(No Model.)

S. HARGRAVE, Sr., & A. M. LEE.

FIRE ESCAPE.

No. 339,647. Patented Apr. 13, 1886.

Fig. 1.

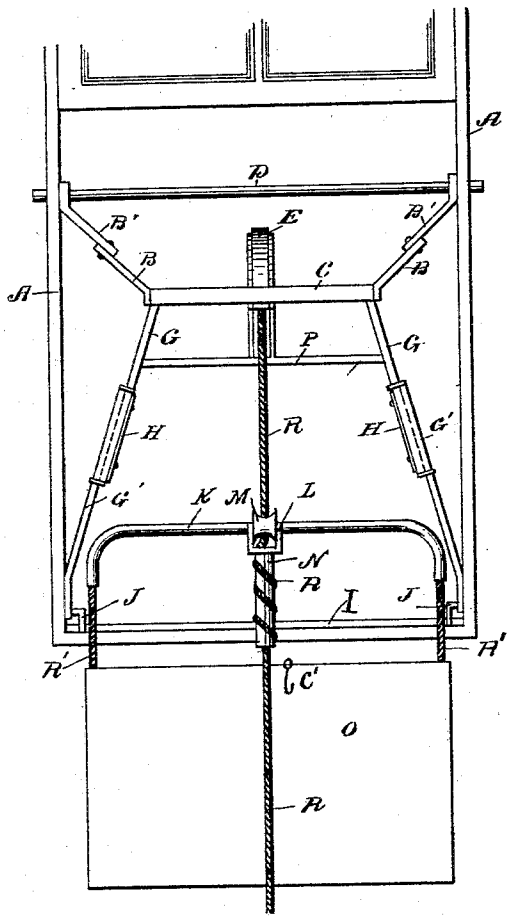
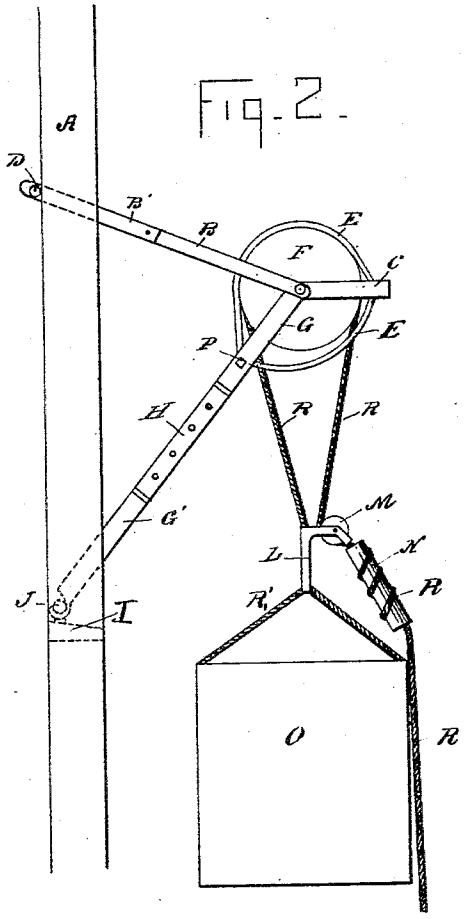


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

SAMUEL HARGRAVE, SR., AND ARTHUR M. LEE, OF POMONA, ILLINOIS.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 339,647, dated April 13, 1886.

Application filed August 17, 1885. Serial No. 174,538. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL HARGRAVE, Sr., and ARTHUR M. LEE, of Pomona, in the county of Jackson and State of Illinois, have invented certain new and useful Improvements in Fire-Escapes; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

Our invention relates to fire-escapes; and its objects are, first, to provide economically a self-adjusting apparatus in which to reach different levels with personal safety; second, to control the speed thereof automatically; third, to provide apparatus capable of occupying small space for storage purposes; fourth, to permit the ready lengthening or shortening of the apparatus in practice to suit variable conditions; and, fifth, to accomplish these ends with simplicity and durability of structure. We accomplish these ends by the means shown on the accompanying drawings, in which—

Figure 1 is an elevation showing the relative location of the parts of our invention, illustrating the juxtaposition and co-operation of the same; and Fig. 2 is a side view thereof.

Similar designations indicate corresponding parts in the views.

A represents the window-jamb.

B B′ are slotted rods secured together, to permit of a lateral sliding movement for extension purposes.

C is a cross-bar pivotally joined to the sliding rods B B′ G G′.

C′ is a hook, which may be used to guide the rope R.

D is a rod automatically assuming different positions in a vertical plane, and serving, by reason of its greater length than the width of the window, to support the entire device.

F is a pulley, whose shaft F′ serves to connect the bars B and G and the lateral extensions of the bar C, and its bearings are at the respective junctions of those bars. A cover, E, protects the pulley (and incidentally the rope R) from the injuries of the varying atmospheric conditions. The rods G G G′ G′ slide by each other in the perforated tube H, and by means of pins any given position may be maintained.

I is the window-sill, to which are secured the hooks J J, that serve to maintain the rods G′ G′ in position.

K is a curved bar from which the cage O is suspended by ropes R′ R′, the other end of the actuating-rope R being centrally secured to the bar K.

L is a bifurcated projection from the bar K, serving to suspend the pulley M and the spirally-grooved friction-drum N. The latter has small perforations at the top and bottom, through which the rope passes, in order to maintain it on the drum.

The cage O is collapsible and may be of any suitable material.

P is a cross-bar secured to bars G G, to assist in maintaining the stability of the structure, support the frame of the pulley F, and hold the ends of the cover E.

It will be understood that the apparatus is intended, normally, to be folded and hang under the recess of the window. When it is to be utilized, it is projected from the window, and automatically assumes a position approximately as shown in the drawings.

The rope R may either be manipulated from the cage or by perons on the ground, and the drum N prevents excessive speed.

Having thus fully described our improvements, what we claim, and desire to secure by Letters Patent of the United States, is—

1. The collapsible cage O, in combination with the curved suspension-frame K, ropes R R′, pulley F, and friction-drum N.

2. The cross-bars C P, in combination with the shaft F′, the sliding rods B B′ G G′, tubes H, supporting-bar D, and hooks J J.

3. The pulley F, having shaft F′, in combination with the bars B B′ G D G G′, the cover E, rope R, and friction-drum N.

4. The sliding rods B B′ G G′, in combination with the bars D C K P, the pulley E, and rope R, and the collapsible cage O, whereby the apparatus will readily assume positions either of operation or of compactness for storage.

5. The frame composed of cross-bars C P, sliding rods B B′ G G′, tubes H H, suspension-bar D, and hooks J J, in combination with the cage O, frame-bar K, drum N, pulleys F M, and ropes R R′, co-operating as and for the purpose set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

SAMUEL HARGRAVE, SR.
ARTHUR M. LEE.

Witnesses:
ROBT. F. YORK,
ARTHUR U. GREGORY.

Correction in Letters Patent No. 339,647.

It is hereby certified that in Letters Patent No. 339,647, granted April 13, 1886 the application of Samuel Hargrave, sr., and Arthur M. Lee, of Pomona, Illinois, improvement in "Fire Escapes," an error appears in the printed specification req correction, as follows: In line 81, page 1, the word "perons" should read *persons* that the Letters Patent should be read with this correction therein that the sam conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 27th day of July, A. D. 1886.

[SEAL.]

H. L. MULDROW
Acting Secretary of the I

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.