J. P. R. JAMES.

2 Sheets—Sheet 1.

Fire Escape.

No. 202,263. Patented April 9, 1878.

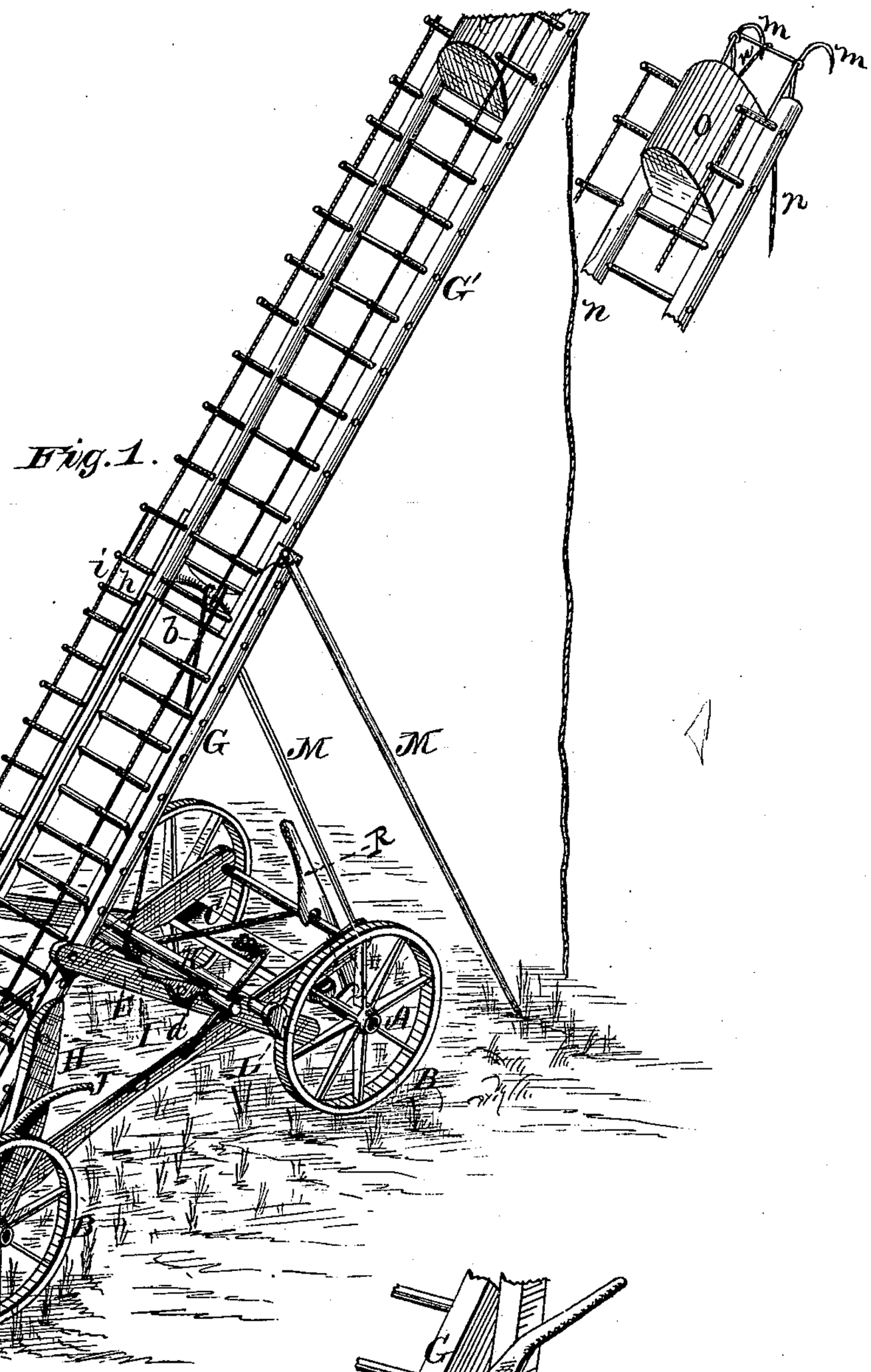


Fig. 1.

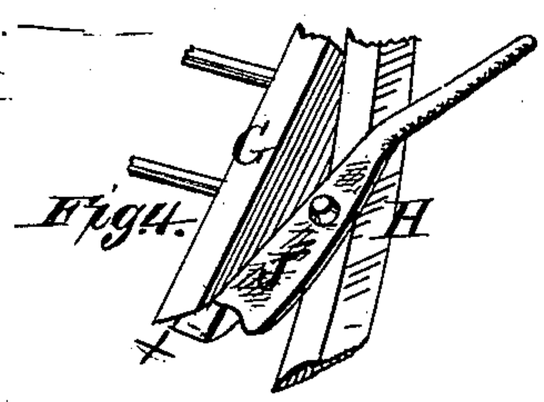


Fig. 4.

Fig. 3


WITNESSES

Franck L. Durand

Frank Gall

INVENTOR

Joseph P. R. James.

Munn & Mason

ATTORNEYS

2 Sheets—Sheet 2.

# J. P. R. JAMES.
## Fire Escape.

No. 202,263. Patented April 9, 1878.

