

(No Model.)

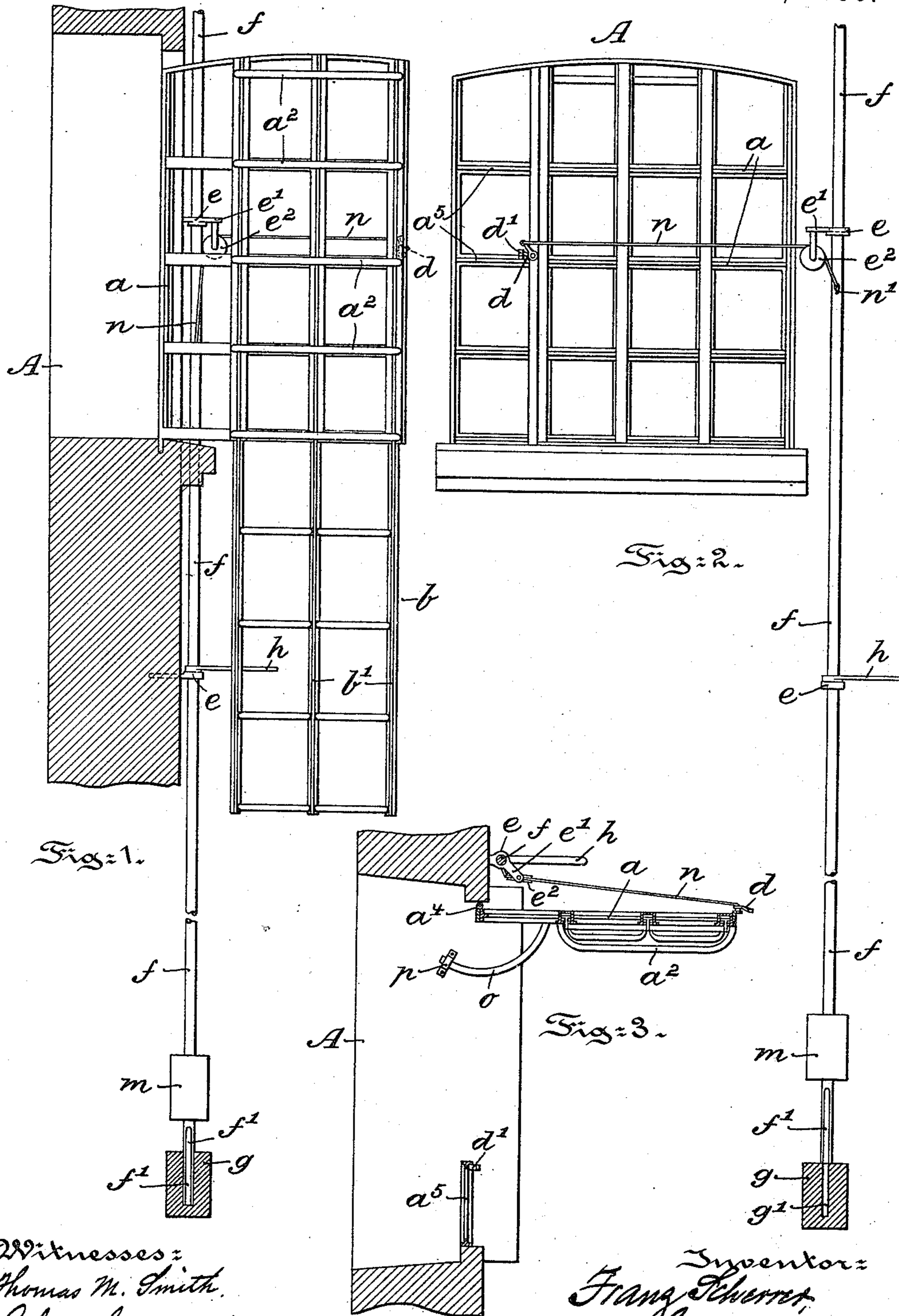
2 Sheets—Sheet 1.

F. SCHERRER.

SAFETY WINDOW IN SHAPE OF A LADDER.

No. 573,165.

Patented Dec. 15, 1896.



Witnesses:
Thomas M. Smith.
Richard C. Maxwell.

Inventor:
Frank Scherrer,
By Walter Douglas
Attorneys.

