(No Model.)

G. W. SMITH.

FIRE ESCAPE.

No. 265,881. Patented Oct. 10, 1882.

Fig 1

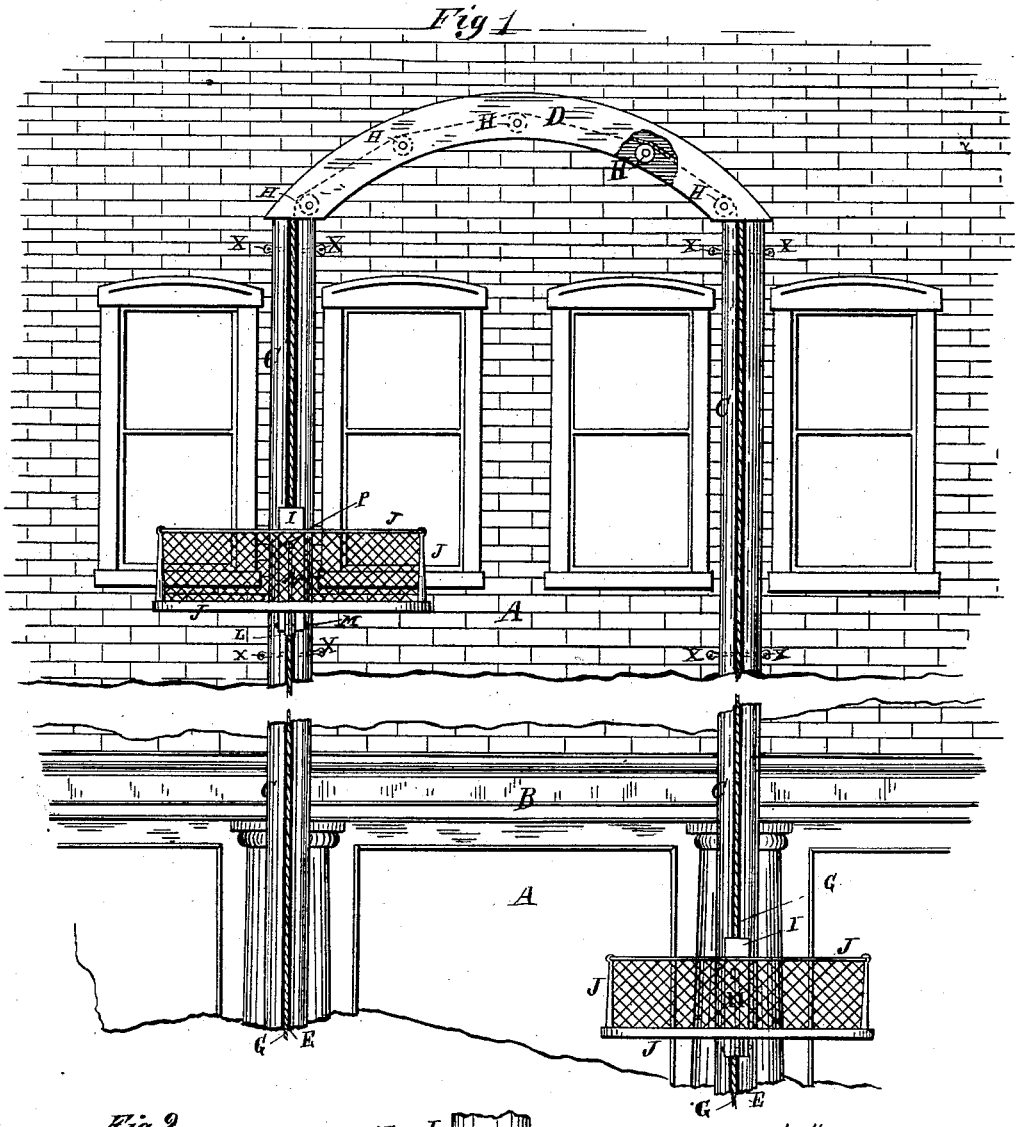


Fig 2

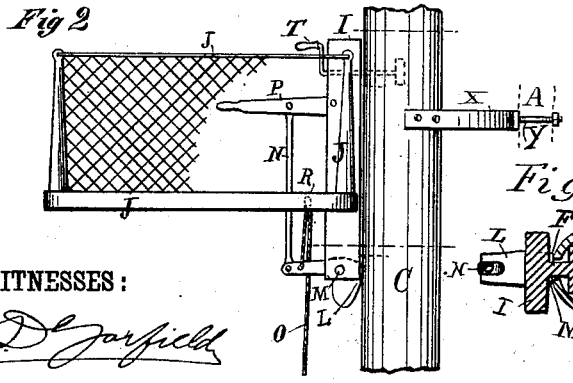


Fig 3.

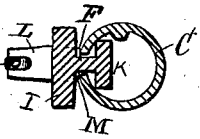
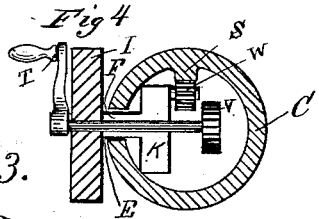


Fig 4



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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 265,881, dated October 10, 1882

Application filed April 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON SMITH, of Harlansburg, in the county of Lawrence and State of Pennsylvania, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

This invention consists of a pair of hollow guideways made of metal tubes erected vertically in front of and projecting a little from the side of a building, and coupled by an arch at the top, to each of which tubes a balcony is fitted so as to slide up and down, being connected through a slit with a suspending and operating rope within the tubes, the two balconies balancing each other, so that persons in one or the other may command their own descent by means of a lever-brake in the balcony. Means are also provided for working the brake from the ground.

