

No. 748,305.

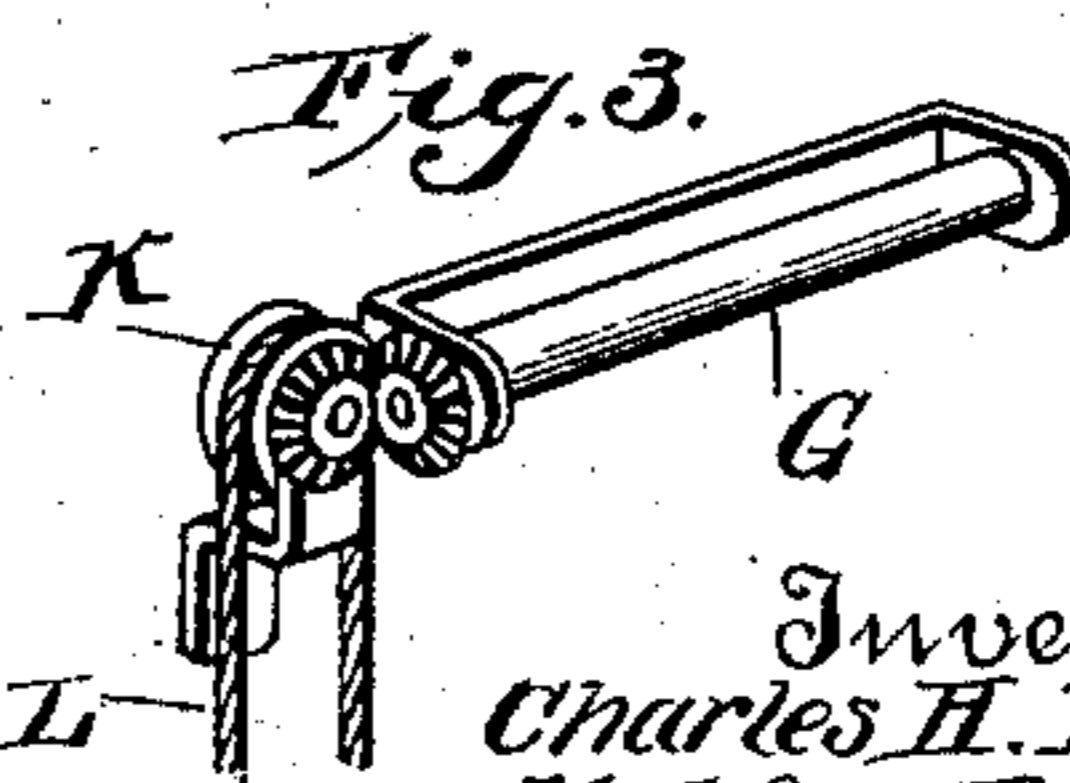
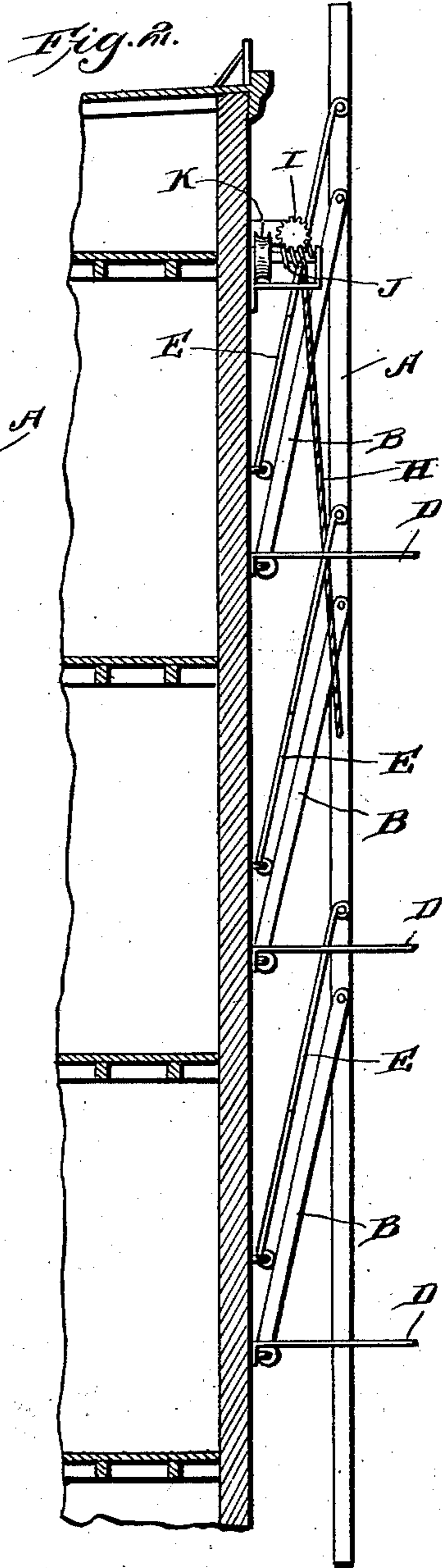
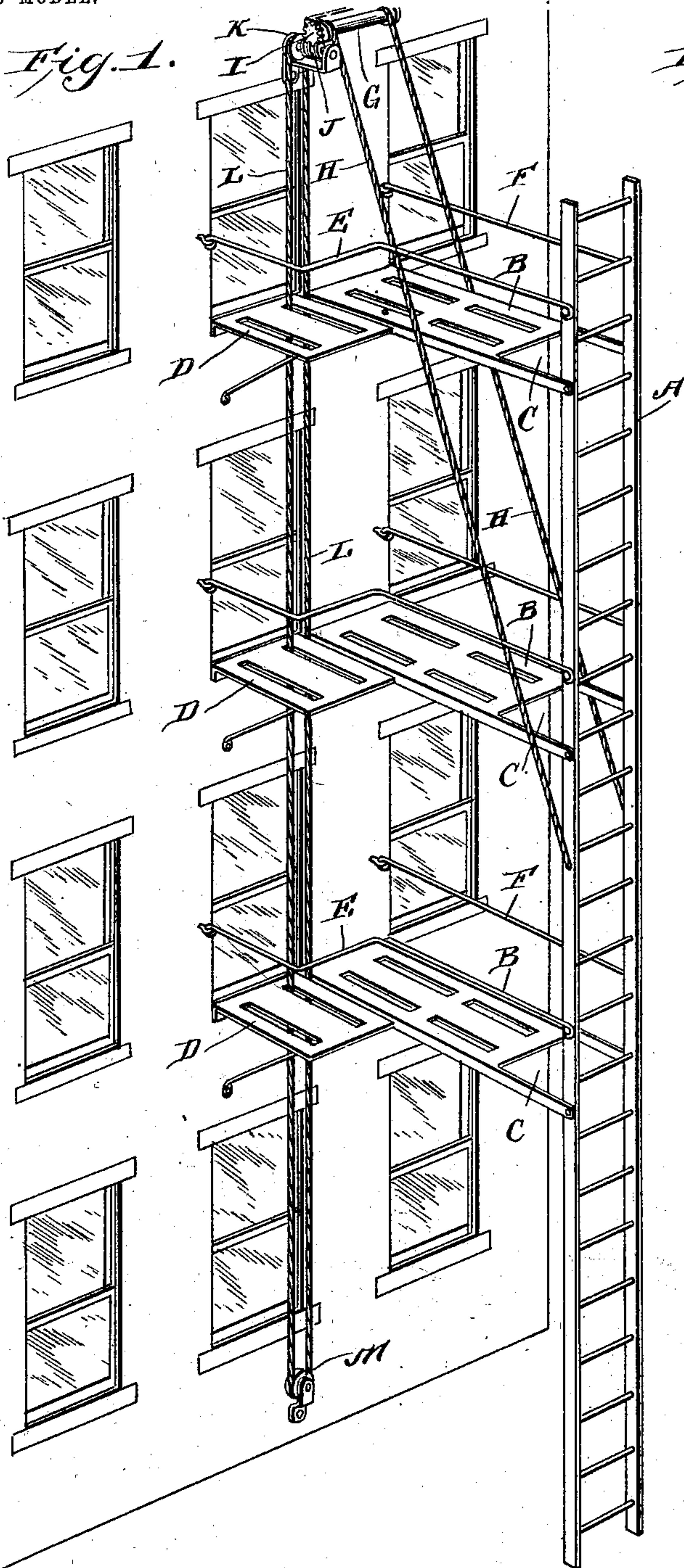
PATENTED DEC. 29, 1903.

