

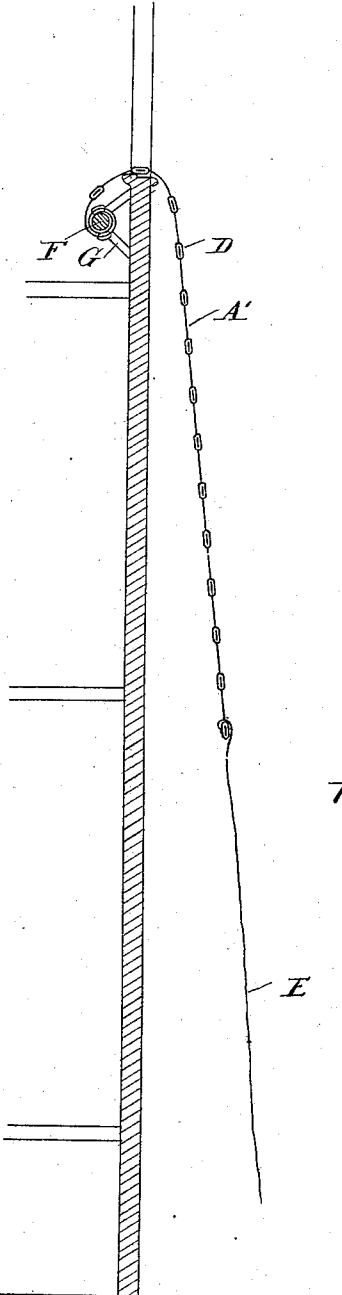
(No Model.)

JOHN ANDERSON & JAMES ANDERSON.
FIRE ESCAPE.

No. 535,523.

Patented Mar. 12, 1895.

Fig. 2.



Witnesses
D. L. Kott
O. F. Barthel.

Fig. 1.

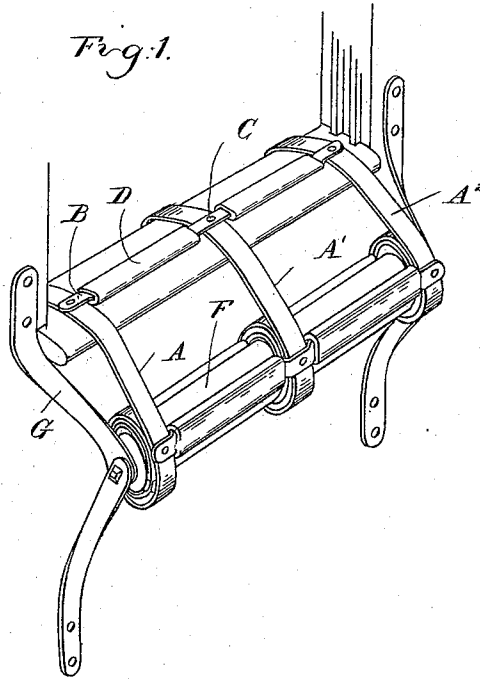
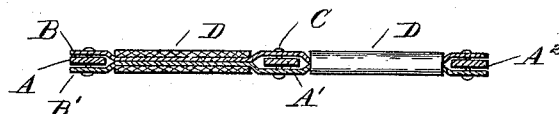


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN ANDERSON AND JAMES ANDERSON, OF COLON, MICHIGAN.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 535,523, dated March 12, 1895.

Application filed November 7, 1893. Renewed August 30, 1894. Serial No. 521,687. (No model.)

To all whom it may concern:

Be it known that we, JOHN ANDERSON and JAMES ANDERSON, citizens of the United States, residing at Colon, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention consists in the peculiar construction of a ladder designed for fire escape purposes and particularly in the construction of a flexible metallic ladder adapted to be coiled up when out of use and which may be
15 extended from its support to the ground when it is desired to be used.

The invention further consists in the peculiar construction, arrangement and combination of the various parts, all as more fully
20 hereinafter described.

In the drawings, Figure 1 is a perspective view, showing the roll or shaft upon which the ladder is coiled, with the ladder partially unwound therefrom. Fig. 2 is a vertical section
25 through a building showing the ladder extended as in use. Fig. 3 is a section through one of the rounds illustrating its construction.

In the present state of the art much difficulty has been found in constructing a ladder which was sufficiently small or sufficiently flexible to enable it to be stored in a small space and yet be fireproof. Difficulty has also
30 been found in insulating such metallic ladders as heretofore used, so that in case of fire, the person using them may not be injured by an electric current which may be carried through the ladder by contact from some electric wire.

40 Our invention consists in constructing a ladder of thin strips of flexible metal, such for instance as sheet brass, which may be easily coiled about a roller or shaft in, or beside a window where it is desired to be attached, and connect these strips by metal
45 rounds which we cover with a suitable insulating material such as rubber tubing.

In the drawings we have shown a ladder composed of three strips A, A', A², of sheet
50 brass or other suitable metal, and connected together by rounds formed of flat strips of sheet metal B, B', extending on opposite sides

of the strips and secured thereto by means of rivets C, through the respective strips and rounds. The intermediate portions of the
55 rounds we secure together and at the same time insulate by means of short sections of rubber tubing D, as shown in Fig. 3, which form suitable hand and foot bearings for the persons who may use them, and at the same
60 time thoroughly insulate the rounds from the strips or the metallic portions thereof in case the ladder may be charged with electricity from any source.

The lower end of the ladder is preferably
65 provided with suitable ropes E, by means of which the lower end of the ladder may be carried out from the building if desired or down which the escaping person may slide, in case it is not desired to allow the lower end to
70 reach the ground, or the rope may be used before extending for lowering baggage or for other purposes.

The upper end of the ladder is secured to a roll F journaled in brackets G either outside
75 or inside the window as desired. We have shown it in the drawings as arranged inside the window.

We have found that a ladder constructed as described, say seventy-five feet in length
80 can be rolled up in cylindrical shape not exceeding six inches in diameter, which enables it to be stored away if desired in any convenient place or stored beside a window without occupying too much room or presenting an
85 unsightly appearance.

We prefer to make the ladder of three strips as it adds greatly to the strength without materially increasing its weight and also
90 practically forms a double ladder upon which many persons may escape in a short space of time.

What we claim as our invention is—

1. A fire escape comprising a ladder composed of longitudinal strips of flat flexible
95 metal, rounds composed of strips of metal located on opposite sides of and secured to the longitudinal strips at their intersecting points, and bent inwardly between the longitudinal strips, and a cover for the rounds
100 uniting the same between the longitudinal strips substantially as described.

2. In a fire escape comprising a ladder, composed of three longitudinal strips of thin flat,

flexible metal, rounds composed of thin flat strips of metal on both sides of the longitudinal strips secured thereto at intersecting points, and insulating covering on the rounds
5 between the longitudinal strips substantially as described.

3. A fire escape comprising a ladder composed of longitudinal strips of flexible metal, rounds composed of strips of metal on both
10 sides of the longitudinal strips secured thereto

at intersecting points, and insulating material on the rounds between the longitudinal strips, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN ANDERSON.
JAMES ANDERSON.

Witnesses:

D. WILDER,
GEO. DAVIS.