(No Model.)

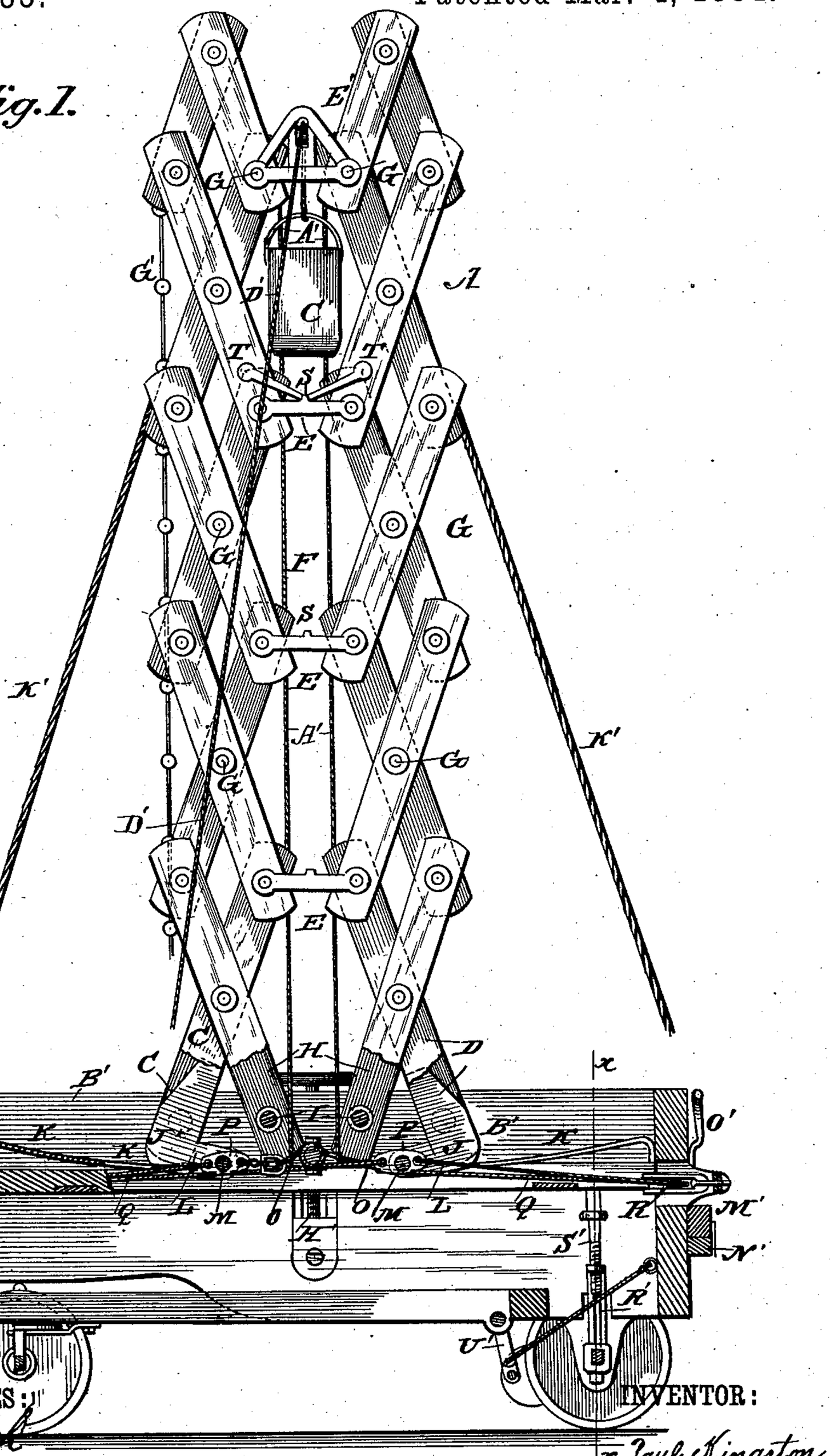
3 Sheets—Sheet 1.

P. KINGSTON.

EXTENSIBLE FIRE ESCAPE.

No. 294,635. Patented Mar. 4, 1884.

Fig. 1.



