(No Model.)

E. RILEY.

PORTABLE FIRE ESCAPE.

No. 567,553. Patented Sept. 8, 1896.

Fig. 1.

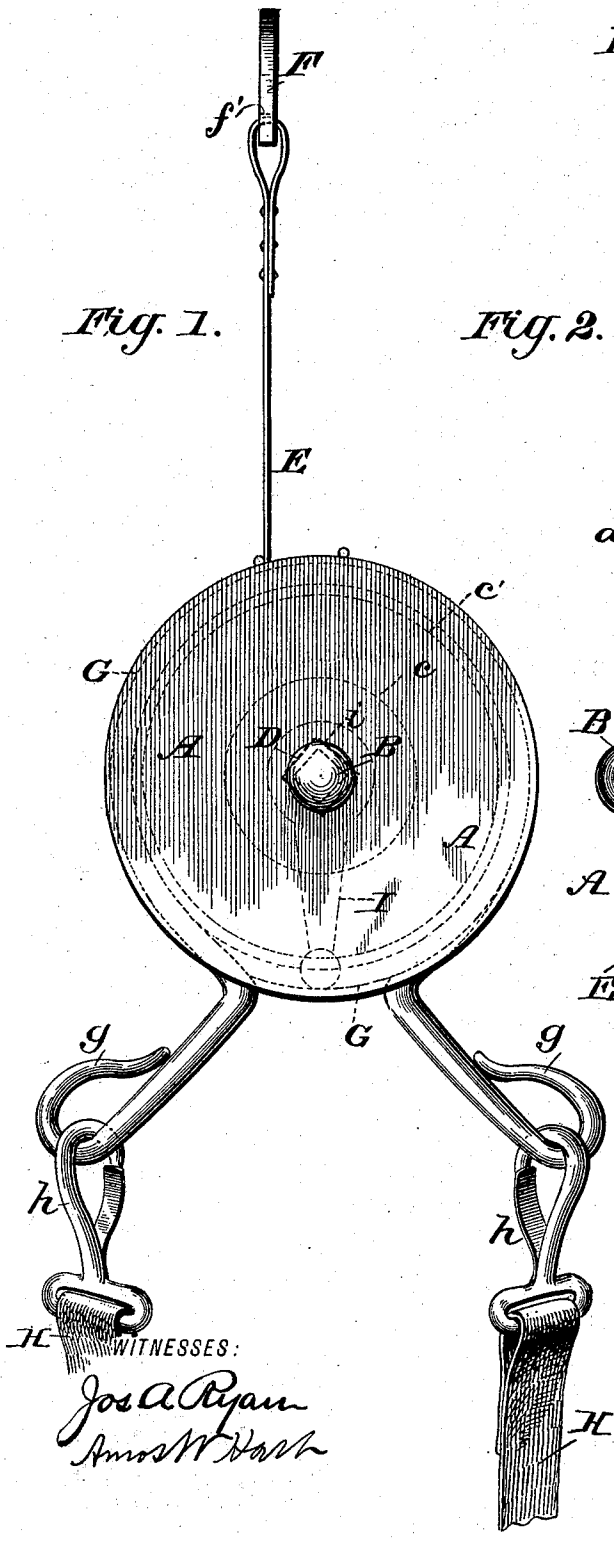
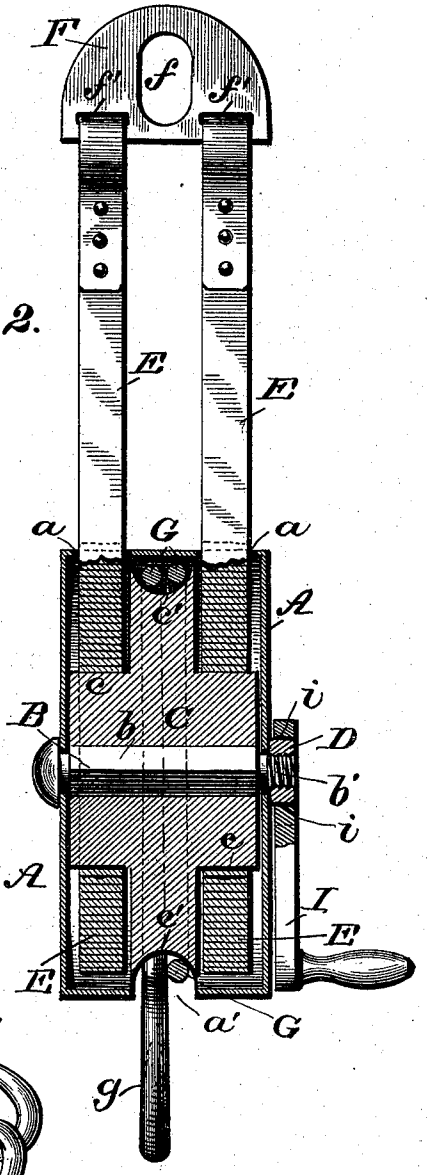


Fig. 2.



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PORTABLE FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 567,553, dated September 8, 1896.

Application filed April 29, 1896. Serial No. 589,502. (No model.)

