Oct. 1, 1968 J. POMAGALSKI 3,403,750

RESCUE DEVICE

Filed Jan. 9, 1967 3 Sheets-Sheet 1

Fig. 1

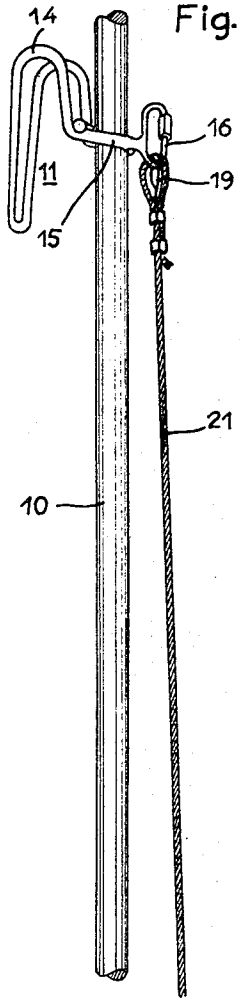


Fig. 2

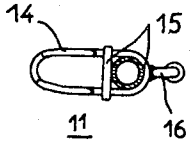


Fig. 3

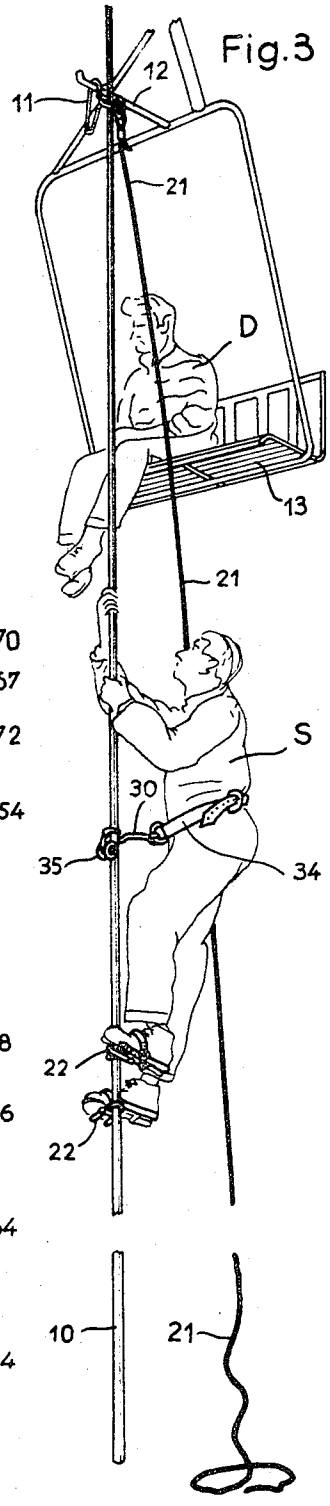


Fig. 4

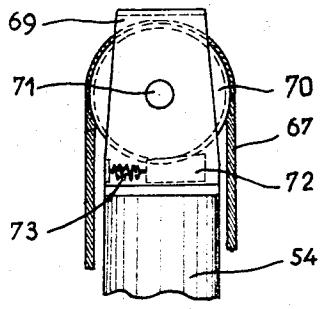


Fig. 5

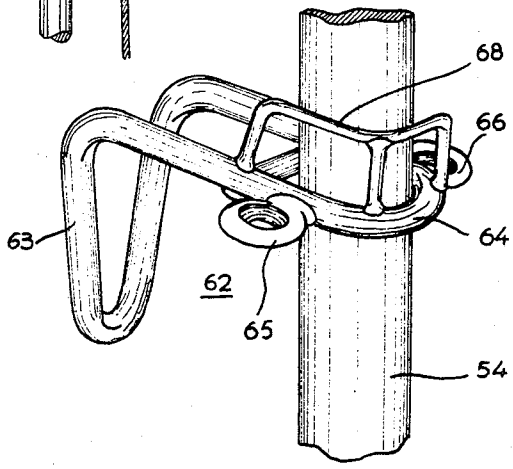
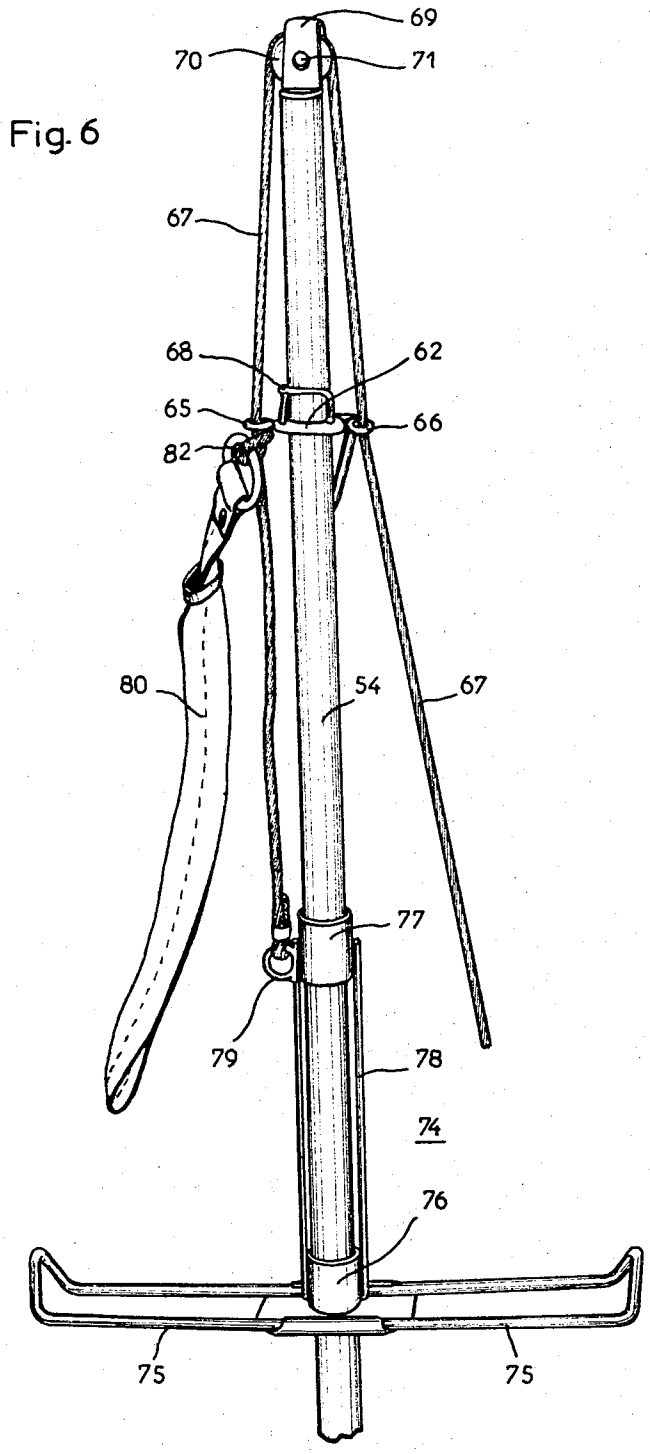


