T. A. MICHIE & J. W. WILLIAMS.

FIRE-ESCAPE.

No. 192,778. Patented July 3. 1877.

FIG. I.

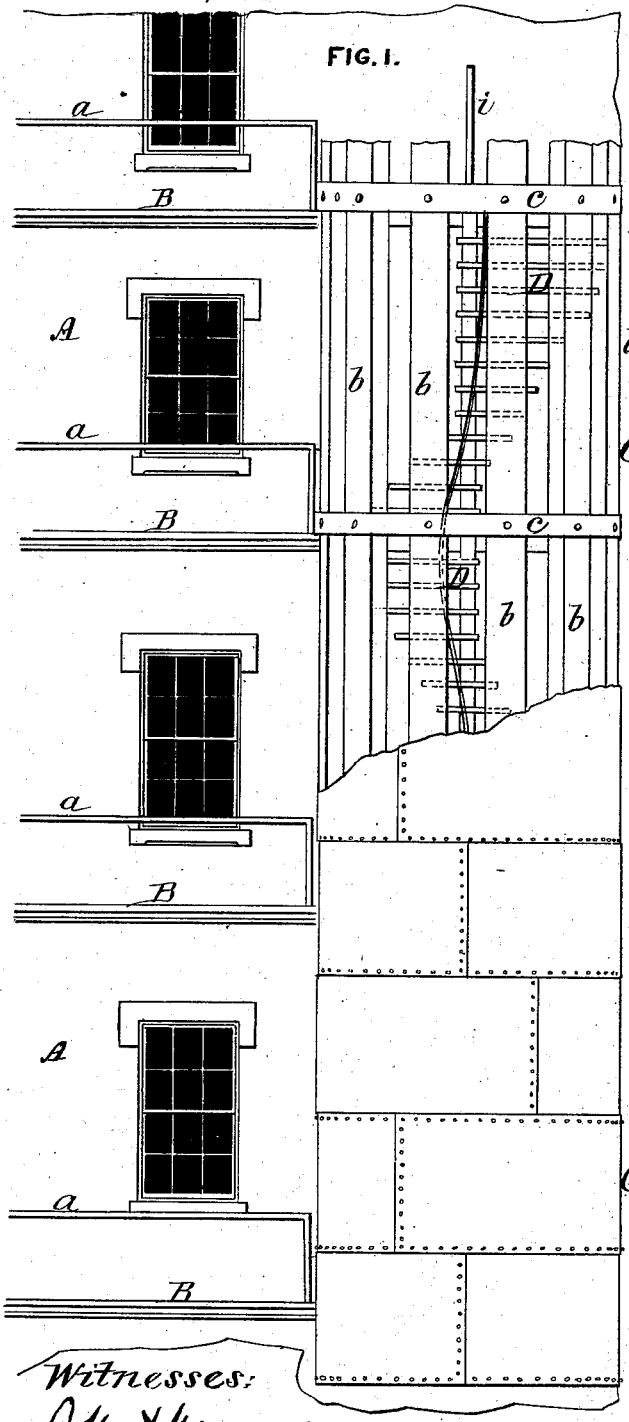


FIG. II.

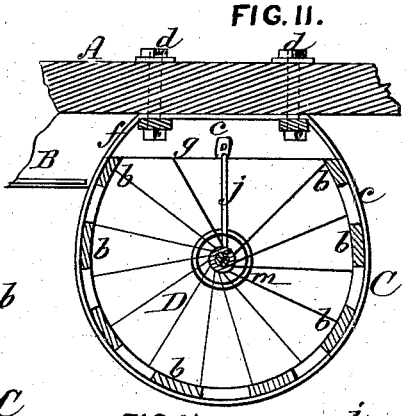
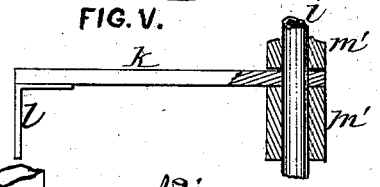


FIG. V.



