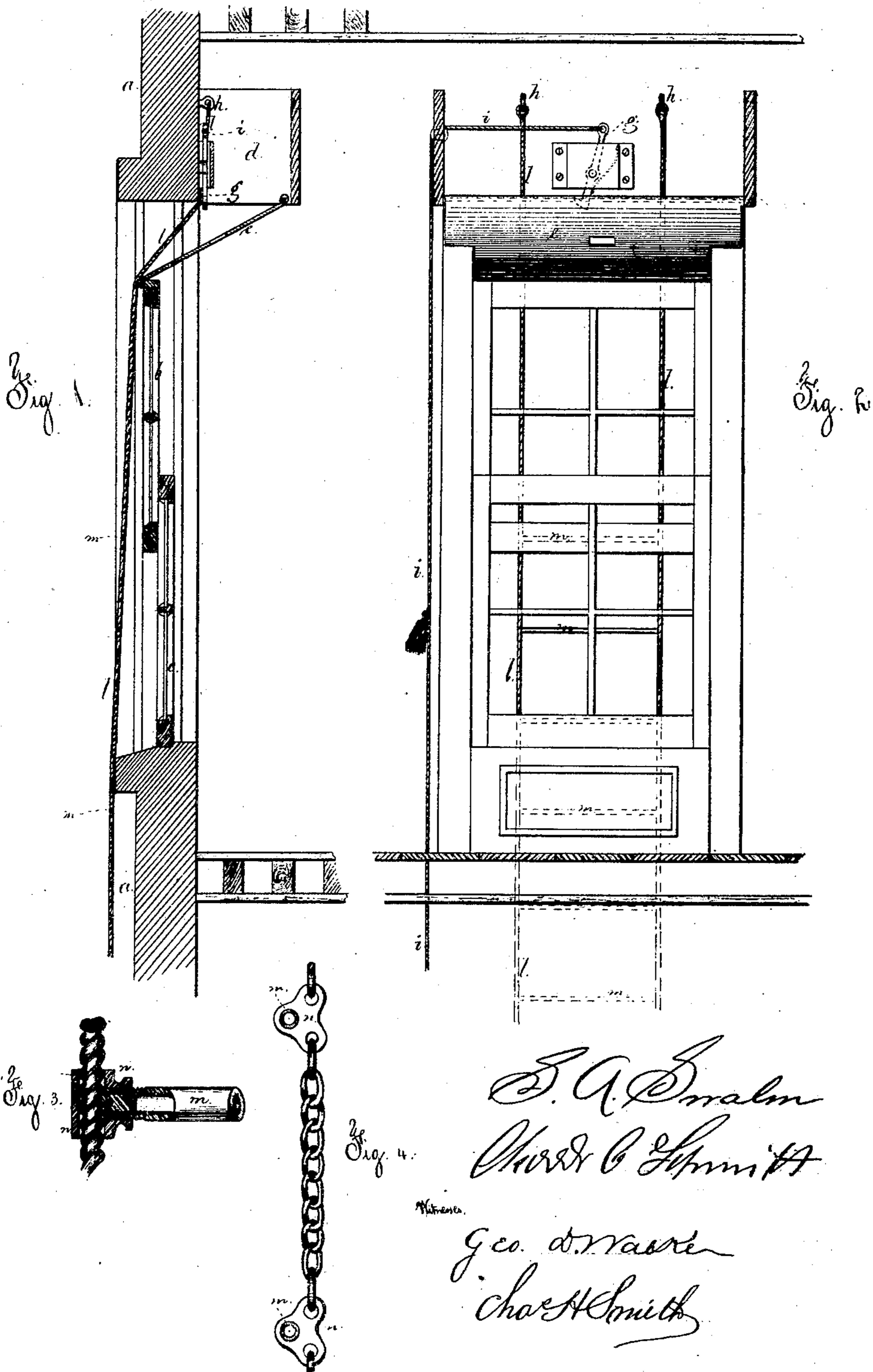


Swalm & Schmitt,

Fire Escape.

No 82176.

Patented Sept. 15. 1868.



*E. A. Swalm
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Witness.

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SENECA A. SWALM AND CHARLES C. SCHMITT, OF NEW YORK, N. Y.

Letters Patent No. 82,176, dated September 15, 1868.

IMPROVED FIRE-ESCAPE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, SENECA A. SWALM and CHARLES C. SCHMITT, of the city and State of New York, have invented and made a certain new and useful Improvement in "Fire-Escapes;" and we do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a vertical section, representing our fire-escape as applied to a building, and in position for use.

