

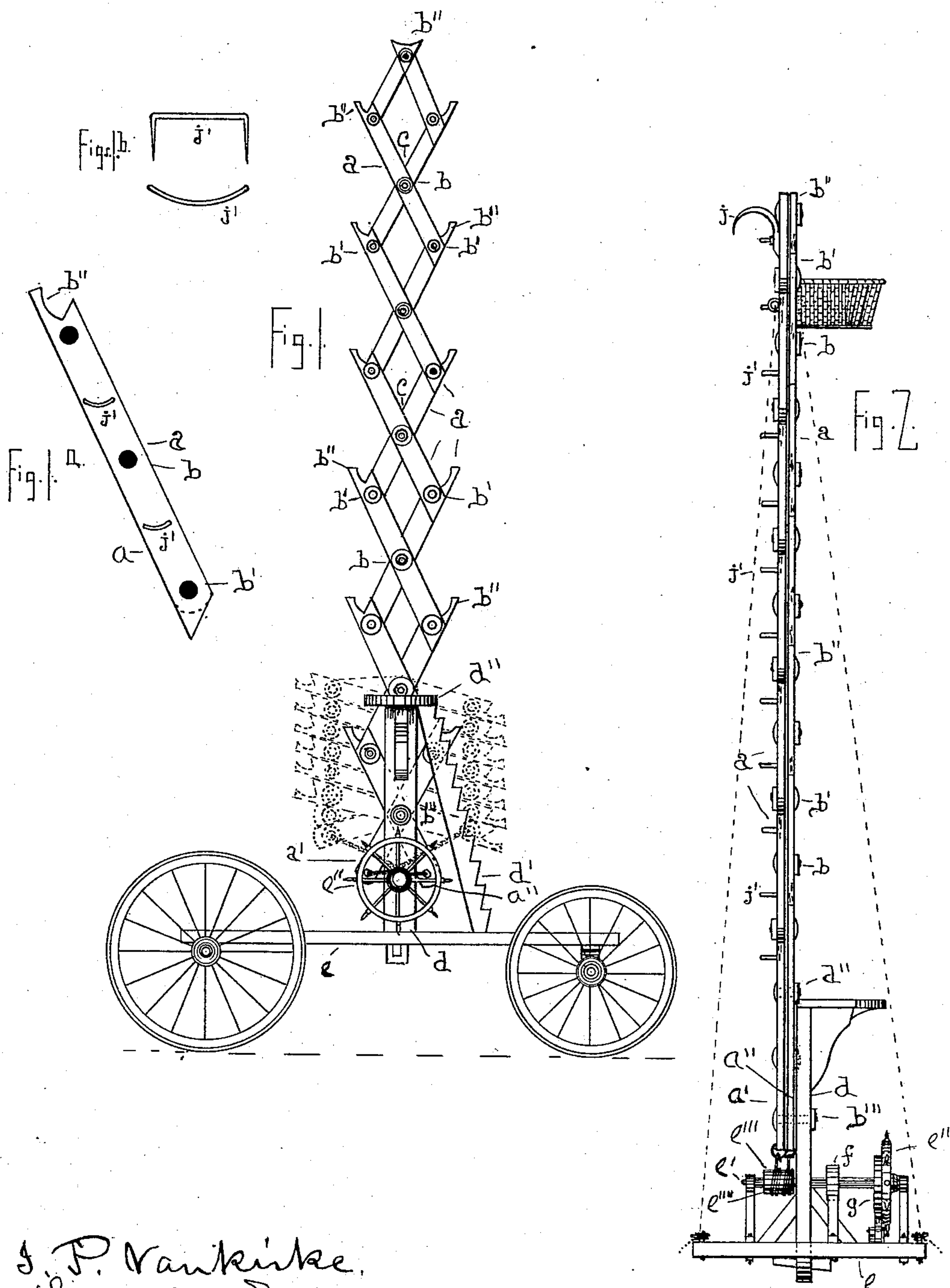
(No Model.)

A. VAN ORDER.

FIRE ESCAPE.

No. 370,833.

Patented Oct. 4, 1887.



J. P. Van Kirk,
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Witnesses.

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FIRE-ESCAPE.

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To all whom it may concern:

Be it known that I, ABRAM VAN ORDER, a citizen of the United States, and a resident of Ithaca, Tompkins county, New York, have
5 invented an Improved Fire-Escape, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to a series of expanding and folding cross-bars or hinged levers capable of being used as a ladder, and provided
10 with a box or basket which can, with the cross-bars, be elevated and lowered, the whole being used on a wheeled vehicle; and the nature of my invention will be apparent as I describe it.
15

Figure 1 is a perpendicular view or elevation, the front of my fire-escape. Figs. 1^a and 1^b are views in detail. Fig. 2 is an end or transverse elevation. Detached parts or views
20 are named farther on.

