

(No Model.)

W. F. HIGH.
FIRE ESCAPE.

No. 304,730.

Patented Sept. 9, 1884.

Fig. 1.

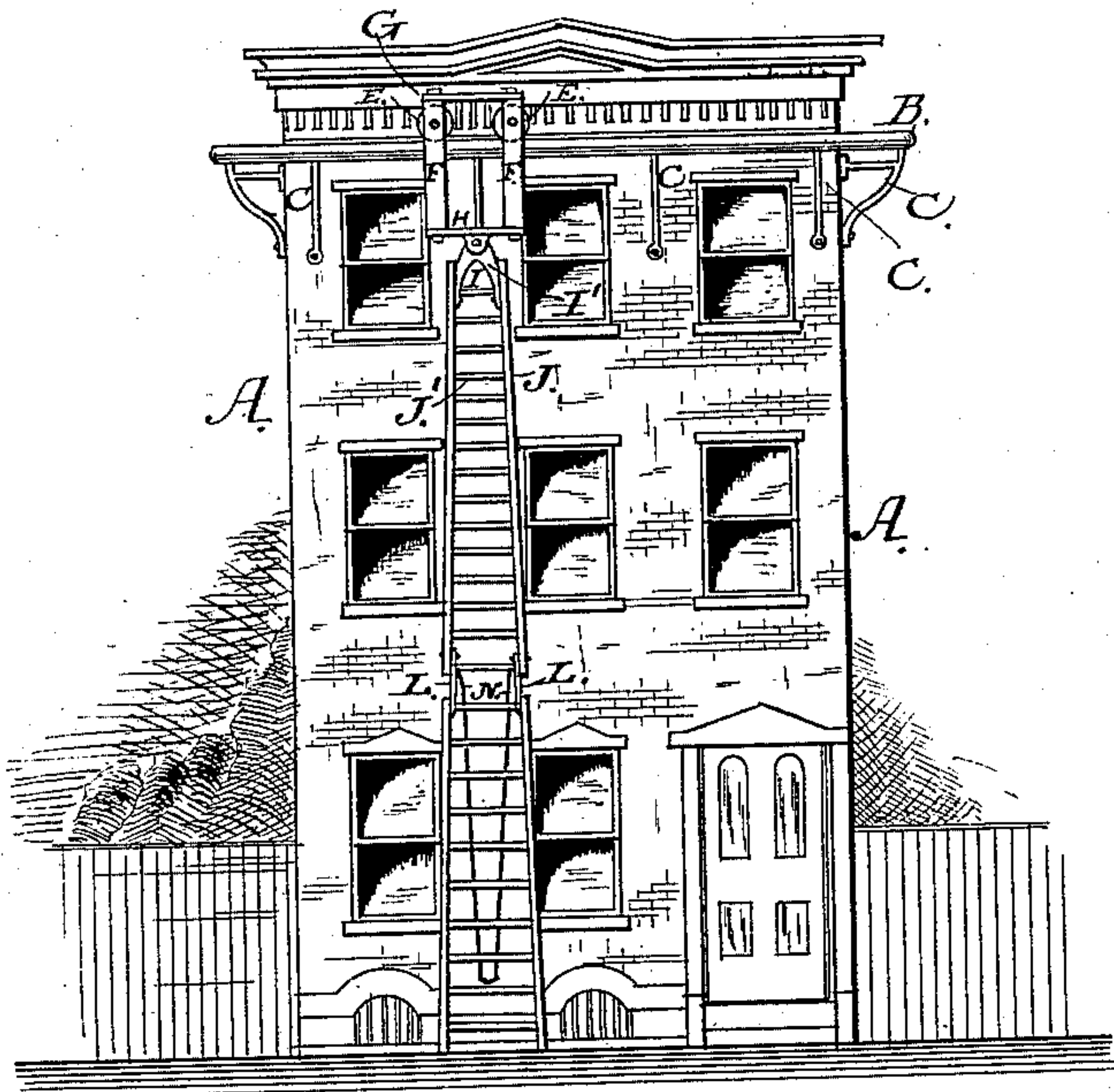


Fig. 2.

