

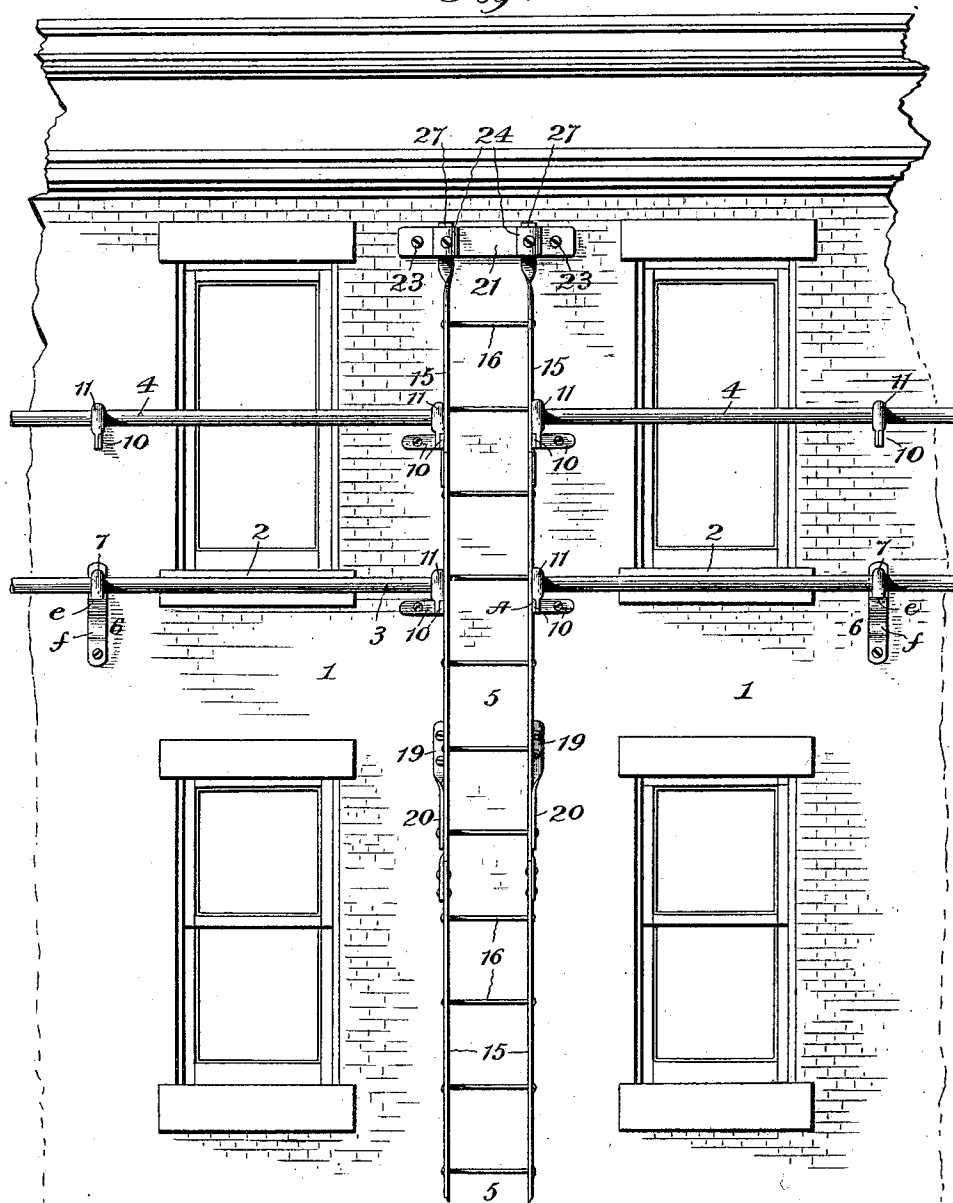
J. C. COVERT.
FIRE ESCAPE.
APPLICATION FILED NOV. 14, 1907.

993,350.

