

WILLIAM H. SHORT.

Improvement in Fire-Proof Safes.

No. 116,227.

Patented June 20, 1871.

Fig. I.

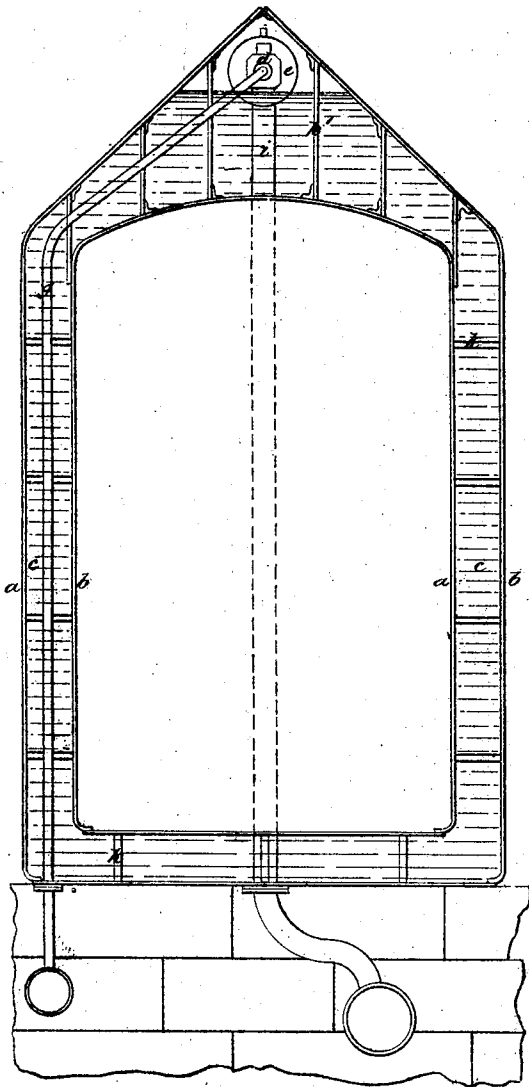
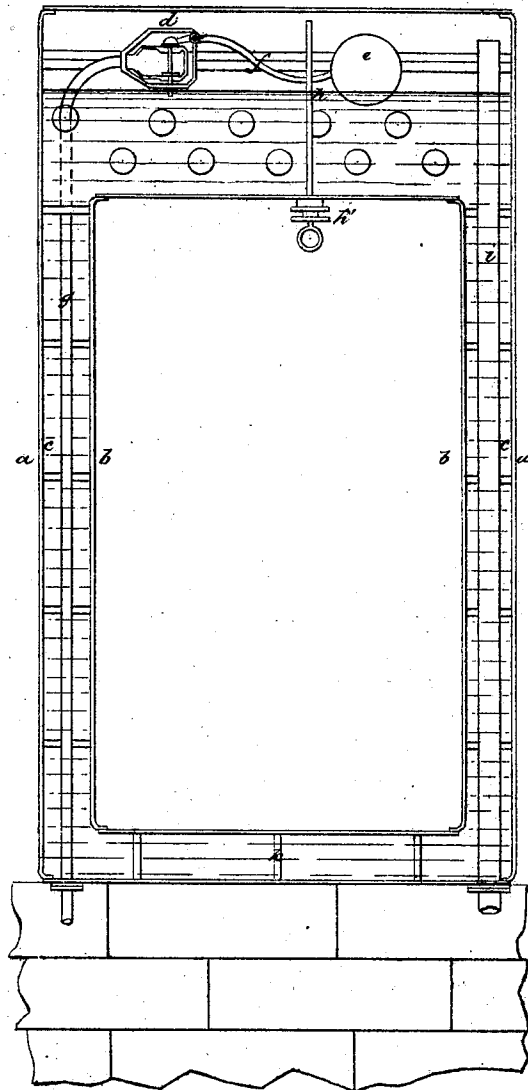


Fig. II.



Witnesses

Charles Legge
Charles L. C. Simpson.

Inventor

William H. Short

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Fig. III.

Patented June 20, 1871.

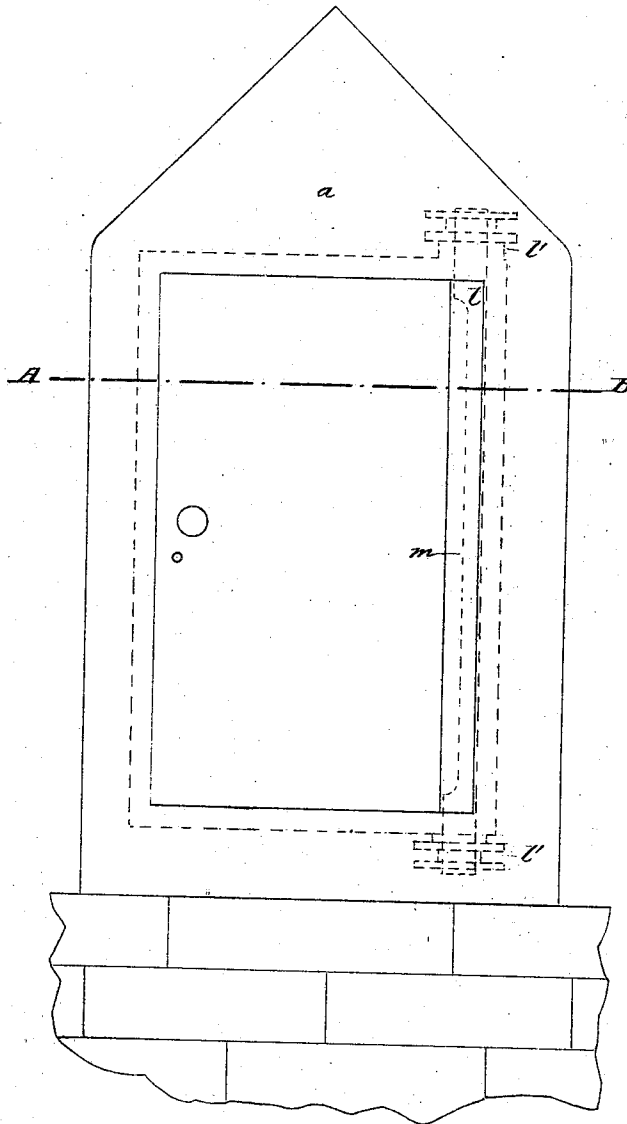
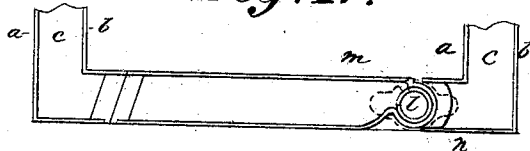


