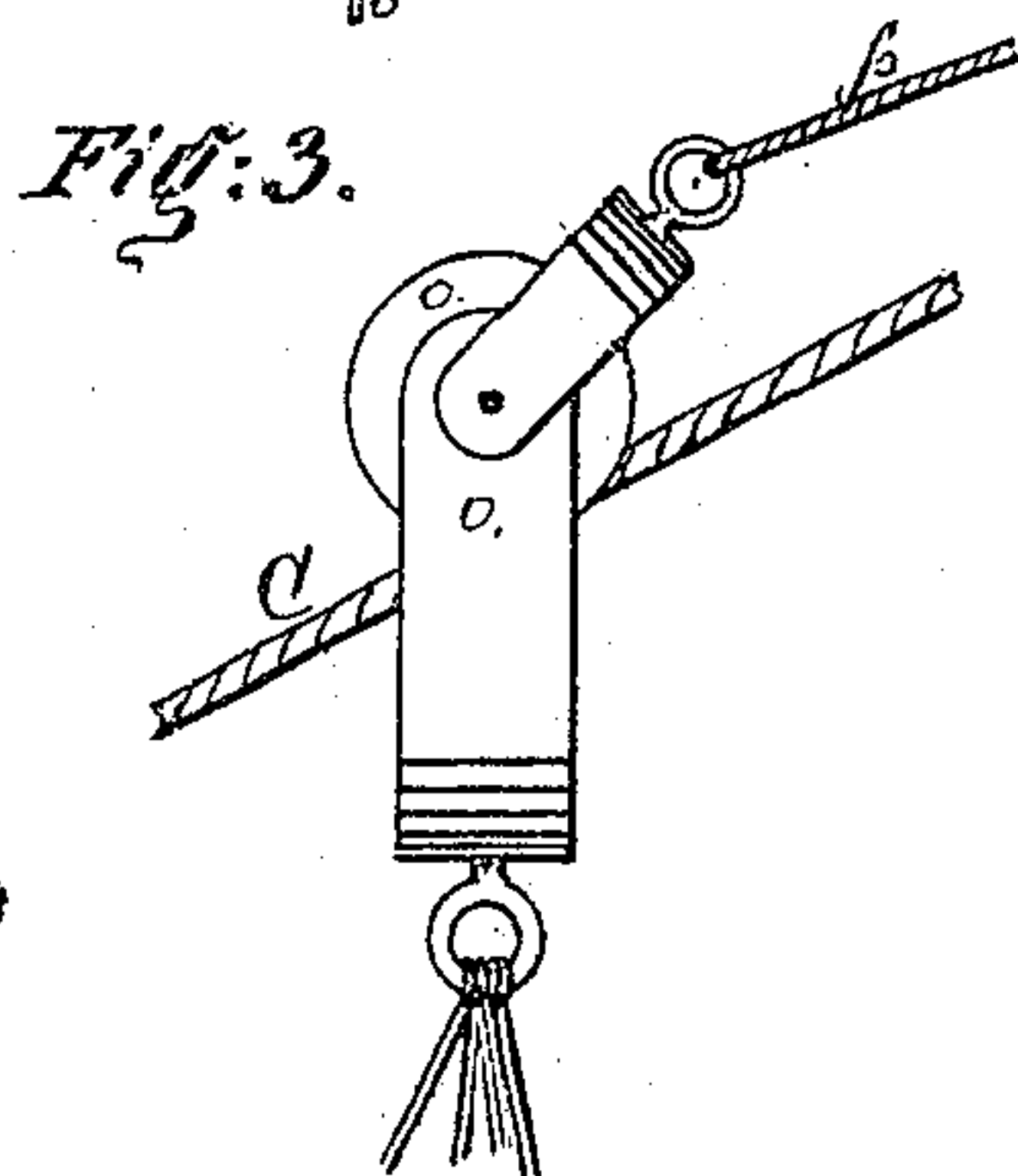