Patented May 30, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

James Hutchinson
Calvin T. Milans

Inventor:

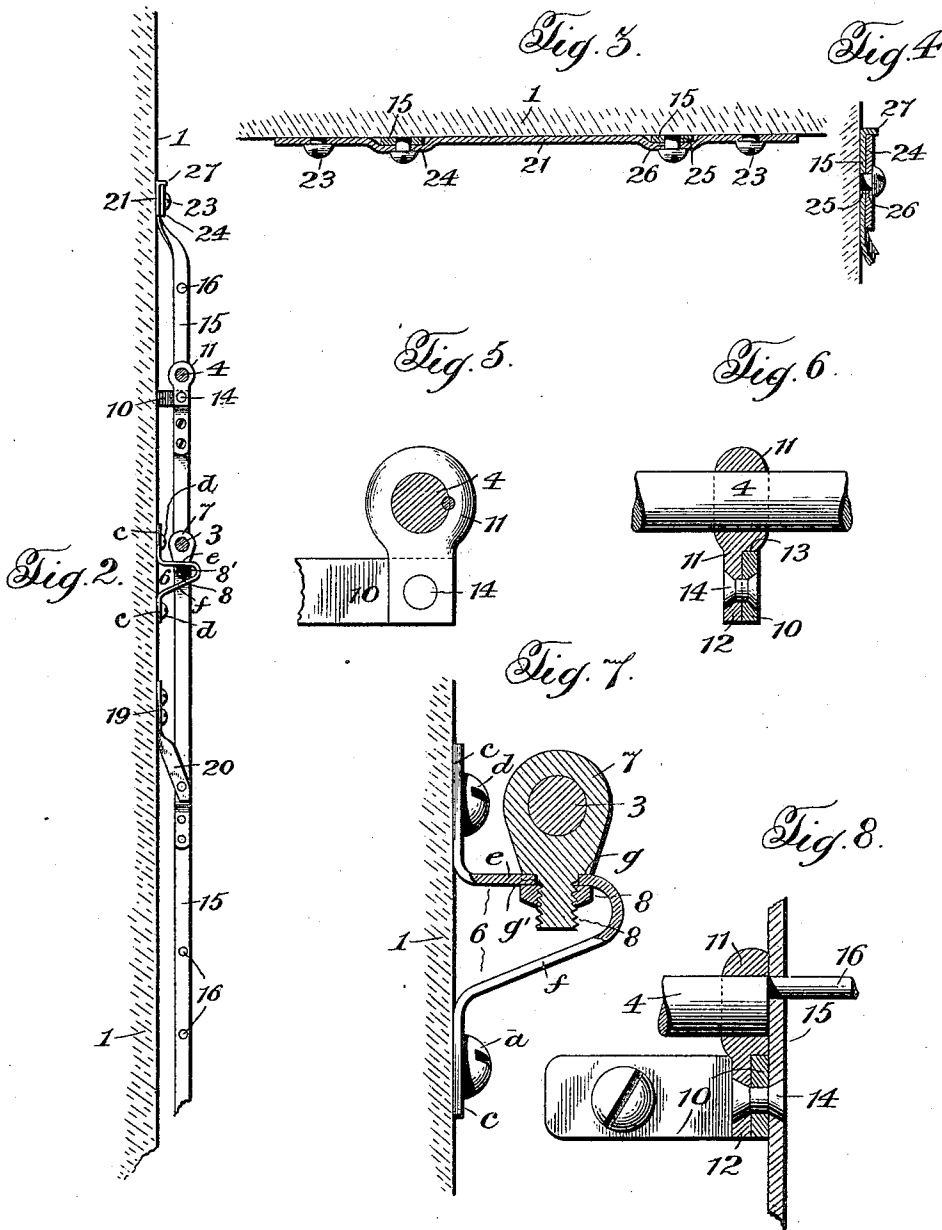
James C. Covert
By Bacon Milans Attorneys

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Witnesses:

James Hutchinson:
Clavin T. Milens:

Inventor:

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UNITED STATES PATENT OFFICE.

JAMES C. COVERT, OF WATERVLIET, NEW YORK.

FIRE-ESCAPE.

993,350.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed November 14, 1907. Serial No. 402,082.

To all whom it may concern:

Be it known that I, JAMES C. COVERT, a citizen of the United States, residing at Watervliet, in the county of Albany and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification, reference being had therein to the accompanying drawing.

The invention relates to improvements in fire escapes, and is embodied in the construction and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

The invention relates more especially to that type or character of fire escapes now known as "foot and hand rail" type—that is to say, a construction for equipping buildings including a rail which extends across the front of the building and on which a person can stand and a rail commonly known as a "hand rail" located a convenient distance above the standing or foot rail. Constructions of this nature are illustrated in my former patents No. 712,504, dated November 4, 1902 and No. 793,770, dated July 4, 1905, and the present invention is an improvement of such constructions.

