July 18, 1950 W. D. WYLIE 2,515,325

EMERGENCY EXIT

Filed June 26, 1947

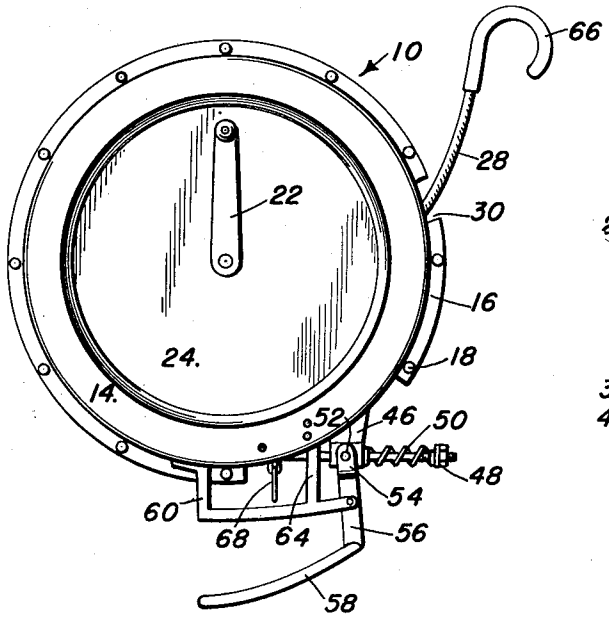


Fig. 1.

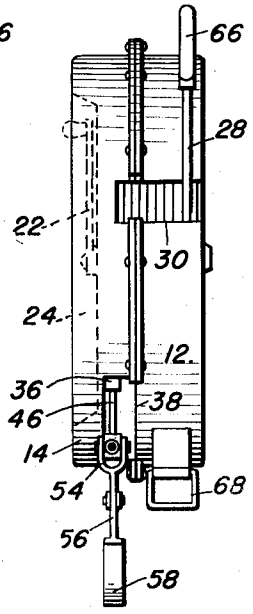


Fig. 2.

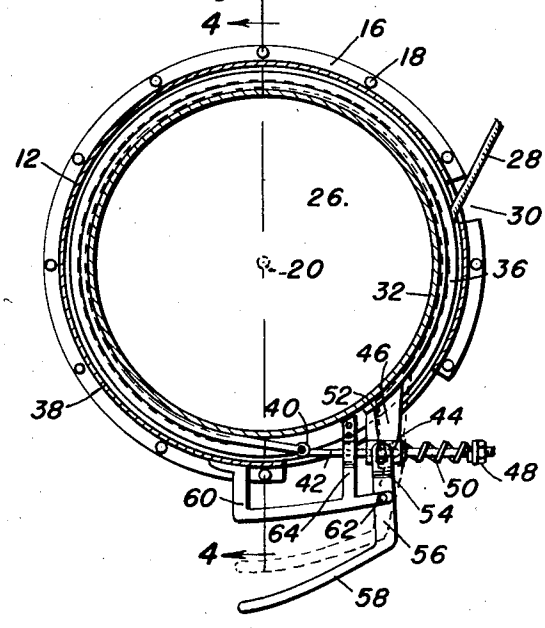


Fig. 3.

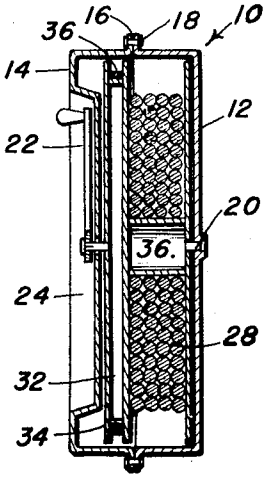


Fig. 4.

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Patented July 18, 1950 2,515,325

UNITED STATES PATENT OFFICE

2,515,325

EMERGENCY EXIT

William D. Wylie, Richmond, Calif.

Application June 26, 1947, Serial No. 757,225

2 Claims. (Cl. 254—154)

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This invention relates to new and useful improvements in emergency exits and the primary object of the present invention is to provide a portable emergency exit that is compact in construction so that the same may be conveniently stored to occupy only a small area in a suitcase or the like.

Another important object of the present invention is to provide a fire escape including novel and improved means whereby the user may effectively control the lowering of himself from an elevated structure in a safe manner.