Figure 2 is an elevation of the window, with the box containing the fire-escape in section.

Figure 3 is a sectional elevation of a portion of the ladder; and

Figure 4 is a section, showing a variation in the construction of the ladder, to provide for using chains instead of ropes.

Similar marks of reference denote the same parts.

Heretofore fire-escapes have been fitted to be wound up into the cornice outside the building, and they have also been introduced in the form of a folding ladder, within a box placed at the window-sill.

In the first-named position said fire-escapes are costly, difficult to operate, and not easily kept in repair, and being outside, and exposed to the weather, are liable to rust.

In the last-named position, the receptacle for the fire-escape is in the way, by occupying valuable space, and it is unsightly, and the ladder is inconvenient when in use, because there is not an opportunity to hold on to the ladder in getting out of the window, and a person is liable to fall.

The nature of our said invention consists in a fire-escape applied at the top of the window, and inside the room, and combined with a box or receptacle having a movable bottom, that is placed so that the top sash of the window will be forced down, and the fire-escape projected on the outside of the building, by sliding down the inclined bottom.

We arrange our fire-escape so that it may be actuated in the room containing the same, or from the room or rooms below.

In the drawing, *a* represents a portion of the front of a building; *b* and *c* are the sashes of a window, made in any usual manner.

d is a box of suitable size, and more or less ornamental, attached above the window, and within the building or apartment. This forms the receptacle for the folding ladder composing the fire-escape, and is not objectionable in appearance, and does not occupy valuable space, but is out of the way.

This box is also adapted to forming the ornamental head-piece from which curtains are or may be suspended.

The box *d* has a swinging bottom, *e*, attached near the inner edge of the said box *d*, and this bottom extends out of the window, below the window-frame, and above the top edges of the upper sashes.

This bottom, *e*, is held up by a latch, *g*, to which the cord *i* is attached, and passes down at the side of the window, or to any equally-accessible place, and, if desired, this cord *i* may be passed through the floor or floors to the apartments below, in order that the fire-escape may be operated from either of the floors below the one containing said escape.

The ladder employed is suspended from the eyes *h*, inside and above the window, and within said box *d*, and is formed with side-ropes or chains, *l*, and cross-rungs *m*.

When the ladder is folded and laid within the box *d*, its weight rests upon the bottom, *e*, that is held up by the latch *g*. In this condition the window-sashes *b* and *c* can be moved as usual, but as soon as the latch *g* is unhooked by a pull on the cord *i*, the weight of the ladder within the box causes the bottom, *e*, to swing down and depress the upper sash with it, and the said bottom, *e*, forms an inclined plane, down which the ladder slides, and is projected on the outside of the building, and unfolds as it falls, ready for immediate use.

The upper sash may have only a limited movement, being arrested by a stop, so that the bottom sash may be opened, for a person to get out upon the ladder, and the edge of the swinging bottom may be provided with a lip or hooks, to take the top edge of the upper sash, and prevent the parts separating or moving past each other.

The rungs *m* of the ladder are formed of iron tubes, having right and left-handed threads at the ends, screwing into connecting-links *n n*.

These links *n* are made either for ropes or for chains. When made for chains, as seen in fig. 4, they have holes in them for the respective links of the chain-sections, and these links *n* cause the rungs to stand out from the building, to give room for the foot to come upon them.

When the ladder is formed with ropes, as in fig. 3, the links *n* are made tubular, to pass said ropes, and washers, *o*, between the ends of the rungs and the ropes, clamp said ropes as the tubular rungs are screwed up tightly to place.

This ladder is always ready for instant use, without requiring the least previous preparation. It is not exposed to the weather, and cannot become injured by age, thus avoiding effectually the difficulties heretofore experienced with almost all the fire-escapes before constructed.

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

1. A fire-escape ladder, attached at the upper part of the window, inside the building, in combination with a box or receptacle for holding such ladder when folded, and a swinging bottom and latch, applied substantially as set forth, to cause the ladder to pass outside the building as it is unfolded for use, as specified.

2. The tubular rungs for the ladder, formed with right and left-hand screws at their ends, in combination with the links *n*, that connect with the ropes or chains, substantially as set forth.

In witness whereof, we have hereunto set our signatures, this seventeenth day of January, A. D. 1868.

S. A. SWALM,
CHARLES C. SCHMITT.

Witnesses:

CHAS. H. SMITH,
GEO. D. WALKER.