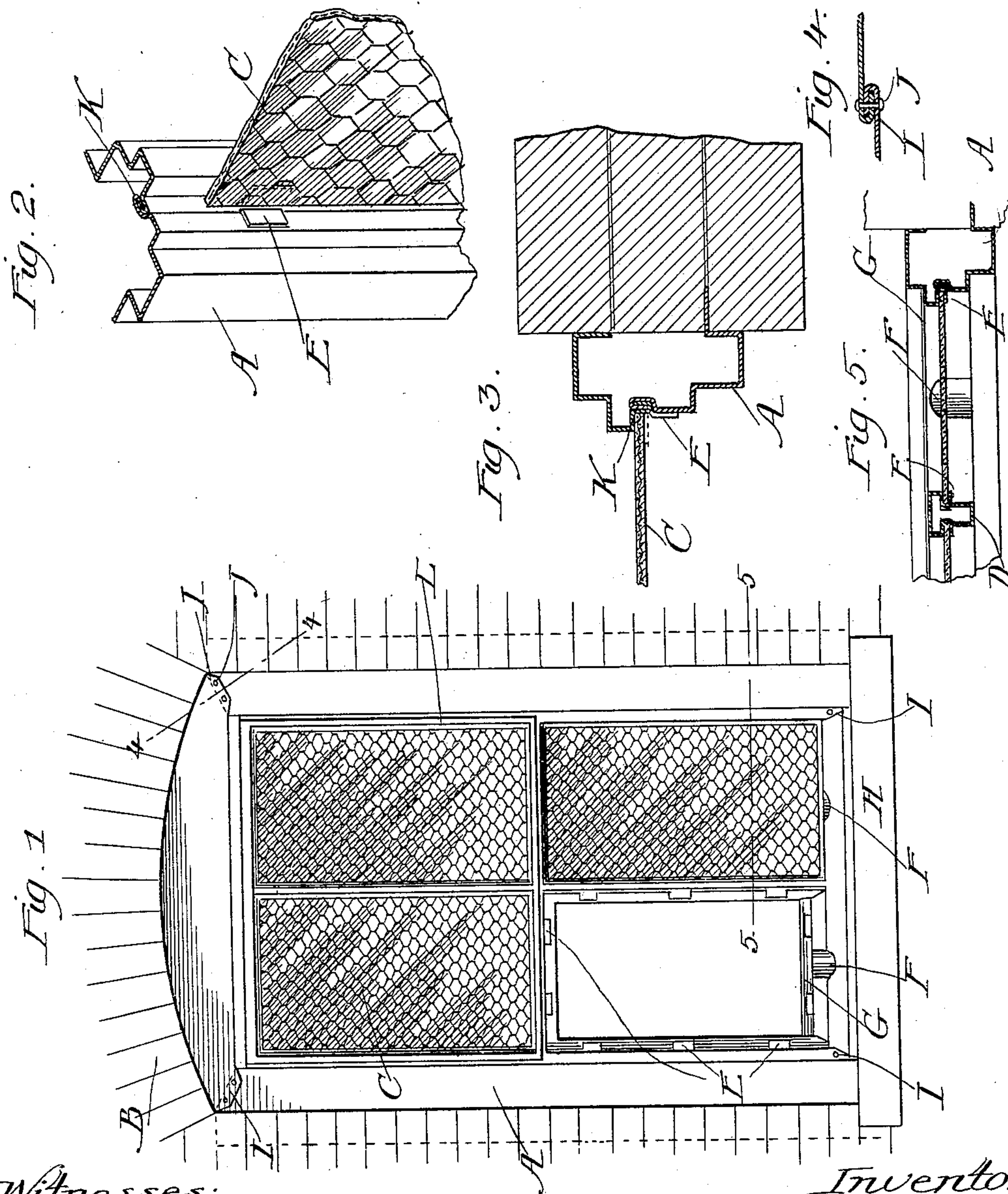


F. VOIGTMANN.
FIREPROOF WINDOW.

No. 600,186.