A further object of the present invention is to provide an emergency exit embodying a brake mechanism which is quickly and readily adjusted so that the same may be used effectively for long periods of time without the danger of the same becoming worn or inoperative.

A still further aim of the present invention is to provide an emergency exit which is simple in construction, efficient and reliable in use, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the present invention;

Figure 2 is an end view of Figure 1;

Figure 3 is a longitudinal vertical sectional view taken substantially on a plane through the center of the device; and,

Figure 4 is a transverse vertical sectional view taken substantially on the plane of section line 4—4 of Figure 3.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents generally a substantially circular casing composed of a pair of disc-like members 12 and 14 oppositely disposed and having their opposing flanges 16 secured by rivets or the like 18.

Journaled between members 12 and 14 is a drive shaft 20 having one terminal portion projecting outwardly from one of the members, for example 14, to engage a crank handle 22 rotatable in a circular recess 24 provided in member 14. Fixedly mounted on shaft 20 within the casing 10, is a cable drum 26 on which is wound a safety cable 28 having its free terminal portion extending outwardly through a transverse aperture 30 provided in the casing.

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Suitably secured to the outer faces of one of the flanges of the drum 26, is a brake ring 32, the outer circular edge of which is secured to a preferably circular retaining plate 34 journaled on said shaft 20 that is of increased diameter than the ring 32.

Embracing the brake ring 32 is a split ring or arcuate brake shoe 36, the ends of which terminate adjacent an opening 38 provided in member 14 at its lower portion.

Pivotally mounted to one terminal portion of shoe 36, by a fixed pivot 40 carried by the casing, is one end of a spring supporting arm or bolt 42 on which is slidably mounted a sleeve 44. This sleeve supports, and is secured to, a sleeve or fulcrum 46 fixedly carried by the free end of the brake shoe.

Embracing bolt 42 between sleeve 44 and the adjustable nut 48 threadedly engaged on the outer end of bolt 42, is a coil spring 50 the tension of which may be adjusted by nut 48.

Pivotally mounted, as at 52, to the sleeve 46, is the bifurcated end 54 of an annular extension 56 integrally formed with handle lever 58.

Fixedly secured to member 54 is the terminal end of an angular fulcrum or fixed handle 60. The free end of this fixed handle is pivotally secured, as at 62, to extension 54.

A lever arm 64 integrally formed with handle 60 projects into openings 38 between the end of brake shoe 36 and is secured to the housing to further strengthen the handle 60.

In operation of the device, the free end of cable 28 is secured to a hook member 66 that may be engaged with a suitable supporting element (not shown), and a safety belt may be engaged with a loop member 68 carried by the casing.

The user may then lower himself by pushing upwardly on handle 58 toward handle 60. This may be effectively accomplished by gripping handles 60 and 58 and as the hand is closed the brake shoe is forced away from the brake ring so that the cable drum will rotate under the weight of the person suspended from the cable.

When the handle 58 is released, spring 50 will force sleeve 46 inwardly toward the brake ring and tend to urge the ends of the brake shoe toward each other to cause the brake shoe to bear against the brake ring and hold the drum against rotation.

Obviously by providing such a device that is normally held against rotation and must be actuated to cause a rotation, will be of great ad-

vantage in use as an emergency exit in permitting a person to efficiently and safely lower himself to a ground surface.

To rewind the cable 28, the shaft 20 is rotated by crank handle 22 which is so designed and located as not to injure or contact the person suspended from the safety belt.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the construction, operation and advantages of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a portable emergency exit including a casing, a cable drum rotatably mounted in said casing, a brake ring carried by said drum and a brake shoe embracing said ring and having first and second end portions, the second end portion of said shoe being fixed to said casing; an operating mechanism for said brake shoe comprising a support fixed to the first portion of said shoe

and having a sleeve portion, a substantially L-shaped lever having its shorter leg pivoted to said sleeve portion, a further support fixed to the casing and pivotally supporting the lever, a rod carried by the second end portion of said shoe and slidably received in said sleeve portion, said rod having a free end and an abutment on its free end, and a spring member embracing said rod and biased between said abutment and said sleeve portion to urge the end portions of said shoe toward each other in brake-applying position.

2. The combination of claim 1 wherein said further support includes a lever arm fixed to the casing and having a guide integrally formed therewith cooperating with said sleeve portion to slidably receive said rod.

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