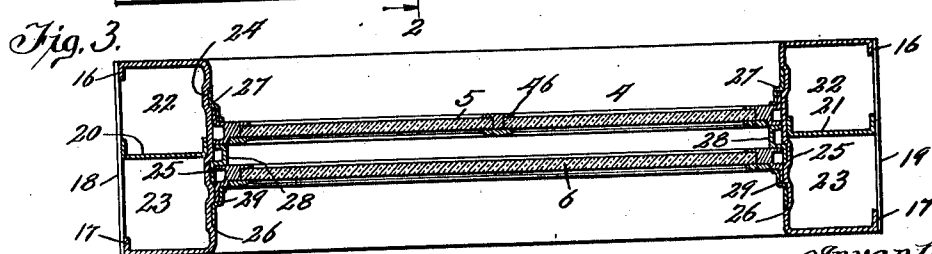
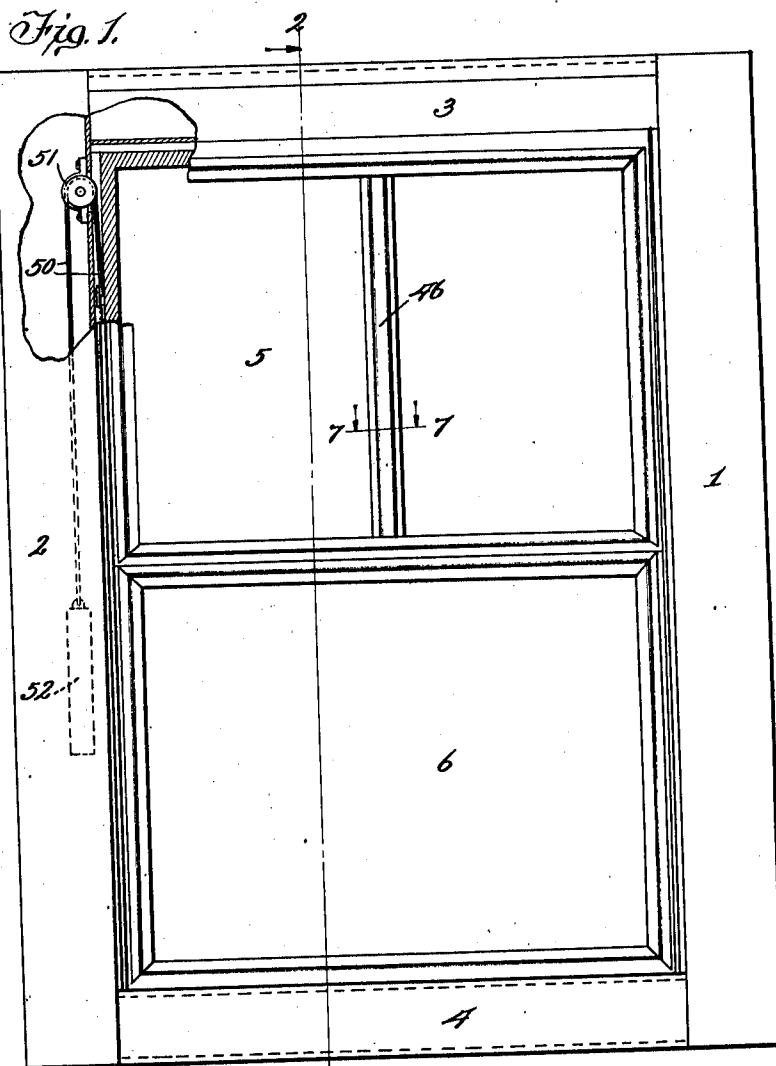


J. G. BRAUN.
FIREPROOF WINDOW CONSTRUCTION.
APPLICATION FILED SEPT. 30, 1909.

1,003,977.

Patented Sept. 26, 1911.

2 SHEETS—SHEET 1.



Witnesses:

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Inventor:

