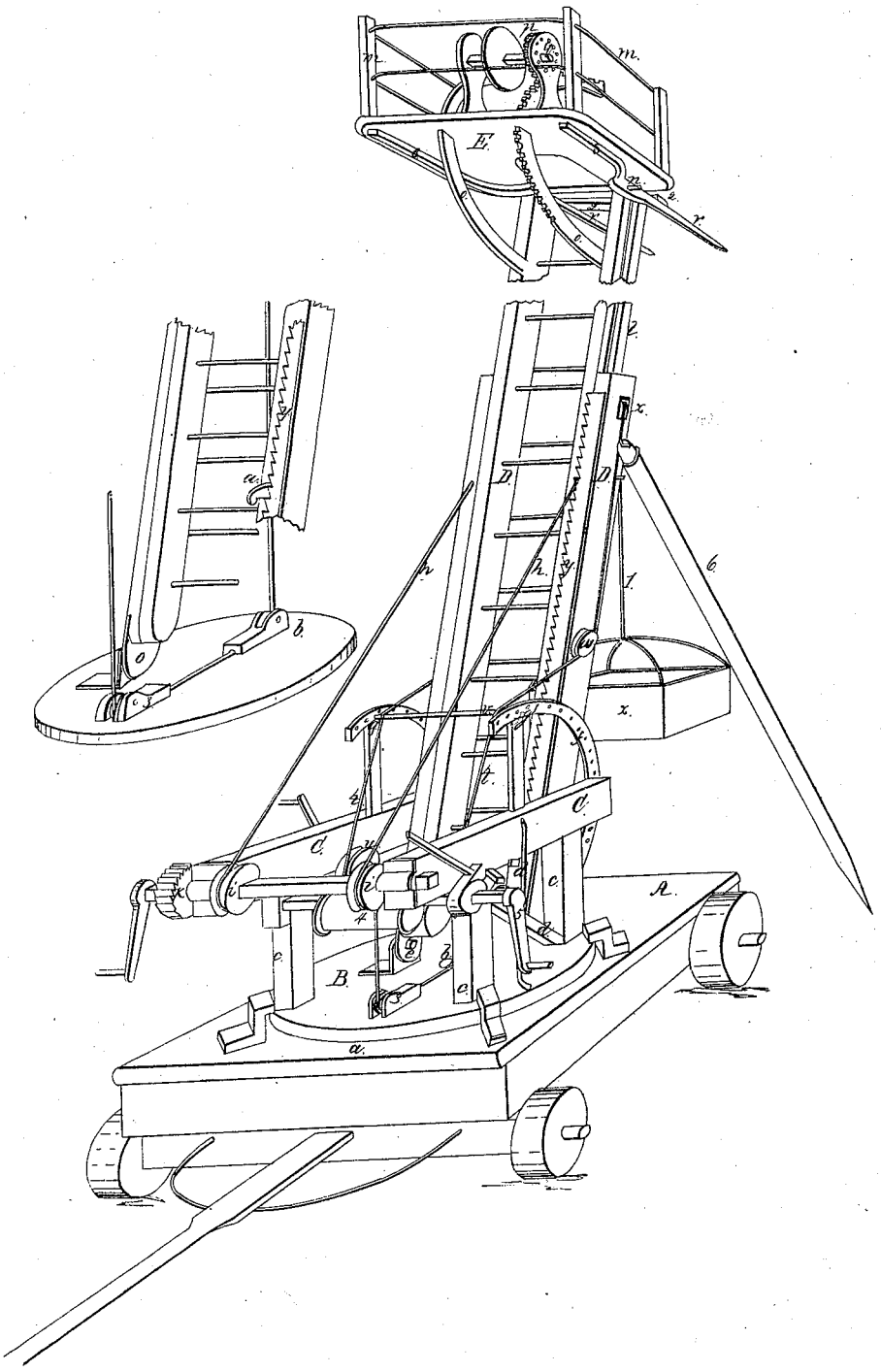
W. P. Witley.

Fire Escape.

No. 1,599. Patented May 12, 1840.



UNITED STATES PATENT OFFICE.

WM. P. WITHEY, OF HARTFORD, CONNECTICUT.

CONSTRUCTION OF FIRE-ESCAPES.

Specification of Letters Patent No. 1,599, dated May 12, 1840.

To all whom it may concern:

Be it known that I, WILLIAM P. WITHEY, of Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful machine, called a "fire-escape," to be used in extinguishing fire and to facilitate the removing of persons, furniture, merchandise, and other articles from buildings on fire; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in a system of ladders sliding one within another, with a platform affixed on the top of the uppermost one. The ladders are supported by framework erected on a circular revolving base, to which the footing of the ladder is hinged. The ladder is elevated to any angle with the horizon by means of rigging of cordage or chains, the whole being supported on an oblong horizontal platform, which is mounted on wheels, to facilitate transportation from place to place.

To enable others skilled in an appropriate art, to construct and use my invention, I will proceed to describe the machinery constituting the same, more fully.

