

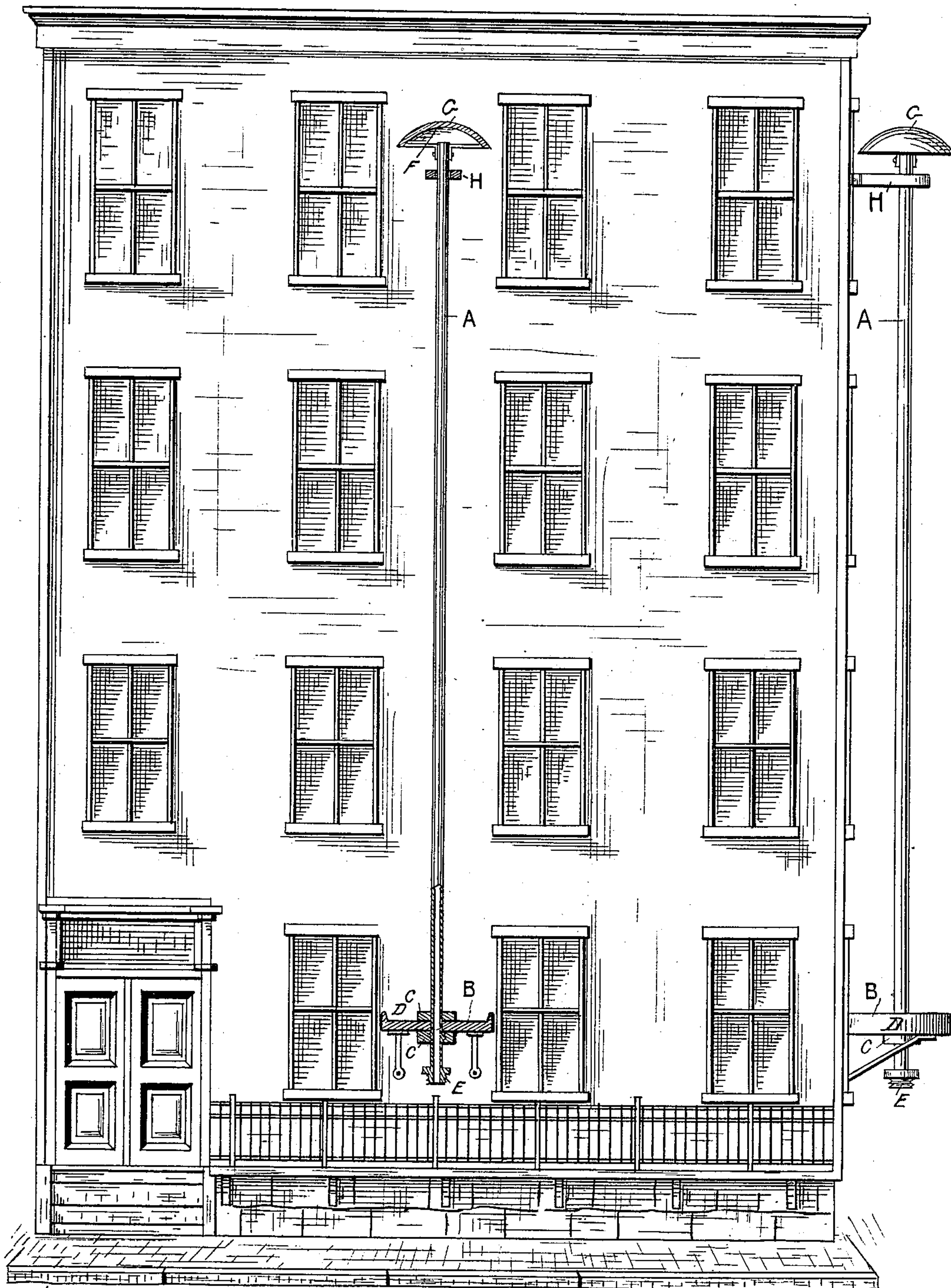
(No Model.)

W. H. BAILEY.

FIRE ESCAPE.

No. 335,414.

Patented Feb. 2, 1886.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. BAILEY, OF NEW YORK, N. Y.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 335,414, dated February 2, 1886.

Application filed August 24, 1883. Serial No. 104,611. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. BAILEY, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact description.

This improved fire-escape for buildings consists of a vertical hollow or tubular shaft made of metal, preferably either copper or brass, which has been drawn or rolled in the direction of the length of the shaft, in combination with brackets or arms or other suitable supports to maintain it in a vertical position and at a suitable distance from the building, all so as to furnish a ready and practically unobstructed means of descent and escape from the building in case of fire, and preferably also to allow of expansion and contraction of the metal making said shaft from variations of temperature.

Again, this improved fire-escape for buildings consists of a vertical hollow or tubular shaft made of metal, preferably either copper or brass, and preferably drawn or rolled in the direction of the length of the shaft, and maintained with suitable supports in a vertical position at a suitable distance from the building, and otherwise constructed and arranged for water to be entered into it at or near its lower end and conducted through it to be discharged at or near its upper end and there deflected and showered, as it were, downward along and about and around its outside, and to permit of its being used in case of fire as a ready means of descent, practically unobstructed for substantially its whole height, and preferably also to allow of expansion and contraction of the metal making it, from variations of temperature.

Again, this improved fire-escape for buildings consists of a vertical hollow or tubular shaft made of metal, preferably either copper or brass, and preferably drawn or rolled in the direction of the length of the shaft, and maintained with suitable supports in a vertical position at a suitable distance from the building, and otherwise constructed and arranged to permit of its being used in case of fire as a ready means for descent, practically unobstructed for its whole height, and preferably

also to allow of expansion and contraction of the metal making it, from variations of temperature, in combination with a stationary landing or platform, readily accessible from said shaft, and from which the ground or other place of safety can be reached without danger to life or limb.

