No. 770,012. PATENTED SEPT. 13, 1904.

C. KRAMER.

FIRE ESCAPE.

APPLICATION FILED MAY 20, 1904.

NO MODEL.

Fig: 1.



Fig: 2.

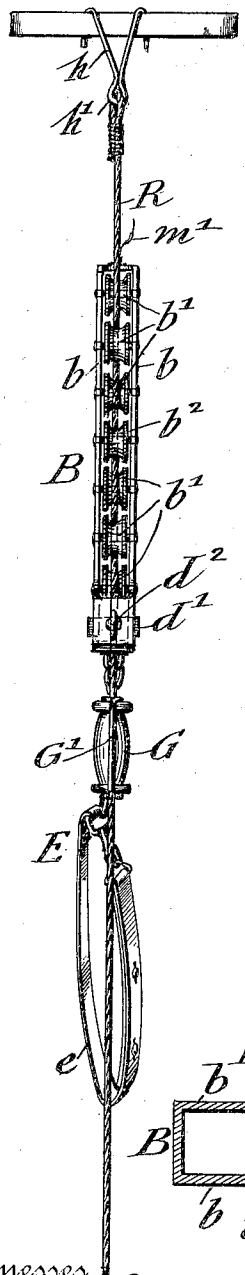


Fig: 3.

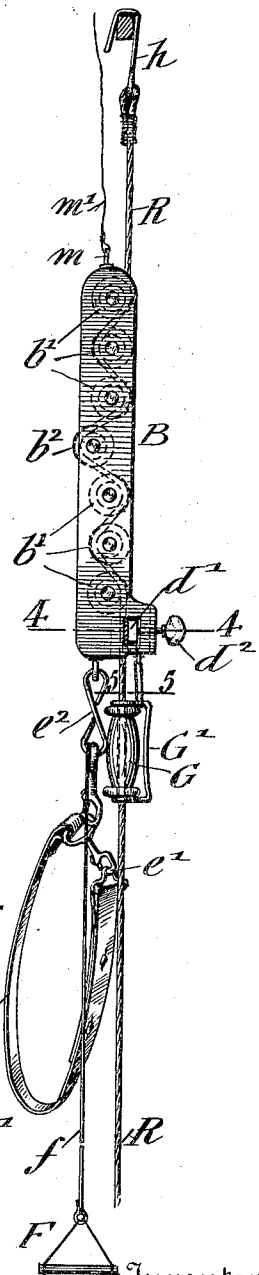


Fig: 4.

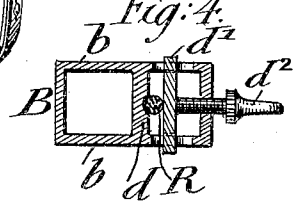


Fig: 5.

Witnesses

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No. 770,012. Patented September 13, 1904.

UNITED STATES PATENT OFFICE.

CHRISTIAN KRAMER, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 770,012, dated September 13, 1904.

Application filed May 20, 1904. Serial No. 208,844. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN KRAMER, a citizen of the United States, residing in New York, borough of the Bronx, in the State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to improvements in fire-escapes of that class in which a rope is thrown out from the window, attached to the sill or other point of support, and a suspension friction device supporting the escaping person and under his control is moved downwardly on said rope at any desired speed until the ground is reached; and for this purpose the invention consists in certain novel features and combinations of parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved fire-escape, showing the same in the act of being used. Fig. 2 is a front elevation of the same. Fig. 3 is a side elevation; and Figs. 4 and 5 are horizontal sections, drawn on a larger scale, through the regulator and the handle device, respectively, on lines 4 4 and 5 5, Fig. 3.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, R designates a rope of sufficient strength to support a person lowering himself on the rope and of sufficient length so as to reach from the floor from which the same is used to the ground. The safety-rope is preferably treated with fire-proofing chemicals, so as to obviate the possibility of its burning when used in proximity to fire. To the upper end of the rope R is attached a double suspension-hook h, which is provided with an eye h', through which the upper end of the rope is attached. The hook is applied to the window or any other suitable point of support when the fire-escape is required for use. On the rope is arranged a friction device B, consisting of elongated plates b, of sheet-steel, that are transversely riveted together, having two sets of friction-rollers b' and an intermediate roller b^2 journaled between the same, the friction-roller b^2 being slightly offset in the frame of the friction device, as shown in Fig. 3. The rope R is passed over the friction-rollers b' and the offset friction-roller b^2 and passed over a cross-piece d, against which the rope R is firmly pressed by means of a transverse clamping-piece d', which is more or less tightly clamped against the cross-bar d by a clamping-screw d^2, as shown in Figs. 2 and 4. The cross-bar d, clamping-piece d', and clamping-screw d^2 together form a regulator by which the friction device B can be adjusted to the weight of the person that intends to use the fire-escape, the lighter the body descending the less friction required, while a heavier person of course requires a greater degree of friction.

From the lower end of the friction device is suspended, by means of a link e^2, a suspension device E, which consists of a belt e, provided with a suitable spring snap-hook e' for readily applying the belt to the body of the person. To the suspension-link e^2 of the suspension device E is further connected a rod or chain f, to which a stirrup F is applied, which serves for receiving one foot of the person using the fire-escape, while the hand grasps a handle G, which slides freely on the rope R and is provided with an approximately U-shaped bail G', which is provided with bent-over perforated ends, through which, together with the bore of the handle G, the rope R is passed, the middle portion of the bail being slightly curved or concaved, so as to permit the convenient grasping of the handle and bail. By pressing the handle and bail more or less firmly together a greater or less degree of friction is exerted on the rope, and thereby the person suspended from the friction device may regulate at will the speed at which he is being lowered to the ground or may completely arrest his descent. To the upper end of the friction device B is applied an eye m, to which is attached a cord m' of somewhat greater length than the safety-rope R, which permits the return of the friction device on the safety-rope R when the same is at its lower end, so that the fire-escape can be used over and over again as required.

My improved fire-escape has the advantage

that it is strong and durable and not liable to become out of order. It furnishes a triple hold of the person using the escape—namely, a hold on the body, a hold on one foot, and a hold for one or both hands—which gives the necessary confidence to the person using the fire-escape, and by the conjoint action of the friction device, the regulator on the same, and the speed-controlling handle and bail a person of any size can readily descend along the rope to safety at any desired speed in a steady and easy manner by first adjusting the regulator to his weight and then controlling the speed by the handle and bail device.

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

1. In a fire-escape, the combination, with a safety-rope, a friction device slidable thereon, and a suspension device carried by said friction device, of a perforated handle slidable on said rope, means for varying the friction between said rope and said handle, and a flexible connection between said friction-varying means and said friction device.

2. In a fire-escape, the combination, with a safety-rope, of a friction device slidable thereon, a suspension device connected with the friction device, a perforated handle, and a U-shaped bail provided with perforated eyes at its ends, both handle and bail being slidable on the rope for permitting the regulation of the speed of said friction device.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CHRISTIAN KRAMER.

Witnesses:
PAUL GOEPEL,
HENRY J. SUHRBIER.