Feb. 12, 1952 F. A. THOENNES 2,585,876

FIRE ESCAPE

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Fig. 1.

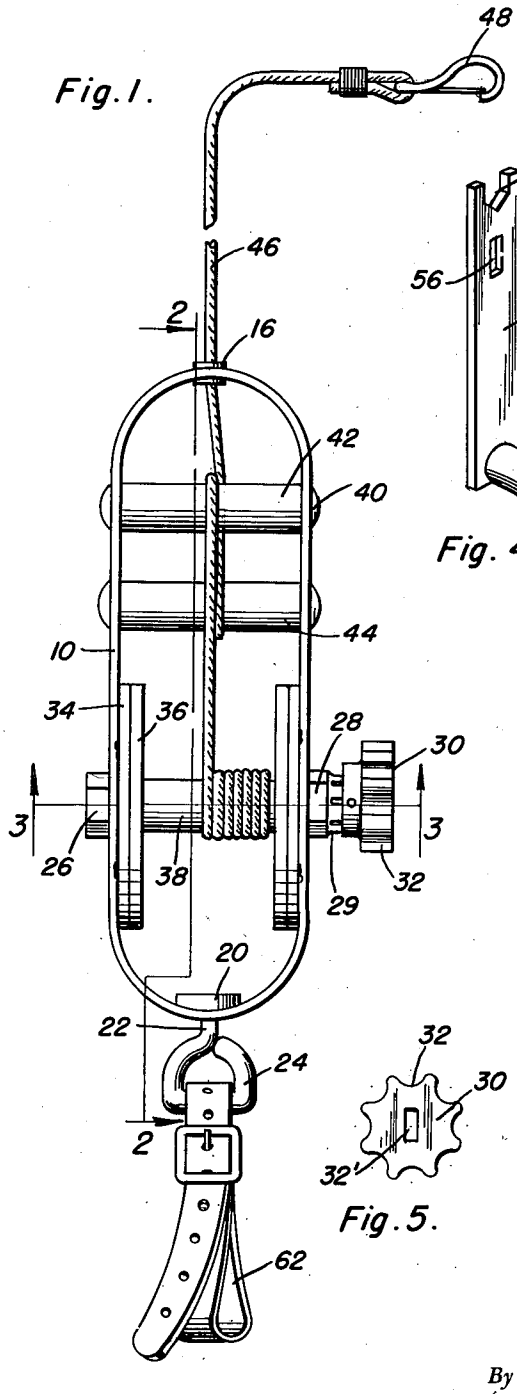
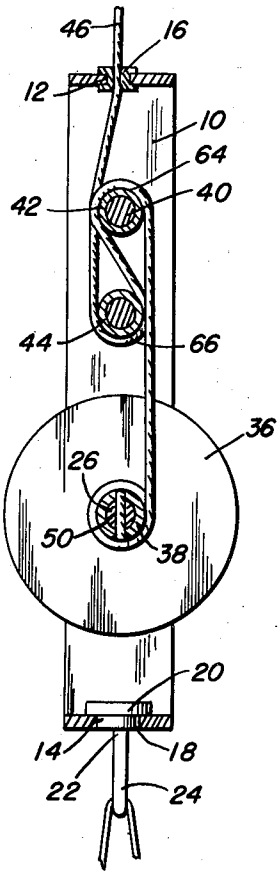


Fig. 4.

Fig. 5.

Fig. 2.



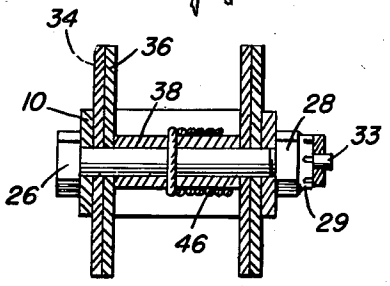


Fig. 3.

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FIRE ESCAPE

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3 Claims. (Cl. 254—154)

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This invention relates to new and useful improvements in fire escapes, and the primary object of the present invention is to provide a portable fire escape which is quickly and readily applied to a supporting structure such as a building or the like, so that a person may quickly and safely lower himself from the building to the ground.

Another important object of the present invention is to provide a fire escape including a pair of rollers and a safety cable so interlaced or snubbed with the rollers as to cause an even unwinding of the cable when a person is lowered thereby.

A further object of the present invention is to provide a fire escape, all parts of which are quickly and readily disassembled facilitating convenient packing of the same into a relatively small area container.

A still further aim of the present invention is to provide a fire escape that is simple and practical in construction, strong and efficient 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 an elevational view of the present fire escape, and with parts of the safety line broken away and shown in section;

Figure 2 is a longitudinal vertical sectional view taken substantially on the plane of section line 2—2 of Figure 1;

Figure 3 is a transverse horizontal sectional view taken substantially on the plane of section line 3—3 of Figure 1;

Figure 4 is a perspective view of the cable drum rewinding handle; and

Figure 5 is an elevational view of the cable drum rewinding means in slightly modified form.