Fig. 6



Oct. 1, 1968 J. POMAGALSKI 3,403,750

RESCUE DEVICE

Filed Jan. 9, 1967 3 Sheets-Sheet 3

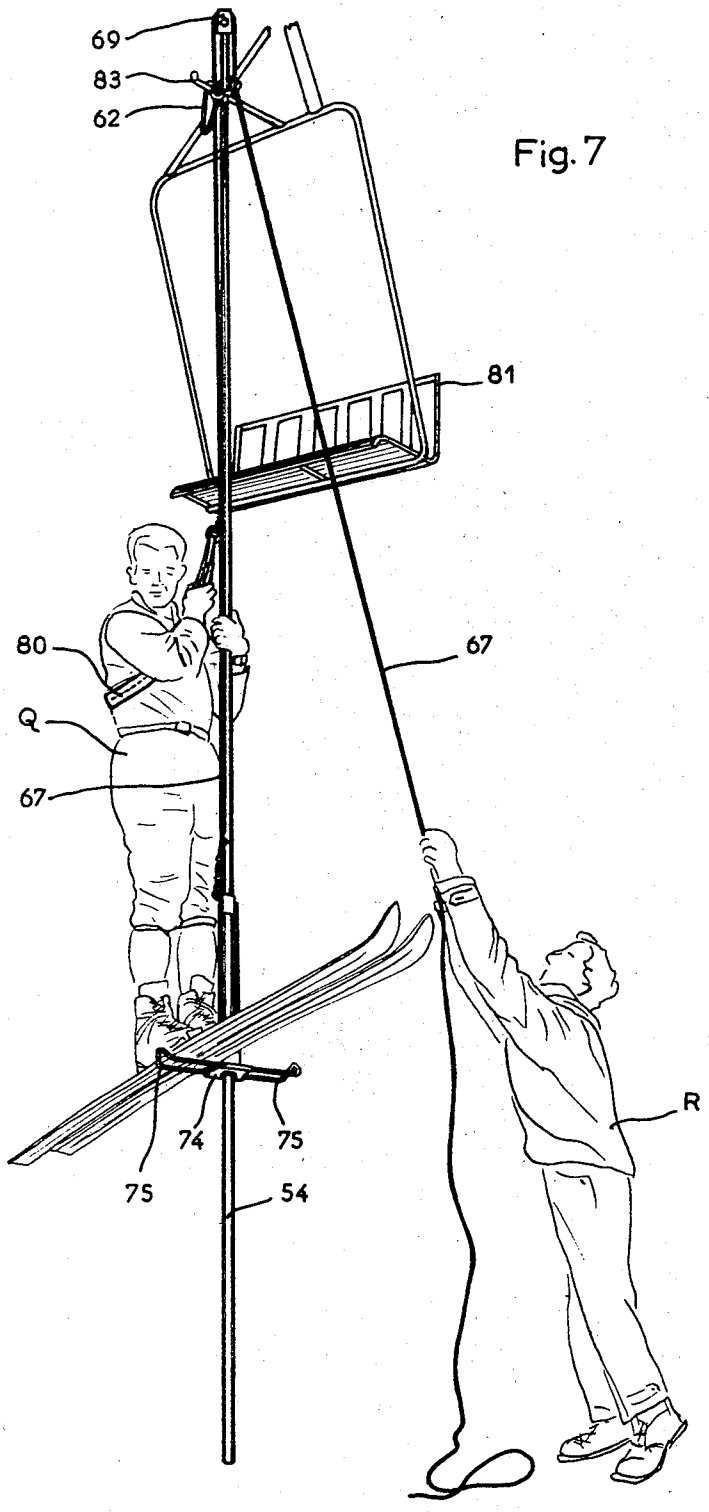


Fig. 7

United States Patent Office

3,403,750
Patented Oct. 1, 1968

3,403,750

RESCUE DEVICE

Jean Pomagalski, 114 Chemin de l'Eygala,
La Tronche 38, France

Filed Jan. 9, 1967, Ser. No. 607,939
Claims priority, application France, Jan. 13, 1966, 45,857; June 10, 1966, 65,137
6 Claims. (Cl. 182—189)

ABSTRACT OF THE DISCLOSURE

A rescue device having a pole with a hook-like member slidable thereon for engagement with a cable or the like and means for raising or lowering a person who may be stranded in a seat on the cable or desiring to climb the pole to the cable.

The present invention relates to a rescue device affording access to high places, which is extremely simple in construction and permits an operator to have access to an elevated place in order to carry out rescue, repair or installation work, etc.

It is an object of the invention to provide a rescue device having a one pole to afford access to places of different levels, e.g. to the cabins of an overhead cableway.

After hooking the pole an operator can climb up along the pole making use of the well-known climbing irons which surround the pole while they bear the weight of the user, the irons being freely slidable along the pole when they are displaced by the feet of the user in an upward direction.

One embodiment of the invention will now be described with reference to the drawings, this embodiment being given by way of illustration and not of limitation since numerous different embodiments will easily come to mind without going beyond the scope of the invention.

