J. P. DUNCAN.

FIRE-ESCAPE.

No. 192,364. Patented June 26, 1877.

Fig. 1.

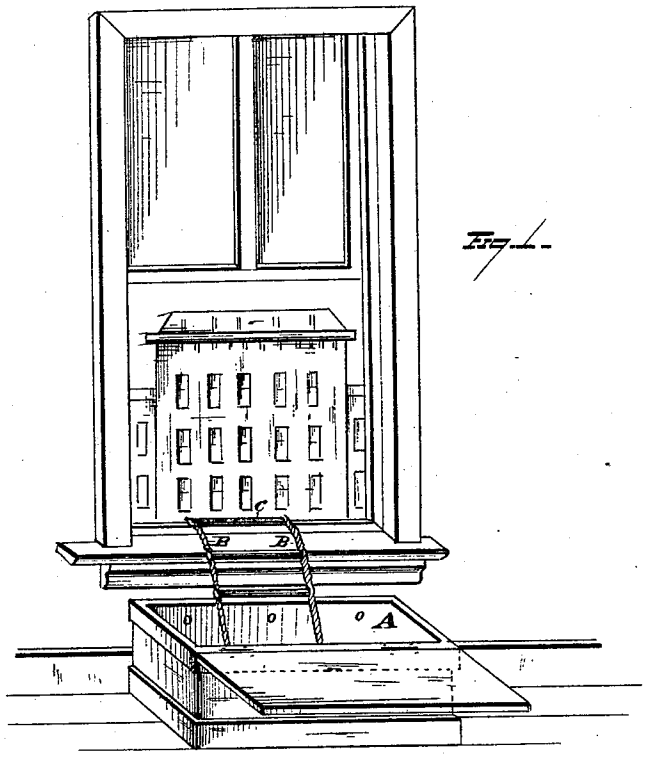


Fig. 2.

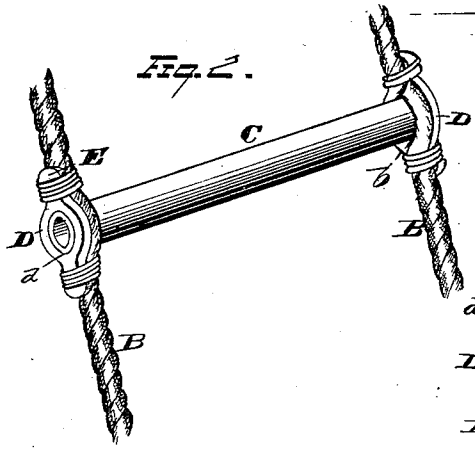
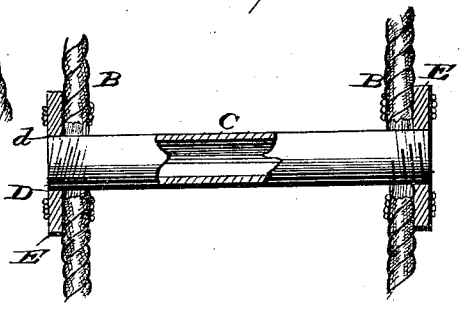


Fig. 3.



WITNESSES

Ed. L. Nottingham.

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INVENTOR

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ATTORNEYS

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UNITED STATES PATENT OFFICE.

JOHN P. DUNCAN, OF HELENA, ARKANSAS, ASSIGNOR OF ONE-HALF HIS RIGHT TO AURELIUS F. MULKEY, OF SAME PLACE.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 192,364, dated June 26, 1877; application filed May 8, 1877.

To all whom it may concern:

Be it known that I, JOHN P. DUNCAN, of Helena, in the county of Phillips and State of Arkansas, have invented certain new and use ful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in fire-escapes, and is designed to provide a box or other suitable inclosing receptacle for a flexible ladder, which may be secured to a room, either within its interior proper or within its side wall, and which connects suitably with the ladder. This ladder is formed with two side ropes, which have metallic socket-clips secured to their outer sides, corresponding to each transverse round, and the latter are connected by screw-thread engagement with these clips, after passing through sockets made in the body of the rope.

When not required the fire-ladder is packed away in its box or covering receptacle, and so arranged that in instance of an emergency the ladder may be lifted from its chamber and thrown out of the window ready for the use of parties to make a safe descent on the outside of the burning building.

Referring to the drawings, Figure 1 represents an interior view of a room provided with my improvement. Fig. 2 is a view of a portion of the ladder alone. Fig. 3 is a view in detached section in a cross-plane, passing through one of the rounds.

The box A, in which the ladder is to be kept while not in use, may be of any suitable size and appearance, and can be made corresponding to the quantity of ladder to be stored therein. Thus, in the higher stories a larger receptacle would be called for than in instance of the lower stories, and, if desired, a reel may be placed centrally within the box upon which to coil the ladder, so as to be closely packed. In my preferred way, however, I make the parts as shown in the drawing, the upper extremities of the ladder being secured by rings and staple-bolts to the wall side of the box, so that the ladder may be readily taken in hand and thrown out of the window in a mass without being encumbered by an unreeling process.

This box may be detachably secured to the floor or wall of a room, permitting it to be removed, if desired, and thus made portable, so as to be carried into different rooms of a house, or it may be firmly engaged to one particular place as a fixture. In either event its fastening is sufficient to withstand the strain imposed upon it as the escape is in use. Any pleasing outer configuration might be given to the box so as to be agreeable to the eye, as it stands in a room with its cover or lid closed. It might be upholstered so as to form a stationary article of furniture, such as a stool or seat. So, too, instead of having a box inside of the room, the same could be dispensed with entirely, and there might be a recess made in the wall below the lower casing of the window, and the ladder secured therein, where it would be out of the way and free from observation.

This ladder consists of the two side ropes B forming its vertical supports, and transversely connected together by the rounds or rungs C. The ropes are of any suitable size, and are provided with the detachable metallic clips D, one on either rope at opposite ends to the rounds and corresponding in sets to these latter. They are formed with central sockets *d*, which receive in screw-thread engagement the extremities of the rounds, and are reversely threaded, so that by turning the rounds in one direction they may simultaneously disengage from the socket-clips at both extremities. These clips have the ears E projecting from either side of the central sockets *d* in line parallel to the length of the side ropes, to the outer sides of which latter they are secured by any suitable means. Thus I may use wire cord wound jointly about the rope and each ear, or, instead of wire, metallic bands may be used, or any other analogous means for fastening the same.

The rounds are made of tubular metal, so as to present a large amount of surface and the greatest strength compatible with the least weight and first cost of the material. Gas-pipe might be used, or any other form of tubular metal. They are adapted to be quick-

ly detached from the ropes and the end clips, and a new set of longer or shorter rounds substituted therefor. By this means the ladder can be easily made wider or narrower without any mutilation of parts, and at very slight expense; the ropes, being also provided with sockets *b* registering with those in the metallic end clips, allow the rounds to be passed through them both, and thus securely hold the several parts in firm engagement.

While I have designed this ladder with especial reference to my fire escape, it is evident it may be used for other purposes, and I desire to be understood as claiming its peculiar construction, whether used in fire-escapes or in the ordinary needs of a ladder. It can well be employed as a painter's, tinner's, or other tradesman's ladder.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A fire-escape consisting in the combination, with the side ropes and tubular rounds, of the flat, solid, metallic clips D, secured to the outer side of the ropes, both the rope and the clips being formed with sockets, through which the rounds pass, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of April, 1877.

JOHN P. DUNCAN.

Witnesses:
J. A. TRASK,
G. D. JAQUISS.