

No. 765,675.

PATENTED JULY 26, 1904.

F. S. OLIVER.  
FIRE ESCAPE.

APPLICATION FILED DEC. 12, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

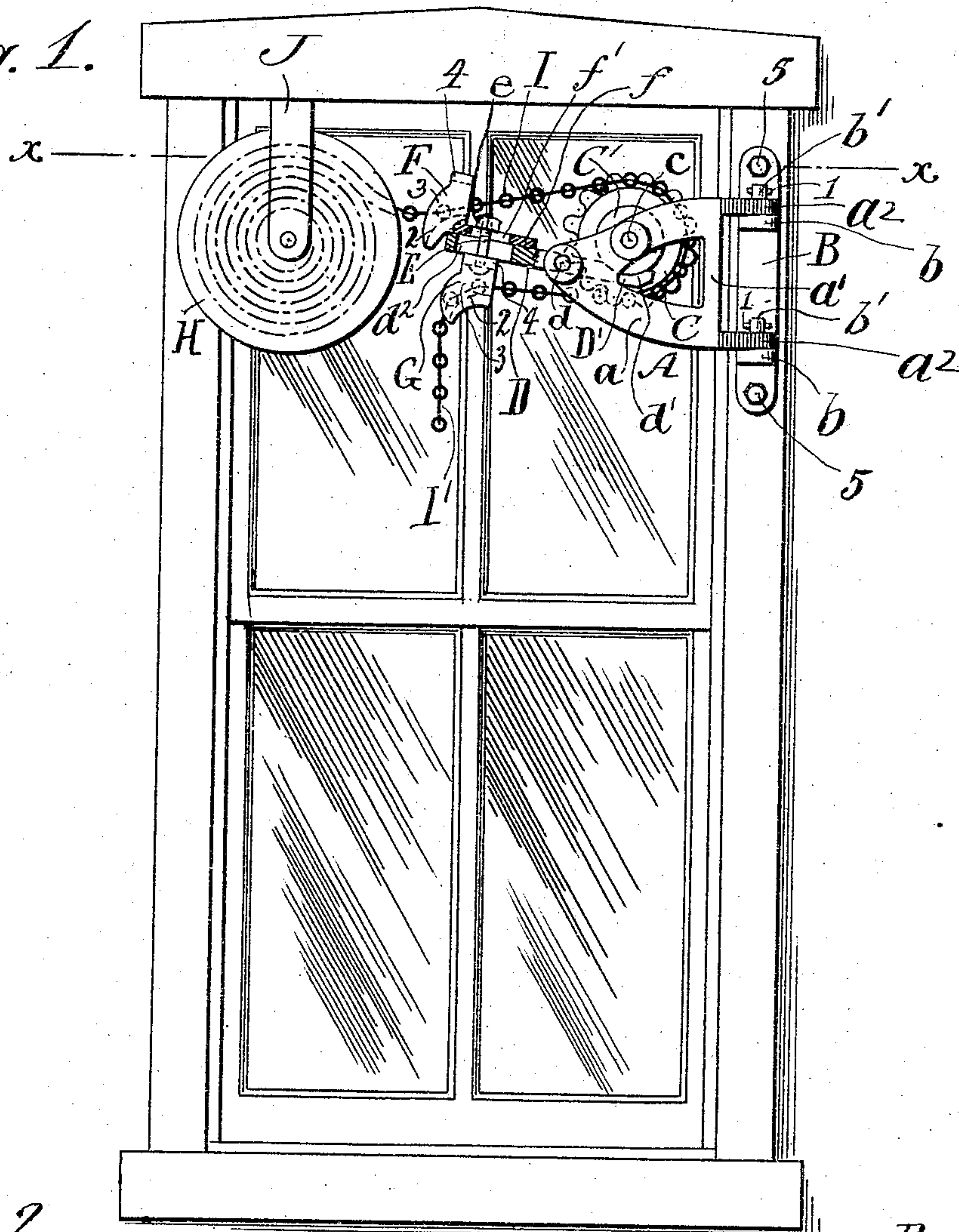
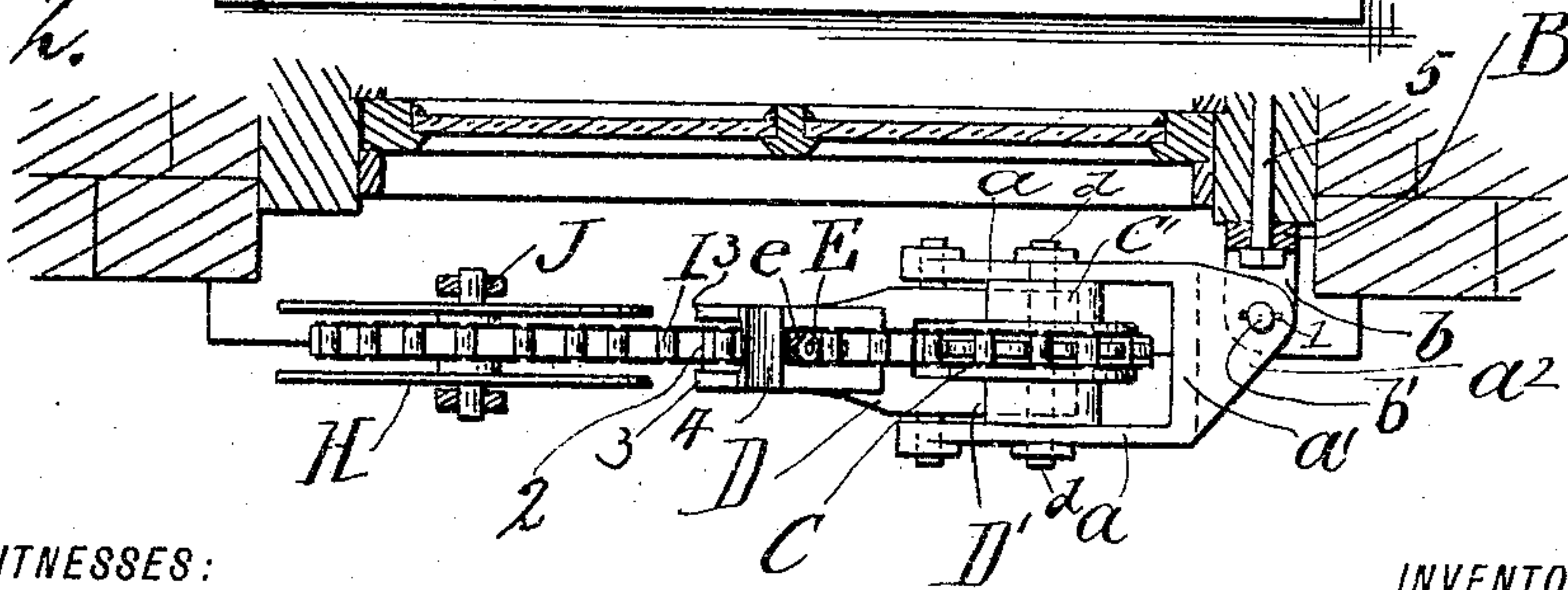


