No. 839,974. PATENTED JAN. 1, 1907.

R. D. WARFIELD.

FIRE ESCAPE.

APPLICATION FILED APR. 18, 1906.

FIG. 1.

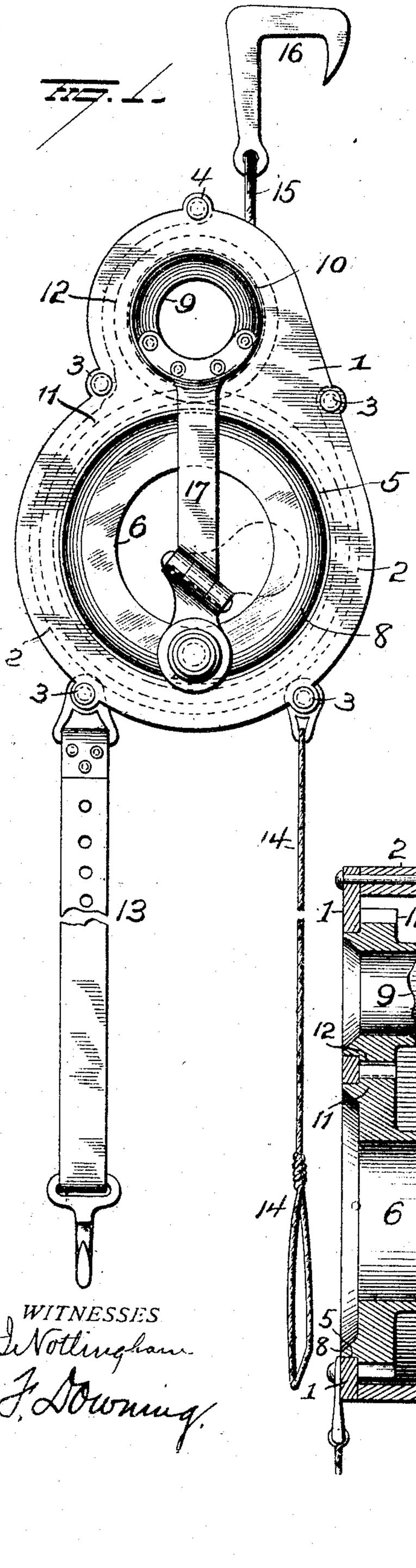


FIG. 2.

