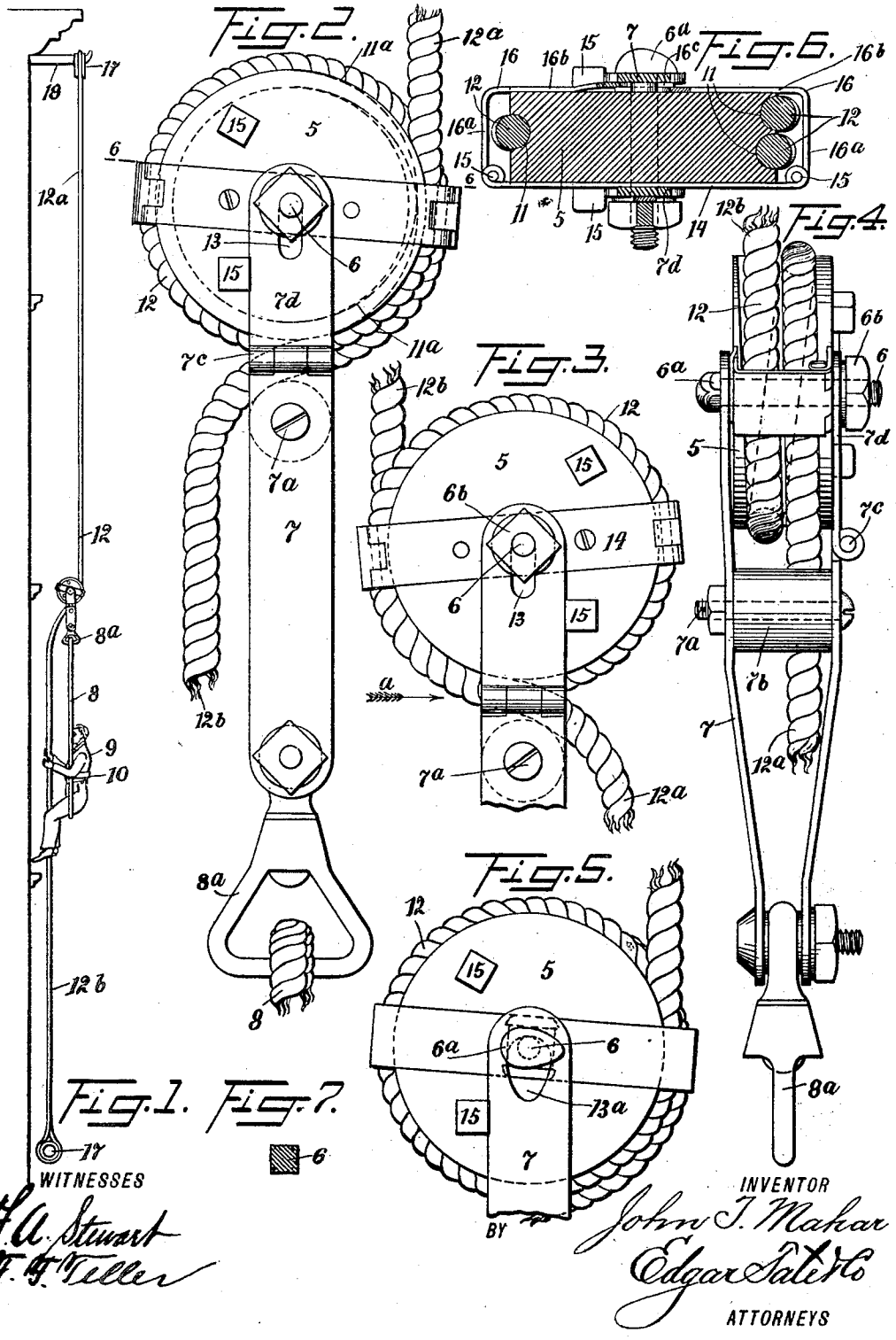
No. 697,736. Patented Apr. 15, 1902.

J. T. MAHAR.

FIRE ESCAPE.

(Application filed Nov. 25, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 697,736, dated April 15, 1902.

Application filed November 25, 1901. Serial No. 83,575. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. MAHAR, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to fire-escapes; and the object thereof is to provide an improved device of this class which is simple in construction and operation and comparatively inexpensive and by means of which a person may quickly and easily and safely escape or descend from the window of a burning building or from any elevated portion of such building whenever necessary.

