J. C. BROWN.

FIRE ESCAPE.

APPLICATION FILED AUG. 2, 1913.

1,098,223.

Patented May 26, 1914.

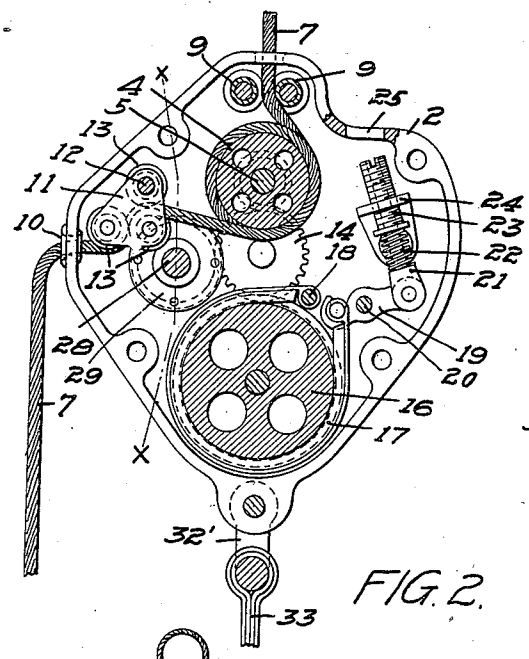


FIG. 2.

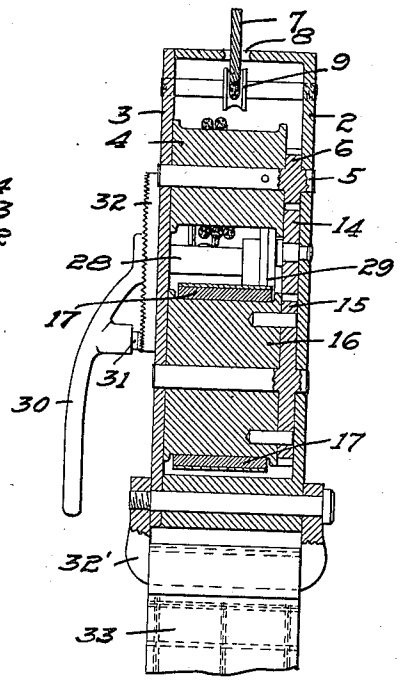


FIG. 3.

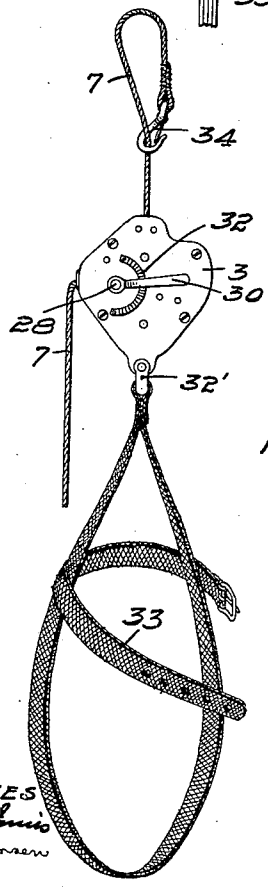


FIG. 1.

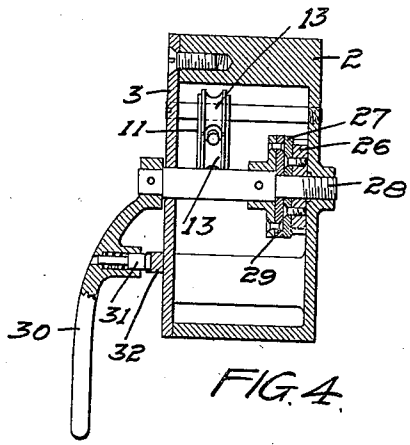


FIG. 4.

WITNESSES

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FIRE-ESCAPE.

1,098,223. Specification of Letters Patent. Patented May 26, 1914.

Application filed August 2, 1913. Serial No. 782,652.

To all whom it may concern:

Be it known that I, JOHN C. BROWN, citizen of the United States, resident of St. Paul, county of Ramsey, State of Minnesota, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

The object of my invention is to provide a portable fire escape by means of which a person can easily and quickly descend from a burning building.

A further object is to provide a fire escape having means for regulating the speed of descent or checking the descent entirely whenever desired.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a side view of a fire escape embodying my invention, Fig. 2 is a sectional view illustrating the controlling and brake mechanism, Fig. 3 is a sectional view, taken on a line substantially at right angles to the section line of Fig. 2, Fig. 4 is a sectional view on the line *x*—*x* of Fig. 2.

In the drawing, 2 represents a casing having a cover plate 3 which may be removed to allow access to the mechanism of the fire escape.

