(No Model.) 2 Sheets—Sheet 1.

G. S. CLARK.

SAFETY VAULT OR LIKE STRUCTURE.

No. 440,914. Patented Nov. 18, 1890.

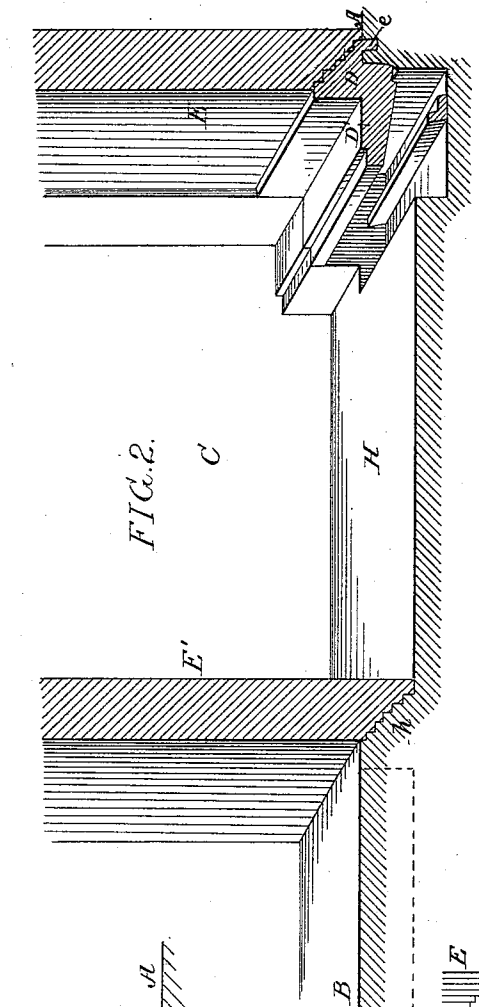


FIG. 2.

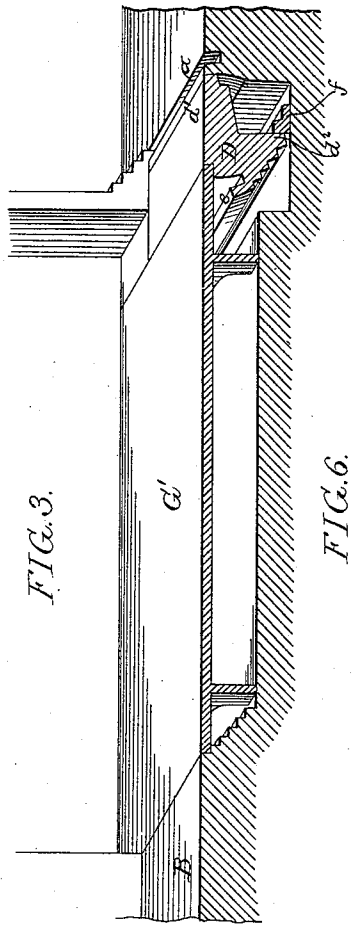


FIG. 3.

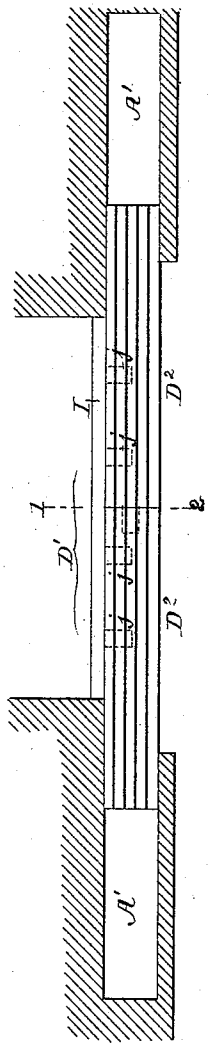


FIG. 6.

