H. F. BANYOVITS.

FOLDABLE FIRE ESCAPE.

APPLICATION FILED DEC. 21, 1915.

1,196,419. Patented Aug. 29, 1916.

Fig. 1.

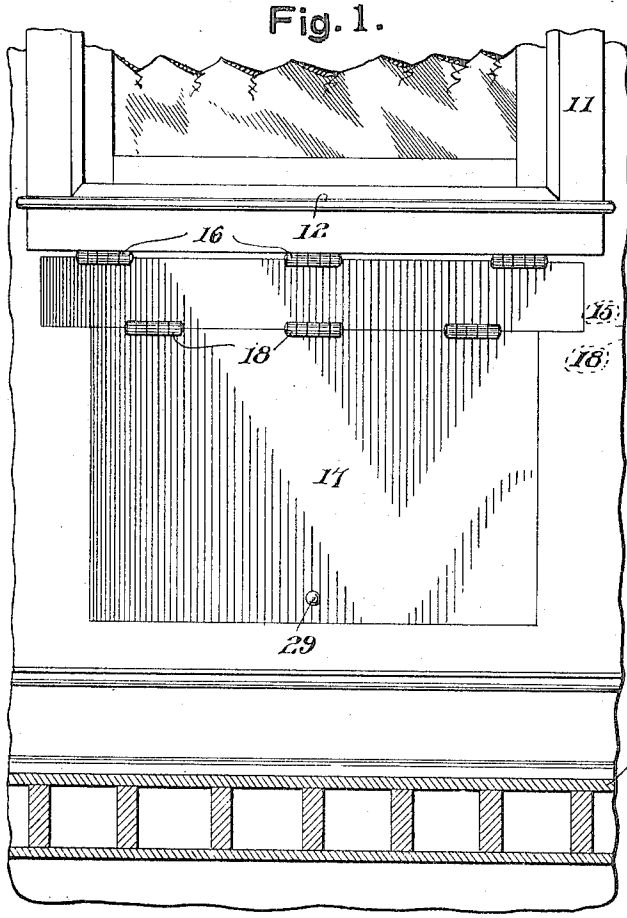


Fig. 2.

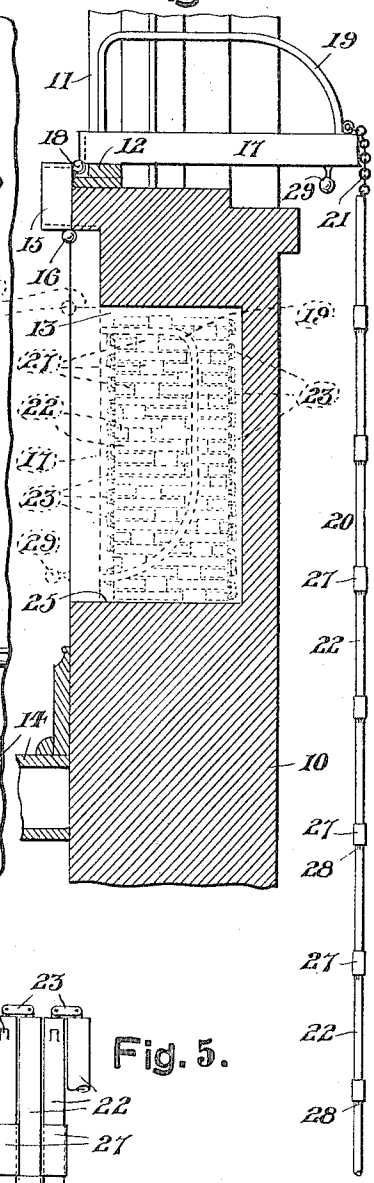


Fig. 3.