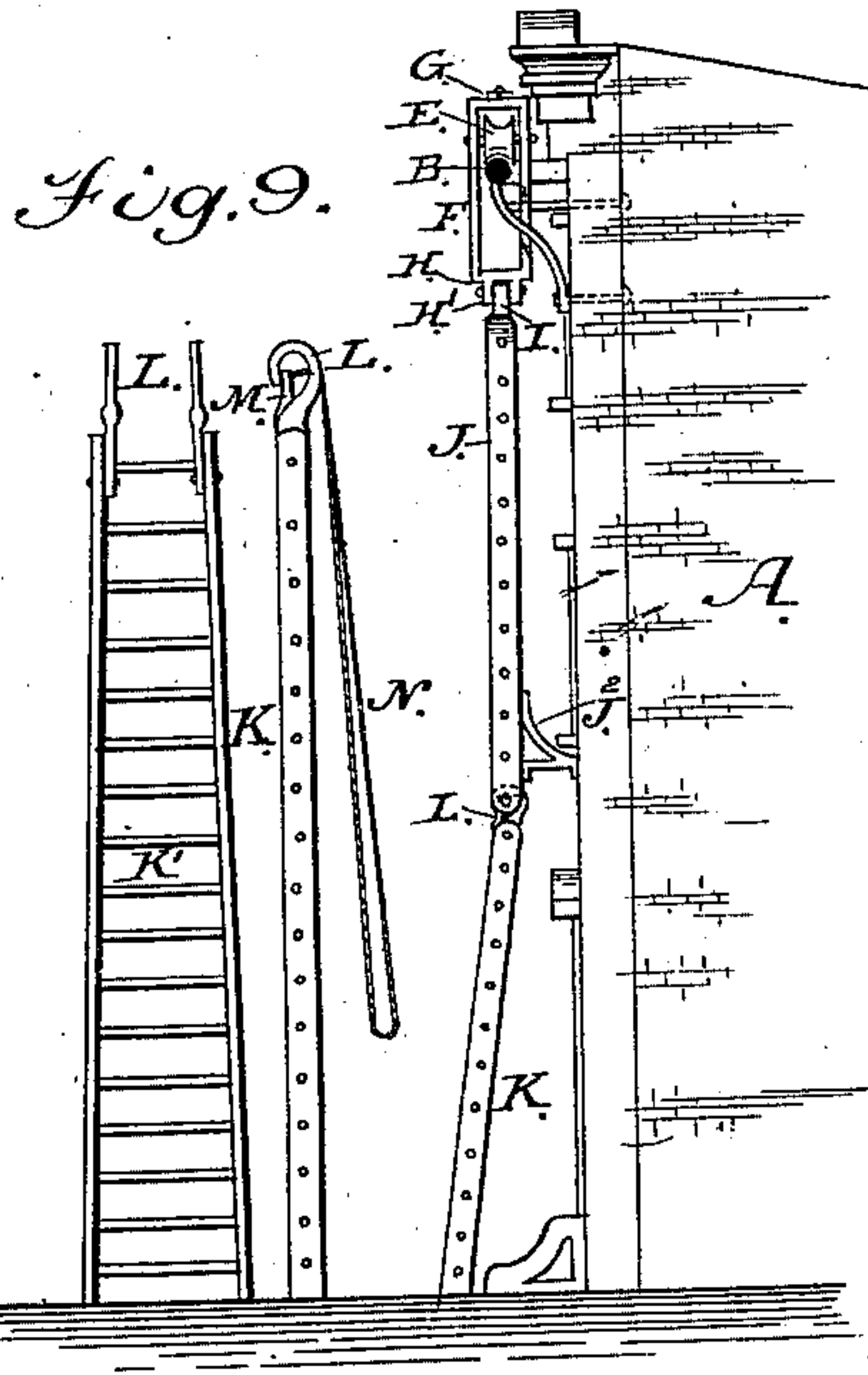


Fig. 8.

