

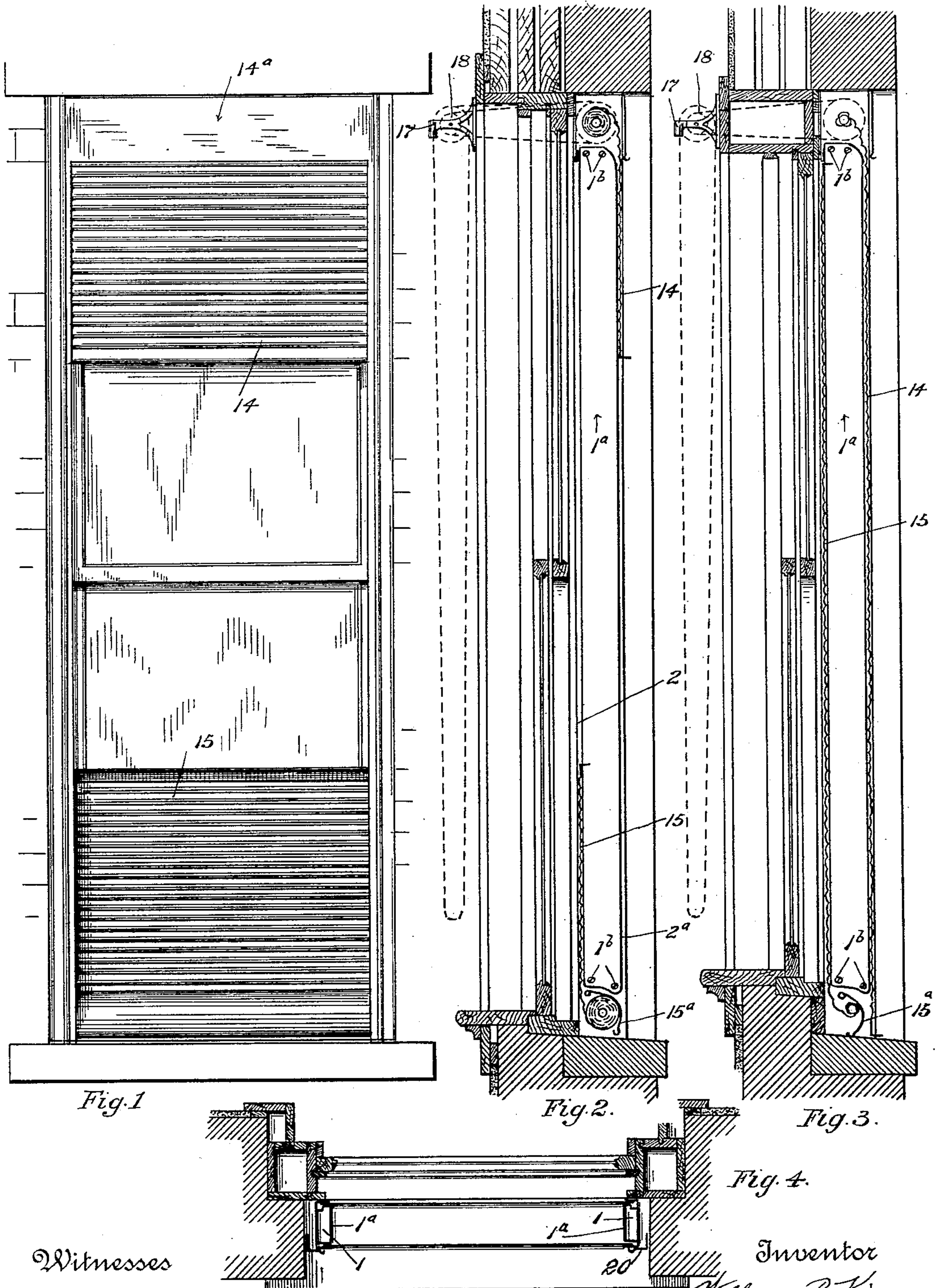
(No Model.)