To all whom it may concern:

Be it known that I, EDWARD RILEY, of Spokane, in the county of Spokane and State of Washington, have invented a new and useful Improvement in Portable Fire-Escapes, of which the following is a specification.

My invention is an improvement in the class of portable fire-escapes which are adapted for the use of a single individual and made so compact as to be conveniently carried in satchels, valises, or even in the pocket, so as to constitute a portion of a traveler's outfit.

My fire-escape includes two metal tapes, or ribbons, which are wound on a rotatable pulley having differential portions, or sections, and inclosed in a metal case or drum; also, a combined suspension and brake device, which consists of a stout, but elastic, rod or wire wound around the enlarged central portion of said pulley, and extending below the case or drum for suitable connection with the strap or other means of attachment. Such friction device normally acts as a brake to hinder rotation of the pulley and paying out of the tapes, and thereby prevents too rapid descent of a person attached to and suspended by the device; but its retarding action on the pulley may be further increased by pressure applied to it manually, as hereinafter described.

In the accompanying drawings, Figure 1 is a side view of my invention, and Fig. 2 is a central section of the same.

The metal case or drum A is a narrow cylinder, provided with two alined slots *a* at the top and a single slot *a'* in the under side. An axle or shaft B passes transversely through the center of the case A and is journaled in the sides of the same. Its middle portion *b* is square or polygonal, and a wooden pulley C is mounted thereon, so that both axle and pulley rotate together. One end of the axle B has a head, and the other end *b'* is reduced and threaded to adapt it for application of a polygonal nut D.

The pulley C has three sections, to wit, the two cylindrical end sections *c* and the narrower central section *c'*, having a peripheral groove, as shown. A steel tape or ribbon E is secured to and wound upon each of the end portions *c*, and their upper ends are secured to a semicircular steel piece or plate F, which is also provided with a central slot *f*, to adapt it for attachment to and suspension from a hook or other device. (Not shown.) The tapes E are looped through alined base-slots *f'* in the plate F and riveted, as shown, to form a permanent and secure attachment. The slot *f* is equidistant from said slots *f'*.

The brake consists of a stout steel wire G, coiled, practically, one and a half times around the central grooved section *c'* of the pulley C, its looped ends *g* projecting through the lower slot *a'* of case A and diverging at an angle of about forty-five degrees.

The straps H, or other means for attachment to the body of the person to be lowered by the apparatus, are detachably connected with the loops of the divergent arms *g* of the wire brake by means of snap-hooks *h*.

The apparatus is used as follows: The plate F is attached to a hook set in the wall or secured by a rope or in any other manner that may be most convenient, practical, and safe. The straps H are then secured to the person to be lowered from a building, who grips the angle-arms *g* of the spring-brake G and presses them toward each other, thus applying the brake with such graduated force as may be required to regulate rotation of the pulley B, and thus prevent the steel tapes E paying out so fast as to allow too rapid descent. It will be seen that this may be effectively done by reason of the friction of the coil-brake G with the pulley B and the fact that the middle section *c'* of the latter is of so much greater diameter than the portions *c* on which the tapes E are wound. The tapes may be quickly and easily rewound on the pulley B by rotating the latter by means of a detachable crank I, having a socket *i*, adapted to fit upon the axle-nut D. If desired, the head of the axle B may be made polygonal, to allow application of the crank to it instead of the nut. It is apparent that by employment of two tapes E, and the point of suspension being between them, the drum or case A is balanced, since the tension is equal on each tape, so that the axle is kept practically horizontal when descending; and should one of the tapes E break or be severed by any accident the other is capable of safely supporting the heaviest person

so that he will be held suspended until other means of rescue may be availed of.

The apparatus is exceedingly compact, since a case or drum A, of three and one-fourth inches in greatest diameter, will accommodate tapes fifty feet long. It is also distinguished by the quality of simplicity of construction, as well as by lightness, and above all by strength, reliability, and safety in operation.

What I claim is—

1. The improved portable fire-escape composed of the case or drum, the rotatable pulley having end sections and a central section, two tapes applied to such end sections, and having an attaching plate or connection at their outer ends, and the combined brake and suspending device consisting of a steel wire coiled about the central pulley section and having divergent ends for attachment of straps or other media for holding the person to be lowered, as shown and described.

2. In a portable fire-escape of the character specified, the combination with a rotatable pulley having three sections, two being similar end sections and the other the enlarged central section, a brake and suspension device coiled about such central section, and metal tapes attached to the end sections, and united at their outer ends, as shown and described.

3. In a portable fire-escape of the character specified, the combination with the case or drum having top and bottom slots, the pulley having like end sections and an enlarged intervening section and an axle journaled in said case, of two steel tapes applied to the end sections, a metal plate attached to the outer ends of the tapes and having a central slot for connection with or attachment of a means of suspension, and the combined brake and suspending device composed of a coil-steel spring wound around the central pulley section, and having arms which diverge at an angle, and a strap or straps attached to the terminals of such arms, as shown and described.

4. In a portable fire-escape of the character specified, the combination with the pulley and metal tapes attached to its end sections, of a flexible brake device wound around the central pulley section, and extending below it, to permit attachment of straps as shown and described.

EDWARD RILEY.

Witnesses:
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