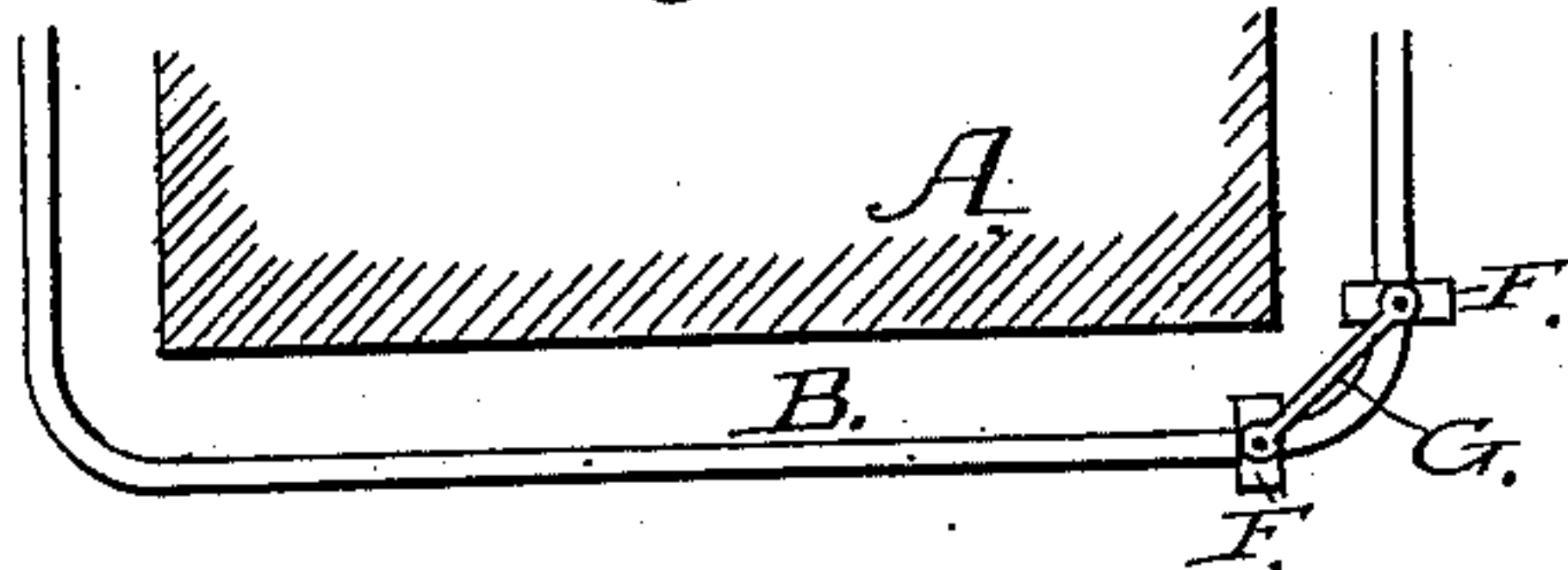


Fig. 3. Fig. 4.

