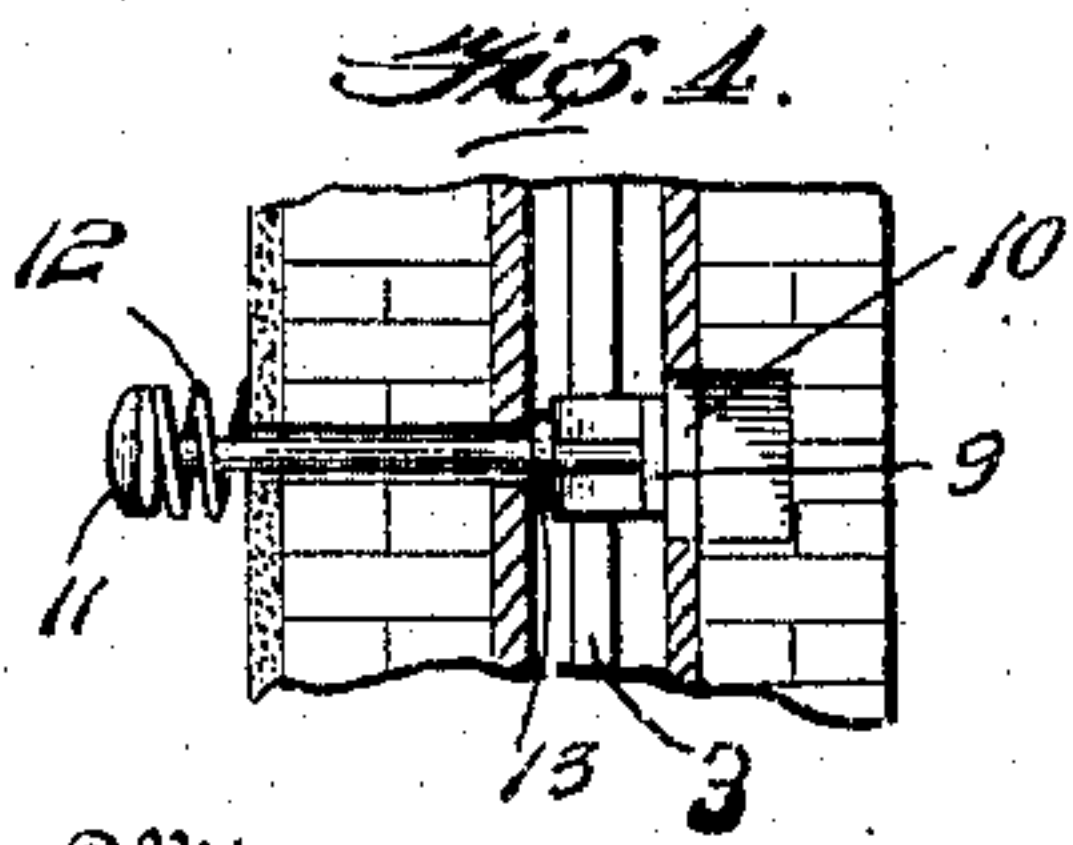
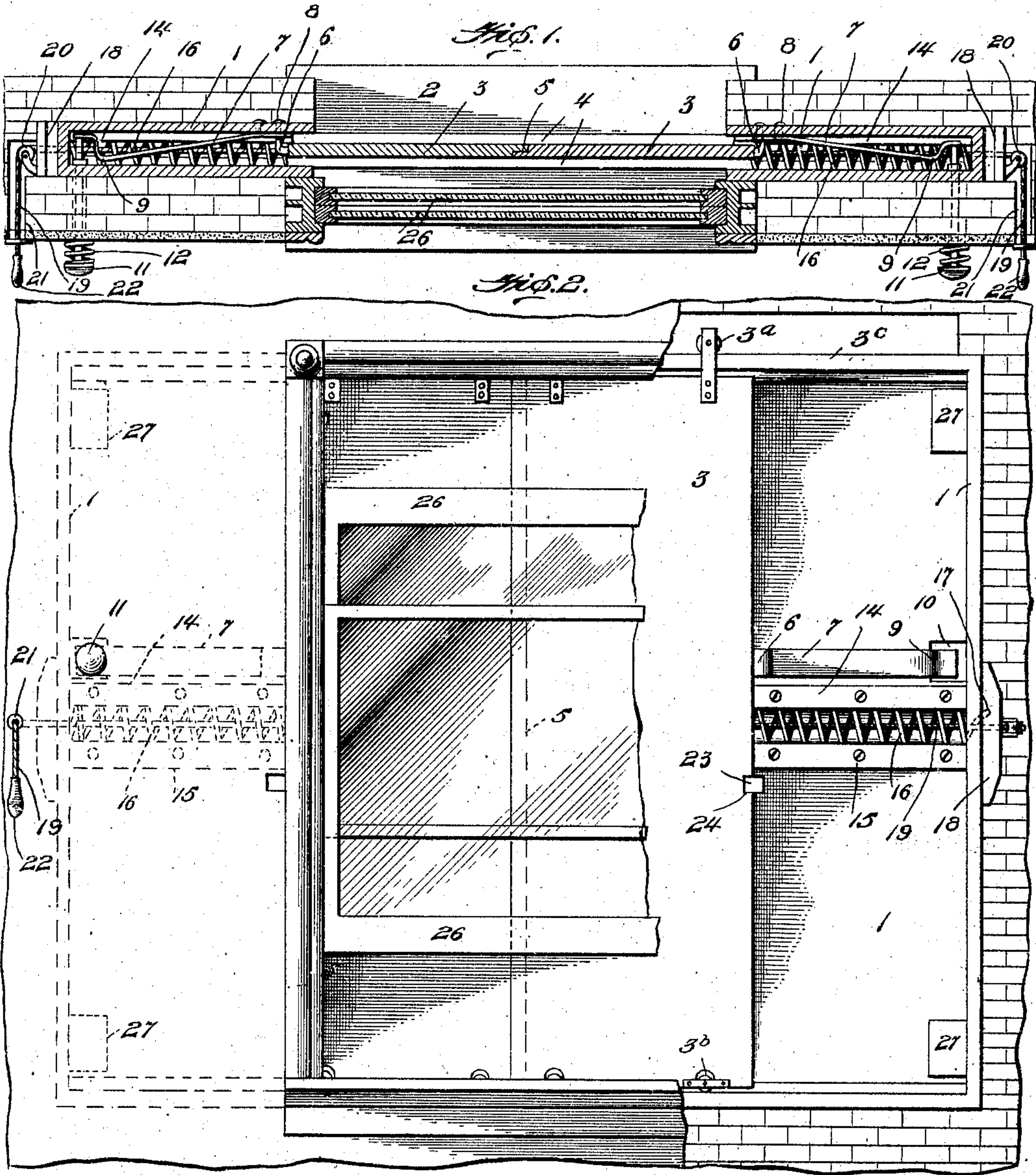