WITNESSES:

Fred. G. Dieterich

A. G. Lyne.

INVENTOR:

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ATTORNEYS.

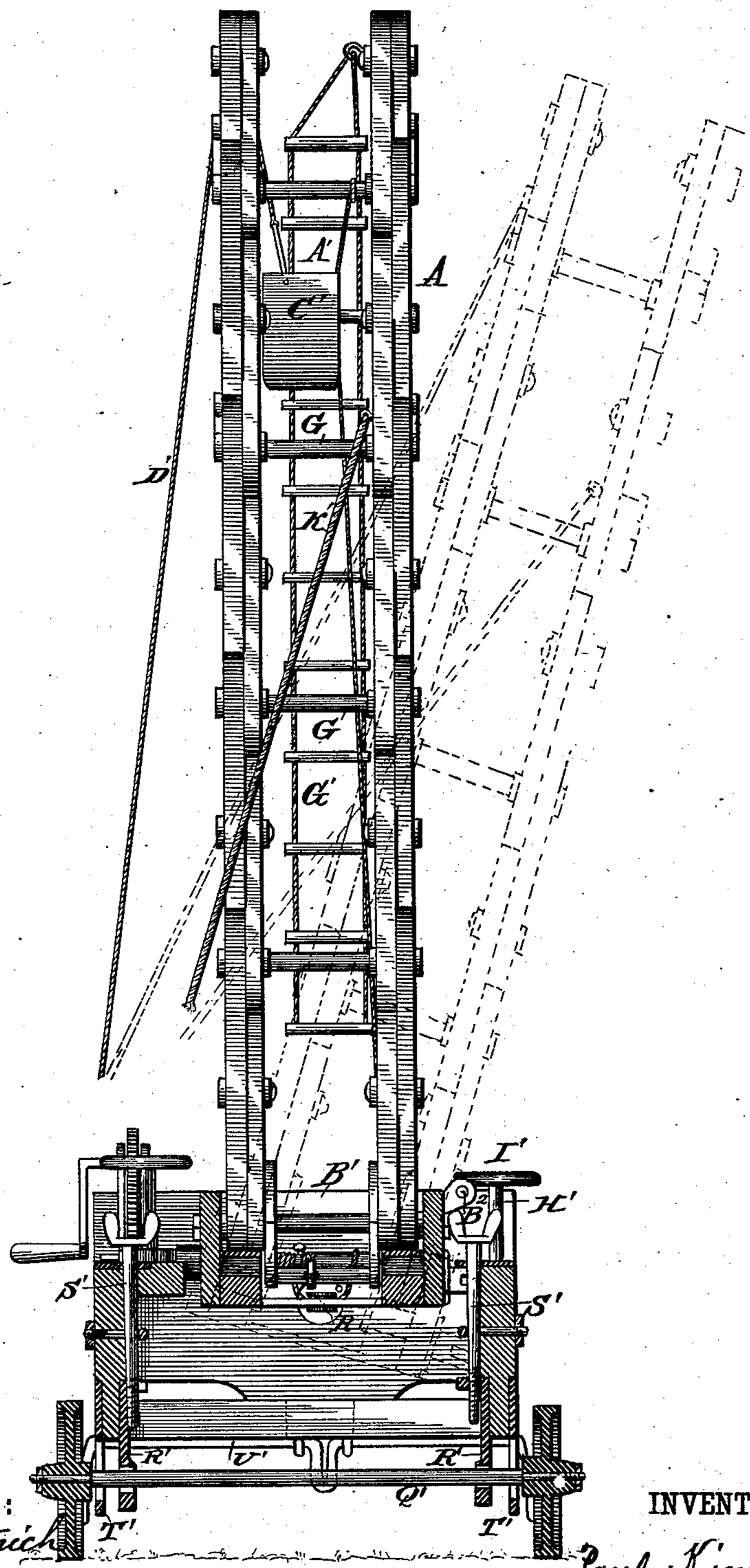
(No Model.) 3 Sheets—Sheet 2.

P. KINGSTON.

EXTENSIBLE FIRE ESCAPE.

No. 294,635. Patented Mar. 4, 1884.

Fig. 2.



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(No Model.)

