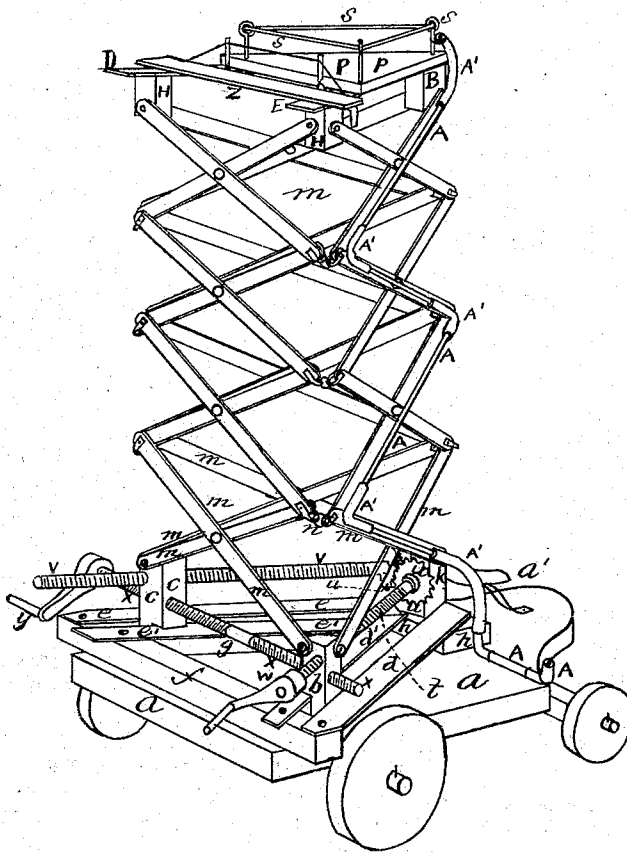


J. A. DUGGAN.
Firemen's-Elevators.

No. 156,842.

Patented Nov. 17, 1874.



Witnesses

B. M. Williams,
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John A. Duggan Inventor
 By his Attys

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UNITED STATES PATENT OFFICE.

JOHN A. DUGGAN, OF QUINCY, MASSACHUSETTS.

IMPROVEMENT IN FIREMEN'S ELEVATORS.

Specification forming part of Letters Patent No. **156,842**, dated November 17, 1874; application filed January 20, 1874.

To all whom it may concern:

Be it known that I, JOHN A. DUGGAN, of Quincy, in the county of Norfolk and State of Massachusetts, have invented a new and valuable Improvement in Firemen's Elevators; and I do hereby declare that the following is a full, clear, and exact description of the said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention is intended for use particularly at large fires. It can be drawn to the fire by horses, and, in case it is desirable that service should be rendered upon the roof of any building, or in any other part, men can be placed upon a platform (shown in the drawing) and elevated by the means hereinafter described.

It can take the place of ladders, which are dangerous at the best, and may be drawn from one place to another, whether folded or unfolded. It is useful, also, as a fire-escape, and may be used as an elevator for light merchandise.

The accompanying drawing illustrates my invention as it appears when the platform is partly raised.

a is the carriage, having a seat, *a'* for the driver. *b* is a metallic block sliding between the tracks *d d'*, and resting upon the latter. *c* is a block, similar to *b*, sliding between the tracks *e e'*, and bearing upon the latter. *f g* is a triangular frame, the portion *f* supporting the ends of the tracks *d d' e e'*, and the portion *g* supporting the tracks *d' e'*, upon which the blocks *b c* rest during nearly their entire lengths. *h* is a wooden block, supporting the ends of the tracks *d d' e e'*, and also supporting the stationary metallic block *k*, which is fixed upon the said block *h*. *m m* is a series of levers, loosely attached together, similar to lattice-work, joined together, substantially as shown, at *n*, and forming a three-sided frame-work. The ends of the six lowest levers are attached to the blocks *b c k*. *p* is a platform surrounded by a railing, *s*, and supported by the frame-work *m*. One corner of this platform is fixed to the block *B*, while the rest is supported by the planks *D E*, which

loosely rest upon the blocks *H*. *t* is a "left" screw operated by the crank *w*, passing through and fitting into the block *b*, and having its other end held in the fixed block *k*. *v* is a "right" screw, held by the block *k*, and fitting into the sliding block *c*. These screws are connected by the bevel-gear *u*. *x* is a right-and-left screw, operated by the crank *y*, and passing through the sliding blocks *c b*.

It will readily be seen that, upon turning the crank *w*, the screws *t v* tend to draw the sliding blocks *b c* toward the fixed block *k*; also, that, upon turning the crank *y*, the right-and-left screw *x* tends to draw the blocks *c b* together; therefore, upon turning both cranks *w y* in the proper directions, the screws *x v t* draw the sliding blocks along the tracks *d d'* and *e e'*, taking with them the four lowest ends of the frame-work *m*, and thus lifting the platform *p*. Upon turning the cranks *y w* in the reverse direction the platform is lowered.

When the machine is drawn to the fire the platform is as low as possible, the frame work *m* being shut up.

When the men with the hose are placed upon it, it is raised to any desired height by means of the cranks *w y*; and by means of a small plank or gangway, *z*, the men pass upon the roof or into a window, as desirable.

I do not propose to confine myself, in using this device, to scenes of conflagration only, but propose to introduce it as an elevator for light merchandise, or to apply it to any other use where it will prove to be of advantage.

I do not claim as new a firemen's elevator consisting of a system of jointed levers carried upon a truck; but

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the sliding blocks *b c*, fixed block *k*, screws *t v x*, and tracks *e e' d d'*, substantially arranged as hereinbefore specified.

JOHN A. DUGGAN.

Witnesses:

HENRY W. WILLIAMS,
E. H. OBER.