Patented Mar. 8, 1898.



Witnesses:

Frank S. Blanchard
W. J. Le Moyne

Inventor:

Frank Voigtmann
By Attorney
Louis V. Le Moyne

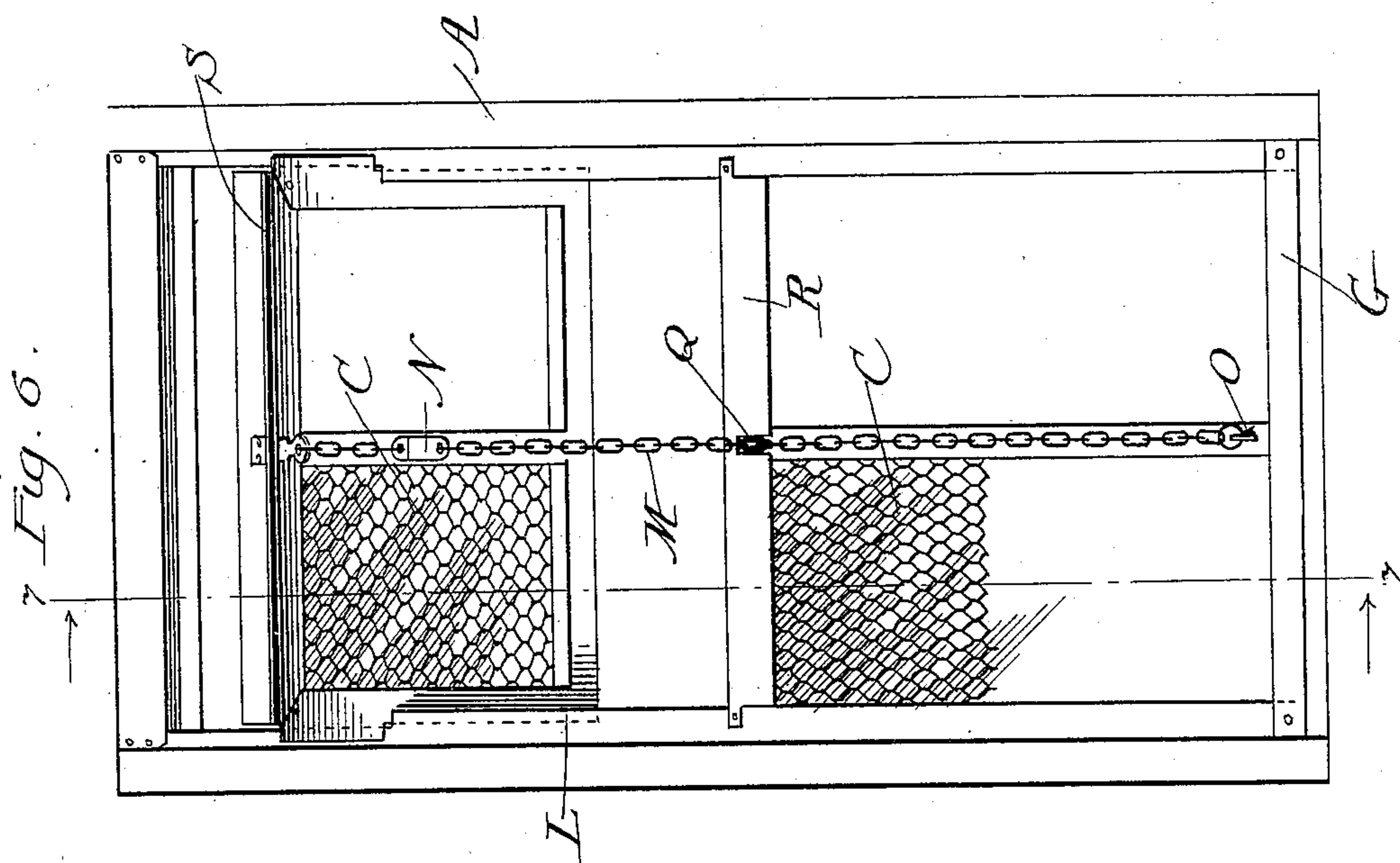
