

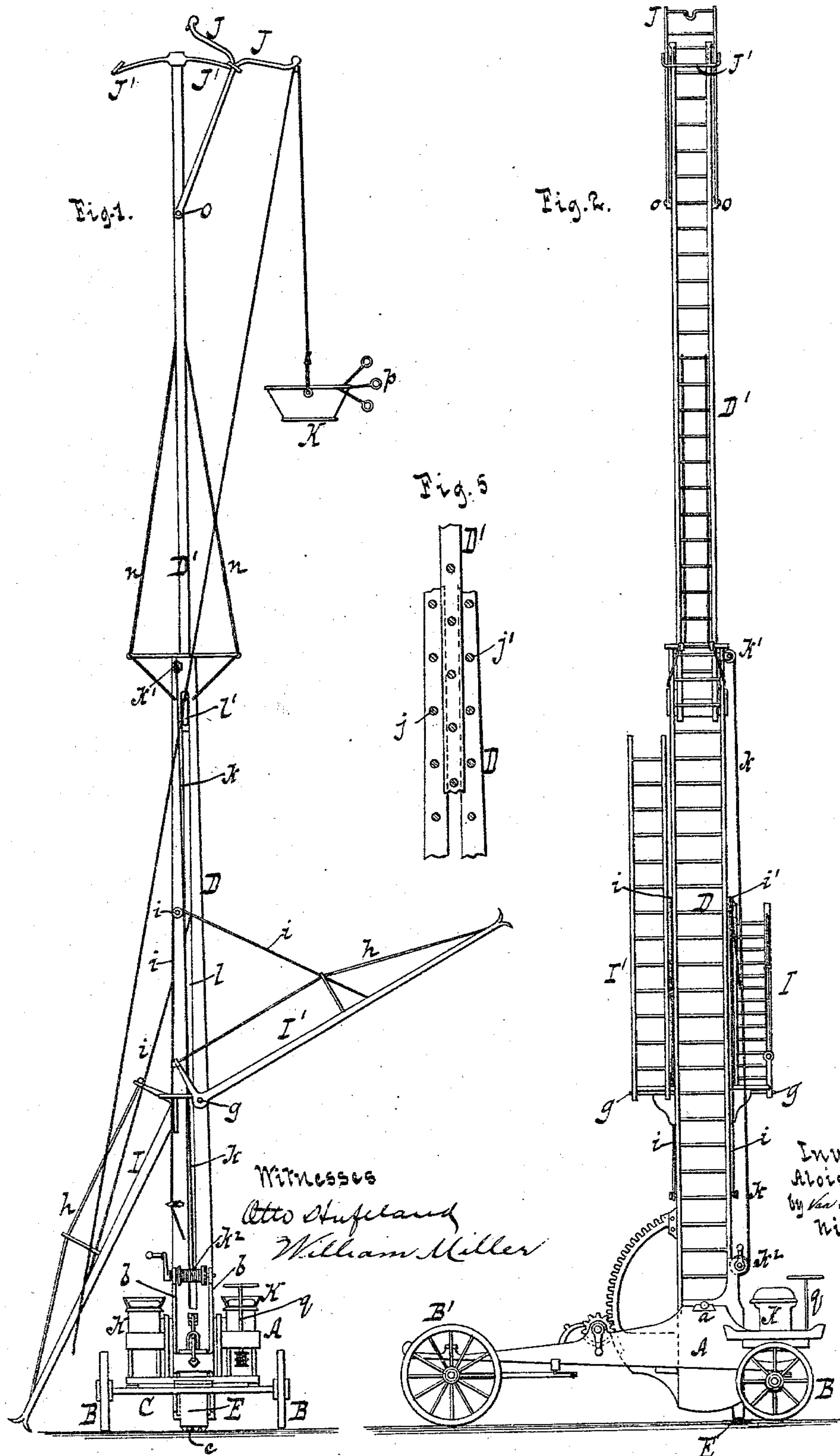
(No Model.)

