

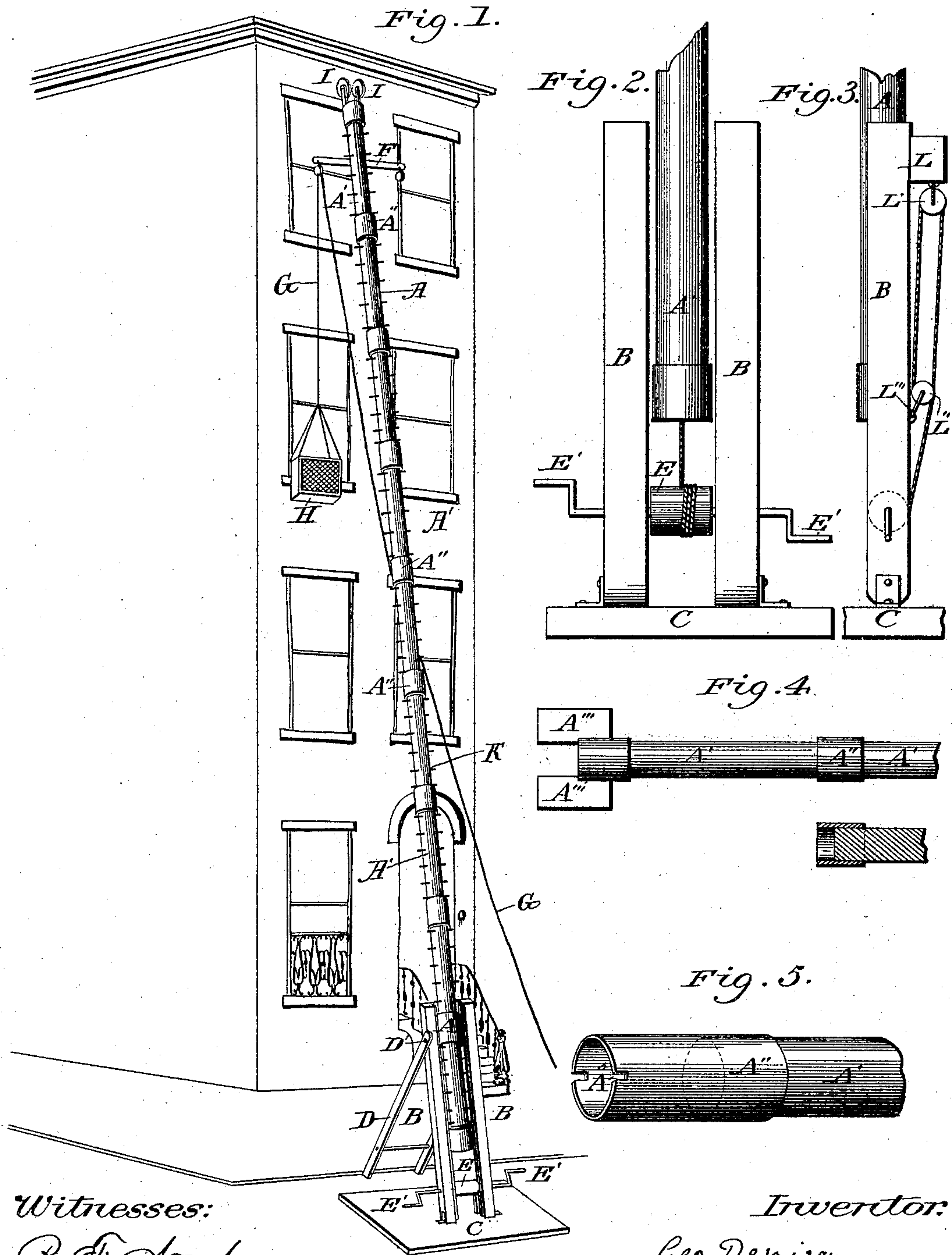
(No Model.)

G. DENISON.

FIRE ESCAPE.

No. 316,757.

Patented Apr. 28, 1885.



Witnesses:

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UNITED STATES PATENT OFFICE.

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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 316,757, dated April 28, 1885.

Application filed May 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE DENISON, a citizen of the United States, residing at Princeton Junction, in the county of Mercer and State of New Jersey, have invented a new and useful Improvement in Fire-Escapes, of which the following is a specification.

My invention relates to improvements in that class of fire-escapes in which the escape device is movable and is operated by appliances outside of and independent from the building in which the persons are to be rescued. My object is to provide an escape by which persons in peril from fire in a burning building can be rescued by aid afforded from the exterior of the building, and also by which, if such persons are helpless from age, infirmity, accident, or suffocation, their rooms may be reached from the exterior of the building and they rescued, and also to provide an escape capable of such results and at the same time readily transportable and capable of speedy erection. I attain these objects by the mechanism illustrated in the accompanying drawings.

In these drawings similar parts are indicated by similar letters of reference.