Jacob G. Braun

By *W. E. Perry* & *H. H. Hopkin*

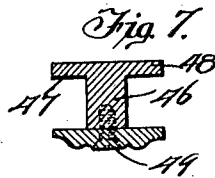
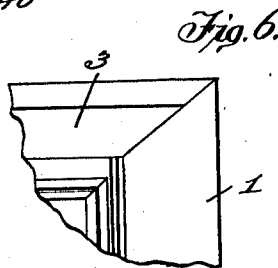
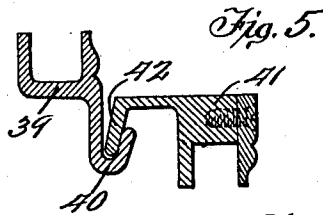
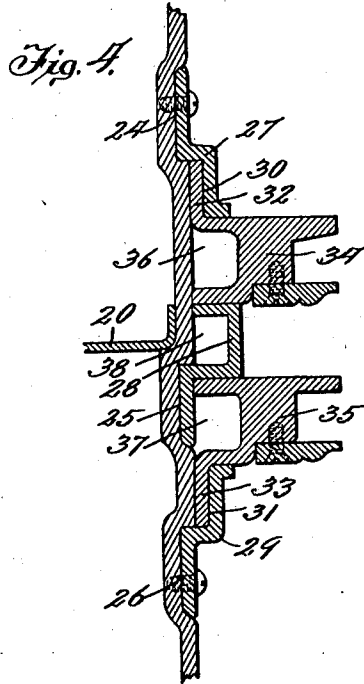
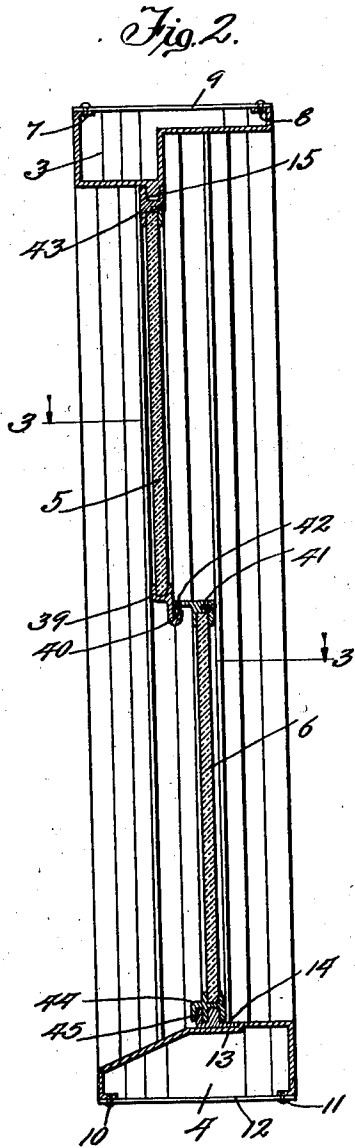
Attys.

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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JACOB G. BRAUN, OF CHICAGO, ILLINOIS.

FIREPROOF WINDOW CONSTRUCTION.

1,003,977.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed September 30, 1909. Serial No. 520,315.

To all whom it may concern:

Be it known that I, JACOB G. BRAUN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fireproof Window Construction, of which the following is a specification.

This invention relates to fire proof window construction and has for its main general object to provide an improved construction, combination and arrangement of parts comprising the window frame and sashes.

One of the objects of this invention is to provide improved fire proof connections between the window sashes and frame.

Another object is to provide improved fire proof connections between the sashes when closed.

Another object is to provide an improved integral metal construction for window frames and sashes which will be fire proof.

Other and further objects will appear in the following specification and be particularly pointed out in the appended claims, reference being had to the accompanying drawing showing one exemplification of my invention, and in which—

Figure 1 is a front elevation, partly broken away, of a window provided with my improvements and showing one embodiment of the built-up structure according to my invention. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a section on the broken line 3—3 of Fig. 2. Fig. 4 is an enlarged transverse section through the side bars on one side of the sashes when the sashes are in positions overlapping each other. Fig. 5 is a detail section on an enlarged scale showing the interlocking connection between the sashes. Fig. 6 is an enlarged elevation of one corner of the window frame and sash showing another embodiment of the built up structure employed in the manufacture of a fire-proof window construction according to my invention. Fig. 7 is a detail sectional view on line 7—7 of Fig. 1.

Referring first to Fig. 1 of the drawings, a fire proof window construction has been shown in which the uprights 1 and 2 may be rigidly connected respectively with an upper cross member 3 and a lower cross member 4 in any suitable manner but preferably such rigid connections are provided by welding the abutting surfaces at the corners of the frame in such manner as to form an integral

structure throughout. Within the frame are mounted an upper sash 5 and a lower sash 6 in any suitable manner but according to the showing made on the drawings, these sashes are slidable within suitable guides in the window frames.

