

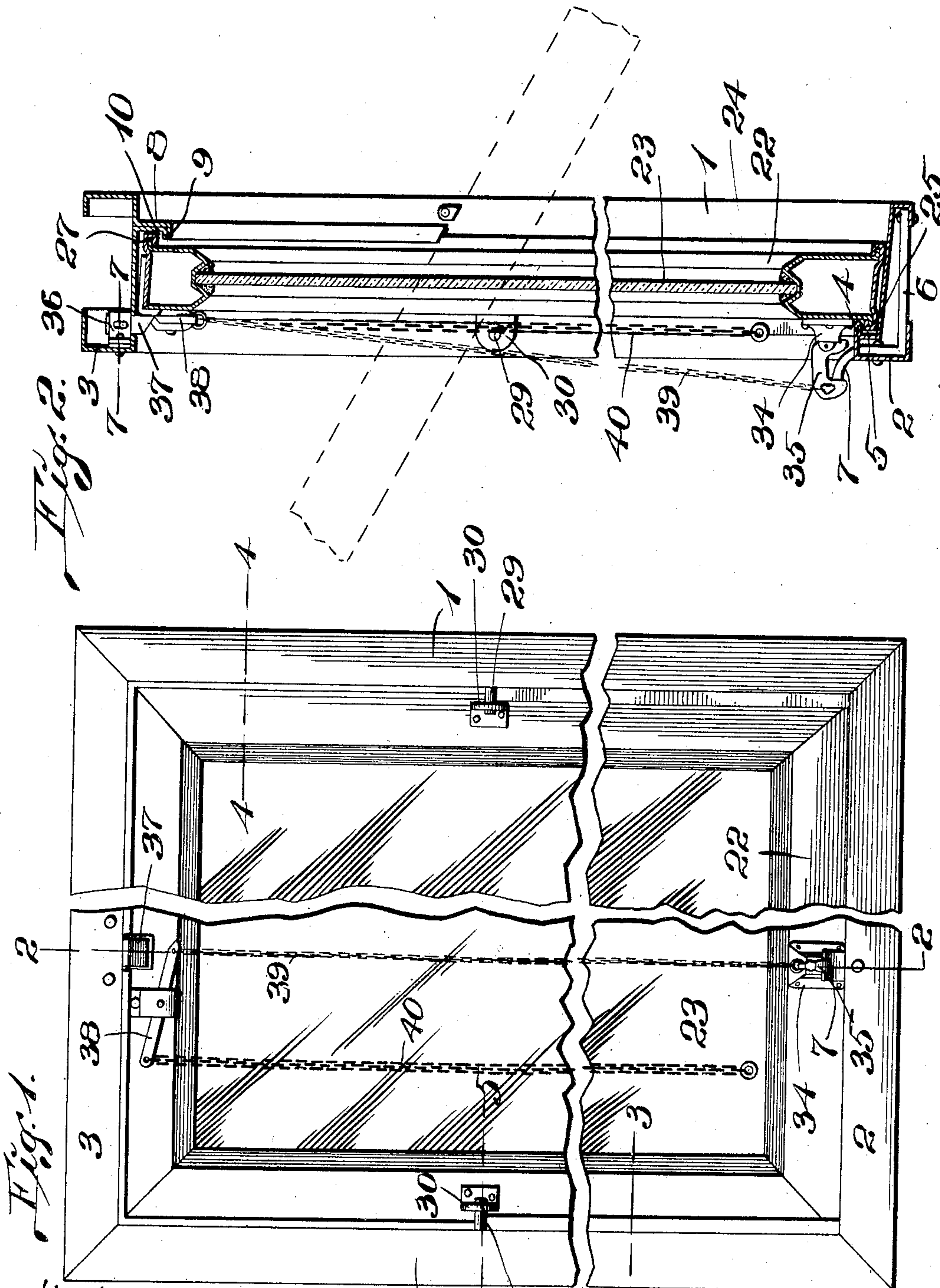
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PATENTED SEPT. 1, 1908.