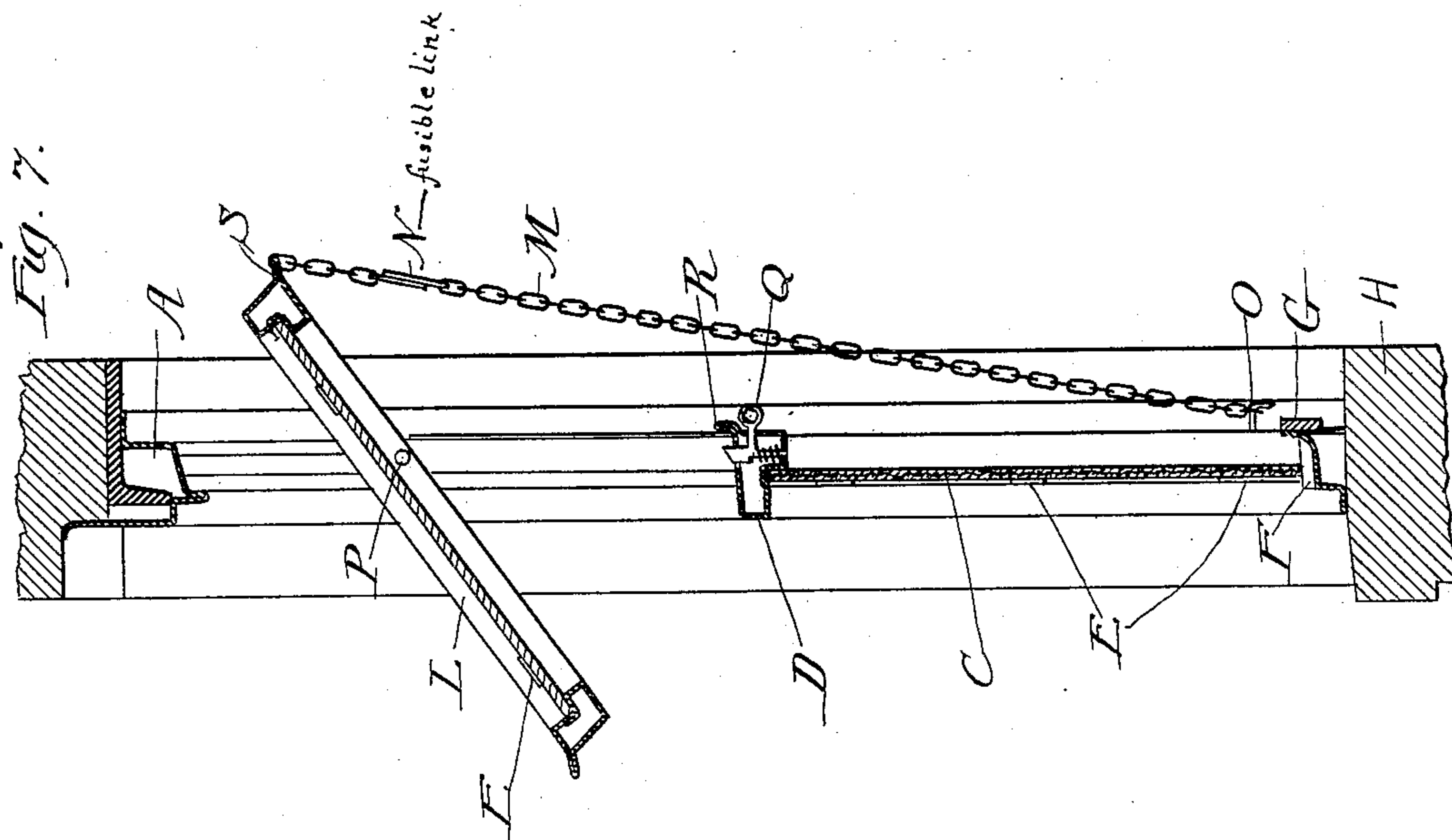
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

FRANK VOIGTMANN, OF CHICAGO, ILLINOIS.

