No. 897,297. PATENTED SEPT. 1, 1908.

E. H. LUNKEN & C. M. CONKLIN.

FIREPROOF WINDOW CONSTRUCTION.

APPLICATION FILED JUNE 27, 1907.

4 SHEETS—SHEET 1.

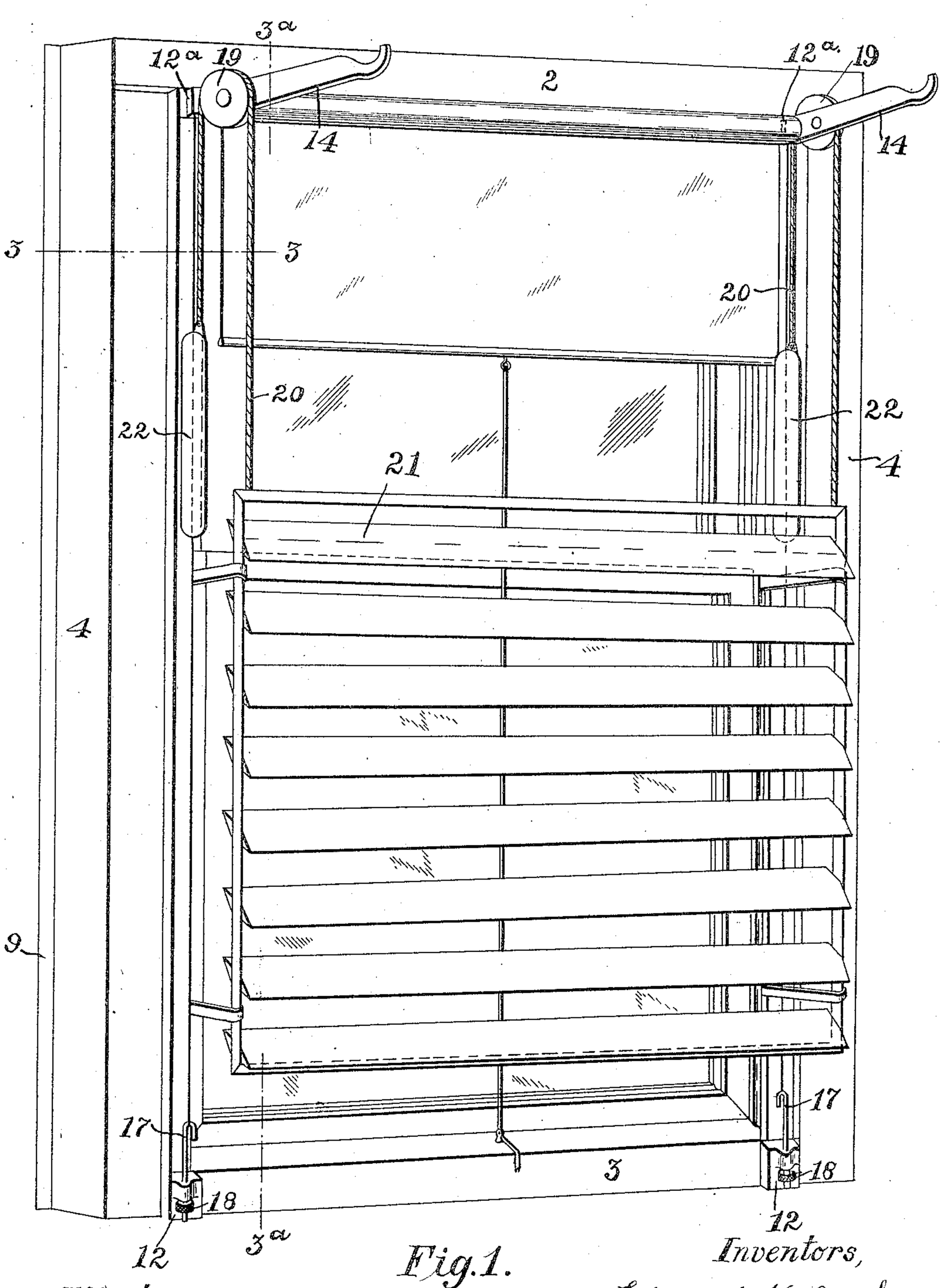

Fig. 1.

