

**No. 708,825.**

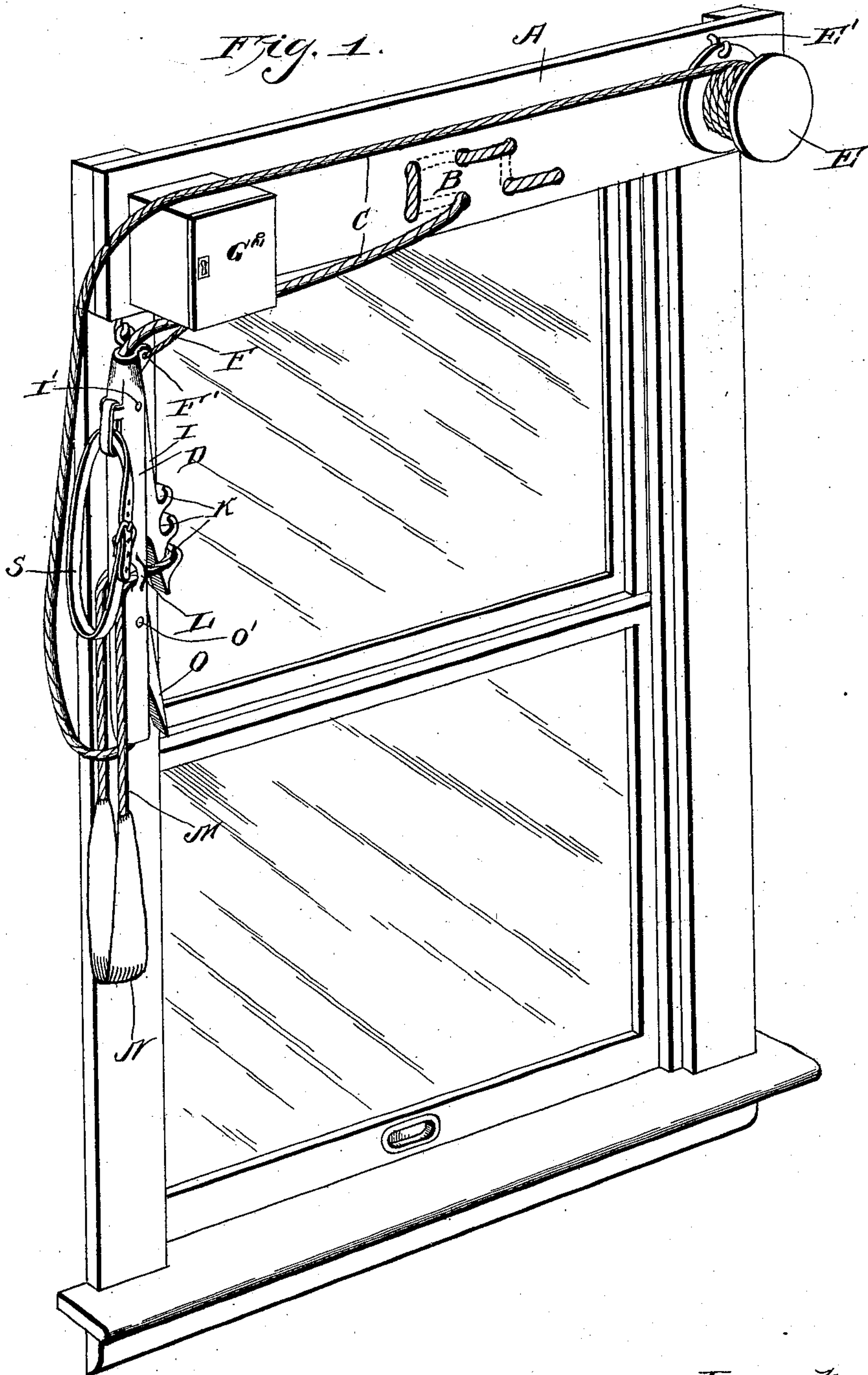
Patented Sept. 9, 1902.

**B. V. MURRAY.**  
**FIRE ESCAPE.**

Application filed Oct. 3, 1901.)

(No Model.)