In the drawings forming part of this specification, in which the separate parts of my improvement are designated by the same reference characters in each of the views, Figure 1 is a side view representing a portion of the wall of a building and showing my improved fire-escape and the method of its operation; Fig. 2, a side view of the main operative parts of the device; Fig. 3, a view similar to Fig. 2, showing the parts of the device in a different position or reversed; Fig. 4, a front view of the device, or a view looking in the direction of the arrow *a* in Fig. 3; Fig. 5, a view of the side opposite to that shown in Fig. 2; Fig. 6, a section on the line 6 6 of Fig. 2; and Fig. 7, a cross-section of a detail of the construction.

In the practice of my invention I provide a circular block 5, having a central shaft 6, which is preferably angular in cross-section, so that it will not turn in said block, and the ends of which are cylindrical in form, and suspended therefrom is a yoke-shaped attachment 7, through which passes a pin, screw, or bolt 7^a, provided with an antifriction-roller 7^b, and one side of said yoke-shaped attachment is composed of two parts hinged together at 7^c so as to form a laterally-movable part 7^d. Suspended from the yoke-shaped attachment 7 is a flexible support 8, preferably composed of a strong rope formed into a loop and adapted to form a seat for a party desiring to escape from a building, as shown at 9 in Fig. 1, and the sides of this loop or support 8 are provided with a strap or straps 10, which are adapted to be buckled around or otherwise secured around the waist of a party sitting in the loop or support 8, and the loop or support 8 is connected with the yoke-shaped attachment by a swivel coupling or fastening device 8^a.

The circular block 5 is provided with a spiral groove 11, which overlaps at one side of said block, the separate parts thereof vanishing in the perimeter of said groove at opposite points, as indicated in dotted lines at 11^a in Fig. 2. In this groove is wound a strong rope 12, the separate ends of which are designated by the reference characters 12^a and 12^b, and said block is provided, preferably, on the opposite sides thereof with lugs or projections 15, and these lugs or projections are on the same side of a diametric line passing vertically through the block when in either of the positions shown in Figs. 2, 3, and 5.

The hinged member 7^d of one side of the yoke-shaped attachment 7 is provided with an oblong slot or opening 13 at the end thereof, and the other or integral side of said yoke-shaped attachment is provided with an enlarged or elliptical slot or opening 13^a, and one end of the shaft 6 is provided with an oblong or elliptical head 6^a, which is adapted to pass through the slot or opening 13^a, and the other end of said shaft is provided with a nut 6^b, and by reason of this construction it will be seen that the block 5 is free to move longitudinally in the end of the yoke-shaped attachment 7 within certain limits.

Secured to one side of the block 5 and preferably countersunk therein is a transverse strip or plate 14, to each end of which is hinged, as shown at 15, an angular member 16, each of which consists of a part 16^a, which extends transversely across the perimeter of the block 5, and a supplemental part 16^b, which extends inwardly radially of said block on the side thereof opposite the plate 14, and the inner ends of the supplemental members 16^b are slotted longitudinally, as shown at 16^c, and the corresponding end of the shaft thus passes therethrough. One end of the shaft 6 also passes through the plate 14, and said plate and the angular members 16 hinged thereto constitute guides and keepers for holding the

rope 12 in position on the block 5, and by reason of the hinged members 16 the said rope may be easily placed on said block and as easily removed therefrom whenever desired. It will be understood that by simply sliding the block inwardly between the sides of the yoke-shaped attachment and turning the same while it is held in the hand the head 6^a at one end of the shaft 6 may be passed through the slot or opening 13^a in the corresponding side of the yoke-shaped attachment, and the yoke-shaped attachment may be turned on the hinge 7^c, and the hinged members 16, connected with the plate 14, may be turned outwardly, so as to place said rope in position on said block.

The ends of the rope 12 are provided with a loop, ring, or eye 17, and said rope is adapted to be suspended from any suitable support at or near the top of the building or secured to any portion of the building, as shown at 18, and the operation will be readily understood from the foregoing description, when taken in connection with the accompanying drawings and the following statement thereof.

It will be understood that the block 5 is normally near the upper end of the rope, and a party desiring to escape from the building seats himself or herself (as the case may be) in the support 8 and at the same time takes hold of that portion of the rope 12 which is below the block 5, as clearly shown in Fig. 1, and the said support and block will move down over said rope, the latter turning on the block or passing around the block, as will be readily understood, and the party in the support 8 may control at will the speed of the descent, as may also another party or parties standing on the ground.

When one party has escaped from the window or other opening in the building, another party standing at such window or opening may draw up the fire-escape or the movable parts thereof and attach the opposite end of the rope 12 to the support at 18, and in this operation the position of the block 5 is instantly reversed, as shown in Fig. 3, and another party may descend in the same manner, and this operation may be repeated as often as necessary.