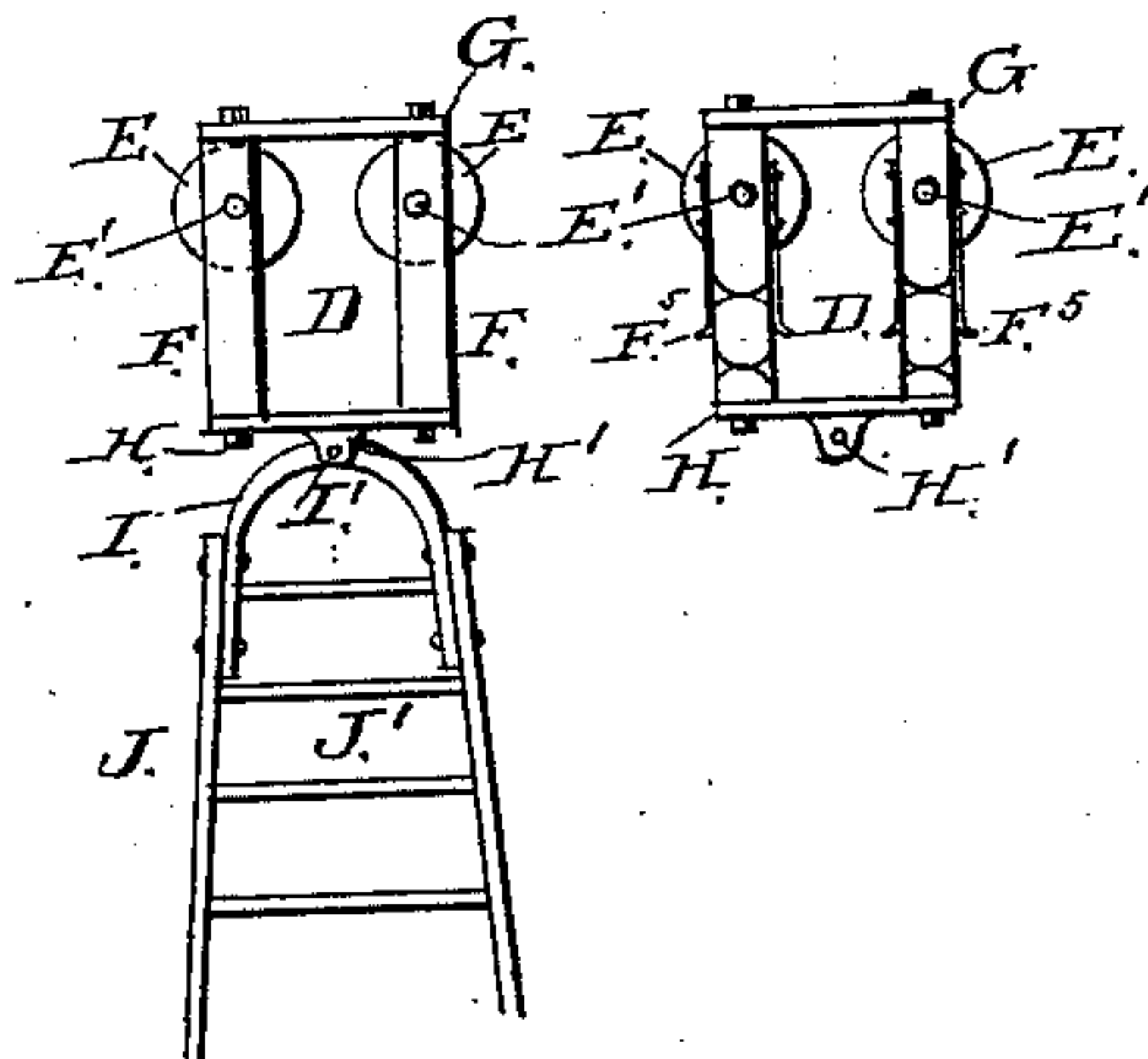


Fig. 5. Fig. 7.