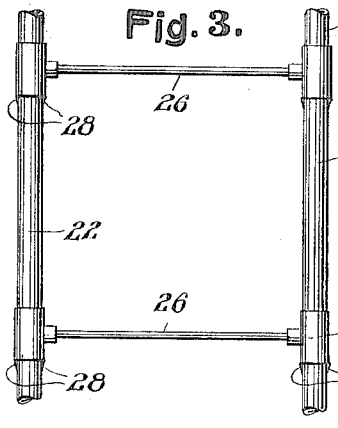


Fig. 4.

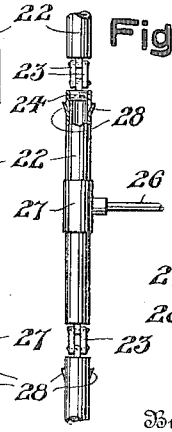
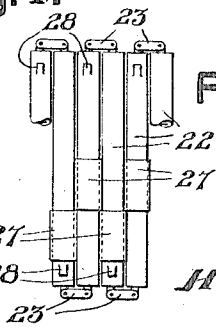


Fig. 5.



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FOLDABLE FIRE-ESCAPE.

1,196,419. Specification of Letters Patent. Patented Aug. 29, 1916.

Application filed December 21, 1915. Serial No. 68,008.

To all whom it may concern:

Be it known that I, HENRY F. BANYOVITS, a citizen of the United States, residing at Archbald, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Foldable Fire-Escapes, of which the following is a specification.

This invention relates to certain new and useful improvements in foldable fire escapes.

The primary object of the invention is the provision of a foldable fire escape structure that is positionable in the interior of a room beneath a window thereof and which is in a form that will not mar the appearance of the room but is readily accessible for operative positioning outside of the window when desired for use in effecting an escape in the event of a fire.

A further object is to provide a foldable ladder arrangement and window sill support, the entire structure being compactly positioned within a receiving inclosure in a building wall beneath a window thereof and readily accessible from the interior of the building.

The present embodiment of the device contemplates a receiving inclosure or shelf within a room and beneath a window thereof for receiving a foldable window sill adapted for closing the said inclosure, a foldable ladder being attached to the free edge of the said sill and having slidable rounds or steps for maintaining the ladder rigid when operatively positioned.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and then claimed.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:—Figure 1 is an interior elevational view of a portion of a side wall of a room provided with the present device shown in its folded position. Fig. 2 is a vertical sectional view through the room wall with the device shown operatively positioned and illustrated by dotted lines in its folded arrangement. Fig. 3 is a front elevation of a portion of the ladder in its locked unfolded position. Fig. 4 is a front elevation of a side portion of the ladder partially broken away with the sections thereof unlocked, and Fig. 5 is a side elevation of a portion of the ladder in its folded arrangement.

Referring more in detail to the drawings, the invention is herein illustrated in connection with the wall 10 of a building having a window 11 provided with the usual form of sill 12 in the interior of the building, a receiving compartment 13 being arranged in the wall beneath the said sill and opening within the building and adjacent the floor 14 of the room. A combined ladder mount and closure for the said compartment is formed of a plate 15 hinged as at 16 to the lower inner edge of the window casing 12 and adapted for fitting the cut-away portion of the wall beneath the said casing and having a ledge or bridge board 17 hinged to its opposite edge as at 18. The bridge board 17 is provided upon one side thereof with oppositely-arranged hand holds or railings 19 while the ladder 20 is secured by means of flexible chains 21 to the said railings 19.

The ladder 20 is formed of opposite side rails, each of which consists of a plurality of tubular sections 22 flexibly connected together by links 23 having screw-threaded connections 24 with the adjacent ends of the sections, whereby the ladder 20 may have the sections thereof folded together and positioned between the railings 19 of the bridge board 17 while the said board may be positioned vertically for closing the compartment 13 with the folded ladder 20 positioned within the compartment and seated upon the bottom or shelf portion 25 thereof and at which times the plates 15 is seated within the said cut-away portion of the wall 10.

