March 13, 1951 G. W. PHELAN 2,544,964

PORTABLE INDIVIDUAL FIRE ESCAPE

Filed Jan. 15, 1947 2 Sheets-Sheet 1

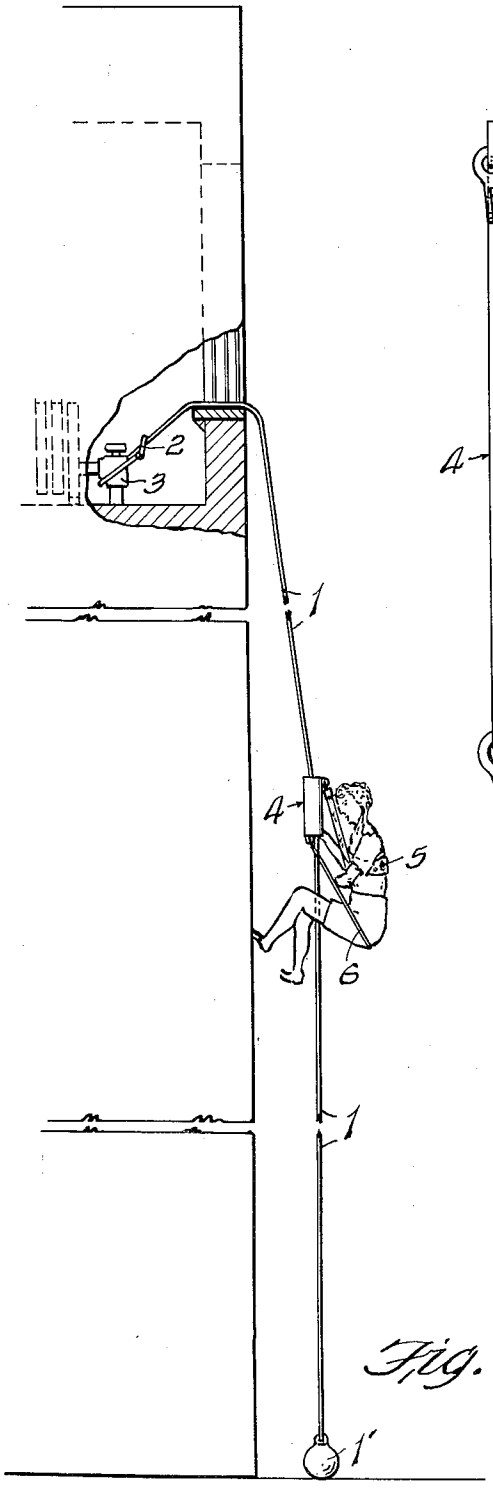


Fig. 1.

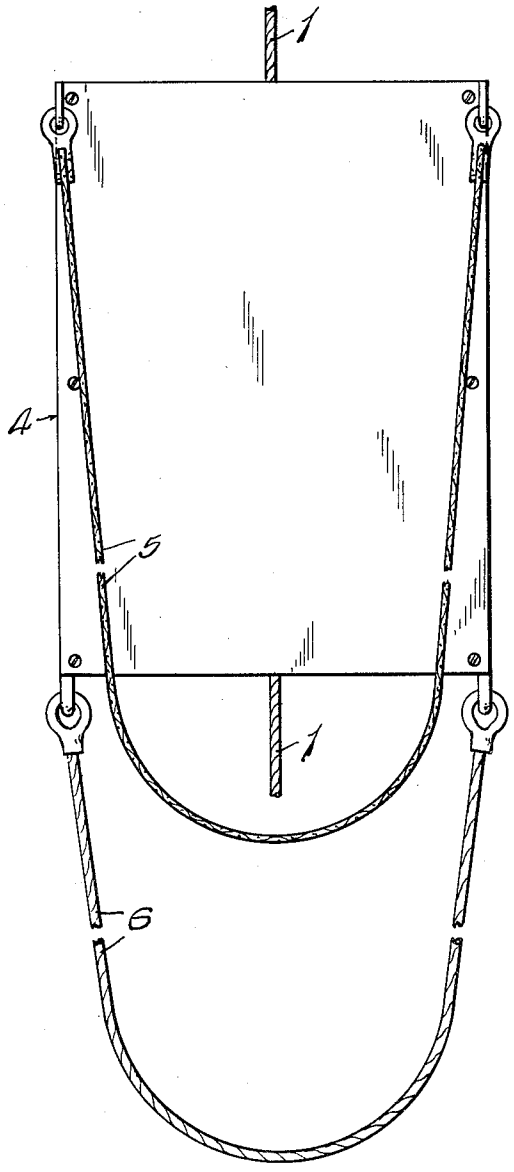


Fig. 2.