2 Sheets—Sheet 1.



*Witnesses:*

Louis D. Heinrichs  
L. H. Morrison

Inventor  
Benjamin V. Murray  
By W. Preston Williamson  
Atty

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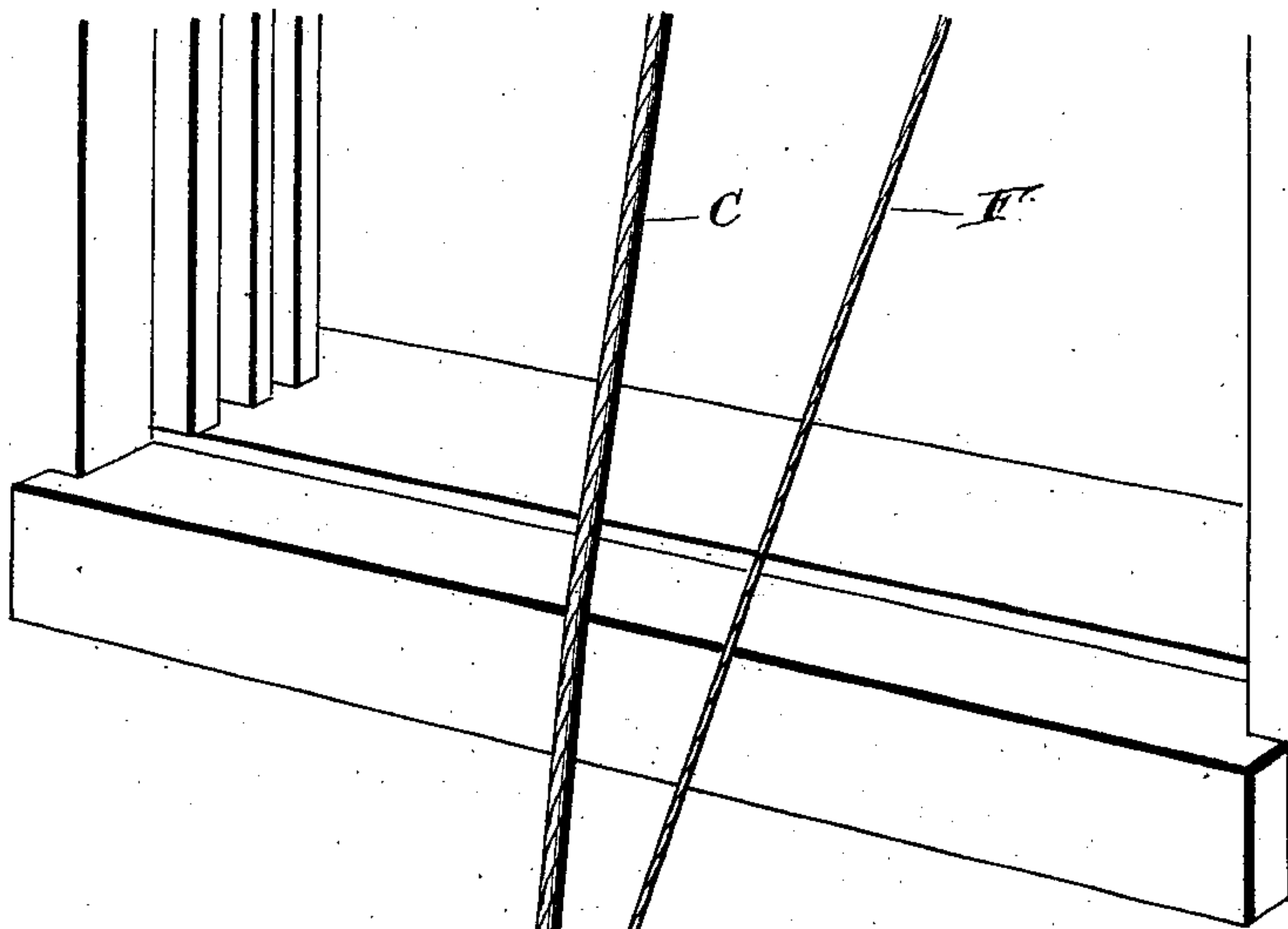


Fig. 2.