Fig. 2.



WITNESSES:  
*B. Patterson.*  
*D. H. Hagen.*

INVENTOR  
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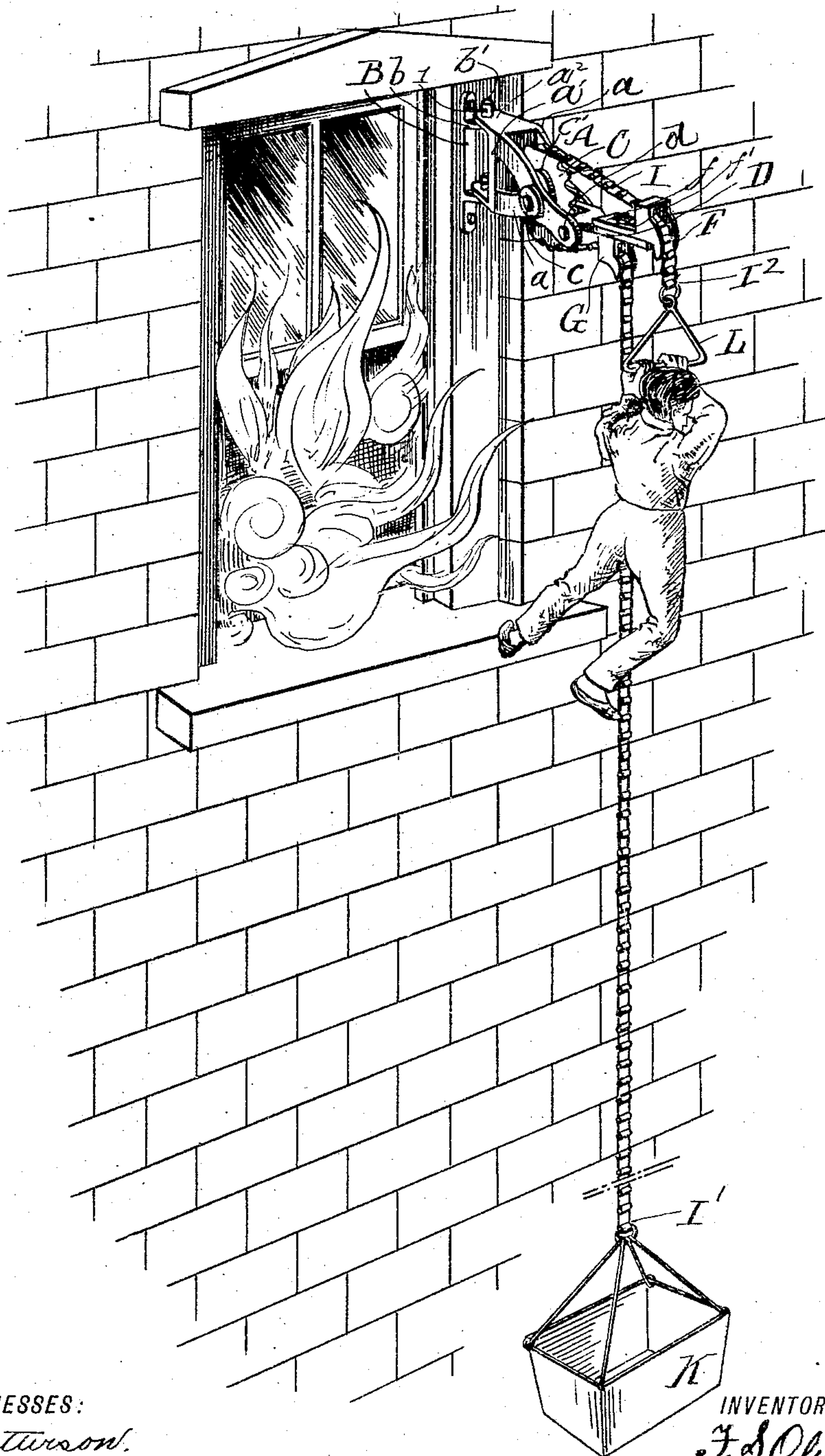
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# UNITED STATES PATENT OFFICE.

FRANK SAMUEL OLIVER, OF NEWPORT, VERMONT.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 765,675, dated July 26, 1904.

Application filed December 12, 1903. Serial No. 184,871. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK SAMUEL OLIVER, a citizen of the United States, and a resident of Newport, county of Orleans, and State of Vermont, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar characters of reference indicate corresponding parts.

This invention relates to fire-escapes, the objects thereof being to provide an efficient and non-inflammable apparatus of this character which is susceptible of continuous use during the progress of a fire without liability to injury by contact with the flames and which occupies but little space when not in use.

The apparatus comprises a long metallic chain normally coiled on a reel and a revolvable sprocket-wheel over which the chain passes and braking and guiding means so arranged relative to the chain and sprocket-wheel that the weight of a person descending causes the brake to act and govern the speed and the two ends of the chain may be alternately employed as a means for descent.

The invention will be hereinafter fully described, and specifically set forth in the annexed claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a face view of a window having my improved fire-escape attached to the frame thereof and showing the same in position maintained when not in use; Fig. 2, a sectional plan view taken on the line  $x x$  of Fig. 1, and Fig. 3 is a perspective view illustrating the position of the device when in use.

In the practice of my invention I employ, primarily, a swinging hanger A, which embodies the sides  $a a$ , rear wall  $a'$ , and horizontal arms  $a^2 a^2$ . These arms  $a^2$  are in pivotal connection with a stationary bracket B, which has the lateral projections  $b b$  and pivots  $b' b'$ , forming part thereof. These pivots pass upwardly through the arms  $a^2$ , and pins 1 are passed through the upper ends thereof to prevent accidental disengagement of the swinging hanger A.

