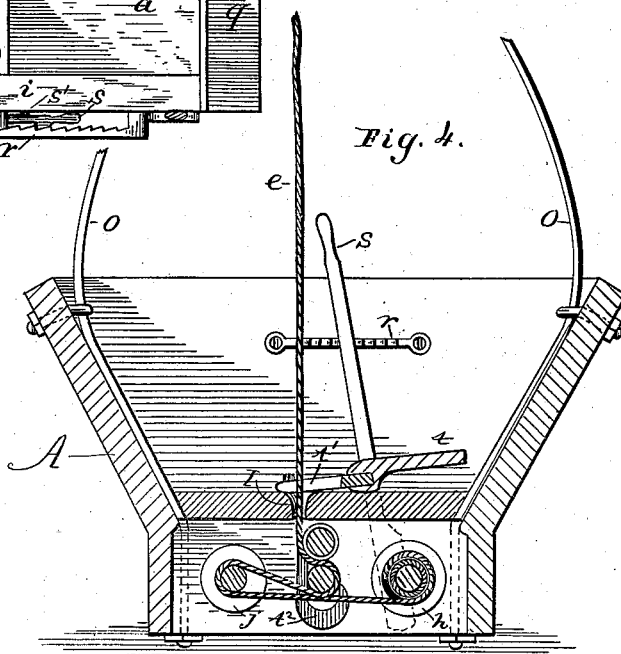
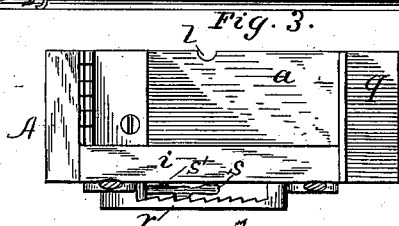
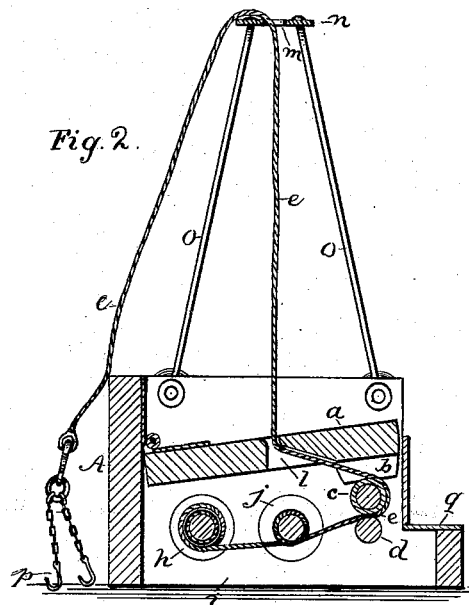
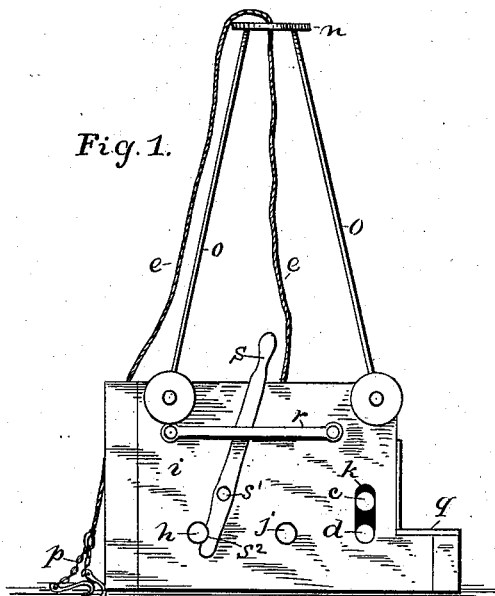


(No Model.)

C. P. WILLSON.  
FIRE ESCAPE.

No. 260,722.

Patented July 4, 1882.



WITNESSES:

Thos. Houghton.  
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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES P. WILLSON, OF SUMMIT POINT, WEST VIRGINIA.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 260,722, dated July 4, 1882.

Application filed March 15, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES PERRY WILLSON, of Summit Point, in the county of Jefferson and State of West Virginia, have invented a new and Improved Fire-Escape; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improved fire-escape. Fig. 2 is a vertical central section of the same. Fig. 3 is a plan view of one-half or the right side of the same; and Fig. 4 is a vertical central section, showing a hopper form of carriage.

My invention relates to improvements in fire-escapes; and it consists of a carriage adapted to carry one or more persons, and provided with a rope or wire having a grappling-hook at one end adapted to engage with and seize any heavy article of furniture in an elevated room of a burning building, the opposite end of the rope or wire being wound around a roll journaled in the sides of the carriage near its bottom, and passing thence between rolls clamped by the weight of the person or persons in the carriage, whereby a person or persons in an elevated room in a burning building can readily let themselves down in the carriage from a window in the building to the ground without injury.

My invention further consists in certain details of construction hereinafter more fully set forth.