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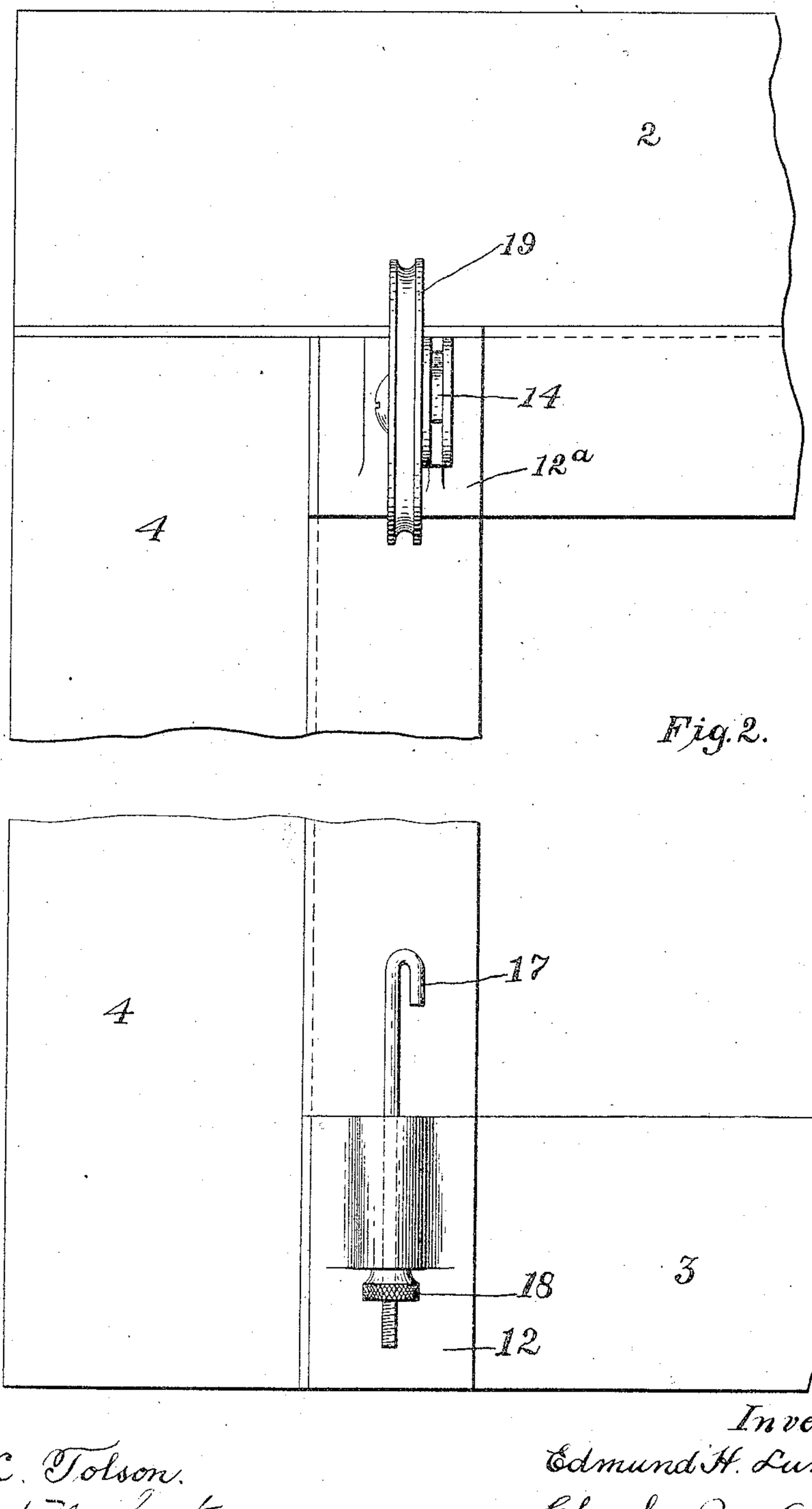

Fig. 2.

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4 SHEETS—SHEET 3.

