

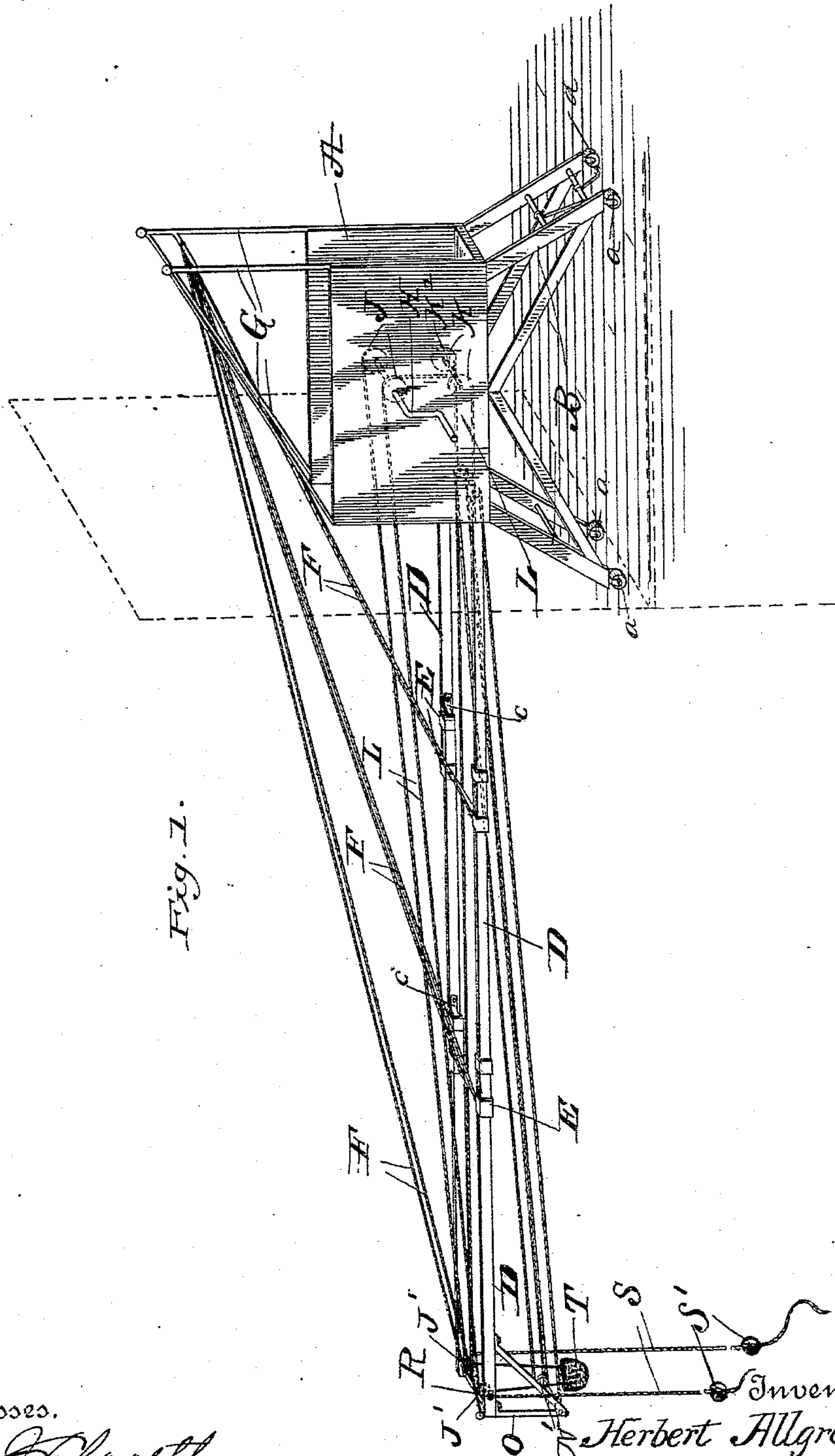
(No Model.)

