(No Model.) 2 Sheets—Sheet 1.

H. S. SHUFELT.

FIRE PROOF DOOR OR SHUTTER.

No. 435,461. Patented Sept. 2, 1890.

Fig. 1.

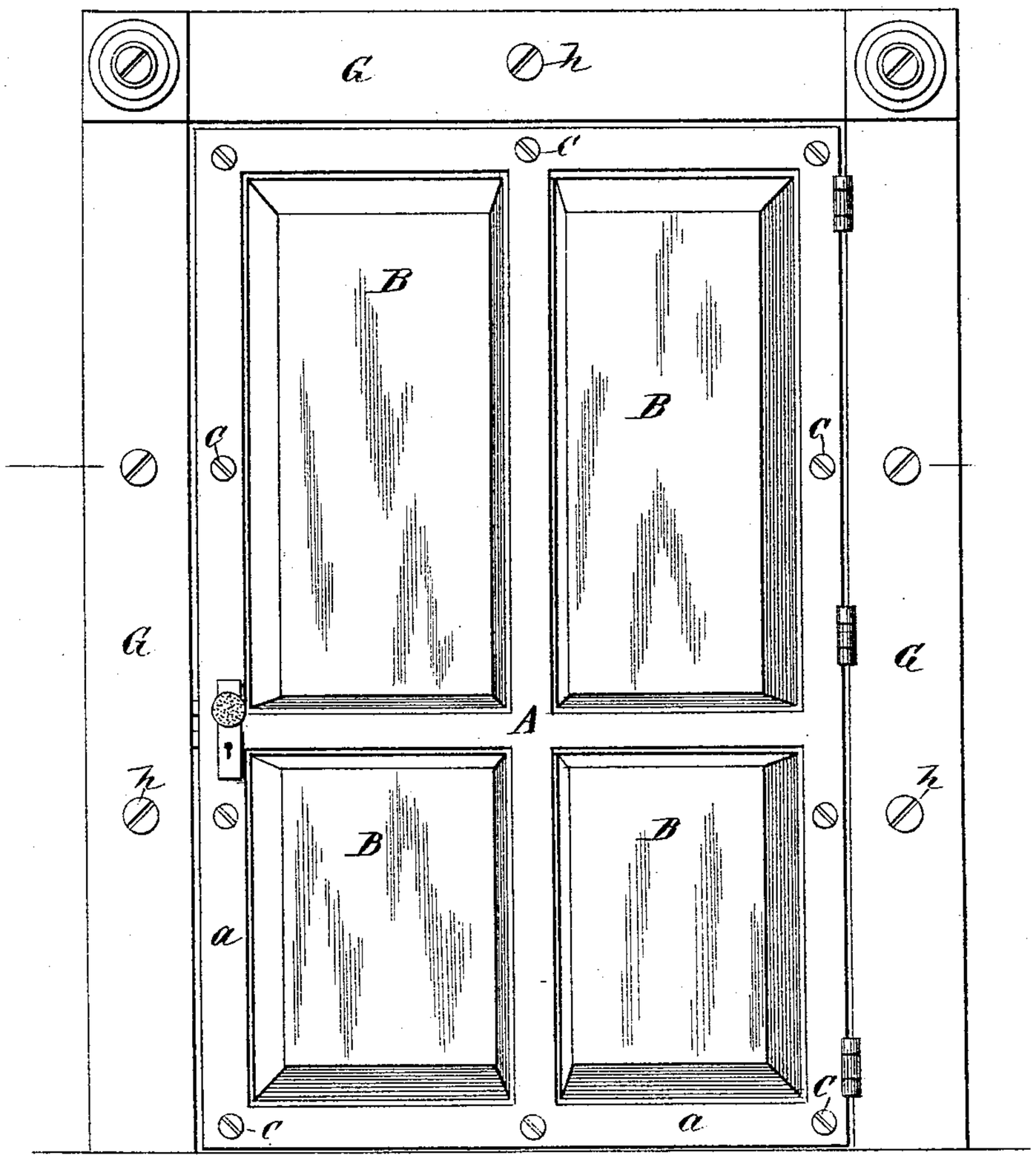
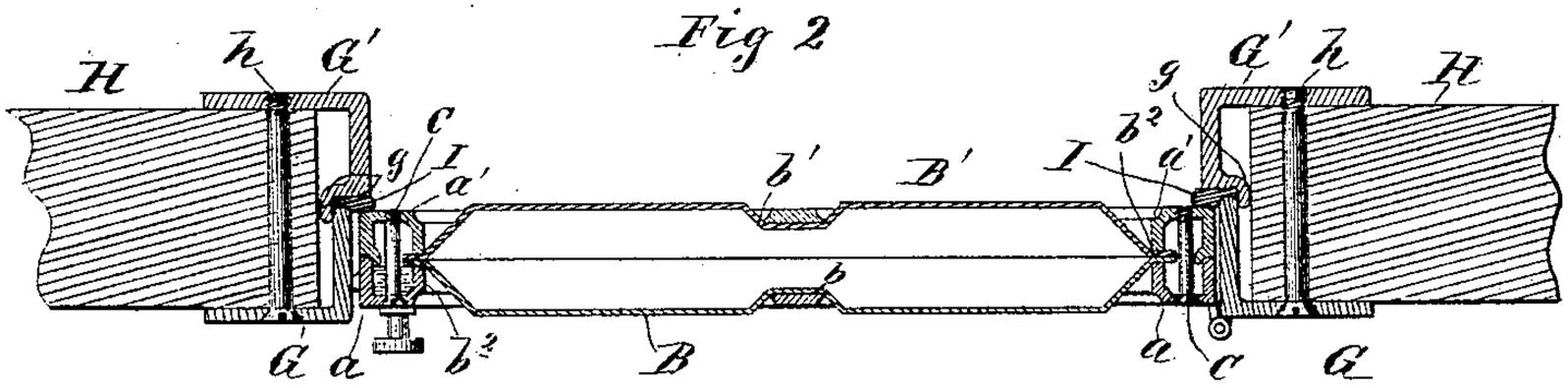