2 Sheets—Sheet 1.

W. R. KINNEAR.
FIREPROOF BLIND OR CURTAIN.

No. 602,602.

Patented Apr. 19, 1898.



Witnesses
M. Gashman,
Geo. M. Copenhaver.

Inventor
William R. Kinnear,
By his Attorneys,
Finckel & Finckel.

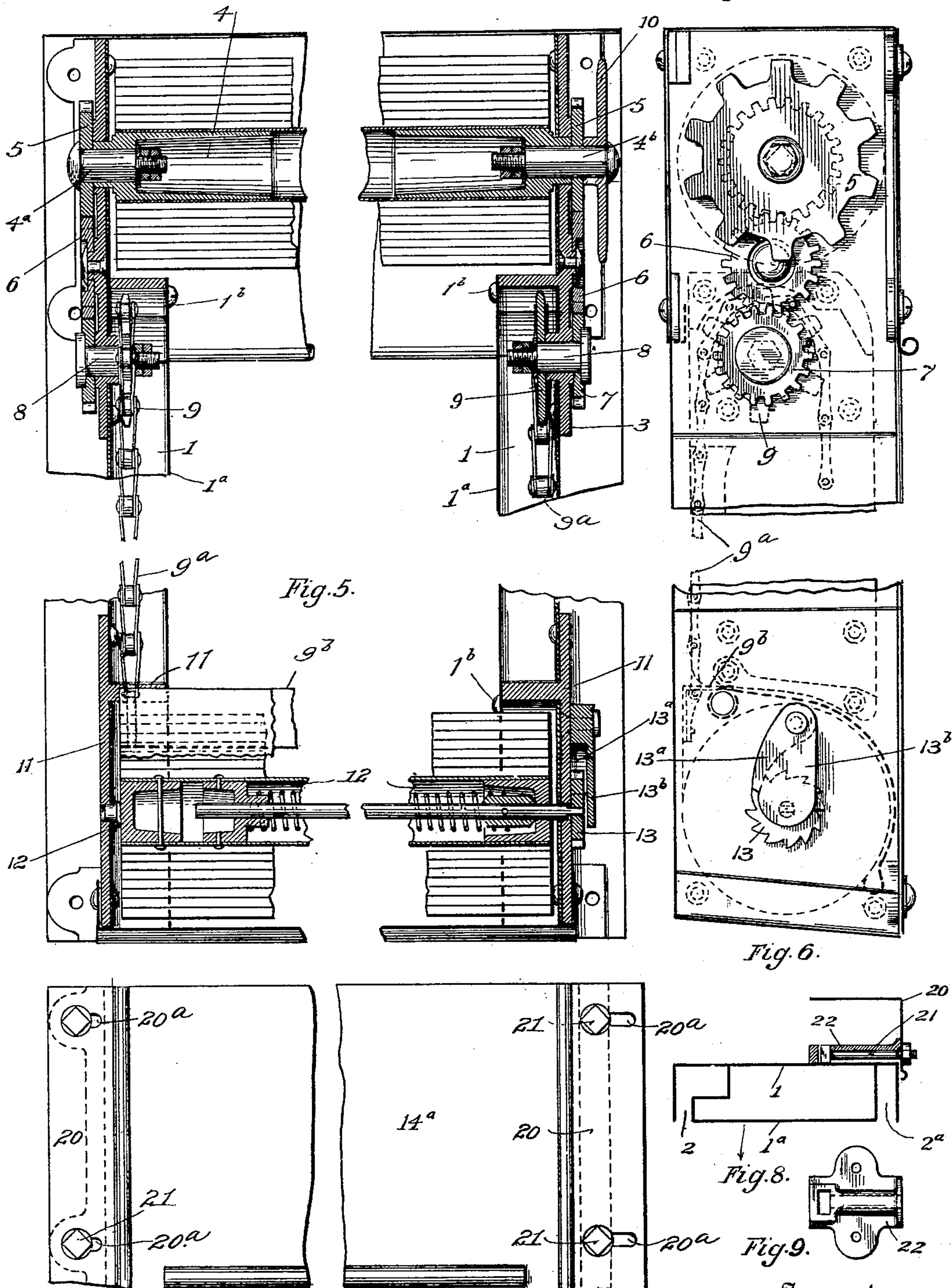
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UNITED STATES PATENT OFFICE.