3 Sheets—Sheet 3.

P. KINGSTON.

EXTENSIBLE FIRE ESCAPE.

No. 294,635. Patented Mar. 4, 1884.

Fig. 3.

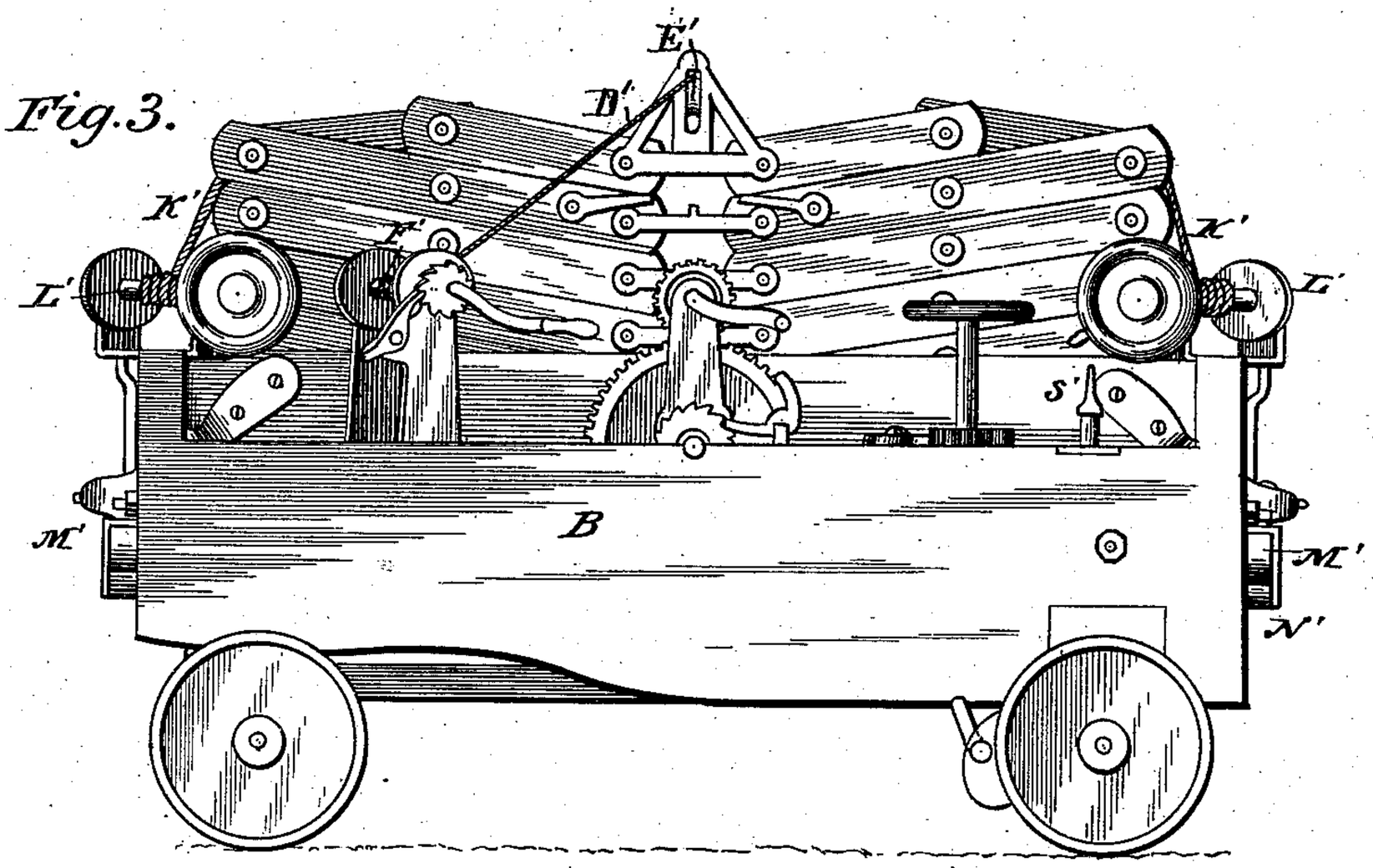


Fig. 4.

