

APPLICATION FILED JUNE 30, 1908.

Patented Aug. 31, 1909.



Witnesses 3
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FIRE-ESCAPE.

932,699.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Application filed June 30, 1908. Serial No. 441,111.

To all whom it may concern:

Be it known that I, JOHN A. GROVE, citizen of the United States, residing at Bluffton, in the county of Wells and State of Indiana, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention comprehends certain new and useful improvements in that class of fire escapes that embody a cable or rope of wire, or the like and a hand protector designed to be gripped by the operator and slidingly mounted upon the cable, said hand protector being provided with a pivoted jaw adapted to grip the cable and, under the control of the operator's hand, properly regulate the descent.

The invention has for its object, a simple, durable and efficient construction of apparatus of this character which is designed to form a loop in the cable in which the person escaping from a burning building may sit or stand so as to avoid suspending his entire weight from his hands gripping the hand protector that is slidingly mounted on the cable, and a further object of the invention is a simple device of this character which is provided with an improved construction and arrangement of brake device so that the descent may be gradual and without jerks and at all times under the control of the operator.

With these and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description, and accompanying drawings in which:

Figure 1 is an elevation of a fire escape constructed in accordance with my invention; Fig. 2 is a longitudinal sectional view through the hand protector, part of the same being broken away; Fig. 3 is a sectional view, the section being approximately on the line 3—3 of Fig. 2; Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 1; Fig. 5 is a similar view on the line 5—5 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Broadly considered, my invention comprises a preferably wire cable which will not be affected by heat, and a hand protector slidingly mounted thereon.

In the drawing, the numeral 1 designates a cable that is provided at one end with a snap hook 2 so that it may be secured around a bed post, or the like within a room, and provided at its other end with a weight 3 so that when the cable is flung from a window, it will quickly uncoil to the ground without kinks. My improved hand protector comprises a main member 4 which is provided at its upper end with a head 5 and which is formed with a curved longitudinal edge 6 forming a finger grip for the right hand of the operator and merging into a handle 7 which projects outwardly from the main member 4 at substantially right angles thereto, as clearly illustrated in Fig. 1 and which is designed to be grasped by the left hand of the operator. The head 5 is formed with a tortuous channel 8 (see Fig. 2) and with a socket or recess 9 in which the pivoted jaw 10 is mounted. This jaw is formed with a downwardly projecting handle 11 and is designed to be operated by the palm of the thumb of the operator's hand, the fingers extending around the surface 6 as indicated in Fig. 1. The pivoted jaw 10 is formed on one edge with a longitudinally disposed wear piece 12 which may be composed of any desired metal or combination of metals, and which is designed to coact with a wear plate 13 secured to the main member 4 at the lower end of the wear plate and projecting upwardly, the upper end of the wear plate being preferably free. Preferably also, the wear plate 13 is formed with a longitudinal groove or depression 14, and the wear piece 12 is similarly provided with a groove so as to form proper guides for the cable 1. The main member 4 is formed with a recess 4^a back of the wear plate 13 and near the said plate springs are disposed in said recess back of the wear plate 13 so as to constitute therewith a cushioned brake surface which, in the operation of the device will avoid any jerky movement when the device grips the cable to stop the descent, and is again loosened to permit a further descent.

The main member 4 is provided at its lower end with a laterally enlarged foot 16, said foot being formed with two vertically disposed openings 17 and 18, the opening 18 being substantially in longitudinal alinement

with another opening 19 formed in the main member at the juncture of the foot portion with the handle 7, the opening 19 extending obliquely as shown and opening at its upper end at what might be termed the rear side of the main member, as best illustrated in Figs. 2 and 3.