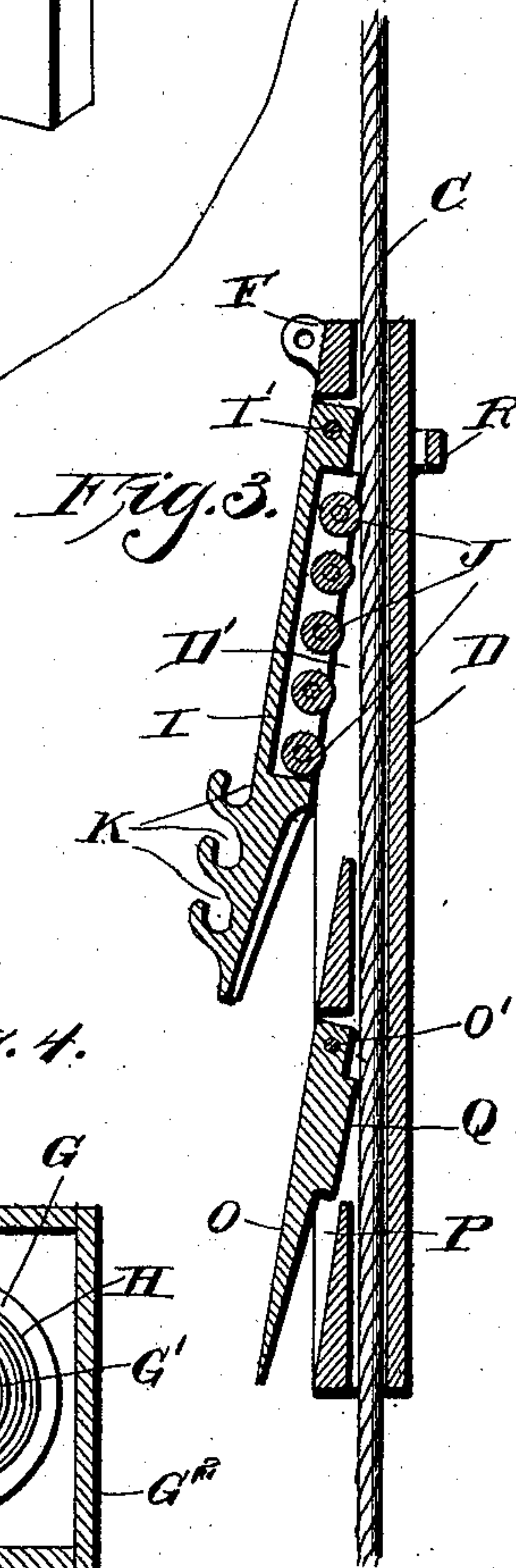
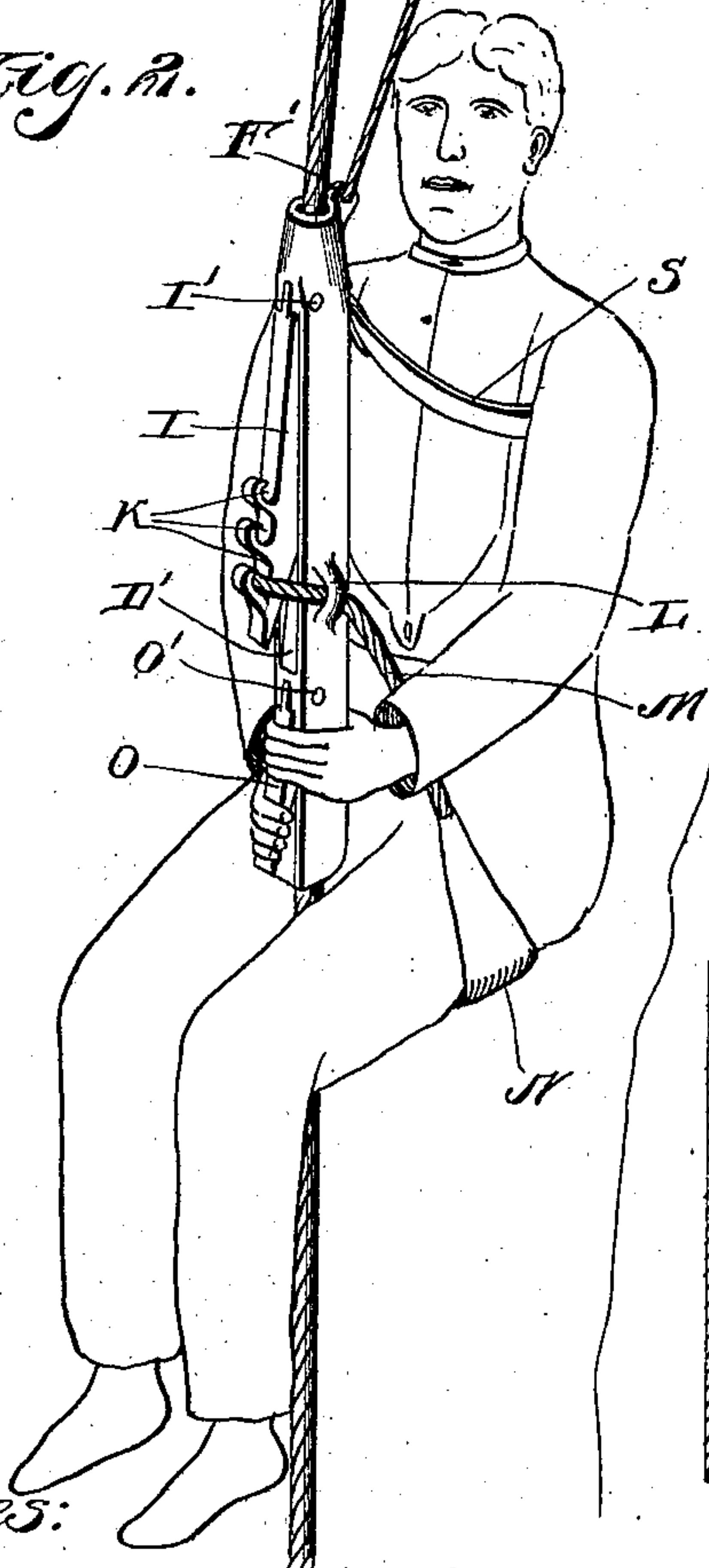
