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Wilkins

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[54] **VEHICLE FOR EVACUATING BUILDINGS**

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[52] **U.S. Cl.** **182/6,** 182/73

[51] **Int. Cl.** **A62b 1/02**

[58] **Field of Search** 182/70, 71, 72, 73, 74, 182/75, 7, 6, 5, 142; 254/151

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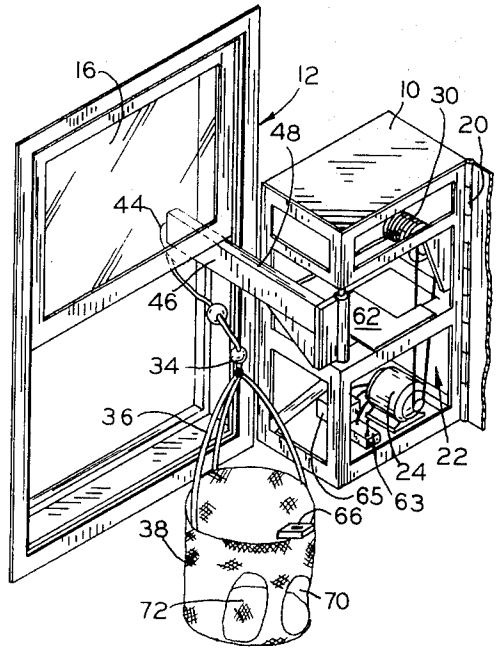
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[57] **ABSTRACT**

A cabinet disposed adjacent the window of a buliding includes an arm which swings outwardly from the cabinet and through a window. A storage reel has a cable or other suitable line wound on the reel and a carriage is suspended from the arm and constructed so that an occupant can be received within the carriage and lowered to safety either to a lower level of the building or to ground level.

