

No. 826,863.

PATENTED JULY 24, 1906.

E. V. LYNCH.
METALLIC LADDER.

APPLICATION FILED DEC. 22, 1905.

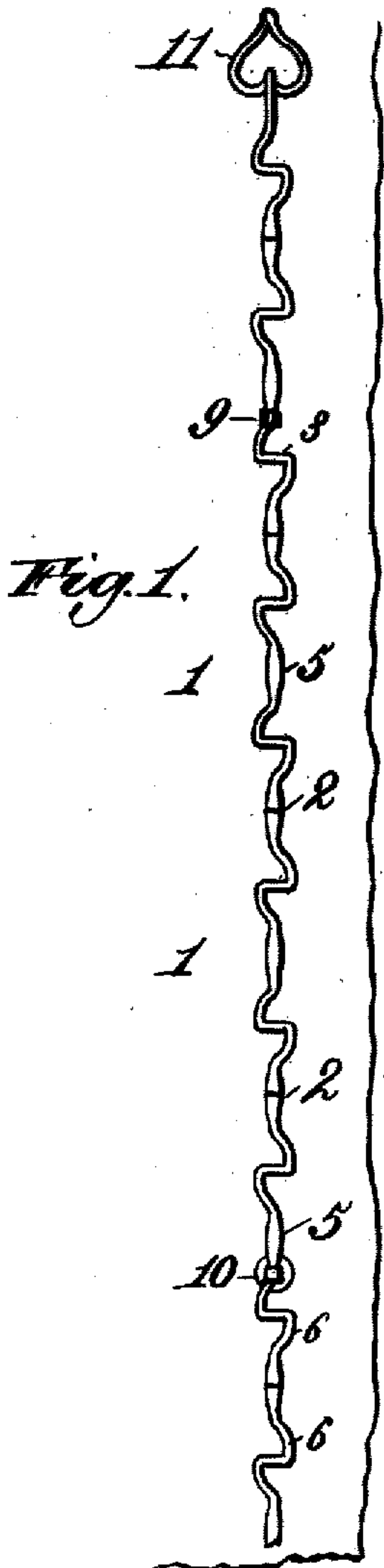
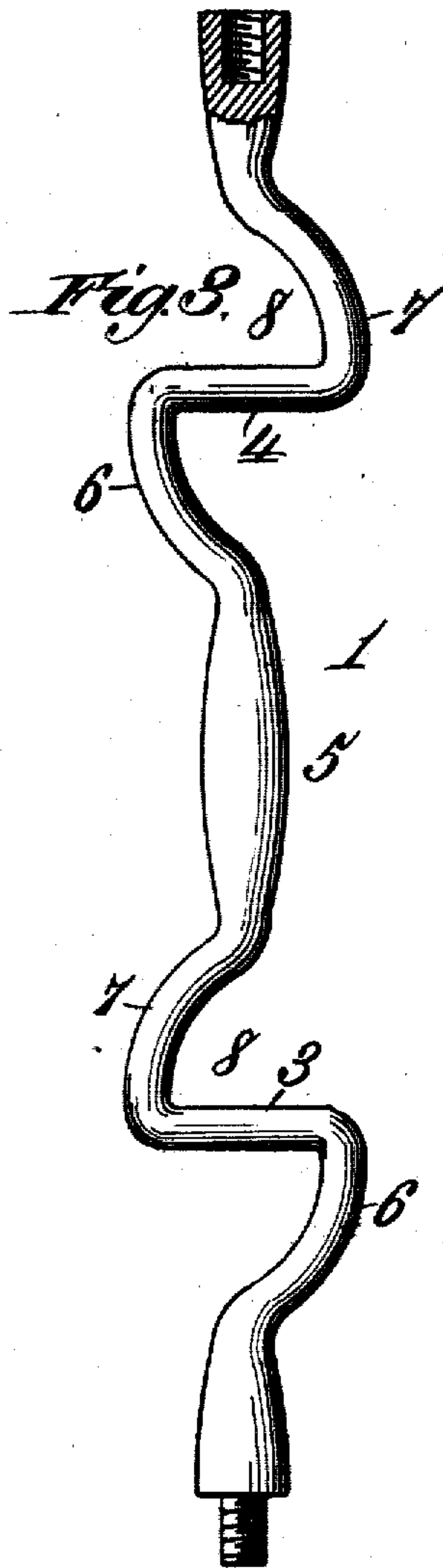
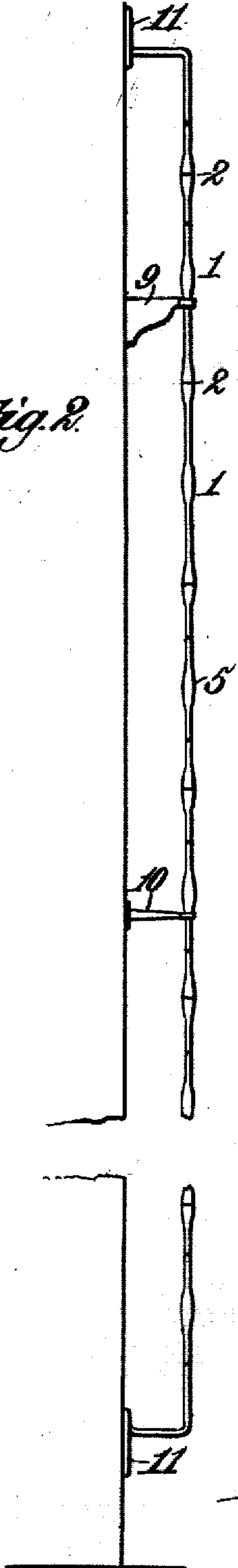


Fig. 2.