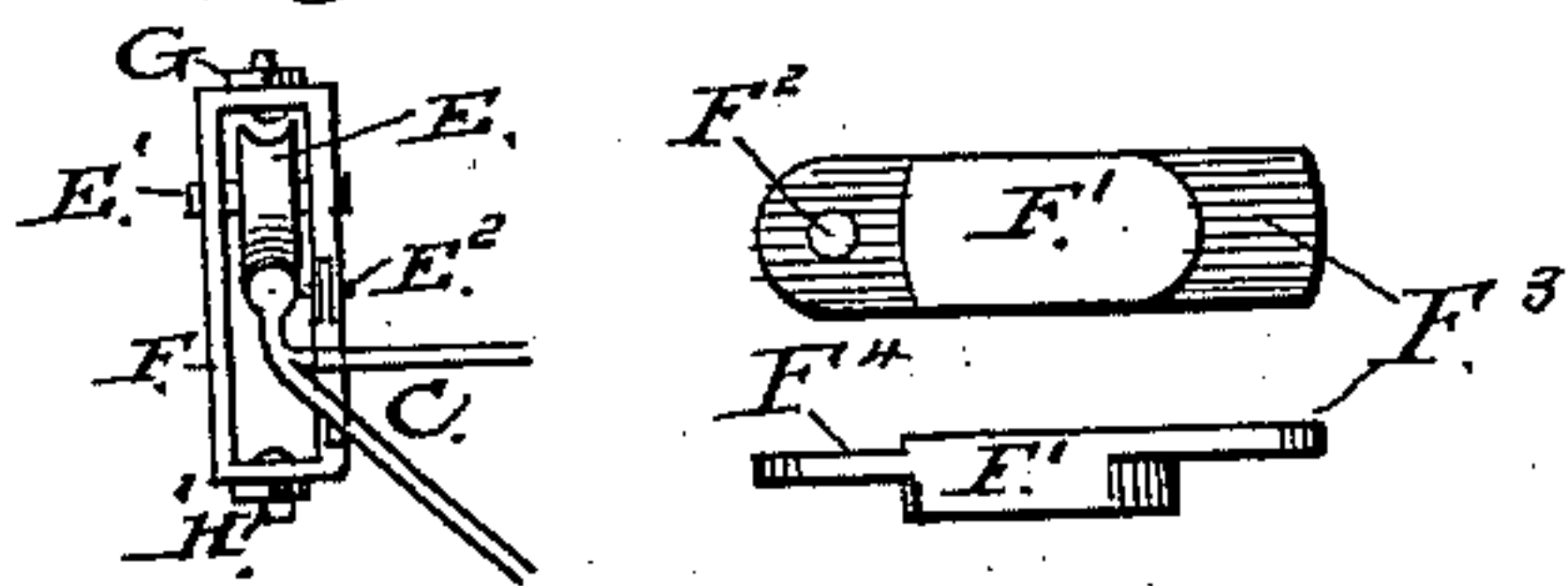
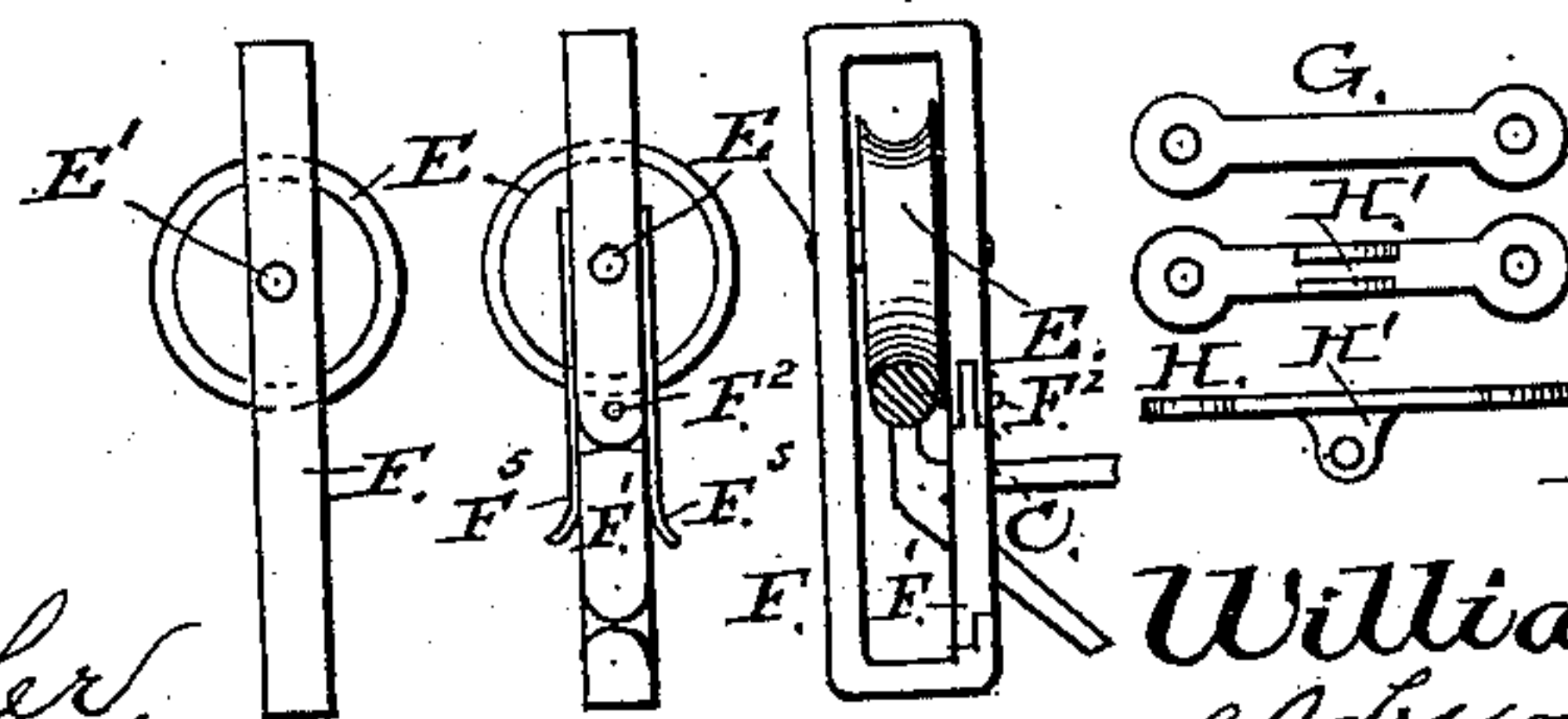