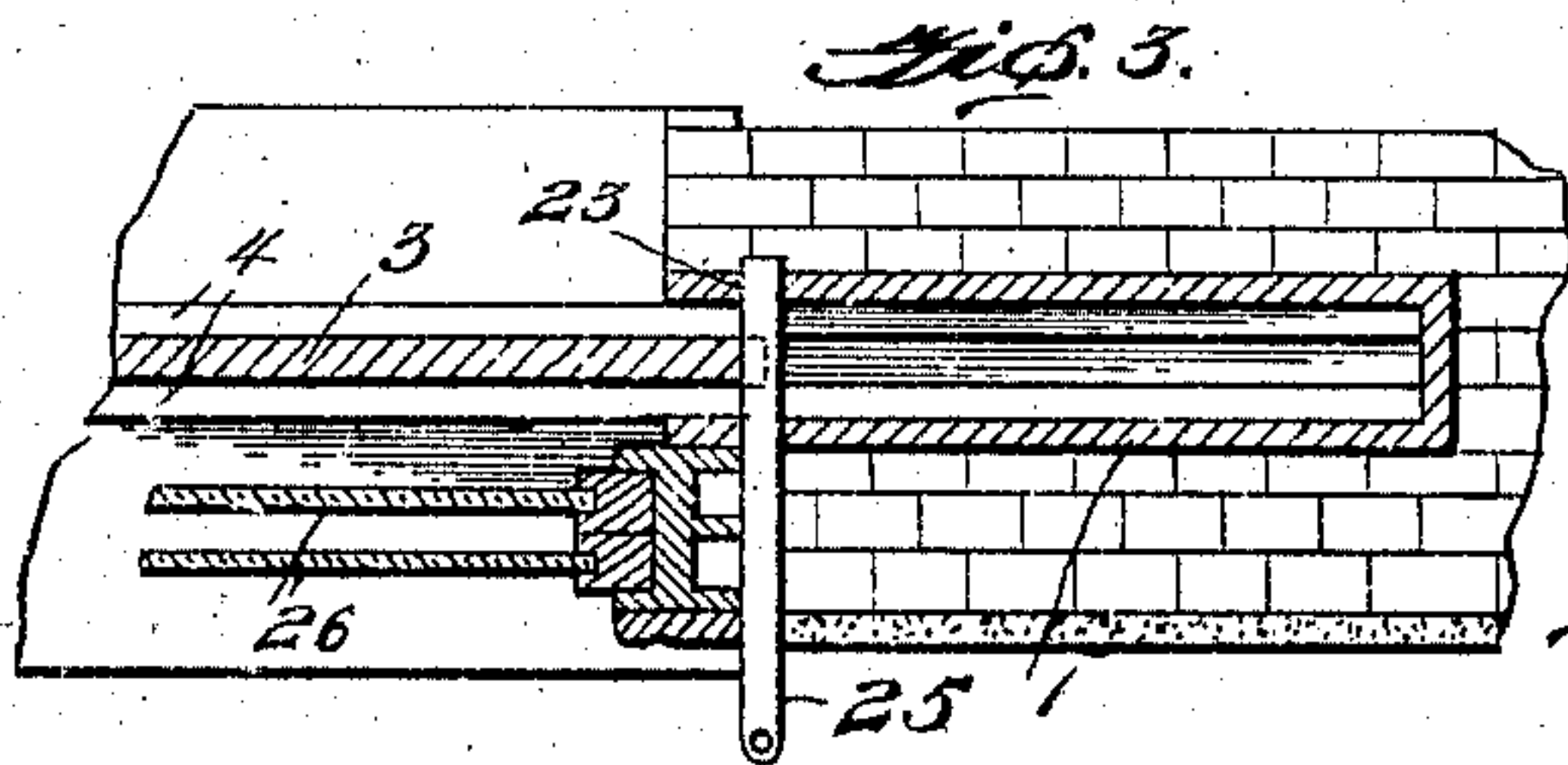
No. 846,603.