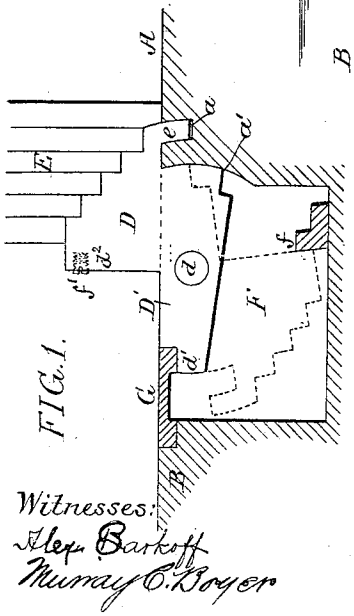


FIG. 1.

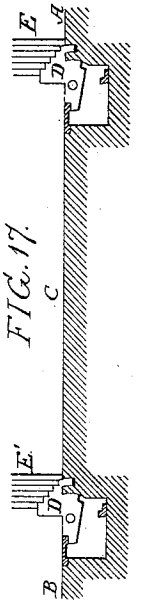


FIG. 17.

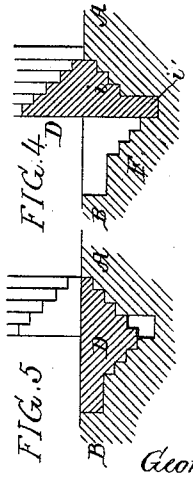


FIG. 4.

FIG. 5.

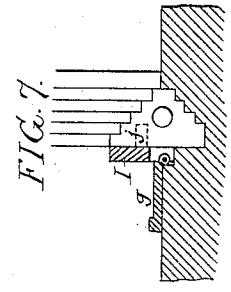


FIG. 7.

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George S. Clark
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Howson & Howson

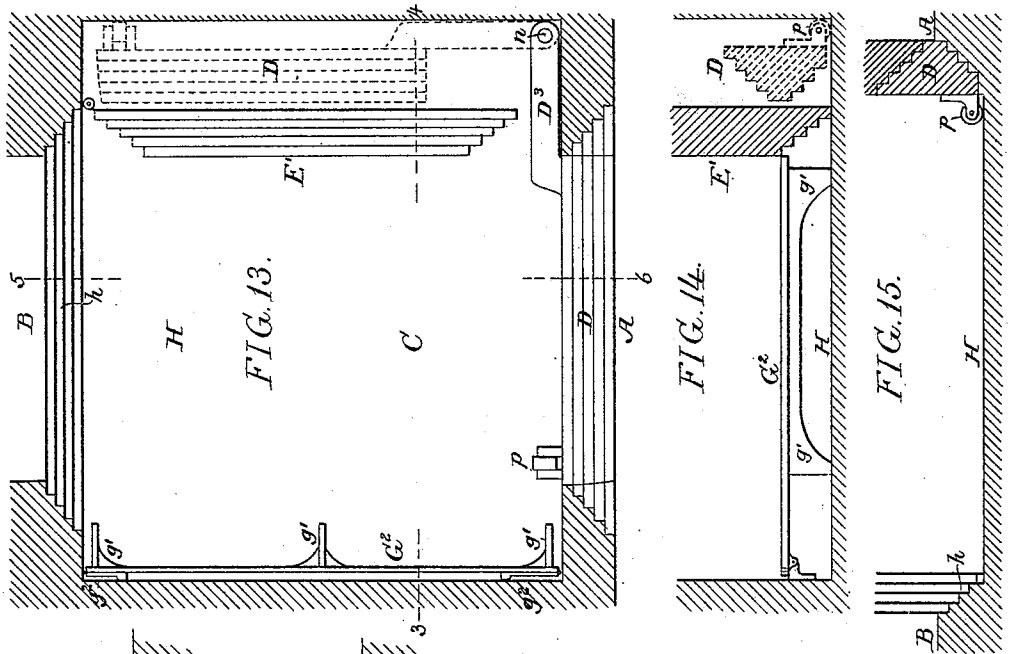
THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

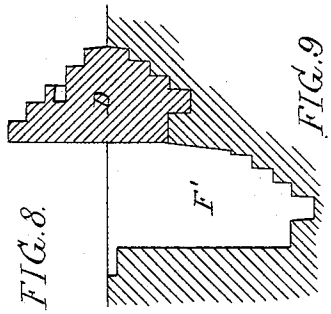
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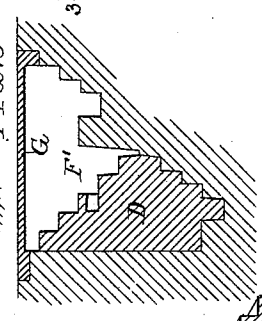
G. S. CLARK.

