

W. McALLISTER.

FIRE-ESCAPE.

No. 171,030.

Patented Dec. 14, 1875.

Fig. 1.

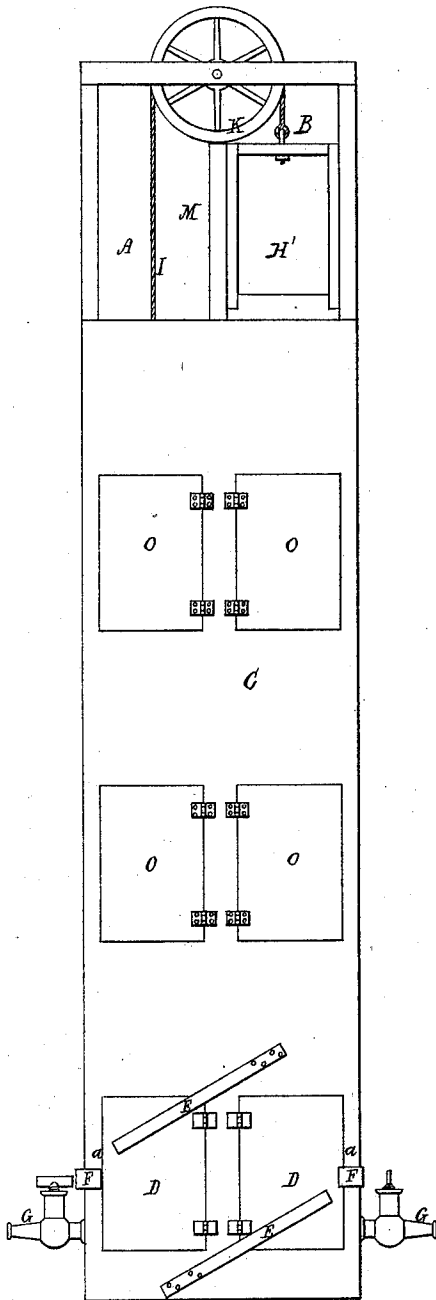


Fig. 2.

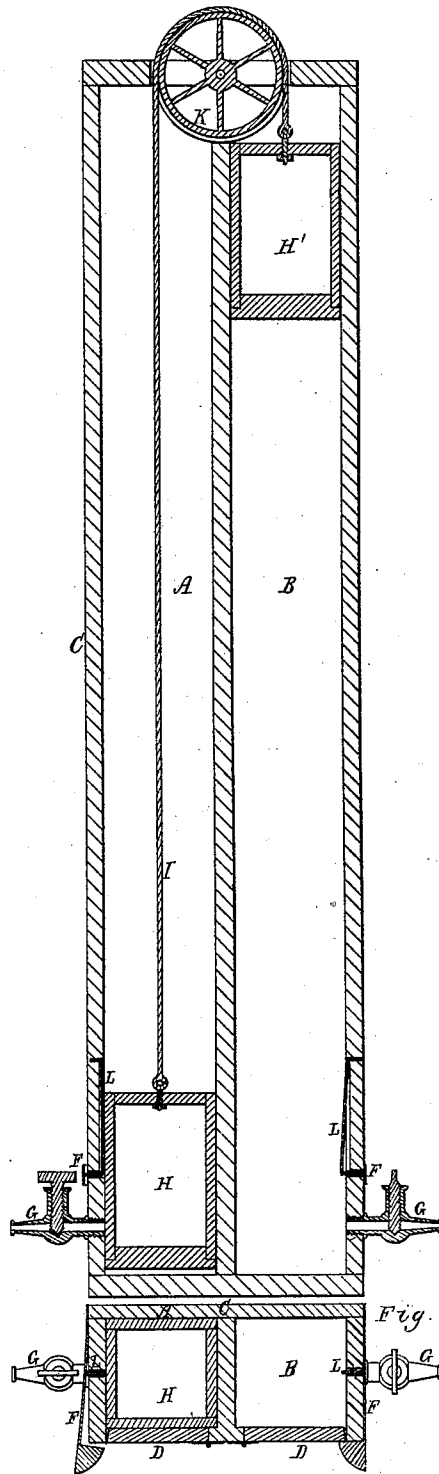
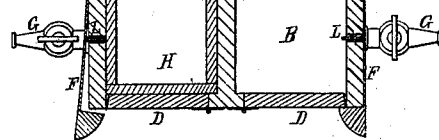


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **171,030**, dated December 14, 1875; application filed November 9, 1875.