In the figures, *a* is a series of expansible levers or pieces, made preferably of wood, with hinge pivots or bolts *b* at their centers and with other pivot-bolts, *b'*, at their ends.
25 The top of each piece is cut, as shown in Figs. 1 and 1^a, by a curve, *b''*, that the foot of one climbing my ladder-bars may at each step be in a secure place. When the lever-pieces are long, the alternate places for the feet are the
30 central angles, *c*, and when short only the foot-excavations *b''* are used. Two persons may ascend or descend in the latter case without interference with each other. The lowest pair of lever-pieces are hinged closely at *b'''* to the
35 upright post *d*, so that the post acts as a guide in the elevation of the "lazy-tongs" levers, which is securely fastened to the bed-piece *e*, which is also preferably the platform of the vehicle. The post has a brace, *d'*, which is
40 cut into or made with steps, as shown. It braces the post and furnishes the means of ascent to the staging-floor *d''*, which is any convenient number of feet—as, for example, ten or twelve feet—above the vehicle-platform;
45 and the rear edge of the platform is in close proximity to the lazy-tongs levers, so that the levers in their ascent and descent are guided thereby.

At *e'* is a shaft, which goes through the post
50 *d*, and has on the front side, Fig. 1, the tread or hand wheel *e''*, and on the rear of the post

a drum, *e'''*, small in diameter, but of any suitable size, on which the cords *e''''* are wound, one end of each stout cord or rope being attached to the end of the lever-piece of the side
55 to which it goes. By these means a powerful force is exerted on the lower end of the lowest lever-pieces, *a' a''*—a force which, by the hinged structure of the lever-pieces, is sufficient to elevate them to any desirable extent within
60 their range. The shaft *e'* has a ratchet and pawl, *f*, at any convenient place, but preferably between the wheel and post, by which the lever-ladder is held at any convenient height desirable. A hand-crank may be attached to
65 the rear end of the shaft *e'*. Guy-ropes are attached to the top of the upper two lever-pieces, as shown, whose lower ends are rove into belaying-pins in a manner well known, or otherwise fastened, with their slack taken up.
70 There is some side flexion or inclination, and by these ropes this is adjusted to the window or other place to be reached by my lever extension-ladder made as I have described. A hook, *j*,
75 is made fast to the top of my extension lever or bar ladder, which hooks into the window or window-sill. This hook I make either permanently fast to the top of my lever or bar extension-ladder, or I use a simple or, when
80 desirable, a trip-lock joint, which last form has a trip wire or cord, so that it is fast to the window as long as the joint is not tripped. To save another figure, the inclined dotted cross-lines at the lower part of Fig. 1 indicate my
85 lever ladder when folded and not in use.

In Figs. 1^b and 2, at *j'*, are indicated metallic step projections on the back side of my extension-ladder, and their use is independent of the other steps, made by shaping the ends of the lever-pieces. They are in proper position
90 for use when my extension-ladder is extended, and, too, they enable those who escape from the windows below the one to which the hook *j* is attached to go down by them without interfering with those who escape by the front
95 side of my device. A basket is also represented attached to the top of my folding-ladder structure in Fig. 2, which is used to put in nervous ladies, children, or valuables, and they are lowered by the tread or hand wheel *e''* to
100 the platform *d''*, which is near the ground. The two lower levers may be longer than those

above, that thereby a more powerful leverage may be had on the extension-levers by the wheel, drum, and cords. Cog-wheels and pinions below the platform and a retarding friction-wheel and friction-lever may be used in connection with the hand-wheel *e''*. This friction-wheel may be made as a disk, *g*, attached to the hand-wheel, with the friction-lever pivoted to the vehicle-platform and bearing on the disk. Stiffening-pieces may be used, made preferably by a pivot in their center to the central joints and reaching to the central joints above, where there is a pivoted slide-loop, and with a latch-loop at the central joint below, thus making a neat folding of these pieces in a series, which operates easily.

My extension-ladder thus made is useful not only as a fire-escape, but as a ladder for picking fruit, for repair of buildings, and like purposes where a height is to be reached and a ladder is to be raised, since the vehicle makes it at all times transportable and it needs but a little power to elevate it. All other parts and uses are believed to be apparent.

I claim—

1. In the described fire-escape, the combination of the standard post *d*, fixed immovably to the wagon-platform *e*, the brace stairway *d'*, the operator's staging on the top of the standard, and the levers or lazy-tongs pieces *a*, pivoted in close proximity to the standard and staging, as set forth. 25 30

2. In the described fire-escape, the foot-step staples inserted into the lever-pieces of the lazy-tongs between the central and the end pivot-bolts of the lever-pieces, as set forth. 35

3. In the described fire-escape, the described device as a whole, constructed of the levers *a*, standard *d*, brace-ladder *d'*, staging *d''*, wheeled platform *e*, staple-steps *j'*, elevating-windlass, basket, and guy-ropes, made and operated as set forth. 40

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