No. 672,206. Patented Apr. 16, 1901.

A. J. DODD.

FIRE ESCAPE.

(No Model.) (Application filed May 20, 1899.)

Fig. 1.

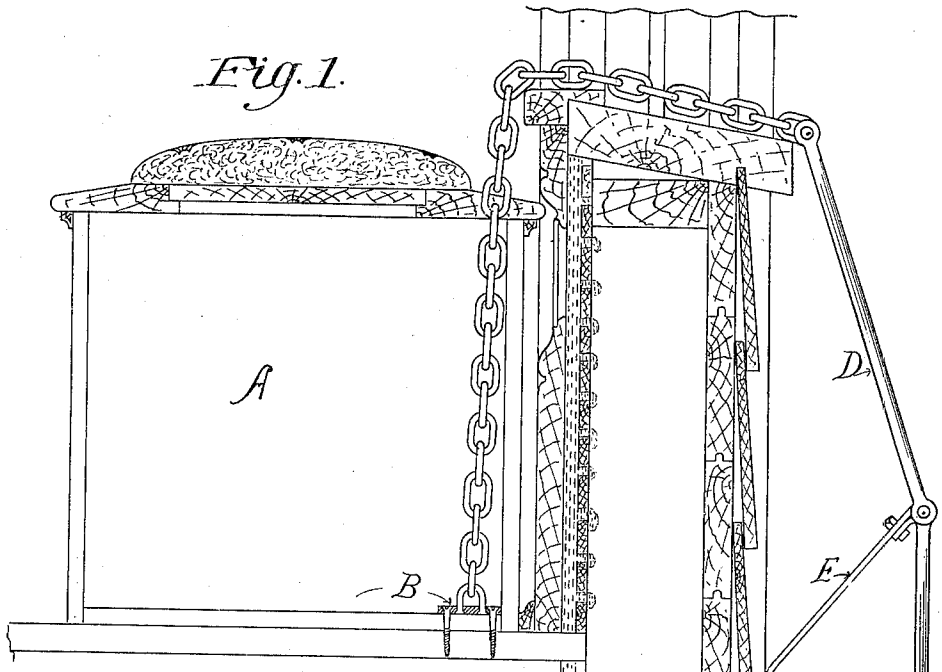


Fig. 2.

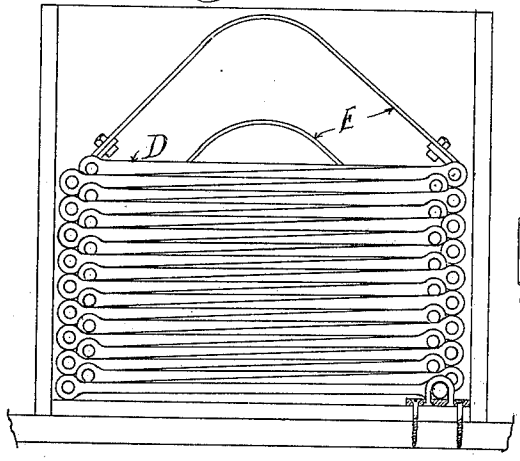


Fig. 3.

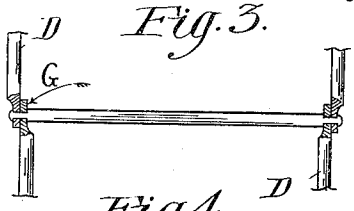
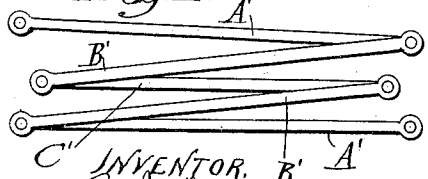


Fig. 4.



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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 672,206, dated April 16, 1901.

Application filed May 20, 1899. Serial No. 717,670. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. DODD, a citizen of the United States, and a resident of Lincoln, county of Lancaster, and State of Nebraska, have invented certain new and useful Improvements in Folding Fire-Escapes, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to fire-escapes or means provided for escaping from buildings when the ordinary means are not within reach, and more particularly to that class of fire-escapes which are folded and stored in some conspicuous place and where they can be used at a moment's notice.