WILLIAM R. KINNEAR, OF COLUMBUS, OHIO.

FIREPROOF BLIND OR CURTAIN.

SPECIFICATION forming part of Letters Patent No. 602,602, dated April 19, 1898.

Application filed April 16, 1897. Serial No. 632,479. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. KINNEAR, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Fireproof Blinds or Curtains; 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.

Figure 1 is a front elevation of a window provided with my improved fireproof blinds. Fig. 2 is a vertical sectional view showing the blind applied to the common form of window, the curtain being partly unrolled. Fig. 3 is a similar view showing the blind applied to a window specially adapted for the reception of my fireproof blind. Fig. 4 is a horizontal sectional view. Fig. 5 is a vertical sectional view, on a larger scale, showing the details of the curtain-moving devices, the structure being broken at the middle both vertically and horizontally. Fig. 6 is a side elevation of what is shown at the right-hand side of Fig. 5. Fig. 7 is a front view, on a larger scale, showing the upper part of the structure. Fig. 8 is a horizontal sectional view through one of the side pieces of the blind-frame, and Fig. 9 is a plan view of the device for securing a bolt to the side of the blind-frame.

The object of my invention is to provide a fireproof blind that may be made at the factory complete and shipped to distant points ready to be put up without the aid of special skilled labor.

My invention consists in the various details of construction hereinafter set forth and claimed.

In the several views of the drawings like characters of reference designate corresponding parts.

1 1 designate the side parts of the frame, which consists of two long parallelly-arranged box-like structures or cases, of sheet metal, having covers 1^a for the inner open sides, removably secured thereto by screws 1^b, entering walls on the frames 3 and 11, and longitudinal grooves 2 2^a for the inner and outer curtains, respectively.

At the upper ends of and riveted to the side parts 1 are the metallic plates or frames 3,

forming upward parallel extensions of the side parts 1, between which is journaled the upper curtain-roller 4, of any suitable construction. Projecting axially from the rollers, at each end thereof, are square or non-round studs 4^a 4^b, upon which are fastened gear-wheels 5 5, that engage idler-gears 6 6, which in turn mesh with gears 7 7, fixed on short shafts 8 8. The inner ends of these short shafts 8 8 extend into the boxes or hollow side parts 1 of the curtain-frame, where they are furnished with small sprocket-wheels 9 9. The outer extremity of the right-hand stud 4^b is provided with a comparatively large sprocket-wheel 10.

Provided at the lower ends of the parts or casings 1 are the metallic plates or frames 11, between which is journaled a spring-roller 12, that is capable of having its tension regulated by means of a ratchet 13 on the shaft of the roller and pawl 13^a on the frame 11, very much after the manner of an ordinary curtain-roller. In my case, however, I provide the pawl with a parallelly-extending plate or guard 13^b, that extends over the end of the shaft of the roller and insures the retention of the ratchet in place without the aid of other devices.

14 designates the upper roller-curtain, which is preferably formed of metallic slats, as illustrated in my patent granted November 24, 1896, No. 572,014. This is attached so as to be rolled up on the roller and is of sufficient length to extend from the roller to the window-sill. The free end of the curtain is furnished along its horizontal edge with a strip of angle-iron, the ends of which, together with the vertical edges of the curtain, fit and can be slid freely up and down in the outer groove 2^a.

15 designates the lower roller-curtain that is preferably of the same kind and construction as that on the upper roller; but its angle-iron and edges fit and move in the inner groove 2, so that when the upper curtain is down and the lower curtain up a practically continuous air chamber or space is formed in front of the window that affords an efficient barrier to the passage of heat or flames to the window-frames and glass.

