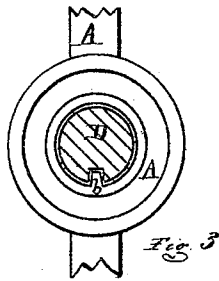
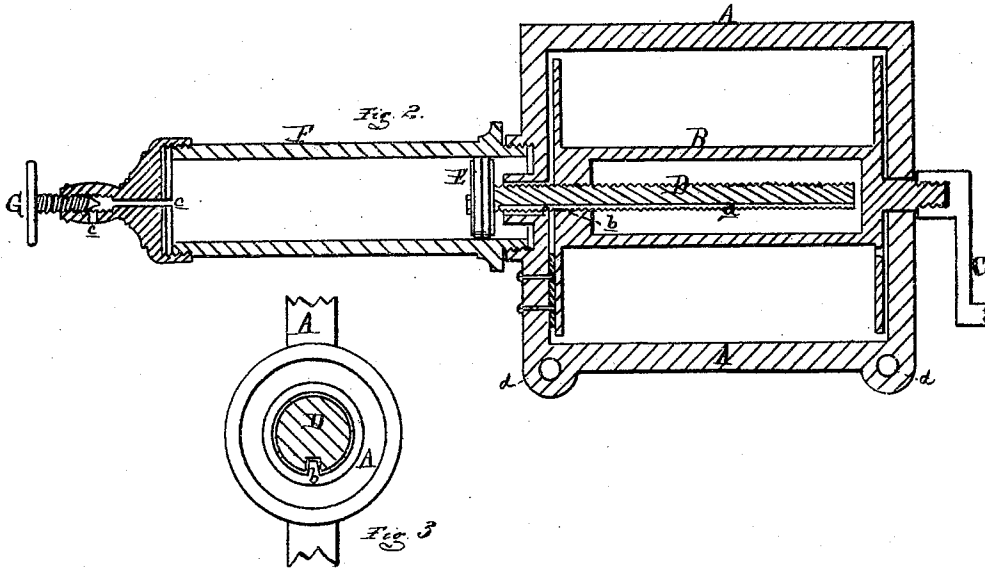
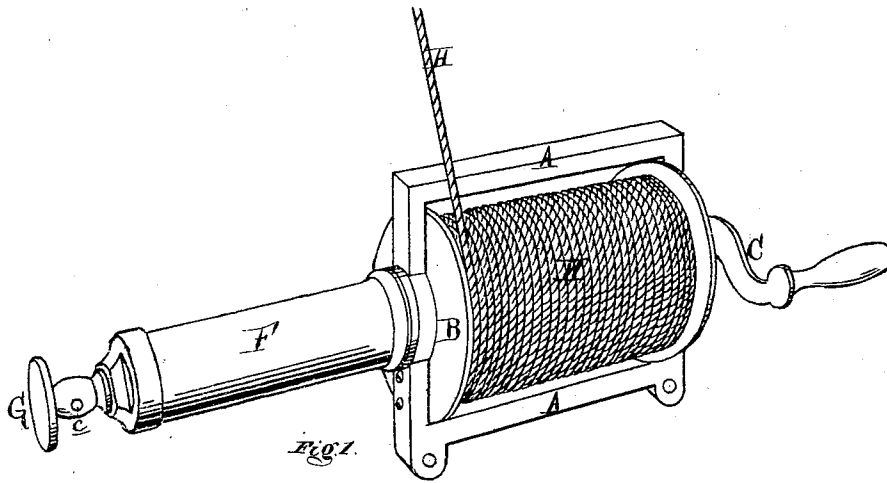


A. PELHAM.
Fire-Escapes.

No. 141,378.

Patented July 29, 1873.



ATTEST
H. J. Sprague
Thos. S. Day

INVENTOR.
Abram Pelham
By Attorney
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UNITED STATES PATENT OFFICE.

ABRAM PELHAM, OF PLYMOUTH, MICHIGAN, ASSIGNOR TO HIMSELF,
LAFAYETTE C. HALL, AND SEBE H. FAIRMAN, OF SAME PLACE.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **141,378**, dated July 29, 1873; application filed April 5, 1873.

To all whom it may concern:

Be it known that I, ABRAM PELHAM, of Plymouth, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Fire-Escape; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a longitudinal section. Fig. 3 is an elevation of the reel-frame, showing the piston-rod in cross-section, the cylinder being unscrewed and removed from the reel-frame.

Like letters refer to like parts in the several figures.

This invention has for its object to afford a device by means of which a person may lower himself from the upper story of a building to the ground with safety, while the speed of his descent is under his control. The invention consists in a reel-frame having a cylinder attached to one end, whose piston-rod is screw-threaded, and passes into a hollow reel, by the revolution of which the piston is moved toward the end of the cylinder. In unwinding the rope and reel the piston is forced toward the outer end of the cylinder, which contains water, which is permitted to escape from an opening in its end, in volume regulated by a valve. If the water be allowed but a small aperture to flow through, its resistance to the piston will only allow of a slow movement of the reel, and vice versa. The device may also be used by painters and others to sustain and lower their scaffolds.

In the drawing, A represents a metallic frame, through one end of which a reel, B, is journaled, the projecting end of the journal being fitted with a crank, C. The body of the reel is hollow, with a nut or screw threaded part, B', at one end, in which is tapped a screw-threaded piston-rod, D, which passes through the end of the frame and is bolted to a piston, E, playing in a cylinder, F, which is screwed into the outer end of said frame. The piston-

rod has a longitudinal groove, *a*, cut in it, and into this groove projects a stud, *b*, from the opening in the frame, which prevents the said rod from rotating, but allows it to freely move in a longitudinal direction. The outer head of the cylinder has an angular passage, *c*, of small bore drilled through it, with a valve-seat in the angle, against which may be seated a valve, G, whose stem is tapped in the cylinder-head. H is a cord or wire-rope secured to the reel, around which it is wound. *d d* are openings in the lower corners of the frame, to which are secured the ends of a sling, in which the user may place his feet, when he desires to lower himself from the upper stories of a burning building.

To prepare the device for use, open the valve G, and insert the end of the cylinder in a vessel of water or other liquid, and by the crank wind up the rope on the reel, which, at the same time, will retract the piston from the outer to the inner end of the cylinder, as seen in Fig. 2, filling the cylinder with water, then close the valve and remove the crank from the reel.

In case of fire or other emergency, when it becomes necessary to use the device, the operator makes fast the free end of the cord to some stationary object, first unreeling enough cord to allow him to place the frame and sling outside the window-sill; then securing himself in the sling he is suspended in mid air, for the reason that the water in the cylinder, being incompressible, prevents the advance of the piston; hence he opens the valve G, and allows the water to be slowly expelled from the cylinder, which allows the piston to move forward, being impelled by the screw of the reel moving forward the screw-threaded piston-rod. If he wishes to descend rapidly he gives the valve a full opening, or to descend slowly he reduces the opening of the out-flow, and by closing the valve he can stop at any point.

The device is small, compact, and not heavy, so that a traveler can conveniently carry it in a corner of a trunk, and once

filled with water, it is ready for use at a moment's notice.

It can also be used by painters and others to regulate the descent of their scaffolds.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction and arrangement of the frame A, reel B with its nut B' and stud *b* projecting into the groove *a* of the threaded

piston-rod D, the piston E, cylinder F provided with the passage *c* and valve G, and the cord H, substantially as and for the purpose set forth.

ABRAM PELHAM.

Witnesses:

I. N. HEDDEN,
JEROME T. JOHNSON.