(No Model.) 2 Sheets—Sheet 1.

W. S. PARMAN.

FIRE ESCAPE.

No. 590,403. Patented Sept. 21, 1897.

Fig. 2.

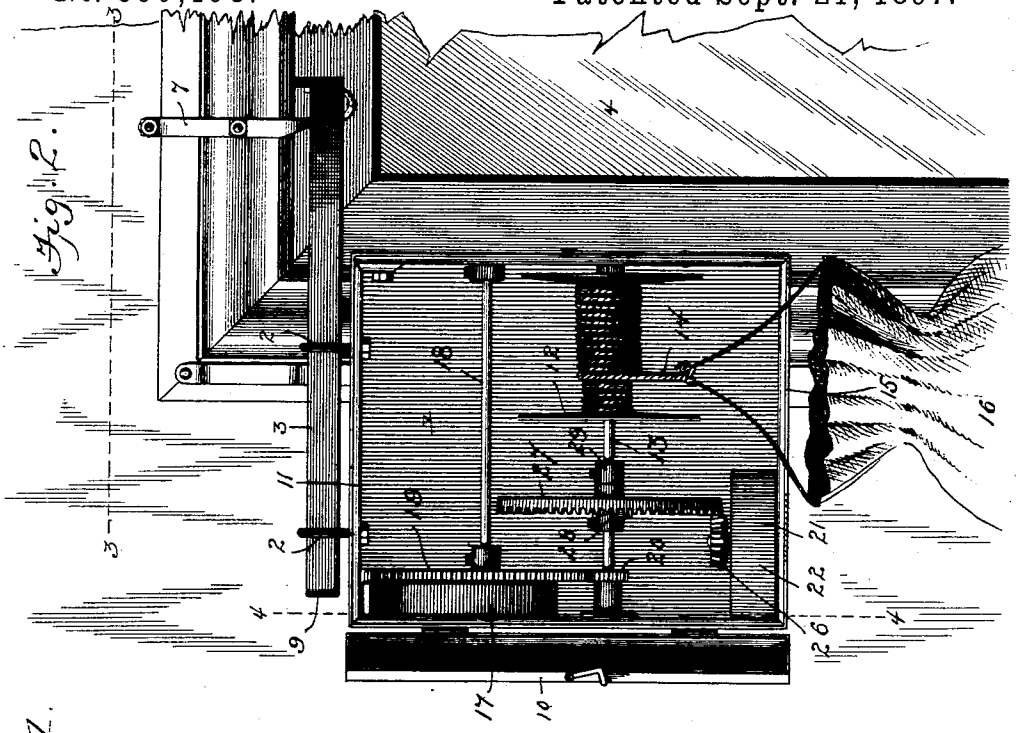
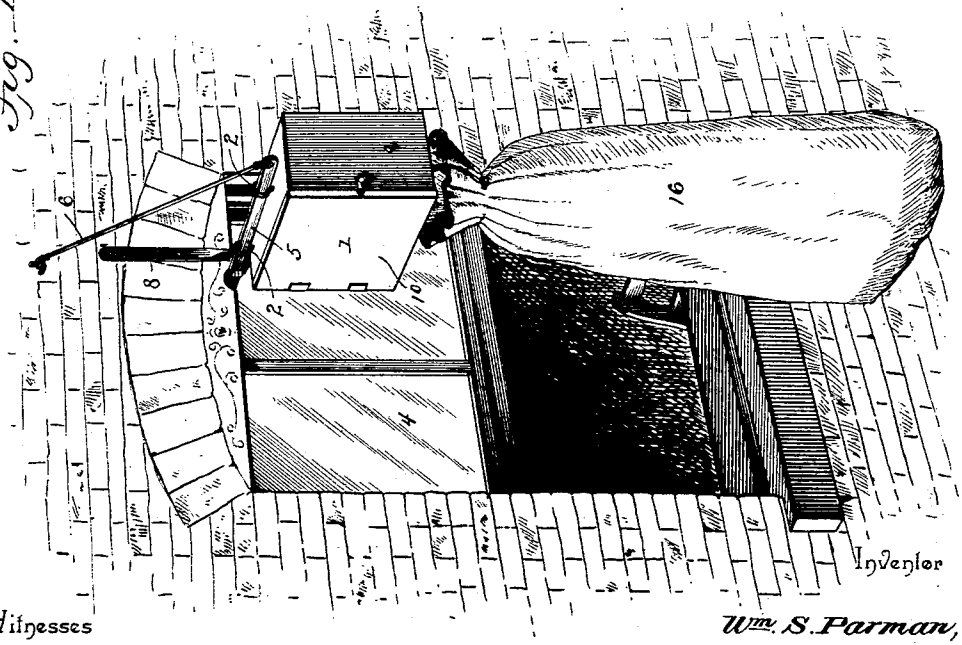


Fig. 1.