Fig. IV.



Witnesses

Charles Legge

Charles H. Simpson

Inventor

William Hamilton Short

UNITED STATES PATENT OFFICE.

WILLIAM HAMELTON SHORT, OF MONTREAL, CANADA.

IMPROVEMENT IN FIRE-PROOF SAFES.

Specification forming part of Letters Patent No. 116,227, dated June 20, 1871; antedated June 8, 1871.

To all whom it may concern:

Be it known that I, WILLIAM HAMELTON SHORT, of the city of Montreal, in the district of Montreal, in the Province of Quebec, Canada, mechanical engineer, have invented new and useful Improvements on Fire-Proof Iron Safes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, where—

Figure I represents a section of the safe. Fig. II represents a section of the safe. Fig. III represents an elevation of the safe. Fig. IV represents a section on line A B, Fig. III.

This invention relates to that class of fire-proof safes which is provided with a space for water between the inner and outer casings; and consists in providing certain means for operating the valve at any time when it is desired to change the supply of water within the safe, as will be fully described hereinafter.

In the drawing similar letters of reference indicate like parts.

Letter *a* is the outer casing of the safe, made of boiler-plate iron, in any suitable form required, or may have a roof-shaped or dome top, as shown in the drawing, and perfectly water-tight. *b* is a similar inner casing, having a water-space, *c*, of any requisite width between the two. This space, at the top, is enlarged to provide for a supply-valve, *d*, of any ordinary and suitable construction, but so arranged that its action will be regulated by a float, *e*, and lever *f*, by means of which the water in the space *c* will be maintained at any desired height, the supply water being conveyed to the valve, by the pipe *g*, from any suitable head of water sufficient to cause the level of the supply within the space *c* at all times to be maintained. To the lever *f* a small rod, *h*, is attached, provided with any suitable guides, and passing through the top of the inner casing *b*. At this point an ordinary stuffing-box, *h'*, is provided, to prevent any leakage. Within the space *c*, and in any required position, or as shown in the drawing, the overflow and steam pipe *i* is placed for the purpose of carrying off any extra amount of water and the steam which would be generated in case of

fire. The outer end of this pipe may be either open to the atmosphere or conducted down to the sewer of the building in which it is placed, but always so situated that its contents will flow out freely. The inner and outer casings *a* and *b* are attached together by any desired number of suitable stays, *k*, the upper ones *k'* being constructed not only for the purpose of attaching the two tops together, but also to cause the top of the inner case to assist in resisting any pressure acting on the top of the outer one caused by the fall of the building in which it is placed. These may consist of perforated boiler-plate, as shown in Fig. II, or, if preferred, of stout bar-iron. The door of the safe is constructed of boiler-plate iron, and may have a cast-iron frame; but it is provided with a similar water-space to that described for the casings above. In the space in which the door sits, and at the side of it, a pipe, *l*, is placed, passing through the upper and lower edges of the door-way, and open at top and bottom to the space *c*. At these points suitable stuffing-boxes *l'* are provided to prevent leakage, and suitable hand-holes being formed in the inner casing, by which the stuffing-boxes may be packed or the pipe *l* may be screwed into its place. The pipe *l* forms the hinge on which the door turns, and is provided with any suitable opening, *m*, connecting with the water-space in the door. The edge of the door at the side attached to the pipe *l* is circular in form, and the edge of the door-way *n* is of the same configuration. The other three edges of the door may be made as found most desirable, or as shown in the drawing.

The safe as above described will be situated on any solid and level foundation of stone or brick, so that in case of fire it will retain its position.

It will act in the following manner: The water, entering by the pipe *g*, the valve *d* being so arranged by the action of the lever *f* and float *e* as to be open at all times when the level of the water falls below that for which it was constructed, therefore fills the space *c*, as indicated in the drawing, and also, by the pipe *l*, into the door. By the pipe *i* any surplus amount of water can escape, and in case of fire the steam also, it being evident that, as the

water is evaporated and passes off in steam through the pipe *i*, a fresh supply will flow in through the pipe *g*, as above described. If at any time it is desired to run fresh water into the space *c* on account of that already in it having been there some time, this may be done by opening the valve *d* by means of the rod *h*.

I do not claim a fire-proof safe constructed with water-space, induction and eduction pipes, and valve; but

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

The rod *h*, in combination with the arm *j* and stuffing-box *h'*, as described, for the purpose set forth.

Montreal, October 3, 1870.

WILLIAM HAMELTON SHORT.

Witnesses:

CHARLES LEGGE,

CHARLES G. C. SIMPSON.