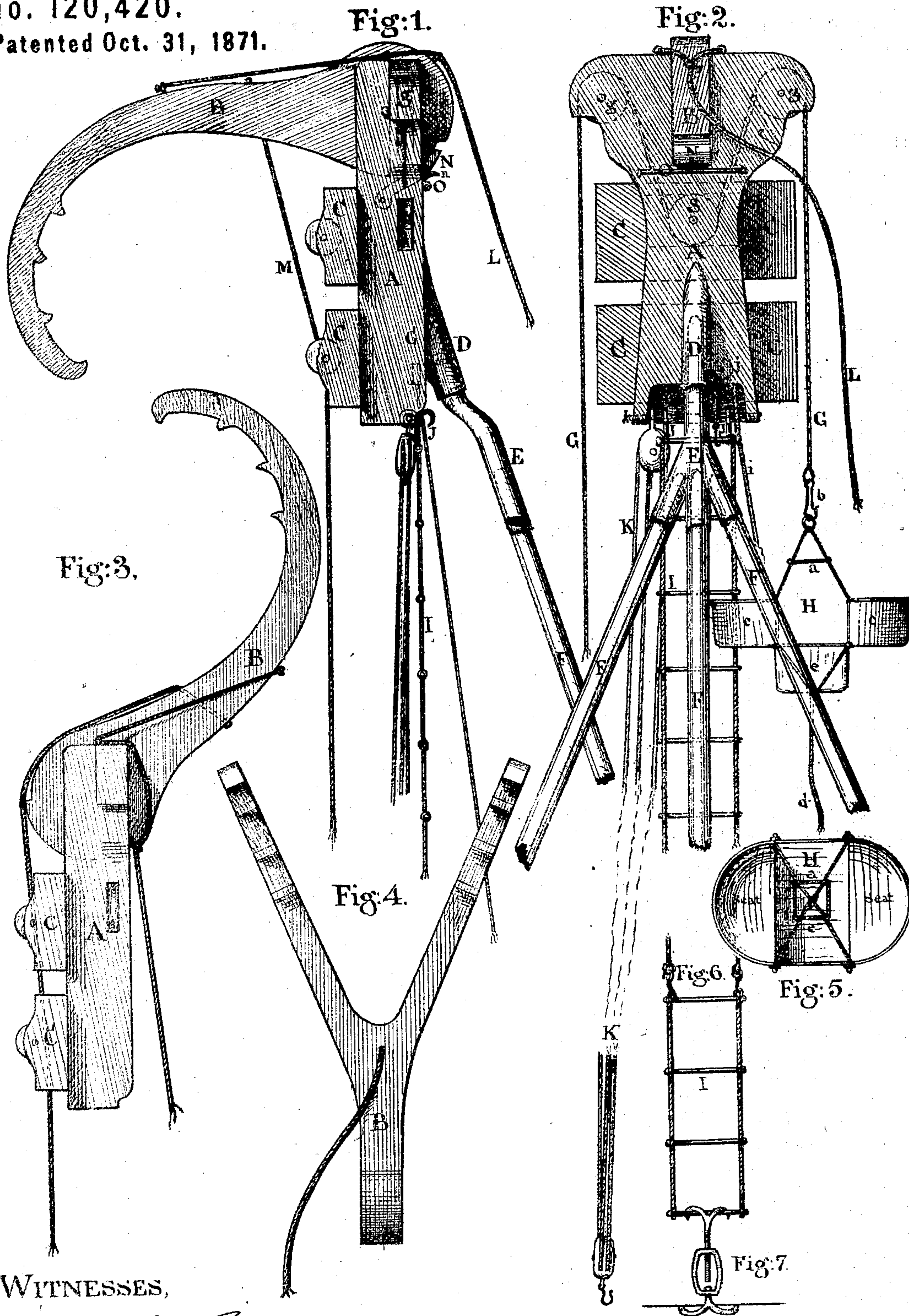


JOHN W. DAVIS & JAMES VERMILLION.
Improvement in Fire Escapes.

No. 120,420.

Patented Oct. 31, 1871.



WITNESSES,

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UNITED STATES PATENT OFFICE.