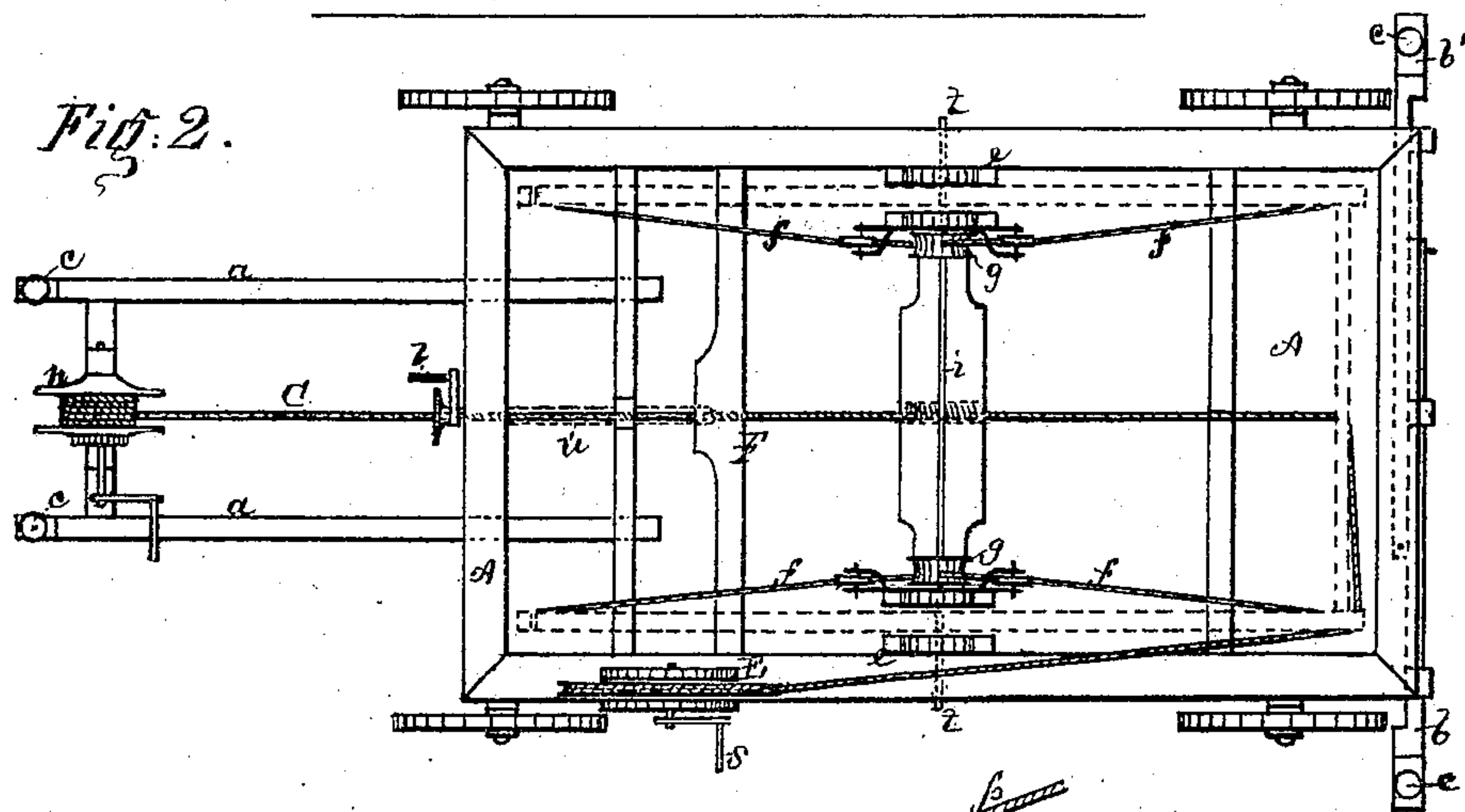