Fig. 6.



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WILLIAM F. HIGH, OF READING, PENNSYLVANIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 304,730, dated September 9, 1884.

Application filed March 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. HIGH, a citizen of the United States, residing at the city of Reading, county of Berks, State of Pennsylvania, have invented a new and useful Improvement in Fire-Escapes, of which the following is a specification.

My improvement relates more particularly to a flexible truck of a novel construction, which permits of the erection of a track securely braced and supported from the walls of the building.

The object of the invention is to reduce the radius of the track-curves at the corners of the building, and thus decrease the projection of the track away from the same, and to facilitate the handling of the fire-escape ladder suspended from the flexible truck. These objects are secured by the use of the several improvements shown in the accompanying drawings, forming a part of this specification, similar letters in which designate similar parts throughout.

Figure 1 is a front elevation of a building with my improvement attached thereto; Fig. 2, a side elevation of the same; Fig. 3, a front elevation of the flexible truck. Fig. 4 is a rear elevation of the flexible truck; Fig. 5, a side elevation of one end of the truck; Fig. 6, front, rear, and side views of one of the ends of the truck drawn to an enlarged scale, with details of the connecting links or bars; Fig. 7, a detail view of the vibrating piece; Fig. 8, a plan of the track, showing the truck in the act of rounding a corner of the building; Fig. 9, a detached elevation and side view of the portable ladder.

A represents the building; B, the track; C, the bracket-support of the same; D, the flexible truck as a whole; E, carrier-wheels; E', axles to same; F, yoke or truck ends; F', vibrating piece; F², fulcrum for same; F³, lap-joint of piece; F⁴, tongue of vibrating piece; F⁵, springs to retain vibrating piece in place; G, top link or connection-bar; H, lower link or connection-bar; H', jaw or equivalent to same; I, bow top of ladder; I', fulcrum for same; J, upper section of ladder; J', rungs; J², braces from ladder, reaching back to the building, to steady the ladder clear of project-

ing window-heads, &c.; K, a portable ladder; K', rungs of same; L, snap-hooks; M, a retractile spring; N, the operating-cord to the same, reaching to the lower rung of the ladder.