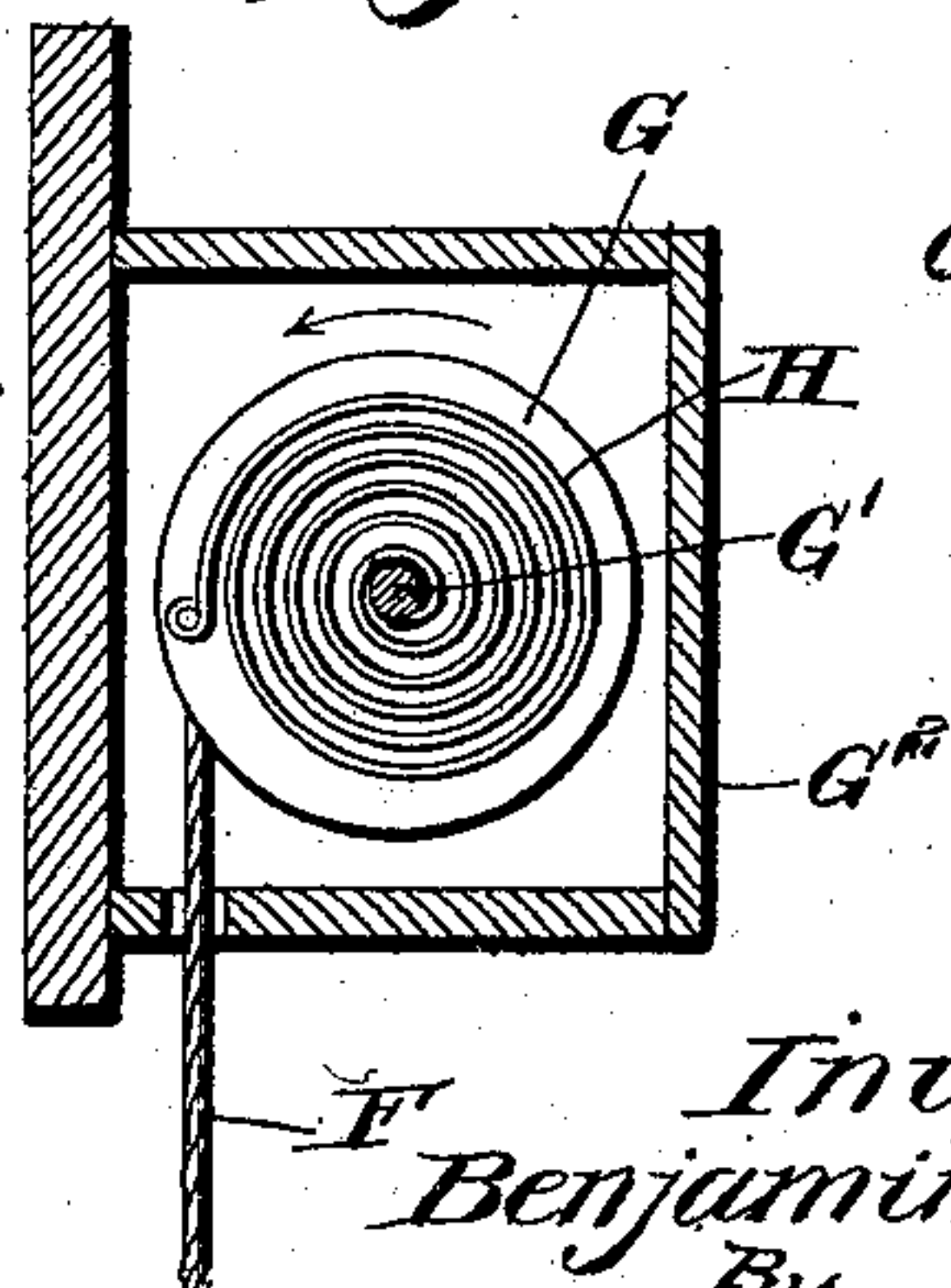