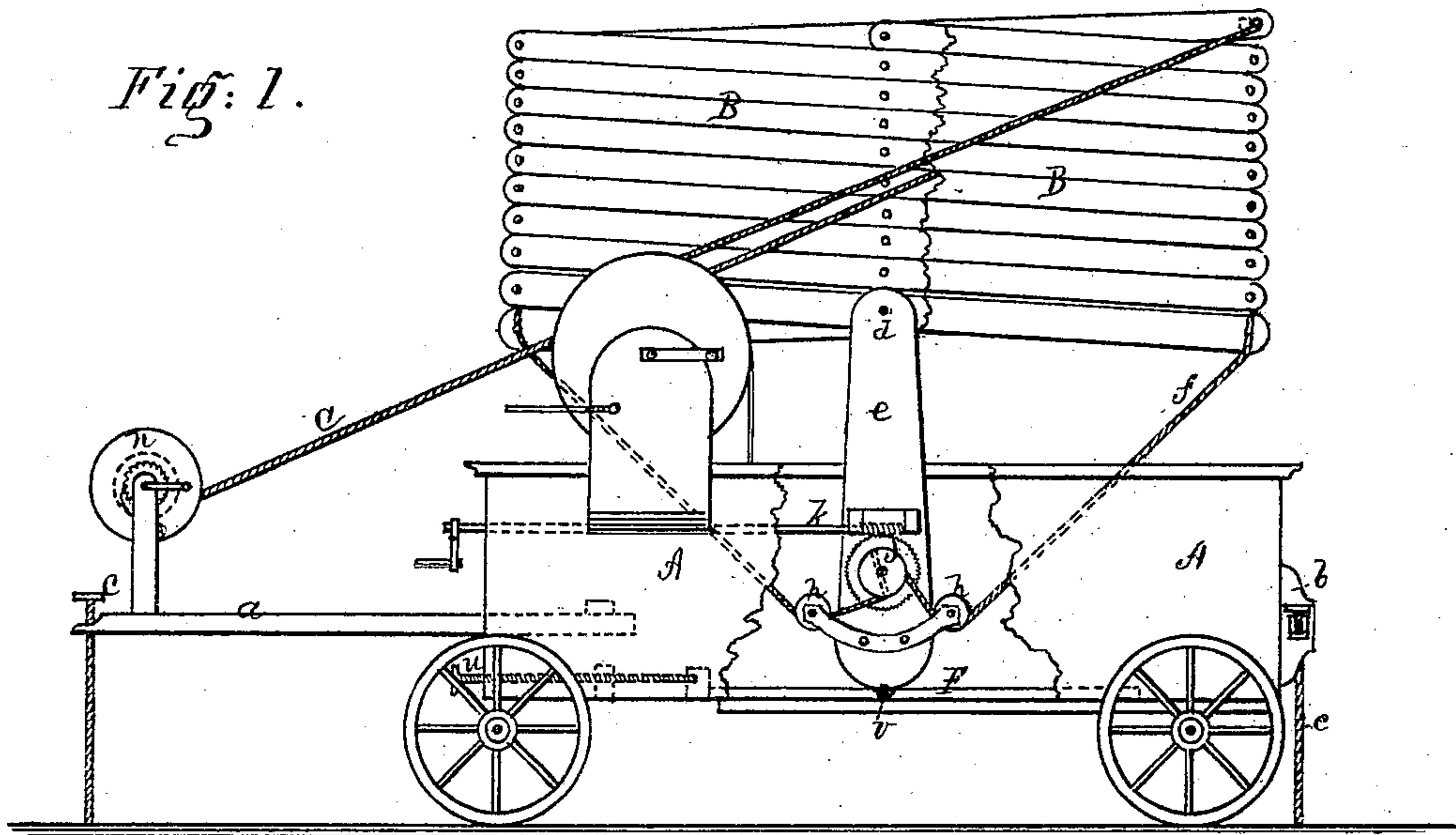