6 Claims, 6 Drawing Figures



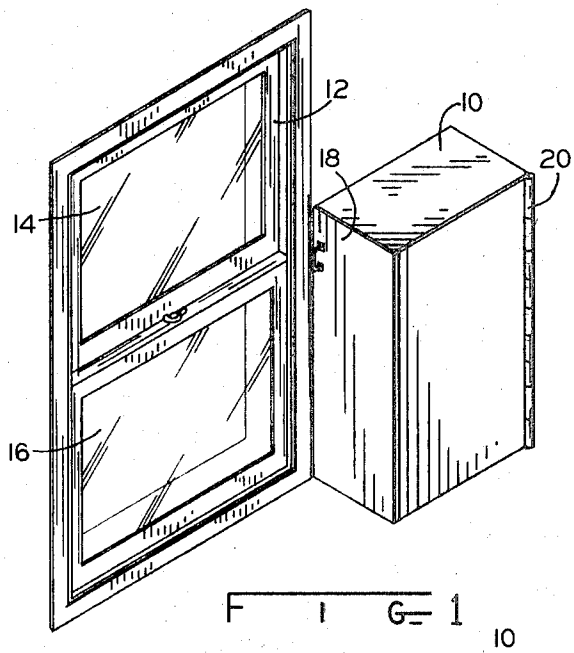


FIG. 1

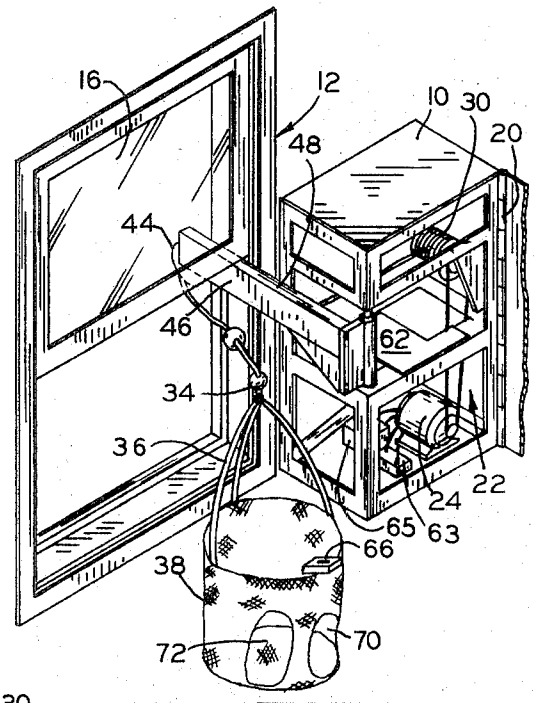


FIG. 2

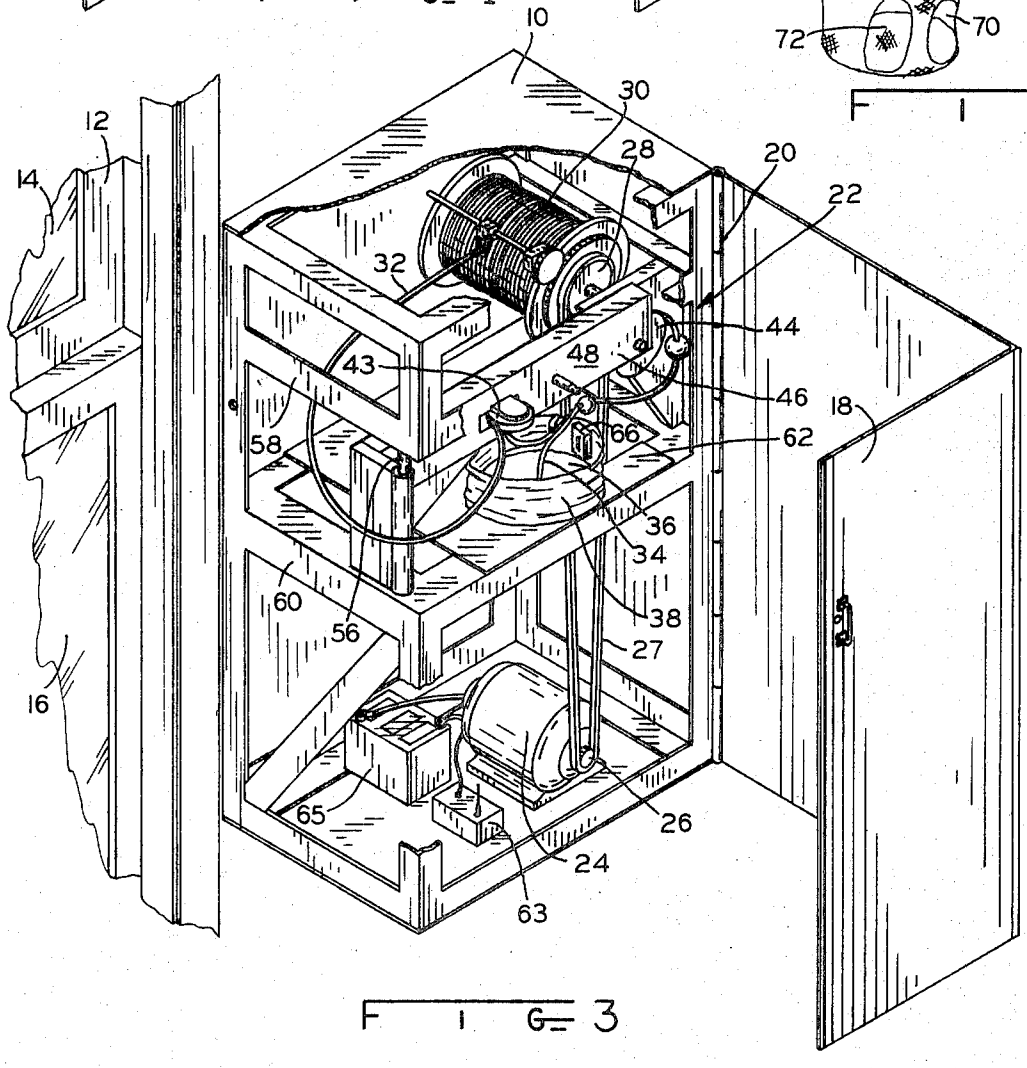


FIG. 3

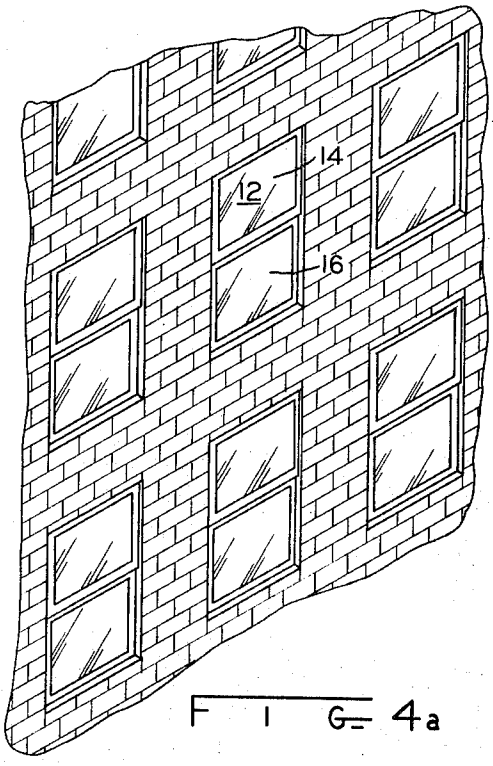


FIG 4a

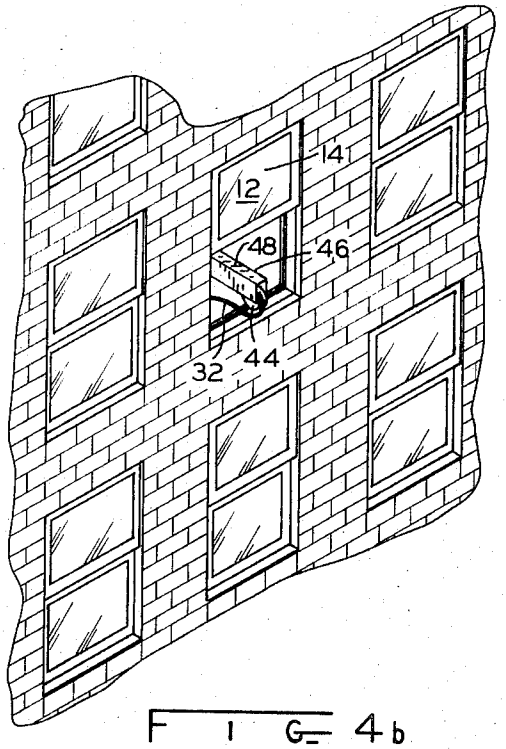


FIG 4b

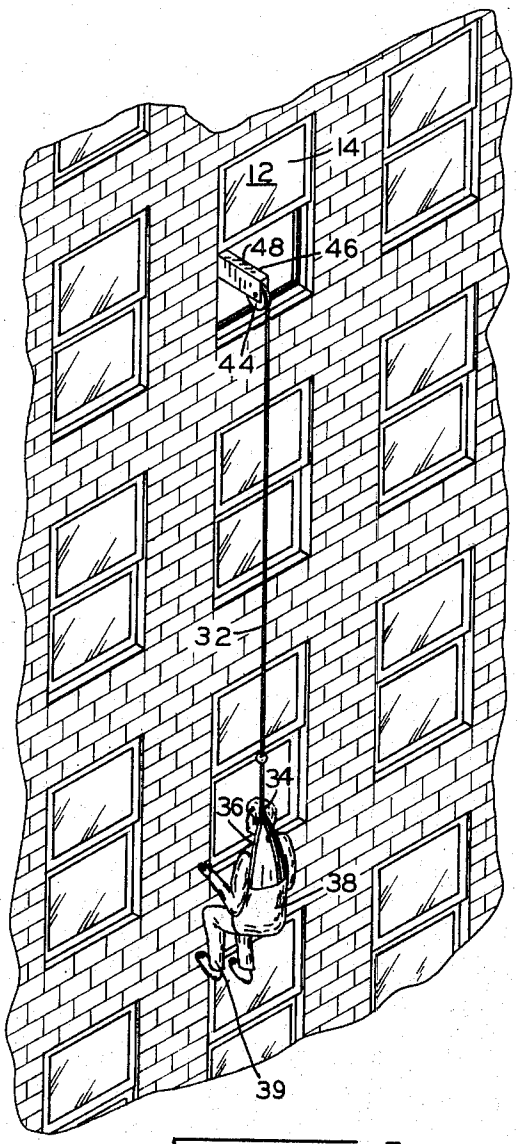


FIG 5

VEHICLE FOR EVACUATING BUILDINGS

BACKGROUND OF THE INVENTION

In high-rise apartments and office buildings internal fire escape routes are provided but absent this means, there is no practical way for occupants to evacuate a building and escape from fire hazards. This has presented a substantial problem on how to provide a degree of safety to the building occupants so that they can safely and effectively escape such hazards as fire without undue exposure to fire and smoke inhalation. At the present time, the only safety afforded the occupants is to attempt to construct the building in as fireproof a manner as possible and provide escape routes which are internally of the building; unfortunately, these expedients have not proved adequate as many recent events have graphically illustrated the inadequacies of existing building practices which are in accordance with accepted building codes and building practices.