2 Sheets—Sheet 1.

A. PETELER.  
FIRE ESCAPE LADDER.

No. 283,654.

Patented Aug. 21, 1883.



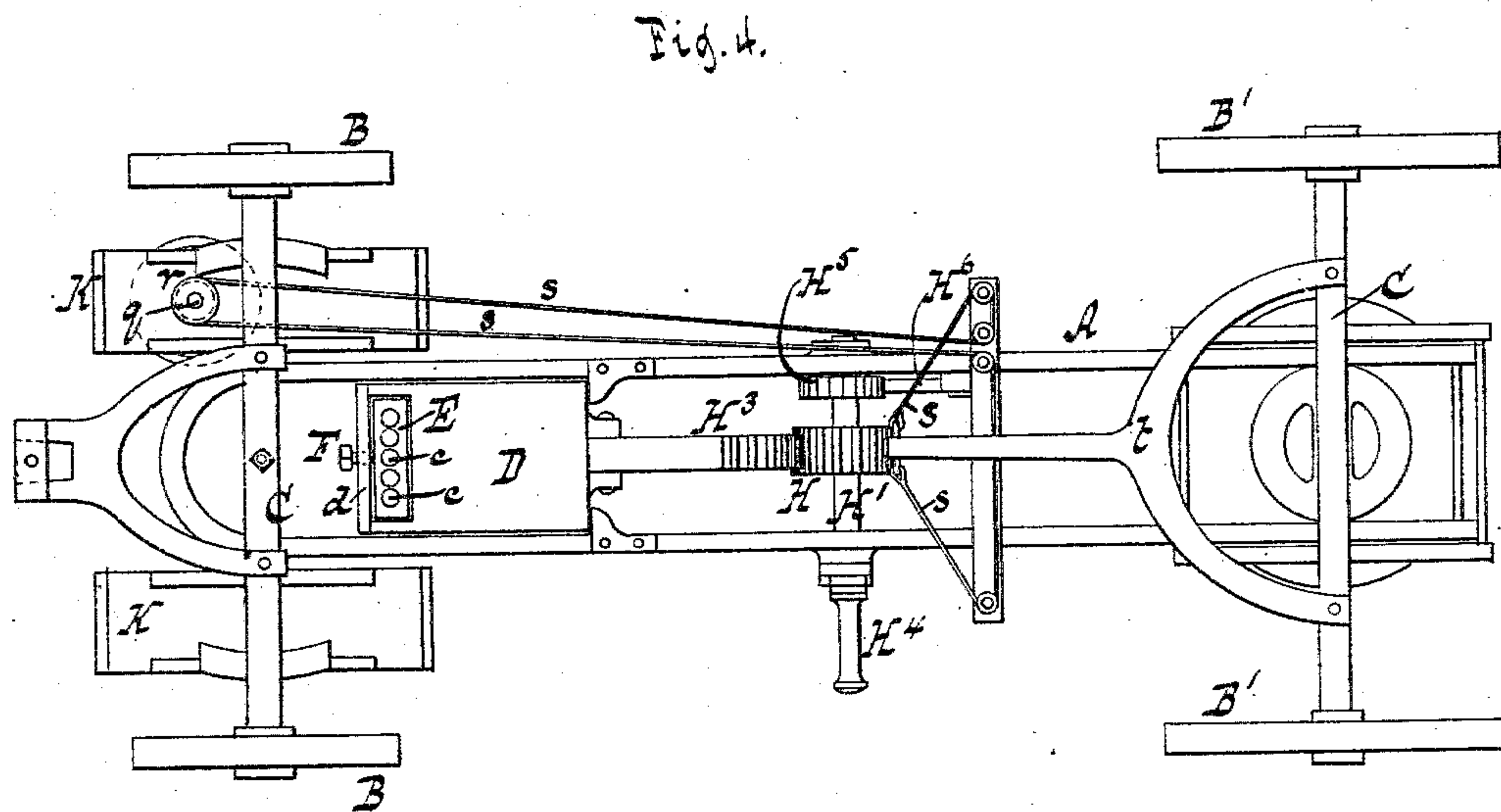
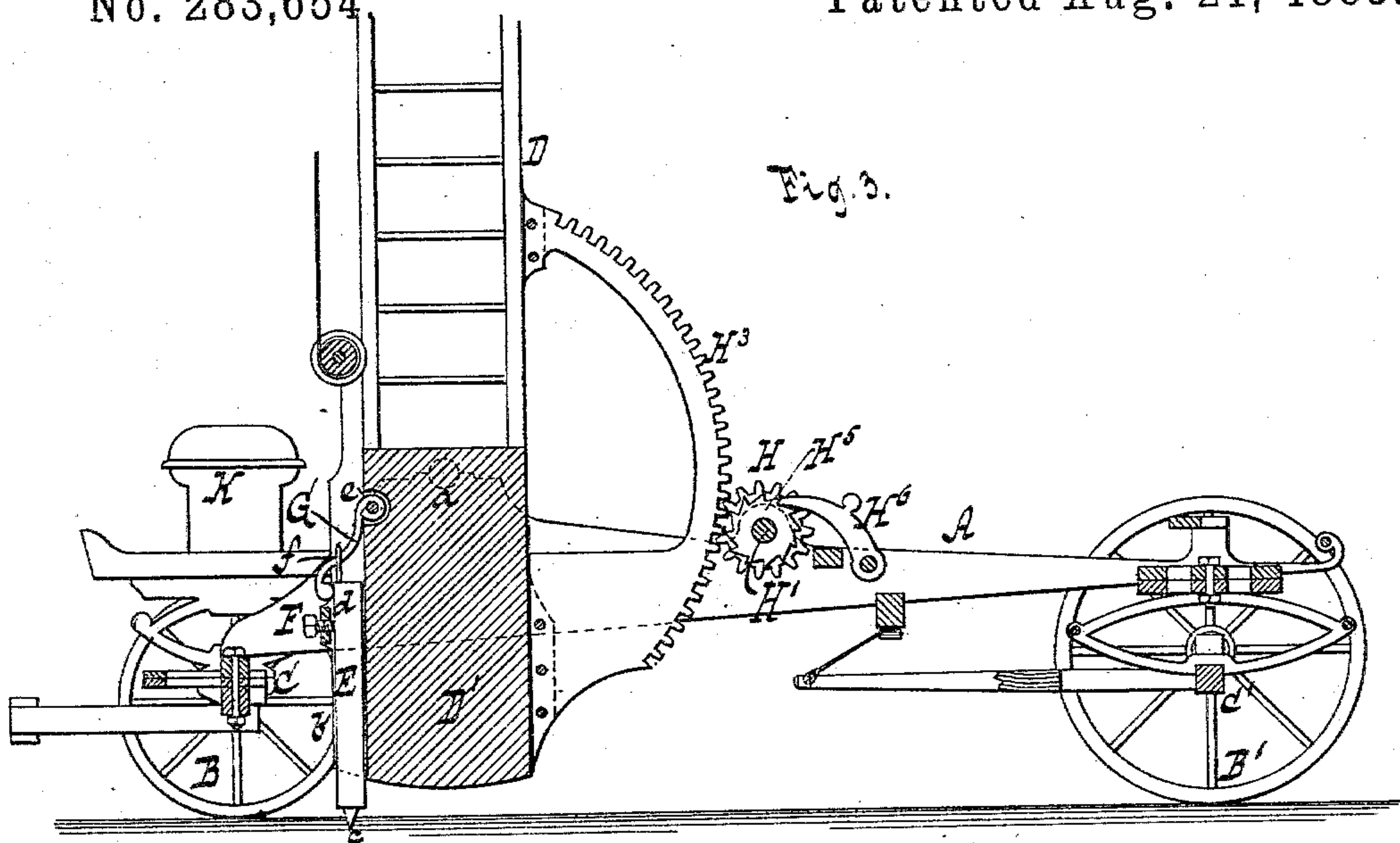
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Witnesses  
Otto Hufeland  
William Miller

Inventor  
Alois Peteler.  
by Van Gantwood & Hauff  
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# UNITED STATES PATENT OFFICE.