Fig. 3

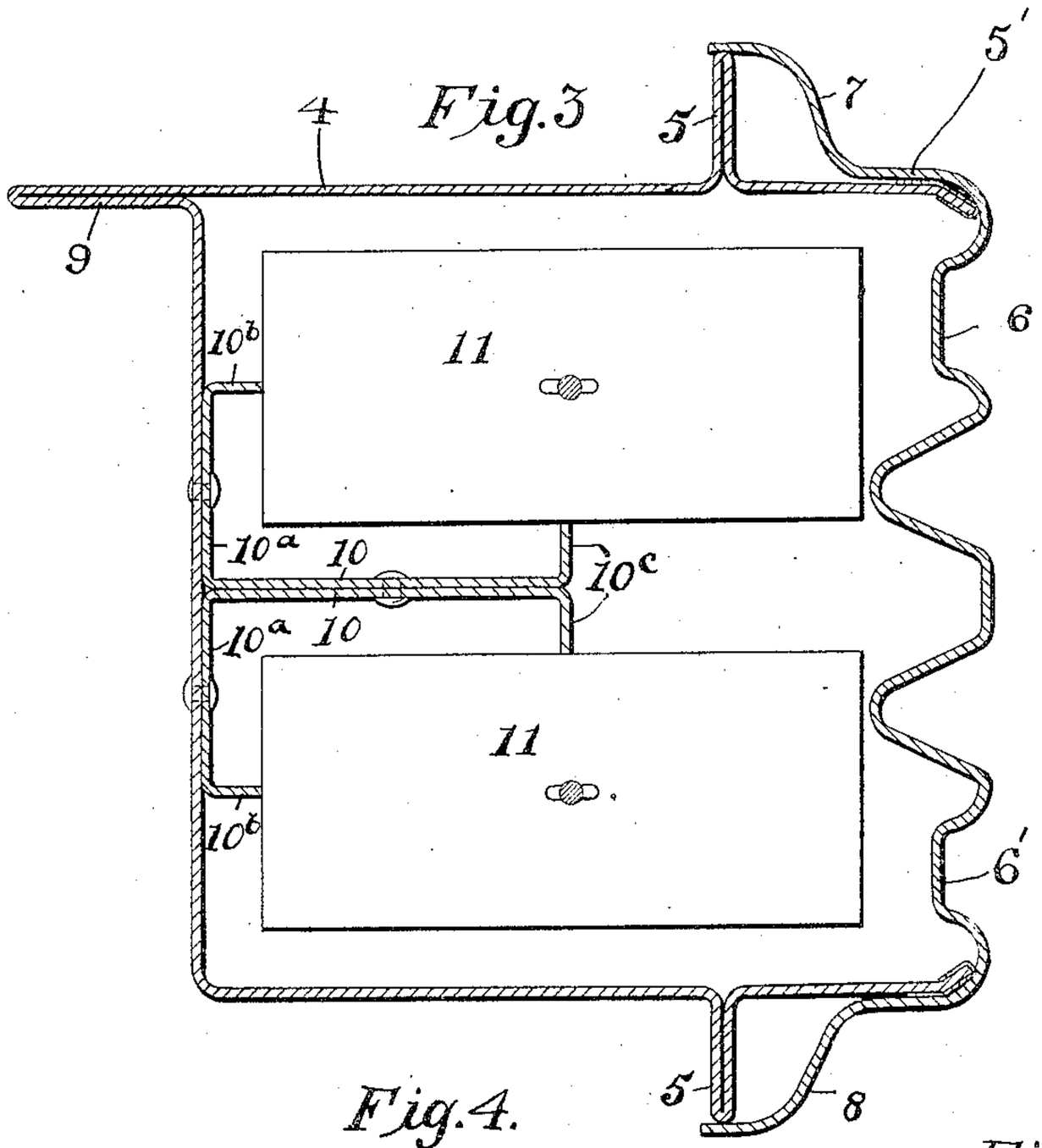


Fig. 4.

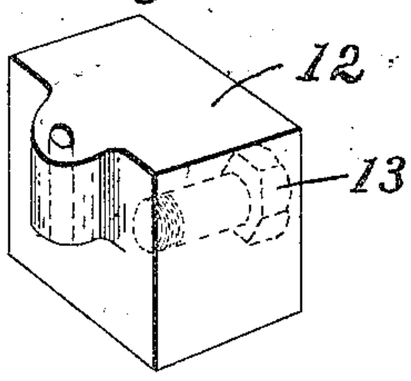


Fig. 7.