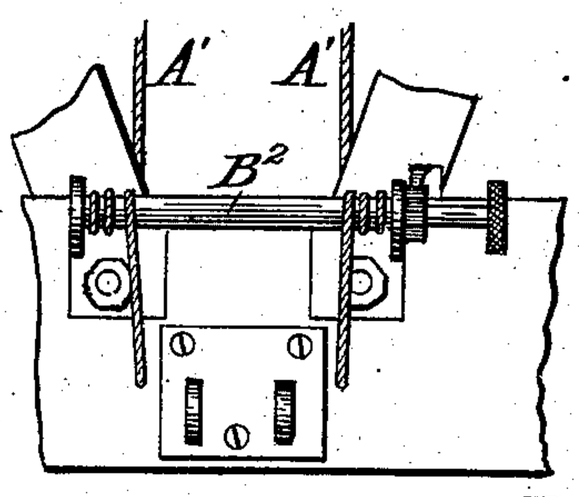


Fig. 5.

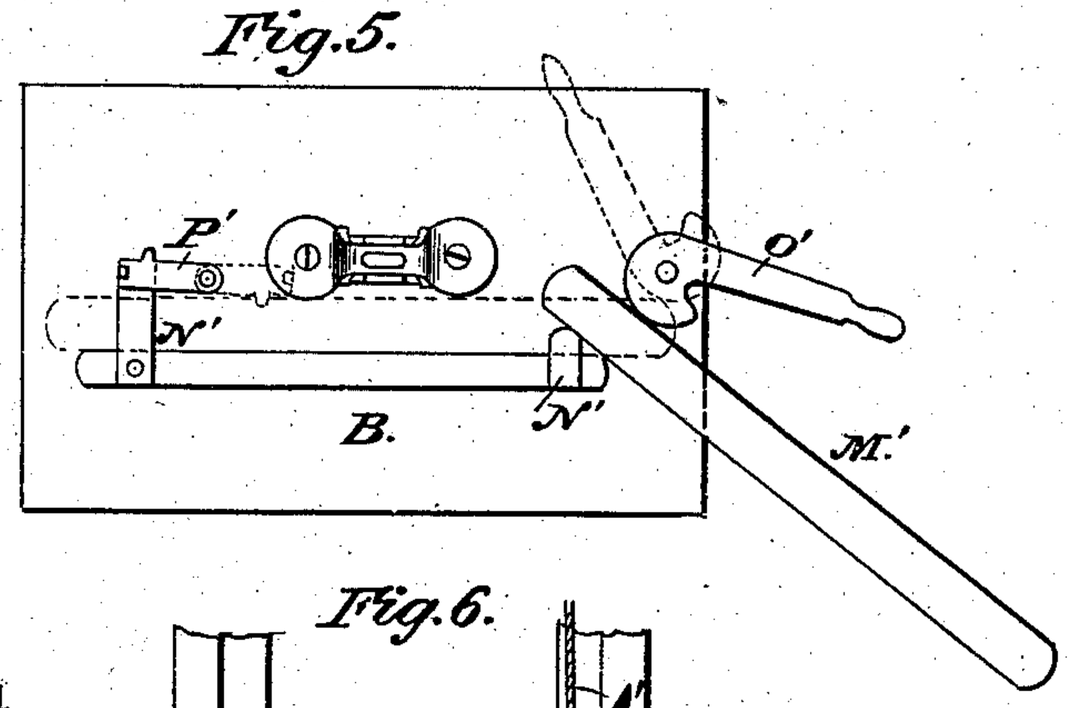


Fig. 6.