Referring now to Fig. 2, the upper cross member of the window sash will be seen to be of hollow integral structure with a channeled cross section, the upper face of said member through which the channel opens outwardly being provided with flanged edges 7 and 8, which provide suitable means for attaching a cover plate 9 to form a closed hollow section. The lower cross member 4 is constructed in a somewhat similar manner with a channeled cross section provided with outer flanged edges 10, 11, to which is rigidly fastened a plate 12, forming a closed hollow section thereof. Seated within a recess 13 in the upper portion of said lower member 4 is a window sill 14 of peculiar construction, to be hereinafter referred to, while the upper member 3 is provided with a depending integral rib 15. By reference to Fig. 3, the cross section of the uprights 1 and 2 will also be seen to be provided with a hollow channeled formation, each of which has flanged edges 16, 16, and 17, 17, to which are securely fastened the cover plates 18 and 19 forming closed hollow sections. Extending longitudinally of said uprights 1 and 2 are partitions 20, 21 of any suitable cross section but preferably of the channel section shown on the drawings. Said partitions are arranged midway of the width of said uprights and form boxes 22, 22, 23, 23, within which the counterbalancing weights may be suspended. Said uprights 1 and 2 upon their faces adjacent to the windows are provided with longitudinal recesses 24, 25, 26 within which are seated structural sections 27, 28 and 29 respectively to provide window guides. A detail construction of these guides as well as that of the interengaging edges of the window sashes is shown most clearly in Fig. 4. The sections 27, 29, of the window guides are of suitable cross section so that when secured in position on said uprights 1 and 2 grooves 30, 31 are formed, in which engage tongues 32, 33, which are integral projecting portions of the window sash frames of the windows 5 and 6. It will thus be seen that the windows are slidably mounted within the frame with tongue and groove

connections. The integrally constructed side rails 34, 35, embodying the tongues 32, 33 just referred to are provided with grooves 36, 37, respectively which together with the
 5 groove 38 in the intermediate guide section 28 serve to provide a plurality of hollow channels along the joint between the sashes and the frame.

Referring now to Fig. 5, an exemplification of a suitable fire proof connection between the sashes has been shown in which the lower cross rail 39 of the upper sash is provided with a groove or hooked projection 40 while the upper cross rail 41 of the
 15 lower sash has been provided with a tongue 42 which, when the sashes are in closed position, is brought to fit snugly within the grooved projection 40 which forms a substantially fire proof connection. The upper
 20 cross rail 43 of the upper sash is grooved in the manner shown in Fig. 2 to provide with the rib 15 a suitable tongue and grooved joint between said upper sash and the upper cross member 3 of the window
 25 frame. The lower cross rail 44 and the window sill 14 are respectively provided with tongue and groove connections of any suitable form but preferably this tongue and groove connection between the sill and
 30 lower sash is provided by making the sill with a plurality of upwardly projecting tongues or ribs 45 and by providing the lower cross rail 44 of the sash with corresponding grooves to fit over and around
 35 said tongues. In each of the sashes the respective side rails and cross rails are rigidly united in any suitable manner but preferably by welding said sections into an integral whole. In the upper portion of
 40 Fig. 1, the upper sash has been shown to comprise two panes of glass separated by the muntin rail 46, which is also preferably integrally united with the upper window sash by welding.

45 By reference to Fig. 7, which shows a cross section on the line 7—7, Fig. 1, the muntin rail 46 will be seen to be provided with flanges 47, 48, which in conjunction with the detachable retaining strip 49 is adapted to
 50 form a suitable socket for the glass. It will be seen from an inspection of Fig. 3 that the side rails of both the upper and lower sashes have also been provided with detachable

strips to permit the removal and replacement of the glass windows.

As shown in the upper left hand corner of Fig. 1, the sashes may be suspended within the frame in the usual manner by cords 50 passing through the pulley blocks 51, said sashes being counterbalanced by means
 60 of the weights 52 suspended in the housings 22 and 23 provided in the uprights of the frame for that purpose.

What I claim is—

1. In fire proof window construction, the
 65 combination of a hollow metallic window frame comprising U-shaped jambs; the legs of the U being presented outwardly and formed with longitudinal recesses along the inner face of the jamb, structural sections
 70 disposed in said recesses and secured to the jamb to form grooves along the face of the jamb, the openings of said grooves being oppositely disposed to face each other, channeled window sashes formed with lateral
 75 projections each extending oppositely into one of said grooves to permit the sliding movement of the sash, and a channeled section seated in another of said recesses extending longitudinally between said sashes
 80 to space them apart and to retain them in said grooves.

2. In fire proof window construction, the combination of a hollow metallic window frame comprising U-shaped jambs, the legs
 85 of the U being presented outwardly and formed with longitudinal recesses along the inner face of the jamb, Z-shaped structural sections disposed in some of said recesses to form grooves along the face of the jamb
 90 opening toward each other, channeled window sashes, one leg of each channeled section being disposed to enter one of said grooves, and a channeled section with one leg disposed in a recess between two other
 95 recesses and adapted to space two sashes apart and to retain them in the said grooves.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 27th day
 100 of September, A. D. 1909.

JACOB G. BRAUN.

Witnesses:

CHAS. H. SEEM,
 ARTHUR O. KNIGHT.