

W. H. HAVENS.
METALLIC SHUTTER.

No. 172,922.

Patented Feb. 1, 1876.

Fig. 1.

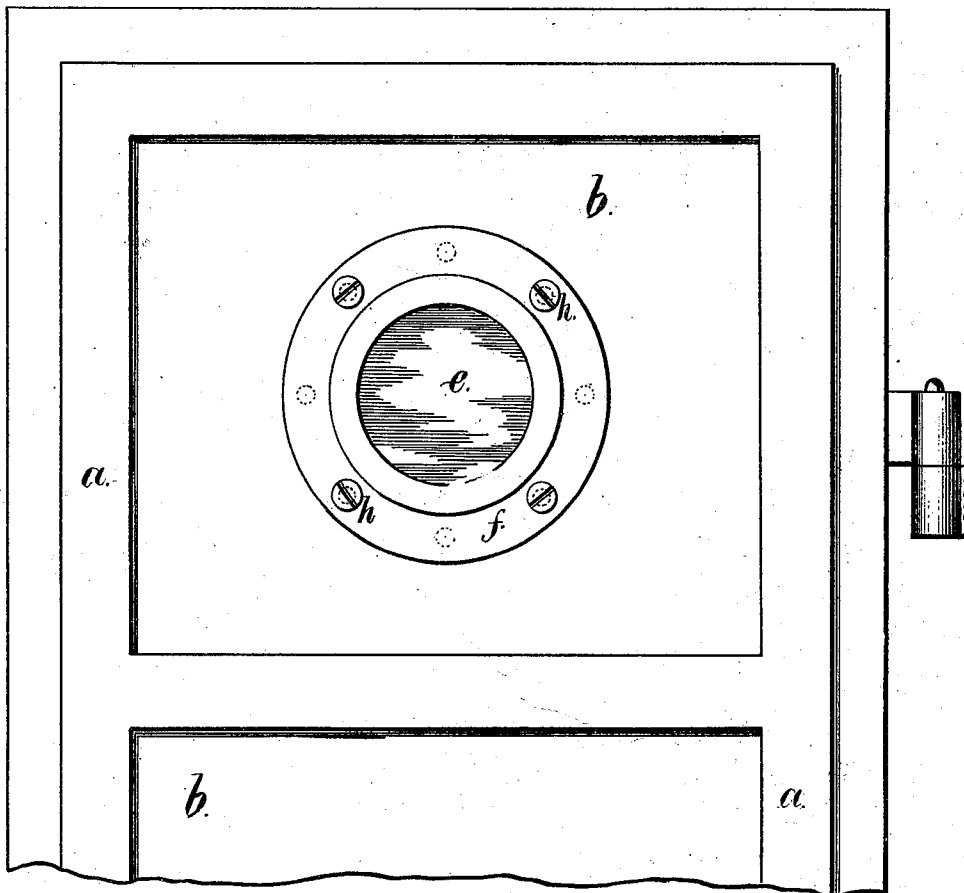
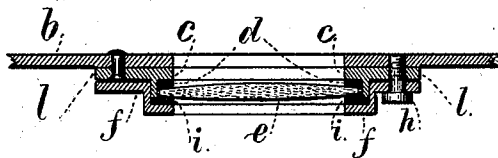


Fig. 2.



Witnesses

Chas. H. Smith
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Inventor.

William H. Havens.
per Lemuel W. Perrell
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UNITED STATES PATENT OFFICE.

WILLIAM H. HAVENS, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN METALLIC SHUTTERS.

Specification forming part of Letters Patent No. 172,922, dated February 1, 1876; application filed January 15, 1876.

To all whom it may concern:

Be it known that I, WILLIAM H. HAVENS, of Paterson, in the county of Passaic and State of New Jersey, have invented an Improvement in Iron Shutters and Doors for Buildings, of which the following is a specification:

The object of this invention is to give light in warehouses sufficient for passing from place to place without the use of a candle or lantern and the consequent risk of fire; also for allowing the light of a fire within the building to be visible at night from the outside, and, at the same time, maintaining the strength of the shutter for resisting the action of external fire or burglars; but such improvement allows a hose to be inserted from outside the building without the shutters being forced open.

Rolling shutters have had in the slats thereof openings to allow the inside of the building to be inspected, and such openings have, in some instances, been provided with glass, but these are not adapted to swinging shutters, nor to passing a hose into the building.

My invention consists in the combination, with an iron shutter or door, of a permanently-attached metal rim, a glass lens or bull's-eye, a clamping-ring, and elastic packing between the glass and the metal, whereby the risk of breaking the glass, consequent upon the concussion in opening or closing the door or shutter, is avoided. The glass is free to expand or contract under varying changes of temperature, in consequence of the elastic packing; hence the glass will remain as a protection against external fire, and the glass cannot easily be broken by burglars. This metal rim and the opening therein are of such a size that a hose-nozzle can be inserted through them in case of a fire, thus rendering it unnecessary to open the shutter or door, and confining the fire more effectually than heretofore. In this instance the glass will be

broken out by blows from a fire-ax, or similar instrument, to allow the hose to be inserted.

In the drawing, Figure 1 is an elevation of a portion of a shutter or door with my improvement applied thereto; and Fig. 2 is a section of the same.

The frame *a*, and plate or sheet iron *b*, forming the door or shutter, are of ordinary character. The metal rim *l* is made of a size adapted to being permanently attached to the sheet-iron *b*, and said rim has an annular seat, *c*, for the india-rubber ring *d*, against which the glass lens or bull's-eye *e* is placed, and *f* is a clamping-ring attached to the rim *l* by screws *h*; and it is preferable to employ a second ring, *i*, of india-rubber or other elastic material, between the glass and the clamping-ring *f*, so that the glass is entirely free to expand or contract by heat; and, as the edges of the glass are free from contact with the metallic portions, there is no risk of the glass breaking by the concussion resulting from opening and closing the shutter or door.

Mica or similar material may take the place of the glass in this improved frame attached to the iron door or shutter.

I claim as my invention—

1. The transparent lens or bull's-eye, attached to the iron door or shutter by the metal rim *l* and clamping-ring *f*, and protected from injury by the elastic packing introduced between the glass and the metal, as set forth.

2. The metal rim *l* attached to the iron door or shutter, in combination with the clamping-ring *f*, and transparent material inserted within such ring, substantially as set forth.

Signed by me this 11th day of January, A. D. 1876.

W. H. HAVENS.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.