

W. H. BUTLER.
Safe-Deposit Box.

No. 159,897.

Patented Feb. 16, 1875.

Fig. 1.

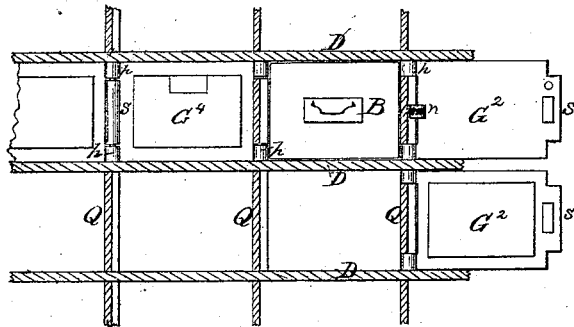


Fig. 4.

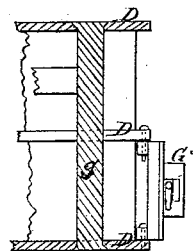


Fig. 2.

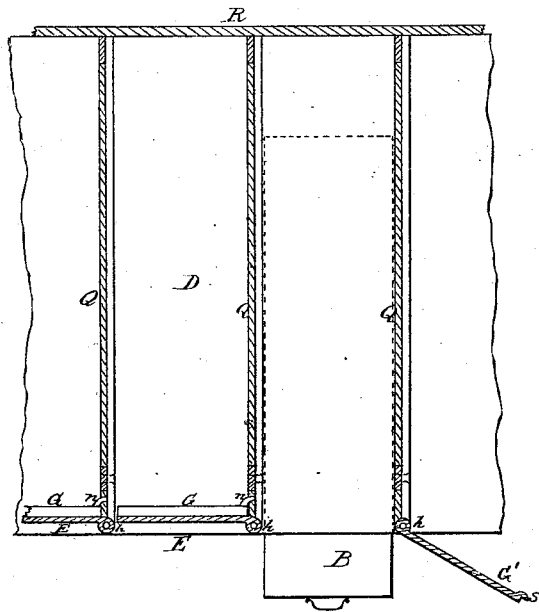
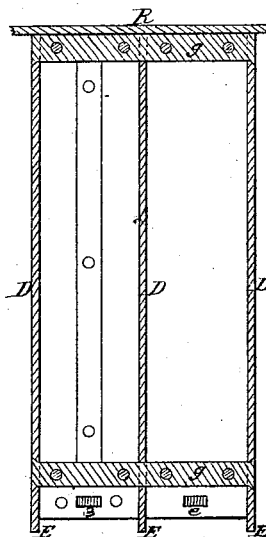


Fig. 3.



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Fig. 5.

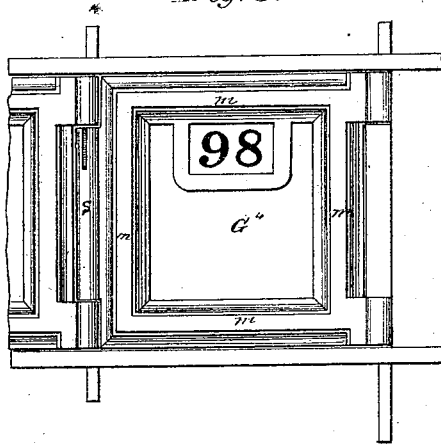


Fig. 6.

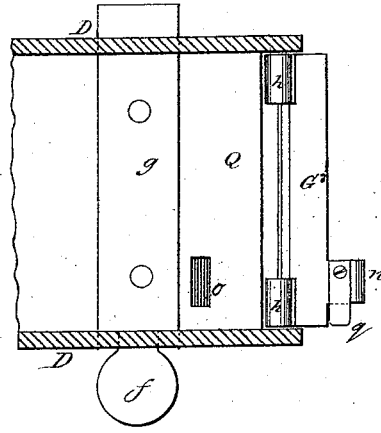


Fig. 7.

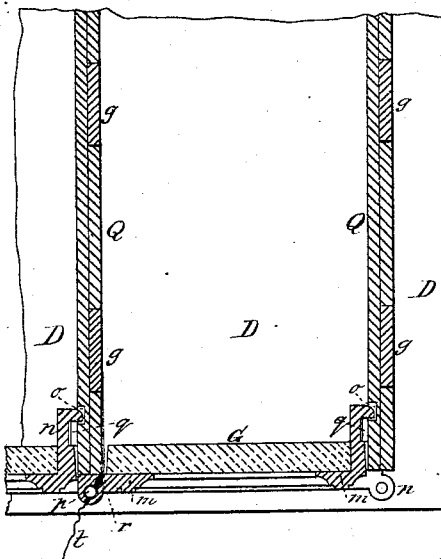


Fig. 8.

