

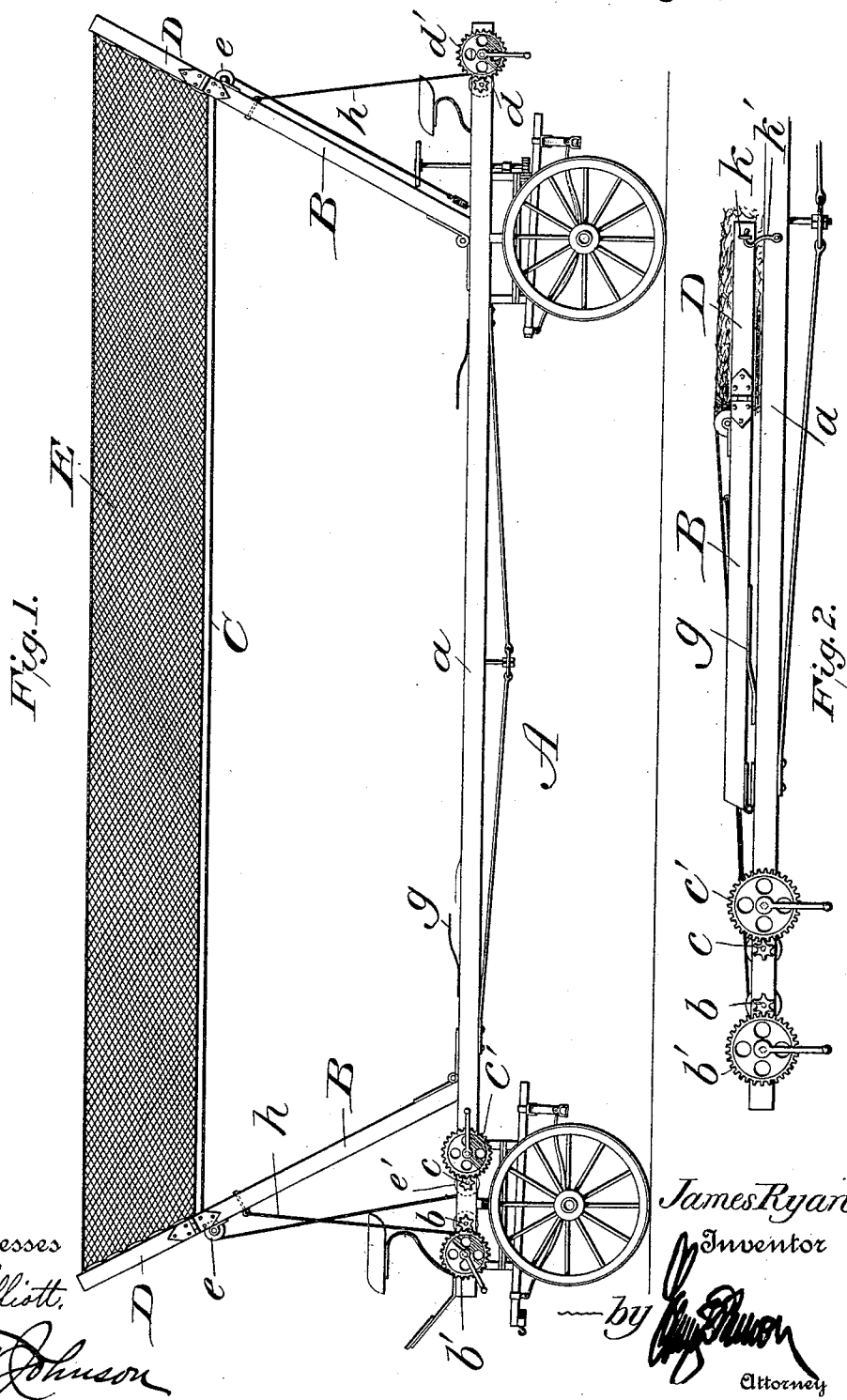
(No Model.)

3 Sheets—Sheet 1.

J. RYAN.
LIFE NET FIRE ESCAPE.

No. 480,139.

Patented Aug. 2, 1892.



Witnesses
L. S. Elliott.

E. M. Johnson

James Ryan.

Inventor

by *James Ryan*
Attorney

(No Model.)