Witnesses:
Robert Smith,
[Signature]

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UNITED STATES PATENT OFFICE.

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METALLIC LADDER.

No. 826,863.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed December 22, 1905. Serial No. 293,030.

To all whom it may concern:

Be it known that I, EUGENE V. LYNCH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Metallic Ladders, of which the following is a specification.

This invention relates to metallic ladders of a type intended more particularly for application as a fire-escape and in such use would be attached to the wall of the building in front of or adjacent to a vertical row of windows or other openings thereof and in connection with suitable landings, such as ordinarily employed with fire-escapes now in use, will afford a ready means of escape from the building.

It is well known that the fire-escapes now usually employed are unsightly and greatly detract from the artistic appearance of the building especially, as is frequently the case, when the fire-escape is placed on the front of the building.

It is the general object of my invention to provide a ladder for use as a fire-escape which by reason of its small transverse area will scarcely be noticed when applied to the building and the size and character of which will permit me to employ landings much smaller than those now usually employed.

The ladder may even be made to add to the architectural beauty of the building, as owing to its peculiar shape or sinuous outline it readily lends itself to combination in various architectural schemes. The artistic appearance may be further increased by constructing the ladder of brass or plating the same with nickel or other metal or suitably painting the same.

Owing to its inconspicuousness when applied to a building, my improved ladder may be used as an auxiliary fire-escape, if desired—that is to say, the fire-escape now used may be employed and my improvement be located at various points about the building, and thus afford additional means of escape therefrom in the event of a fire.

In the accompanying drawings I have illustrated an embodiment of the invention; but it is contemplated as within the scope of my invention to vary the outline or configuration of the ladder from the form shown.

Referring now to the drawings, Figure 1 is a view in front elevation of a ladder constructed according to my invention and connected to a suitable structure, shown conventionally. Fig. 2 is a view in side elevation

of the same, and Fig. 3 is an enlarged detail showing one of the sections of the ladder.

As shown by the drawings, the ladder as a whole is made up of several sections 1, which are connected together by being screwed one into the other, as indicated at 2. These sections 1 when so joined together provide the ladder, which comprises a series of steps 3 and 4, the steps 3 being for the right foot and the steps 4 for the left foot. Between each of the steps 3 and 4 is provided a handhold 5, said handholds being in vertical alinement, or substantially so, throughout the length of the ladder. The metal at one end of each handhold is first curved outwardly, as indicated at 6, and then horizontally inward an equal distance beyond the median line of the handhold to connect to the reversely-curved portion 7, extending from the bottom of the adjacent handhold, so that the part of the ladder between the two handholds has the shape substantially of the letter S. As the curved portion 6 and the curved portion 7 alternately extend throughout the ladder in diametrically-opposite directions, the result will be that the opening or recess 8, formed by the curved member 7, will alternately open on diametrically-opposite sides of the ladder, so as to provide right and left footholds. The horizontal portions connecting the curved members 6 and 7 form, of course, the steps 3 and 4.

In Fig. 3 I have shown a section as comprising at opposite ends the halves of two handholds with two steps and an interposed handhold between them. It will be apparent, however, that each section may comprise two, three, or more handholds, as may be found desirable in the manufacture of the same.

The ladder may be composed of tubular metal, or the sections may be of solid material. By preference the handholds 5 are gradually enlarged from their ends to the center in order to facilitate the grip of the hand thereon, as will be understood.

The ladder as a whole is connected to the house by means of main supports 9 and auxiliary supports 10, secured in or to the wall of the building and connected to the ladder at various points, preferably beneath the handholds 5. The outer ends of the sections at the opposite ends of the ladder are bent inward at right angles and then curved upon themselves to form heart-shaped braces 11, which bear against the wall and serve to securely support and brace the ladder by means of

their shape. The upper brace 11 may be secured to the under side of the eaves of the house or to any other suitable projecting part.

If desired, I may cover the steps 3 and 4 and the handholds 5 with rubber, leather, or other material.

It will be apparent to those skilled in the art that my ladder will be useful in many other connections than as a fire-escape. For instance, it may be employed on signal-towers, telegraph-poles, freight-cars, battle-ships, chimneys, and the like.

I claim—

1. A metallic ladder comprising a single series of connected vertically-disposed and alining handholds, the metal between each two adjacent handholds being disposed outwardly on opposite sides of the longitudinal axis and in alternately reverse directions throughout the length of the ladder to afford right and left footholds.

2. A metallic ladder comprising a single series of connected vertically-disposed and alining handholds, the metal between adjacent handholds being bent outwardly in opposite directions to produce horizontal footholds which project beyond opposite sides of the vertical plane of said handholds.

3. A metallic ladder formed as a continuous structure and comprising a unitary bar of metal bent outwardly upon itself in two opposite directions at different points and at

suitable intervals throughout its length to provide horizontal members, reëntrant portions which are oppositely-disposed in alternation, and an intermediate straight portion.

4. A metallic ladder comprising a single series of connected vertically-disposed alining handholds, the metal between adjacent handholds being disposed outwardly on opposite sides of the longitudinal axis to provide footholds.

5. A metallic ladder comprising a continuous length of material presenting a series of handholds in vertical alinement and between the ends of adjacent handholds being zigzagged to provide a foothold, the center of each of which is substantially in line with the longitudinal axes of the handholds.

6. A metallic ladder comprising a continuous structure presenting a series of handholds in vertical alinement and between the ends of adjacent handholds being zigzagged to provide a foothold, the center of each of which is in line with the longitudinal axes of the handholds, said footholds alternating from right to left throughout the length of the ladder.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EUGENE V. LYNCH.

Witnesses:

ARTHUR J. HARVEY,
JAMES F. SCANLON.