3 Sheets—Sheet 1.

H. ALLGROVE.
FIRE ESCAPE.


No. 414,476.

Patented Nov. 5, 1889.



Witnesses.

M. Clayell
Wm. Moore

 Inventor
Herbert Allgrove
By his Attorneys
Geo. J. Schröder & Co.

(No Model.)

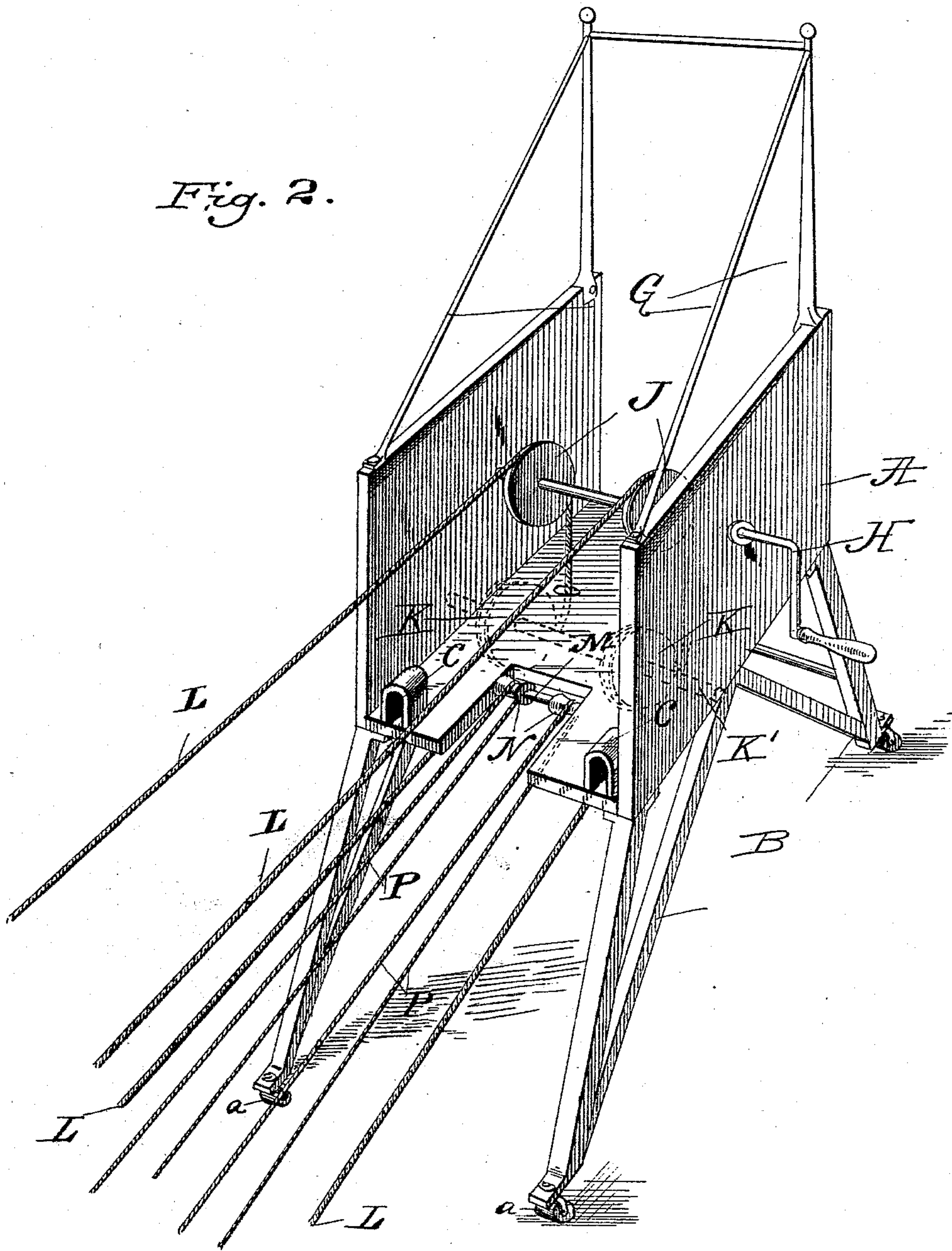
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Fig. 2.