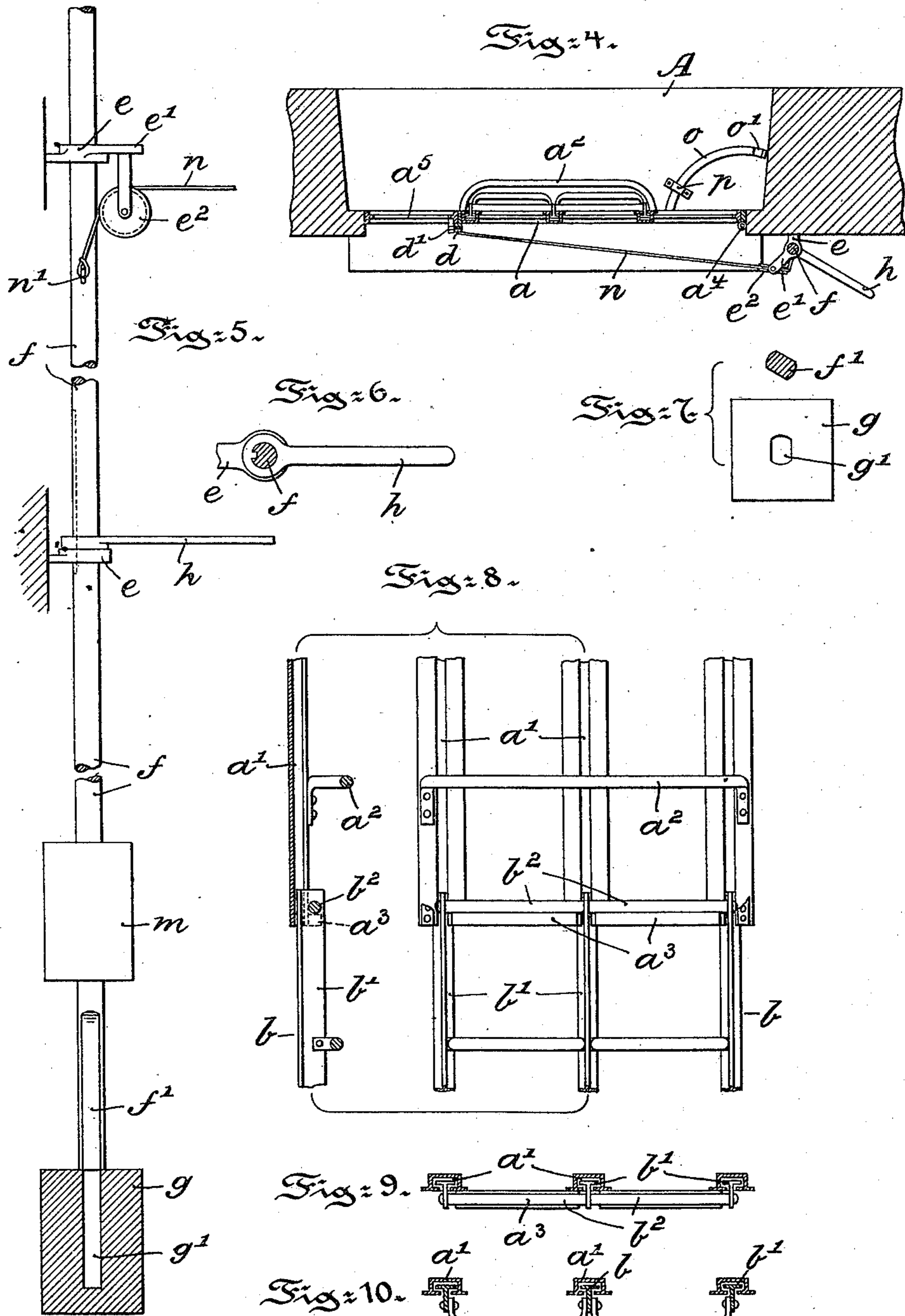
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UNITED STATES PATENT OFFICE.

FRANZ SCHERRER, OF ESSEN-ON-THE-RUHR, GERMANY.

SAFETY-WINDOW IN SHAPE OF A LADDER.

SPECIFICATION forming part of Letters Patent No. 573,165, dated December 15, 1896.

Application filed August 2, 1894. Renewed March 30, 1896. Serial No. 585,497. (No model.)

To all whom it may concern:

Be it known that I, FRANZ SCHERRER, a subject of the King of Prussia and Emperor of Germany, residing at Essen-on-the-Ruhr, in the Empire of Germany, have invented certain new and useful Improvements in Fire-Escapes and Ladders, of which the following is a specification.

My invention has relation to a fire-escape and ladder adapted to slide upon the inside grating or framing of a window; and in such connection it relates particularly to the construction and arrangement of the fire-escape and ladder and of the window supporting the same.

The principal objects of my invention are, first, to provide in a device of the character set forth a window grating or framing provided with suitable guides and with a series of rungs, a ladder adapted to slide downward in these guides when the window is opened and forming a continuation of the rungs of the framing, and, second, to provide in such a device a mechanism for opening the window, consisting of a weighted rod, a chain connecting the rod with the window, and a lever adapted to turn the rod into such a position that it may drop by gravity to throw, through the chain, the window into open position.