Fig 2



Witnesses.
Frank D Merchant.
A. H. Upsahl.

Inventor.
Helen S. Shufelt
By her Attorneys
Williamson & Blodgett

(No Model.) 2 Sheets—Sheet 2.

H. S. SHUFELT.

FIRE PROOF DOOR OR SHUTTER.

No. 435,461. Patented Sept. 2, 1890.

Fig. 3.

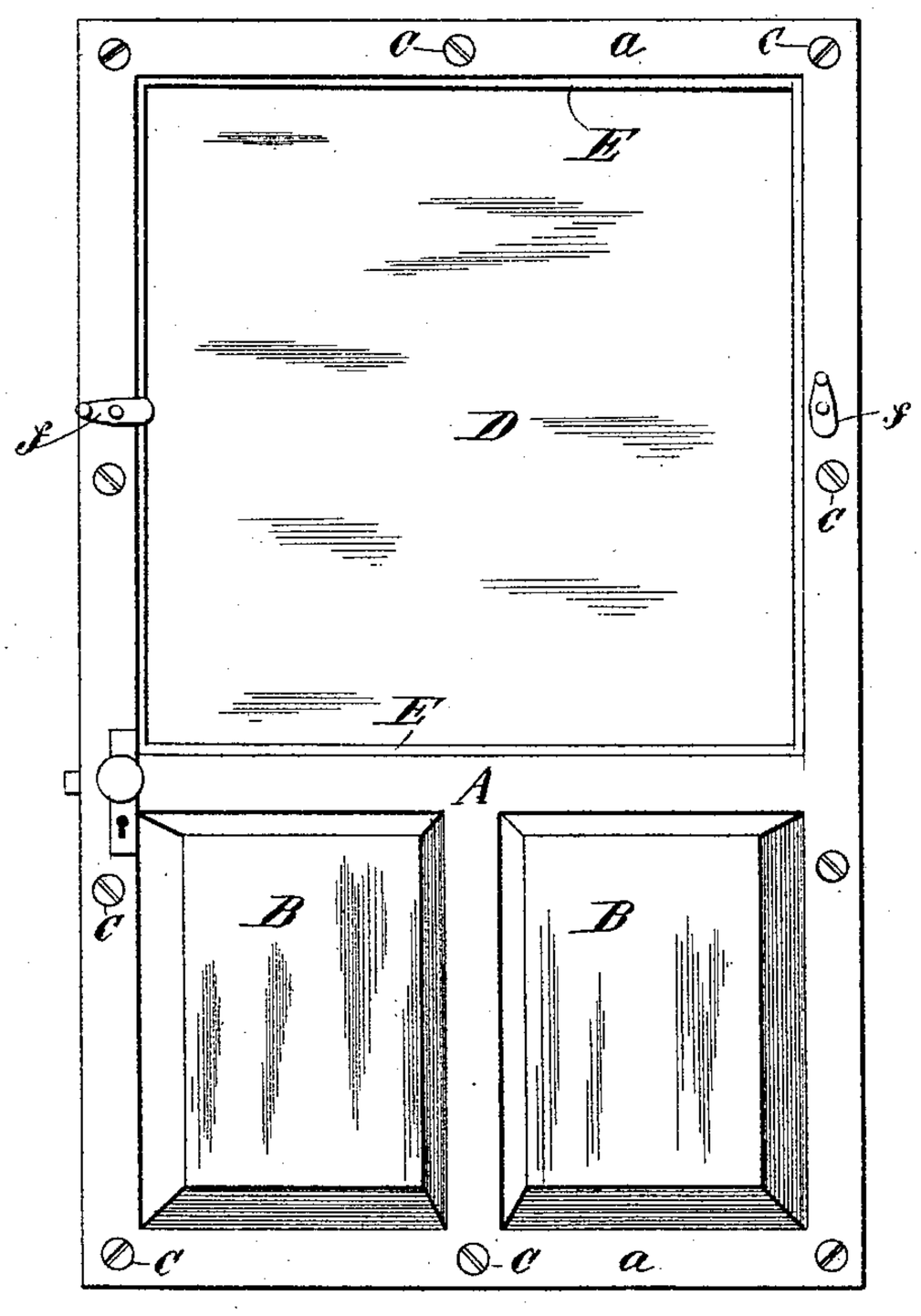
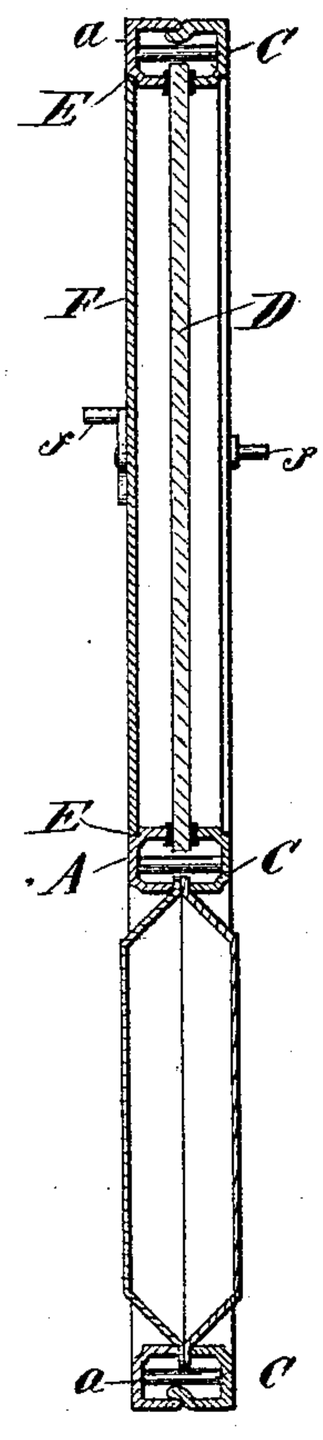


Fig. 4.



Witnesses.
Frank D Merchant.
A. H. Opsahl.

Inventor
Helen S. Shufelt
By her Attorneys.
Williamson & Blodgett

UNITED STATES PATENT OFFICE.

HELEN S. SHUFELT, OF MINNEAPOLIS, MINNESOTA.

FIRE-PROOF DOOR OR SHUTTER.

SPECIFICATION forming part of Letters Patent No. 435,461, dated September 2, 1890.

Application filed March 24, 1890. Serial No. 345,098. (No model.)