PATENTED MAR. 12, 1907.

P. O'REILLY.
FIREPROOF SHUTTER.
APPLICATION FILED JULY 25, 1906.



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UNITED STATES PATENT OFFICE.

PATRICK O'REILLY, OF SAN FRANCISCO, CALIFORNIA.

FIREPROOF SHUTTER.

No. 846,603.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed July 25, 1906. Serial No. 327,747.

To all whom it may concern:

Be it known that PATRICK O'REILLY, (who is to become a citizen of the United States, having so declared his intention,) residing at San Francisco, in the county of San Francisco and State of California, has invented certain new and useful Improvements in Fireproof Shutters, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in fireproof shutters, and has for its object the improvements of the construction of shutters which are normally retained within the walls of a building and may be quickly moved within said walls for closing an opening therein.

Another object of the invention is the provision of sliding shutters in a wall, which shutters are provided with means for instantaneously moving the same for closing a window-opening in the wall.

With these and other objects in view the invention consists of certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a horizontal sectional view of a wall, showing my invention positioned therein and closing a window-opening. Fig. 2 is a view in side elevation of a portion of the interior of a building, showing a window-opening to which my invention is applied. Fig. 3 is a horizontal fragmentary sectional view of portion of my invention, illustrating means for fixedly securing a shutter in a closed position. Fig. 4 is a fragmentary sectional view of a portion of a shutter, showing the means for releasing the same from its open position, which position is when the shutters are entirely within the casings built into the wall.