Since there is no practical present way of building an external fire escape for a large high-rise apartment and business buildings other means must be devised and that is the purpose of the present invention to fill the need whereby the occupants from high-rise buildings can safely and effectively escape from hazards such as fires and smoke inhalation by an external escape means.

OBJECTS OF THE INVENTION

It is a principal object of the present invention to provide a fire escape means in the form of an equipment stored within a fireproof or fire resistant cabinet and includes a descent mechanism including a vehicle or capsule suspended by descent mechanism and wherein the occupant can insert himself and descend through a window to a lower level of the building or to ground level.

Another object of the present invention is to provide a means for descending externally of the building to a safer location by a lowering or descent mechanism which is normally stored in a relatively inconspicuous manner when not in use.

A further object of the present invention is to provide a novel, inexpensive and yet reliable means for escape from hazards which may arise within multiple story buildings where escape may become essential.

Other objects and features of the invention will become apparent from a consideration of the following description which proceeds with reference to the accompanying drawings.

DRAWINGS

FIG. 1 is an interior view of the building showing the cabinet adjacent a window;

FIG. 2 illustrates the raised window with the arm which is normally received within the cabinet, extended so that an end thereof projects out of the open window and the vehicle or conveyance means is removed from the cabinet for an occupant;

FIG. 3 is an enlarged detail view of the interior of the cabinet;

FIG. 4*a* is an exterior view of the building equipped with the invention;

FIG. 4*b* illustrates the same view as 4*a* but with one of the arms projecting from a window; and,

FIG. 5 is a view showing the escape procedure whereby the person in the vehicle is being lowered from a window by means of the present invention to a safer lower location at either a lower story or ground level.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings, a cabinet **10** is disposed adjacent a window **12** having an upper sash **14** and a raisable lower sash **16.** The cabinet **10** has a door **18** mounted on hinges **20,** door **18** being closed as indicated in Flg. **1** and opened as indicated in FIG. **3.**