To all whom it may concern:

Be it known that I, HELEN S. SHUFELT, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Fire-Proof Doors or Shutters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in fire-proof doors or shutters and the casings therefor. The frame of the door or shutter is preferably made of galvanized malleable iron in two separate pieces of skeleton form—one for each side—while the panels are stamped out of galvanized iron or steel, and are properly secured between the sections of the skeleton frames with their embossed or stamped-up portions filling the spaces between the cross-bars. The frame and panels are securely clamped together by suitable bolts. The casing of the door or shutter is also made in sections of malleable iron, which are secured together and to the framing by means of bolts. These sections are angular bars, one of each pair of which is provided with a shoulder having an inwardly-turned lip. On this shoulder a strip of rubber or other suitable cushioning material is placed and clamped in position by the edge of the other angular piece. These rubber strips serve both as a packing to exclude air and also as buffers to cushion the shock of the door in closing.

In another and preferred form of my invention the door is made in sections, as before noted; but the galvanized-iron panels are secured in its lower portion only, the upper section being fitted with a wide panel of plate-glass. Rabbets or shoulders are formed in each section of the door, and these are adapted to receive wide protecting-plates of iron, which can be secured in place in any suitable way. In this form the iron plates can be readily placed in and removed from position—*i. e.*, at night they can be placed in position by the janitor, who will remove them in the morning.

In the accompanying drawings, in which like symbols of reference are placed on like parts throughout the several views, Figure 1 is a side elevation of one form of my invention, and Fig. 2 is a transverse section thereof on line *x x* of Fig. 1. Fig. 3 is a side view of another form of my invention, and Fig. 4 is a longitudinal vertical section thereof.

A is the frame of the door, made in two sections *a a'*, each of skeleton form.

B B' are panels struck-up out of galvanized iron. These panels are formed with depressed portions *b b'* and with extended sides b^2. The panels may be formed in a single integral sheet of iron, or they may be separate and independent sections, as deemed most desirable. They are preferably formed in a single integral sheet. In fitting the parts of the door together the panels are slipped under the bars of the skeleton-frame with their meeting edges b^2 together. The sections of the door are then placed against each other and are secured in position by the bolts or screws C.

In order to produce a light as well as serviceable frame for the door, the side and end bars of the malleable-iron castings are made hollow or channel-shaped in cross-section.

In the form of the invention shown in Figs. 3 and 4 the malleable-iron castings constituting the frame of the door are substantially the same as those illustrated on Sheet 1, and the panels B B at the bottom are also the same as in the construction first described.

In lieu of the iron panels at the top of the door I substitute a wide panel of thick plate-glass, which is suitably secured between the parts of the door-frame. Rabbets or offsets E are formed on the inner edges of each section of the door-frame.

F F are iron plates of a size and shape suitable to fit within the rabbets E, and *f f* are turn-buttons for securing the plates F F in place. In this form of door the advantages of a glass panel are secured, and the panel can be readily protected by placing the plates F F on each side thereof and properly securing them in position.

The casing of the door is made in two angular sections G G', which are placed on each side of the framing H, and are secured thereto and to each other by bolts *h*. The end of each section G' is provided with a widened face having a curved lip *g*, and upon this face a longitudinal strip of rubber I is placed

and securely clamped in position by the edge of the opposite section. The rubber strips act as buffers to deaden the sound of the door in closing, and also as packing-strips to exclude the entrance of air. It is obvious that the frame and panels, and also the casing, can be made of other fire-proof materials than those mentioned without departing from my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letter Patent, is—

1. A fire-proof door or shutter, in combination with a door-casing composed of two angular metallic bars, one of said bars provided with an extended face or shoulder and with a lip projecting therefrom, and a buffer secured between the bars, substantially as and for the purpose specified.

2. A fire-proof door composed of two sections of galvanized malleable iron, provided with rabbets around their edges, a glass panel secured between the sections, and protecting-plates of metal adapted to be secured in the rabbets, substantially as and for the purpose specified.

3. A fire-proof door or shutter consisting of two skeleton frames having channel-shaped side and end bars, embossed sheet-metal panels having reduced portions b' and extended edges b^2, and means for securing the sections of the door together, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

HELEN S. SHUFELT.

Witnesses:
WM. H. BLODGETT,
GUSSIE HEINZ.