G. W. HARRIS.  
Fire-Escapes.

No. 148,364.

Patented March 10, 1874.



Witnesses  
J. R. Drake  
P. Hirschhorn.

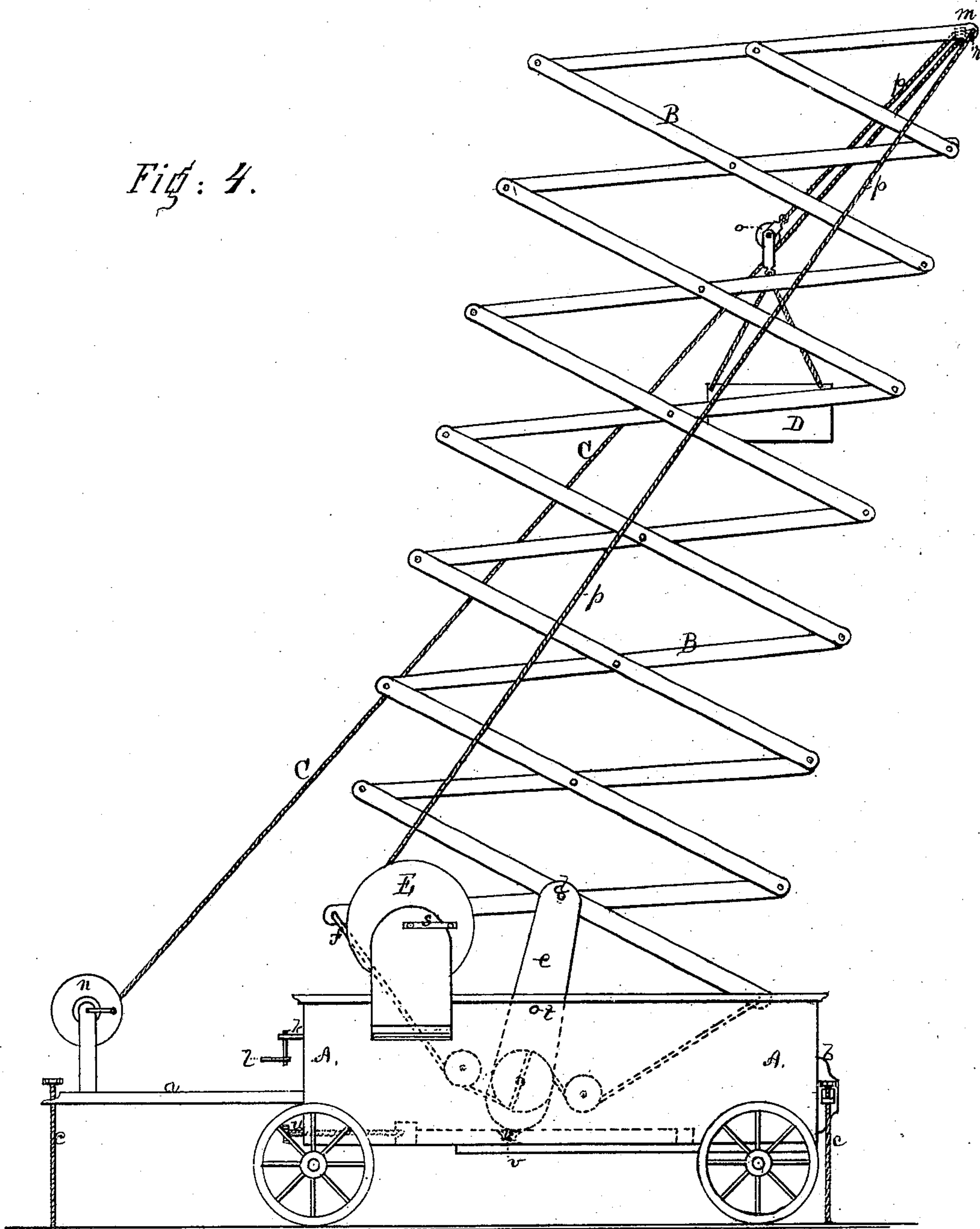
Inventor  
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Fig. 4.



