No. 650,325. Patented May 22, 1900.

F. J. HUGH.

FIRE ESCAPE.

(Application filed Feb. 14, 1900.)

(No Model.)

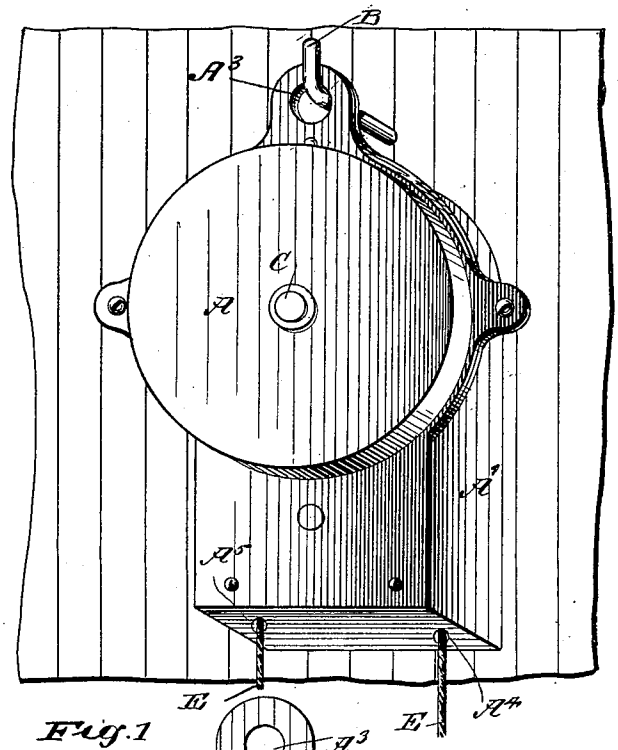


Fig. 1

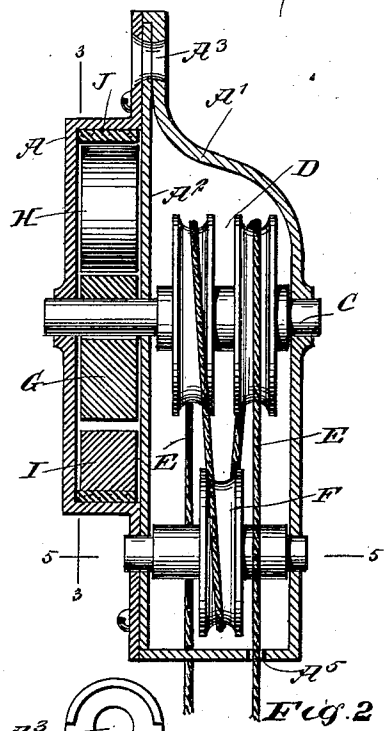


Fig. 2

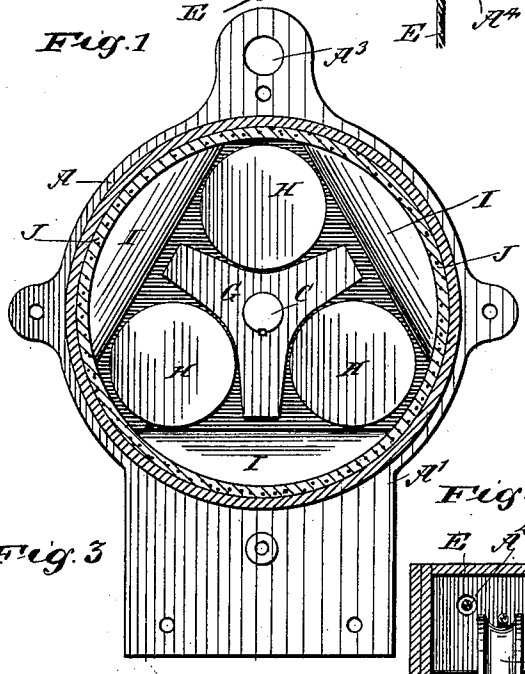


Fig. 3

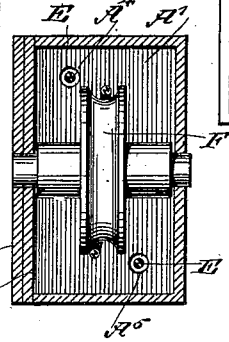


Fig. 5

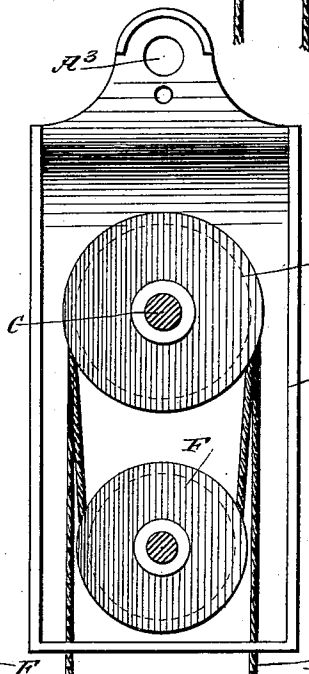


Fig. 4

WITNESSES:

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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 650,325, dated May 22, 1900.