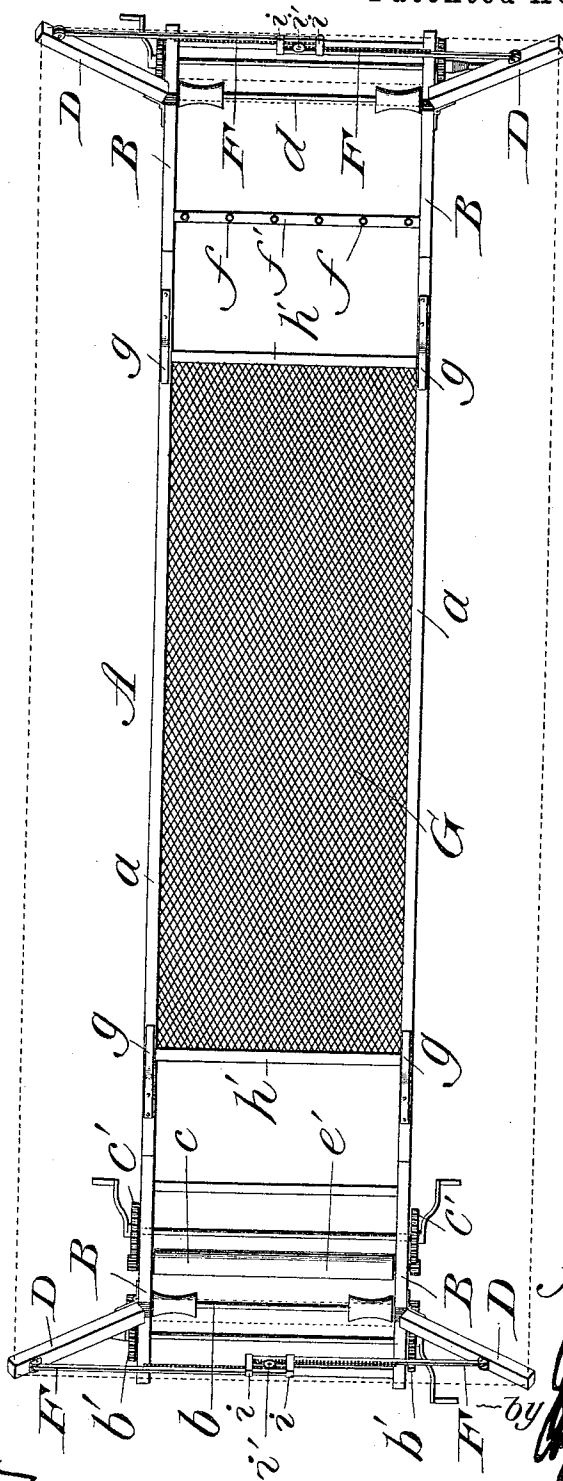
3 Sheets—Sheet 2.

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Fig. 3.



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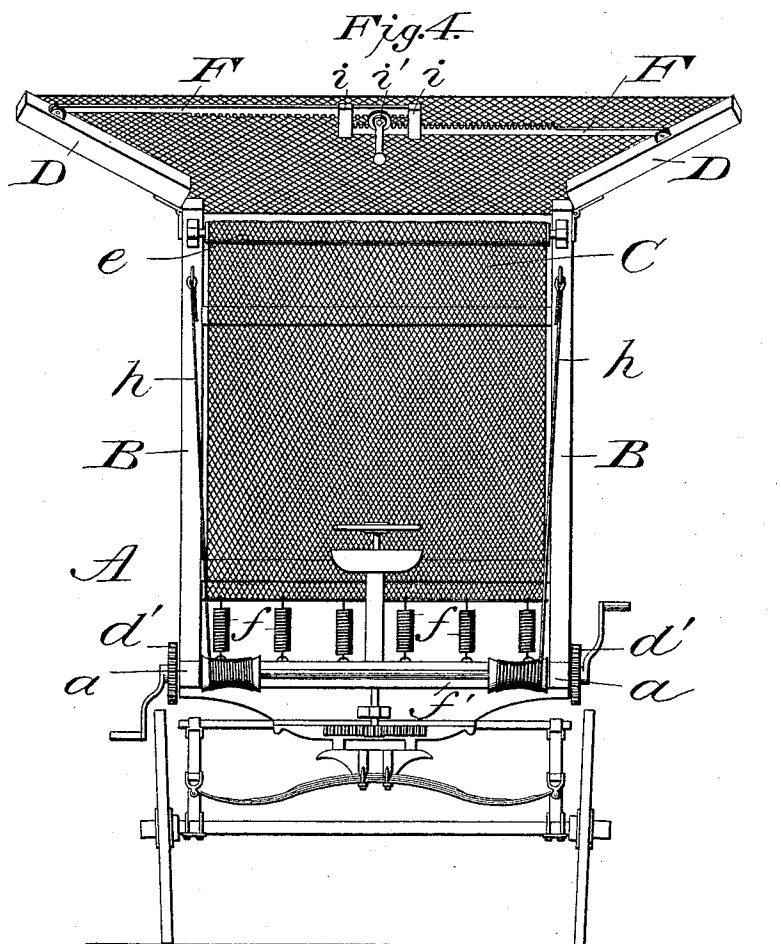
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UNITED STATES PATENT OFFICE.

JAMES RYAN, OF NEW YORK, N. Y.

LIFE-NET FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 480,139, dated August 2, 1892.

Application filed April 14, 1892. Serial No. 429,183. (No model.)

To all whom it may concern:

Be it known that I, JAMES RYAN, a citizen of the United States of America, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Life-Nets for Fire-Escapes, and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in fire-escapes which are employed for catching persons jumping from burning buildings; and the invention consists in providing a truck-frame with a folding superstructure, which carries a net and side wings therefor, which can be supported and stretched above the truck-frame; and it further consists in the construction and combination of the parts as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation showing my improved fire-escape arranged in a position for use. Fig. 2 is a side elevation showing a portion of the superstructure with the frame folded. Fig. 3 is a plan view. Fig. 4 is a rear elevation.

