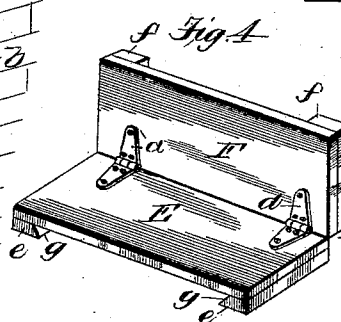
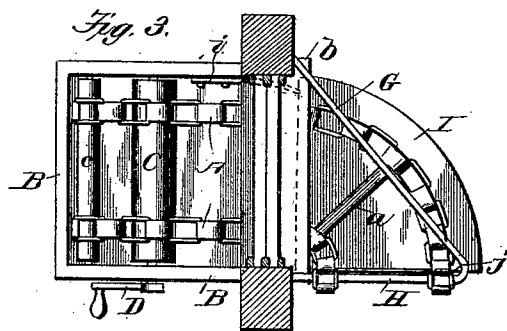
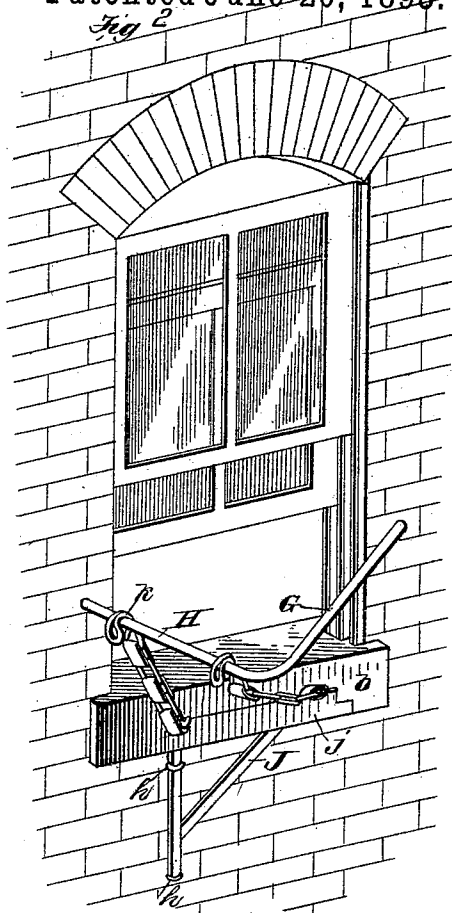
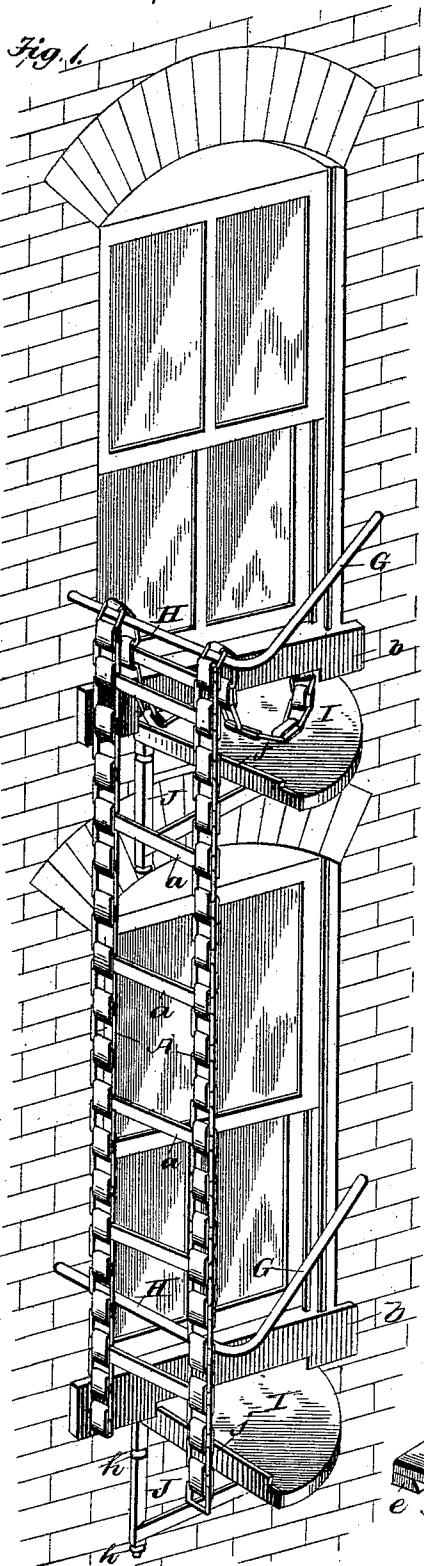


(No Model.)

J. D. NIEHAUS.
FIRE ESCAPE.

No. 500,030.

Patented June 20, 1893.



Witnesses:
J. P. Cornwall
C. E. Davis
Inventor,
J. D. Niehaus.
J. M. Dyer.
his Attorney

UNITED STATES PATENT OFFICE.

JOHN DAVID NIEHAUS, OF NEW WATERFORD, OHIO.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 500,030, dated June 20, 1893.

Application filed August 8, 1892. Serial No. 442,440. (No model.)

To all whom it may concern:

Be it known that I, JOHN DAVID NIEHAUS, a citizen of the United States, residing at New Waterford, in the county of Columbiana and State of Ohio, have invented certain new and useful 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 appertains to make and use the same.

My invention relates to fire-escapes, and has for its object the production of a light, durable, flexible ladder together with means for coiling and compactly storing the same, or for readily adjusting and securing it in position for use.