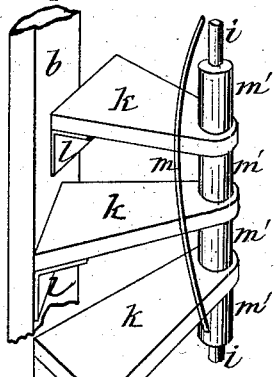
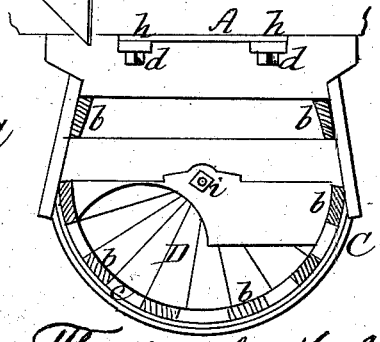


FIG.IV



Witnesses:
J. Wesley Wagner
Floyd Norris

Theodore A. Michie
James W. Williams
by Johnson & Johnson
Attys

UNITED STATES PATENT OFFICE.

THEODORE A. MICHIE AND JAMES W. WILLIAMS, OF CHARLOTTESVILLE, VIRGINIA.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **192,778**, dated July 3, 1877; application filed June 5, 1877.

To all whom it may concern:

Be it known that we, THEODORE A. MICHIE and JAMES W. WILLIAMS, of Charlottesville, in the county of Albemarle and State of Virginia, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification:

The object of our invention is to provide a means of escape from burning buildings, and to construct the apparatus with a view to assure the minds of timid and nervous women and children, as well as to assure safe descent bodily.

It is readily understood that persons whose occupations have never required that exercise of the will necessary to lofty heights would be apt to lose nerve in attempting many of the usual fire-escapes. Indeed, there are very few who could, at a time of the greatest excitement, descend without a trepidation sufficient to endanger their hold upon the devices.

The improvements we have made in the construction of fire-escapes are designed to avoid these objections.

In the accompanying drawings, Figure I represents an elevation of a portion of a building showing our fire-escape applied thereto; Fig. II, a horizontal section taken in line with balcony; Fig. III, a detail section of the spiral stairs; Fig. IV, a bottom view; and Fig. V a detail of one of the steps and its center connection.

To the wall A of a hotel or other building we attach balconies B, with suitable railings *a*, and a fixed tower, C, communicating therewith.

This tower is constructed of upright bars *b*, held by encircling or surrounding bands *c* to the wall by bolts *d*, while two or more of the upright bars are also secured to the wall by the same bolts, and thus the tower is doubly secured.

These bars may be of iron; but to gain extreme lightness we prefer, in practice, to make them of wood, and to cover the frame with a sheathing of galvanized iron or other suitable material. The tower may be built of these uprights in suitable joined sections. The bars are preferably flat, to obtain the greatest strength within the least space, and with the least possible weight of metal.

The tower may be circular or square. We do not confine ourselves to any particular shape.

Within the tower is a spiral stairway, D, access to which is had through openings or doors *f* opening upon the balconies B, prolongations *g*, Fig. 2, of which form landings in the spiral stairway.

The tower is situated at any point; but to save numbers and unnecessary expense, one tower at each corner would be sufficient when the façade was not unusually long.

To prevent unauthorized access from the street, we prefer to terminate the tower at the first story.

A suitable hood or cap surmounts the tower; and it may have bracket-supports *h h* at the bottom.

A suitable iron rod, *i*, bent at the top to obtain a wall-connection, *j*, and suitably fastened at the bottom, serves as an inner fastening for the treads *k* of the spiral stairway, their outer fastenings being angle-irons *l* upon the upright bars, or other suitable connection. A proper hand-rail, *m*, may also be provided for the stairway, and should run down beside the rod *i*, at a suitable distance therefrom.

The stairs or treads are preferably fastened to the central rod *i* by eyes therein, or by being strung thereon, the intermediate separating-supports being sleeves *m'* upon said rod, as clearly shown in Fig. 3.

Our great object is to construct a fire-escape which shall be capable of use by women and children with safety and assurance.

Our object is also to construct in as light a manner and of as light materials as possible, consistent with due security.

The tower is made permanent, and may be placed at corners, between windows, or opposite and communicating with hall-doors.

A hand-rail might be dispensed with; but it is deemed desirable to have it.

We claim—

1. As a fire-escape, a tower, C, constructed of upright bars *b* and surrounding holding-bands *c*, fastened to the wall and provided

with a spiral stairway, D, communicating with balconies B, substantially as described.

2. In a permanent wall fire-escape, tower C, provided with a spiral stairway, D, the steps being fastened at their outer ends to the bars *b* by angle-irons *l*, and at their inner ends to a center rod, *i*, by separating supporting-sleeves *m'*, as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

THEODORE A. MICHIE.
J. W. WILLIAMS.

Witnesses:
GEORGE TRUDELL,
JOHN E. BROOKS.