ALOIS PETELER, OF NEW DORP, NEW YORK, ASSIGNOR TO WILLIAM H. PETELER, OF SAME PLACE.

## FIRE-ESCAPE LADDER.

SPECIFICATION forming part of Letters Patent No. 283,654, dated August 21, 1883.

Application filed March 8, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ALOIS PETELER, a citizen of the United States, residing at New Dorp, in the county of Richmond and State of New York, have invented new and useful Improvements in Ladder Fire-Escapes, of which the following is a specification.

This invention relates to that class of fire-escapes comprising a wheeled truck or carriage on which is mounted a swinging ladder to be lowered and rest on the truck when not in use, and be raised to a position for use when desirable.

The novelty in my apparatus consists in a peculiar arrangement of a balance-weight on the swinging ladder, and in certain other features, hereinafter fully described, and illustrated in the accompanying drawings, in which—

Figure 1 represents an end view, looking from a forward direction. Fig. 2 is a side view, showing some of the parts in a different position from Fig. 1. Fig. 3 is a vertical longitudinal section on a larger scale than in the previous figures. Fig. 4 is an inverted plan view. Fig. 5 is a detail view of the swinging ladder.

Similar letters indicate corresponding parts.

The letter A designates the frame of the truck, and B B' its wheels, four in number, turning on the fore and hind axles, C C'.

The letter D indicates the swinging ladder, which is mounted on the truck by horizontal pivot-shafts *a*, projecting from the ladder and resting in bearings on the truck-frame. Said pivots *a* are near one end of the ladder, where it is made solid, as at D', and hence when the ladder is raised such end is brought near the ground. On the lower or solid part of the ladder are vertical guides *b*, in which is arranged a sliding balance-weight, E, so that if, when the ladder has been raised, this weight is set free, it falls to the ground by gravity, thus adjusting itself thereto, while by its contact with the ground it tends to sustain the ladder in an upright position.

On the lower end of the weight E are spurs *c*, which, when the weight is permitted to fall, enter or penetrate the ground or any suitable crevice therein, as between the blocks of a

pavement, so that the effect of the weight is thereby materially increased. If necessary, these spurs *c* may be driven into the ground, as by striking the weight with a hammer. With the weight E is combined a fastening, consisting in this example of a set-screw, F, Figs. 3 and 4, whereby it may be held in contact with the ground, so that said weight acts positively to support the ladder, it, together with the ladder, being prevented by the set-screw from moving in any direction. The set-screw F passes through a cross-piece, *d*, on the guides *b*, and by its means the weight E may also be held in an upper position when not in use, in which position the weight performs the function of balancing the ladder as it is being raised or lowered.

For the purpose of lifting the weight E, I employ a lever, G, which is hung to the ladder at one end, as at *e*, and passes through a loop, *f*, on the weight, so that by swinging this lever upward it carries the weight with it.

The raising and lowering of the ladder D is accomplished by means of a pinion, H, fixed to a shaft, H', on the truck, and engaging a toothed segment, H<sup>3</sup>, on the ladder, the shaft being provided with a handle, H<sup>4</sup>, for turning it, and with a ratchet-wheel, H<sup>5</sup>, coacting with a pawl or detent, H<sup>6</sup>.

