

No. 692,104.

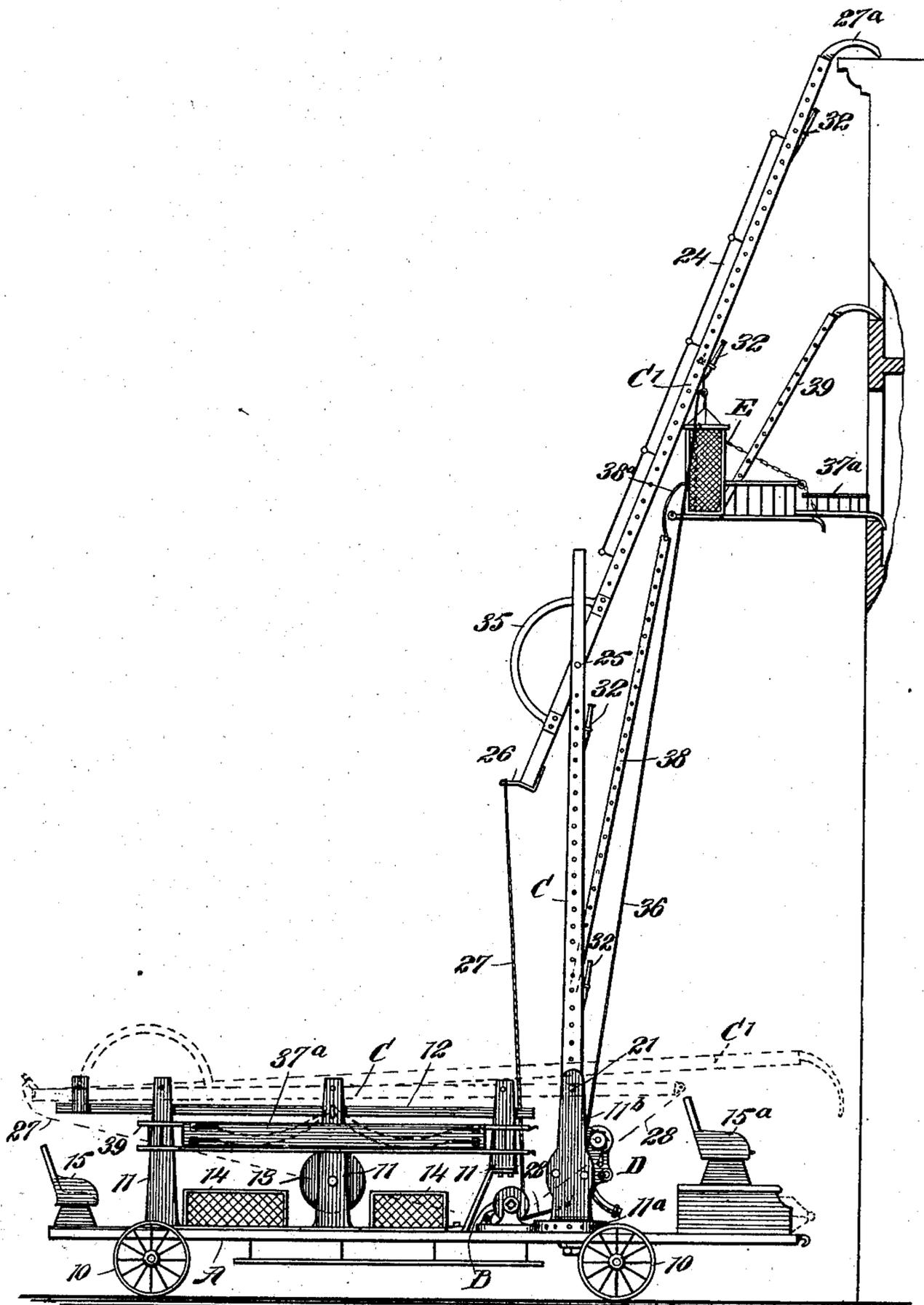
Patented Jan. 28, 1902.