Witnesses

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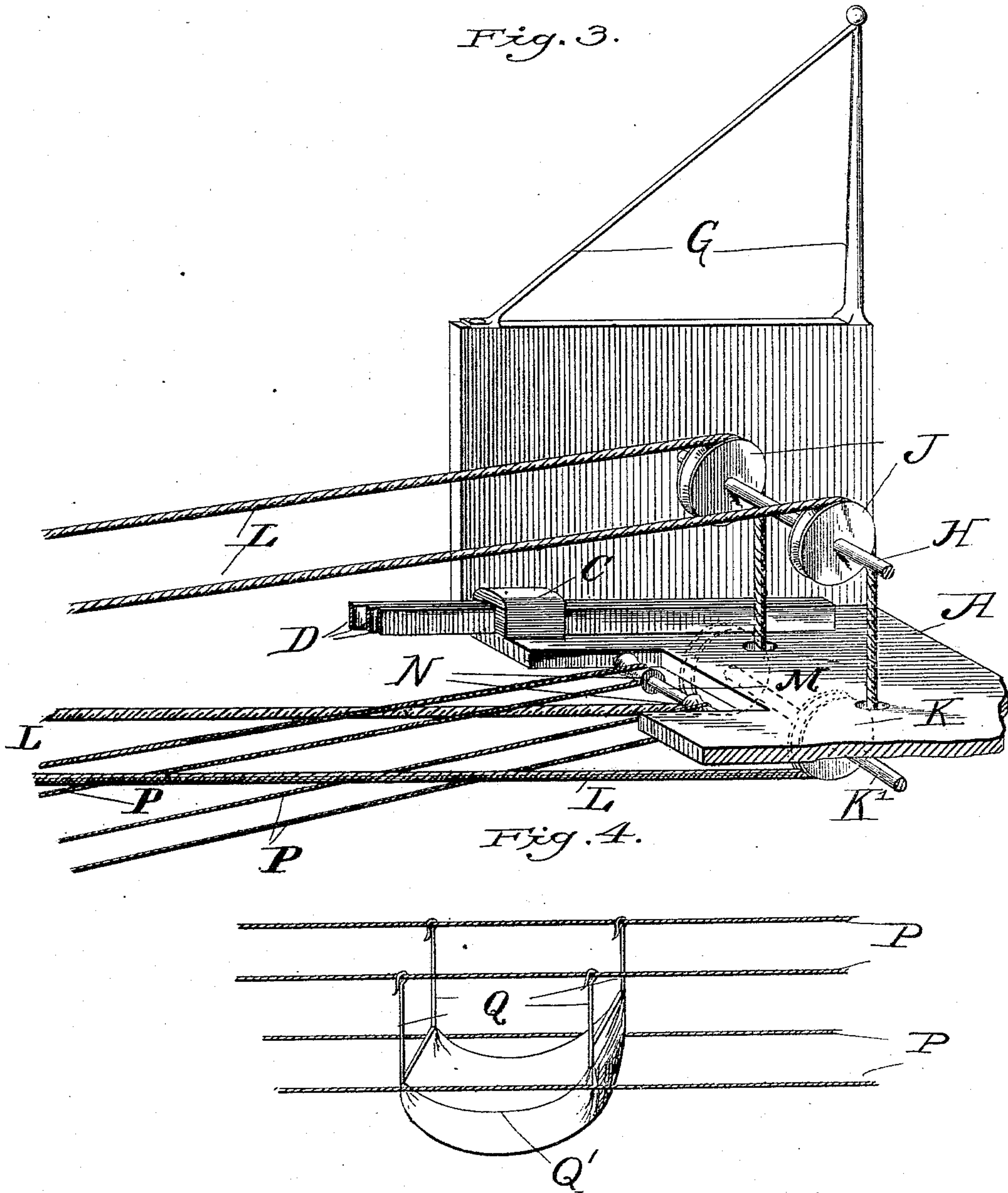
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UNITED STATES PATENT OFFICE.