A mounting round or step 26 is slidably carried by each pair of opposite rail sections 22 by means of sleeves 27 slidably mounted upon the rail sections. Each of the rail sections is provided with outwardly projecting lugs 28 adjacent the link connection 23 thereof, and arranged therebeneath, when the ladder is operatively arranged in its suspended position, which lugs 28 receive the sleeves 27 seated thereon and at which times the said sleeves overlie the connecting links 23 of the sections as well as the adjacent ends of the ladder, thus retaining the rail sections and the ladder rigid when open and with the sections thereof in longitudinal alinement.

It has been found impractical to provide sliding sleeves without additional weights for overlying the link connections between the side members 22, as the sleeves will not readily slide over the said members, but oftentimes will bind and wedge thereon, and manual adjustment of the same is necessary to move the sleeves to the desired position. By attaching the rounds 26 to the sleeves, sufficient weight is added thereto to cause the sleeves to slide downwardly to the desired position. Also, if with the present construction should there be any binding action between the parts, the weight of the person on the rounds will positively position the rounds and sleeves over the joints to present a substantially rigid ladder.

It will be understood that when the device is closed as shown in Fig. 1, the knob 29 upon the outer face of the bridge board 17 may be utilized for swinging the board 17 and plate 15 to their open positions, which movement of the bridge board carries the folded ladder 20 therewith, the ladder to be pushed outwardly of the window over the bridge board 17 for allowing the members to assume their operative positions as shown in Fig. 2 of the drawings. This lowering of the ladder 20 allows the rounds 26 and sleeves 27 to slide downwardly upon the carrying sections of the rail sections by reason of their own weight for automatically engaging the aforementioned lugs 28 and locking the ladder extended, the same being supported by the chains 21 exteriorly of the window. A person in the room may then readily cross the bridge board 17 and descend to safety by means of the ladder 20.

It will thus be seen that a serviceable and practical fire escape is provided which in its folded arrangement only presents the outer plain surfaces of the plate 15 and board 17 from within the room of the building, the viewable faces of the said members lying flush with the adjacent surface of the room wall and presenting a finished and unobjectionable appearance.

In placing the ladder within the compartment therefor, and moving the same from the operative position shown in Fig. 2, the uppermost round is grasped by the hand to move upwardly the locking sleeves and to permit the upper adjacent side rails to fold on their hinge joints and lie upon the member 17. During the upward movement of the rounds and sleeves, the said sleeves frictionally engage the sides of the lugs 28, and cause the said sides to move upwardly therewith. Each successive round is so elevated and it will be seen that the sleeves are uncoupled from the side joints simultaneously with the upward movement and folding of the ladder.

While the form of the invention herein shown and described is what is believed to be the preferred embodiment thereof, it is nevertheless to be understood that various forms, modifications and arrangements of the parts may be made without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

1. A fire escape ladder comprising sections formed of opposite pairs of tubular rails and cross rounds, link connections for the said sections screw-threaded within the said rails, stop lugs carried by the said sections adjacent the said connections, round supporting sleeves carried by the ends of the rounds and slidably-mounted upon the said sections and adapted for automatically positioning upon the said lugs overlying the said connections when the ladder assumes its substantially vertical operative position.

2. A fire escape comprising a ladder including side rails formed of hinged links, sleeves slidably mounted on the links and adapted to overlie the hinge connection, and rounds extending between the side rails connected at their ends to the sleeves whereby upward movement of the rounds will expose the link connections for simultaneously folding the ladder.

3. A fire escape ladder including side rails formed of hinged links, cross rounds therefor, and locking means for the hinged links constituting supports for the ends of the rounds.

4. A fire escape comprising in combination with a wall having a window casing therein, the said wall being provided with a receiving compartment and a cut-out portion beneath the said casing, a plate hinged to the said casing, a bridge board hinged to the said plate, the said plate and board being arranged in their vertical positions flush with the inner surface of the wall within the said cut-away portion and compartment respectively when in their closed positions, and with the bridge board lying parallel with the sill of the window casing to constitute a platform when in operative position, and a foldable ladder flexibly attached to the said board.

In testimony whereof I affix my signature.

HENRY F. BANYOVITS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."