4 is a drum mounted on a shaft 5 that is journaled in the walls of the casing and provided with a pinion 6. A cable 7 passes through holes 8 and 10 in the casing and between guides 9 and is wrapped or looped around the drum 4 and hangs loosely below the casing. A frame 11 is loosely mounted on a rod 12 and has guide wheels 13 between which the cable passes, the position of the wheels in said frame causing a bend to be made in the cable and increasing its frictional contact with the guide wheels. This frame is free to slide back and forth on the rod 12 to accommodate itself to the winding or unwinding of the cable on the drum 4. The frame 11, being loosely mounted on the rod 12, is also free to oscillate thereon and as its bearing on the rod is eccentrically arranged, the tilting of the frame will tend to throw it to a greater degree out of the direct line between the drum and the cable hole in the casing and increase the friction on the cable and to a greater degree bend or kink the cable as it passes between the pulleys. An idle gear 14 is mounted to mesh with the pinion 6 and with a gear 15 on a brake drum 16 that is also journaled in the walls of the casing and is provided with a brake strap 17 pivoted at one end to a rod 18 and connected at its opposite end to a lever 19. This lever is pivoted at 20 in the casing and is provided with a threaded arm 21 upon which a compression spring 22 is mounted. A screw 23 is tapped into a lug 24 on the wall of the casing and is made to receive the end of the arm 21. A hole 25 is provided in the casing, through which a screw driver may be thrust to engage the screw 23. By adjusting this screw back and forth, the brake strap may be tightened or loosened on the brake drum and the mechanism of the fire escape set for any desired weight of the person descending.

At one side of the gear 14 is a gear 26 meshing with the gear 14 and provided with a friction surface plate 27. This gear is loosely mounted on a pin 28 tapped into the wall of the casing and provided with a friction disk 29 that is adapted to engage the plate 27 and lock the gear 26 when the pin is tightened in its socket in the casing. A lever 30 is mounted on one end of the pin 28 and a spring pressed pin 31 is mounted in said lever and adapted to slide over a toothed segment 32 on the cover 3.

By tightening or loosening the pin 28 the person descending the fire escape can easily and quickly regulate the speed of descent or stop entirely. At the lower end of the casing is a yoke 32′ to which a sling 33 is attached, the sling being preferably of such construction that the person using the fire escape will be comfortably seated in the sling and cannot become dislodged therefrom through any shock of stopping or by being overcome by the heat or smoke. The cable 7 is, of course, of sufficient length to reach to the ground and at its upper end is preferably provided with a snap hook 34 which may be passed around some article of furniture or fixture in the room to form a loop.

The device is compact and simple in construction and may be carried in a traveling bag, ready at all times for immediate use.

I claim as my invention:

1. A fire escape comprising a casing, a drum mounted therein and having a gear thereon, a cable looped around said drum

and having its ends passing through the wall of said casing, a pin tapped into the wall of said casing, a gear loosely mounted on said pin and meshing with the gear on said drum and provided with a friction surface, a friction disk secured on said pin and adapted to engage the friction surface of said gear and lock it when said pin is revolved in one direction and thereby lock said drum against revolution, said pin having an operating handle, and a rack mounted on said casing and over which said handle is movable, and a sling carried by said casing.

2. A fire escape comprising a casing having an upper and a lower opening in its walls, a drum mounted in said casing, a cable looped around said drum and having one end passing through said upper opening, a rod mounted in said casing parallel with the axis of said drum, a frame loosely and eccentrically mounted on said rod and free to slide and oscillate thereon between said drum and said lower opening, friction pulleys mounted in said frame and between which said cable passes from said lower opening to said drum, said frame sliding back and forth on said rod to guide said cable to said drum, and the pressure of said pulleys on said cable taking up the slack therein and holding it taut on said drum, a sling carried by said casing adjacent to said cable, the pull of the operator on said cable increasing the friction of said pulleys thereon and tightening the loops on said drum.

3. A fire escape comprising a casing, a drum mounted in the upper part of said casing, a cable looped on said drum and having its ends passing through holes in the wall of said casing, one end of said cable having means for attachment to a support, a brake drum, a brake strap therefor, means within said casing and connected with one end of said brake strap for tightening or loosening it on said brake drum, said drums having gears thereon, an idle gear interposed between said drums and meshing with said drum gears, a gear provided at one side of said idle gear and meshing therewith, a clutch device in connection with said last named gear, an operating handle for said clutch device on the outside of said casing, a sling carried by said casing adjacent to said operating handle, whereby the operator, having adjusted said brake strap for a predetermined weight and speed of descent, can decrease said speed or check the downward movement of said casing with said clutch device.

In witness whereof, I have hereunto set my hand this 30th day of July, 1913.

JOHN C. BROWN.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."