In the accompanying drawings, A represents the carriage of my improved fire-escape, of a box or chair form, having a seat, *a*, hinged to the inner face of the back of the box or carriage A below its top, so as to form side and back supports for a person or persons sitting on the hinged seat *a*, and having projections *b b* secured to the under face of the seat *a* at its outer end, which are adapted, when the seat is closed, to bear on a roll, *c*, preferably made of rubber, and cause it to bear on a roll, *d*, lying directly under the roll *c*, and bite or clamp a rope or wire, *e*, (with a force dependent on the weight of the person or persons sitting on the hinged seat *a*,) wound around a roll, *h*, journaled in the sides *i i* of the carriage, thence passing around an idler, *j*, parallel with the

roll *h*, and journaled in the sides of the carriage, and thence between the rolls *c d*, journaled in the opposite vertical slots, *k k*, in the sides *i i* of the carriage, thence through a hole, *l*, in the middle of the seat, and thence through a central orifice, *m*, in a circular cap or ring, *n*, secured to the upper end of the inclined arms *o*, having their lower ends attached to the opposite sides of the carriage.

The upper end of the rope or wire *e* is provided with a grappling-hook, *p*, adapted to be secured to a bedstead or other heavy article of furniture in a room.

*q* represents a stop or foot-rest formed at the lower end of the carriage for the feet of the occupant or occupants of the seat *a*.

*r* represents a horizontal rack-bar, secured by lugs to one side of the carriage A, and leaving a narrow open space between it and the side of the carriage.

*s* is a brake-lever having its fulcrum at *s'* in the side of the carriage A, and passing through the opening or space between the rack-bar *r* and the side of the box. The lower end of the brake-lever *s* is provided with a recess, *s<sup>2</sup>*, adapted, when the brake-lever is operated, to engage with the shaft of the roll *h*, on which the rope or wire *e* is wound, and prevent it from turning, the upper end of the brake-lever *s* being locked in the rack-bar *r*.

In practice, when a fire occurs in a building and there is no means of escape by the ordinary stairways from an elevated room the grappling-hook on the end of the rope or wire wound around the roll on the carriage is secured by the occupant of the room to a bedstead or other heavy article of furniture, the roll on which the rope or wire is wound is locked, and the carriage is put out the window, the brake-lever preventing the unwinding and descent of the carriage. The occupant of the room then takes his seat in the carriage, with his feet on the foot-rest, the projections on the lower face of the seat pressing on the rubber roll and clamping the rope or wire lying between it and the lower roll. The brake-lever is then unlocked, and the carriage slowly descends, the occupant varying the pressure or weight on the clamping-rolls which bite the rope as he deems necessary, or, in case of emergency, applying the brake-lever. By these means the occupant or

occupants of an elevated room in a burning building can readily let themselves down from a window in said room to the ground unhurt.

This invention may be modified in various ways without departing from the spirit of my invention, which covers the principle of letting down the carriage by means of a rope secured to a stationary point at its upper end, and wound around a roll journaled in the sides of the carriage, and clamped between rolls journaled in the carriage by means of a lever in the carriage, operated by the weight of the occupant or occupants of the carriage, so as to lower the carriage slowly and prevent injury to its occupants. For example, the upper end of the carriage may be made in the form of a hopper, with a closed lower end, having a central orifice for the passage of the rope. The handle of the brake-lever and the rack in this construction, as shown in Fig. 4, are preferably placed on the inside of the hopper. In this construction, also, the clamping-rolls are placed between the idling-roll and the roll around which the cord is wound, the rope, as in the construction of carriage first described, passing from the roll on which it is wound around the idler, and thence between the clamping-rolls centrally arranged below the bottom of the hopper of the carriage and drawn together by the weight of a person or persons pressing on a lever, *t*, in the bottom of the hopper, having bifurcated arms *t' t'*, to which are secured the upper ends of vertical hooks *t<sup>2</sup> t<sup>2</sup>*, embracing the lower clamping-roll.

By this construction a number of persons can let themselves down from an elevated window of a burning building, and the means employed are substantially the same as those first described, in which the carriage is provided with a hinged seat, which acts as a lever in clamping the rope between the rolls.

What I claim as my invention is—

1. In a fire-escape, the combination, with a

carriage provided with a winding-roll, and clamping-rolls arranged in its lower part under the floor thereof, of a rope or wire wound around the winding-roll at its lower end and passing between the clamping-rolls, and a lever pivoted above the rolls and adapted to force the clamping-rolls together by the weight of the occupant or occupants, substantially as described.

2. In a fire-escape, the combination, with a carriage, *A*, provided with a winding-roll, *h*, and clamping-rolls *c d*, arranged in its lower part under the floor thereof, of a rope, *e*, wound around the winding-roll at its lower end and passing between the clamping-rolls and the seat *a*, hinged to the carriage, and provided with the projections *b b*, whereby the seat serves the double purposes of a seat and a lever to operate the clamping-rolls, substantially as described.

3. In a fire-escape, the combination, with a carriage provided with a winding-roll, an idler-roll, and clamping-rolls, all journaled in the sides of the carriage and arranged under the floor, of a rope or wire wound around the winding-roll at its lower end and passing around the idler-roll and between the clamping-rolls and provided with a grappling-hook at its upper end, a lever adapted to force the clamping-rolls together, and a brake-lever for the winding-roll, substantially as described, and for the purpose set forth.

4. The combination of the carriage *A*, hinged seat *a*, having hole *l*, and projections *b b* on its lower face, inclined arms *o*, having ring *n*, roll *h*, idler *j*, and clamping-rolls *c d*, rope *e*, having a grappling-hook at its upper end, rack-bar *r*, and brake-lever *s*, substantially as described, and for the purpose set forth.

CHARLES PERRY WILLSON.

Witnesses:

T. LEE SHIRLEY,  
H. C. FRAZIER.