C. H. & H. L. W. HOPMANN.
FIREPROOF WINDOW FASTENER.

APPLICATION FILED OCT. 31, 1907.

2 SHEETS—SHEET 1.



Attest
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W. D. Smith

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BY Higdon & Houghan ATTYS.

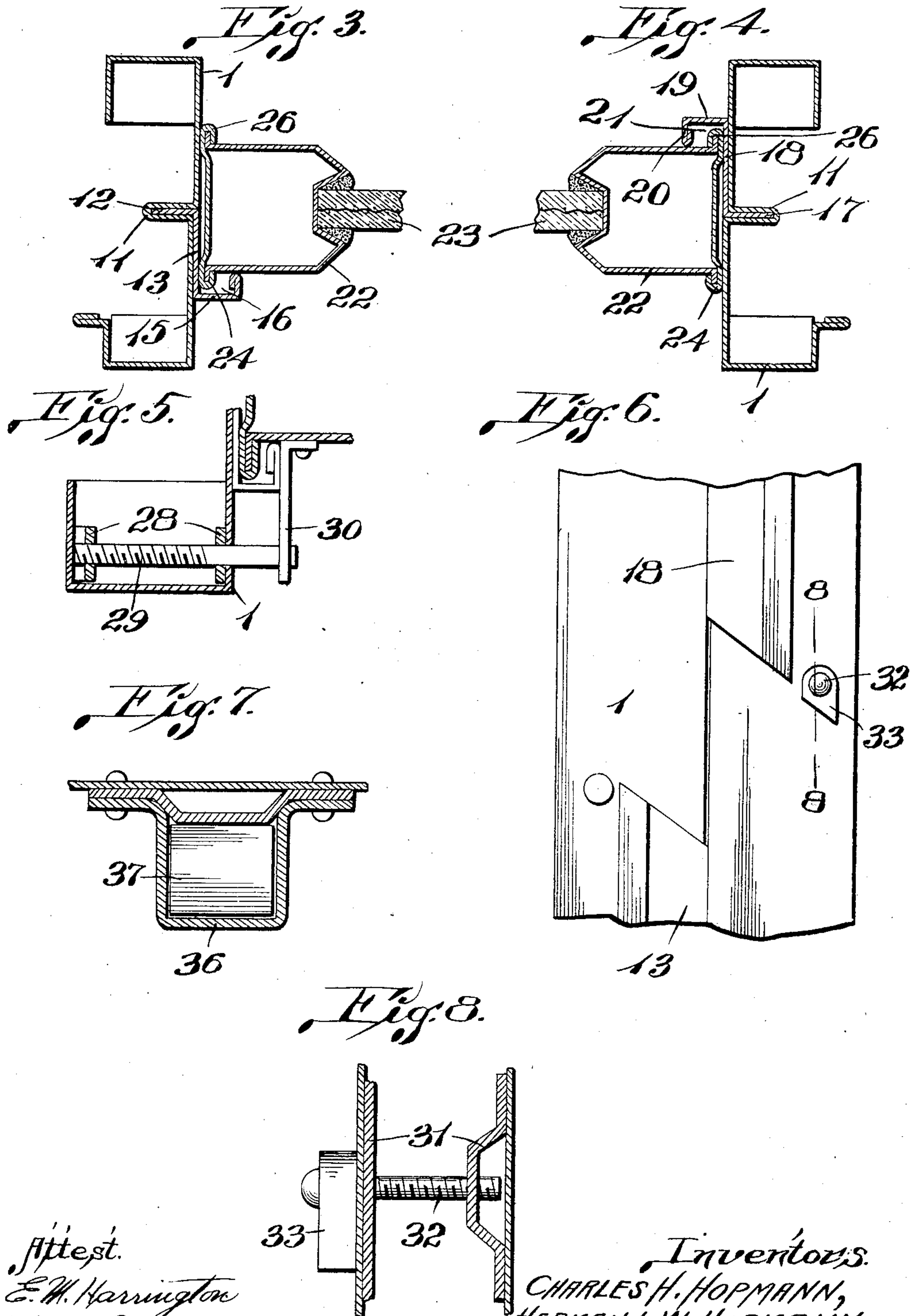
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UNITED STATES PATENT OFFICE.