In the accompanying drawings:

FIGURE 1 shows a perspective view of the pole suspension device;

FIGURE 2 is a top view of the pole suspension device;

FIGURE 3 is a perspective view of the device in accordance with the invention, the rescue worker being in the process of climbing up the pole to bring down a person in distress seated on a seat of a telpher conveyor system;

FIGURE 4 is a view of the upper end of the pole provided with a return pulley;

FIGURE 5 shows in perspective a hook for the suspension of the pole in accordance with the invention;

FIGURE 6 shows the footrest and the safety belt used while climbing up the pole;

FIGURE 7 shows how a skier is brought down along the pole, the length of the pole having been considerably reduced to facilitate the description.

In the drawings, a tubular pole **10** of suitable length, for instance about 30 feet, is hooked by means of a suspension device **11** in accordance with the invention to a cross-member **12** of the frame of a seat **13** of an aerial conveyor or telpher system. The suspension device **11** comprises a first hook **14** which constitutes the first fastening device, while a second hook or ring **16** constitutes the second fastening device which can also assume the shape of a snap hook and which serves to suspend from it a pulling means, for instances a rope **21**, a ring **15** surrounding the pole **10** with clearance when neither of the hooks is under load.

Two climbing irons **22** which do not form part of the invention since they are well-known in the art, make it possible for a rescue worker S to climb up the pole **10**.

A fastener **30** comprises a climbing iron **35** which can surround the pole **11** and wedge the latter fast when a

downward pull is exerted on it. A suspension ring bears a safety belt **34**.

The device operates as follows:

The rescue worker S takes the pole **10**, places the ring **15** of the suspension device **11** on the pole and hooks the rope **21** to the hook **16** by means of a collar; the rope **21** being for instance provided with a loop splice **19** or any other equivalent fastening means. The rescue worker places the device **11** at the desired position on the pole **10** depending upon the height of the point of hooking (which, in the example selected, is the cross-member **12**) and taking into consideration the fact that the pole **10** must hang freely after it has been attached. The rescue worker then straightens the pole **10** up by pulling on the rope **21**. This pull is transmitted to the hook **16** which, therefore, tends to cause the device **11** to turn in a plane passing through the axis of the pole in clockwise direction as seen in FIGURE 1. This manual pull could possibly be replaced by the pull exerted by an elastic extensible spring suitably fastened to the pole and to the rope **21**. The torque exerted on the device **11** causes the ring **15** to be wedged fast and locks the device **11** on the pole during the use of the latter. The rescue worker then suspends the pole by engaging the hook **14** on the cross-member **12** or any other equivalent point of hooking which can be engaged by the hook **14**. It is now no longer necessary to pull on the rope **21** as the weight of the pole **10** produces the same result, that is to say the locking of the device **11** on the pole **10** due to a torque exerted on the ring **15** on the one hand by the pole and on the other hand by the cross-member **12**.

It will be noted that the movable arrangement of the device **11** on the pole **10** makes it possible to reach high levels of different height with a single pole of sufficient length.

As a further feature of the invention, a yoke **69** (see FIGURE 4) can be fastened to the upper end of the pole **54** and a pulley **70** can turn on a pin **71** borne by the yoke **69**. A wedge-shaped shoe **72** which is under the action of a tension spring **73** may possibly be urged towards the left, as seen in FIGURE 4, in order to brake and/or prevent the rotation of the pulley **70** in a clockwise direction.

This yoke and its pulley can be used for a second rope **67** serving to lower loads during repair or persons during rescue work.

However, the yoke and its pulley may be combined with the device in accordance with the invention in the following manner:

The suspension hook as modified in the present combination and designated generally as **62**, which is shown in FIGURE 5, comprises a hook proper **63** which permits the attaching of the pole **54**, a ring-shaped part **64** which surrounds the pole **54** and two lateral rings **65**, **66** for guiding a rescue rope **67**. A stop bar **68** prevents the wedging fast of the hook **62** on the pole **54** during the raising of the hook.

The rescue device can advantageously be supplemented also by a footrest **74** (see FIGURES 6 and 7), consisting of a support **75** on which the users place their feet, possibly with skis on, and a guide part for the footrest on the pole, which comprises two sleeves **76**, **77** connected by rods **78**. A ring **79** is integral with the sleeve **77**. A conventional safety belt **80** completes the equipment.