Witnesses

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

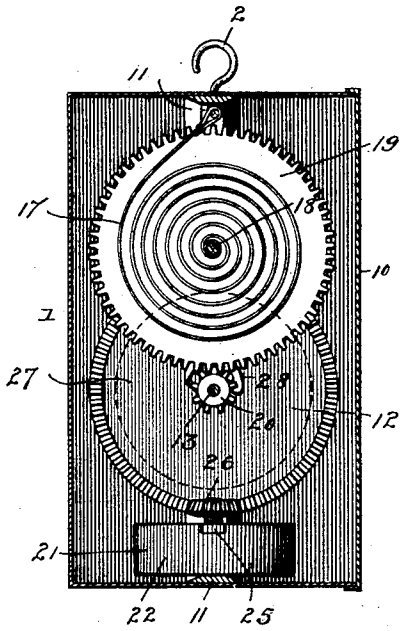

Fig. 6

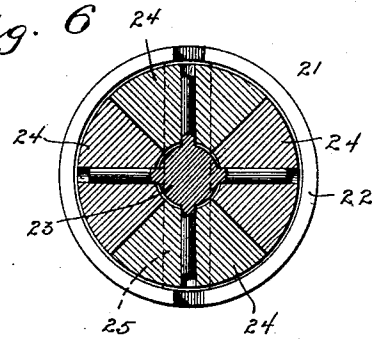

Fig. 5.

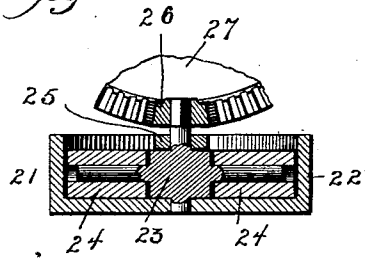

Fig. 3.

Fig. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM SHOCKLEY PARMAN, OF STILLWATER, OKLAHOMA TERRITORY.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 590,403, dated September 21, 1897.

Application filed October 26, 1896. Serial No. 610,122. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SHOCKLEY PARMAN, a citizen of the United States, residing at Stillwater, in the county of Payne and Territory of Oklahoma, have invented a new and useful Fire-Escape, of which the following is a specification.

The invention relates to improvements in fire-escapes.

The object of the present invention is to improve the construction of fire-escapes and provide a simple, inexpensive, and efficient one adapted to be normally located within a house or other building and to be quickly arranged on the exterior thereof when it is desired to use the same, and capable of gently lowering to the ground, at substantially the same speed, persons and other bodies of unequal weight, and of automatically rewinding the rope or cable to return the fire-escape to its initial position for another load.

A further object of the invention is to provide a device of this character which may be employed in mines or analogous places for lowering various bodies.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a fire-escape constructed in accordance with this invention and shown arranged on the exterior of a building. Fig. 2 is an elevation, the fire-escape being arranged on the interior of the building and the casing being open. Fig. 3 is a horizontal sectional view on line 3 3 of Fig. 2, the outer portion of the track shown extended in full lines and folded in dotted lines. Fig. 4 is a vertical sectional view on line 4 4 of Fig. 2. Fig. 5 is a vertical sectional view of the brake-mechanism. Fig. 6 is a horizontal sectional view of the same. Fig. 7 is a detail view of the clutch.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a casing suspended by hangers 2 on a horizontal track 3, which extends from the interior of the building to the exterior of the same in order that the fire-escape may be normally housed within the building and quickly run out to a position on the exterior of the same, so that persons and other bodies may be lowered to the ground. The track 3 consists of a substantially L-shaped inner portion and an outer hinged portion 5. The L-shaped inner portion, which is arranged adjacent to a window-sill 4, is composed of a transverse arm which extends through the window and a longitudinal arm which is arranged parallel with the inner face of the wall. The hinged outer portion 5, which has its joint arranged adjacent to the outer face of the wall, is adapted, as illustrated in dotted lines in Fig. 3 of the accompanying drawings, to be swung inward and folded against the outer face of the wall. The outer portion 5 of the track is supported by an inclined brace 6, extending upward from the outer end of the track to the window-frame or wall and pivoted at its upper end on the same in order to swing with the hinged portion 5. The track is supported by suitable hangers or brackets 7 and 8, secured to the inner and outer faces of the window-frame or wall, and the inner terminal 9 of the track-bar is bent at an angle to form a stop to prevent the casing of the fire-escape from leaving it.

