J. ROCH & J. COLAS.

FIRE-ESCAPE.

No. 191,886. Patented June 12, 1877.

FIG. 1

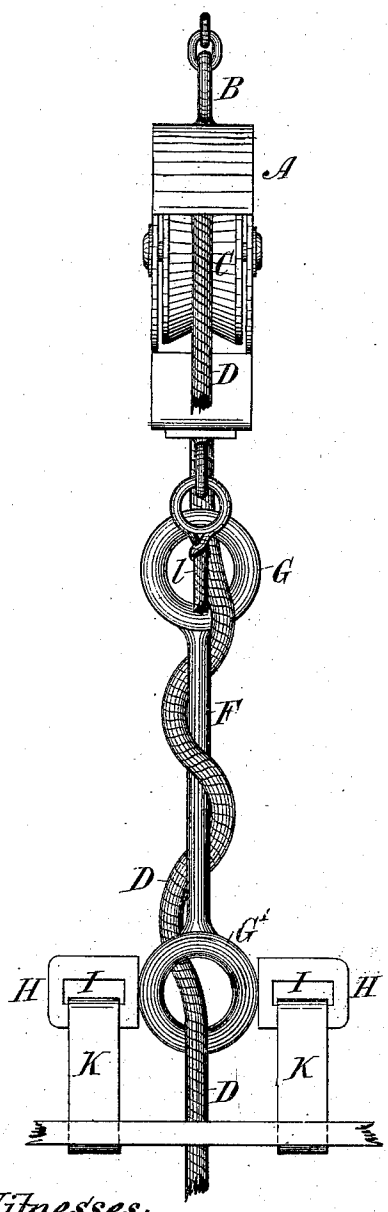
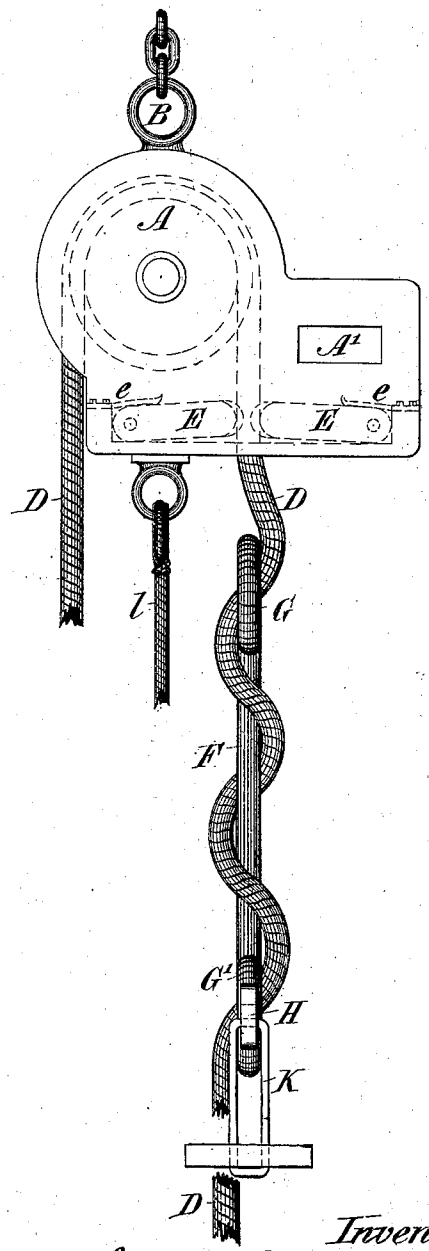


FIG. 2



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UNITED STATES PATENT OFFICE.

JOSEPH ROCH AND JULES COLAS, OF MONTREAL, QUEBEC, CANADA.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 191,886, dated June 12, 1877; application filed October 12, 1876.

To all whom it may concern:

Be it known that we, JOSEPH ROCH and JULES COLAS, both of the city of Montreal, in the district of Montreal and province of Quebec, Canada, have invented a new and useful Improved Apparatus for Saving Life from Fire; and we do hereby declare that the following is a full, clear, and exact description of the same.