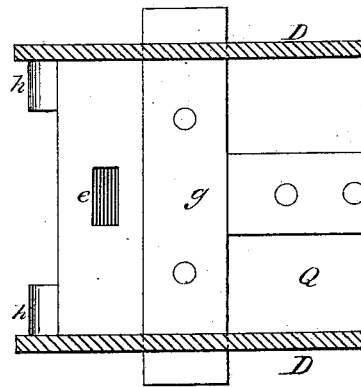


Fig. 9.

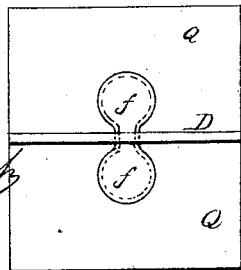
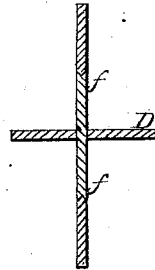


Fig. 10.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BUTLER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SAFE-DEPOSIT BOXES.

Specification forming part of Letters Patent No. **159,897**, dated February 16, 1875; application filed July 28, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. BUTLER, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Safe-Deposit Boxes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a vertical cross-section, showing the position of boxes and the manner of arranging the doors so as to economize space. Figs. 2 and 7 are longitudinal horizontal sections. Figs. 3, 4, 6, and 8 are longitudinal vertical sections. Fig. 5 shows the appearance of the front of a box with the door closed. Figs. 9 and 10 (9 a vertical longitudinal, and 10 a vertical cross, section) show the manner of tying together the horizontal and vertical plates.

My invention relates to improvements in the construction of the small pigeon-hole boxes used in safe-deposit institutions. These boxes are built together in cases or nests, which are placed in fire and burglar proof vaults, and are arranged like book-cases. Each box is provided with a separate lock, which is controlled by the renter. In this box it is customary to place a tin box holding the valuables, and it is usually taken out of the vault before being opened.

It is desirable to make the boxes simple and cheap, yet strong and stiff, so that they will not rack and bind the doors, and to utilize as much space as possible. There are times when it is desirable to attach a seal to the box in addition to the lock, that the renter may detect any tampering with it during his absence.

The old method of making safe-deposit boxes was to form a section of pigeon-holes with shelves and partitions, held together by knees or angle-iron, and to the front of these was fastened a cast-iron frame or sash, to which the door was hinged and locked, and which materially reduced the size of the opening.

By improvements for which Letters Patent

dated June 14, 1870, No. 104,263, were granted to me, I dispense with the knees or angle-iron, also the cast-iron sash, which enabled me to make all parts of wrought or cast malleable iron.

My present improvements enable me to make this class of boxes stronger and cheaper, and to insert a tin box the full size of the door of the safe-deposit box, with no obstruction to the tin box when pushed into the safe or box.

The following description will enable those skilled in the art to make and use my invention.

I form the vertical partitions *Q* of a plate of iron of about the same thickness as the diameter of the hinge *h*, and then in them cut grooves to admit the tie-bars *g* flush with the surface; or, in cases where it is cheaper, I form the partitions of a thin plate, and rivet onto it pieces of metal of the same thickness as the tie-bars, leaving grooves for the tie-bars. The tie-bars are then placed in the grooves thus formed, flush with the surface of the partitions, and, passing through holes in the horizontal plates, are riveted at their ends over the outside of the top and bottom plates, or into suitable countersinks in such places; or said bars may be provided with screwed ends, on which nuts may be placed.

The tie-bars, if thought best, may be short pieces of any suitable lengths, their jointing taking place at or about the middle of the partitions; or the tie-bars may be shorter than the partitions' width, in which case the groove need not be cut all the way across, but only sufficient to admit the end of the tie-bar, to which the partition is firmly riveted or screwed. The tie-bar passes through a hole in the shelf or horizontal plate above, and the other end is firmly riveted in a similar groove in the partition above.

Another way of securing the plates together is by means of tie-bars *f* of the shape seen in Fig. 9, consisting of two heads connected by a short neck. The heads are beveled, so that they can be driven tightly into similar-shaped mortises or holes in the partition-walls. One head is tightly driven in the mortise prepared for it in one partition. The other is passed through a slot in the horizontal plate, and then driven into the mortise or hole prepared

for it in the partition of the box above. The neck has an expansion at or about its center, so as to fill the slot in the horizontal plate, and prevent its being moved backward or forward. The heads need not be round, as shown in the figure, but may be dovetail, T shape, or of any other suitable form. The ties may also be S-shaped, or have any form suitable for binding the plates together.

This method of joining and securing the plates is, perhaps, superior to that of using the straight tie-bars, as described above, inasmuch as no riveting is required.