The construction is as follows: The track may be of round or rectangular section. I prefer to make it of wrought-iron gas-pipe, and it will be supported and sustained upon wrought-iron brackets of suitable form, the securing-bolts for the same passing entirely through the walls of the building. Upon the track is mounted a truck composed of two independent yokes or end pieces, each provided with a carrying-wheel, the periphery of which is grooved to correspond with the form of rail or track adopted. The yoke has its front face, top, bottom, and portions of its rear face in one unbroken piece. A gap is made in the reverse face of the yoke of sufficient opening to permit the yoke (when secured to the carrying-wheels) to pass the horizontal and brace support of the rail next to the building. The upper edge of the gap in the yoke is grooved, and has a fulcrum-pin, F². The lower edge of the gap in the yoke is cut with a half-lap. A vibrating piece, F', having a fulcrum, F², a half-lap, F³, and tongue F⁴, is suspended on the fulcrum-pin F² and fills out the gap. To retain the vibrating piece in place in its normal state, springs F⁵ are secured to the upper part of the yoke-gap and rest against the vibrating piece on its opposite edges; or the side springs may be omitted and a single spring secured, as before, central to the rear face, and held in free working contact with the vibrating piece by a staple secured to the same.

To secure steadiness of movement, I use two of the yokes, as described, placed at a suitable distance apart upon the track, and retained in their relative position toward each other by a plain link or connecting-bar, G, loosely connected by a pin or bolt at the top, and a bar, H, of similar character, having a suspension boss or jaw, H', adapted to be secured in a similar manner to the lower ends of the yokes. These connections are all made free in movement, but positively secured against rupture.

To the truck thus produced a ladder of any suitable material and design is suspended, either by short chains from each side, connect-

ing with the lower bar, H, of the truck, or a bow, I, having an ear and fulcrum, I', to fit within the jaw of the bar H, may be attached to the upper end of the ladder, as shown in Fig. 3. The suspended ladder I prefer to have of such length as to reach within about sixteen to twenty feet of the ground, the lower rung to be of metal or independent metallic pins, to be strongly secured to the sides of the ladder near its lower end.

In combination with track, flexible truck, and pendent ladder, as described, I use a portable ladder, of sixteen to twenty feet in length, (which corresponds with the deficient length of the suspended ladder,) and having its upper end provided with metallic clamps, terminating in snap-hooks L, with springs M and operating-cord N.

The operation of the apparatus is as follows:
 On an alarm of fire the portable ladder is taken to that side of the building at which the suspended ladder may be placed, (out of the way,) is raised, and so placed that the snap-hooks shall catch and interlock with the lower rung of the ladder, or with the pins provided thereon. When attached, the ladder as a whole may be quickly drawn around upon the track to any desired point of the building, the vibrating pieces F' swinging on their fulcrum-pins as each brace is met, and thus retains the truck in position without danger of displacement from the track. After the ladder has served its purpose of rescuing the occupants of the building, it is returned to its storage

place, the cord N is drawn upon, when the springs M are pulled back, permitting the portable ladder to be released, which puts the escape out of the reach of burglars and where it cannot be used for nefarious purposes.

Having shown the construction and operation of my improvement, I desire to secure by Letters Patent the following claims thereon:

1. In combination with a track projected from and supported by the walls of the building, and of a fire-escape ladder suspended therefrom, a flexible car, D, composed of the following elements: end yokes or carriers, F, vibrating pieces F', links G H, carrier-wheels E, axles E', and fulcrum-pins F², the whole combined, arranged, and adapted to be operated in the manner and for the purpose set forth.

2. In combination with a fire-escape flexible truck and its track, as described, the suspended ladder J, having bow I, secured to the ladder and movably connected to the truck, and provided with rungs J' and with braces J², its lower end detachably connected with a portable ladder, K, provided with rungs K', metallic snap-hooks L, retractile spring M, and cord N, whereby the same may be connected with or detached from the ladder J, substantially as and for the purpose set forth.

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Witnesses:

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