HERBERT ALLGROVE, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 414,476, dated November 5, 1889.

Application filed August 22, 1889. Serial No. 321,574. (No model.)

To all whom it may concern:

Be it known that I, HERBERT ALLGROVE, a citizen of England, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in fire-escapes.

The object I have in view is to provide an escape of the character described which may be at all times ready for use, being located in any room of a dwelling or in public buildings, preferably in the hallway, where it may be used by all the occupants of the building, such escape being simple in construction, effective in its operation, and strong and durable.

To the accomplishment of the above the invention consists in providing a series of telescopic ladders placed in a horizontal plane and adapted to be extended so as to protrude a suitable distance from the building, such ladders preferably extending out of the window of the building in which the fire-escape is used.

This invention further consists in providing a carriage or car mounted upon an endless rope or ropes and adapted to carry persons escaping from the building to the outer ends of the ladders when extended.

The invention further consists in a second set of endless ropes, upon which the car or carriage above referred to may be mounted, this second series of ropes being adapted to use by the last person leaving the building.

The invention further consists in providing a basket or car hung upon counter-weighted ropes and adapted to descend from the outer ends of the ladders to the ground, all of which will be hereinafter fully described and specifically claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents the escape in perspective and in position for use; Fig. 2, a perspective view of the escape, taken from the front; Fig. 3, a perspective view of the escape on an enlarged scale, certain parts be-

ing broken away; and Fig. 4, a detail of the car or carriage traveling from the building to the outer ends of the extension-ladders and mounted on endless ropes.

Like letters refer to like parts in each view.

In these drawings, A represents a housing or frame-work mounted upon suitable legs or supports B, each such leg being provided with a suitable roller or caster *a*, through the medium of which the escape may be moved to different parts of the room or building. This frame-work A is secured to the floor, when in position for use, by means of any suitable hooks or chains *a'*, secured in any desirable manner to the floor.

At points near the forward ends and at each side the housing A is provided with a bracket C, in which the several ladders forming the series which I use are adapted to be moved, such brackets being of a suitable size to accommodate all such ladders when pushed back and not in use. These ladders, which I have marked D in the drawings, (in which three are shown,) may be of any suitable construction and form, and of any suitable material, the only special construction in connection therewith being the provision of any suitable number of collars or sleeves E, surrounding the same and serving as guides for the different sections. Each ladder is also provided with a suitable spring-catch *c*, (shown in Fig. 1,) over which the adjacent section of the entire ladder passes and by which it is locked in position. Each section of the ladder is also provided with brace-ropes F, each set of which extends from its section of the ladder back to a frame G, mounted upon the upper end of the housing A.

Mounted in the sides of the housing A is a shaft H, provided at one end with a suitable crank-arm and carrying at points within the housing two pulleys J.

Situated in suitable bearings beneath the floor of the housing is a shaft K', upon which are mounted two rollers K, these rollers K being in the same vertical plane as the rollers J, hereinbefore referred to.

At the outer end of the forward extension of the ladders are mounted two rollers J'.

L L represent two endless ropes, one of

which passes over one pulley J, one pulley K, and one pulley J', the remaining endless rope L passing over the remaining pulleys J, K, and J'.

5 For the escape of persons from a burning building I provide a suitable car or carriage, which consists of the seat Q' and suitable supports Q, there being preferably four of the latter, as shown in Fig. 4 of the drawings,
10 each of which is provided at its upper end with a hook or any suitable spring-catch which will adapt this carriage or car to be suspended from the endless ropes L, the car being secured in this manner to such ropes
15 after they have passed around the rollers K, being thus mounted upon what may be called the "lower" ropes. When it is desired to advance the car or carriage from the house to the outer ends of the ladders, it is attached to
20 these endless ropes L, and the crank of the shaft H is turned in a direction from the window, which will cause the lower part of the ropes L to advance toward the outer end of the ladders, and thereby carry the car to such
25 point. After the occupant of the car has left it, or where valuables are being transported, as soon as they are moved from this car it can be returned to the building by reversing the revolutions of the crank and its
30 shaft.