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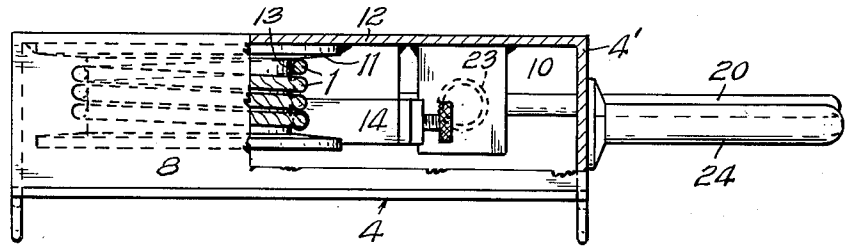


Fig. 3.

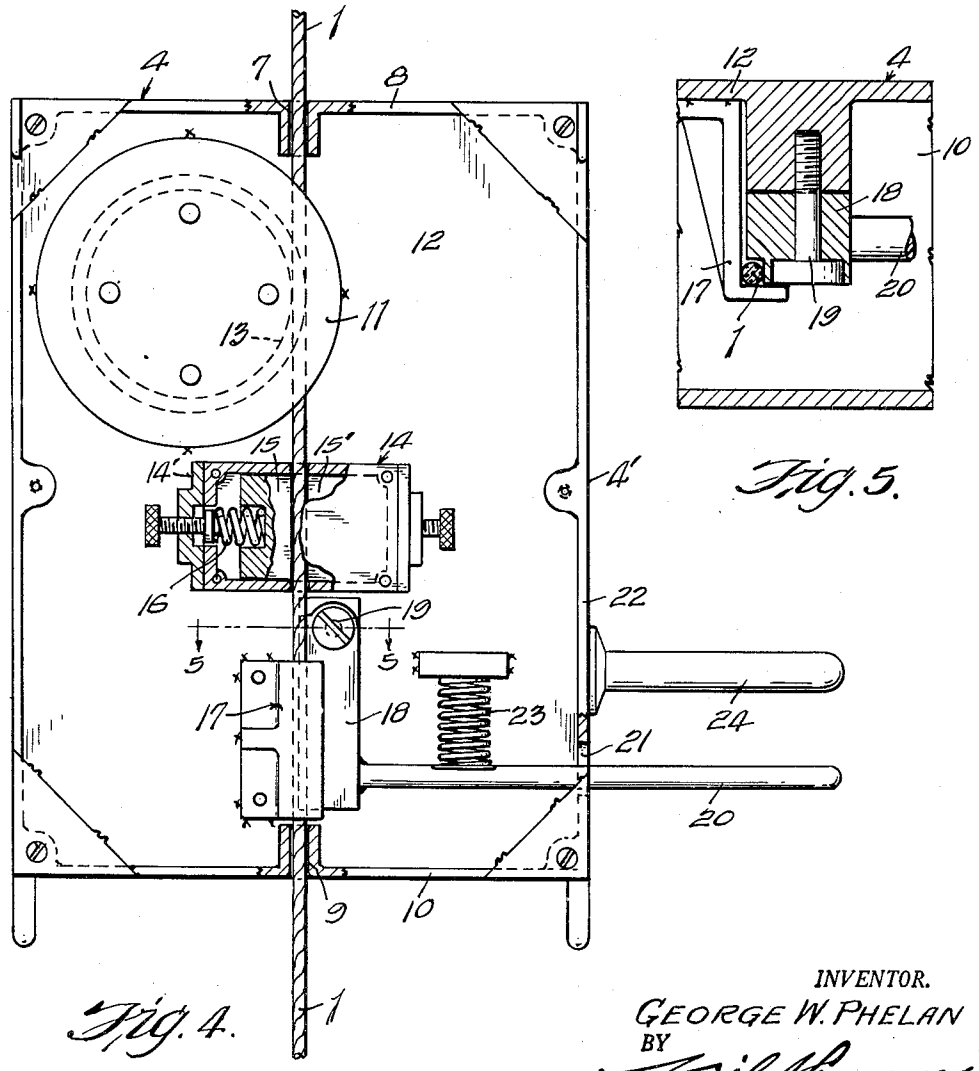


Fig. 4.