FIREPROOF WINDOW.

SPECIFICATION forming part of Letters Patent No. 600,186, dated March 8, 1898.

Application filed October 20, 1897. Serial No. 655,805. (No model.)

To all whom it may concern:

Be it known that I, FRANK VOIGTMANN, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Fireproof Windows, of which the following is a specification.

The object of my invention is to provide a window the sash and glass of which will not be destroyed or seriously damaged by fire, but will be to all intents and purposes fireproof, and which will close automatically when struck by the heat. Heretofore sheet-metal sash and casing have been used; but they have been put together with solder or other destructible material, which melts and allows the joints to fall apart when subjected to heat; also, it frequently happens that the so-called "fireproof windows," being adapted to open up under ordinary circumstances, will be caught by a sudden outbreak of fire with the sash open and therefore present no obstruction to the fire whatever.

My invention aims at overcoming these objections.

It consists, broadly, of a window having a sheet-metal casing with clenched joints at its corners and elsewhere, which require no solder, and a fireproof glass set into the sash with metallic fastenings, one of the sash being hinged and held open by a retaining device which will be severed by the heat of a fire.

It further consists of details hereinafter more fully described, and particularly pointed out in the claims.

Figure 1 is a front side elevation of my window closed, one of the panes of glass being removed to show the metallic fastenings. Fig. 2 is a sectional view in perspective showing method of securing the glass and the clenched joint of the front and rear portion of the casing. Fig. 3 is a sectional view of the same not in perspective. Fig. 4 is a sectional view on lines 4 4, Fig. 1, showing the joint at the corners. Fig. 5 is a section on lines 5 5, Fig. 1, looking down. Fig. 6 is a rear side elevation, the upper sash being open and one pane being removed from both upper and lower sash. Fig. 7 is a section on lines 7 7, Fig. 6.

A represents the casing; B, the surrounding masonry; C, the glass; D D, the sash;

E, the lugs which secure the glass; F F, the drip-passages; G, the strip which forms the gutter; H, the sill; I, the joints at the corners; J, the rivets; K, the joints between the front and back of the casing; L, the swinging sash; M, the retaining-chain; N, the fusible link; O, the hook which the chain is attached to; P, the pivot that the sash swings on; Q, the latch; R, the flange which forms a drip-gutter for the upper sash; S, the flange on upper edge of the upper sash.

The casing and sash are constructed entirely of sheet metal or galvanized iron.

The casing is joined at its four corners at I by clenched joints, (shown in Fig. 4,) the edges being lapped and curled under and clenched together and then preferably riveted by the rivets J. This makes a very secure joint and does away with the necessity of soldering. The rivets J may be dispensed with, if preferred, as the joint is quite secure without them. By a similar joint the front and back of the casing are united at K, only that the rivets are not necessary here.

The glass is set in the sash and secured by the lugs E, which are attached to or are a part of the sash and which are turned down upon it. Fig. 1 shows one pane removed and the lugs turned down, as when securing the glass in place. In Figs. 2 and 3 they are shown before being turned down. Putty may be put on over them in the usual manner to make an air-tight joint; but in case of fire and the putty falls off the glass will be held by the lugs E.

The panes of glass are preferably of what is known as "wire-glass," glass having a wire mesh running through it which makes it indestructible by ordinary fire; but other glass or different material may of course be used if capable of resisting heat.

In order to provide for the water of condensation which collects particularly on metallic casings and sash, I form drip-passages F F at the bottom of the lower panes, which extend under the edge of the panes and open on the outside, and I run a strip G across the lower edge on the inside of the casing to form a gutter to catch the moisture and carry it out through the passages F F. The drip from the upper sash is caught by the strip R across the back, which forms a gutter, the middle

5 rail of the sash being sufficiently sloped to allow the water to run out between it and the upper sash. In the same manner the water is shed by the strip S on the upper edge of the swinging sash.