C. H. PARVIN & M. L. SNYDER.

FIRE ESCAPE.

APPLICATION FILED JULY 17, 1902.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHARLES H. PARVIN AND MAHLON L. SNYDER, OF PHILADELPHIA,  
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## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 748,305, dated December 29, 1903.

Application filed July 17, 1902. Serial No. 115,918. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES H. PARVIN and MAHLON L. SNYDER, citizens of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Fire-Escapes, of which the following is a specification.

Our invention relates to a new and useful improvement in fire-escapes, and has for its object to provide a fire-escape which consists of a straight ladder which is normally held elevated close to the front of the building, but which may be lowered in case of fire, so that the lower end of the ladder comes in contact with the ground at a distance from the building and is connected thereto by a series of platforms and hand-rails, which platforms and hand-rails are pivoted at one end to the building and at the other end to the ladder; and a further object of our invention is to provide means for lowering and raising the ladder, which may be operated from any window in one vertical line or from the ground.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of a portion of the front of a building having our fire-escape applied thereto, the apparatus being shown in its operative position; Fig. 2, a vertical sectional view of a portion of the building, showing our fire-escape applied thereto, the apparatus being in its normal or inoperative position; Fig. 3, a perspective view of the elevating-roller, showing the same adapted to be operated by beveled gears.