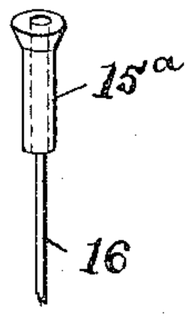


Fig. 6.

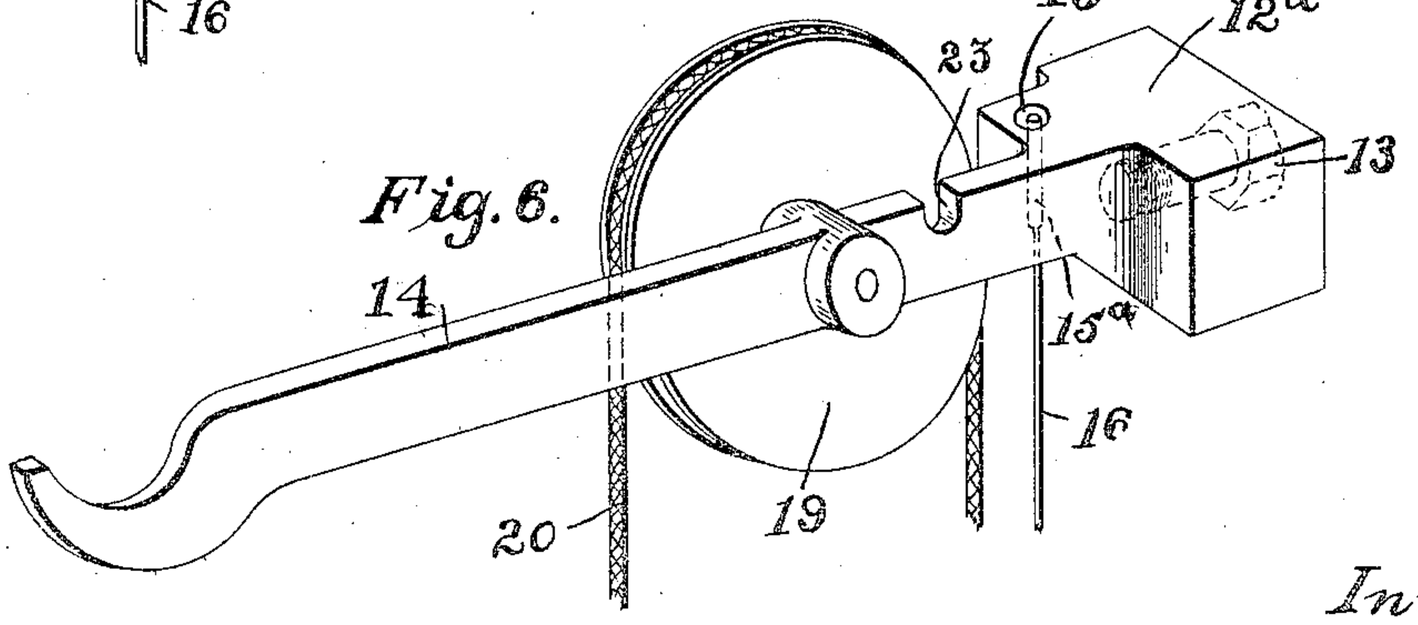


Fig. 9.

Fig. 5.

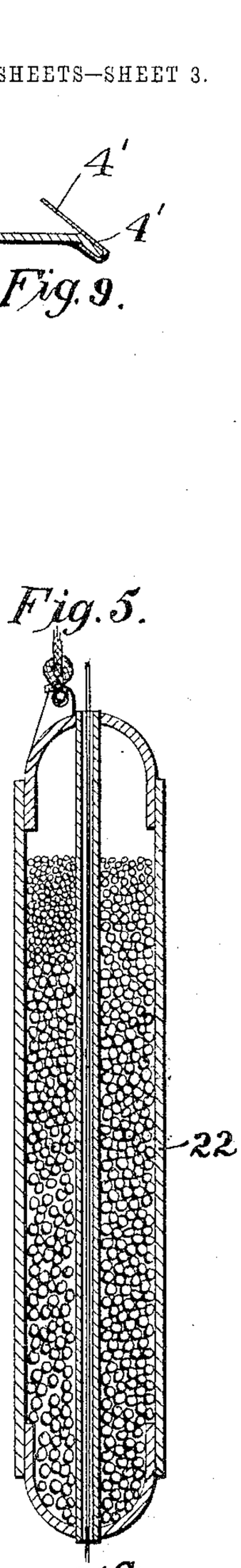
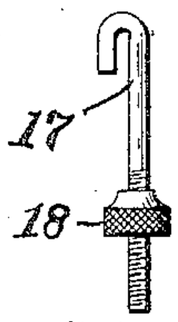


Fig. 8.