To all whom it may concern:

Be it known that I, WILLIAM McALLISTER, of Lawrence, of the county of Essex and State of Massachusetts, have invented a new and useful Fire-Escape; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a vertical section, and Fig. 3 a horizontal section, of it, the latter section being taken through the lower doors and their latches, to be hereinafter described.

In such drawings, A and B denote two separate vertical chambers within a case or box, C. These chambers, at a short distance above their bottoms, are furnished with openings and doors to such—that is to say, at or near the bottom of each chamber is a doorway, *a*, provided with a door, D, hinged at its inner edge to that of the doorway. To the box C are fastened two springs, E E, for closing such doors; and, furthermore, there is connected with the box C two spring-latches, F F, to latch said doors in closed positions, the said latches and springs being arranged as represented. From the lower part of each of the chambers A B a stop-cock, G, extends, as shown.

In the two chambers are hollow pistons or cars H H', which are connected by a chain or rope, I, affixed to them at their upper ends, and going partially around a grooved wheel, K, arranged in the upper part of the box, and with respect to the chambers A B in manner as shown, the journals of the wheel being duly supported in bearings.

There is fixed on the lower part of each of the chambers A B a spring, L, which, disposed as represented, extends through one side of the chamber, and against the spring-latch of its door.

The two chambers, at their upper parts, are open, as shown at M, and there may be in the fronts of the chambers other openings, provided with doors, as shown at O O, &c.

This fire-escape is to extend from the lower floor to the upper or some other one of a building, and is intended to operate as follows:

The two cars are to closely or nearly fit their chambers, very much as a piston-head fits to the cylinder of a steam-engine, in order that, while either car may be in the act of descending within its chamber, such descent may be opposed by the body or column of air that may be beneath the car, which, as the car may descend, will slowly escape through the stop-cock of such chamber, which is to be open to the necessary extent to cause the car to fall with a velocity that will not be dangerous.

In descending, one car with its load will draw the other car upward in its chamber, the stop-cock of the latter being open, or partially so, to allow of the proper inrush of air, from which it will be seen that a descending car will be opposed not only by the mass of air beneath it, but by the pressure of the atmosphere on the other car.

As the car may pass down, it will be forced against the adjacent spring L, and will move it against the latch, so as to force such latch out of engagement with the door, in order that a person in the car may pass out through the doorway on the car reaching its lowermost position.

The air which, in the chamber, may be beneath the car, and below the threshold of the door, will operate as a spring to prevent the car from bringing up with force against the floor of the chamber.

The undersigned has had in practical operation in a factory or building a fire-escape of the kind described, and found that it will operate expeditiously and safely, the velocity of descent of the cars being easily controlled by the stop-cocks.

To regulate the influx and efflux of air, openings, with gates or valves, may be used, instead of the stop-cocks.

Each door will be closed automatically—viz., by its spring—and it will also be latched automatically immediately after the passage of the car upward beyond the spring L or actuator of the latch of said door, as such spring, by its inherent elasticity and that of the latch will be moved inward, the latch at the same time taking upon the door.

I claim as my invention—

The fire-escape, substantially as specified, composed of the two cars H H', connected by a rope, I, going over a wheel, K, as described, and of the two vertical chambers A B, their stop-cocks, doors D D, springs E E, latches F F, and latch-actuators L L, all ar-

ranged essentially in manner and to operate as set forth.

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Witnesses:

R. H. EDDY,

J. R. SNOW.