

No. 734,440.

PATENTED JULY 21, 1903.

H. E. SMITH.
FIRE ESCAPE.

APPLICATION FILED MAR. 24, 1903.

NO MODEL.

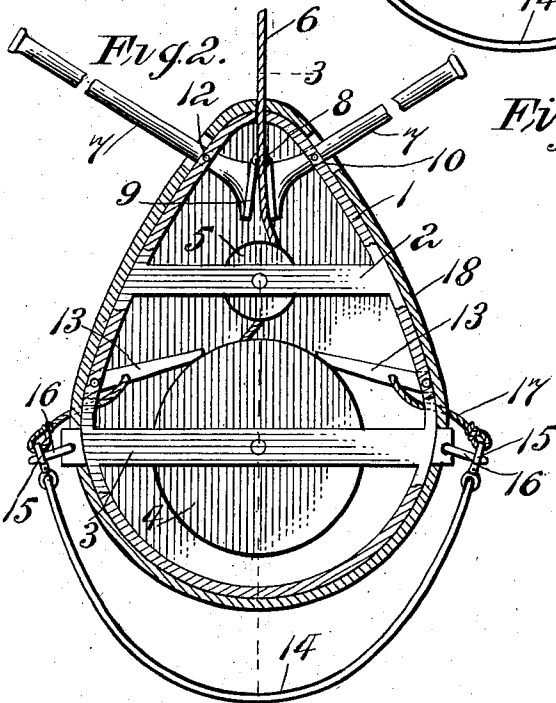
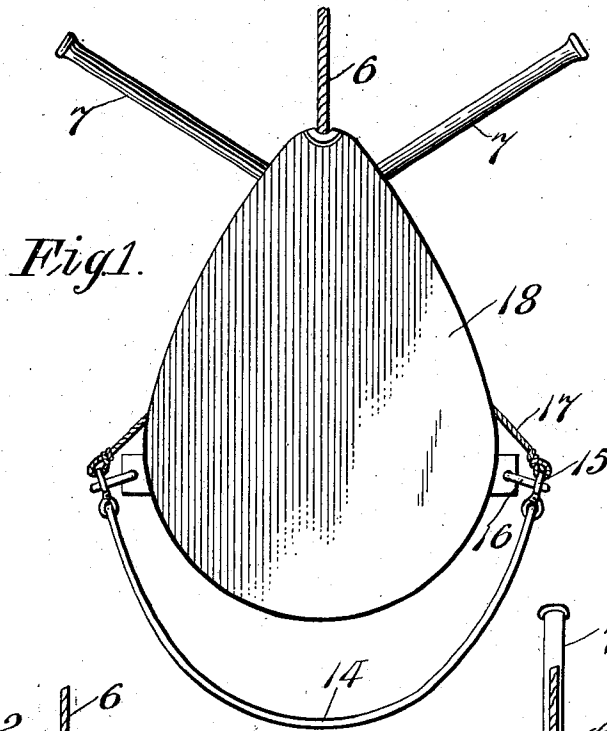
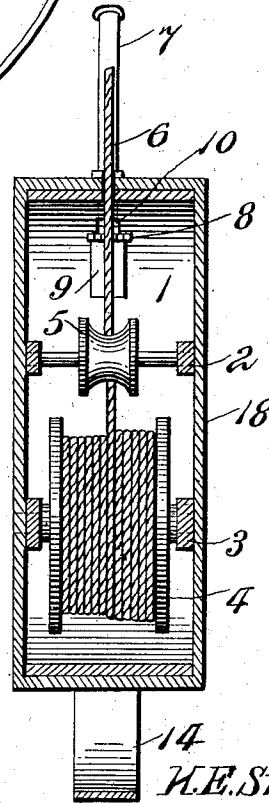


Fig. 3.



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UNITED STATES PATENT OFFICE.

HARVEY E. SMITH, OF MISSOULA, MONTANA, ASSIGNOR OF ONE-HALF TO
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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 734,440, dated July 21, 1903.

Application filed March 24, 1903. Serial No. 149,373. (No model.)

To all whom it may concern:

Be it known that I, HARVEY E. SMITH, a citizen of the United States, residing at Missoula, in the county of Missoula and State of Montana, have invented certain new and useful Improvements in Fire-Escapes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in fire-escapes, and particularly to the class of reel grip-jaw fire-escapes.

The object of the invention is to provide a fire-escape of this character which will be small, light in weight, and easily carried about and quickly made ready and attached for use.

Another object is to provide a fire-escape of this character which can be easily managed and is at all times under perfect control of the operator or user.