The casing, which is preferably rectangular and which has a door 10, is provided with a supporting-frame 11, which may be constructed separate from the casing or form a part thereof, as desired, and a spring-controlled drum 12 is mounted within the casing on a horizontal shaft 13 and has a rope or cable 14 wound around it. The rope or cable, which passes through a slot or opening 15 of the bottom of the casing, has a bag 16 or other receptacle attached to its free end, and the rope or cable and the bag are preferably saturated with a suitable solution to render them fireproof.

The drum is connected by gearing with a barrel-spring 17, which has one end connected with the supporting-frame or the casing and its other end attached to a shaft 18, and the latter carries a cog-wheel 19, which meshes with a pinion 20 of the shaft 13. The spring is adapted to rewind the rope or cable

after the bag or other receptacle has descended to the ground to return the fire-escape for another load.

In order to regulate the descent of the receptacle and cause light and heavy loads to be lowered with substantially the same speed, a brake or governor 21 is employed. The brake or governor 21 consists of a stationary cylindrical casing 22, a wheel 23, and a series of sector-shaped brake-shoes 24, mounted loosely on the spokes of the wheel, arranged within the cylindrical casing 22, and adapted to be thrown outward by centrifugal force to cause the necessary friction to regulate the descent of the receptacle 16. The wheel 23 is provided with a spindle or shaft which is journaled on the bottom of the cylindrical casing 22 and on a removable cross-bar 25, and a horizontally-disposed pinion 26 is mounted on the shaft or spindle and meshes with a vertically-disposed cog-wheel 27. The cog-wheel 27 is loosely mounted on the shaft 13 and is connected with the same by a clutch 28, which permits the drum to rotate in rewinding the cable or rope without operating the brake or governor. The clutch 28 consists of a ratchet fixed to the shaft and a pivoted pawl mounted on the wheel and provided with angularly-disposed arms, one of the arms being adapted to engage the ratchet when the cable or rope unwinds, and the other arm is adapted to limit the swing of the pivoted pawl to maintain the same in position for engaging the ratchet when the rope or cable unwinds. The ratchet is secured to the shaft 13 by means of a clamping-screw, and a collar 29, which is provided with a similar clamping-screw, is located at the other side of the cog-wheel 27 and holds the latter and the pinion 26 in mesh. The ends of the cross-piece 25 are reduced and arranged in recesses of the brake or governor casing, and the cog-wheel will prevent the parts from becoming separated; but when it is desired to remove or assemble the parts the cog-wheel is moved to one side by loosening the clamping-screw of the collar 29.

The fire-escape is adapted to be readily moved into and out of a house or other building through the opening provided by lowering the upper sash of the window, and the upper sash is provided with a suitable slot or kerf for the track.

It will be seen that the fire-escape is simple, strong, and durable, and inexpensive in construction, that it is positive and reliable in operation, and that it is adapted to lower loads of different weights at substantially the same speed, and is capable of automatically rewinding the rope or cable to return the receptacle for another load. It will also be apparent that the device is adapted to be employed in mines and analogous places, and I desire it to be understood that changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention.

What I claim is—

1. The combination of a track designed to be mounted at a window and comprising a substantially L-shaped portion having a transverse arm to extend through the window and a longitudinal arm extending from the inner end of the transverse arm and arranged parallel with the inner face of the wall, and a hinged outer portion having its joint arranged adjacent to the outer face of the wall and adapted to form a continuation of the transverse arm of the L-shaped portion and also to be folded against the outer face of the wall, and a fire-escape mounted on the track, designed to be normally located within a house or other building and adapted to slide along the track, whereby it may be arranged on the exterior of the building, substantially as described.

2. The combination of a substantially L-shaped track composed of a transverse arm or portion extending through a window, and a longitudinal portion located within the building and arranged parallel with the inner face of the wall, hangers or brackets supporting the track, and a fire-escape suspended from the track and adapted to slide along the same, whereby it may be quickly transferred from the interior of a building to the exterior thereof, substantially as described.

3. In a fire-escape, the combination of a casing, a spring-controlled drum mounted in the casing, a rope or cable arranged on the drum, a governor comprising a horizontal casing closed at the bottom and open at the top, a wheel provided with horizontal spokes and having a vertical spindle removably journaled on the bottom of the casing, a removable cross-bar detachably secured to the casing and provided with a bearing for the upper end of the spindle, and brake-shoes mounted on the spokes of the wheel and engaging the casing, and gearing connecting the governor with the drum, substantially as described.

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

WILLIAM SHOCKLEY PARMAN.

Witnesses:
W. T. DALTON,
J. T. BRANSCOM.