The primary object of our invention is to save human life in cases of fire in houses, hotels, and other buildings, and by our device for that purpose not only can any one let himself down from a window, parapet, or any other spot, whatever may be the height, but can also regulate the speed at which he descends, and, if, desired, stop himself completely.

Another great advantage that we claim is, that, by our apparatus several persons can be saved in turn, since as soon as by its assistance one person has lowered himself to the ground, it may be raised to the same or any intervening height to save another. Beside this we may say that our apparatus is light, occupies but little space, and can be easily secured to any article of furniture, or the window sash or dressing.

For fuller comprehension of our invention reference must be had to the annexed drawings, in which similar letters indicate like parts, and where—

Figure 1 shows a front view of our invention. Fig. 2 shows a side view of the same.

A is a box, preferably of metal, and of the form shown in the drawings, B being a chain, attached to a ring on its upper side and terminating in a hook at its other end, for greater convenience in attaching the apparatus to any point. In this box A are formed bearings for the spindle of the pulley C, which is preferably grooved to receive the cord or line D passing, always in the same direction, over it.

As shown in the drawings at A′, the box A is extended out on one side, and on this extension and below the pulley are pivoted two dogs or clips, E, preferably grooved on their inner faces to hold more firmly the cord D which passes between them. It will easily be seen that these clips offer no hinderance whatever to the cord passing up between them; but, as soon as it is drawn in a downward direction, seize it and hold it fast, the springs *e*, pressing on the clips, adding extra force.

F is a bar or rod, having at its ends rings G G′. Through this upper ring G passes the line D, which is then taken two or three turns round the bar F, and finally through the lower ring G′. On either side of the lower ring G′ is formed an extension, H, provided with an eye or opening, I, from which are hung belts K, and to these may be attached a seat, upon which the person descending can place himself, or loops to receive the legs, or one or more belts, by means of which any one can be secured to the apparatus just described, or, in fact, any other device by which a man can fasten himself or others, this forming no part of our invention.

Below the box A is formed a small eye, to which is attached one end of a thin line, *l*, its other end being either held fast or secured below to keep the apparatus from vibrating.

The operation of our invention may be thus described: Presuming that a fire has broken out in the lower stories of any building, a person in the upper part has only to secure to the window, (preferably the upper part,) or to any other suitable point, the chain B, and to place himself on the seat hung to the extension H, or in any way to secure himself to the vertical rod or bar F, and then to swing himself outside the window. The friction caused by the line passing through the rings and round the bar F will prevent the apparatus from descending at any but a moderate rate of speed, the cord itself being held firmly by the dogs or clips E. Should it be desired to stop, this can be easily done by the man who is coming down taking hold of the rope, as the extra friction thus given will be quite enough to overcome his weight.

Two or three persons may be secured to the apparatus and descend at the same time, as a cord of but small diameter will be found sufficient to support a weight of at least five hundred pounds.

As soon as the apparatus with its burden has reached the ground, all that is required to be done is to pull on the other part of the line, which is preferably endless, and draw it over the pulley (to which movement, as before explained, the clips E offer no resistance) until

the bar F, with its attachments, is brought up either to its original or any intervening height, and this operation may be repeated as often as is desired. Should it be desired to lower heavy weights, the bar F may be a spiral instead of a straight bar, and by this means a large extra amount of friction be secured. Should the clips E be omitted, it would be necessary to secure to the ground the end of the opposite part of the line to that on which the apparatus descends. Although this forms no part of our invention, we may say that we prefer to have the cord made incombustible by any of the solutions known and used for that purpose.

Although primarily intended for saving life from fire, our invention may be found very serviceable to workmen for lowering anything from a height to the ground.

What we claim is as follows:

1. The combination, in a fire life-preserving apparatus, of a pulley carried in a box having extensions, in which are pivoted clips or dogs, holding between them a cord, passing over the sheave or pulley, substantially as and for the purposes herein set forth.

2. The combination of the pulley or sheave C, box A, with extension A′, line D, clips or dogs E, and bar F, with rings G G′, and extensions H H, all substantially as herein set forth and for the purposes described.

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