sheet has been put into proper place it is fastened there by turning the arms *g g* so that their shorter ends *g' g'* shall bear against the inside of the frame pieces D D, and tightly clamp the parts together. The turning of the arms *g g* can be readily effected through the aperture H before the filling material has been introduced.

By forming and attaching the top sides and back of the outer wall or casing in the manner described I dispense with all of the numerous and cumbersome cross-bars and angle-irons which are necessary in constructing safes in the way heretofore followed. The absence of said ordinary cross-bars, angle-pieces, &c., on the inside of the outer wall, allows a much greater space for the fire-proof filling than can be had when they are employed. When a single continuous sheet is employed for the top and sides, there is produced an unbroken smooth surface, which is advantageous in many ways, especially in matter of painting. The

rabbets in the angle-irons at the front and back are of such depth as to hold the wall or casing sheets just flush with the outer surfaces of said angle-irons.

J J represent anchors attached to the inside of the casing-pieces for the purpose of giving a surer hold for said pieces in or upon the filling material. These anchors are preferably constructed as shown—that is, formed of pieces of metal having diverging or spreading arms *g g* adapted to engage with the filling material, which as it enters the filling-space covers them. The filling is poured in in the usual manner through the aperture H, which is closed by the cover I after the filling operation has been completed.

The arms *g g* in Figs. 9 and 10 operate similarly to those shown in Fig. 2, in that they engage with the filling material to assist in holding the back plate in place. When the back plate is secured, as shown in Figs. 9 and 10, it is much harder to remove said plate.

The door of the safe is hinged to and supported within the front angle-frame of the safe. The door is constructed with a series of edges or shoulders, as shown at K K, of substantially the usual character, fitting a corresponding series of edges or shoulders, L L, attached to the stationary parts of the safe. Upon the inner face of the door there is a plate or shield, M, supported by means of screws or pins *h' h'*, screws being preferred, as they allow an adjustment of the position of the plate or shield.

i i are spiral springs around the screws or pins *h' h'*, which are arranged to bear against the plate or shield M, so that they shall tend to thrust said plate inward.

j represents a shoulder or offset projecting from the inner face of the wall of the safe, and against this shoulder or offset the plate or shield M presses when the door of the safe is shut. In order to make the joint between the plate and shoulder *j* perfectly tight, I attach to the edges of the plate strips *k* of felt or other suitable material for packing, which make the joint tight when the plate presses against the shoulder, and these devices operate to protect the contents of the safe in case of fire, preventing the access of heat, smoke, &c., and also preventing the entrance of water, if any should come in contact with the safe. The plate or shield may be provided with an aperture to allow it to move past the inner face of the lock N, if it should become necessary.

Lock N may be of any ordinary or preferred construction. The bolt-arms which engage with the wall of the safe to hold the door are represented by O O. They are formed with hubs *m* and with operating-arms *n'*. As many bolts may be employed as is necessary. The operating-arms *n'* of the safe-bolts O O, are joined by the connecting bar or link P, to which said operating-arms are pivoted. The connecting-bar P is reciprocated, and with it the bolts O O, by means of a lever, Q, secured to the handle-arbor *o*, the latter carrying the handle R on the outside of the safe. The lever Q is pivoted at *p* to the connecting-bar P. The bolt *q* of lock N engages with the lever Q in the manner shown in Fig. 5 to hold the locking-arms O O in engagement with the sides of the safe. When the lever Q is withdrawn the arms O O can be drawn out of engagement and the door opened.

By referring to Fig. 6 it can be seen that the engaging-faces of the locking-arms O O are inclined to the plane of their rotation, and also to their axis. The walls of the safe, at the points where said arms engage with them, are inclined in a corresponding manner, or are provided with inclined recesses. When the inclined faces of the locking-arms come in contact with the corresponding parts of the side walls of the safe they operate as cams to draw the door tightly into position.

S S represent bolts, to which the locking-arms are pivoted by means of the hereinbefore-described hubs *m m*, the hubs and bolts being held together preferably by nuts *r r*. The bolts S S are surrounded by the fire-proof filling material, and are anchored therein by means of plates or washers T, against which the outer ends of the bolts bear. When anchored thus in the filling material the bolts are firmly held in proper position, and support the locking bolt-work upon the inside of the door against any displacing force that can be practically brought to bear, and as the bolts do not come in contact with the outer plate, U, of the door they cannot be tampered with by burglars, and in case of fire they will not tend to conduct the heat inwardly, and destroy any of the parts and impair any of their proper working relations. The contrary has been the case with the safe-doors constructed in the manner heretofore followed, which has been to secure the supporting-bolts to the inside of the outer plate of the door—that is to say, the the bolts, when supported and attached in the manner last described, permit tampering by burglars and operate as conductors to carry heat to the bolt-work on the inside of the safe.

I do not in this case claim anything except the inventions specifically recited in the claims, preferring to claim all other patentable subject-matter in another application, which I propose to file as a division hereof.

What I claim is—

1. In a safe, the rectangular angle-iron front frame, A B C, provided upon its face with hinges for the door, and with the inwardly-projecting flange, rabbeted as at *a*, substantially as set forth.

2. In a safe, the rectangular angle-iron rear frame, D, having the forwardly-projecting flange, rabbeted as at *b*, and provided also with the panel-rabbet, as at *d'*, substantially as set forth.

3. In a safe, the combination, with the front and rear rectangular angle-iron rabbeted frames, of the back sheet, G, extending from

top to bottom and from side to side of said frame, and the jacket-sheet covering the top, bottom, and sides of the safe, and secured directly to the frames, substantially as set forth.

4. In a safe, the combination, with the frame and the metallic back sheet, of an interior clamping device attached permanently to the sheet and overlapping the frame, substantially as set forth.

5. In a safe, the combination, with the door, of a yielding packing-plate projecting into the safe beyond the inner face of the door, bolt-work interposed between the packing-plate and the inner face of the door, and a shoulder projecting from the inner wall of the safe, substantially as set forth.

6. In a safe, the combination, with the inner face of the door, of two vibrating locking-arms arranged at substantially a right-angle to each other, and having their operative faces formed upon angles to the plane of their rotation, shoulders in the inner wall of the safe upon opposite sides of an angle, and mechanism adapted to be operated from the outside of the safe for actuating the locking-arms after the door is closed, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES WHITE.

Witnesses:

HENRY FISHER,

L. M. JONES.