R. FRÈRE.

DOOR FOR FIREPROOF CHAMBERS.

APPLICATION FILED JAN. 27, 1914.

1,275,549. Patented Aug. 13, 1918.

FIG. 1

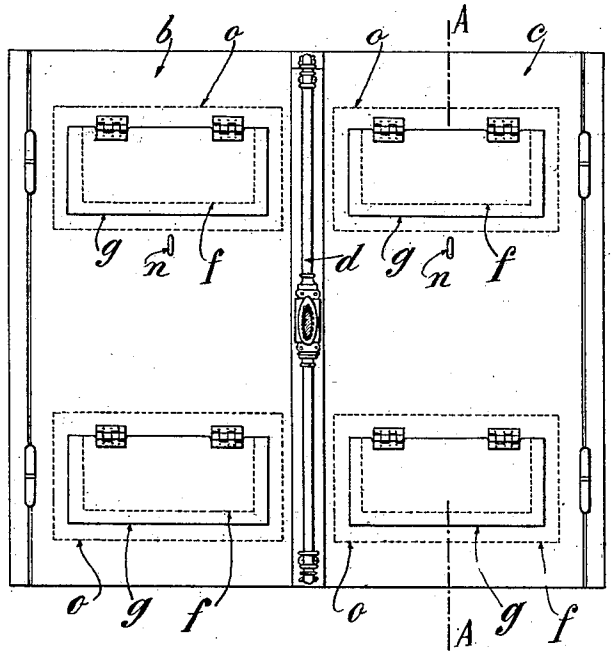


FIG. 2

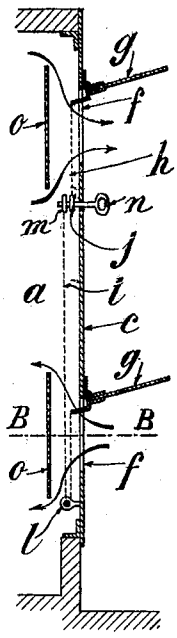
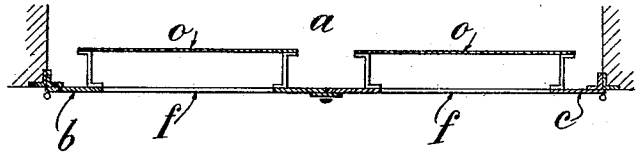


FIG. 3



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UNITED STATES PATENT OFFICE.

RAOUL FRÈRE, OF PARIS, FRANCE.

DOOR FOR FIREPROOF CHAMBERS.

1,275,549. Specification of Letters Patent. Patented Aug. 13, 1918.

Application filed January 27, 1914. Serial No. 814,792.

To all whom it may concern:

Be it known that I, RAOUL FRÈRE, citizen of the Republic of France, residing at 124 Avenue de Villiers, Paris, in the Republic of France, have invented new and useful Improvements in Doors for Fireproof Chambers, of which the following is a specification.

My invention relates to a door adapted for use in buildings, stores or pieces of furniture in which fire is liable to be set up or which are to be protected against an outer fire, the construction being however such that a ventilation through the building or chamber is permitted in normal conditions. The improved door may for instance be used for the purpose of protecting against fire cells which contain high tension switches with oil bath in electric power plants or for closing in the case of fire a cabinet containing explosive or dangerous chemical substances which ought to be ventilated in normal conditions.

The improved door is provided with openings located at the top and at the bottom of said door so as to insure a proper ventilation; said openings may be closed by shutters pivoted by hinges along their upper horizontal edge and opening to the outside. The shutters are normally held in the open position by chains connected together by means of a fusible member which is preferably arranged so that it may be removed from the outside to free the chains and cause the doors to be closed when desired; said member, when in operative position is fused if the temperature rises whereby the shutters are automatically closed by their own weight. Behind the openings, at the inside of the door, are arranged baffle plates which prevent inflammable substances to be projected outwardly through the openings.