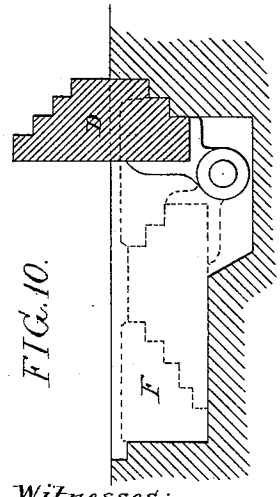
SAFETY VAULT OR LIKE STRUCTURE.

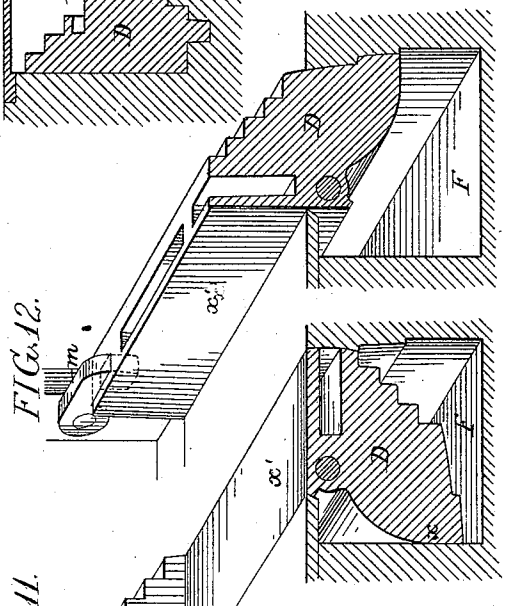
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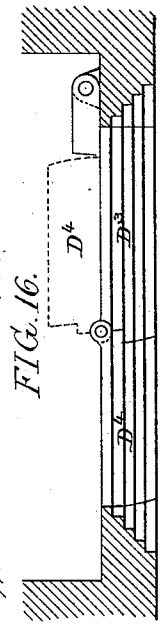












Witnesses:
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Murray & Boyer

Inventor:
George S. Clark
by his Attorneys
Howson & Howson

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UNITED STATES PATENT OFFICE.

GEORGE S. CLARK, OF PHILADELPHIA, PENNSYLVANIA.

SAFETY-VAULT OR LIKE STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 440,914, dated November 18, 1890.

Application filed April 22, 1890. Serial No. 348,979. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. CLARK, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Safety-Vaults or Like Structures, of which the following is a specification.

The object of my invention is to provide a level passage into and out of safety-vaults or like structures in which raised sills are used. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view of a portion of a vault and door, showing my improved sill. Fig. 2 is a sectional perspective view showing a vault with two doors, the sill being raised and the doors closed. Fig. 3 is a view similar to Fig. 2 with the sill depressed and doors open. Figs. 4 and 5 are views illustrating one of the simplest forms of my invention. Fig. 6 is a sectional plan view illustrating the sill adapted to slide in ways. Fig. 7 is a section on the line 1 2, Fig. 6. Figs. 8, 9, and 10 are sectional views illustrating modifications of my invention. Figs. 11 and 12 are sectional perspective views illustrating still another modification of my invention. Fig. 13 is a plan view showing a single swinging sill, the sill being shown in position and the filling-plate up. Fig. 14 is a section on the line 3 4, Fig. 13, showing the filling-plate down in position. Fig. 15 is a section on the line 5 6, Fig. 13, showing the sill in position. Fig. 16 is a sectional plan view showing the double swinging sill, and Fig. 17 is a longitudinal sectional view showing two swinging sills for a vault having two doorways.