Fig. 4.



Witnesses:

Louis D. Heinrichs  
L. H. Morrison

Inventor  
Benjamin V. Murray  
By  
W. Preston Williamson  
Atty



# UNITED STATES PATENT OFFICE.

BENJAMIN V. MURRAY, OF MAUD, PENNSYLVANIA.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 708,825, dated September 9, 1902.

Application filed October 3, 1901. Serial No. 77,395. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN V. MURRAY, a citizen of the United States, residing at Maud, county of Bucks, and State of Pennsylvania, have invented a certain new and useful Improvement in Fire-Escapes, of which the following is a specification.

My invention relates to a new and useful improvement in fire-escapes, and has for its object to provide a simple and effective device of this description by which a person may escape from a burning building by sliding down the rope or cable and the rapidity of the descent regulated automatically and also being under the control of the person descending, and after one person has escaped and has abandoned the apparatus the friction-sleeve which slides along the cable or rope will return automatically to the point from which it started.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a perspective view of the interior of a window, showing my apparatus secured in its normal position when not in use. Fig. 2 is a perspective view of a portion of the outside of a building, showing my apparatus in use. Fig. 3 is a vertical longitudinal section of the friction-sleeve; Fig. 4, a cross-section of the box containing the coil-spring and spool for returning the friction-sleeve automatically.

A represents a board which is secured across the top of the window upon the interior of the room. To this board is secured at the point B one end of the cable or rope C. This cable is secured to the board by any suitable means, here shown as being rove through a number of holes and knotted at the rear of the board. This rope or cable C after passing longitudinally through the friction-sleeve D is coiled upon a spool E, which spool is

suspended from the board by means of a hook E'. In case of a fire it is only necessary to take down the spool E and throw it out of the window, where it may be secured to some object upon the ground by firemen or other people, or in the absence of any one it may be allowed to hang loose, and then by securing himself to the friction-sleeve in the manner hereinafter described he may descend safely to the ground, and after disengaging himself from the friction-sleeve the same will return to the window from which it started by means of the same rope or cable F, which is attached at one end to the upper part of the friction-sleeve at the point F', and the other end is coiled about a spool G, journaled upon a stationary axle G', located within the box G<sup>2</sup>, which box is also secured to the board A instead of the window.

H is a coil-spring, one end being secured to the stationary axle G' and the other end secured to the spool G. Thus as the friction-sleeve descends the rope F will be pulled with it and unwound from the spool G, thus rotating the spool, which will wind up the spring H, and the spring is of such a tension that when the weight of the person is removed from the friction-sleeve the spring will again coil up the rope F and return the sleeve to its original position. The friction-sleeve D has an opening formed longitudinally through the same, through which passes the rope or cable C. An opening D' is provided in one side of the sleeve, in the upper half thereof, and in the upper end of this opening is pivoted the lever I at the point I'. This lever is recessed upon its rear side and has journaled therein the small friction-rollers J, which project outward a slight ways from the lever and are adapted to bear against the cable C. Upon the outside of the lever are formed a series of notches K, and upon each side of the sleeve D are formed eyes L.

M is a rope or other flexible cord which passes through the eyes L upon each side of the sleeve, and the loop of the rope M passes around and over the lever I and is held in position in one of the notches K. Each end of the rope M is secured to a seat N, upon which the person descending is adapted to sit. Thus the weight of the person will draw



upon the rope M, which will tend to press the lever I inward to bring the friction-rollers J into frictional contact with the rope or cable C. This will cause a certain amount of friction to be established between the rollers J and the rope C, which will retard the sleeve in its descent upon said cable; but on account of the frictional contacts being rollers there never will be sufficient friction established to cause the sleeve to stop entirely, but the heavier the person descending may be the more friction will be exerted upon the cable or rope C, and therefore the descent will be regulated automatically according to the weight of the person descending.