Into the partitions Q on one side of the boxes I cut holes *e* for the locks, and into the other sides holes *o* for the dogs on the doors, one above the other, and neither hole going entirely through the partition. The partitions, which extend from the back of the box to the front, have each their vertical center line passing through the center of their hinges *h*; and the diameter of the hinges is made about as long as the partition is thick, so that they will not project on either side beyond the line of the side of the partition.

Instead of having the door-stop on the striking-bar inside, as in my patent above mentioned, I place a stop on the outer edge of the door, to strike on the edge of the partition between or outside the hinges of the next door, and generally shaped so as to make a finish with the hinges. If there be but one hinge in the middle of the door the stop can be in two parts. This stop can be placed on either edge of the door, but must be opposite to the edge on which the door is hinged, and great care is taken to shape it so as to permit the neighboring door to pass over it so as to be at right angles to the partition when open, and so as not to project beyond the partition and obstruct the withdrawal of the tin box in the next pigeon-hole.

I place a dog, *n*, on the inside of the door in such a position that it does not come opposite the lock-bolt of the neighboring door. The dog is so shaped that when the door is opened it does not project beyond a line with the side of the partition; and in this dog I place a spring, *g*, in such a manner that it does not project beyond the dog. The use of the spring is to call the attention of the safe-keeper, by pushing open the door, if by chance the renter of the box goes away without locking it.

For the purpose of cheapening the construction and giving greater strength to the door, I make the molding or frame *m* of the door in one piece with the stop-hinges and dog, and secure thereto the plate G.

In the drawings, D D D represent the horizontal plates which form the top and bottom of the boxes. These plates may be extended to the right or left, to connect any desired number of boxes. Q Q Q represent the vertical partition-walls, which are made of iron plates equal in width to the height of a single box. *g g* represent the straight flat tie-bars,

placed in grooves in the sides of the vertical partitions, so as to be flush with their surface. To these bars are riveted or screwed the partitions Q Q. *f*, seen in Figs. 9 and 10, represents the double-headed tie-bar, above described, to take the place of the straight flat tie-bar *g*. The heads of the tie-bars may be of different shapes from that shown. The number of tie-bars is varied according to circumstances and the strength required. The horizontal plates D D extend further in front than the vertical ones, and to these projecting portions or ledges E E the doors are hinged, the pivots or pintles upon which they turn passing through the ledges. G¹G²G³G⁴ show the doors in different positions. *h h* represent the hinges. *n* represents the dog, fitting into hole *o* in the partition, and *g* the spring. The dog and spring are seen best in Figs. 6 and 7. *e* represents the mortise in the partition Q for the bolt of the lock to enter. *s* is the stop on the door, seen best in Figs. 1 and 5. *m*, Fig. 7, is the molding or frame of the door, shown also in Fig. 5. *r* is the slot, and *p* the cavity in the stop, and *t* the strip of paper or other material for sealing the door. B is the tin box for the valuables.

It will thus be seen that all parts of the structure are firmly bound together. When the door is open the entire front end of the pigeon-hole, which is the same in size as the cross-section of any and all parts of the pigeon-hole, is entirely unobstructed by any part of the door or hinges.

I do not claim making the partitions smooth or flush by putting a plate of iron on the outside of the tie-bars, as that was claimed in letters patent granted to me June 14, 1870, No. 104,263.

I do not claim broadly a raised molding on the door; but,

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In safe-deposit boxes, the combination of the horizontal plates with the vertical partitions, when held together by means of tie-bars fitted flush with the surface of the partition and passing through the horizontal plates, substantially as set forth.

2. In safe-deposit boxes, the combination of the horizontal plates with the vertical partitions, when held together by means of the double-headed tie-bars fitted flush with the surface of the partitions, substantially as described.

3. In safe-deposit boxes, the construction and arrangement of the hinges and stop of each door, as described, whereby the door in closing is stopped by the vertical partition, the stop striking the partition between or outside the hinges of the adjoining door, and making a finish with them, as set forth.

4. A door for a safe-deposit box, consisting of the frame *m*, hinges *h*, dog *n*, and stop *s*, cast in one piece, and combined with the plate G, substantially as described.

5. A door for a safe-deposit box, provided with the dog *n* and spring *g*, the latter arranged in a recess in the former and not projecting beyond the side of the partition when the door is open, substantially as described.

6. In safe-deposit boxes, a partition provided with two mortises, the one above the other, and on opposite sides of the partition, for the reception of the dog and lock-bolt, substantially as described.

In testimony that I claim the foregoing as my own, I affix my signature in the presence of two witnesses.

WILLIAM H. BUTLER.

Witnesses:

J. H. McDONOUGH,
G. W. EINSFELD.