The device is employed in the following manner:

In the event that it is necessary to remove persons in distress who are at an elevated plate, for instance on the seat **81** of an overhead cableway (see FIGURE 7), the free end of a rope **67** is passed into the yoke **69** of the pole **54** which is of suitable length, for instance 50 feet. The ring **64** of the hook **62** is then placed over the lower end of the pole **54** and the two strands of the rope **67**

are passed through the guide rings **65** and **66** respectively. A belt **80** is attached to the rope by a knot **82** and the corresponding end of the rope **67** is attached to the ring **79** of the footrest **74**, which is also placed on the pole **54**.

The pole is then set upright and when it is in more or less vertical position, one starts pulling on the free end of the rope **67** in order to raise the hook **62** to the desired height, the knot **82** permitting it to be carried along during this operation, while the pulley **70** can rotate freely (in clockwise direction as seen in FIGURE 6). The footrest **74** closely follows the hook **62**. The hook **63** is then fastened to a suitable point of attachment such as the arm **83** which forms an integral part of the seat **81**. The pole **54** can then be released and the latter will hang freely, its weight causing the tight wedging on the pole, as has been explained in the preceding example. A rescue worker climbs in known manner up the pole. Arriving at the level of the seat **81**, the rescue worker sits upon it. He then attaches the belt **80** to the body of a person Q who is to be evacuated and asks the latter to place his shoes, whether or not equipped with skis, on the rest **75**. The person Q then descends while holding with his hands onto the pole, the speed of descent being regulated by a person R located on the ground who pulls on the free end of the rope **67**. In any event, the descent is braked by the pulley **70** which is locked by the shoe **72** so that the rope **67** is forced to slide in the groove of the pulley, which produces the necessary braking action.

When the person Q has arrived at the ground, the operator R again raises the shoe-rest **74** and the belt **80** so as to permit the descent of other persons. The shape of the footrest **74** makes it possible for two persons to descend at once. In such case, obviously, a second safety belt will be used.

The evacuation having been completed, the rescue worker descends along the pole and it is unhooked.

In the variant which has just been described, a single rope **67** serves both as pulling device and as rescue device.

What I claim is:

1. A device for suspending a pole from a stationary part by means of a hooking device comprising:

a ring means for surrounding said pole with clearance,

a suspending device adapted to engage said stationary part and rigidly connected to said ring member at a given point of its circumference,

a fastening device to which a pulling device can be attached, said fastening device being rigidly connected to said ring member at a second point located substantially diametrically opposite said first point, so that said ring member can be held momentarily in place on the pole while the pole is raised in order to suspend it from said stationary part by the action of said ring member on said pole in response to a pull exerted on said fastening device whereas, after hooking, the pole is held suspended from said suspending device by the action of said ring member on said pole in response to the action exerted on said suspended ring member by said suspending device under the action of the weight of said pole.

2. A rescue device comprising:

a pole,

a suspension device according to claim **1**,

a cable,

a device for fastening said cable to said fastening device.

3. A rescue device according to claim **2** in which a pulley is arranged at the top of the pole.

4. A rescue device according to claim **3** further comprising brake means for braking said pulley in one of its directions of rotation.

5. A rescue device comprising:

a pole,

a pulley arranged at the top of said pole,

a ring member capable of surrounding said pole with clearance, and being capable of sliding along said pole,

a suspending device rigidly connected to said ring member and adapted to engage a stationary part in order to have said ring member suspended to it,

two guide rings rigidly connected to said ring member in substantially diametrically opposed relationship

a cable passing through one of said two guide rings then over said pulley and then through the second of said guide rings,

a stop device rigidly connected to said ring member and adapted to prevent the wedging of said ring member on said pole during the sliding of said ring member on said pole.

6. A rescue device according to claim **5** further comprising

a footrest,

a guide device guided slidably on said pole and rigidly connected to said footrest,

a device for fastening said guide device to a free end of said cable.

References Cited

UNITED STATES PATENTS

473,581	4/1892	Judd	182—189
696,711	4/1902	Briner	182—189
1,569,521	1/1926	Milton	182—63
2,172,094	9/1939	Voigt	182—3
2,965,193	12/1960	Murphy	182—189

REINALDO P. MACHADO, *Primary Examiner.*