P. BASTIANELLO.
FIRE LADDER AND ESCAPE.

(Application filed Mar. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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Fig. 1

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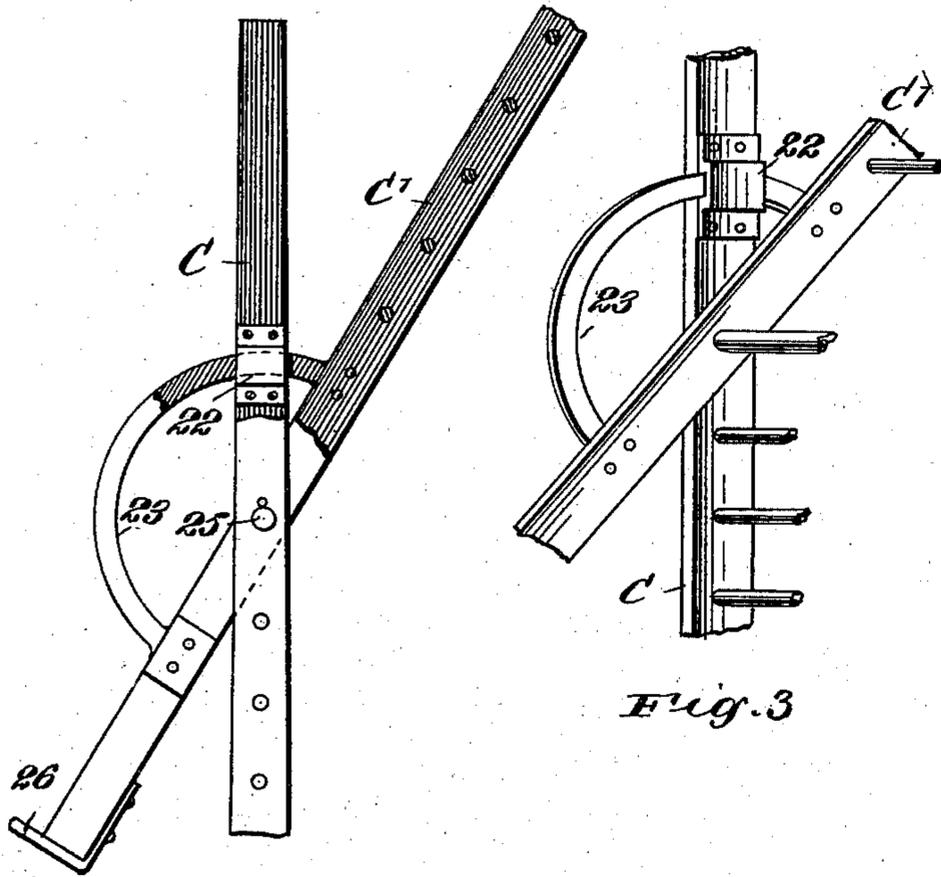


