(No Model.)

C. J. LUNG.

FIRE ESCAPE.

No. 287,142. Patented Oct. 23, 1883.

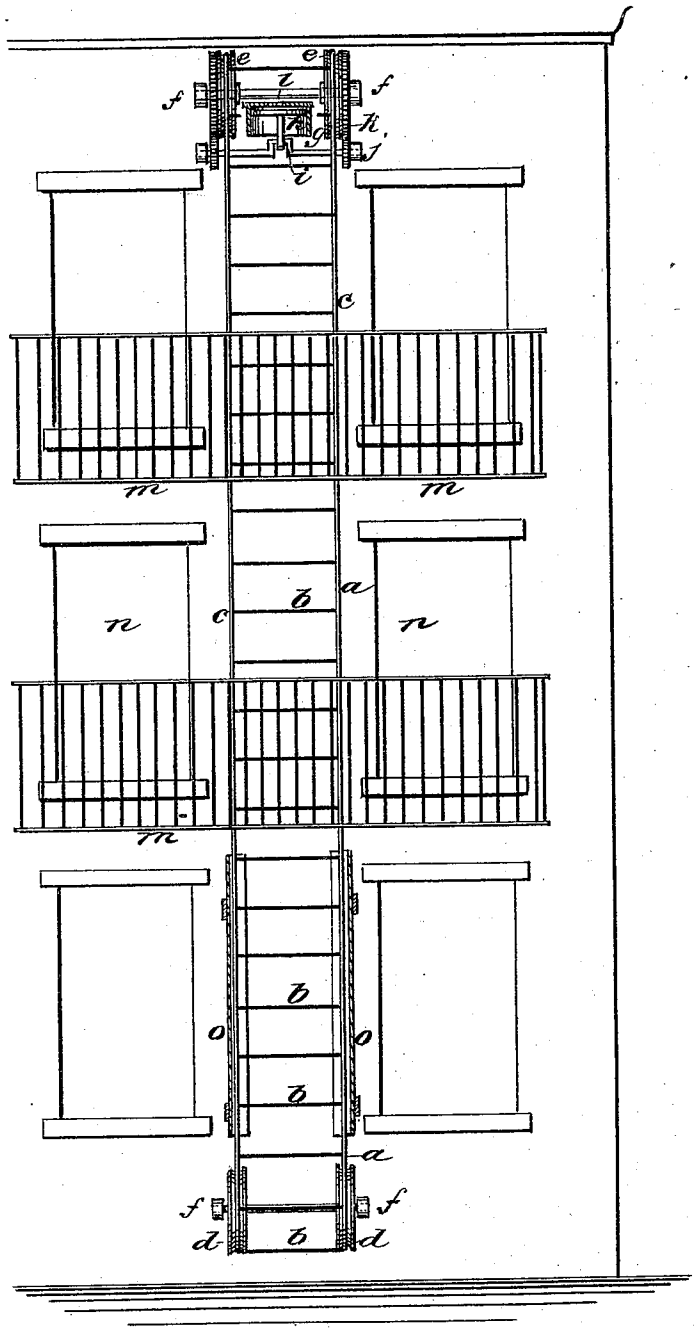


Fig. 1.

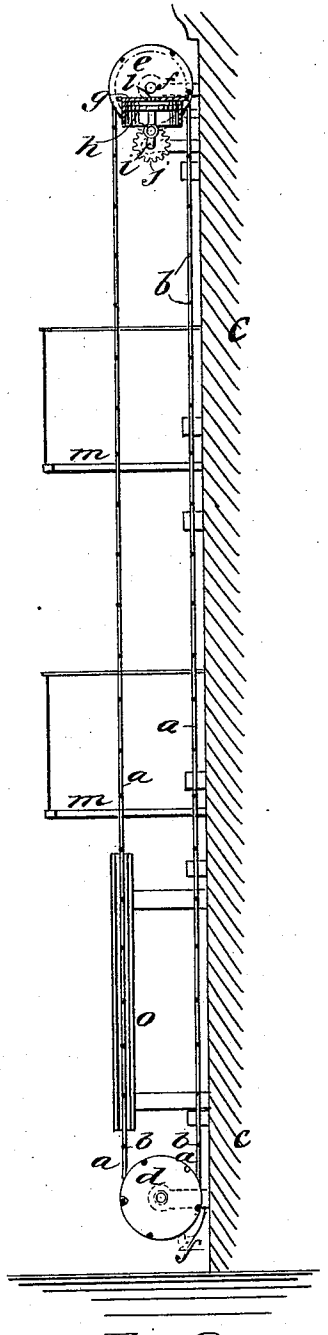


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES J. LUNG, OF ROCHESTER, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 287,142, dated October 23, 1883.

Application filed June 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. LUNG, of Rochester, Monroe county, New York, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

My invention consists of an endless ladder of wire ropes arranged on grooved drums or pulleys at top and bottom, the pulleys being mounted in brackets projecting from the side of the building, and the ladder having an air-brake contrivance connected with it, to regulate the descent of persons by the running of the ladder on the pulleys by the weight of the persons on it. The ladder is to be arranged in suitable relation to balconies and windows of the building, to facilitate ready access to it, and along the lower portion and other parts, if desired, guides will be provided, to prevent the ladder from swinging forward and backward in case of being slack on the pulleys, 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 both figures.

Figure 1 is a front elevation of my improved fire-escape as applied to the wall of a building, and Fig. 2 is a sectional elevation of the ladder and the said front wall of the building.

I make an endless ladder of wire ropes *a* and metal step-rods *b*, and stretch it from bottom to top of the side wall, *c*, of a building, on grooved pulleys or drums *d* at the bottom and *e* at the top, said pulleys being deeply grooved for the ropes *a*, and notched for the steps *b*, and also being mounted in any suitable arrangement of brackets, *f*, anchored in and projecting from the wall.

For a retarder or brake to regulate the descent of persons by the effect of their weight on the ladder, I connect an air-engine, consisting of a cylinder, *g*, piston *h*, and driving crank-shaft *i*, with the pulleys of one end of the ladder by pinions *j* and wheels *k*, so that the resistance of the engine in consequence of a contracted opening, *l*, will limit the speed of the descent.

In practice the cylinder will be provided with means for enlarging and diminishing the orifice *l*, to vary the effect of the retarder on the ladder.

The ladder will be arranged to run through balconies *m*, by which access may be readily had to it from the windows *n*, and along the lower part I propose to arrange grooved guideways *o*, for the ropes of the ladders, to steady them.

It will be seen that with this improved fire-escape ladder persons have only to get on and hold fast to descend safely to the ground, the ladder itself going down, instead of the person going down the ladder; but in case the ladder and drums should be frozen fast, or otherwise prevented from turning, the ladder would then serve as an ordinary ladder for escape.

I do not abandon or dedicate to the public any patentable feature set forth herein and not hereinafter claimed, but reserve the right to claim the same either in a reissue of any patent that may be granted upon this application or in other applications for Letters Patent that I may make.

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

In a fire-escape, the endless chain ladder *a*, encompassing upper and lower pulleys, *d e*, and having its lower outer portion passing through parallel guides *o*, the shaft *f* of the upper pulleys, *e*, having wheels *k*, gearing with pinions *j* on the crank-shaft *i*, the air-cylinder *g*, having the contracted opening *l*, and the piston *h*, connected to the crank-shaft *i*, in combination, substantially as shown and described, and for the purpose set forth.

CHARLES J. LUNG.

Witnesses:
A. H. LUNG,
W. G. MITCHELL.