No. 736,347. PATENTED AUG. 18, 1903.

M. O. BARKE.

FIRE ESCAPE.

APPLICATION FILED MAY 14, 1902.

NO MODEL.

Fig. 1.

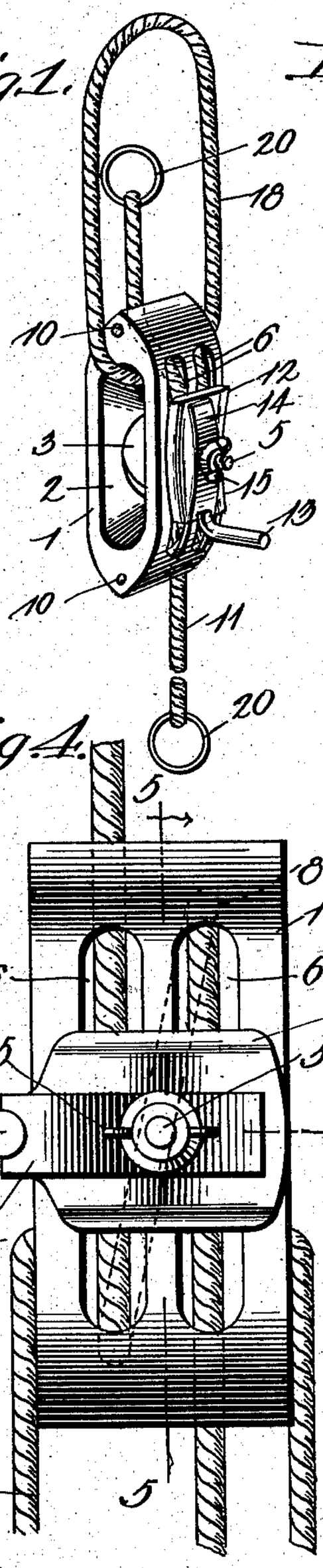
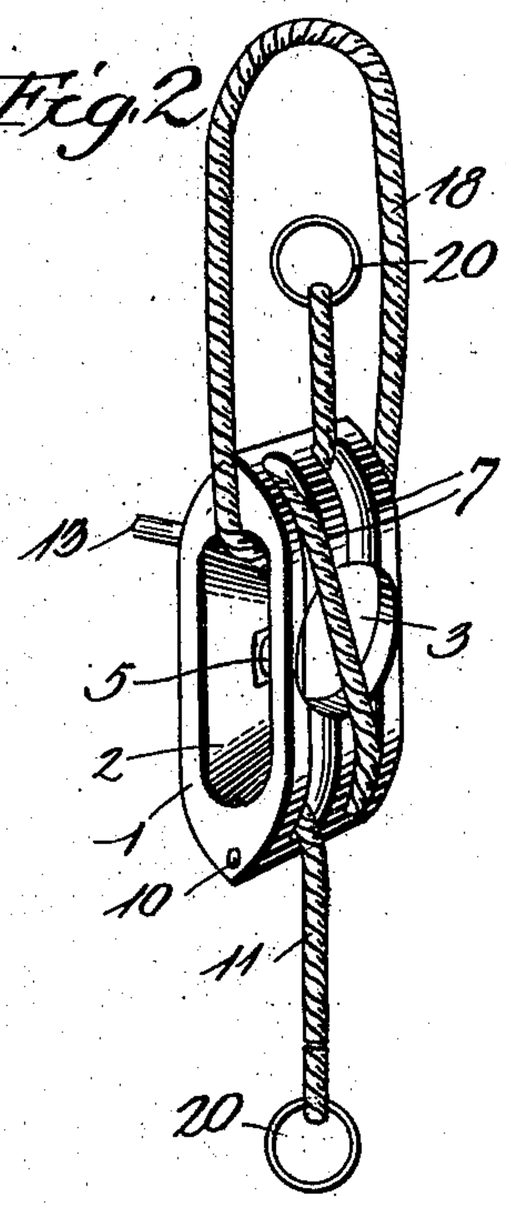


Fig. 2.