To the ladder D are hung by horizontal pivot-shafts *g* two bridges, I I', one on each side of the ladder, adapted to be adjusted to a window and to the ground, respectively, as indicated in Fig. 1, so that a direct passage is formed thereby from the window to the ground, allowing a person to escape from the window with convenience. Said bridges I I' may be provided with hand-rails *h*, and they are supported in the desired positions by ropes *i*, which are connected thereto at one end and pass over pulleys *i'*, while they are fastened to a suitable part of the ladder D at the opposite end. When the bridges I I' are not in use, they are swung to a position parallel with the ladder D, as indicated on the left-hand side of Fig. 2.

The ladder D is constructed with two sets of rounds, *j j*, Fig. 5, between which is arranged a sliding ladder, D', having connected to it one end of a rope, *k*, which passes over



a pulley,  $k'$ , and the other end of which is connected to a windlass,  $k^2$ , so that this ladder may be raised and lowered and supported in the desired position by such rope. Said sliding ladder  $D'$  is guided in its movement by longitudinal slots  $l$  in the side of the swinging ladder  $D$ , such slots receiving in them studs  $l'$  on the sliding ladder, and when the sliding ladder is raised to the position shown in Figs. 1 and 2, it is steadied by brace-ropes  $n$ , connected thereto, from a cross-piece on the top of the swinging ladder.

On the upper part of the sliding ladder  $D'$  is located a double bridge,  $J$ , which is hung thereto by pivots  $o$ , and at the top of said ladder are arms  $J'$ , of yoke shape, which act as a support for the bridge, alternately—that is to say, these arms project in opposite directions from the ladder, and receive the bridge in them as it is swung to one or the other side of the ladder. The purpose of this double bridge  $J$  is, like that of the bridges  $I$   $I'$ , to facilitate escape from a window, and, if desired, it may be utilized to support a basket,  $K$ , for lowering persons to the ground, this basket being furnished with handles  $p$ , for drawing it toward a window.

On the forward part of the truck are arranged seats  $K'$ , each adapted to support one or more persons, and also arranged a spindle,  $q$ , for steering the rear axle, such spindle carrying a pulley,  $r$ , Fig. 4, around which passes a rope,  $s$ , having its opposite ends connected to an arm,  $t$ , on the axle, both axles being steering mediums.

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

1. In a fire-escape, the combination, with a swinging ladder mounted on a suitable truck, of a sliding balance-weight arranged in vertical guides on the lower part of the ladder, and capable of being lowered to engage the ground, and thereby steady the ladder in an upright position, substantially as and for the purpose described.

2. In a fire-escape, the combination, with a swinging ladder mounted on a suitable truck,

of a sliding balance-weight arranged in vertical guides on the lower part of the ladder, and a fastening for the weight, substantially as and for the purpose described.

3. In a fire-escape, the combination, with a swinging ladder mounted on a suitable truck, of a sliding balance-weight arranged in vertical guides on the lower part of the ladder, and provided with spurs on its lower end, substantially as and for the purpose described.

4. In a fire-escape, the combination, with a swinging ladder mounted on a suitable truck, of a sliding balance-weight arranged in vertical guides on the lower part of the ladder, and provided with spurs on its lower end, and a fastening for the weight, substantially as and for the purpose described.

5. In a fire-escape, the combination, with a swinging ladder mounted on a suitable truck, of a sliding balance-weight arranged in vertical guides on the lower part of the ladder, a lifting-lever connected to the weight, and a set-screw adapted to fasten the weight in the desired position.

6. In a fire-escape, the combination, with a swinging ladder mounted on a suitable truck, of swinging bridges hung to the opposite sides of the ladder, for their adjustment to a window and to the ground, respectively, and ropes for supporting said bridges in the desired positions.

7. In a fire-escape, the combination, with a swinging ladder mounted on a suitable truck, of a sliding ladder arranged on a swinging ladder, a rope for supporting the sliding ladder, a swinging double bridge hung to the sliding ladder at its upper end, and yoke-arms projecting from the sliding ladder in opposite directions, for supporting said bridge alternately.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

ALOIS PETELER. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.