In the accompanying drawing the present improved fire-escape is illustrated in connection with the front elevation of a dwelling-house to which it is applied, and it is shown both in side elevation and in part front elevation and vertical section.

In the drawing A represents a round metal shaft, made hollow or tubular. This shaft A preferably is made of copper or brass, which may be cast in suitable molds of the size and form required, and the casting then drawn or rolled in the direction of its length by any of the well-known processes practiced in the manufacture of drawn or rolled tubes; or, again, it may be rolled into a sheet, rolling it in the direction of its length, and then this sheet bent to form and its edges joined by brazing or otherwise, thus making the shaft or tube, which when so formed can be again drawn or rolled. The shaft A is placed in a vertical position at a suitable distance from the walls of the building to be convenient of access at the windows of the different stories, and it is supported at each end by a bracket or arm, B and H, which are fastened to the building, and the shaft so arranged is practically unobstructed for substantially its whole height, rendering it in case of fire a most ready and convenient means of descent. The shaft is rigidly fastened to the lower bracket or arm, B—as, for instance, by screw-nuts C, as shown—but passes loosely through the other and upper bracket or arm, H, so as to be free to expand or contract from variations of temperature. The lower bracket is made with a platform or landing, D, and this platform is located at an elevation, enabling the ground or other place of safety to be reached from it without danger to life or limb. The shaft is open from end to end, and its lower end is provided with a screw-threaded collar, E, or other suitable means, for a hose or other water-supply pipe to be attached thereto, for forcing water upward through the shaft and discharg-



ing it at its upper end against the under and concave surface, F, of a horizontal cap and deflector G, located and suitably fastened above said upper end and overlapping all sides of the shaft. By these means water can be showered, as it were, downward over and about and around the shaft, wetting it, as also the person or persons descending upon it, and consequently protecting the shaft against becoming heated to an extent to render it useless as an escape, and by wetting the person or persons descending insuring a certain amount of protection to them against being burned by the flames which may be issuing from the building when on fire.

Fire-escapes such as herein described obviously for use are to be placed upon the building so as to be most convenient of access from the windows of the different stories and afford the requisite means for descent and escape. More or less of them may be arranged, as described, upon the same building, preferably locating each so as to obstruct to the least extent the windows for ordinary use.

To use the fire-escape herein described, grasp the shaft A first with the hands and then with the legs, and while so clinging lower yourself gradually downward until the platform or landing D is reached, from which escape can then be had by simply jumping or dropping to the ground or other place of safety. The rapidity of descent is regulated by tightening and loosening the grip of the hands and legs upon the shaft, and if the shaft is made of metal (preferably brass or copper or other metal that from exposure to the atmosphere will not rust, and requires no protective covering or coating against rust) drawn or rolled in the direction of its length, and preferably also seamless, and thereby made hard and of great density and perfectly smooth and even and its fibers disposed longitudinally, plainly all possibility of injury to the hands or limbs of the person in sliding over the shaft is reduced to the minimum, and the escape or descent can be made with the utmost ease, comfort, convenience, and safety. Again, it is substantially impossible and impracticable to ascend or climb shafts A—such as above particularly described—and consequently for that reason they are still further desirable, for if capable of easy and ready ascent they would considerably assist burglars in entering the building.

The shaft A may extend to the ground; but obviously it is preferable that it should not. If extended, however, to the ground, its support at its lower end may be in the ground and separate from and not attached to the building.

Landings or platforms D may be arranged at different heights along the shaft A, and if so they should be constructed to offer no obstruction to descending the shaft from top to bottom.

The cap G (shown and described for deflect-

ing and showering the water downward, and which is arranged at the upper end of the shaft) may be made of other shapes than that particularly described and shown.

A hollow tubular shaft, A, plainly is less expensive than a solid shaft, and yet has all necessary strength. Again, the shaft may be in one piece or length, or in separate lengths or pieces joined together, preferably by the use of internal nipples, all well known in joining tubes, and thus leave the outside of the shaft smooth and unobstructed.

The shaft A may be made wholly of one kind of metal or of different kinds—as, for instance, with brass or copper drawn or rolled over its outside.

Having thus described my invention, what I claim is—

1. A fire-escape composed of a continuous vertical hollow shaft made of metal drawn or rolled in the direction of the length of the shaft, in combination with supports at the upper and lower ends of the shaft, to maintain it in its vertical position, whereby is formed an escape free from obstructions between its upper and lower supports, substantially as described.

2. A fire-escape composed of a vertical hollow metal shaft that at its lower end is adapted to have a water hose or pipe attached to it, and at its upper end provided with means to deflect the water there escaping from it downward, in combination with supports to maintain said shaft in its vertical position, substantially as described, for the purpose specified.

3. A fire-escape composed of a vertical hollow metal shaft with supports at its upper and lower ends and free from projections between its supports, in combination with a platform or landing at its lower portion, substantially as described.

4. A fire-escape composed of a vertical hollow metal shaft that at its lower end is adapted to have a water hose or pipe attached to it, and at its upper end provided with means to deflect the water there escaping from it downward, and of supports to maintain said shaft in its vertical position, in combination with a platform or landing at its lower portion, substantially as described, for the purpose specified.

5. A fire-escape composed of a vertical shaft, in combination with supports at each end, the lower of which is rigidly attached to and the upper is loose about said shaft, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM H. BAILEY.

Witnesses:

EDWIN W. BROWN,  
WM. S. BELLOWS.