Journalled between the side walls  $a$  of the

hanger A by means of the shaft  $c$  is a sprocket-wheel C, which has a hub  $C'$ , forming part thereof. Also journaled between the sides  $a$  at the free end of the hanger A by means of pins  $d$  is a lever D, having a bifurcated end part  $D'$ , embodying a brake-shoe having segmental depressions  $d'$  for frictional contact with the hub  $C'$  of the sprocket-wheel C. The extended end of the said lever D has a slot  $d^2$ , through which passes a bolt E, by means of which and its nut  $e$  the upper and lower guides F and G are adjustably secured to the lever D. The upper guide F has an extended base part  $f'$ , provided with a slot  $f''$ , whereby it may be adjusted back and forth on the lever D independently of the guide G, if desirable. The said guides are adjustable so that more or less leverage may be exerted by the brake-shoe against the sprocket-wheel hub, as desired by requirements. Each guide embodies a segmental bearing-surface 2, side walls 3, and an upper wall 4, whereby the chain cannot be accidentally detached and lateral movement, which might disengage the chain from the sprocket-wheel, is prevented.

Located adjacent to the hanger A is a reel H, which is of sufficient size to accommodate the major part of the chain I when the apparatus is not in use, as shown by Fig. 1 of the drawings. This said reel is suspended by any suitable hanger, as J, and it may be placed in any suitable location relative to the window-frame.

In the drawings the hanger A is shown as secured to an upright of the window-frame by means of the bolts 5, which pass through the bracket B; but it is obvious that this bracket may be secured to the wall of the building adjacent to the window-frame, or the swinging relative arrangement of the hanger and its bracket would admit of mounting the device in suitable position adjacent to the window-frame in the interior of the building, if desirable. In any case, however, the chain must be maintained in connection with its guides F and G, with the suspended end I' in position ready for use, as shown by Fig. 1 of the drawings.

In the operation and use of the invention in



case of fire a light basket, as K, is attached to the end I' of the chain. Then a passenger is allowed to enter same and it is pushed away from the window-sill, thus swinging the hanger A outwardly, so that the basket will clear sills and other projections of the building in its descent. The weight of the passenger exerted on the end of the chain now causes the same to move downwardly, and the frictional contact of the brake-shoe, which is now in use, causes the chain to feed just fast enough for comfortable traveling.

When the basket reaches the ground, the chain being of a length equal to the distance between the ground and the apparatus, the other end of the chain, as I<sup>2</sup>, will have become automatically detached from the reel. Then it is in position for use and another basket may be attached thereto or a simple hand-loop L may be employed, as shown by Fig. 3 of the drawings. When this end of the chain and its passenger reaches the ground, the end first employed will have again reached the top for re-use, and the operation may be repeated as many times as there are people to descend.

I do not confine myself to the specific details of mechanical construction as herein shown and described, as it is obvious that under the scope of my invention I am entitled to slight structural variations.

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

1. A fire-escape comprising a revoluble sprocket-wheel, a chain looped thereon, a brake-lever in frictional contact with said sprocket-wheel, and guides on said lever for guiding the two ends of the chain and means supporting the parts, substantially as shown and described.

2. A fire-escape comprising a hanger and means supporting it, a sprocket-wheel revolvably journaled in said hanger and having an extended hub, a lever embodying a brake-shoe, which is also journaled in said hanger, and guides on said lever, and a chain looped around the sprocket-wheel and having its ends extended through the said guides whereby

weight exerted on either end of the chain causes the brake-shoe to act, substantially as shown and described.

3. In a fire-escape, the combination with the swinging hanger, a revoluble sprocket-wheel, lever embodying a brake-shoe, and the guides on said lever, of the chain looped around the sprocket-wheel and having each end extended through one of the said guides, substantially as shown and described.

4. In a fire-escape, the combination with the swinging hanger and supporting-bracket, and the sprocket-wheel having the hub extension on each side thereof, of the lever having the bifurcated end part embodying a brake-shoe engaging the hub extensions of the sprocket-wheel, and the adjustable guides on said lever, and the chain looped around the sprocket-wheel and having its two ends passed through the said guides, substantially as shown and described.

5. In a fire-escape, the combination with the swinging hanger-bracket supporting it and the sprocket-wheel having the side hub extensions, and the pivoted lever having the bifurcated end part embodying a brake-shoe which is in frictional contact with the hub extension of the said sprocket-wheel, and the guides on the said lever, and the chain looped over the sprocket-wheel and passed through the said guides, of the passenger-carriers on each end of the chain, substantially as shown and described.

6. In a fire-escape, the combination with the swinging hanger, sprocket-wheel and brake device, and the guides on said brake device, and the chain looped around the sprocket-wheel and extended through the said guides, of the reel for containing one end part of the chain, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 21st day of November, 1903.

FRANK SAMUEL OLIVER.

Witnesses:

H. S. Root,  
S. F. KAY.