The apparatus is also to be provided with means for the operator to hoist himself by a crank and cog-gear, so that the fire-escape may also be utilized by painters, window-cleaners, and others when desired.

The object is to provide an efficient apparatus that may be safely used as a fire-escape, also for other purposes, and that can be made ornamental and will constitute a feature of attraction to the buildings, all as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a building with a fire-escape applied to it according to my invention. Fig. 2 is a side elevation of a balcony and part of one of the guideway-tubes, a part of the balcony being broken out to show the safety-brake attachment. Fig. 3 is a section through the guideway-tube, showing the connecting and working apparatus. Fig. 4 is a section showing the arrangement of gears for working the balconies by a crank.

A represents the front wall of a building, in front of which and a little outward from the wall, so as to pass any cornice, window-sills, or other projections of the building, I erect a couple of strong metal tubes, C, any suitable distance apart, and extending to or above the windows of the upper stories, where they are connected together by a hollow arch, D, of tubular or other construction. The tubes C have a slot, E, from top to bottom in the front.

I is a balcony-support, provided with a central web, F, adapted to work in the slot of the tube, and having a T-bar, K, working within the tube. The balcony-support, its web, and T-bar are preferably made in one piece. The opposite balcony-supports are connected by a wire rope, G, which extends from one balcony-support up through the arch D and down to the balcony-support of the other tube, C, also from each balcony-support I to the ground below, where it may be coiled sufficiently to follow the support to the top of the tube.

Through the arch D the rope passes over guide-rollers H. Instead of the arch form of the top D, a tube may extend straight across from one to the other of the upright tubes C, if desired, or, except for protection of the rope and symmetry of design, the top coupling arch or tube, D, may be dispensed with altogether, though in that case the tubes C would have to be more substantially secured to the wall of the building to resist the lateral stress of the rope.

To the balcony-support I a balcony-frame, J, is attached.

Any approved form of connecting devices may be employed; but it is important that the web F shall have sufficient length in the tube to afford substantial control of the tendency of the balcony to tip either sidewise or forward. It is also important that the T-bar K, which is connected to balcony-support I by the web, shall have such permanent control by the edges of the slit in the tube or by the flanges of its head outside of the tube and bearing against the side of the latter as will prevent the balcony from turning sidewise on the tube.

The balcony-frame J and its guard-railing may be constructed in any approved form suitable for a neat appearance, and at the same time for the uses of a fire-escape, also for the common uses of a balcony while in position to be ready for the emergency of fire.

The safety-brake for controlling the de-

scent of the balcony by the occupant consists of the friction-pawl L, pivoted to the balcony-support I at M, below the bottom of the cage, and so arranged that its friction upon the tube when the balcony descends will make it bind thereon and prevent the descent of the balcony unless the amount of the friction or binding force is diminished, for which purpose the pawl L is connected by a rod, N, extending up through the bottom of the balcony to the regulating-lever P, to be worked by the occupant of the balcony. I propose also to connect a cord, O, from the ground with said friction-pawl L over a pulley, R, in the bottom of the balcony, so that the descent can be regulated from the ground.

It will be seen at once that the balcony, being thus available for passage up and down the front of a house, may also be utilized for painting, washing, or other work to be done outside, in which case it is desirable to have some means for working the balcony up and down by the workman occupying it. For this purpose I provide a toothed rack, S, upon one side of the interior of the tube C, and a crank, T, and pinion V for driving the balcony thereby; and in order to shift the crank out of gear when required to work quickly as a fire escape, I provide an intermediate wheel, W, with which the crank-pinion can be geared or not by shifting the crank endwise; but the crank-pinion V may gear directly with the rack and remain so, the crank being removed and the pinion being allowed to run idly.

The tube C will be connected to the wall A by any approved form of bracket X, to be secured to the wall by bolts Y, anchored or otherwise suitably fastened in said wall.

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

1. The combination, with the side wall of a house, of a fire-escape consisting of a couple of guideway-tubes, C, a balcony, J, fitted to slide on each, and a suspending and operating wire rope, both of the balconies being attached to and balanced on the rope, said rope being continuous over guide-pulleys from one tube to the other at the upper end, substantially as specified.

2. The combination, in a fire-escape, of a slotted guideway-tube, C, balcony J, and balcony-support, I, provided with central web, F, having the T-bar K, and connecting said balcony with and adapting it to slide upon the slotted tube, substantially as specified.

3. The combination, in a fire-escape, of a pair of guideway-tubes, C, a supporting and operating rope and slide working in said guideway-tubes, a pair of balconies sliding on said guideway-tubes and counterbalanced thereon by each other, and a self-acting safety-brake, L, substantially as specified.

4. A fire-escape consisting of a balcony suspended and sliding on a guideway-tube, C, and having a safety-brake, L, the said brake having a cord, O, connected to it and arranged on a guide, R, to be worked by said cord from the ground, substantially as specified.

5. In a fire-escape consisting of a balcony suspended and sliding on a guideway-tube, C, by a rope, G, and the balcony-support I, the toothed rack S in the tube and a crank and pinion in the balcony-support to work the balcony, substantially as specified.

6. The combination, with a building, of a pair of vertical slotted tubes, C, a tubular top, D, connecting the tubes, guide sheaves or pulleys H, and a suitable rope arranged in said tubes for the guideways and the suspending and operating devices of a fire-escape, substantially as specified.

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Witnesses:
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