(No Model.) 2 Sheets—Sheet 1

G. H. THOMPSON.

FIRE ESCAPE.

No. 282,413. Patented July 31, 1883.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

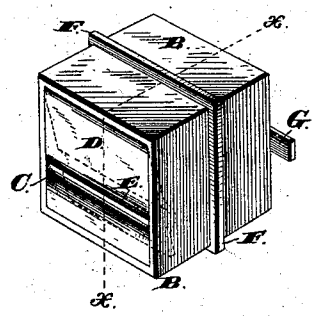


Fig. 3.

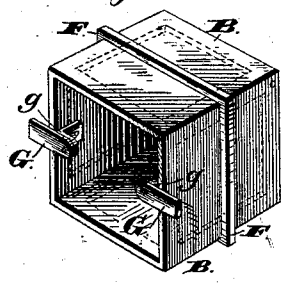


Fig. 4.

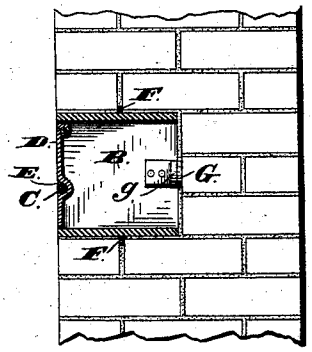
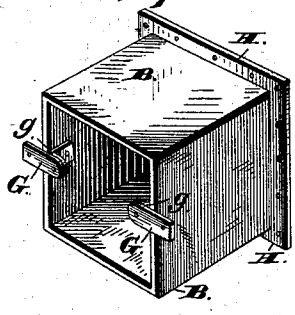


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE H. THOMPSON, OF PLATTSMOUTH, ASSIGNOR OF ONE-FOURTH TO JOSEPH E. BLAKE, OF OMAHA, NEBRASKA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 282,413, dated July 31, 1883.

Application filed March 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. THOMPSON, of Plattsmouth, in the county of Cass, and in the State of Nebraska, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 shows an elevation of a portion of the wall of a building provided with my improved fire-escape. Fig. 2 shows a perspective view of one of the thimbles used in my fire-escape, with the hinged door shown in dotted lines as partly swung back. Fig. 3 shows a perspective rear view of the same. Fig. 4 shows a section of one of the thimbles on line *x x* of Fig. 2, together with a section of a portion of the brick wall into which the thimble is set; and Fig. 5 shows a perspective view of one of the thimbles as adapted for fastening into the wall of a frame building.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is, broadly, to provide an improved fire-escape which shall not disfigure or weaken the building to which it is applied, and which shall be simple, cheap, and efficient, impossible to be got out of order, and always ready for instant use; and to this end it consists, principally, of a vertical series of thimbles set into the wall of a building at a suitable distance apart, each one of which carries a cross-bar, so that a continuous permanent ladder will be formed by the series, substantially as hereinafter described.

It consists, further, in the series of thimbles set into the wall of a building, each of which thimbles is provided with a cross-bar and a swinging door hinged at the top of the thimble, and adapted to normally close the front thereof and prevent the entrance of dust, rain, or snow, substantially as hereinafter described and set forth.

It consists, further, in the thimble provided with the cross-bar, and the swinging hinged door with a channel in its outer face to receive the cross-bar, so that when the door is shut the outer face of the door will be flush with that of the bar and with the front edges of the thimble, substantially as and for the purpose hereinafter specified.

It consists, further, in the thimble for fire-escape, provided with the holding rib or ridge, and with lugs at its back and projecting laterally from its sides, substantially as and for the purpose hereinafter set forth.

It consists, further, of the fire-escape thimble provided with the holding-rib, and with lugs pivoted at the rear end of the thimble, substantially as and for the purpose hereinafter specified.

It consists, finally, in the general and special construction and arrangement of parts, as hereinafter described, and specifically pointed out in the claims.

In the drawings, A A designate my improved fire-escape as applied to the wall of a building. It is formed of a series of thimbles, B, inserted permanently in the wall at suitable distance apart vertically. These thimbles are in the form of rectangular boxes, open at front and back, and are made of iron or other metal, of any weight and strength desired, though I prefer to make them of iron, of about the thickness of the usual mortar-joint of the wall in which they are to be placed. The height of each box or thimble is about equal to that of three courses of brick. At the height of one course of brick from the lower edge a cross-bar, C, is fastened, with its outer surface flush with the front of the thimble.

To the top of each thimble is hinged a door, D, so hung that it normally closes and is flush with the front end thereof. In order that it may thus close, the door is provided with a groove, E, to receive the bar D, as shown. It is desirable that the door should be made light, so that it will easily swing back when the foot or hand is placed upon the cross-bar. I therefore make it of metal, of about the same thickness as the sides of the thimble, and form the required groove to receive the bar by bending the metal plate, as shown in Fig. 4. Where the plate is of cast-iron, this required bend or offset can of course be produced in the casting. Around the outside of each thimble, parallel with its front or back edges and about midway between the back and front, is a rib or

ridge, F, which is intended to extend into the cement used to bed the thimble into the wall. Several of these ribs can of course be provided when desired.

To lugs *g g*, fixed on the rear edges and extending inward at right angles to the sides of the thimble, are pivoted the movable lugs G G, as shown in Fig. 3. When the thimbles are built into a brick wall, these lugs G G are swung out laterally, so as to project into the mortar or cement behind or between some of the surrounding bricks. Where the wall is of stone, these lugs can be set either behind some of the blocks surrounding the thimble, or, where the blocks are large, into niches cut into the same for their reception. As they are pivoted, they can be used or not, as desired.

