No. 812,950. PATENTED FEB. 20, 1906.

G. B. PRICE.

FIRE ESCAPE APPARATUS.

APPLICATION FILED MAR. 23, 1905.

2 SHEETS—SHEET 1.

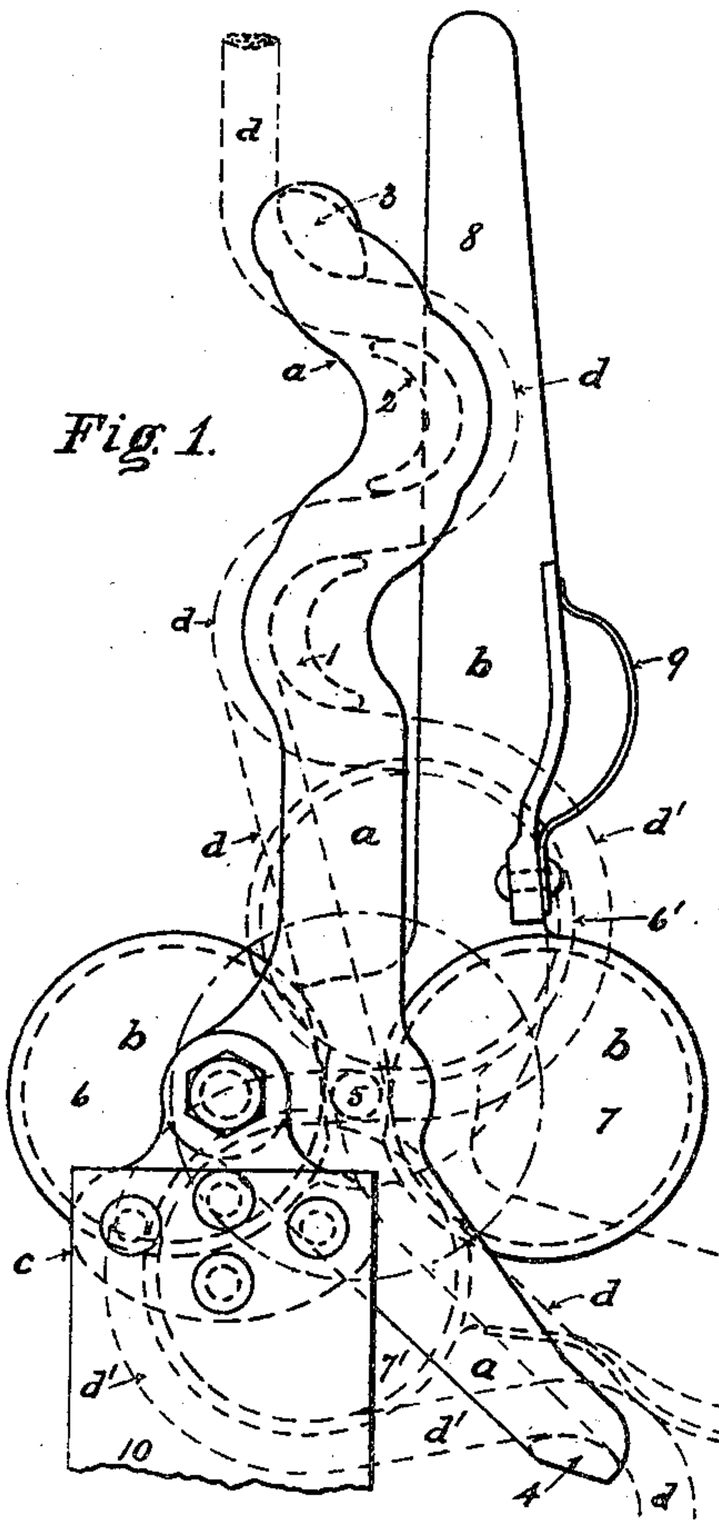

Fig. 1.