Fig. 3

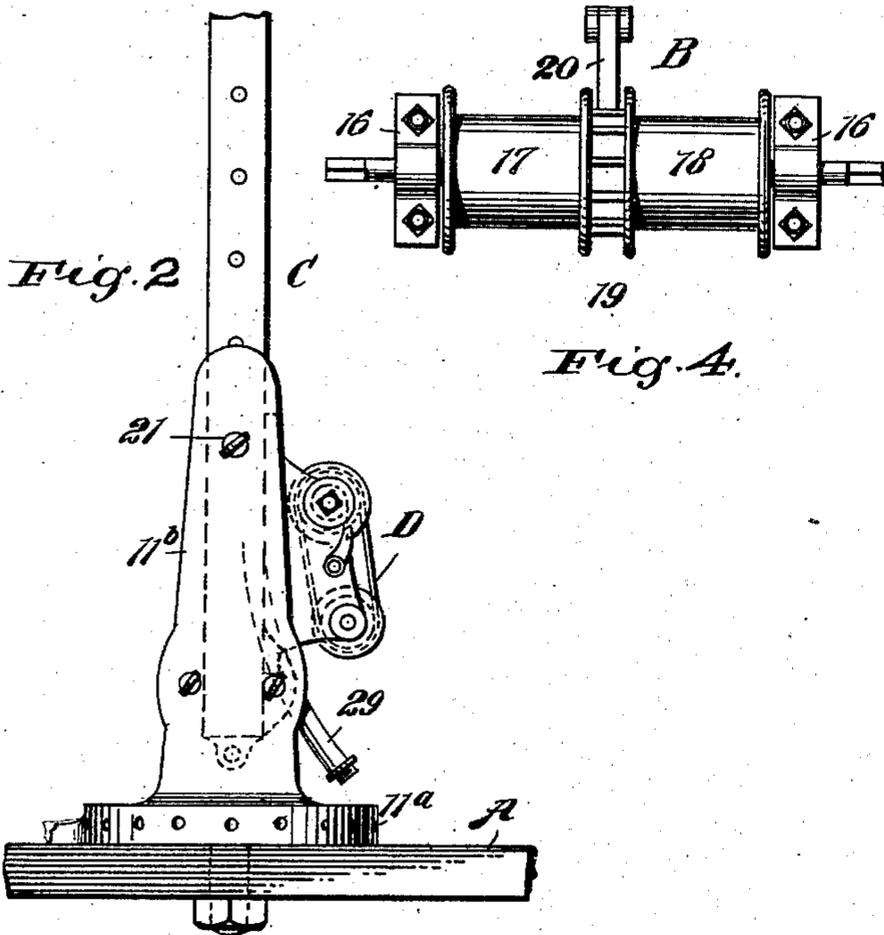


Fig. 2

Fig. 4.

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UNITED STATES PATENT OFFICE.

PIETRO BASTIANELLO, OF PERTH AMBOY, NEW JERSEY.

FIRE LADDER AND ESCAPE.

SPECIFICATION forming part of Letters Patent No. 692,104, dated January 28, 1902.

Application filed March 25, 1901. Serial No. 52,723. (No model.)

To all whom it may concern:

Be it known that I, PIETRO BASTIANELLO, a citizen of the United States, and a resident of Perth Amboy, in the county of Middlesex and State of New Jersey, have invented a new and Improved Fire Ladder and Escape, of which the following is a full, clear, and exact description.

The invention relates to extension-ladders and means for elevating the same, and has for its object to improve such ladders in the particulars hereinafter explained.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved fire ladder and escape. Fig. 2 is an enlarged view of the lower main ladder and a portion of the upper main ladder and the support and operating mechanism for the two ladders, the ladders being shown partly in section and partly in side elevation, the view mainly illustrating the manner in which the two ladders are adjustably connected. Fig. 3 is a detail perspective view of a portion of the upper and lower main ladders, illustrating the manner in which one main ladder is guided upon the other; and Fig. 4 is a plan view of the drum employed for manipulating the main ladders.

A represents a truck mounted upon suitable wheels 10. The truck is provided with uprights 11, which support at their upper ends a horizontal platform 12 of any desired dimensions, and forward uprights 11^b are also provided for ladders to be hereinafter described. Preferably between the central uprights 11 is a reel 13, upon which hose may be stored, and at each side of this reel 13 receptacles 14 are shown, in which various implements may be placed for use at a fire. In Fig. 1 a seat 15 is shown at the rear of the truck, while a driver's seat 15^a is provided at the front portion of the truck; but any desired number of seats may be placed upon the truck as occasion may demand.

Between the front uprights 11 and 11^b a

drum B is mounted to turn. The trunnions of this drum are revolved in bearings 16, secured to the round table to revolve with the same, and the outer ends of the trunnions are made polygonal, so as to receive a handle of any description. The drum B is divided into two sections 17 and 18 by a central ratchet-partition 19, and the teeth of this ratchet-partition 19 are engaged by a pawl 20, the said pawl being secured to the round table, as shown in Fig. 1, the drum being particularly shown in Fig. 4.

Two main ladders C and C' are employed, and these two ladders are pivotally connected in a manner to be hereinafter described and when not in use lie one upon the other on the upper platform 12, as shown in dotted lines in Fig. 1. The lower ladder C is pivoted between its center and its heel between the foremost uprights or standards 11^b, as shown in Fig. 1 at 21, and this foremost standard or upright 11 is mounted upon a turn-table 11^a, as is particularly illustrated in Fig. 2. Near the upper end of the lower main ladder C guides 22 are secured to the inner faces of the sides of the said ladder C, as is particularly shown in Figs. 2 and 3, and segmental plates or rods 23, attached to the upper main ladder C', are passed through the said guides 22, as is shown in the same figures. The upper main ladder C' is shown as provided with a guard-rail 24, and such a rail may be applied to the lower main ladder C, if desired. A pivot-pin 25 is utilized to connect the upper main ladder C' with the lower main ladder C, and this pin 25 is passed through the upper main ladder at a point between its center and its heel, as is shown in Fig. 1, and at the heel of the upper main ladder C' a metal extension 26 is preferably provided, and to this extension 26 one end of a cable 27 is secured. This cable extends downward and engages, for example, with the section 17 of the drum B. At the upper end of the upper main lever C' a hook 27^a is located, and this hook is especially adapted when the main ladders are erected or carried upward from the truck to bear against the roof or on a building, adjacent to the cornice thereof, as is also best shown in Fig. 1. A cable 28 is secured to the heel of the lower main ladder C, and this cable 28 is attached to the other

section 18, for example, of the drum B. Thus by turning the drum B in a proper direction the two main ladders C and C' may be made to assume a practically upright position, the
 5 lower main ladder C in operation being in a vertical position, while the upper main ladder C' is in more or less of an inclined position, so that its upper hook 27^a may engage with the roof or with a projection from the
 10 building, as has been stated.