In the drawings, Figure 1 is a side elevation, parts being shown in section, of a portion of a building having my invention applied thereto. Fig. 2 is a detail in sectional elevation, showing my improved ladder as folded and stored in a proper box or receptacle, usually to be placed beneath or adjacent a window; and Fig. 3 is a detail, partly in section, showing the manner of connecting the rounds or steps of the ladder and the side bars. Fig. 4 is a detail illustrating the purpose of making the side rods of three different lengths.

In the drawings, A represents a box or suitable receptacle, preferably located adjacent a window and provided, as shown, with any desirable form of cover, into which box or receptacle the ladder is adapted to be folded and stored ready for use.

In making my ladder I make the side rods of convenient length for the distance between rounds or steps, the different sections being secured together in such a way as to make a perfectly easy working joint, but leaving it rigid enough to make the ladder almost as solid as if made of a single piece. The different sections are secured together, as will readily be seen by reference to the drawings marked G, by flattening the ends of the rods on one side, the rounds or steps being shouldered on each end, thus reducing the size to pass through holes in the ends of the side rods, the side rods being alternately changed, so that the straight sides join together. The side rods are retained on the steps or rounds by riveting or upsetting the end of each round or step, as will be well understood.

The knees (represented by the letter F) are independent of the ladder and are to be placed on the ladder at convenient places after the ladder is placed in position, presumably one pair of knees in about every ten or twelve feet, thus keeping the ladder well away from the building and also helping to make it rigid.

The letter B in the drawings, Fig. 1, shows the manner of securing the ladder to the floor, there being, first, a steel plate about two inches square, with four holes for screws, one in each corner, also two holes, through which the ends of a staple are placed after receiving the first link of a chain which passes over window-sill, the staple being riveted to the steel plate on the under side, the screws which go through the plate being of sufficient length to extend through bottom board of box and into the floor far enough to firmly secure the ladder in position, there being two chains, one for each side of the ladder. I thus use eight screws to fasten the ladder to the floor.

At E is shown the form of knee and at F the way it is secured to the ladder, it being a piece of bent steel of sufficient width and thickness to firmly hold the ladder from the wall, and is so bent as to give it the utmost resisting power. It is fastened to the round of the ladder by drilling two holes in it, as represented at F, and clamping it fast upon the round by doubling the end around and by using a bolt with a nut, thus making it easily detachable, as clearly shown in Fig. 1.

Fig. 2 of the drawings shows the ladder folded up and in the box ready for use. It also shows the manner of folding, by which is secured a large amount of ladder in a very small space, it being possible by this device to put seventy-five feet of ladder in a pile less than one foot in height. To do this, I form my side rods of three different lengths, as best shown in Fig. 4, but the difference being so slight as not to be noticeable except by careful examination, the difference being just enough to allow the steps to alternately fold, one inside, the next outside, thus making my ladder fold

up in a square pile, using only one-half the diameter of each side rod in height for each step or round of ladder.

The object of making the side pieces of the ladder in three different lengths is to cause it to build up perfectly level when folded in the box, as shown in Fig. 2. This is accomplished by arranging the side pieces in long lengths, medium lengths, and short lengths.

In Fig. 4, A′ denotes a side piece of the longest length, B′ a piece of the medium length, and C′ the short piece. In folding, the ends of the rods B′ and C′ drop inside of the ends of the rod A′, and the entire ladder piles up with both ends straight and even, instead of being higher at one side than at the other or being in the shape of a pyramid, as has heretofore been proposed.

In practice it is intended to place one of these ladders in each room, directly under a convenient window, and by fastening both ladder and box securely to the floor it is but a moment's work to remove the cover of the box and drop the loose end of the ladder out of the window, when it is ready for use. The ladder reaching to the ground, it thus makes a natural and easy means of escape.

I claim—

A ladder fire-escape, comprising a series of side rods of three different lengths, and rounds or steps uniting the adjoining ends of rods of different lengths in series of three, whereby the sections of the ladder are adapted to be compactly folded.

In testimony whereof I have affixed my signature, in the presence of two witnesses, this 9th day of May, 1899.

A. J. DODD.

Witnesses:
A. M. EDGINGTON,
L. J. BYER.