CHARLES H. HOPMANN AND HERMAN L. W. HOPMANN, OF ST. LOUIS, MISSOURI.

FIREPROOF-WINDOW FASTENER.

No. 897,742.

Specification of Letters Patent.

Patented Sept. 1, 1908.

Application filed October 31, 1907. Serial No. 400,143.

To all whom it may concern:

Be it known that we, CHARLES H. HOPMANN and HERMAN L. W. HOPMANN, citizens of the United States, and residents of St. Louis, Missouri, have invented certain new and useful Improvements in Fireproof-Window Fasteners, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates generally to fireproof windows, and more particularly to fasteners for fireproof windows, which fasteners are located at the top and bottom of the window frame in order to lock and hold the window at both top and bottom, and which locks are adapted to be simultaneously released when it is desired to open the window.

To the above purposes, our invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of a window of our improved construction; Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1; Fig. 3 is an enlarged horizontal section taken on the line 3—3 of Fig. 1; Fig. 4 is an enlarged horizontal section taken on the line 4—4 of Fig. 1; Fig. 5 is an enlarged horizontal section taken on the line 5—5 of Fig. 1; Fig. 6 is an elevation looking against the inner face of one of the side portions of the window frame, with the sash removed; Fig. 7 is an enlarged horizontal section taken on the line 7—7 of Fig. 2; Fig. 8 is an enlarged detail section taken on the line 8—8 of Fig. 6.

Referring by numerals to the accompanying drawings:—1—1 designate the upright side members or stiles of the frame, 2 the sill, and 3 the head or top piece of the frame, all of which parts are constructed of suitable sheet metal, such as galvanized iron, and the corners being rigidly united in any suitable manner.

Formed integral with the top side and inner edge of the sill 2 is an outwardly projecting flange 4, beneath which is formed a pocket 5, which extends the entire length of the sill between the lower portions of the stiles 1, and which pocket is for the purpose of receiving a lip or flange formed on the lower end of the sash, (as hereinafter described.)

Fixed in any suitable manner to the sill 2, and preferably at the center thereof, is a bar or plate 6, which extends upward from the inner edge of said sill, and its upper end being curved outward, as designated by 7, to form the finger or lug with which one of the latches on the window sash engages.

Formed integral with the under side of the head 3 is a depending flange 8, which extends transversely between the stiles 1, and integral with the lower edge of said flange is an inwardly projecting flange 9, thus forming a pocket 10, which receives a flange formed on the top rail of the window sash, (as hereinafter described.)

Formed integral with the faces of the stiles 1 are the vertically disposed ribs 11, which are arranged midway between the front and rear edges of said stiles, said ribs providing rigidity for the stiles and consequently to the entire frame.

Seated in the lower portion of each rib is the outwardly bent edge 12 of a plate 13, the main body portion of which lies against the inner face of the stile, and the opposite edge of this plate being bent inward, and thence outward, as designated by 15, thus forming a groove 16, which receives a flange formed on the inner face and lower portion of the window sash.

Seated in the upper portion of each rib 11 is the outwardly bent edge 17 of a plate 18, the main body portion of which lies against the inner face of the upper portion of the stile, and the opposite edge of said plate being bent inward, as designated by 19, and thence outward, as designated by 20, thus forming a groove or pocket 21, which receives a flange formed on the outer face and upper portion of the window sash.