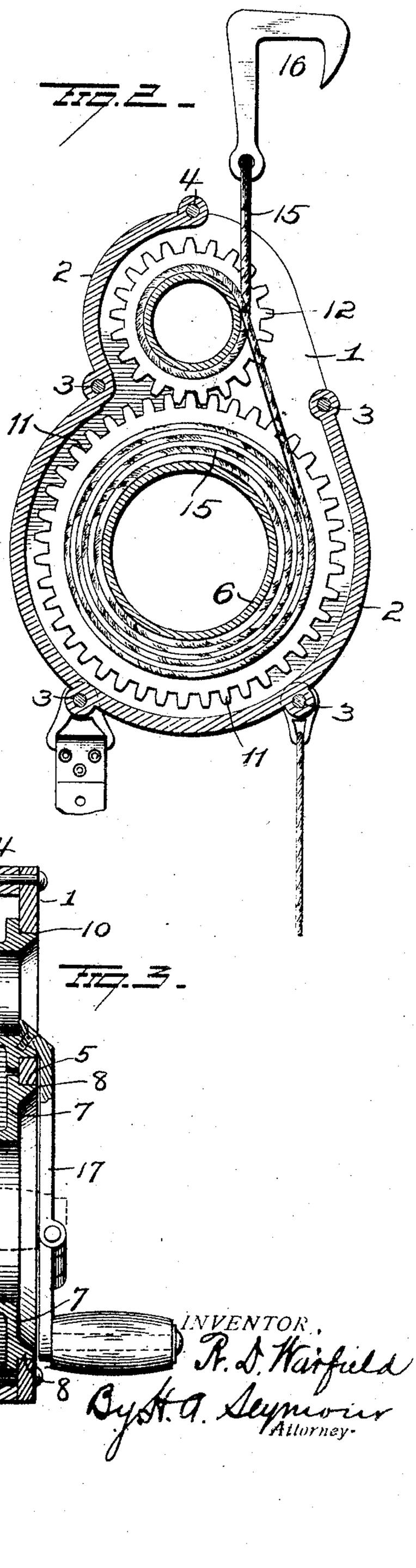
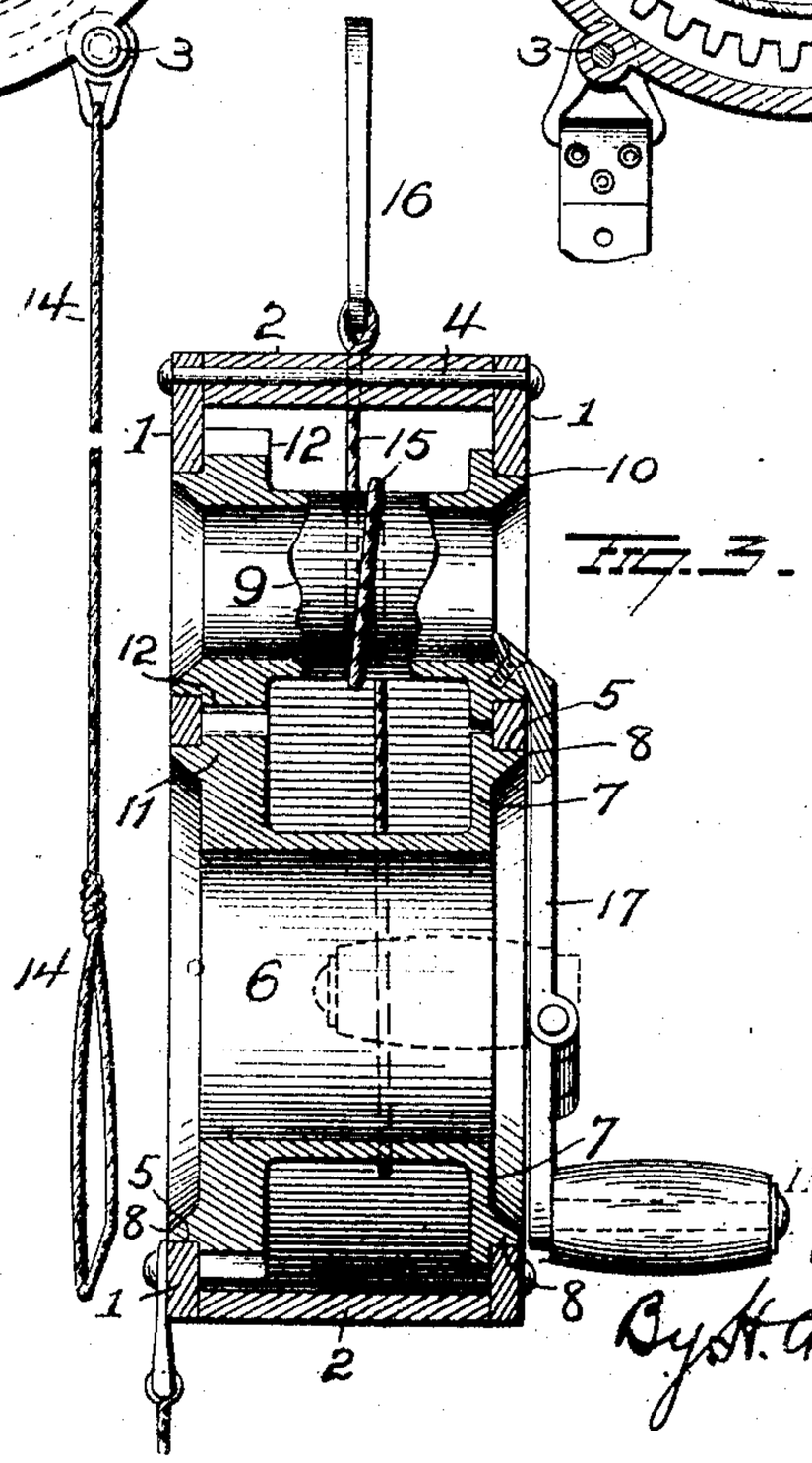


FIG. 3.



WITNESSES
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FIRE-ESCAPE.

No. 839,974. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed April 18, 1906. Serial No. 312,410.

To all whom it may concern:

Be it known that I, REUBEN DORSEY WARFIELD, a resident of Gaithersburg, in the county of Montgomery and State of Maryland, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in fire-escapes, and more particularly to such as are adapted to be attached to the body of the user for permitting him to descend from a burning building, the object of the invention being to so construct a fire-escape of the character specified that it shall be simple and so that its operation shall be completely within the control of the user.

A further object is to construct the device in such manner that it will when not in use occupy very little space and so that it can be quickly put in service.

A further object is to provide a fire-escape of the class mentioned by means of which the user can control his descent without the use of auxiliary brake mechanism.

A further object is to so construct the device that the user supported thereby can remain at any desired point above the ground without the application of any lock or auxiliary brake device, thus adapting the device for supporting a platform for artisans in painting, repairing, or performing other work on a building.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangement, of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of a fire-escape embodying my improvements. Fig. 2 is a sectional view. Fig. 3 is a sectional view at right angles to Fig. 2.