Some of the novel features of the invention are the particular arrangement of the hand and foot rail relative to the windows, the special means for securing the ladder to the building, the particular construction of the supporting brackets, and the special arrangement and association of said parts with the view of expediting the equipment of a building with the device, reducing to a minimum the number of securing bolts or screws while at the same time providing a substantial and neat appearing structure.

The above referred to improvements are the objects of the present invention in addition to other features, which will appear from the accompanying detailed description.

In the accompanying drawings, I have shown a structure embodying the various features of the invention, but manifestly the constructions can be departed from or modified in various particulars without necessarily departing from the nature and principle of the invention.

In the drawings, Figure 1 is a front elevation showing parts of a building with the invention applied thereto, Fig. 2 is a side elevation of the fire escape showing the support in section, Fig. 3 is a longitudinal sec-

tion through the upper securing plate. Fig. 4 is a cross section of the same, Fig. 5 is a side elevation, Fig. 6 is a longitudinal section of one form of bracket, Fig. 7 is a side elevation showing parts in section of the preferred form of bracket, and Fig. 8 is a sectional view of the bracket connection between the ladder and one of the brackets.

Referring to the drawings in detail, wherein like reference characters designate corresponding parts throughout the several views, 1 designates a portion of the wall of a building or structure and on the face thereof extending along the lower sill of the window 2 is a foot rail 3, while 4 designates the hand rail, located a short distance above the foot rail. These two rails extend from the escaping ladder 5 to any desirable point on the building, the foot rail running along the lower sills of the windows and the hand rails running past the window openings. This particular arrangement of the rails is provided in order that a person within the building may readily grasp the hand rail and swing out on the foot rail, the rails being such a distance apart that a person standing on the first mentioned rail, may readily hold on to the hand rail.

I have found it advantageous in the present development of this invention to construct the main portion of the supporting bracket and the bracket seat or eye for the rails as separate or independent parts to be coupled together; the seat or eye portion being provided with a shoulder to rest upon the main bracket portion and with a pin extending from the seat portion through the main bracket portion to connect the parts, said parts having portions to overlap when the parts of the bracket are assembled as a whole.

In the construction of bracket illustrated in detail in Fig. 7 of the drawings, 6 designates the main portion of the bracket and 7 the seat or eye of the bracket, said parts being constructed independently of each other. The main portion 6 is preferably constructed of a single strip of metal to provide portions *c* to engage and be connected with the wall by screws or bolts *d*, a horizontal supporting arm *e* and a brace arm *f* extending at an angle to and joining the supporting arm at the outer end thereof. The seat or eye portion 7 is provided with an annular shoulder *g* to rest upon the supporting arm *e* and with a depending shank or pin 8 to en-

gage an aperture g' in the supporting arm e , the pin projecting through to the under side of the arm e and being screw threaded to receive a nut $8'$ to securely clamp the parts together.

In the construction illustrated in detail in Fig. 8 of the drawings, 10 designates the main portion or supporting arm of the bracket and 11 indicates the seat or eye of the bracket constructed as separate parts. The seat 11 is provided with a shoulder 13 and a straight depending shank 12, the shoulder being arranged at the upper end of and to one side of the shank. The supporting arm 10 is rectangular shape in cross section. The seat or eye portion is adapted to make a scarf like joint connection with the outer end of the supporting arm 10, the shoulder 13 resting upon the upper edge of the supporting arm, and one side of the shank overlapping and lying against one side of the supporting arm. The parts are adapted to be securely fastened together by a rivet or similar fastening member 14 passed through the overlapping portions of said parts. In constructing this form of bracket the shoulder 13 may be made inclined or beveled and the upper edge of the supporting arm inclined or beveled to correspond with the shape of the shoulder. This design is carried out in the construction of the bracket designated by A.

The bracket construction hereinbefore referred to greatly facilitates the rapid equipment of the building with the device, the workman first sets the main bracket portions in their proper positions, thereafter sleeving the seat portions of the brackets on the rails, then moving the respective seat portions to the various main bracket portions and connecting the same therewith. The rails are secured against turning in any convenient manner.