The wheels need not differ from those of common fire engines. The main platform, A, (see the drawing accompanying this specification, which is intended as part of the same) is in dimensions about 6 feet wide by 9 feet in length, and like the bodies of wheel carriages in general, is permanently fixed to the axle of the hind wheels, and is attached to that of the forward wheels by a king bolt, *a*. The circular base B, about 5 feet in diameter, is connected to the main platform, nearest to the forward end by a strong bolt, *b*, passing through its center, into said platform. This bolt forms a center or pivot around which the circular base may revolve. The framework consists of two main timbers C, C, supported by posts, *c*, *c*, *c*, strongly braced as at *d*, *d*. The ladder D, D, plies between the two timbers C, C, and is hinged at the foot to the circular base, fronting on a diametrical line of the base. One of the hinges is shown at *e*. The ladder is further supported by pins *f*, passing through the segments *g*, *g*, which are connected to the main timbers C, C, of the frame. The ladder may rest in a horizontal position, lying along partly on the platform, its remaining length extending in the rear, when the machine is required to be removed any considerable distance, as from its place of deposit to the fire. It may be raised from a horizontal to an inclined or vertical position, as the case may require, through the means of the rigging *h*, *h*, which consists of two pieces, one end of each piece being coiled around the windlass *i*, *i*, the others being made fast to the ladder D, D. When this windlass is turned for the purpose of raising the ladder, it is prevented from recoiling by a ratchet plying into the teeth of the ratchet wheel *k*.

Thus far in this description I have spoken of but one ladder; another, or more, may be added, to reach greater heights, should occasion require. When added, they are made to slide longitudinally one within another and are supported by tongues sliding in grooves, as shown at *l*. At the top end of the innermost ladder a platform E, with a railing *m*, *m*, is stationed, the use of which is, to furnish a convenient standing place for a person or persons to exercise the pipe of the hose, or for any other desirable purpose. To render this platform capable of being adjusted to a horizontal position, whatever may be the inclination of the ladder, it is hinged to the ladder at the back edge of the platform at *n*, the front edge being supported by the segments *o*, *o*, and may be raised or lowered by means of the pinion *p*, plying into the toothed segment *o*. When adjusted it may be retained in its position by passing a pin *q*, through the collar into the pinion *p*. I have contemplated other modes of effecting this adjustment, which I do not here describe as they are untried, and as whatever mode I may adopt, it cannot vary the more important principles of this machine. As an additional means of giving steadiness and firmness to this platform, I make use of pointed spikes *r*, *r*, usually an extension of the supports *s*, *s*, of the platform. These spikes may rest against, or be thrust into, the wall of the building or any suitable object that may present itself.

The rigging *t*, *t*, is used to slide the innermost ladder out from the other, in order to reach greater heights. This rigging also consists of two pieces: one end of each piece is attached to, and coiled around, the windlass partially shown at *u*, near each end inside of the frame. The course of one piece of this rigging may be traced from the windlass up over the bar *v*, thence backward

under the pulley *w*, thence upward to and over the pulley *x*, it passes thence downward inside along the grooves to the foot of the said innermost ladder to which it is made fast. The course of the other piece of rigging is exactly the same as this just described, only on the opposite side of the ladder. Now as is evident if the windlass *u*, be turned, the rigging becomes coiled around it, which must draw out the innermost ladder, thus effecting the object desired. This ladder when so drawn out is supported by a spring click, *a*, in the section of the drawing plying into the teeth of the metallic plate *y*. A ratchet wheel is also applied to this windlass for additional security.

For the convenience of safely lowering persons or goods from lofty doors or windows, I make use of a bailed box *z*, suspended by rigging 1, which passes from the bail of the box, up over a bar and pulley, the bar shown at 2, 2, thence down to the back part of the circular base under a pulley *b*, in the section attached to the same, thence forward, and under the pulley 3, stationed at the front of said base, thence upward to the windlass 4, around which it coils, and by turning which by the winch 5, the box may be raised or lowered at pleasure. This windlass like those before described is secured by a ratchet wheel. When from the great height of the ladders, uneven ground, or other causes, the basement appears to be insufficient, it may be assisted by simple shores or props as at 6.

Everything in the operation of this machine which must not necessarily be inferred from this description, may be comprised in the remark, that the circular base B, with all the machinery attached to it, may be turned on its center in either direction, which motion, together with those governing the inclination and height of the ladders, renders the upper platform capable of being instantly adjusted to any possible position within its reach.

I do not claim as my invention the ladders, windlasses, pulleys, or any of the above described parts unconnectedly considered, nor do I claim as my invention any of the means by which the several parts are connected together, but

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

The hinging of the railed platform to the top of the ladder and rendering it capable of being adjusted to a horizontal position whatever may be the inclination of the ladder, by means of the toothed segments *o*, *o*, the whole being constructed and operating substantially in the manner herein set forth.

WILLIAM P. WITHEY.

Witnesses:

LEMUEL HEDGE,

SAML. DAILEY.