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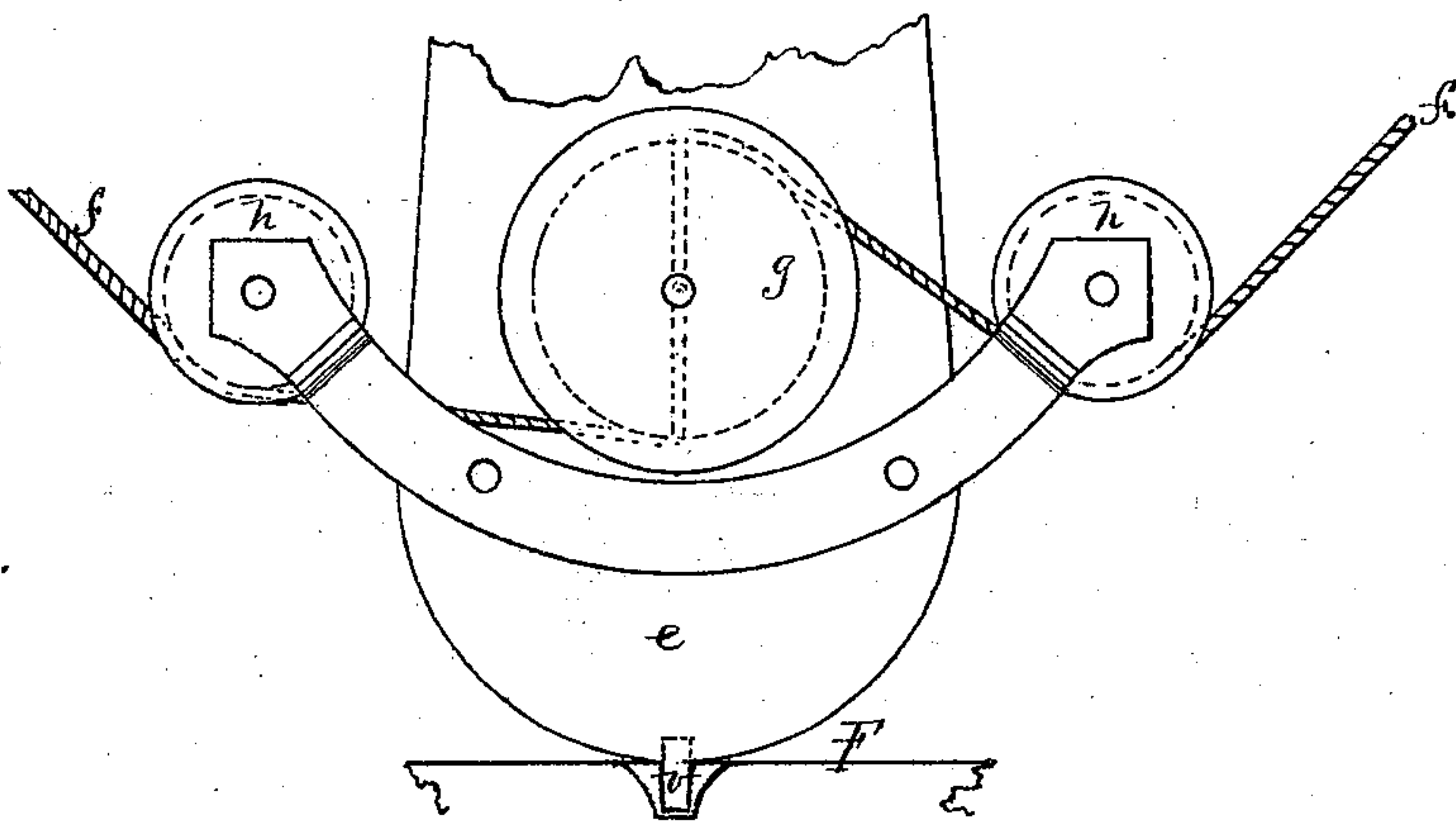
Inventor:  
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Attys.