Figure 1 shows my escape erected and ready for use. Fig. 2 is an enlarged front view of the elevating and supporting mechanism. Fig. 3 is an enlarged side view of such mechanism. Fig. 4 is a separate view of two sections of the extensible mast, showing the uniting-joint. Fig. 5 is one section of the same, showing the ferrule.

In Fig. 1, A is an extensible mast composed of sections A', united together by the ferrules A". B B are upright posts or supports fixed by a hinged joint, B', to a base-block, C, and supported in the rear by the legs D, fixed thereto by the hinged joint D'. In these posts is fixed the windlass E, provided with the cranks E'. At the top of the mast A is affixed a cross-piece, F, to either end of which are attached, running over pulleys, ropes G, reaching to the ground, and of sufficient length. To the end of each of these ropes is attached a safety cage or basket, H, in which the persons being rescued are lowered to the ground. These pulleys are not shown, as any ordinary pulley answers my purpose. At the top of the mast I place two wheels I I, which bear

against the side of the building and keep the mast away from it during erection.

In Fig. 2 are shown these uprights B and windlass E, with a section of the mast A' in position. In each of these uprights or posts is cut a groove, within which the rounds of the section slide. As will be seen in Figs. 1, 2, 4, and 5, each section A' of the mast A is provided upon opposite sides with rounds K, which form a safe and convenient ladder by which the mast may be ascended and the building entered through its windows.

Fig. 3 shows a side view of these uprights or posts B. To the rear of them is bolted a cross-piece, L, against which the mast A rests when in position, and against which the sections A' slide as the mast is being reared. To this cross-piece L, I attach a pulley, L'. This pulley connects by its ropes with the windlass E, and also with another pulley, L'', attached to a grasping-hook, L'''. This hook is only shown in the drawings by dotted lines, as its form is not material.

Fig. 4 shows two sections A' united by the ferrule A".

Fig. 5 shows one section A' provided with the ferrule A", and also shows the open end of such ferrule ready for the end of another section A' to enter.

To the bottom of the lowest section A', I prefer to attach a ferrule provided with wings A'', as shown in Fig. 4. These wings effect two purposes. They afford a firm support for the mast A and prevent its turning. They project from the ferrule, so that, if need be, men may stand upon them, and thus by their weight add to the stability of the support.

The operation of my mechanism is as follows: When not in use, the legs D, uprights B, and block C lie folded together, with the top section A', bearing the cross-piece F, in position between the uprights B. Upon a fire occurring, the escape is brought upon the ground and placed in proper position. The uprights B are raised, the legs D extended, and the top section A' is, by means of the windlass E, pulleys E' and L'', raised to near the top of the upright. Another section A' is brought, and its top or unferruled end is placed within the ferrule A". The grasping-hook L''' is placed beneath the rounds K at near the bottom of the section. The windlass

E is rotated, and by the same means that the first section was raised this second section is raised. Section after section is thus placed in position, thereby forming the mast A, and elevating it to a sufficient height. The ropes G, having been placed in position before the top section is raised, are carried up with it. By these ropes the cages H are raised to any window, and parties in the building stepping into the cages are safely lowered to the ground. If it is desired for any reason to enter the building, the rounds K of the sections A' form a safe and ready means for ascending to the windows. As the sections A' are being raised, if it be desired, for greater steadiness, to rest the upper end of the upper section against the building, the wheels I keep it away from the building and affording the requisite support, at the same time pass easily up the side of the building, guiding the section over any unevenness of the side caused by projection of moldings or otherwise.

For greater steadiness and more facility in raising, I sometimes attach guy-ropes to the upper section; but I do not limit myself to their use.

To prevent the sections A' from turning within each other, as they would be liable especially to do when these wheels do not rest against the building, I cut notches in the ferrules A'', as shown at A⁵ in Fig. 5. As the sections A' are successively placed in position, the top round K of each section enters into

the notches of the ferrule next above it, and prevents such turning.

What I claim as my invention is—

1. In a fire-escape, an extensible mast, A, composed of sections A', united by the ferrules A'', such ferrules having notches A⁵ to receive rounds K, substantially as shown and described.

2. In a fire-escape, an extensible mast, A, composed of sections A', provided with the rounds K, and united by the ferrules A'', such ferrules having notches A⁵, substantially as shown and described.

3. In a fire-escape, an extensible mast, A, composed of sections A', provided with the rounds K, and united by the ferrules A'', such ferrules having notches A⁵ to receive rounds K, substantially as shown and described.

4. In a fire-escape, the base-block C, uprights B, and legs D, all connected by hinged or folding joints, as shown and described, provided with the windlass E, pulleys L'' and L''', and cross-piece L, all substantially as shown and described.

5. In a fire-escape, the section A', provided with a ferrule A'', such ferrule furnished with wings A''', substantially as shown and described.

GEORGE DENISON.

Witnesses:

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