A represents the ladder, which is an ordinary straight metallic ladder composed of two sidestrips joined together by the rungs. B designates pivoted platforms pivoted at one end to the building and at the other end to the side strips of the ladder A. The ends of the plat-

forms B where they are joined to the ladder are provided with openings C at the rear of the ladder for the purpose of allowing persons escaping from the building to descend the ladder upon the inside of the same. These platforms B are pivoted to the building at one side of the vertical row of windows through which access is gained to the fire-escape, and extending outward from each of the windows of this vertical row are stationary short platforms D, by which a person emerging from one of the windows may step upon the movable platform B when the same is in a horizontal position.

E and F are hand-rails, the outer ends of which are pivoted to the opposite sides of the ladder A, and the end rail F extends rearward in a straight line to the building and is pivoted thereto, and the hand-rail E extends rearward in a straight line to the outer end of the platform D and then is bent at right angles parallel with the building; and then again bent and extends to the building and is pivoted to the building the same as the hand-rail F. This hand-rail E thus conforms to the shape of the stationary platform D and also the platform B, and thus the two hand-rails E and F furnish guard-rails to prevent persons from falling off of the platform B and D while traveling over the same.

G is a roller journaled in suitable bearings secured to the building at a point near the upper end of the same, and to this roller are secured the ends of the two cable, chain, or other flexible connections H, the other end of said cable or chain being attached to the opposite side of the ladder A at a point considerably below the roller G. It will thus be seen that if the ladder is in its operative position—that is, with the platforms B and hand-rails E and F in a horizontal position—and if the roller G is revolved the flexible connections H will be caused to wind upon the roller, thus elevating the ladder and causing the same to travel toward the building parallel with the same because of the fact that it is connected to the building at different points by the pivoted platforms B and hand-rails E and F, and thus the ladder may be brought very close to the building, substantially in the position shown in Fig. 2.

For the purpose of lowering the ladder and putting it in an operative position from any story of the building or from the ground we provide upon the end of the roller G a worm-wheel I, which is in mesh with the worm J, journaled in suitable bearings secured to the building, and upon the same shaft as the roller J is secured a wheel K, over which runs an endless cable or chain L, which extends downward to a point near the ground and there passes around another wheel M, journaled in suitable bearings secured to the building. Thus if one side of the cable is pulled downward the roller G will be caused to revolve in one direction and lower the lever and if the other side of the cable is pulled downward the roller G will be revolved in the opposite direction and the ladder will be elevated. This chain or cable L extends downward at one side of the vertical row of windows to which access is gained to the fire-escape, so that the fire-escape may be operated from any one of the windows in a vertical row below the roller G or it may be operated from the ground, as occasion requires.

By the use of the worm-wheel I and worm K the ladder may be elevated and held in an elevated position without any other means to hold the same. In Fig. 3 we have shown the roller actuated by two beveled gears instead of the worm and worm-wheel; but when said beveled gears are used it is obvious that means would necessarily have to be employed to hold the ladder elevated, such as a pawl, ratchet-wheel, or other suitable means.

The advantage of our invention is that by the use of our improved fire-escape the ladder when lowered to its operative position is at a considerable distance from the burning building, so that the occupants of the upper stories of the building may descend past the lower stories which may be burning without danger of being injured by the flames issuing from the lower windows, and a further advantage of our invention is that the fire-

escape apparatus may be operated from any window in the vertical line or from the ground, or even while it is in its inoperative position close to the building the ladder may be utilized, if necessary, and by reason of the hand-rails E and F timid persons are prevented from falling and will thus use the fire-escape where otherwise they might become injured by falling, from the platforms in traveling to the fire-escape, and by reason of the lower end of the ladder coming in contact with the ground when in its operative position the whole apparatus is stable and stationary while in use.

Of course we do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of our invention.

Having thus fully described our invention, what we claim as new and useful is—

In a fire-escape a series of platforms, pivoted to a building and having openings at the outer ends between the sides of the platforms, a ladder pivoted between the sides at their outer ends, platforms extending out from a building and positioned to form extensions of the pivoted platforms when said pivoted platforms are in horizontal position, hand-rails having their outer ends pivoted to the ladder and one of said rails of each set being bent at the outer end of the stationary platform to lie parallel with the edge of said platform, then bent to parallel the side of the stationary platform, the said hand-rails being pivoted to a building, the said platforms and hand-rails staying the ladder, and means for moving the ladder, substantially as described.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

CHARLES H. PARVIN.  
MAHLON L. SNYDER.

Witnesses:

H. B. HALLOCK,  
L. W. MORRISON.