All burglar and fire proof vaults of modern construction are provided with raised rabbeted sills, which form with the rabbeted doors a staggered joint, making the vault burglar-proof. These sills project several inches above the level of the floor of the building and the floor of the vault, and in many cases two or more of these sills are used for two or more doorways. In large safe-deposit institutions there is a constant passage of persons into and out of these vaults, and consequently each sill has to be stepped over, and it often happens that persons stumble over these sills, and it is this objection to the raised sills which I wish to overcome. I so arrange the sill that it can be bodily removed and the space filled with a filling-plate even with the floor of the building and vault, or so arrange the sill that by inverting it it will itself form a flush tread, as fully described hereinafter.

I will first allude to the invention in one of its simplest forms, reference being had to Fig. 1, in which A is the floor of the building, and B the floor of the vault on the same plane as the floor of the building.

D is the sill, having its front edge rabbeted to correspond with the rabbet on the door E. This sill is pivoted at d in any suitable manner. In the present instance trunnions on the sill enter bearings in the floor of the vault; but it will be understood that other forms of pivots may be used without departing from my invention.

I stagger the joint between the sill and the floor by means of a tongue e, which passes into a groove a in the floor A, and I extend the body portion of the sill below the level of the floor, as clearly shown. Projecting rearwardly from the sill is an extension D′, the end of this extension being the same distance from the pivot d as the front portion of the body of the sill, so that when the sill is turned to the position shown by dotted lines the end d' will fit snugly against the edge a' of the floor A, and the part d^2 will rest against the stop f, which limits the motion of the sill.

The sill swings in an opening or well F between the floor A of the building and the floor B of the vault, and a filling-plate G, flush with the floors of the building and vault, fills in the space between the sill and the vault-floor, the plate resting in the depression in the sill and a depression in the floor, as clearly shown in Fig. 1. Adjusting-screws f' can be placed on the part d^2 of the sill or on the stop f to level the sill when turned, as shown in Fig. 1.

When an inner and outer door are used, forming a vestibule, the swinging sill can be duplicated, as shown in Fig. 17, the floor of the building, vestibule, and vault being practically on the same level; but where circumstances permit I prefer to use the construction shown in Figs. 2 and 3, in which the swinging sill D is used similar in construction to that shown in Fig. 1 for the outer door, and

I depress the floor H of the vestibule C, so that the inner door E′ will fit into the rabbeted sill *h*, which is below the level of both the floor B of the vault and the floor A of the building, these two latter floors being on the same plane.

When the doors are open, as shown in Fig. 3, and the sill D reversed, a filling-plate G′ (clearly shown in Fig. 3) is inserted between the inner sill *h* and the rear of the movable sill D, this plate being on the same plane as the floor A of the building and the floor B of the vault, and thus ingress to and egress from the vault is not interfered with by the sill of either of the doorways.

Figs. 4 and 5 illustrate one of the simplest forms of my invention, the sill D being rabbeted to fit the door and rabbeted at *i* to fit the rabbeted walls of the well F, a tongue *i′* in the present instance preventing the sill from moving backward. The rabbeted portion of the well F corresponds with the rabbeted portion of the sill, so that by simply lifting the sill from the position shown in Fig. 4 and turning it so that it will fill the well, as shown in Fig. 5, the back of the sill being level with the floor of the building and the floor of the vault, thus forming an uninterrupted passage.

In Figs. 6 and 7 I have shown the sill in the form of a sliding sill instead of being pivoted, being made in two parts D^2 D^2, adapted to slide in cavities A′ in the side walls of the vault, and preferably hinged to the vault-floor is a filling-plate *g*, so that when the sill-sections are moved back into the cavities the plate *g* is turned over, closing the space in which the sills slide, thus forming an uninterrupted passage. The plate *g*, instead of being hinged, may be made detachable, as shown in Fig. 1. The sections D^2 of the sill are locked together, when extended, by a bar I, having pins *j*, which fit into openings in the back of the sections. A dowel-pin projects from one of the sections into an orifice in the other section, thus keeping the two sections in line.