Where the fire-escape is to be applied to a frame building, I provide a flange, H, around the front edges of the thimble, as seen in Fig. 5, said flange being furnished with a number of screw-holes, so that the thimble can be fastened firmly in its place in the wall. If desired, the pivoted lugs can then also be provided with holes for screws, and be utilized as additional fastenings at the back.

My pivoted lugs, as arranged, are of special advantage when the thimbles are to be inserted in cavities in a wall already built, for the lugs can then be turned inward, so as to present no obstruction to the insertion of the thimble, and then outward again, when the thimble has been set in place, so as to form secure fastenings for it, as set forth above.

It will be observed that my fire-escape as applied to the walls of a building does not weaken, but serves to strengthen the same, for by reason of the ribs and lugs extending out into the mortar or cement and surrounding material forming the wall the thimbles act very effectually as binders. Where a still stronger binding action is required, I intend to put a flange around the front of the thimble, to overlap the front edges of the cavity in which the thimble is placed. Usually it is desirable that the thimbles should be as little conspicuous as possible. I therefore ordinarily make them without these flanges. They are then set into the wall so as to be flush with the same, and painted to correspond with the color of the surrounding material. The mortar-lines are also then painted across the face of the thimble. As the swinging doors normally hang so as to close the front of the thimbles and be flush with the wall, these thimbles can easily be so painted as not only not to be conspicuous and disfigure the building, but to be concealed and unobservable at a short distance therefrom. Where it is not desired to conceal the thimbles, the fronts thereof can be lightly ornamented in any suitable style, and where the front binding-flanges are used they also can be ornamented or made of such a design that the whole will be a decoration rather than a disfiguration of the building.

I have shown the thimbles as boxes with front and rear ends open, and this construction I prefer; but the whole can be cast or made in the shape of a rectangular frame, the larger portion of the sides, top, and bottom being left open.

From the above description the use and operation of my fire-escape are evident. The series of thimbles is so placed as to be within easy reach from the windows. The swinging doors, which normally close the fronts of the thimbles and prevent the entrance of rain, snow, or dust, are made light, so as to swing back easily when the hand or foot is placed on one of the cross-bars, and offer no obstruction to the ready use of these bars as the ordinary rungs of a ladder. The series can of course be extended from the roof to the ground, but, as is usual in the case of permanent fire-escapes, it is well to extend it down no farther than the top of the first story or ground floor. From this point escape to the ground is always easy and safe. If desired, a flexible or other form of ladder can be provided at this point, which is ordinarily kept up out of reach of any one from below, but can be let down when desired for use. This, however, forms no part of my invention, as it is a common thing where permanent fire-escapes are employed.

My fire-escape as arranged is not only valuable as securing the safe escape of the occupants of a building, but as affording to a fireman a ready means of gaining access to any floor of the building where his services may be needed. Where the buildings are high, as in large cities, and the streets narrow and obstructed with telegraph-poles, it is often impossible to get ladders long enough or to raise and place them in an advantageous position if they could be obtained, and consequently there is great loss of life and property. Even where the ladders are long enough and can be raised into position much valuable time is consumed in obtaining and so raising them. As is obvious from the above description, my fire-escape forms a permanent ladder, which is always ready for use and easy of access from the windows, and cannot get out of order or be rendered inefficient or useless. It it simple and cheap, does not weaken, but strengthens the wall to which it is applied, and does not disfigure the building, but can be concealed in the wall or made an ornament thereto, as desired.

I do not claim herein as my invention a series of recesses or depressions formed in the face of the wall and unprovided with thimbles or their equivalents to prevent the necessary weakening and disfiguration of wall the thereby.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The fire-escape consisting of a series of thimbles set into the wall of a building at a suitable distance apart, and provided with transverse bars, so that a permanent ladder

will be formed thereby, substantially as and for the purpose described.

2. As a fire-escape, the vertical series of thimbles set into the wall of a building, and provided with transverse bars or rungs fixed in the front of the thimbles and above the bottoms thereof, substantially as and for the purpose set forth.

3. The series of thimbles set into the walls of a building, and provided with cross-bars and with swinging doors hinged at the tops of the thimbles, and adapted to normally close the fronts thereof, substantially as and for the purpose set forth.

4. The thimble for fire-escape, provided with the cross-bar, and the hinged door adapted to normally close the front of the thimble, substantially as and for the purpose set forth.

5. The thimble provided with the cross-bar and with the swinging door hinged to the top of the thimble, and having a groove or channel in its face to receive the bar, all so constructed that when the door is shut its outer face will be flush with the front face of the cross-bar and of the thimble, substantially as and for the purpose specified.

6. The fire-escape thimble for insertion in the wall of a building, provided at its rear end with lugs pivoted thereto, and adapted to be turned inward when the thimble is being put in place, and then outward at right angles to the sides to engage with the surrounding wall and firmly hold the thimble when it has been placed as desired, substantially as shown and described.

7. The fire-escape thimble B, constructed with the outwardly-extending lugs at its rear end, and with the external rib, F, substantially as and for the purpose set forth.

8. The thimble constructed with the external rib, F, and provided with the lugs G, pivoted at its rear end, substantially as and for the purpose described.

9. The metal thimble constructed with the external rib, and having fixed at its rear end the inwardly-extending rigid lugs *g g*, with movable lugs G G, pivoted thereto, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of March, 1883.

GEORGE H. THOMPSON.

Witnesses:
WILLIAM L. BROWNE,
JOHN P. YOUNG.