In the practical use of my improved fire escape apparatus, the cable 1 is secured around some stationary object in the room from which the operator desires to escape, by means of the snap hook 2, and the weight 3 is flung out of the window so as to permit the cable 1 to quickly reach the ground, the weight tending to prevent any kinking of the cable. It is to be understood, as best seen in Fig. 1, that the cable extends downwardly through the throat 8 of the head 5 between the wear plate 13 and the wear piece 12 and passes downwardly through the opening 17 a sufficient distance to form a loop 20, the cable thence passing upwardly through the openings 18 and 19 and coiled forwardly one or more times around the handle 7 according to the weight of the person using the apparatus. The loop 20 is then thrown over the operator's head so as to form a seat for the operator or if desired, the operator may stand with one or both feet in the loop 20 with the left hand grasping the handle 7 and pressing against the coil or coils 21 of the cable while the right hand grasps the pivoted jaw 10 and presses the same against the cable and the cushioned brake surface constituted by the wear plate 13 and the spring or springs 15 back of the same. By arranging the cable with the loop 20 and the one or more coils 21, it is obvious that the operator's left hand may also be used to assist in producing the proper braking action so that the strain is divided, and is not all imposed upon the pivoted jaw 10, nor upon a single point of the cable, hence the speed of the descent may be regulated and kept under control at all times by the pressure of the operator's hand upon the pivoted jaw 10 and the coil or coils 21 around the handle 7. By the provision of the cushioned wear plate 13, all jerky motion in stopping and starting is prevented. The undulating channel or throat 8 in the head 5 also assists in insuring a gradual descent, as it prevents the too free movement of the hand protector on the cable and enables the operator to maintain better control of the device.

By the provision of the loop below the hand protector, in which the operator rides in escaping from a burning building, it is obvious that the weight of his body is not supported by his arms, and his feet and legs may be free for use in avoiding sliding or rubbing along the wall, or he may use his feet to avoid any projecting parts that might otherwise interfere with the descent, without losing any control on the hand protector.

Furthermore, by this means, the party escaping may swing himself around any windows out of which flames might be issuing. Even though the cable itself might, in some instances, be too short for the operator to reach the ground, by its use it is obvious that he may descend until the entire cable has been paid out, and remain sitting in the loop until rescued.

Having thus described the invention, what is claimed as new is:

1. A fire escape apparatus, comprising a cable, a hand protector through which said cable extends, the hand protector being slidably mounted on the cable and provided with a pivoted jaw, the cable being formed below the hand protector with a loop and the hand protector being formed with an outstanding handle around which the cable is coiled above the looped portion thereof.

2. A fire escape apparatus comprising a cable, a hand protector provided with a pivoted jaw and formed at its upper end with a throat through which the cable extends into engagement with said jaw, the hand protector being also formed below the jaw with two vertically disposed openings through which the cable extends first downwardly and then upwardly respectively, the hand protector being also formed with an outstanding handle around which the cable is coiled.

3. A fire escape apparatus, comprising a cable, and a hand protector slidably mounted thereon and provided with a pivoted gripping jaw designed to engage the cable, the hand protector being formed at its lower edge with two vertically disposed openings through which the cable extends downwardly and thence upwardly, the hand protector being also formed with an obliquely disposed opening through which the upwardly extending portion of the cable passes, and the protector being also formed with an outstanding handle around which the cable is coiled above said last named opening.

4. In an apparatus of the character described, a hand protector comprising a main member formed in its upper end with a curved throat, a jaw connected to the upper end of said main member, a cushioned wear plate secured to the main member and designed to be engaged by said jaw, and a handle extending outwardly from said main member.

5. In an apparatus of the character described, a hand protector comprising a main member formed with an opening designed to provide for the passage of a cable there-through, a pivoted jaw connected to said main member, the main member being formed with a recess in its side next to the jaw, a wear plate secured to said main member over said recess, and a spring mounted in said recess back of said plate.

6. In an apparatus of the character de-
scribed, a hand protector comprising a main
member formed with an outstanding handle,
a jaw pivotally connected to said main mem-
5 ber, the main member being formed with a
recess on its side next to the jaw, the jaw
being formed with a wear piece opposite
said recess, a wear plate secured at its lower
end to the main member, and extending up-
wardly over said recess, and a spring in said 10
recess back of said wear plate, as and for
the purpose set forth.

In testimony whereof I affix my signature
in presence of two witnesses.

JOHN A. GROVE. [L. s.]

Witnesses:

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