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 a closed substantially O-shaped frame of suitable metallic construction provided with apertures 12 and 14 at each end that respectively engage a resilient guide sleeve 16 and the reduced bevelled portion 18 of a retaining plate 20. Rigidly secured to portion 18 is the shank portion 22 of a hook member 24.

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Extending transversely between the frame 10, is a removable and rotatable shaft or bolt 26 provided with an adjustable jam nut 28 and a castle nut 29 at one end that retains the shaft 26 in position to the frame. A removable finger receiving knob 30 having an undulated circumferential edge 32 and a rectangular aperture 32' is removably secured to the reduced substantially rectangular end 33 of the shaft 26 for manual rotation of the shaft.

Rigidly secured by welding or the like to the inner periphery of the frame 10 and loosely embracing the shaft 26, is a pair of spaced parallel wear plates 34 that frictionally bear against the outer faces of flanges 36 of a cable drum 38 mounted on shaft 26.

Pivotally mounted on rivets or the like 40 carried by the frame 10, is an upper roller 42 and a lower roller 44.

Extending downwardly through the sleeve 16 is a safety cable 46 having a spring locking catch 48 rigidly secured to one end. The opposite end of the cable 46 extends against the outer periphery of the rollers 42 and 44, is looped around the lower roller, inclined upwardly, looped around the upper roller, extends about the cable drum 38 and then engages a transverse recess 50 provided in both the cable drum and shaft 26.

By rotating the knob 30, the cable may be spirally wound upon the cable drum.

Figure 4 shows the rewinding means for the cable drum in slightly modified form. In this embodiment, the numeral 52 represents a flat substantially rectangular plate provided with a substantially semi-hexagonal opening 54 at one terminal that is engageable with the nut 28 and with a rectangular aperture 56 that is engageable with the reduced substantially rectangular end 33 of the shaft 26 for rotating the shaft. A hand grip 60 is rigidly mounted on the plate 52 facilitating the convenient rotation of same.

In practical use of the device, the catch 48 is secured to a suitable supporting structure of a building or the like, and an adjustable waist belt 62 carried by the hook member is applied about a user's waist. When the user steps out of a window or the like, the snubbing action of the cable with the rollers 42 and 44 will tend to cause an even uniform unwinding of the cable upon the cable drum.

It should be noted, that the weight of the user will cause a tension to be present in the cable, so that at the numerals 64 and 66, indicated on the rollers 42 and 44, there will be the frictional pres-

sure of the cable upon the periphery of the roller to add to the even unwinding of the cable.

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. A fire escape comprising an elongated oblong frame including a pair of spaced parallel vertical side walls and upper and lower curved end walls joining the side walls, upper and lower horizontal rivets terminally attached to said side walls, upper and lower rollers on said rivets, said rollers being disposed between said side walls, a horizontal shaft underlying said rollers and extending through said side walls, a cable drum mounted on said shaft for rotation therewith, said upper end wall having a vertical aperture therein, a resilient guide sleeve mounted in said aperture, said drum and said shaft having transverse registering openings therein, a cable extending downwardly through the guide sleeve past both rollers, said cable extending under the lower roller and over the upper roller and being received in said openings, a finger grip attached to one end of said shaft to permit manual rotation of the shaft, and a jam nut threaded on the shaft for engaging one of the side walls.

2. A fire escape comprising an elongated oblong frame including a pair of spaced parallel vertical side walls and upper and lower curved end walls joining the side walls, upper and lower horizontal rivets terminally attached to said side walls, upper and lower rollers on said rivets, said rollers being disposed between said side walls, a head bolt extending horizontally through both side walls and underlying said rollers, a cable drum including a hollow body having end flanges, said body receiving the shaft, wear plates fixed to the inner faces of said side walls in registry with the end flanges of said drum, said body and said bolt having registering transverse openings, said upper end wall having a vertical aperture, a resilient guide sleeve in said aperture, a cable extending downwardly through said sleeve and being looped about the lower roller and the upper roller and having an end mounted in said openings to hold the cable drum stationary on the bolt, a hand grip secured to one end of said bolt to permit manual rotation of said bolt and said drum, a jam nut threaded on said bolt for engaging one of said side walls, and a ring like member depending from the lower end wall and rotatably supported by the lower end wall and adapted to be engaged by a waist belt.

3. A fire escape comprising an elongated oblong frame including a pair of spaced parallel vertical side walls and upper and lower curved end walls joining the side walls, upper and lower horizontal rivets terminally attached to said side walls, upper and lower rollers on said rivets, said rollers being disposed between said side walls, a head bolt extending horizontally through both side walls and underlying said rollers, a cable drum including a hollow body having end flanges, said body receiving the shaft, wear plates fixed to the inner faces of said side walls in registry with the end flanges of said drum, said body and said bolt having registering transverse openings, said upper end wall having a vertical aperture, a resilient guide sleeve in said aperture, a cable extending downwardly through said sleeve and being looped about the lower roller and the upper roller and having an end mounted in said openings to hold the cable drum stationary on the bolt, a hand grip secured to one end of said bolt to permit manual rotation of said bolt and said drum, and a jam nut threaded on said bolt for engaging one of said side walls.

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