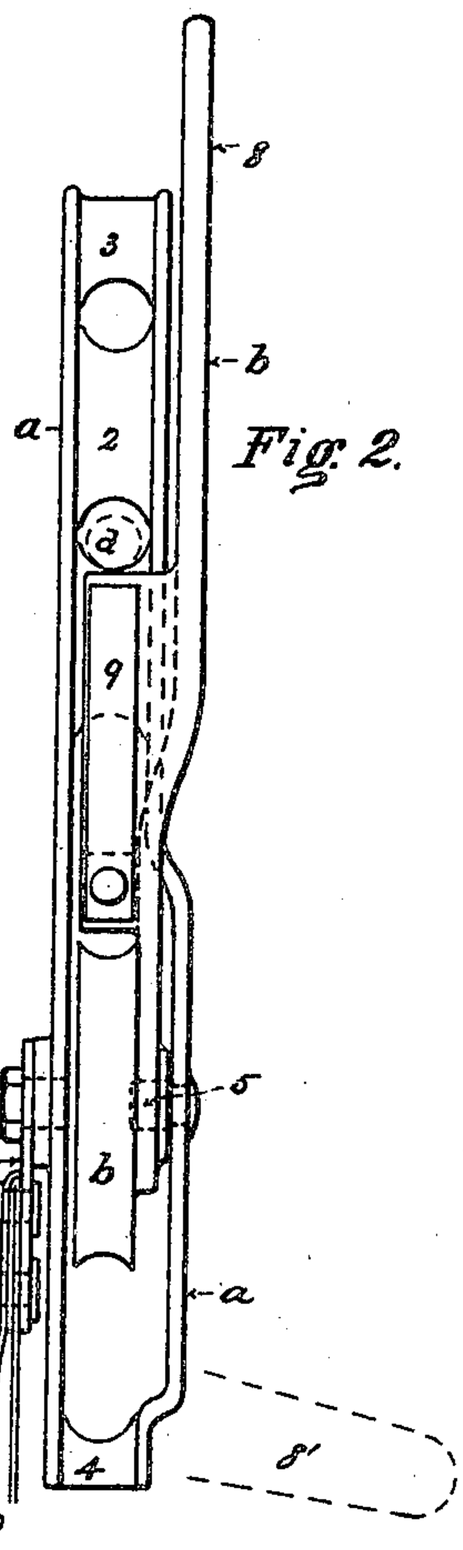

Fig. 2.

Witnesses:
Howard S Harris
George S. Dunn

Inventor:
George B. Price

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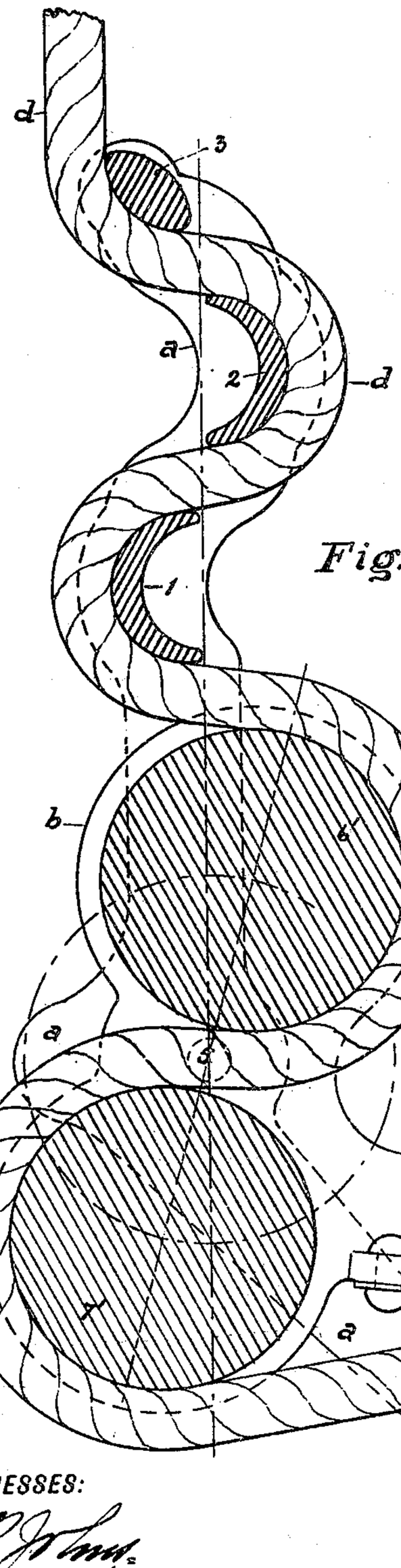

Fig. 3.