Fig. 5.

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PORTABLE INDIVIDUAL FIRE ESCAPE

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Application January 15, 1947, Serial No. 722,165

1 Claim. (Cl. 227—34)

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This invention relates to portable fire escapes.

The primary object of my invention is to provide a portable fire escape for an individual man, woman, or child to safely escape by descending from an open window of a room on any floor of a burning building to the ground below the window.

A further object of the invention is to provide an individual portable fire escape, which is light in weight, strong and durable in construction, economical in cost of manufacture, safe and positive in the operation thereof by either a man, woman, or child, regardless of the distance of descent, one which can be stopped at will at any elevation between the elevated open window and the ground therebelow, and which is highly efficient for the purpose intended.

A further object is the provision of a portable fire escape of a single cable type that will safely descend a person in a sitting position from a window of a burning building to the ground therebelow.

A further object of the invention is the provision of a portable fire escape to overcome certain practical objections to, and defects in, fire escapes of the present known types.

The embodiment of the invention hereindisclosed is merely illustrative and may be modified and departed from in various ways without departing from the spirit and scope of the invention, as pointed out hereinafter, and limited solely by the appended claim.

Other objects and advantages of the invention will be apparent from the foregoing description, when taken in connection with the accompanying drawings, which illustrate a device embodying the features of my invention.

Referring to the drawings:

Fig. 1 is a view showing my invention in use.

Fig. 2 is a front elevation of the device with portions of the supporting line broken away.

Fig. 3 is a top plan view of the carrier.

Fig. 4 is a front elevation of the device embodying the features of my invention, portions of the supporting line being broken away.

Fig. 5 is a detail taken on line 5—5 of Fig. 3, showing the positive braking or locking mechanism.

In carrying out my invention, I employ a supporting line, preferably, although not necessarily, in the form of a flexible wire cable 1, of a desired diameter and length. In one embodiment of the invention, a suitable fastening device 2 is suitably secured to one end of the supporting line 1, which fastening device can be connected to the

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line 1 adjacent the end thereof to provide a slip loop for detachably connecting the upper end of the supporting line 1 to a fixed support 3 in the room of a building. The remainder of the supporting line 1 is adapted to be passed out of a window in the room and the length of the supporting line 1 should be sufficient to at least reach the ground below the window. The lower end of the supporting line 1 may be provided with a suitable weight to bring the line down to the ground, and, the lower end of the line 1 can be held by any person on the ground, to more or less anchor it at its lower end, or, if there is no one on the ground below the window available, the line 1 will hang in a suspended position from the window of the building.

In further carrying out the invention, I employ a carrier designated, generally, as 4. The carrier 4 is provided with a suitable shoulder strap 5 and a suitable saddle 6. The shoulder strap 5 is to be used for passing around the body of a person, under his, or her arms, and the saddle 6 is designed for the escaping person to be able to descend from the room to the ground therebelow in a sitting position on the saddle, for safety's sake, to prevent any possible chance of the person descending from being separated from the carrier from fear, or otherwise.

The carrier 4, in one embodiment thereof, comprises, although not necessarily so, a suitable casing 4' having a suitable supporting line guide passage, or opening 7 in the upper walls 8 thereof, and, a supporting line guide passage, or opening 9 in the lower wall 10 thereof.

A suitable stationary sheave 11 is arranged on the wall 12 of the casing 4' with one side of the line engaging surface 13 of the sheave 11 intermediate the line receiving passages, or openings 7 and 9.

A suitable split brake designated, generally as 14, is arranged immediately below the sheave 11. The split brake 14 comprises two suitable brake members 15 and 15' which are spaced apart and which are spring controlled, as at 16, to exert a predetermined constant pressure against opposite sides of the supporting line 1 disposed therebetween when the carrier 4 is descending on the supporting line 1. The split brake is designed to control the speed of descent of the carrier 4 and the person supported thereby.