**G. W. HARRIS.**  
**Fire-Escapes.**

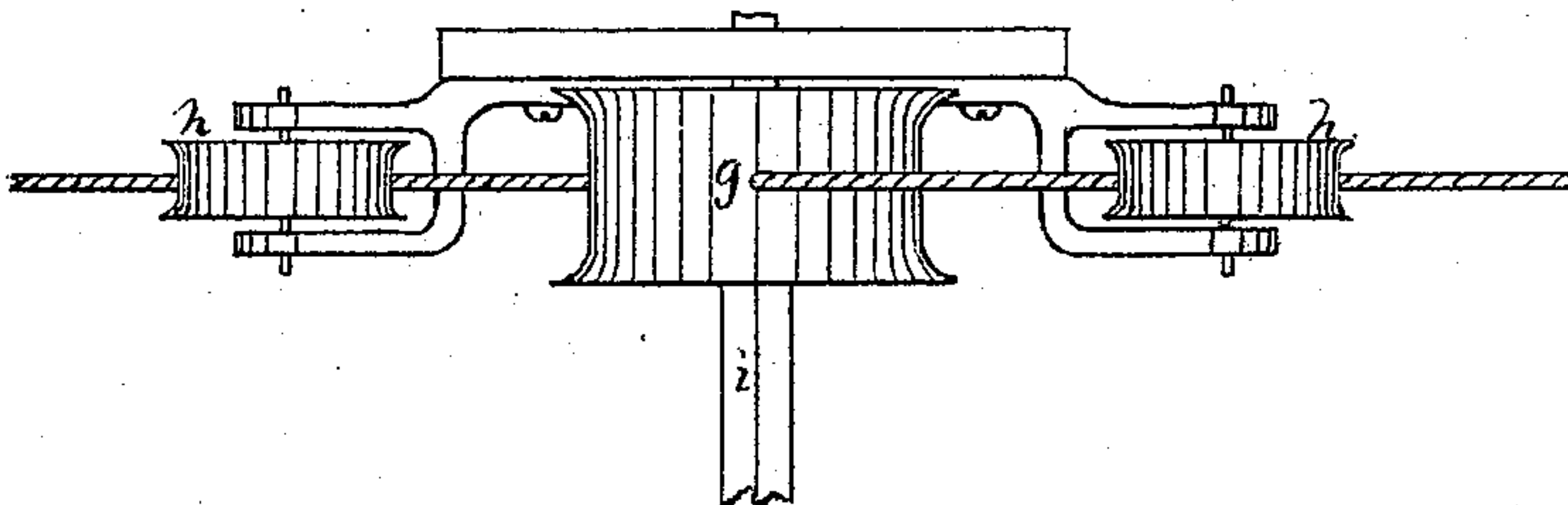
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