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APPLICATION FILED JUNE 27, 1907.

4 SHEETS—SHEET 4.

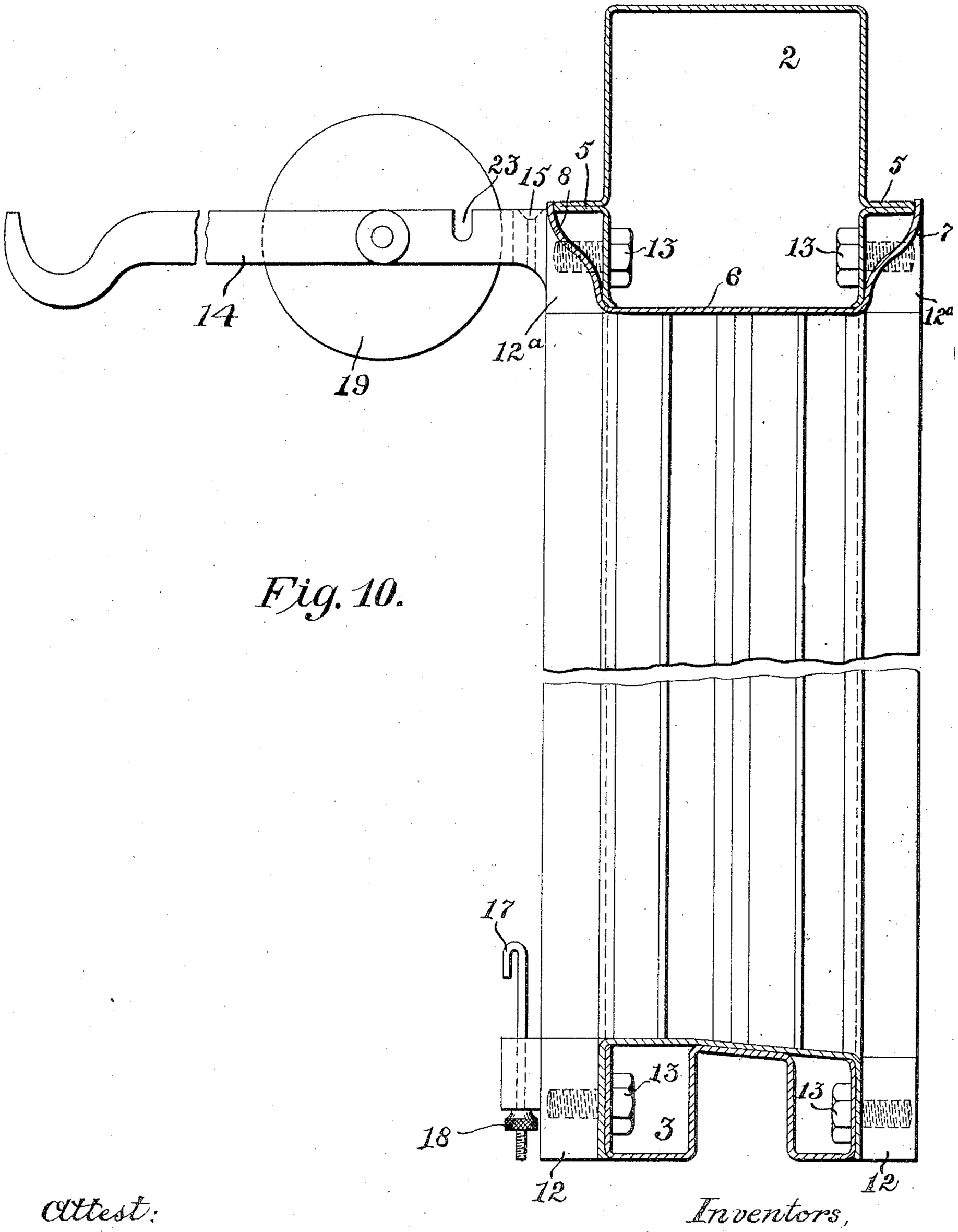

Fig. 10.