A suitable stationary brake shoe 17 having a right angular line engaging surface is arranged adjacent the lower end of the split brake and supported by the carrier casing wall 12 so as to engage, or contact one side of the supporting line

1 below the split brake 14 and adjacent the supporting line passage, or opening 9.

A suitable brake shoe 18 having a right angular line engaging surface, constituting with the stationary brake shoe 17, a positive brake, is arranged in opposite spaced relation to the stationary brake shoe 17. The brake shoe 18 is pivoted at its upper end to the casing, as at 19. The brake shoe 18 is normally adapted to engage the side of the supporting line 1 opposite that which the stationary shoe member 17 engages. A suitable lever arm, or trigger mechanism 20 is secured to and projects laterally from the free lower end portion of the pivoted brake shoe 18 and it passes through a suitable slot 21 in the side wall 22 of the carrier casing 4' so as to be easily grasped and actuated by one hand of the person supported by the carrier 4 and descending therewith on the supporting line 1. To release the pivoted brake shoe pressure against the line 1 to start descending movement of the carrier 4, the person supported by the carrier actuates the lever arm, or trigger member 20. The lever arm, or trigger member 20 is moved, when hand released, into its closed, or locking position against the supporting line 1 by means of a suitably arranged spring 23, or equivalent means, so as to spring control the pivoted brake shoe 18 in one direction only, and to lock the carrier 4 against descending movement on the supporting line 1 at any elevation from the ground desired, and for any reason whatsoever such, for instance, to avoid passing through a flame below the carrier, or to await help from members of the fire department for advice to make a safe landing.

A suitable hand grip 24 may be arranged adjacent the lever arm, or trigger member 20 to facilitate operation of the pivoted brake shoe 18.

It will be clearly apparent from the foregoing description that a person strapped to the carrier 4 can step safely out of an open window in a room on any floor in a burning building, and upon, releasing the pivoted brake shoe 18 from pressure against the supporting line 1, the carrier 4, with its load, will immediately begin to descend from the window on the supporting line 1 at a controlled speed, due to the spring controlled split brake 14 exerting control pressure against the supporting line 1, and, if it is desired to add any greater braking pressure against the supporting line 1, the pivoted brake shoe 18 can be manually controlled by the person descending with the carrier, and, if it is desired to stop descent of the carrier 4 at any desired elevation from the ground, after leaving the window, the person descending with the carrier merely releases his, or her finger pressure against the lever arm, or trigger member 20, which will cause the pivoted brake shoe 18 to firmly grip the supporting line 1 and stop further descending movement of the carrier on the supporting line 1.

When it is again desired to start descending

movement of the carrier 4 on the supporting line 1, the person descending with the carrier merely releases the pressure of the pivoted brake shoe 18 against the supporting line 1 by actuating the lever arm, or trigger member 20.

It will be apparent from the foregoing description, that a portable fire escape of the individual type is provided that can be easily packed in a suitcase and conveniently carried by one when travelling, that one end of the supporting line can be quickly attached to a stationary support in a room and the device made ready for use in case of a fire, or other emergency. Further, it is apparent that the device can be used as standard equipment placed in each room of a hotel, or other building, for use by guests or by working men and women.

The many advantages of the herein described invention will readily suggest themselves to those skilled in the art to which the invention appertains.

What I claim is:

In a portable fire escape having an escape line and a carrier for descent on the line, of a pair of spaced apart spring controlled line engaging brake shoes contained within the carrier below a stationary sheave around which the escape line is wound several times to exert constant predetermined pressure on opposite sides of the escape line to control the speed of descent of the carrier and its load on the escape line, a stationary brake shoe having a right angular escape line engaging surface secured to and within the carrier, a pivot pin secured to the carrier above and to one side of the stationary shoe, an arcuately movable brake shoe having a right angular line engaging surface depending from the pivot pin and positioned adjacent the stationary shoe, a lever arm projecting from the lower end of the movable brake shoe and extending through an opening in the carrier, a hand grip secured to the carrier to lie above the outer end of the lever arm and in spaced relation thereto, and a spring within the carrier adapted to exert constant pressure on the lever arm which is released only by upward pull on the lever arm to allow descent of the carrier and its load on the escape line.

GEORGE W. PHELAN.

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