Located ordinarily in the top story of a building, my improved escape is arranged, and adapted to be of equal service to occupants of the rooms immediately below as well as adjoining rooms and halls, since by the aid of adjustable platform, attachments constituting part of the invention, each window in the tier past which the ladder descends, is rendered an equally good exit, while at the same time, the ladder being located to one side of the windows is protected from heat, smoke or flame that might issue therefrom.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings which form part of this specification, Figure 1, represents a perspective view of the invention applied to a building and in position for use; Fig. 2, a similar view, with ladder stored as when not in use; Fig. 3, a plan view of the device, and Fig. 4, a perspective view of a hinged and sliding lid for covering the ladder when stored.

Reference being had to the accompanying drawings and letters thereon, A, indicates a flexible ladder, consisting of side links, of any approved construction, connected at suitable distances by rungs a, and preferably formed entirely of metal, in order that it may be non-combustible.

B, is a storing case more or less ornamental in appearance, located inside and below a window-sill b, and containing a windlass C, and roller c, both journaled in the sides of said case, as shown by Fig. 3. To windlass C is permanently secured one end of ladder A, the same passing first over roller c, while one of

the windlass bearings is projected through the side of case B, squared on its projecting end and thus adapted to receive a detachable crank D for use in operating said windlass when the ladder is being stored or elevated.

E and F, is a two part lid hinged together as at d, and provided with end cleats e, f, respectively, on their under sides; the latter having plain surfaces, and the former being beveled on their inner edges as at g, for the purpose of engaging a corresponding projection on the upper outside edges of the sides of case B, thus providing for a sliding movement of the lid, and at the same time permitting its section F to be raised freely when so desired.

On either side of a window, bolted to the brick work or masonry of a building employing a fire escape, constructed in accordance with my invention, is an angular metallic rod G, the short arm thereof H projecting substantially at right angles to the front of building, serving to support the ladder A, when in position for use, and also as a hand rail, when used in connection with an adjustable platform I, as clearly shown by Fig. 1. Platform I, is supported upon a pivoted bracket J, journaled in bearings h h, attached to the front of the building, and consequently moves in an arc of a circle, resting beneath sill b or a recess therein, so that when closed it projects into the case B immediately beneath its lid E, F, as in Fig. 2, but when withdrawn for use as a platform assumes the position shown by Figs. 1 and 3, and is retained securely in such position during use by the operation of a leaf spring i, attached to the side of case B.

Spring i is normally depressed by engagement of the curved edge of platform I, but when the latter is withdrawn for use its rear extremity passes the free end of said spring which is immediately released and assumes the position shown by Fig. 3, where it abuts against the rear side of platform I, and prevents its accidental return. The opposite or front edge of the platform is provided with a weather strip j, designed to close the opening beneath sill b when the escape is not in use.

The flexible ladder A, may be made of any preferred form or material, and is provided at its free ends with suitable hooks k k, for engaging arm H of rod G, when stored, thus

facilitating its ready adjustment in case of emergency; and also serving as a means for securing the lower end of ladder when in an adjusted position. To further aid in the ad-

5 adjustment of the ladder A, the left side thereof above the last rung *a*, is slightly longer than its opposite side to compensate for the turn made in the direction of the ladder, immediately outside of the window. This construction however, is not essential, as both
10 sides of the ladder may be equal in length and the turn required to project it over the arm H, compensated for by simply inverting the ladder at a point above platform I.

15 It is obvious that straight bolts or bars projecting at right angles from the building on one or both sides of a window may be substituted for the angular bar G, H; or such bolts may be made detachable or adjustable, if
20 preferred, and in like manner many minor changes may be made and substituted for the construction herein shown and described, without in the least departing from the spirit of my invention, which having been thus de-
25 scribed,

What I claim is—

1. In a fire-escape the combination with a flexible ladder, of an independent supporting bar therefor arranged to one side of a win-
30 dow, and an adjustable platform adapted to be projected from the building and afford an approach to the ladder, substantially as described.

2. In a fire-escape the combination of a flexible ladder, a supporting bar therefor arranged to one side of a window, an adjustable plat-
35 form adapted to slide beneath the window sill, and a swiveled bracket supporting the outer end of said platform, substantially as described.
40

3. In a fire-escape the combination of a flexible ladder, a supporting bar therefor projecting from the building on both sides of a win-
45 dow, an adjustable platform arranged to slide beneath the window sill, a facing on the outer

edge of the platform, and a swiveled bracket supporting the outer portion of said platform, substantially as described.

4. In a fire-escape the combination of a flexible ladder, secured to a windlass arranged 50 within a building, an independent support therefor at one side of a window, and a horizontally adjustable platform adapted to be projected from the building affording an ap-
55 proach to the ladder, substantially as described.

5. In a fire-escape the combination of a flexible ladder attached to a windlass contained within a case located in the building, a guid-
60 ing roller also in said case, a support for the ladder projecting from either side of a window, and an adjustable platform adapted to slide beneath the window, substantially as described.

6. In a fire-escape the combination of a stor- 65 ing case, a roller and a windlass journaled in the sides thereof, a sliding lid for said case, a flexible ladder attached to the windlass, a support for the ladder at one side of a win-
70 dow, an adjustable platform sliding beneath the window sill, and a spring on the case for retaining the platform in position when projected, substantially as described.

7. In a fire-escape the combination of a stor- 75 ing case located in a building, a guiding roller and a windlass journaled therein, a sliding and vertically moving two part lid for said case, a flexible ladder attached to the windlass, a support for the ladder at one side
80 of a window, an adjustable platform sliding beneath the window-sill, and a spring for retaining the latter in position when projected, substantially as described.

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

JOHN DAVID NIEHAUS.

Witnesses:

D. C. NEVIN,

W. H. MITCHELL.