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UNITED STATES PATENT OFFICE

EDMUND H. LUNKEN AND CHARLES M. CONKLIN, OF CINCINNATI, OHIO, ASSIGNORS TO THE LUNKEN STEEL WINDOW COMPANY, A CORPORATION OF OHIO.

FIREPROOF WINDOW CONSTRUCTION.

No. 897,297. Specification of Letters Patent. Patented Sept. 1, 1908.

Application filed June 27, 1907. Serial No. 381,124.

To all whom it may concern:

Be it known that we, EDMUND H. LUNKEN and CHARLES M. CONKLIN, citizens of the United States, residing at Cincinnati, Ohio, have invented certain new and useful Improvements in Fireproof Window Construction, of which the following is a specification.

Our said invention relates to fire-proof window construction and is designed as an improvement, in respect to certain features or details upon the construction which forms the subject of an application filed by us in the United States Patent Office on the 22nd day of November, 1906, Serial No. 344,643.

We have aimed, in devising the present invention, to provide a frame having very desirable means for guiding the weights, and having also finishing or facing plates designed to give a more complete and finished appearance to the frame. We have also incorporated with the frame corner blocks which not only fill in the spaces left at the corners between the side and the top and bottom finishing plates, but also carry blind and shade and curtain supporting devices. We also add a brass weather-strip to one of the inwardly projecting flanges of the outer frame which bears against the side of the cover plate when in place.

With these and other objects in view the invention includes the various features of construction and arrangement and combination of parts hereinafter described and particularly pointed out in the appended claims.

An embodiment of the invention is shown in the accompanying drawings, in which,—

Figure 1 is a perspective view. Fig. 2 is an enlarged front elevation showing the upper and lower corners and with the central part broken away. Fig. 3 is a section on line 3—3 of Fig. 1. Fig. 4 is a perspective view of one of the lower corner blocks. Fig. 5 is a central vertical section of one of the blind counter-balancing weights. Fig. 6 is a perspective view of one of the upper corner blocks with the parts carried thereby. Figs. 7 and 8 are detail views showing respectively the fastenings for the upper and lower ends of the guide rods or wires. Fig. 9 is a section of the flange 5′ of Fig. 3 showing brass weather strip. Fig. 10 is a vertical section of the upper and lower corners on the lines 3^a— 3^a of Fig. 1.

Referring more particularly to these various figures, the numeral 2 designates the top cross member or piece, 3 the bottom member or sill, and 4—4 the sides. The top and sill may be constructed substantially as illustrated and described in our aforesaid application. The sides we provide with integral ribs or flanges 5 formed by pressing or folding the material of which the frame is constructed. These ribs form guides for the masons in walling in the frame. We also provide a weather strip 4′ on the outer edge of flange 5′ which forms a weather-tight joint between the outer frame and the coverplate. The open sides of the frame are designed to be closed by removable coverplates in the manner described in our previous application, but in the present form, the cover-plates for the side members of the frame which are designated by the numeral 6, are provided with outwardly turned flanges or sides as shown at 7, 8, which are preferably formed of an ogee curve in cross section and bear at their outer edges against the outer edges of the webs or flanges 5, and thus completely cover the frame members which are not given the high finish which is imparted to the coverplates. The sides or flanges 7, 8 thus form ornamental moldings and are braced by the flanges 5, and prevented from being dented or pressed in. Each side frame member is also preferably provided with an integral flange or rib 9 formed by pressing or folding the material of which the frame member is constructed, as clearly shown in Fig. 3, this flange forming a wind break. Each side member is provided with weight guides which may be conveniently formed of two pieces of sheet metal having webs 10 riveted together and angularly turned portions 10^a riveted or otherwise secured to the outer wall of the side member. Each member has both edges turned over to form webs or flanges 10^b and 10^c against which the weights 11 abut, the weights being preferably of rectangular form as shown. The sash cord is attached in such a manner that the weights are caused to bear only on the edges of these flanges so that all the friction and wear is at these points and there is no friction or wear against the walls of the weight box.