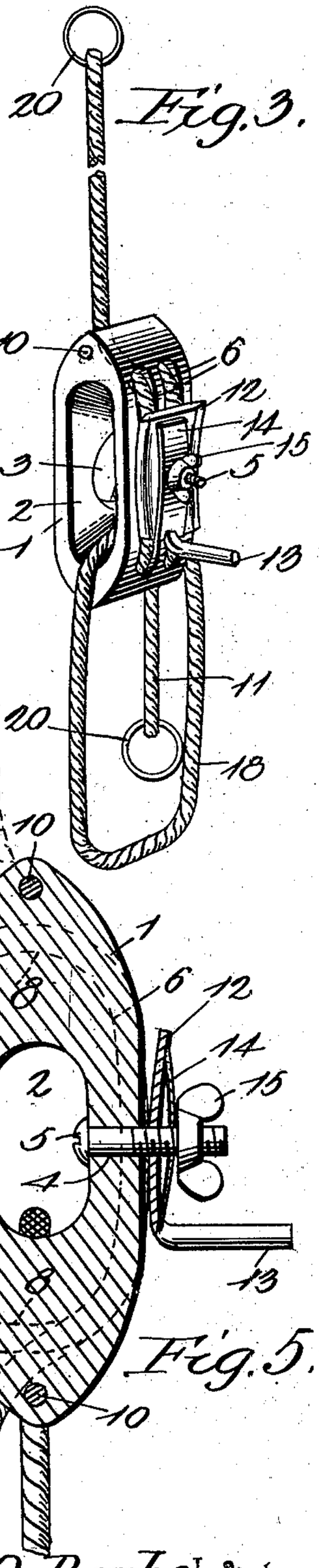


Fig. 3.

Fig. 4.

Fig. 6.

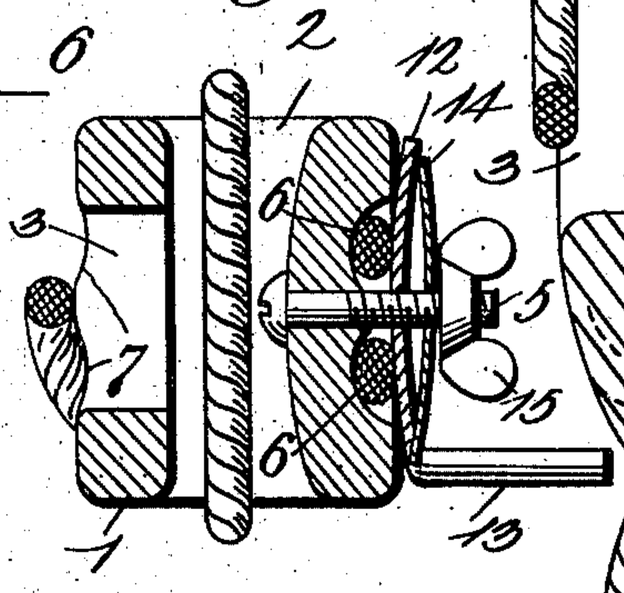


Fig. 5.

Witnesses
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No. 736,347. Patented August 18, 1903.

UNITED STATES PATENT OFFICE.

MARTIN O. BARKE, OF FERGUS FALLS, MINNESOTA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 736,347, dated August 18, 1903.

Application filed May 14, 1902. Serial No. 107,338. (No model.)

To all whom it may concern:

Be it known that I, MARTIN O. BARKE, a citizen of the United States, residing at Fergus Falls, in the county of Ottertail and State of Minnesota, have invented a new and useful Fire-Escape, of which the following is a specification.

This invention relates to fire-escapes of that class in which the descent of the individual making his escape is checked and regulated by friction properly exercised upon the rope or flexible member by means of which the escape is effected. In devices of this class it has been customary to attach one end of the rope to the window-casing or at some fixed point in the room from which the escape is to be made, the friction device or member containing the brake whereby friction is exerted upon the rope being carried by the escaping person, usually suspended in a sling or harness from such brake-containing member and who is thereby enabled to regulate the speed of his descent. It is obvious that in devices thus constructed the escape of only a single person is provided for, the time being usually insufficient to restore the device to its initial operative position.

The object of my invention is to provide a device by means of which, in the event of a number of persons being assembled in a room with no other means of escape, the escape of several, or, if time permits, all of such persons may be effected swiftly and by means of the single escape.

To this end my device comprises a reversible block through which is reeved a rope which after one descent has been made may be instantly restored to operative position, such block being provided with a permanent suspending means, means being furthermore provided for regulating the friction upon the descending rope and the latter being provided with means for attachment at both ends, whereby after all but one of the inmates have descended in safety the last person may safely descend, carrying with him the block or brake-containing member of the device.

Specifically the invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view showing the device in its initial position after one descent has been made. Fig. 2 is a perspective view showing the block in the reversed position which it occupies during the time of the second descent, the rope being shown in the position which it occupies after the descent has been made. Fig. 3 is a perspective view showing the device in position for the final descent. Fig. 4 is a front view of the device, shown on a larger scale. Fig. 5 is a vertical sectional view taken on the line 5 5 in Fig. 4. Fig. 6 is a horizontal sectional view taken on the line 6 6 in Fig. 4.

Corresponding parts in the several figures are designated by similar characters of reference.