It will be seen that the improved door has the advantage that the chamber or room closed by the door may be ventilated if desired when the shutters are maintained in their open position by means of the chains. If the shutters are opened, they may be easily closed from the outside without opening the door, if the temperature rises inside the chamber owing to a fire being set up within the same or at the outside, the shutters are closed automatically and the chamber is entirely cut off. Finally, if the pressure rises in the chamber, the shutters open so that the excess of pressure may escape and they fall immediately against the openings when the pressure is released. In all cases, any projection of inflammable substance outwardly through the openings in the door is prevented by the baffles.

In the annexed drawing which shows by way of example a door constructed in accordance with my invention:

Figure 1 is a front view of the improved door, the shutters being closed.

Fig. 2 is a vertical section along the line A—A, Fig. 1, the shutters being opened.

Fig. 3 is a horizontal section along the line B—B, Fig. 1.

The door shown in the drawing is designed to close the chamber or capacity *a* (Figs. 2 and 3) and comprises two leaves *b*, *c*; it may be locked by means of the handle *d*. In both leaves of the door, are formed a number of openings *f* located at the top and at the bottom of the door, respectively, so that the outer air may enter the chamber *a* through the lower openings and escape therefrom, when heated, through the upper openings, a thorough ventilation in the chamber being thus obtained.

The openings *f* may be closed by rectangular shutters *g* hinged on their upper horizontal edge and opening outwardly. The shutters are normally held in the open position as shown in Fig. 2, by chains *h*, *i*. The chain *h* of each upper shutter extends downwardly and carries at its lower end a ring *j*. The chain *i* of the corresponding lower shutter is led through a guiding ring *l* and provided at its end with a ring *m* located near the ring *j*. Through the two rings *j* and *m*, is inserted a fusible plug *n* carried by a rod which extends through the door and is provided outside of the same with a ring or handle. If the temperature rises, the fusible plug is fused and the shutters are closed by their own weight, whereby the chamber *a* is entirely cut off. The shutters may also be closed when desired, for instance when the ventilation through the chamber is to be stopped, by removing the plug *n* without opening the door. The plug may also be dispensed with and replaced by a fusible ring or other member connecting the two chains corresponding to the shutters in each pair.

If the chamber *a* contains inflammable liquids which are liable to be projected outwardly when fired, shields or baffle plates *o* are arranged behind the openings *f*.

If the pressure rises inside the chamber *a*, the shutters can open so that the pressure may escape and they fall then immediately to the closed position by their own weight.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a door for fireproof chambers having an opening therein and a movable shutter for said opening so mounted that it tends to assume its closed position, the combination of a flexible holding member arranged on the inside of the door and having one end connected to the shutter, a ring on the other end of the flexible member, and a fusible pin provided with a shank portion and a handle portion, the shank portion being adapted to be passed through an aperture in the door to be engaged by the ring, the door being provided with such an aperture, whereby the fusible pin may coact with the flexible member and the ring to hold the shutter against assuming its closed position and the pin may then have its handle portion on the opposite side of the door to that of the flexible member to permit the pin to be withdrawn manually when desired to cause closing of the shutter before a fire.

2. In a door for fireproof chambers having upper and lower openings therein and a movable shutter for each opening so mounted that it tends to assume its closed position, the combination of a flexible holding member arranged on the inside of the door for each shuttter, each flexible member being connected to one of the shutters, a ring on the other end of each flexible member, the parts being so arranged and the flexible members being of such lengths that with both shutters open the two rings may be disposed in registry, the door being provided with a small aperture opposite such point of registry, and a fusible pin provided with a shank portion and a handle portion, the shank portion being adapted to pass through the aperture in the door to be engaged by the two rings, whereby the pin may coact with both flexible members and the two rings to hold the shutters in closed position and the pin may then have its handle portion on the outside of the door to permit the pin to be withdrawn manually when desired to cause closing of the shutter before a fire.

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

RAOUL FRÈRE.

Witnesses:
ANTOINE LAVOIX,
CHAS. P. PRESSLY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."