My invention, stated in general terms, consists of a fire-escape and ladder constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a side elevational view of the window in open position, the fire-escape ladder in operative position thereon, and of the mechanism for opening the window. Fig. 2 is a front elevational view of the closed window and ladder. Figs. 3 and 4 are horizontal sectional views, respectively, of Figs. 1 and 2. Fig. 5 is an enlarged detail side elevation of the weighted rod and connections for opening the window. Figs. 6 and 7 are details, respectively, of the hand-lever for the rod and of the lower end and socket of the rod; and Figs. 8, 9, and 10 are detail views

illustrating the construction and connection of the ladder with the window-framing.

Referring to the drawings, A represents the casement, in which swings the window-framing *a*. This framing *a* is provided with a series of vertically-arranged U-shaped grooves. Upon the framing *a* a ladder *b* is adapted to slide vertically, the ladder being provided with a series of T-shaped strips *b'*, adapted to enter the U-shaped grooves *a'* of the framing *a*, as illustrated in Figs. 8 to 10, inclusive.

The window-framing *a* is provided with a series of rungs or steps *a²*, projecting from the framing to permit of the sliding movement of the ladder *b*. The lower end of the framing *a* is provided with a projection or ledge *a³*, upon which the upper rung or end *b²* of the ladder *b* is adapted to rest when the ladder is allowed to fall. The window-framing *a* is hinged or pivoted, as at *a⁴*, to the side of the casement so as swing outward therefrom. The framing *a* is provided with a latch *d*, adapted to enter a keeper *d'* either on the casement A or on the fixed portion *a⁵* of the window-framing *a*, to thereby lock the movable framing *a* in closed position in the casement.

At the side of the casement A, and preferably adapted to slide in eyebolts *e*, projecting from the wall of the structure, is arranged a vertical rod or shaft *f*, the lower end of which is preferably elliptical or squared, as at *f'*, and adapted to rest, when elevated, upon a block *g*, having a recess *g'*, shaped to conform to the end *f'* of the rod *f*, as illustrated in Fig. 7. Feathered or keyed to the rod *f* is a handle *h*, by means of which the rod may be turned in the eyebolts *e* until its end *f'* registers with the recess *g'* of block *g*. The rod *f* is weighted, so as to fall by gravity into the recess *g'*, by means of the weight *m*, fixed to the rod *f*. One of the eyebolts *e* is arranged opposite to or in alinement with the latch *d* and keeper *d'*, and this eyebolt is provided with a bracket *e'*, from which is suspended a pulley *e²*. A chain or cord *n* is secured at one end to a pin or projection *n'* on the shaft *f* and, passing over the pulley *e²*, is secured at the other end to the latch *d*, carried by the framing *a*.

The lower end of the framing *a* carries a

quadrant-shaped strap *o*, adapted to slide in a staple or guide *p*, secured to the bottom of the casement. The free end of the strap *o* is provided with a recess *o'*, adapted to slip into engagement with the staple *p* when the framing is swung outward, as shown in Fig. 3. The strap *o* thus serves, in connection with the recess *o'* and staple *p*, to lock the framing in its open position.

10 In operation the framing *a* is first locked in the casement by means of the latch *d* and keepers *d'*. In this position the ladder *b* is elevated in the grooves *a'* and nested between the rungs *a²* and the framing *a*. The rod or shaft *f* is also elevated, its end *f'* resting on top of the recessed block *g*, as illustrated in Fig. 2. To bring the device into use, the handle *h* is turned to bring the end *f'* of the shaft *f* into alinement with recess *g'* of the block *g*. The rod or shaft *f* will then fall into the recess of the block, the weight *m* assisting the fall. At the same time the chain *n* will release the latch *d* from the keeper *d'* and will swing the framing outward until it is locked by the strap *o* and staple *p* in its open position. The ladder *b* then falls in the grooves *a'* until its upper rung *b²* rests on the lower ledge *a³* of the framing. In practice the ladder *b* is of sufficient length to connect the framings of successive stories, all the framings being connected to and opened simultaneously by the shaft *f* and the connections described. There will thus be formed a continuous ladder consisting of the fram-

ings *a* with their rungs *a²* and the ladders *b* and connecting the windows of the successive stories with the ground. 35

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is— 40

1. The combination of a window-framing within which a ladder is adapted to be nested, with mechanism for opening the framing consisting of a weighted rod adapted to fall vertically, a chain connecting the rod with the framing and a handle adapted to turn the rod into position in which it may fall vertically, substantially as and for the purposes described. 45

2. The combination of a window-framing, a ladder vertically movable thereon, a rod and mechanism controlled thereby for opening the framing, a quadrant-shaped strap secured to the lower end of said framing and having a recess at its free end, and a staple secured to the casement and forming a guide for said strap, the recessed end of the strap adapted to slip into engagement with the staple when the framing is opened to thereby lock the framing in open position, substantially as and for the purposes described. 50 55 60

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRANZ SCHERRER.

Witnesses:

JOHN HECKMANN,
W. C. EMMET.