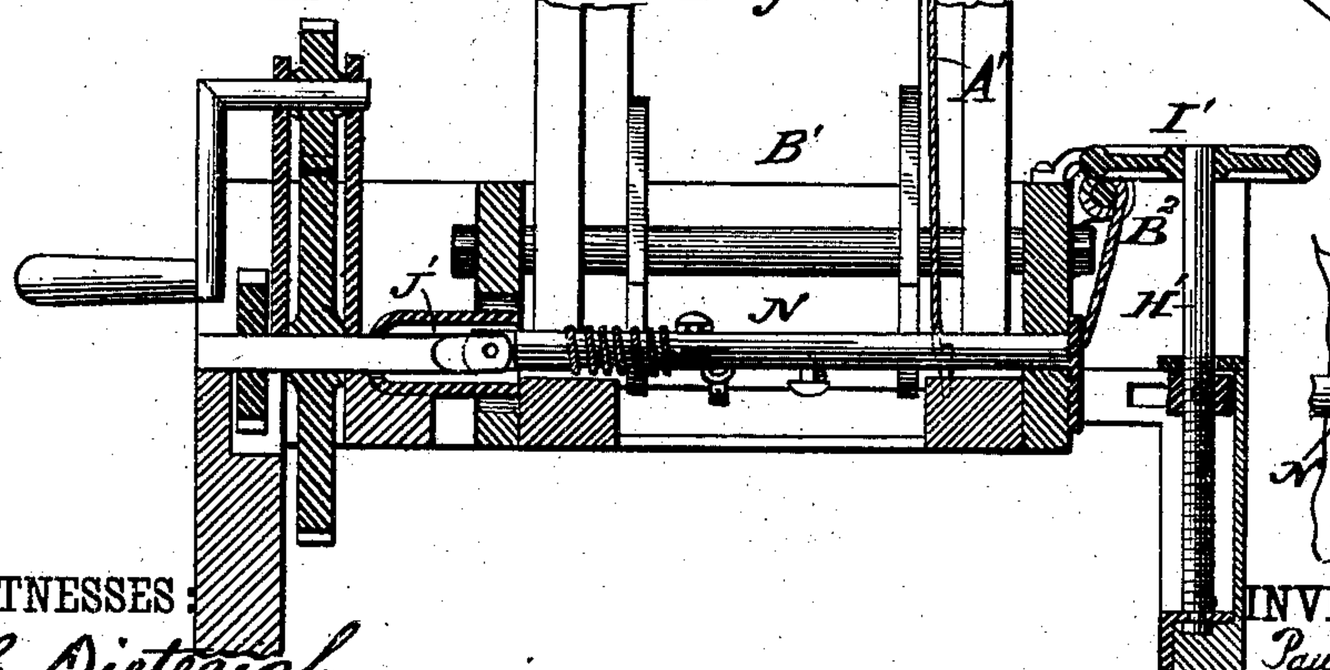
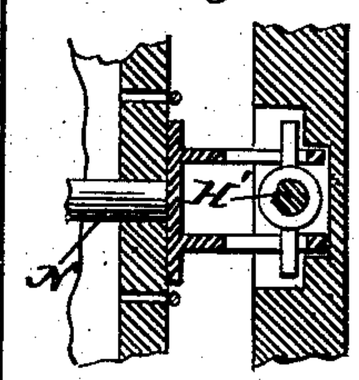


Fig. 7.



WITNESSES:

Fred. G. Dieterich

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INVENTOR:

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UNITED STATES PATENT OFFICE.

PAUL KINGSTON, OF HASTINGS, MINNESOTA.

EXTENSIBLE FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 294,635, dated March 4, 1884.

Application filed May 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, PAUL KINGSTON, of Hastings, in the county of Dakota and State of Minnesota, have invented a new and useful Improvement in Extensible Fire-Escapes and Scaffolds, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates to the class of fire-escapes and scaffolds which are formed of extensible parts, to adapt them for use at any desired elevation, and to enable them to be folded compactly when not in use.

The invention consists of the novel construction and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of my improved extensible fire-escape and scaffold, partly in section. Fig. 2 is an end elevation of the same, showing the supporting-frame in section on line *x x* of Fig. 1. Fig. 3 is a side elevation of the invention, showing the scaffold folded. Fig. 4 is a detail view of the guide-rope windlass. Fig. 5 is an end view of the supporting-frame, showing the cam-supported brace or prop. Fig. 6 is a detail vertical section; and Fig. 7, a detail horizontal section, showing the means for inclining the scaffold to one side.