22 designates the sash, the rails of which are constructed of sheet metal, and said sash being provided with a section of glass 23. This sash is constructed to fit snugly in the frame; and formed on the edges of the vertical side rails of the sash and on the inner face thereof are flanges 24 which occupy the grooves 16 when the sash is closed, thus forming a weather and fire proof joint between the lower portion of the sash and the corresponding portions of the window frame.

Formed integral with the inner face and lower edge of the lower rail of the sash is an inwardly projecting flange 25, which occupies the groove or pocket 5 when the sash is closed.

Formed integral with the edges on the outer face of the sash are flanges 26, which normally occupy the grooves or pockets 21, and formed integral with the top rail of the sash, on the outer face thereof, is a flange 27, which normally occupies the groove or pocket 10, and thus by means of the various grooves or pockets and flanges a fire and weather proof joint is formed between the sash and frame.

The plates 13 and 18 terminate adjacent the centers of the side rails or stiles of the window frame, and seated in plates 28 fixed to the sides of the frame, immediately adjacent the upper ends of the plates 13, are horizontally disposed pins 29, on which are journaled ears 30, which are secured in any suitable manner to the inner faces of the side rails of the window sash, thus hinging said sash at a central point, and permitting it to swing into the position shown by dotted lines in Fig. 2.

Seated in plates 31 fixed to the stiles of the window frame, adjacent the lower ends of the plates 13, are pins 32, on the projecting ends of which are fixed stops 33, which limit the movement of the window sash when the same is swung open.

Pivotally arranged on a bracket 34, which is carried by the inner face of the lower rail of the window sash, is a hook 35, which is adapted to engage over the end of the finger 7, thus holding the lower portion of the sash securely locked when said sash is closed.

Fixed to the head 3 of the movable frame, immediately in front of the top rail of the sash, is a strap 36, in which is arranged for vertical movement a gravity locking bolt 37, the lower end of which normally engages the top rail of the sash, thus holding the same securely locked when closed.

Fulcrumed on the inner face of the top rail of the sash is a lever 38, the forward end of which is adapted to engage the lower face of the bolt 37; and connected to the forward end of said lever is the upper end of a flexible member, such as a chain 39, the lower end of which is connected to the hook 35. Connected to the rear end of the lever 38 is an operating chain or cable 40, which hangs immediately in front of the window sash.

The sash is shown in closed positions in both Figs. 1 and 2, and said sash is locked at both top and bottom by the gravity locking bolt 37 and hook 35, which latter engages over the end of the finger 7. When so closed and locked, the various flanges on the edges of the window sash, (as hereinbefore specified,) occupy the corresponding grooves or pockets, thus making the ingress or egress of fire through the window practically impossible.

When it is desired to open the window, the chain 40 is engaged and pulled downward, which movement shifts the lever 38 upon its fulcrum, thus elevating the forward end of the lever, which action raises the lower end of the locking bolt 37 from its position in front of the top rail of the sash, and at the same time, elevating the hook 35 from the finger 7; and a continued pull upon the chain 40 will swing the window upon the pins 29 and bring said window into the open position as shown by dotted lines in Fig. 2.

A window of our improved construction is simple, strong, and durable, automatically locks both top and bottom when swung shut, and can be only unlocked and opened from the inside.

We claim:—

The combination with a window frame and a sash arranged to swing therein, of a locking bolt held to slide vertically in the head of the frame and to engage the top rail of the sash when said sash is closed, a gravity hook pivotally arranged on the lower rail of the sash, a finger fixed to the sill of the frame, with which the gravity hook engages when the sash is closed, a lever fulcrumed to the top of the rail of the sash adjacent the vertically moving locking bolt, one end of which lever is adapted to bear against the lower end of said locking bolt, and a connection from said lever to the gravity hook.

In testimony whereof, we have signed our names to this specification, in presence of two subscribing witnesses.

CHARLES H. HOPMANN.

HERMAN L. W. HOPMANN.

Witnesses:

GEORGE E. HOPMANN.

ADAM WASEM.