Referring to the drawings by reference-numerals, 1 designates the metallic casings, which are built into the wall contiguous to the window-opening 2, preferably during the construction of the building. Each casing 1 and fireproof shutter 3 and the mechanism for actuating said shutter is similarly constructed, and for this reason I will only specifically describe a single casing and shutter and its coacting parts, as this will be sufficient to understand my invention, particularly when the coöperation between the two shutters 3 is explained. In the present instance I have illustrated a pair or two shut-

ters coöperating together, although it will be obvious to one after reading the following description that a single shutter could be used for closing the opening with substantially the same effect as when two shutters are employed, provided a single shutter is of sufficient dimension to close the particular opening.

Each casing 1 is provided with sides, ends, and top and bottom portions, which is common to the art. Within the casing 1 and at its top and bottom are arranged pairs of parallel guiding-rails 4 4, which rails 4 4 extend entirely across the top and bottom of the window-opening 2, Fig. 1. The sliding metallic shutters 3 are positioned between these guide-rails.

Each shutter 3 is provided upon its vertical front edge with a flange 5, so that when the shutters are in their closed position, Figs. 1 and 2, an air-tight joint is formed between the overlapping edges. Upon the opposite vertical edge of the shutter there is secured a catch 6, constituting a latch. The catch 6 preferably extends inwardly and normally engages a flat spring 7, which spring 7 is preferably secured at 8 to one side of the casing 1. The flat spring 7 constitutes a catch, which is provided at its outer end with a hook 9, which hook 9 is capable of being forced inwardly into an opening 10, formed in one side of the casing 1, by means of a plunger 11, constituting a push-button. When the shutter 3 is moved into the casing 1, the latch 6 will ride over the hooked end 9 of the spring-catch 7 and retain the shutter within the casing 1 until the push-plunger is forced inward by an operator in the building, when said latch 6 will be disengaged from the hooked end of spring-catch 7 and permit the shutter to be moved to its closed position, Figs. 1 and 2.

The push-plunger 11 is preferably positioned at right angles to the spring-catch 7. Upon said push-plunger I preferably position yielding means—as, for instance, coil-spring 12—which normally exerts an outward pressure upon the plunger, so as not to hold the spring-catch 7 in a compressed position. It will be obvious that said spring 7 will be in its normal position, Fig. 1, so that its hooked end 9 may receive the latch 6 when the shutter is moved back into the casing 1. The push-plunger 11 is provided with any suitable stop—as, for instance, a disk 13—which limits its outward movement. I have found

from practical experience that the shutter 3 will be securely retained within the casing 1 by means of the yielding catch 7 and latch 6 until said shutter is released by pressing in upon the push-plunger 11.

It is desirable in some instances, particularly in the time of emergency, as in the case of fire, to quickly move the shutter or shutters 3 to a closed position, Figs. 1 and 2, and for this reason I have provided yielding means for automatically instantaneously moving the shutters from their opened position within the casings 1 upon said shutters being released by depressing the push-plunger 11. Upon each side of the casing 1 and in parallel position are preferably upper and lower pairs of guide-cleats 14 and 15, respectively. A coil-spring 16 is secured at one end to the shutter 3, and at its opposite end it is preferably secured, as at 17, to a block 18. The spring is positioned between the guide-cleats 14 and 15 and always exerts an outward pressure upon the shutter, whereby when the shutter is within the casing and the catch 6 is released from the hook 9 of the spring 7 the spring 16 will quickly force the sliding shutter to its closed position, Figs. 1 and 2. A cord 19 is secured at its inner end to the shutter and is preferably threaded through the coil-spring 16, registering apertures in the end of the casing 1, and block 18, and is thence passed over the pulley 20 and through an aperture 21 in the wall of the building, Fig. 2. A grip 22 is secured to the cord 19. The pulley 20 is journaled in any suitable bearing mounted in the wall of the building.