It would sometimes be desirable for the person descending to stop entirely or to further reduce the speed for the purpose of avoiding obstacles or other reasons. Therefore I provide upon the lower end of the friction-sleeve D a second lever O, which is located within an opening P, formed in the side of the sleeve, and this lever is pivoted in said opening at the point O'. Upon the inner side of this lever is formed a frictional surface Q, which comes in contact with the rope or cable C, and the lower end of the lever O will stand at a distance beyond the sleeve D. The seat N will be so located that the person descending may easily grasp the sleeve D around the lower end, so that the hands may come over the lever O, and by exerting a slight pressure upon the lever to force the same inward the sleeve may be stopped entirely or the speed of the same may be reduced at will. This lever O is not entirely essential, except in the case of emergency, and therefore a person might descend by the apparatus without operating the lever and without injuring himself. Near the upper end of the sleeve D is formed an eye R, through which a belt or strap S may be passed to be buckled around the person descending under the arms. This strap or belt S is not necessarily essential, but may be used in the case of women or children or any person liable to become frightened and fall.

The advantage of my invention is that by means of a very simple but efficient and durable device a person is enabled to quickly descend from a burning building, and said descent will be regulated automatically and at the same time be under the control of the descending person, and as soon as one person has safely reached the ground and disengaged himself from the apparatus the traveling member of the apparatus will be returned automatically to the point from which it started. This is of great advantage, as it often happens that a number of persons are in the same room, and with most of the fire-escape apparatus now in use after one person has escaped it is either impossible to return the apparatus to its original position or the return of the same depends upon the people upon the ground, who are liable during the excitement not to return the apparatus or do

not understand how to do so; but in my invention the traveling member is returned as often as relieved of the weight.

Another advantage of my invention is that having the spool secured to one end of the rope the said rope may be easily stored above the window, and when thrown from the window may be more accurately thrown, so as to pass to the other side of the street, if necessary, and be secured there, so that the person may descend upon an incline to the other side of the street and escape any fire which may be issuing from the windows below.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In a fire-escape apparatus, a board secured above the window upon the interior of the room, a rope or cable secured at one end to said board, the other end of said rope or cable adapted to be normally wound upon a spool, and said spool suspended from the board, a friction-sleeve through which the rope or cable passes longitudinally, an opening formed in one side of said friction-sleeve, a lever I pivoted at one end in said opening, a recess formed in the rear face of said lever, a series of friction-rollers journaled in said recess, a series of notches formed upon the outside of the lower end of the lever, eyes formed upon each side of the friction-sleeve, a seat, a rope, each end of which after passing through the eyes is secured to said seat, the loop of said rope passing around the lever and held in position by one of the notches an opening formed in the lower end of the sleeve, a lever O pivoted at its upper end in said opening, a frictional surface formed upon the inner face of said lever and adapted to be brought in contact with the rope or cable, an eye R formed upon the sleeve, a strap or belt S adapted to be passed through said eye, automatic means for returning the friction-sleeve to the window after the weight of the person descending has been removed from the same, substantially as and for the purpose specified.

2. In a fire-escape, a suspended rope or cable, a friction-sleeve through which the rope or cable passes, an opening formed in one side of said friction-sleeve, a lever I pivoted at one end in said opening, a recess formed in the rear face of said lever, a series of friction-rollers journaled in said recess and adapted to be brought in contact with the rope or cable, a series of notches formed upon the outside of the lower end of the lever, eyes formed upon each side of the friction-sleeve, a seat, a rope, each end of which, after passing through the eyes, is secured to said seat, the loop of said rope passing around the lever and held in position by one of the notches, an opening formed in the lower end of the sleeve, a lever O pivoted at its upper end in said opening, a



frictional surface formed upon the inner face  
of said lever and adapted to be brought into  
contact with the rope or cable, an eye R formed  
with the sleeve, a strap or belt S adapted to  
5 be passed through said eye and around the  
body of the person descending underneath  
the arms, substantially as and for the pur-  
pose set forth.

In testimony whereof I have hereunto af-  
fixed my signature in the presence of two sub- 10  
scribing witnesses.

BENJAMIN V. MURRAY.

Witnesses:

L. W. MORRISON,  
H. B. HALLOCK.