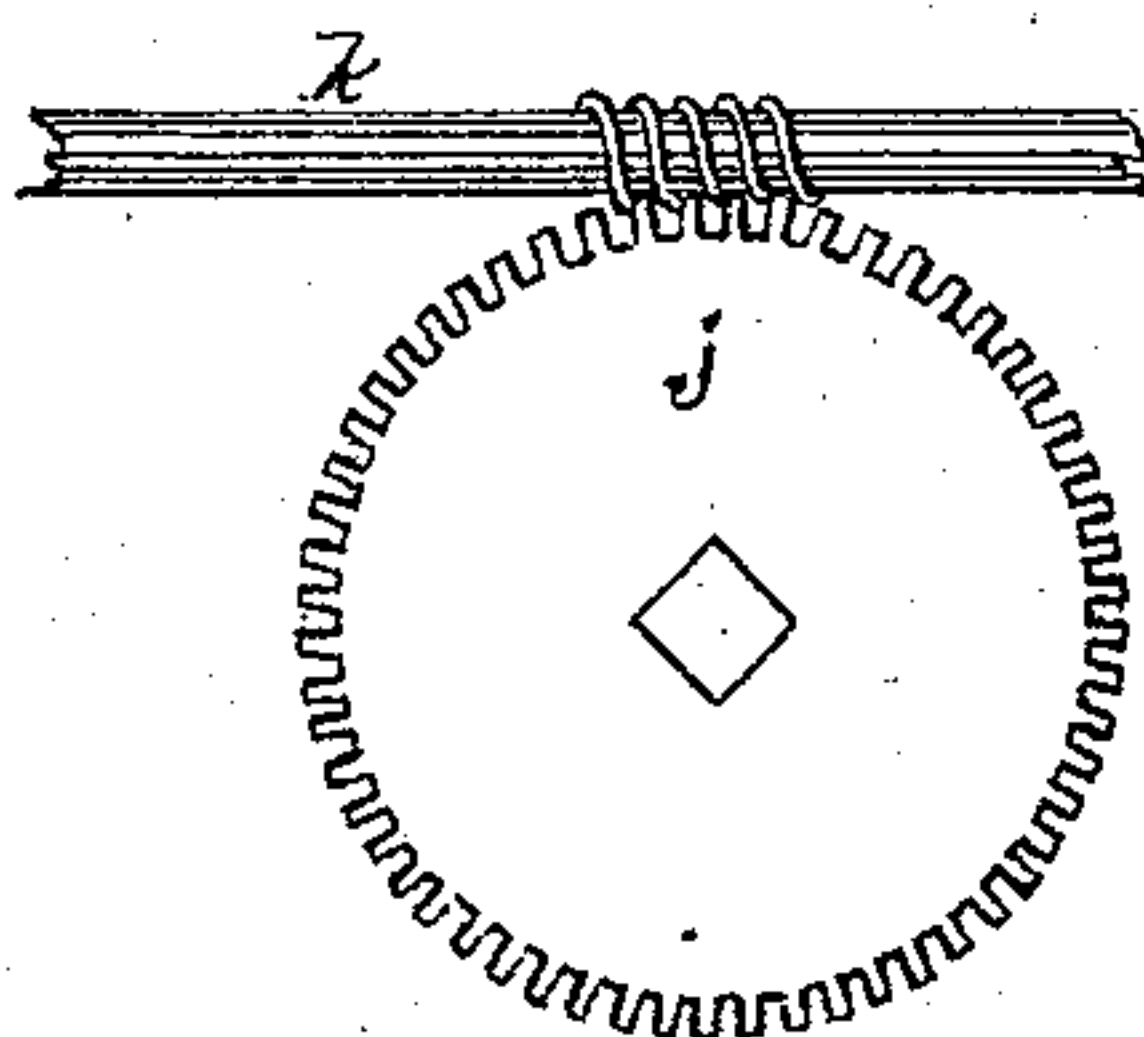
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