Figs. 8 and 9 illustrate a modification of my invention, in which the sill D can be removed from its raised position and set into a deep opening F′, the opening being of such depth that the top of the sill will be below the level of the floor and the opening can be covered by a suitable cover-plate G, as shown clearly in Fig. 9.

In Fig. 10 I have shown the sill pivoted at such a point that when moved back to the position shown by dotted lines a filling plate or plates can be inserted.

In Figs. 11 and 12 I have shown a pivoted sill; but instead of moving the sill backward, as in the devices described above, I move the sill forward on a pivot until the portion *x* strikes the rear wall of the pit or other stop, the portion *x′* forming a continuation of the floor, as shown in Fig. 11. When the sill is raised, as shown in Fig. 12, I lock it in position by means of a bolt or hook *m*, pivoted to the side of the vault, the hook passing into a cavity in the sill. By simply raising this hook the sill can be depressed by moving it forward on its pivot to the position shown in Fig. 11.

Figs. 13, 14, and 15 illustrate a sill that can be moved on a vertical pivot to a position at the side of the vault or vestibule. The sill D is secured to an arm D^3, which is pivoted at *n*, and the outer end of the sill is provided with a roller *p*, so that the sill can be readily swung around from the position shown by full lines in Fig. 13 to that shown by dotted lines in said figure, and where a vestibule is used, as shown in Fig. 13, the inner door E′ is hung on the same side as the pivoted sill, so that the sill when moved out of position will be hidden from view by the door E′, as shown in Fig. 13. In order to provide a flush door in the vestibule, I hinge a filling-plate G^2 preferably to the opposite side of the vestibule, the legs *g′* of the plate resting on the floor H of the vestibule, as shown in Fig. 14, the top of the plate being flush with the floors of the building and vault.

In Fig. 14 I have shown the sill moved out of position and the filling-plate G^2 moved down into position. The filling-plate G^2 has two extensions g^2, one of which covers the opening for the sill D and the other extends over the sill *h*.

In Fig. 16 I have shown the sill made in two parts D^3 D^4. The part D^4 is pivoted to the part D^3, and this part D^3 is pivoted to bearings in the vault in a manner similar to that shown in Fig. 13. This is especially applicable where the two doorways are near together. It will therefore be seen that I overcome the objection to the raised permanent sill by making the sill detachable, either by making it wholly detachable or swinging away from the line of the sill or depressing it, as clearly shown in the accompanying drawings.

When three doors are used, one in advance of the other, I prefer to construct the vault as shown by dotted lines in Fig. 2, the second vestibule after the door is opened being provided with a suitable filling-plate, so as to provide an uninterrupted passage into and out of the vault; or the movable sill may be used, as in Fig. 17.

In most all the cases some suitable device is provided by which the sill can be raised—as, for instance, a depressed handle may be inserted in the sill, or openings may be formed therein, so that a hook can be inserted to move the sill.

I claim as my invention—

1. The combination of a vault or analogous structure, the floor of the vault being on the same plane as the floor of the building, with a movable raised sill, substantially as described.

2. The combination of a vault or analogous structure with a raised sill pivoted so as to be

moved to provide an uninterrupted passage into the vault, substantially as described.

3. The combination, in a vault or analogous structure, of a movable raised sill with a filling-plate, substantially as described.

4. The combination, in a vault or analogous structure having one or more inner doorways and an outer doorway, the floor of the vault being on the same plane as the floor of the building, of a depressed vestibule between the doorways, with a movable sill for the outer door to fit against and a movable filling-plate adapted to the space between the doorways, substantially as described.

5. The combination, in a vault or analogous structure, of the movable sill and a hinged filling-plate, substantially as described.

6. The combination, in a vault or analogous structure, of the floor of a building, floor of the vestibule, and floor of the vault, all on or about the same plane, with a movable sill or sills between the several floors, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two suscribing witnesses.

GEORGE S. CLARK.

Witnesses:
H. F. REARDON,
HENRY HOWSON.