Escape mechanism indicated within the cabinet **10** is designated generally by reference numeral **22** and includes a motor **24** with a power takeoff pulley **26** and belt **27** (FIG. **3**) which contacts a pulley wheel **28** of a reel **30** having winding of cable **32** with end **34** (FIG. **2**) secured to a harness **36** secured to collapsible container **38.** The combination serves as a vehicle wherein an occupant **39** (FIG. **5**) can be seated in the manner indicated and lowered to a safer location. The cable **32** is passed over an intermediate pulley **43** and a second pulley **44** at end **46** of an extendable arm **48** which swings from retracted position (FIG. **3**) to extended position (FIGS. **2, 4** and **5**) the swinging from retracted to extended positions being on hinge pin **56** which is mounted between horizontal bars **58** and **60** within compartment **62** of the cabinet **10.** Motor **26** may be remotely controlled by a control **63** which is operative from a control box **66** operatable by the occupant of container **38** in order that the speed and direction of the cable winding and unwinding on the reel **30** can be safely determined. A battery **65** serves to drive the motor **24.** The arm **48** in addition to being a solid number is also contemplated to be a telescoping member, or an articulated member with joints intermediate the ends thereof in order to be received within the confines of the compartment **62,** all of these variations being within the scope of the present invention.

Another expedient which is contemplated by the present invention is the provision of a metallic as well as a fabric container **38** and means for receiving the occupant other than the use of openings **70, 72** through which the legs of the occupant are received. For example, the conveyance **38** can be a plastic, metal or other composition material and can be rigid or collapsible according to design requirements. Moreover, the conveyance can include cushioning means for protecting the occupant against collisions with the side of the building during the raising and lowering operations.

The invention is provided so that escape from one level to a lower level can be either through the entirety of the distance from the upper levels to ground floor or a certain one level to the next lower level and there, by reversing the direction of the winding reels travel from one level to the next. For example, the occupants of floor **35** can travel through **7, 8** or **10** story increments to the next lower level and there use the conveyance at that level and in this manner the entirety of the building can be evacuated by successive use of the escape mechanisms.

Also, it is contemplated that by use of high tensile strength lightweight plastic materials such as nylon, polyethylene and the like which possess a very high degree of tensile force but which are relatively thin cross section, substantial quantities of such material can be stored on the reel **30** so that a single conveyance means

can effectively lower an occupant through a substantially vertical distance well within the height of most high-rise apartment and business office buildings. Both of these mentioned expedients are intended to be within the teaching of the present invention.

Although the present invention has been illustrated and described in connection with a single example embodiment it will be understood that this is illustrative of the invention and is by no means restricted thereof. It is reasonably to be expected that those skilled in the art can make numerous revisions and adaptations of the invention and it is intended that such revisions and adaptations will be included within the scope of the following claims as equivalents of the invention.

What I claim is:

1. A vehicle for escape from multi-storied buildings during emergencies, comprising a moveable cabinet disposed adjacent to and at one side of an outer window of a building to provide free egress therefrom, a pivotal arm operatively secured to and pivotable on a vertical axis connected with said cabinet and moveable from a retracted position within said cabinet to a second position extending out of but in non-contacting relationship with said window, a storage drum within said cabinet having an elongated support line received on said drum, means forming a part of said pivotal arm and adapted for receiving said elongated support line and providing for movement from said drum through said means to effect free vertical movement in a downward direction through said window, a carriage secured to said line and adapted to be lowered with an occupant therein from the vertical position of said cabinet to ground level, motor means operatively combined with said storage drum for effecting winding and unwinding movements thereof whereby the occupant is selectively raised or lowered, and remotely operable control means for said motor means to control the raising and lowering movements of said carriage together with the occupant therein.

2. The vehicle construction in accordance with claim **1** inclusing a cover, pivotably mounted on said cabinet and moveable independently of said arm to completely enclose the contents of said cabinet including the are in its retracted position.

3. The vehicle construction in accordance with claim **1** wherein said carriage is comprised of a foldable fabric composition member having side walls adapted to receive an occupant securely therein, and openings through which the occupant's legs can extend whereby the occupant of said carriage can be safely carried therein.

4. The vehicle construction in accordance with claim **1** including means for locking said arm in an extended position and while it is projecting through said window during raising and lowering movements.

5. The vehicle construction in accordance with claim **4** including pulley means disposed at the outer end of said pivoted arm and serving as an antifriction means whereby said support line is movable from the storage drum and through said pulley means to provide lowering of said carriage and occupant therein.

6. The vehicle construction in accordance with claim **1** wherein said cabinet is constructed of a fire resistent composition material.

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