It will be apparent that unless the meeting corners of the side and top and bottom plates are made of special construction, a square space will be left uncovered by the coverplates. We provide a filling for this space

at each corner in the shape of a block properly designed to match the molding of the coverplates, and which is also utilized for the support or attachment of a shutter blind or the like, and also preferably at the top has means for supporting a shade roller and a curtain pole. The lower blocks are simply substantially square blocks 12 of suitable design as shown in Figs. 1, 2, 4 and 10, which are secured to the side flanges of the side frame member. Both top and bottom corner pieces are preferably secured to the side flanges of the side frame members by bolts or screws 13 shown in Figs. 4, 6 and 10 screwed into place from the inside of the side frame members before the coverplates are applied. The top blocks 12^a on the inside of the frame are preferably provided with outwardly projecting arms 14. Each of the top blocks on the inside of the frame has a vertical opening in a projecting portion or lug, as indicated at 15, which is countersunk and which receives a nipple 15^a to which is secured one end of guide rod or wire 16. The lower end of the guide rod 16 is connected to a hook or eye bolt 17, which passes through a similar opening in a lug on the lower block and is held therein by a milled nut 18 by which tension may be placed on the wire. The arm 14 carries a pulley 19 over which passes a cord 20, one end of which is secured to the upper end of a slat shutter 21, while the other end is attached to the weight 22. The weight 22 is provided on each side for counterbalancing the weight of the slat shutter and is preferably made hollow so that it may be filled with shot or other heavy material to secure the desired weight, and has an interior tube 21^a through which the guide rod 16 passes and guides the weight in its vertical movement. The shutter frame is guided by arms or brackets whose ends slide in the grooves 6′ in the side coverplates 6. Arms 14 are provided with recesses 23 of a shape suitable for receiving the ends of the ordinary shade roller, while the extreme outer ends of the arms are provided with seats for the reception of the ordinary curtain pole.

The weather strip 4′ shown in Fig. 9 is preferably made of thin spring brass strips, which are folded over the edge of the outer flange 5′ and extend up the sides and across the top of the outer frame.

Having thus described our invention, what we claim is:—

1. In fire-proof window construction, a frame member having guide flanges on opposite sides thereof, portions projecting in advance of the guide flanges, and removable finishing plates embracing said projecting portions and having molded edges abutting against said flanges.

2. In fire - proof window construction, a frame member having an outwardly projecting flange serving as a guide, a finishing plate having an edge overlapping said flange, and a weather strip between said parts.

3. In fire - proof window construction, a frame member having a guide flange, a removable finishing plate having a molded edge resting against the edge of said guide flange, and a metallic weather strip between said frame member and finishing plate.

4. In fire - proof window construction, frame members having overlapping edges, and a metallic weather strip embracing the edge of one of said parts and bearing against the other part.

5. In fire - proof window construction, a hollow vertical frame member having a removable cover plate and forming weight channels, and vertically disposed plates or bars rigidly held within said side member and having portions forming guides for the weights.

6. In fire - proof window construction, a hollow side member, and a pair of vertically disposed plates or bars held within said side member, each of said bars having angularly turned edges adapted to bear against two sides of the weight.

7. In fire - proof window construction, a hollow side frame member, a pair of vertically disposed plates or bars secured together and located centrally of said frame member, and having oppositely turned edges or flanges for spacing the weights.

8. In fire-proof window construction, the combination with a main frame comprising a top and a side member, and removable cover plates for said members, of a finishing block secured to the main frame and filling the space left uncovered at the corner by said cover plates.

9. In fire-proof window construction, the combination with a main frame comprising a top and a side member, and removable cover plates for said members, of a finishing block secured to the main frame and filling the space left uncovered at the corner by said cover plates, and screw bolts for securing said blocks in place and having their heads on the inside of the main frame.

10. In fire-proof window construction, the main frame comprising top and side members, removable cover plates for said members, a finishing block secured to the main frame at the corners and filling the space left uncovered by said cover plates, and bracket arms carried by said blocks.

In testimony whereof, we affix our signatures in presence of two witnesses.

EDMUND H. LUNKEN.
CHAS. M. CONKLIN.

Witnesses:
LANE THOMPSON,
GEO. W. GILMORE.