When the operator pulls upon the cord 19, the shutter 3 will be drawn within the casing 1 and the spring 16 will be compressed within said casing between the guide-cleats 14 and 15. When the shutter 3 is entirely positioned within the casing, the same will be held therein by reason of the fact that the latch 6 will be hooked over the spring-catch 7, as before described. As soon as the spring-catch 7 is depressed by means of the push-plunger 11 the spring will quickly slide the shutter to its closed position.

To secure the shutters in their closed position, I have provided registering apertures 23 upon the sides of each casing, and each shutter is preferably notched, as at 24, the notch registering with the apertures 23 when the shutter is in its closed position. Transverse fastening means—as, for instance, bolt 25, Fig. 3—is seated within the registering apertures 24 and the notch 23, and thereby prevent the shutter from being opened by a person on the outside of the building, although it will be obvious that the bolt 25 can be quickly withdrawn from within the building, and by pulling upon the cord 19 the shutter (or shutters) may be quickly drawn into the casing, (or casings,) and thereby leave the window-opening 2 un-

obstructed except only by the ordinary window-sashes 26. This fastening means for retaining the shutters in a closed position constitute a burglar-proof structure, as it will be obvious that it will be impossible to open the shutters from the outside when the bolts 25 are in their normal position, Fig. 3.

Buffer-blocks 27 are positioned within each casing contiguous to its upper and lower portions. These blocks limit the inward movement of each shutter when the same is forced into the casing. By reason of these blocks the spring 16, constituting yielding means, will not be injured.

It will be noted that the shutters are provided with yielding means normally exerting outward pressure thereon, whereby the same are instantly moved within the casings 1 when said shutters are disengaged from the locking devices that normally retain the same within the casings embedded in the walls of the building.

While I have specifically described the flexible member 19 as a "cord," it will be obvious that a chain or the like may be substituted for said cord.

To facilitate the movement of the shutters 3, I preferably mount the same on pulleys 3^a and rollers or wheels 3^b. The pulleys 3^a revolve upon a track 3^c. By reason of so mounting the shutters in the metal casings the springs 12 easily move the shutters to their closed or outer position.

What I claim is—

1. In a building, the combination with a wall provided with a window-opening, of a casing in said wall, said casing opening upon said window-opening, a horizontally-movable shutter positioned within said casing, a coiled spring engaging at one end the inner end of said casing and at its opposite end said shutter, means extending through said spring and fastened near one end to said shutter and having its opposite end extending through said wall whereby the shutter may be drawn into said casing, and means for holding said shutter in said casing.

2. In a building, the combination with a wall provided with a window-opening, a movable shutter for closing said opening, of a locking device carried by said wall and being capable of holding said shutter stationary, said device comprising a spring provided with a catch near one end, a catch formed upon said shutter and adapted to ride over said spring and engaging its catch for holding said shutter stationary, a push-plunger supported upon said wall and normally engaging the catch of said spring, and means for automatically moving said shutter for closing the window-opening when said plunger is actuated for releasing the catches.

3. In a building, the combination with a wall provided with a window-opening, a com-

partment formed in said wall, a movable shutter positioned within said compartment, of horizontal cleats positioned within said compartment, yieldable means positioned
5 between said cleats and normally exerting an outward pressure upon said shutter, a flexible member secured to said shutter and extending through said yieldable means and through the walls and adapted to be engaged
10 for drawing said shutter into said wall, and means for normally holding said shutter within said wall.

4. In a building, the combination with a wall provided with a window-opening, said
15 wall provided with a recess, opening upon

said window-opening, a horizontally-movable shutter normally positioned within said recess, of a pair of horizontal guide-cleats positioned within said recess, a horizontal, coiled spring between said guide-cleats and
20 positioned between the inner ends of said shutter and recess and engaging said shutter, and means for holding said shutter within said recess.

In testimony whereof I hereunto affix my
signature in presence of two witnesses.

PATRICK O'REILLY.

Witnesses:

H. S. MANDER,
S. W. TRICOU.