The upper roller is inclosed and protected by a hood 14^a. The lower roller has arranged above it a hood or cover that consists

of a curved plate of sheet metal 15^a and is pivoted in the sides of the frame-pieces 11, so that as the curtain 15 is wound and unwound the hood rises and falls, and when the curtain is nearly or quite unwound the lower edge thereof rests against the sill, as indicated in Fig. 3, thus cutting off any great inflow of air and effectually preventing the admission of flames at that point.

Attached to the free end of the lower curtain or to the angle-iron 9^b thereof are sprocket-chains 9^a 9^a, that pass up over the inner sides of the sprocket-wheels 9 9, and their free ends hang down at the opposite side in the box or hollow frames 11 at the side of the window.

Journaled in a suitable bracket 17 at the innerside of the building is a double sprocket-wheel 18, over one part of which and the sprocket 10 runs a chain belt, while over the other part of said wheel 18 runs a belt or chain by means of which the upper roller may be manually rotated in either direction. When the upper roller is rotated, motion in the same direction is communicated through the gears 5, 6, and 7 to both the sprocket-wheels 9, which should be so proportioned that a full unrolling or rolling of the curtain is simultaneously effected.

An important feature of my present improvement resides in the means for adjusting my fireproof blinds to disproportioned window-openings or window-openings the sides of which through the settling of the building have gotten out of plumb. To accomplish this, I place along the front corners of the outer sides of the boxes or casings 1 angle-plates 20, that are made laterally adjustable. One means of making these angle-plates adjustable consists in securing bolts 21 by means of small plates 22, formed to hold the same riveted to the outer sides of the boxes or casings. The ends of these bolts, which project beyond the outer faces of the boxes or casings 1, extend through substantially horizontal slots 20^a in the angle-plates 20, so that the latter may be laterally adjusted to fit tightly against the walls of the window-opening and then fixed in position by means of nuts turned up on the ends of the bolts.

From the construction shown and described it will be plain that the entire blind may be made at the factory and, if desired, put together ready for adjustment to a window, that no special skill is required to fit and secure the blind in place, and, further, that when the blind is in place and closed a complete surface

of metal backed by a sheet or column of air is afforded to prevent the access of flames and heat to the woodwork of the window-frames. These blinds therefore will be specially serviceable to prevent the communication of fire from or to near buildings.

I do not wish to be understood as limiting myself to the exact form and proportion of parts illustrated in the drawings, as they may be varied without departing from the scope of my invention.

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

1. In a fireproof blind or shutter, a frame comprising hollow side casings 11 having channels or guides for curtains, frames or extensions 33 secured to the upper ends of the casings, the curtain and roller 4 journaled in said extensions, gear-wheel 5 on the roller, idler-gear 6 meshing with gear 5, sprockets 9 9 within the casings, the gear 7 on the shaft of sprocket 9 and meshing with gear 6, the frames or extensions 11 11 secured to the lower ends of the casings, the curtain and roller 12 journaled in said frames or extensions 11 11, and chains connected with the lower curtain and passing over sprockets 9 9, substantially as shown and described.

2. In a fireproof blind or shutter, a frame comprising hollow side casings having channels or guides for curtains, rollers containing said curtains journaled in the upper and lower parts of said frame, the lower curtain being spring-actuated to roll said curtain thereupon, sprockets in said hollow sides or casings, chains connecting the lower curtain and said sprockets, and gearing for communicating motion of the upper curtains to the lower, substantially as described.

3. In a fireproof blind or curtain of the kind referred to, a roller and curtain thereon, combined with a hood or cover arranged to rise and fall with the rolling and unrolling of the curtain, substantially as described.

4. A fireproof blind or shutter comprising a frame with plates adjustable on said frame for fitting said shutter in a window.

5. In a fireproof blind or curtain, a frame including side casings for supporting the blind or curtain, bolts secured to the sides of said casings, substantially as described, and plates adjustable on said bolts so as to make the structure fit in the window-opening.

WILLIAM R. KINNEAR.

Witnesses:

C. E. TURNER,

J. M. PATTERSON.