WITNESSES:

J. P. Johnson.

Louise L. Price.

INVENTOR

George B. Price

UNITED STATES PATENT OFFICE.

GEORGE B. PRICE, OF COLORADO SPRINGS, COLORADO.

FIRE-ESCAPE APPARATUS.

No. 812,950. Specification of Letters Patent. Patented Feb. 20, 1906.

Application filed March 23, 1905. Serial No. 251,580.

To all whom it may concern:

Be it known that I, GEORGE B. PRICE, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Fire-Escape Apparatus, of which the following is a specification.

My invention relates to a portable fire-escape apparatus designed to be conveniently carried in the luggage of travelers, but also adapted to be attached as a permanent fixture in sleeping-rooms of hotels, &c.

The apparatus consists of two essential parts—a rope or cable and a carriage or carrier which slides upon said rope. To the said carrier is attached by suitable means the person who desires to descend. I am aware that many devices have been invented for this purpose, yet all of them I believe to be faulty in some particular of design, such as involving too much intricacy to be attended to in moments of haste or in too little opportunity for instant adjustment of the friction to the weight to be carried, resulting in either a sticking fast or a too rapid descent. In the design which I here present as my invention I have sought to overcome all these objections, in consequence of which I believe it to be more practical, and therefore more useful, than any now on the market or heretofore patented.

The elements which such a fire-escape ought to possess I conceive to be as follows: It should be light in weight and small in compass to be easily portable. It should be instantly ready for service and require but the fewest possible things to be done. It should be capable of being used in quick succession by two or more persons of different weights. The friction element which controls the speed of descent must not be fixed, but widely variable to suit varying weights. The friction element must therefore not be of a character to require nice discrimination or time for individual adjustment, but must be instantly alterable and wholly within the control of the individual (whatever his weight) who is then descending. It should permit of smooth running and avoid possibilities of the rope snarling in the carrier or falling off or in consequence of a too positive application of increased friction be brought up with a jerk.

The friction element being the matter of prime importance, I have conceived that a certain amount, called the "minimum of friction," should be fixed and positive, but that this minimum is to be supplemented by additional increments being quickly brought into play at the moment of descending. The method by which I accomplish this will now be fully explained, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical side view, and Fig. 2 represents the corresponding edge view, of the carriage or carrier of my apparatus, which is, in fact, the part constituting my invention. Fig. 3 shows a vertical sectional view corresponding with Fig. 1, except with the lever-arm and its spools rotated to the opposite extreme position.

The carrier consists of three integral parts—a frame *a* of irregular shape having certain fixed frictional surfaces, as 1 2 3 4, a pivoted member *b*, which is revoluble about and held in the frame *a* by the pivot 5, and the suspension member *c*, by which the person descending is attached or hung to the carriage.

The pivoted member *b* consists, primarily, of the two rigid arcs or spools 6 7 and the lever-arm 8, by means of which the member *b* is partly revolved about the pivot 5 until, if need be, the lever-arm 8 assumes the dotted-line position 8′, at which time the spools 6 and 7 will have moved through their arcs to positions 6′ and 7′, respectively.

Fig. 3 is a vertical section showing the rope passing up through the carrier in its most tortuous position, the lever-arm 8 being thrown now into its horizontal position, with spring 9 pinching the rope between itself and the lowest friction-arc 4, and the two spools 6 7 correspondingly revolved into their positions of greatest friction with the rope *d*, by which means the total of frictional contact is increased several times that of the first position or minimum.