In order that the fire may be reached and kept under control in the various floors of a building to which the improved ladder may be applied, a main supply-pipe may be lo-
 15 cated upon the lower portion of the main ladder C, adapted to be attached to a main water-supply, and this pipe when used is provided with branches to reach to any section of the ladder employed. At the outer end of
 20 each section of such pipe or hose a nozzle 32 is provided. The lower main ladder C' is pivoted in the forward revolving uprights 11^b by a suitable pivot-pin 21, as is shown in Figs. 1 and 2.

In addition to the ladders mentioned a cage E may be employed, adapted to be carried by the truck and to be elevated, for example, by chains or cables 36, connected with a suitable windlass D, carried by the truck or the
 30 uprights 11^b, and these ropes or cables are passed over suitable pulleys attached to a rung of the uppermost ladder. The cage when used is also preferably provided with a drop-bridge in one or more sections, adapted to rest at its inner end upon a sill or other
 35 projection from the building, the main bridge being designated as 33 in Fig. 1 and the extended section as 37^a.

An auxiliary ladder 38 may be made to rest
 40 upon one of the rungs of the lower main ladder C, the upper end of said ladder 38 being attached in any approved manner to extensions from the cage E, and at the upper ends of the auxiliary ladder 38 hooks 38^a are pro-
 45 jected, so that the auxiliary ladder 38 may be used as a scaling-ladder, and when said auxiliary ladder 38 is attached to the cage E the hooks 38^a serve as rails at the upper portion of said ladder. It will be observed that
 50 when this auxiliary ladder 38 is used persons may descend to the lower main ladder from the cage and be assisted in such descent by the firemen on the main ladder without the escaping parties interfering with the opera-
 55 tions of the firemen on the main ladder.

In Fig. 1 I have illustrated a second auxiliary ladder 39, which may be made to extend from the bridge 33 to the window of a

floor above the bridge, thus affording means for the prompt escape of people from two
 60 floors while the cage is in position.

Having thus described my invention, I claim as new and desire to secure by Letters Patent--

1. In fire-escapes, a truck, supports on the
 65 truck, pivotally-connected ladders, a turn-table on said truck and to which the lower ladder is secured, a grappling-iron secured to the upper end of the upper ladder, a wind-
 70 lass, and cables connected with the heel portions of the said ladders and with the said windlass, for the purpose described.

2. In a fire-escape, a wheel-supported truck, pivotally-connected main ladders, the lower main ladder being pivotally supported
 75 on the said truck, a guide connection between the two ladders, a grapple at the upper end of the upper ladder, a winding mechanism, and cables connected with the heels of the
 80 said ladders and with the said winding mechanism, as described.

3. The combination with the ladder comprising sections pivoted to each other a distance from their adjacent ends, one of the sections having a member curved in an arc
 85 struck from the pivot of the sections and the other section having a guide-keeper in which said member moves, cables connected with the ladder-sections below the pivots, and winding mechanism for operating the cables. 90

4. The combination of ladder-sections, said sections being pivoted to each other a distance from their opposing ends, a support on which the lower section is pivoted a distance
 95 from the end of the said section, cables connected with the sections below their pivots, and winding mechanism for said cables.

5. The combination of a truck having an elevated table, a turn-table, standards on the turn-table, ladder-sections pivoted to each
 100 other and adapted to lie on said elevated table, the lower ladder-section being pivoted to the standards a distance from the lower end of said section, and the sections being pivoted to each other a distance from their
 105 adjacent ends, a cable for each ladder-section and connected therewith below the pivot thereof, and winding mechanism for the cables.

In testimony whereof I have signed my
 110 name to this specification in the presence of two subscribing witnesses.

PIETRO BASTIANELLO.

Witnesses:

J. FRED. ACKER,
 JNO. M. RITTER.