A indicates the fire-escape or scaffold, and B its wheeled supporting-frame. The former consists of four series of lazy-tongs arranged in pairs C D, which are connected together by the links E in such manner as to form a central open space, F, between the connecting-links E at the sides and the pivotal rods G at the ends of the scaffold. The bottom of the scaffold is pivoted by means of the inner arms or bars, H, upon the two rods I, which are firmly supported in fixed bearings in the sides of the supplemental frame B′, and the outer bars, J, which are pivoted to the centers of the bars H, are adapted to slide on the segmental supports K in the adjustment of the scaffold. The lower ends of the bars J are provided with inwardly-extending elbows L, which are connected in pairs by the rods M, and are adapted to be drawn inward to extend the scaffold by means of the windlass N and the cords O, connected to the sleeves P on the said rods. On the same windlass are to be wound the cords Q, which are connected to the sleeves P and passed around pulleys R in the ends of frame B when it is desired to lower the scaffold or fold it for transportation. The windlass is provided with a pawl and ratchet to hold it at any desired position, and the links E are provided with stops S, against which the pivoted braces T will bear when the scaffold is raised to its highest extent, and thus render the entire frame-work rigid and compact.

To the upper and innermost cross-rods, G, are secured two ropes, A′, the lower ends of which are wound on a windlass, B^2, which is adapted to tighten the ropes at any elevation of the scaffold. These ropes are guides for the basket C′, which is loosely connected thereto and adapted to be raised and lowered by a cord, D′, passing over a pulley, E′, and winding on a windlass, F′, supported on the frame B. A ladder, G′, may also be suspended from the top of the scaffold, and adapted to be wound on a windlass as the scaffold is lowered.

To adapt the fire-escape and scaffold to be inclined to one side in case the wheeled supporting-frame cannot be placed close to the wall of a house, I adapt the supplemental frame B′ to be lowered at one side by means of a vertical supporting-screw, H′, to which the said frame is connected. This screw is to be operated by a hand-wheel, I′. The side of the frame B′ which is not to be lowered is to be supported loosely on any suitable support or ledge attached to the stationary frame B; or it may be flexibly connected thereto in any suitable manner. The shaft of the windlass N is provided with a universal joint, J′, to allow one part of it to be inclined with the scaffold, while the other part, which is supported in one side of the supporting-frame B, shall remain stationary. This windlass N, with its joint J′, may also serve as a connection between the frames B B′, to prevent said frames from being displaced with respect to each other when one side of frame B′ is lowered. The scaffold is provided with stay-cords K′, which are adapted to be wound on windlasses L′ and adjusted to support the scaffold when inclined to one side. As a means of still further bracing the scaffold when in an inclined position, I provide props M′, which are carried in guides N′ at the ends of frame B, and are adapted to be partially drawn out and arranged with one

end on the ground. A cam-lever, O′, pivoted to frame B, is then turned down against the upper surface of the prop to hold it firmly against the ground.

When the props are in the guides N′, they may be secured therein by catches P′, pivoted to frame B and adapted to engage the same.

The wheeled frame B is intended to be lowered at one end on inclined ground, to support the base of the scaffold on a level. For this purpose the axle Q′ is supported in arms R′, which are adjustable vertically by means of the screws S′ in the frame B. T′ T′ are slotted guides for the axle, and U′ is the brake-rod.

What I claim is—

1. The combination of the series of lazy-tongs arranged in pairs connected by cross-rods, and the connecting-links E, having stops thereon, and the braces T, adapted to engage with the stops when the device is extended, whereby the same may be rendered rigid and firm, substantially as shown and described.

2. The combination, with the lazy-tongs having the inner cross-bars, H, pivoted on stationary rods I, and the segmental supports K, the outer cross-bars, J, having elbows L, and the rods M, sleeves P, cords O Q, pulleys R, and windlass N, substantially as shown and described.

3. The combination, with the extensible fire-escape, of the guide-ropes A′, adapted to be adjusted and held by a windlass to correspond to the desired height of the scaffold, and the basket C′, connected to the ropes A′, and adapted to be raised or lowered by the cord D′, substantially as shown and described.

4. The combination, with the supporting-frame B and the scaffold A, of the supplemental frame B′, adapted to be lowered at one side to incline the scaffold, and the windlass-operated stay-cords K′ and cam-supported props M′, substantially as shown and described.

PAUL KINGSTON.

Witnesses:
A. G. LYNE,
SOLON C. KEMON.