The carrier in its minimum friction is at the position shown in full lines of the drawings, Fig. 1—*i. e.*, the lever-arm is vertical and the spools 6 7 are on their horizontal axis. The rope or cable is then inclosed by the carriage in its positions *d d d d d d*, being then in frictional contact (practically) with only the fixed friction-arcs 1 2 3, the rope *d* passing freely between the spools 6 7.

For light weights it is not necessary that the lever-arm 8 be thrown far enough down for the spring 9 to bear at all upon the rope *d*, as in Fig. 3, since the added friction of the spools 6 7 alone is sufficient; but if such added friction is not yet sufficient to hold the suspened weight it can be still further increased

by the pressure of the small spring 9, which in its corresponding position at 9′ begins to bear heavily upon the rope *d*, pinching it between itself and the friction-arc 4. The back edge of the lever-arm could itself be caused to so impinge upon the rope in this position; but I prefer to use a spring between, as shown, for the reason that its slightly-yielding surface permits a less abrupt but sufficiently firm pinch upon the rope, thus precluding any danger of a too sudden stopping and consequent jerk upon the rope. In this last position the carrier would be in its maximum friction; but between this and its minimum friction lies a wide range, as will be easily comprehended, affording instant and almost automatic adjustment to any weight between that of a small child and a heavy man.

One end of the rope or cable may be kept always threaded through the carrier, as shown in its first position.

To use the apparatus, the person about to descend pulls the already-threaded rope through far enough to tie it to some heavy article of furniture (as a bedstead) in the bedroom, and throws the rest of the rope-coil out of the window. He then places the strap or band 10 under his arms and back and grasping the end of the lever-arm 8 with one hand he moves to the window and climbs out, being held in suspension or sliding down the rope with any velocity he chooses in proportion as his downward pull on the lever-arm increases or diminishes. One hand and arm are thus left free to use as he wishes—such, for example, as carrying a small child. After one person has descended in this manner another still in the room above may draw up the rope with the carrier still hanging to it, and quickly pulling the rope through the carrier (the friction in minimum position permitting this to be done easily) the apparatus is ready for a second descent, as before.

Having described my invention, what I claim as new and original, and desire to secure by Letters Patent, is—

1. In a fire-escape apparatus a slidable carrier, designed to engage a rope or cable, consisting essentially of a rigid frame having three or more frictional arcs fixed superior to, and one frictional arc fixed inferior to a pivot center in said frame; a rotatable member having two fixed frictional spools revoluble about said pivot center; together with a suspension member attached to said rigid frame member; substantially as shown.

2. In a fire-escape apparatus a slidable carrier having a rigid frame with three or more frictional arcs fixed superior to, and one frictional arc fixed inferior to a pivot center in said frame; an auxiliary rotatable member, held by said pivot center, consisting of two opposite spools fixed to one plane, and a rigid lever-arm extending therefrom designed to engage the said spools against an inclosed rope or cable; substantially as shown.

3. In a fire-escape apparatus a slidable carrier, designed to inclose a rope or cable, having a rigid frame with three or more fixed frictional arcs positioned superior to, and one fixed frictional arc positioned inferior to a pivot center in said frame; a rotatable member having two fixed frictional spools and a projecting lever-arm revoluble about said pivot center, said lever-arm having attached thereto a compression-spring adapted to engage the inclosed rope against the said inferior arc within said frame; substantially as shown.

4. The combination, in a fire-escape apparatus, of a slidable carrier consisting of a non-flexible frame having three or more frictional arcs fixed superior to, and one frictional arc fixed inferior to a pivot center; an auxiliary rotatable member having two fixed spools and a lever-arm pivoted within said frame to said pivot center; a suspension member attached to said frame; and a rope or cable adapted to be engaged by the said frictional arcs and spools; substantially as described.

5. In a fire-escape apparatus the combination of a rope or cable and a slidable carriage or carrier consisting of a non-flexible frame with fixed frictional arcs; a suspension member attached to said frame; a rotatable member having frictional spools and a lever-arm with an attached spring pivoted within said frame, said spring being adapted to engage said rope or cable against a frictional arc of said frame; substantially as shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE B. PRICE.

Witnesses:
HOWARD S. HARRIS,
GEORGE S. DUNN.