A designates a truck, which is mounted upon suitable running-gear. The side beams *a a* of the truck are provided near their front ends with shafts *b* and *c*, which carry suitable drums, and beyond the side beams said shafts have pinions keyed thereon in mesh with gear-wheels *b'* and *c'*, which have crank-handles, as shown, for turning the same. The rear end of the truck is provided with a shaft *d*, with pinions in mesh with gear-wheels *d'*. To the side beams of the truck are hinged standards *B B*, which are provided near their upper ends with bearings for rollers *e e*, over which pass the net *C*, said net being secured at one end to a series of springs *f*, attached to the cross-bar *f'* of the truck-frame, and its other end wound around a roller *e'*, fixed upon the shaft *c*, located at the front end of the

truck. When the standards *B B* are lowered, they rest upon springs *g g*, carried by the side beams, and when in such a position the net *C* is wound upon the roller *e'*.

h h designate guy-ropes, which are attached near the upper ends of the standards *B B* and pass therefrom to suitable drums fixed upon the shafts *b* and *d*, and by means of these connections the standards can be elevated and braced in an upright position. The springs *g g* not only serve as a rest or support for the standards, but also raise them to a slightly, inclined position, so that the guy-ropes can complete the elevation thereof.

To the upper ends of the standards *B B* are hinged or otherwise secured short sections or extensions of the standards, said sections being designated by the letter *D*, and are hinged to the outer sides of the standards and are provided with nets *E E*. Each section or extension of the standards has pivotally secured thereto a rack-bar *F*, carrying loop *i* at its end, which embraces the rack-bar carried by the adjacent section, and between these rack-bars, so as to be in mesh therewith, is a pinion *i'*, provided with a crank-handle for turning the same to either spread the rack-bars or draw them together. By this construction I provide the upper part of the net with flaring sides.

The center part of the truck is also provided with a net *G*, which may be permanently attached to the side beams *a a* and to the cross-bars *h' h'*, and said net forms the bottom of the truck-frame and may be used in cases of emergency where there is not sufficient time to lift the superstructure, as the standards lie above the side beams when folded and not within the same; but ordinarily the net *G* serves as a support for the nets *C* and *E* when folded upon the truck-frame.

The gear-wheels herein shown may be provided with suitable pawls and ratchets or other means for holding them against rotation. The extensions *D* have suitable eyes *k*, with which hooks *k'* engage when the superstructure is folded upon the truck-frame.

A truck constructed as hereinbefore described is extremely light, and the superstructure may be readily and quickly ele-

vated. Instead of employing nets, as shown, I may use canvas of suitable strength and elasticity.

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

1. In a fire-escape, the combination of a truck having side beams *a a*, hinged standards B B, carrying rollers *e e*, and a net C, adapted to be passed over said rollers and secured at one end to the frame of the truck and at the other end to a drum carried by the truck-frame, substantially as shown, and for the purpose set forth.

2. In a fire-escape, the combination of a truck, standards B B, hinged thereto and provided with rollers over which a life-net passes, a drum or windlass carried by the truck, around which the life-net is passed, and guy-ropes *h h* for raising the supporting-standards and maintaining them in an elevated position, substantially as shown, and for the purpose set forth.

3. The combination, with a truck A, having standards B B hinged thereto, of a life-net supported by said standards and connected at one end to the truck-frame by springs, the other end of the net being secured to a suitable drum or windlass carried by the frame, substantially as shown, and for the purpose set forth.

4. In a fire-escape or life-net, the combination of the standards B B, suitably supported upon a truck, said standards having hinged to the outer sides thereof extensions D, carrying side and end nets, substantially as shown, and for the purpose set forth.

5. The combination, with a life-net or fire-

escape constructed substantially as shown, of the standards B B, provided at their upper ends with extensions D, which are hinged thereto, rack-bars F F, pivoted to the extensions and held in looped engagement with each other, and means for spreading said extensions by engagement with the rack-bars, substantially as shown, and for the purpose set forth.

6. The combination, with a truck having side beams *a a*, standards B B, hinged thereto and provided with supports for a life-net, of springs *g g*, upon which said standards bear when folded, and means for positively engaging the free ends of said standards with the side beams, substantially as shown, and for the purpose set forth.

7. In combination with a truck, side beams *a a*, having standards hinged thereto to be supported in an inclined position thereon, said standards having extensions D hinged to swing upward from the upper ends of said standards, side and end nets carried by said extensions, and a life-net C, supported by rollers *e e*, the ends of said life-net being connected with the truck-frame, drums also carried by the truck-frame and provided with guy-ropes which connect thereto and with the standards, and a net or flexible bottom G, supported by the side beams and cross-bars of the truck, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES RYAN.

Witnesses:

MAX LEHMANN,
LOUIS S. CORLIN.