The frame of the device comprises side plates 1 1, suitably spaced apart and connected at their edges by a covering-plate 2. The parts are united rigidly by suitable bolts 3 4, passing through the side plates. The plates 1 1 of the frame are made with alined openings 5 to form bearings for a drum 6, the latter being provided with annular flanges 7 at its respective ends, and said flanges have outwardly-projecting annular shoulders 8, which constitute journals for the drum in the openings 5 of the side plates 1. A smaller drum 9 is similarly constructed and mounted in like manner in openings 10 in the side plates 1. The drum 6 is provided with a comparatively large gear-wheel 11, which meshes with a pinion 12 on the smaller drum 9. A strap 13 is connected with the frame to be passed around the body of the user, and another strap or wire 14 is attached to the frame and provided with a loop for the reception of a foot (or feet) of the user. A cable 15, preferably of wire, is wound on the larger drum 6 and securely fastened at one end thereto. The other end of this cable is wound one or more times around the smaller drum 9 in a direction opposite to that which said drum will be turned by the drum 6 when the cable is being unwound from the latter. The free end of the cable is provided with a hook 16 for attachment to a window-sill or other part of a building or an object therein. The smaller drum 9 is provided with a crank-handle 17 for operating the same, and this handle is preferably made in two parts hinged together, so that it can be folded when the device is not in use, and thus enable the device to be made compact for storage in a trunk or valise.

In using the device the hook 16 is attached to a window-sill or other object. The user will fasten the strap 13 around his body and place his foot in the loop of the wire 14. He will then let himself out of the window and by turning the smaller drum 9 by means of the crank 17 descend to the ground. As the cable 15 passes about the drum 9 in a direction opposite to the direction which said drum is caused to rotate by the gear on the drum 6, the friction between said cable and the drum 6 will be sufficient to sustain the weight of the user, so that he will not descend except when he turns the drums to permit the unwinding of the cable from the larger drum and its passage around the smaller drum. Thus it will be seen that no auxiliary brake or stop device is necessary and that the device may be employed for supporting a platform for use of artisans at work on a building.

With my improvements the speed of descent will be under complete control of the user, and should he release the crank he would merely remain suspended and would not be precipitated to the ground, as would

be the case were the user of a brake-controlled escape to unconsciously or accidentally release the brake.

My improvements are simple and compact in construction, as well as safe and accurate in operation.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details herein set forth.

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

1. In a device of the character described, the combination with a frame to descend with the user, of two drums mounted in said frame, a cable tending to unwind from one drum and wind on the other when the weight of the user is applied to the frame, and means for causing motion of one drum to effect opposite motion of the other, whereby said drums and frame will be maintained at rest, and means for positively and manually rotating said drums to cause the device and the user to descend.

2. A device of the character described, comprising a frame, two drums therein geared together, whereby the motion of one drum effects opposite motion of the other and a cable secured to and wound on one of said drums, and then passing around the other drum in a direction opposite to the direction of rotation of said last-mentioned drum, and means within reach of the user for manually rotating said drums to cause the descent of the device and the user.

3. A device of the character described, comprising a frame to descend with the user, two drums mounted in said frame, one of said drums larger than the other, gearing connecting said drums, whereby the motion of one drum effects opposite motion of the other, a cable secured to and wound on the larger drum, and then passing about the smaller drum in a direction opposite to the direction of rotation of said smaller drum, and means within reach of the user for manually rotating said drums and causing descent of the device and the user.

4. A device of the character described, comprising a frame to descend with the user, two drums mounted therein, one of said drums being larger than the other, a gear-wheel carried by the larger drum, a pinion carried by the smaller drum and meshing with said gear-wheel, means attached to the smaller drum and within reach of the user for rotating said drum to cause descent of the device, a cable secured to and wound on the larger drum and then passed about the smaller drum in a direction opposite to the direction of rotation of said smaller drum, and the free end of the cable adapted for attachment to a part from which the device can be suspended.

5. A device of the character described, comprising a frame, means for attaching said frame to the body of the user, two drums mounted in said frame and geared together, whereby the motion of one drum effects opposite motion of the other, a cable secured to and wound on one of said drums and then passing about the other drum in a direction opposite to the direction of rotation of said last-mentioned drum, an attaching device secured to the free end of said cable, and means within reach of the user for manually rotating said drums to cause descent of the device and the user.

6. A device of the character described, comprising a frame, two drums mounted therein, gearing connecting said drums, a cable on said drums, the engagement of the cable with the two drums causing said cable to tend to impart to the two drums, a motion which is opposed by said gearing, means for manually rotating said drums to cause the device to descend, and means for attaching the free end of the device to a support.

7. A device of the character described, comprising a frame having two openings in each of its sides, two drums, each having annular shoulders at its ends forming journals mounted in the openings in the frame, gearing connecting said drums, a cable secured to and wound on one drum and having frictional engagement with the other drum, the engagement of the cable with the two drums causing the cable to tend to impart to the two drums, a motion which is opposed by the gearing, means for manually operating said drums to cause the device to descend, and means for attaching the free end of the cable to a support.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

REUBEN DORSEY WARFIELD.

Witnesses:
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