GEORGE W. HARRIS, OF LANCASTER, NEW YORK.

## IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **148,364**, dated March 10, 1874; application filed August 29, 1873.

*To all whom it may concern:*

Be it known that I, GEORGE WRIGHT HARRIS, of Lancaster, Erie county, State of New York, have invented new and useful Improvements in Fire-Escapes, of which the following is a specification:

This invention relates to movable fire-escapes, the object being to provide a machine that can be wheeled to any building to save not only life, but property; and the invention consists in devices for elevating the double lazy-tongs, which carries with them a slanting central line, on which a life and property saving car is run up and down by windlass and pulleys. It further consists in the appliances to incline the lazy-tongs, so that the top may rest at any required angle against the burning building.

In the drawings, Figures 1 and 4, side elevations; Fig. 2, a plan; Figs. 3, 5, 6, 7, detail views.

A represents a wheeled carriage, in which the working parts are mounted, and having extensible frames *a b b'*, which slide into the ends of the wagon, and are supplied with vertical screw-posts *c c*, with pointed ends, for penetrating the ground to steady the machine and lift it when set in place, and thus prevent its moving on the wheels. By these extension-frames great lateral support is given to the machine when the tongs are extended; and by the use of these screw-posts the wheels are relieved, and inequalities of the ground can be readily overcome in anchoring the fire-escape. B B are double lazy-tongs, working on rods *d* running through the lower levers, and having their bearings in the bifurcated side supports or rocking posts *e e*. The ends of the lower levers of the tongs are connected by ropes or chains *f f f f* to barrels *g g'* through intermediate guide-pulleys *h h*. These barrels *g g'* are set on the ends of a square shaft, *i*, having in the middle a central beveled toothed worm-wheel, *j*, and rotated by a long worm-rod, *k*, meshing into the worm-wheel. (See Fig. 7.)

By turning an attached crank, *l*, outside the front of the carriage, the lazy-tongs are raised or lowered by the cords *f f* winding or unwinding around the barrels *g g'*. As they extend

up, the tongs carry with them a stout rope, C, one end attached to the center of the top connecting-piece *m* of the tongs; the other end wound on a spring-windlass, *n*, set in posts on the front extension-frame *a*. When the tongs are extended as high as required, the rope is kept taut by the ratchet attached to the windlass, and on it, by means of a running pulley, *o*, is suspended a car, D. A small rope or cord, *p*, is attached to the pulley, and passes through another pulley, *q*, set in the middle of the top cross-piece *m*, thence out at the side at *r*, (see Figs. 1 and 4,) and down to a narrow windlass, E, attached outside the wagon. When the tongs are elevated this cord *p* pays out, and the car is elevated or lowered by the crank *s*, though its own weight will run it down.

The devices for inclining the tongs to any angle when elevated are as follows: The rocking posts or supports *e e*, which hold the tongs and elevating parts, have through them a long rod, *t*, whose ends have their bearing in and come out of the side of the wagon A, the posts moving loosely on this rod. The bottoms of these posts are made round, (see Figs. 1 and 5,) and rest on a frame-work, F, sliding on the bottom of the wagon A. The posts are held in place by pins *v*, set into holes in the frame F. These aid in holding them at any angle. A long screw-rod, *u*, works into the front of the frame, as shown, and the operating end comes out at the front of the wagon, terminating in a crank or its equivalent. By turning this one way, the posts *e e* on the frame F incline the tongs toward the rear, and, therefore, the top against the building; and by turning the other way, the perpendicular is resumed previous to lowering the tongs.

This device allows the wagon to stand some distance from the burning building, and the tops of the tongs to rest against the house, relieving the strain on the working parts, and also getting a greater angle to the car-rope. The extension-frame *a* and windlass *n* also greatly aid in attaining this object.

My device is not intended as a ladder or hose-elevator, but to save life and valuable property by means of my car, which can be expeditiously run up and down as often as de-

sired; and not being intended for hose and ladders, the machine can be made light enough to be easily movable, yet strong.

I claim—

1. In combination with the lazy-tongs B B, the car D, running on the rope C, and elevated and lowered by the devices, substantially as hereinbefore specified.

2. The rocking posts *e e*, arranged on the shaft *t*, and having pins *v*, adapted to sockets in the frame F, and carrying the lazy-tongs B, in combination with the screw-rod *u*, all con-

structed and arranged to operate substantially as described.

3. The combination of the front extension-frame *a* and its windlass *n*, for the purpose of giving greater or less slant to the car-rope C, as hereinbefore specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

Witnesses:

J. R. DRAKE,  
J. C. WILSON.

G. W. HARRIS.