Application filed February 14, 1900. Serial No. 5,236. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS J. HUGH, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

The invention relates to fire-escapes in which a rope or cable unwinds from a pulley controlled by a speed-checking governor, the rope supporting a person desirous of escaping from a burning building.

The object of the invention is to provide a new and improved fire-escape which is simple and durable in construction and arranged to permit a person to descend safely from a building and at a uniform rate of speed, the working parts of the device not being liable to get out of order under changes in the weather or other physical influences.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement. Fig. 2 is a transverse section of the same. Fig. 3 is a rear sectional elevation of the same on the line 3 3 in Fig. 2. Fig. 4 is a front elevation of the improvement with part of the casing removed, and Fig. 5 is a sectional plan view of the improvement on the line 5 5 in Fig. 2.

The improved fire-escape has its casing made in two parts A A′, fastened together by suitable screws or other means, a division-plate or partition A^2 separating the interiors of the casing parts from each other. On the upper end of the casing is formed an eye A^3 for attaching the casing to a suitable support B. In the casing is journaled a transversely-extending shaft C, carrying within the casing part A′ a double pulley D, rigidly secured to the shaft C and over which passes an escape-cable E, also passing under a guide-pulley F, journaled in the lower portion of the casing, the strands of the escape-cable extending through apertures A^4 A^5, formed in the bottom of the casing part A′, as is plainly indicated in Figs. 1 and 5, said apertures being arranged in such a manner that the depending strands of the escape-cable pass perpendicularly down from the sides of the double pulley D to prevent the cable from chafing when the device is used.

In the casing part A is arranged a governor for checking the speed of the person descending, and this governor consists, essentially, of a three-armed star-wheel G, rigidly secured on the shaft C and engaging between adjacent arms an actuating device preferably in the form of disks H, adapted to be thrown outward by the star-wheel when the latter is rotated to simultaneously engage and press the ends of adjacent friction-blocks I, mounted loosely in the casing part A and adapted to move in frictional contact with the inner surface of a brake-band J, secured to the inside of the casing part A and preferably made of leather or like material.

It is evident that when a person is attached by a suitable belt or the like to one of the strands of the cable E then the weight of the person in descending causes the cable to rotate the double pulley D, while the other strand winds up, and the rotary motion of the pulley D is transmitted by the shaft C to the star-wheel G, which throws the disks H outward in firm engagement with the inner faces of adjacent friction-blocks I, at or near the ends thereof, so that each friction-block is pressed at both ends in an outward direction to bring its peripheral surface in frictional contact with the brake-band J. Thus the speed of the shaft C, and consequently that of the double pulley D and the person descending on the cable, is checked and rendered uniform, so that the person descends with the greatest safety and with no danger of unduly striking the pavement or ground below.

By reference to Fig. 3 it will be seen that the arms of the star-wheel G stand approximately at right angles to the inner faces of the friction-blocks I to direct the actuating-disks H against the ends of adjacent friction-blocks when the device is in use.

By the arrangement described I am particularly enabled to make use of a cable in-

stead of the rope heretofore used and which rope is objectionable owing to the danger of being burned by flames issuing from a window in the burning building from which a person desires to escape. It is further evident that by the arrangement described the guiding of the cable in the casing part A′ and leading it from the double pulley prevents undue binding of the cable and injury to the same, so that there is no danger that the device will not function properly when in use.

It is understood that the pressure with which the friction-blocks I are forced in contact with the belt J varies according to the weight of the person descending on the cable, and consequently the device is equally well adapted for use by grown persons as well as children.

By having the guide-pulley F the cable E readily passes to and from the double pulley D, it being expressly understood that the arrangement described permits the use of either strand of the cable for descending purposes, it being also understood that while one strand moves downward the other strand moves upward, and when a person has reached the ground the other strand can be immediately used by another person to descend in the manner specified.

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

1. A governor for a fire-escape, comprising a fixed brake-band, friction-blocks for engagement with said brake-band, actuating-blocks, and a revoluble star-wheel engaging said actuating-blocks, to force the same outward against the friction-blocks and move the latter in frictional contact with said brake-band, each of said actuating-blocks simultaneously engaging the ends of two adjacent friction-blocks, substantially as shown and described.

2. A governor for a fire-escape, comprising a fixed brake-band, friction-blocks for engagement with said brake-band, actuating-blocks, and a revoluble star-wheel engaging said actuating-blocks, to force the same outward against the friction-blocks and move the latter in frictional contact with said brake-band, the arms of the star-wheel standing approximately at right angles to the inner faces of the friction-blocks, and the actuating-blocks standing between adjacent arms of said star-wheel, to simultaneously engage the ends of adjacent friction-blocks when the star-wheel is rotated in either direction, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANCIS J. HUGHI.

Witnesses:
THEO. G. HOSTER,
EVERARD BOLTON MARSHALL.