The ladder 5, which in the present instance is preferably a rigid structure, comprising side bars 15 and rungs 16, is fixedly secured to the building. In this connection, advantage is taken of the particular construction of supporting bracket illustrated in Fig. 8 of the drawings. As shown in Fig. 1 of the drawings, brackets of this type are connected to the building and arranged to fit against the side bars of the ladder to support the ends of the rails arranged to abut the bars of the ladder. A side surface of the bracket seat and a side surface of the main bracket portion are arranged to contact or lie against a side bar of the ladder and a single rivet or other fastening member is passed through the overlapping portions of the bracket parts and the side bar of the ladder, this single fastening member serving to securely connect the bracket parts and the ladder with the building; the rail, bracket, and ladder structures being thus

combined and united to produce a neat and durable structure. This I consider as one of the most important features of the present invention. The ladder is further steadied and supported from the wall by brace members, each consisting of a flat strip of metal twisted and bent intermediate its ends to provide a portion 19 to lie flat against and be secured to the building and a portion 20 extending at an angle to the portion 19 to lie with its flat side against a side bar of the ladder and to be connected thereto. These strips or brace members are adapted to be arranged in pairs as illustrated in the drawings and may be conveniently connected to the ladder by extending a rung of the ladder beyond the sides thereof and employing such extended portions as rivets to connect the parts. The portions 20 are adapted to be bent at different angles to facilitate their connection with the side bars of the ladder.

The main support for the ladder is provided in the following manner: At the upper end of the ladder the side bars are extended, bent inward toward the building and twisted at right angles to rest flat against the face of the building. These extended portions of the ladder are securely clamped against the wall of the building by a plate 21, which is placed over the upper ends of the side bars and secured to the wall by screws or bolts 23, said plate being formed with sockets 24 to accommodate said extended end portions, which are bent to provide outwardly projecting lugs 27 to engage the upper edge of the plate. These lugs and the twist in the extended portion serve to prevent said extended portions from movement relative to the plate. The extended end portions of the side bars and the plate 21 are further connected to each other and to the wall of the building by bolts or screws passing through apertures 25, 26, formed in the socket portions of the plate and extended end portions and entering the wall of the building.

Heretofore in the construction shown in my before mentioned patents it was found very difficult for the operator to secure the arms carrying the eyes through which the pipe sections pass, to the closely lying bracket or socket member, in a manner to prevent the possibility of separation, a strong pull upward would tend to lift the arms from the sockets. By my present invention, the so-called socket members or receiving part of the bracket is offset sufficiently from the side of the building to permit the use of a wrench or other tool for securing the eye permanently and fixedly in the socket. This is permitted when the workman is suspended at the side of the building, it being necessary only to place the depending parts of the eye member in their proper relation relative to the socket

member or bracket and to thereafter insert the screw or rivet, capping the same in a manner to draw the parts fixedly together and thus lock them against movement.

5 What I claim is:

1. In a hand and foot rail fire escape, the combination with the rails of bracket members consisting of substantially U-shaped metal strips having attaching parts at their 10 inner ends adapted to be secured to the side of the building and having perforations in their upper portions near their outer ends, of eye members on the rails having shoulders resting on the upper face of the brackets and 15 threaded extensions passing through the said perforations, and nuts below the upper part of the bracket for securing the threaded extensions fixedly in the perforations and the shoulders onto the bracket part, substan- 20 tially as described.

2. In a fire escape of the hand and foot rail type, the combination with a ladder having rigid side bars, the upper ends of which are deflected inwardly toward the 25 building and turned to present their flattened faces outward, a retaining bar extending across the said ends and secured to the side of the building, means for securing the bar to the ends of the ladder, and offset por- 30 tions at the extreme end of the ladder projecting above the said bar.

3. In a fire escape, the combination with a ladder member having means for secur- 35 ing its upper ends to the wall of the building, of a plurality of intermediate supporting members consisting of flat strips having their inner ends turned to present their flat surfaces outward and secured to the side of the building and their outer ends bent into 40 a plane parallel with the sides of the ladder and secured thereto, substantially as described.

4. In a fire escape of the class described, the combination with a rail member, of 45 means for supporting the rail member at the side of the building at a distance therefrom, said means comprising a bent metal bracket having flat attaching portions ar- 50 ranged respectively at opposite ends and a U-shaped part formed with a perforation in its upper portion, eye members sleeved on the rail and having a stem passing through the perforations in the bracket, and a clamp- 55 ing means engaging the stem below the bracket for securing the eyes in place.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES C. COVERT.

Witnesses:

L. S. BACON,
EDWIN S. CLARKSON.