1 designates a block approximately elliptical in section and having a transverse opening 2. The rear wall of the block is also provided with an aperture 3 and the front wall with a perforation 4, through which extends a bolt 5, which constitutes a part of the braking device and the head of which abuts upon the inner side of the front wall. The front and rear sides of the block 1 are provided with vertical grooves 6 6 and 7 7, the upper and lower ends of which are connected by perforations or passages 8, extending through the block, said perforations merging with the recesses or grooves 6 and 7, so that no abrupt or angular corners shall be formed, but only smooth rounded surfaces, as clearly shown in Fig. 5, that will readily admit of the sliding of the rope therein. In case the block is made of wood, transverse pins 10 are preferably employed to connect the sides of cheeks thereof at the upper and lower ends. Sometimes, however, the block will be made of other material, such as cast-iron, and when this is the case I desire it to be understood that the form and structure may be changed in any desired way within the scope of my invention. The descending rope, which is designated 11, is threaded from the back of the block through one of the upper perforations 8, down through the corresponding groove 6, through the corresponding lower perforation 8, and up transversely across the rear face of the block to the perforation 8, adjacent to the one through which it was first threaded,

through said perforation, down through the adjacent groove, and back through the lower perforation 8. It will thus be seen that both ends of the rope extend from what has been termed the "rear" face of the block in an upward and downward direction, that two rope-sections are disposed parallel to each other in the front grooves 6, and that a third rope-section is disposed diagonally across the rear face of the block, the grooves in which merge toward each other in the direction of the central aperture 3 in order to provide for such diagonal disposition of the rope without causing undue wear thereon.

The brake member of the device comprises a plate 12, mounted upon the bolt 5 and having a crank or handle 13.

14 is a curved spring-plate having a perforation whereby it is mounted upon the bolt so as to bear against the face of the plate 12 when forced against the latter by the action of a thumb-nut 15 upon the end of the bolt. To prevent the spring-plate from becoming disengaged from the plate 12, which carries the handle 13 and which constitutes the brake, the end of the spring-plate is provided with a notch or recess 16, engaging the handle 13, so as to turn therewith. The spring-plate 14 exerts sufficient tension upon the nut 15 to carry the latter around with it when the brake-plate 12 is turned by the crank 13, thus increasing or decreasing the tension of the brake-plate against the exposed portions of the rope in the grooves 6. Should immediate strong tension be required, the thumb-nut may be tightened independently of the brake-handle, as may be done in the case of an emergency requiring a certain and very speedy descent.

18 designates a loop usually employed for suspension purposes, which extends through the transverse perforation 2 of the block. Both ends of the descending rope are provided with links, rings, as 20, or other suitable means for the attachment of a suitably-constructed sling or harness, which may be speedily connected with or disconnected from such attaching means.

The operation and advantages of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. In the event of an emergency requiring the speedy escape of a number of persons from a room where my improved fire-escape is kept ready for use, the block constituting the principal member of the device is suspended by means of the loop 18 from some secure point. The sling or harness (not shown in the drawings) is then attached to the short end of the rope and the person or persons occupying the harness may then safely descend, the speed of the descent being regulated by one of the persons remaining in the room and manipulating the brake. As soon as the first descent has been made the block 1 is simply brought to the reversed position, (indicated in Fig. 2), thus throwing the short end of the rope within the reach of the persons in the room, the long end remaining pendent and passing through the grooves of the block while the descent is being made. The reversal of the block may be performed as often as may be necessary to permit the escape of all the persons in the room except one, who by quickly detaching the loop 18 from its point of attachment and suspending the device by the ring 20 at the end of the rope which at the time is uppermost may either attach a sling to the loop 18 or use the latter as a sling whereby he makes his descent, carrying with him the block of the fire-escape and controlling the rapidity of his own descent by means of the brake mechanism.

I desire it to be understood that while I have in the foregoing described a preferred construction of my invention, I do not limit myself with regard to the structural details thereof, but reserve the right to any changes and modifications which lie within the scope and spirit of my invention and which may be resorted to without detracting from the utility of the same.

Having thus fully described my invention, what I claim is—

1. In a device of the class described, a suitably-supported reversible block, a rope reeved through said block and having permanent attaching means at both ends thereof, a bolt projecting from the face of the block between parallel strands of said rope and a spring-pressed brake-plate mounted upon said bolt, bearing against said rope-strands and having a crank whereby it may be operated.

2. In a fire-escape, a block, a rope reeved through the same and having parallel strands exposed upon the face thereof, a bolt projecting from the face of the block, a brake-plate mounted upon said bolt and having an operating-crank, a curved spring disposed upon said bolt, engaging the brake-plate and having a notch engaging the crank of the latter, and a thumb-screw bearing against said spring to compress the brake members.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARTIN O. BARKE.

Witnesses:
J. O. BARKE,
ALEX FOSMARK.