10 The swinging sash L is pivoted at P and held open by the chain M, attached to its upper edge and to the hook O. A fusible link N is inserted in the chain at a point where it will be most exposed in case of fire on the outside and the window open. As soon as the fire reaches the fusible link it is melted and the window drops closed, the pivot P being above the center, the weight of the lower portion of the sash being sufficient to cause it to close.

The latch Q engages the lower edge of the sash when it drops, and the sash is thereby locked shut.

20 The fusible link N is preferably made of two strips of metal soldered together by some fusible alloy which melts on exposure to unusual heat and allows the parts to drop apart; but in place of this link any other destructible connection which is inflammable or readily destroyed by heat or fire may be used. Thus, it will be seen, in case of sudden fire, where the windows are left open, that as soon as the fire strikes the chain the link N will be broken and the windows automatically closed.

30 What I claim, and desire to secure by Letters Patent, is—

1. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, the metallic sash D having the pliable metallic lugs E for securing the glass, and the fireproof glass C; all substantially as shown and described.

40 2. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, and the clenched joint K between its front and back; the metallic sash

D, having the pliable metallic lugs E, and the fireproof glass C; all substantially as shown and described. 45

3. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, and the rivets J in said joints, the metallic sash D, having the pliable metallic lugs E, and the fireproof glass C; all substantially as shown and described. 50

4. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, the metallic sash D having the pliable metallic lugs E, the fireproof glass C, the drip-passage F and the strip G; all substantially as shown and described. 55 60

5. In a fireproof window, the herein-described automatically-closing sash, consisting of the combination of the fireproof casing A, the fireproof sash L pivoted therein, the destructible retaining device M, N, by which said sash is held open; all substantially as shown and described. 65

6. In a fireproof window, the herein-described automatically-closing sash, consisting of the combination of the fireproof casing A, the fireproof sash L pivoted therein, the retaining-chain M, having the fusible link N therein; all substantially as shown and described. 70 75

7. In a fireproof window, the herein-described automatically-closing sash, consisting of the combination of the fireproof casing A, the fireproof sash L pivoted therein at a pivot P above its middle, the retaining-chain M, having the fusible link N therein at a point opposite the opening; all substantially as shown and described. 80

FRANK VOIGTMANN.

Witnesses:

JOHN F. HOLLAND,
LOUIS V. LE MOYNE.

DISCLAIMER.

600,186.—*Frank Voightmann, Chicago, Ill.* FIREPROOF WINDOWS. Patent dated March 8, 1898. Disclaimer filed February 18, 1907, by the patentee and assignee.

Enters their disclaimer—

"To that part of the specification and claims which are in the following words, to wit:

"Page 1, commencing in line 13:

"Heretofore sheet-metal sash and casing have been used; but they have been put together with solder or other destructible material, which melts and allows the joints to fall apart when subjected to heat; also, it frequently happens that the so-called 'fireproof windows,' being adapted to open up under ordinary circumstances, will be caught by a sudden outbreak of fire with the sash open and therefore present no obstruction to the fire whatever.

"My invention aims at overcoming these objections."

"Page 2, commencing in line 24:

"but in place of this link any other destructible connection which is inflammable or readily destroyed by heat or fire may be used."

"Also claims 1, 2, 3, and 4, reading as follows:

"1. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, the metallic sash D having the pliable metallic lugs E for securing the glass, and the fireproof glass C; all substantially as shown and described.

"2. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, and the clenched-joint K between its front and back; the metallic sash D, having the pliable metallic lugs E, and the fireproof glass C; all substantially as shown and described.

"3. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, and the rivets J in said joints, the metallic sash D, having the pliable metallic lugs E, and the fireproof glass C; all substantially as shown and described.

"4. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, the metallic sash D having the pliable metallic lugs E, the fireproof glass C, the drip-passage F and the strip G; all substantially as shown and described." [Official Gazette, February 26, 1907.]