Although I have shown the lugs or projections 15 as on both sides of the block 5, this is not absolutely necessary, as the device would operate with said lugs or projections on one side thereof, and it will be apparent that other changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

This device is exceedingly simple in construction and operation, and one of the chief features consists in the fact that when all of the cord or rope has passed around the block or the block has passed downwardly thereon the lower end of said cord or rope of said device may be drawn up and reversed, as hereinbefore described, by connecting the lower end of the rope with the support at 18, and the lugs or projections 15 will operate so as to hold the parts in their proper relative positions into which the block may be turned, and it will also be apparent that these lugs or projections constitute one of the chief features of the device, as they prevent the block from turning in the yoke-shaped support 7 and permit the rope to pass around the block, as hereinbefore described.

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

1. In a fire-escape, a circular block the perimeter of which is provided with a spiral groove, a yoke-shaped suspending device between the opposite sides of which the said block is mounted and free to turn through a part of a revolution, said block being also provided with side lugs or projections which operate in connection with the yoke-shaped suspending device to limit the turning movement thereof and in connection with which the yoke-shaped suspending device operates, substantially as shown and described.

2. In a fire-escape, a circular block the perimeter of which is provided with a spiral groove, a yoke-shaped suspending device between the opposite sides of which the said block is mounted, and free to turn through a part of a revolution, said block being also provided at the opposite sides thereof with lugs or projections in connection with which the yoke-shaped suspending device operates to limit the movement of the block, and a rope or cord wound around said block and means for holding said rope or cord in said groove, substantially as shown and described.

3. In a fire-escape, a circular block, the perimeter of which is provided with a spiral groove, and a yoke-shaped suspending device, between the opposite sides of which the said block is mounted, and free to turn through a part of a revolution, said block being also provided at the opposite sides thereof with lugs or projections in connection with which the yoke-shaped suspending device operates, and a rope or cord wound around said block and means for holding said rope or cord in said groove, consisting of a plate secured to one side of said block diametrically thereof, and angular members hinged to the opposite ends and extending across the perimeter of said block and radially inwardly, and the inner ends of which are slotted and adapted to receive a shaft or bolt which passes centrally through said block, substantially as shown and described.

4. In a fire-escape, a circular block, the perimeter of which is provided with a spiral groove, and a yoke-shaped attachment, between the sides of which the block is mounted, said block being provided with a central shaft, the ends of which pass through slots formed in the ends of the sides of the yoke-shaped attachment, one side of said yoke-

shaped attachment being also provided with a hinged member, substantially as shown and described.

5. In a fire-escape, a circular block, the perimeter of which is provided with a spiral groove, and a yoke-shaped attachment, between the sides of which the block is mounted, said block being provided with a central shaft, the ends of which pass through slots formed in the ends of the sides of the yoke-shaped attachment, one side of said yoke-shaped attachment being also provided with a hinged member, and said block being also provided with means for holding the rope thereon consisting of a plate secured diametrically of one side thereof and provided at its ends with hinged members extending across the perimeter thereof, and inwardly radially of the other side thereof and the inner ends of which are slotted, substantially as shown and described.

6. In a fire-escape, a circular block, the perimeter of which is provided with a spiral groove and a yoke-shaped attachment between the sides of which the block is mounted, one side of said attachment being provided with a hinged member, and the ends of both sides being provided with oblong slots or openings and said block being provided with a stationary shaft, the ends of which pass through said slots or openings, substantially as shown and described.

7. In a fire-escape, a circular block, the perimeter of which is provided with a spiral groove and a yoke-shaped attachment between the sides of which the block is mounted, one side of said attachment being provided with a hinged member, and the ends of both sides being provided with oblong slots or openings and said block being provided with a stationary shaft, the ends of which pass through said slots or openings, said block being also provided with hinged devices for holding a rope thereon and the ends of which are held in position by one side of the yoke-shaped attachment, substantially as shown and described.

8. A fire-escape comprising a circular block, the perimeter of which is provided with a spiral groove, a yoke-shaped suspending device between the opposite sides of which the said block is mounted and free to turn through a part of a revolution, said block being also provided with side lugs or projections which operate in connection with the yoke-shaped suspending device to limit the movement of said block and in connection with which the yoke-shaped suspending device operates, a roller mounted between the sides of the yoke-shaped device adjacent to said block and a rope which is passed around said block, and one end of which is passed through the yoke-shaped suspending device over said roller, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 23d day of November, 1901.

JOHN T. MAHAR.

Witnesses:
F. A. STEWART,
F. F. TELLER.