JOHN W. DAVIS AND JAMES VERMILLION, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNORS TO THEMSELVES AND GEORGE R. EDWARDS; AND SAID VERMILLION ASSIGNOR OF HIS RIGHT TO SAID EDWARDS.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 120,420, dated October 31, 1871; antedated October 14, 1871.

To all whom it may concern:

Be it known that we, JOHN W. DAVIS and JAMES VERMILLION, both of Washington city, District of Columbia, have invented a new, useful, and Improved Fire-Escape, of which the following is a specification:

Our invention relates to an improvement in fire-escapes designed and made as hereinafter described.

Figure 1 is a side elevation of the apparatus, the grappling-hook or claw thrown forward. Fig. 2 is a back elevation of the apparatus, the grappling-hook or claw thrown forward. Fig. 3 is a side elevation of the apparatus, the grappling-hook or claw thrown back. Fig. 4 is an in-curve view of the grappling-hook or claw. Fig. 5 is the plan of the chairs or baskets. Fig. 6 is a view of a section of the ladder and connection. Fig. 7 is a view of setting-up screw and hook for setting up the ladder.

A, the stock or body of the apparatus; B, the grappling-hook or claw; C C, the friction-rollers to lessen the friction in raising up the side of a wall; D, socket in which poles or staves are inserted for elevating the apparatus; E, triad rod or staff, with two or more sockets for the insertion of poles or staves; F F F, staves shown in sections, connected by means of points and sockets. These staves or poles are used for raising the apparatus into position. M, small rope, the pulling of which throws the hook or claw B forward; N, pawl to prevent the return of hook B; n, spring to hold pawl N up against the heel of hook B; G G, rope passing over pulleys g g g, to be used as guy-ropes in hoisting the apparatus; H H, chairs or baskets to be slung on either end of rope G G, to be used in lowering or hoisting persons and bringing property from the upper part of burning buildings. These chairs or baskets can be raised or lowered at will, and can be swung out over the street, thus swinging clear of flames which may be blown through the lower windows. a, sling; b, catch-hook; c c, seats; d, guy-rope; e, bottom of chair or basket; I, rope-ladder for use of firemen; i, rope passing over pulley j for hoisting ladder; J J, double hooks

on first section of ladder to catch on bolt k; K, tackle to hoist hose into any story of the building the firemen may desire; L, rope to disengage the hook B and release the apparatus.

Any metals may be used in making the hook and body of the apparatus, the best wrought-iron for the hook and the best plate boiler-iron for the stock or body preferred.

Any kinds of rope may be used for lanyards for running in sheaves over pulleys and for making the ladder; but the best quality of annealed-wire rope, very pliable, should be used.

Any material may be used in making the staves or poles; but bamboo, owing to its being light and strong, is preferred.

Chairs or baskets are better made of light wire.

The staves E and F F F are inserted in the socket D. When the apparatus is ready to elevate, let the body A rest against the wall, when it is pushed up the wall to the desired height. The ropes G G, in connection with d, are used to guide the apparatus to the point desired. Placing the body A directly under the sill of a window or aperture in the wall, when lanyard M is pulled the grappling-hook or claw B is thrown forward into the window or through the aperture. Pawl N, being pressed up against the heel of the hook, drops into the niche on the heel of the hook, preventing the return of the same and forming a firm support for the body of the machine. The basket or chair on either side is then raised to the window desired; the parties get into the basket or chair and are lowered to the ground. The operation is repeated, each basket going up alternately. A person may be sent up in the basket if desired. The ladder I I is to be used by the firemen, it being hauled up by means of rope i, which runs over pulley j, hooks J J dropping over bar k fastening the ladder securely to the body A. Falls K are fastened over the same bar, and used by the firemen to raise the hose into the upper stories of buildings.

We claim as our invention—

1. The combination of grappling-hook or claw B, lanyards L and M, pawl N, spring n, staves

E and F F F, friction-rollers C C, and stock or body A, substantially as and for the purposes hereinbefore set forth.

2. The combination of pulleys *g g g*, rope G G, chairs or baskets H H with guy-rope *d*, substantially as and for the purposes hereinbefore set forth.

3. The combination of ladder I I, hooks J J,

bar *k*, and falls K, substantially as and for the purposes hereinbefore set forth.

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