A further object is to produce a practical portable fire-escape which will be simple in construction, non-combustible, and which can be cheaply manufactured and sold.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a side elevation of the improved fire-escape complete. Fig. 2 is a vertical sectional view through the casing, showing the frame and interior parts in full lines. Fig. 3 is a vertical sectional view taken on the line 3 3 of Fig. 1.

In the drawings, 1 denotes the supporting-frame of the fire-escape, which is preferably, though not necessarily, egg-shaped and provided with upper and lower pairs of cross-bars 2 and 3. Between the lower pair of cross-bars 3 is journaled a reel 4, and between the upper pair of cross-bars 2 is journaled a guide-pulley 5.

6 denotes a wire rope or strap or cable of suitable construction and length, which is adapted to be wound upon the reel 4, the upper end of the wire cable 6 passing upwardly

around one side of the pulley 5 and through an eye or passage in the upper end of the frame 1.

7 denotes hand grips or levers arranged at the upper end of the frame, the inner ends of the levers 7 being hinged together, as shown at 8, and formed on said hinged ends with jaws 9. The levers 7 are adapted to pass through slots 10, formed in the upper ends of the side bars of the frame 1, and to have a pivotal engagement therein with the said side bars, as shown at 12.

13 denotes brake-levers pivoted in the side bars of the frame 1, adjacent to the reel 4, the inner ends of said levers being adapted to bear upon the periphery of the reel.

14 denotes a loop formed of a strap or band of metal, to the upper ends of which are fixed snap-hooks 15, which are adapted to engage rings 16 in the ends of the cross-bars 3. The said loop 14 is adapted to hang below the frame 1 and form a seat to support the body of the user.

17 denotes short wire connections, the upper ends of which are fixed to the brake-levers 13, and in the lower ends are formed loops, which are adapted to be connected to the snap-hooks 15 on the ends of the loop or seat 14, so that when the weight of a person is applied to the seat the brake-levers 13 will be drawn into frictional contact or engagement with the periphery of the reel 3 through the connections 17, causing a braking or retarding action upon the reel, thereby preventing too rapid descent of the person occupying the loop or seat 14.

18 denotes a metal casing inclosing the frame and the working parts of the device within the frame and protecting the same from the weather, openings being formed in the casing through which the hand grips or levers and lower loop or seat connections project.

In operation the upper end of the wire rope or cable is made fast to a bracket or other suitable support outside a window, or the device may be permanently fixed to the side of a building. The hand grips or levers are then grasped, and the occupant sits upon the loop or seat 14, the weight of the person causing the cable or rope to unwind from the reel, causing the escape and the occupant to de-

scend together. As hereinbefore described, the weight of such person or occupant causes the application of the brake-levers 13 to the reel and prevents too-rapid unreeling of the
5 cord or cable. Further control of the descending speed may be had by operation of the hand grips or levers 7, which when pulled downwardly cause the hinged jaws 9, formed on the inner ends thereof, to grip the rope or
10 cable 6 and prevent the same slipping through the device too rapidly, as will be understood.

The construction of the hinge-joint between the jaws 9 is such as to permit the rope or cable 6 to pass through the same, so that the
15 cable is frictionally engaged on opposite sides by said jaws.

It will be understood that the brakes 7, which directly engage the cable, are more powerful than the brakes 13, which engage
20 the reel from which the cable is paid out, and that since the body of the user is directly suspended from the last-mentioned brakes and he holds and operates the brakes 7 manually he can by varying his pull on the last-men-
25 tioned brakes apportion the weight of his body to the respective brake devices, so as to perfectly control the operation of the fire-escape and regulate the speed of his descent.

From the foregoing description, taken in
30 connection with the accompanying drawings, the construction, operation, and advantages

of my invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, 35 and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus particularly described my in- 40 vention, what I claim, and desire to secure by Letters Patent, is—

A fire-escape comprising a frame, a reel mounted therein, a cable on the reel, brakes 13 pivotally connected to the frame and bearing 45 on the periphery of the reel, and suspending devices for the body of the user directly connected to the brakes 13, and brakes 7 pivoted to said frame, adapted to bear directly against opposite sides of the cable and hav- 50 ing outwardly-extending handles, whereby the user may apportion the weight of his body between the brakes 13 and brakes 7, to regulate his descent at will, substantially as described.

In testimony whereof I have hereunto set 55 my hand in presence of two subscribing witnesses.

HARVEY E. SMITH.

Witnesses:

MARVIN SMITH,
FRANK BONSALE.