The forward end of the bottom of the housing A is cut away, as shown in Fig. 2 of the drawings, and in such cut-away portion is mounted a shaft M, carrying two rollers N,
35 around each of which an endless rope P is passed, each such rope also passing over a roller N', mounted at the outer end of the forward extension of the ladders. These ropes last above described are adapted for
40 use by the last person leaving the building, the manner of their use being to detach the car or carriage from the ropes L and secure it to the upper ropes P. The person desiring to escape then enters the carriage, and by
45 grasping the lower pair of ropes P, pulling them toward his person, advances the car toward the outer ends of the ladders.

At the outer end of the forward extension of the ladders there are also provided two
50 rollers R, over each of which a rope S is passed, one end of each such rope being connected with a basket T, and the other end of each being counterbalanced by a weight S'. The object of these last-named ropes and the
55 basket connected therewith is to enable the person escaping from the building, after having been carried to the outer ends of the ladders by means of the car Q, to enter such basket T, and thereby reach the ground in
60 safety, such basket, after the person has entered it, descending to the ground by its own weight, its downward movements being regulated by the weights S', secured to the free ends of the ropes S.

65 In using this device the housing A, with the contracted ladders D, is rolled back or away from the window of the room or hall in

which it is situated and the ladders extended by pushing upon the foremost section thereof. As each section is drawn out it becomes
70 locked by means of the spring-catch hereinbefore described, and is supported in a horizontal position by its brace-ropes F, each of which is pulled out with its section. The housing is then moved forward to within
75 convenient distance of the window and the ladders extended out beyond the building. The entire device is then locked securely in position by means of the chains or hooks secured to the floor and to the frame-work, as
80 hereinbefore described.

When there is no need of the device, it is unlocked from the floor and again pushed back into the room, drawing with it the extension-ladders, which are then forced back,
85 the spring-lock of each section being pressed down as said section is pushed back.

Having thus fully described my invention, what I claim as new therein is—

1. In a fire-escape, the combination, with a
90 stand or frame-work provided with brackets, of a series of ladders each provided with sleeves and spring-catches and arranged to telescope one within the others, and brace-ropes, one set for each ladder, as and for the
95 purpose set forth.

2. In a fire-escape, the combination, with a stand or frame-work, a shaft mounted therein, and pulleys mounted on said shaft, of an extension-ladder, pulleys mounted in the outer
100 end thereof, and endless ropes passing over the pulleys named, and a detachable car mounted upon said endless ropes, as and for the purpose set forth.

3. In a fire-escape, the combination, with a
105 stand or frame-work, a shaft provided with a crank-arm and pulleys, a second shaft situated below the first shaft and in the same vertical plane, and pulleys mounted thereon, of an extension-ladder, pulleys mounted on
110 the outer end of said ladder, endless ropes passing over the pulleys named, and a detachable car mounted upon said endless ropes, as and for the purpose set forth.

4. In a fire-escape, the combination, with a
115 stand or frame-work, of an extension-ladder connected therewith, pulleys mounted on the outer end of said ladder, a basket or car, and counterbalanced ropes, said ropes passing over the pulleys named and connected with
120 the car, as and for the purpose set forth.

5. In a fire-escape, the combination, with a stand or frame-work, of an extension-ladder connected therewith, pulleys mounted on the outer end of said ladder, a basket or car, and
125 ropes, said ropes passing over the pulleys named and connected with the car, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HERBERT ALLGROVE.

Witnesses:

GEO. W. M. LEANARD,
M. E. LEANARD.