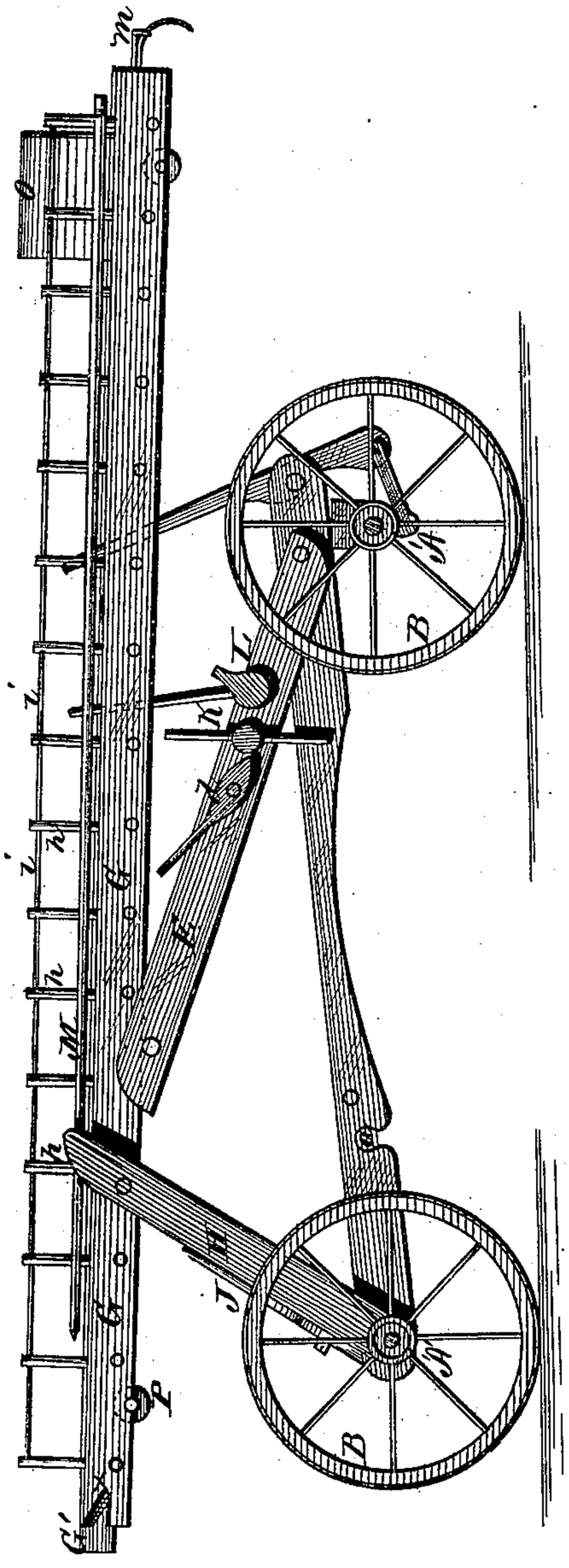


Fig. 2.

WITNESSES
Franck L. Durand
Frank Gall

INVENTOR
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# UNITED STATES PATENT OFFICE.

JOSEPH P. R. JAMES, OF PEPIN, MINNESOTA, ASSIGNOR TO FRANK H. BERNARD, OF CHIPPEWA FALLS, WISCONSIN.

## IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **202,263**, dated April 9, 1878; application filed August 16, 1877.

*To all whom it may concern:*

Be it known that I, JOS. P. R. JAMES, of Pepin, in the county of Wabasha, and in the State of Minnesota, have invented certain new and useful Improvements in Fire-Escape; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of an extension fire-ladder, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a perspective view of my invention. Fig. 2 is a side elevation of the same, and Figs. 3 and 4 are detailed views of parts thereof.

A A′ represent the axles, provided with wheels B on their ends. On the axle A is pivoted a head-block, C, to which are secured two parallel beams, D D, connected at their outer ends by a round, and provided in their under edges with series of notches *a a* to lock over the axle A′, so as to bring the two axles at any desired distance from each other, according to the angle the ladder is to be raised.

To the beams D D, near the head-blocks C, is pivoted a frame, E, to the upper frame or round of which is hinged the ladder G. This ladder is further braced by means of two arms or braces, H H, pivoted to the sides of the ladder and to the axle A′.

The side pieces of the ladder G are provided on the inside with dovetailed grooves, in which slides another ladder, G′, as shown in Fig. 3. This auxiliary or extension ladder G′ is operated by means of a cord or rope, *b*, passing to a windlass, I, in the frame E, and it is held at any height desired by a dog or pawl, *d*, taking into a ratchet on the windlass.

J is an arm or lever pivoted to one of the arms H, for holding down the beams D when placed on the axle A′.

K is a shaft having its bearings in the frame E, and provided at its ends with brake-blocks L, to hold the wagon steady and prevent its moving.

M M are posts or braces flexibly connected to the upper end of the ladder G, and used for supporting the same when the ladder is raised, the lower end of the ladder resting on the ground when raised to its highest point. The lower end of the ladder has on one side a notch, *x*, which is to allow the lever J to extend into and help to keep the ladder in its proper position.

Both the ladders G and G′ are provided at their sides with railings composed of posts *h* and cables *i*, as shown, and at the upper end of the ladder G′ are pivoted hooks M M to catch on the window-sill and hold the ladder. These hooks are raised by means of a cord, *n*, when desired to cast off the ladder.

When it is too hot to descend on the ladder, a closed car, O, is used, which may be raised and lowered by a rope connected with a windlass, P, substantially as shown.

R is a lever for guiding the machine in going to and from a fire.

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

1. In combination with the axles A A′ and wheels B, the bars D D, notched, as seen at *a a*, to fit over the axle A′, frame E, arms H H, and ladders G G′, all constructed substantially as and for the purposes herein set forth.

2. The lever or arm J, in combination with the arm H, ladder G, and axle A′, as and for the purposes herein set forth.

3. The combination of the extensible ladders G G′, constructed as described, and provided with notch *x* on one side at the bottom, the axles A A′, notched bars D D, hinged frame E, cord *b*, windlass I, arms H H, and pivoted lever J, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of August, 1877.

JOSEPH P. R. JAMES.

Witnesses:

W. C. PIERS,

JOHN ANDERSON.