R. D. NILEON.

ROPE LADDER CONSTRUCTION.

APPLICATION FILED JUNE 24, 1921.

1,424,115. Patented July 25, 1922.

Fig. 1.

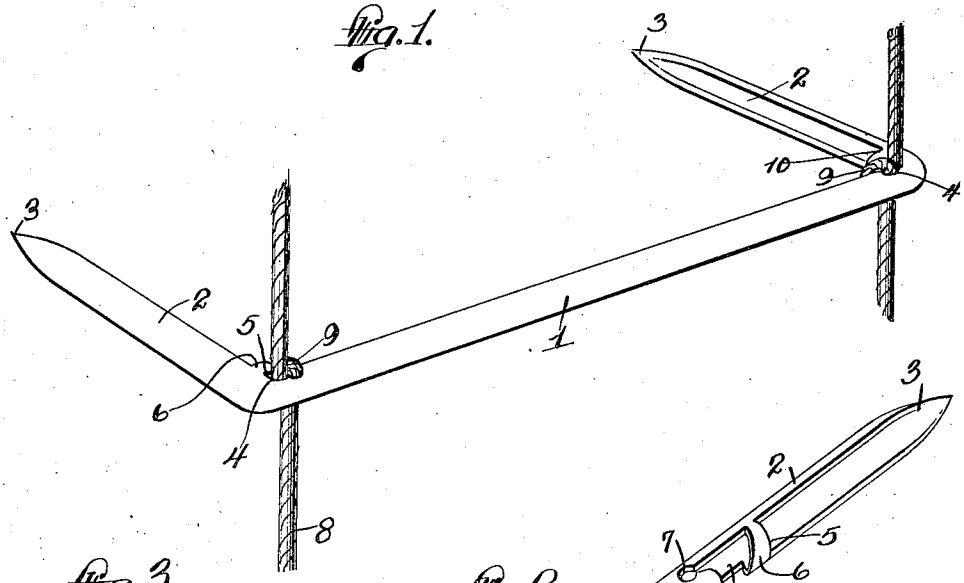


Fig. 3.

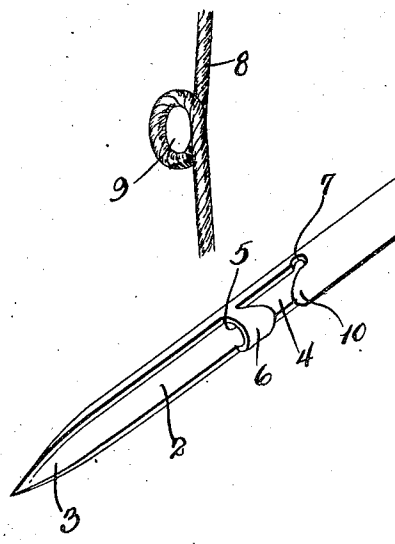


Fig. 2.

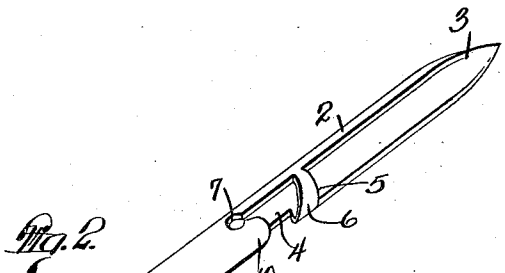
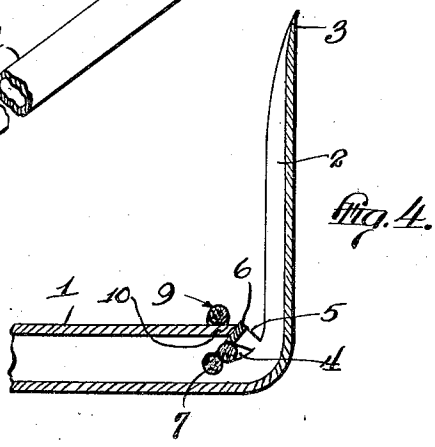


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ROPE LADDER CONSTRUCTION.

1,424,115. Specification of Letters Patent. Patented July 25, 1922.

Application filed June 24, 1921. Serial No. 480,062.

To all whom it may concern:

Be it known that I, RICHARD D. NILEON, a citizen of the United States, residing at Bell, in the county of Somerset and State of Pennsylvania, have invented certain new and useful Improvements in Rope Ladder Constructions, of which the following is a specification.

This invention relates to improvements in rope ladder construction and more particularly to an improved method of securing rope or cable to the ladder rungs.

One of the objects of the invention is to provide an improved method of securing the rungs to a cable or rope such as is used in the construction of flexible ladders for fire escapes.

Another object of the invention is to provide a tubular rung constructed so as to be provided with prongs adapted to be bent for engaging the wall of the building on which the flexible ladder is used, the bending operation being employed to provide a fastening for the cable attached to the ladder rung.

Other objects of the invention will appear upon consideration of the following detail description and accompanying drawings, wherein:—

Figure 1 is a perspective view of one of the devices attached to the ladder ropes in accordance with my invention,

Figure 2 is a perspective view of the ladder rung prior to being bent in the manner shown in Figs. 1 and 4,

Figure 3 is a view of the loop in the cable showing the manner of forming the same before being attached to the rung.

Figure 4 is a detail cross section through one end of the ladder rung showing the manner of securing the cable in position.

Referring to the drawing by numerals, the ladder rung 1 is preferably constructed of a length of metallic tubular material of cylindrical form such as a length of piping of the desired size. Both ends of the rung are constructed alike so that a description of one will suffice. It will be noted, by referring to Fig. 2 of the drawing, that the end of the ladder rung is substantially semi-cylindrical in cross section as indicated at 2, this being accomplished by removing one-half of the piping from a portion of the end thereof, and drawing the terminal down to a point as indicated at 3, thus providing a prong to be employed in engaging the wall of the building whereby the ladder rung will be held away from the side of the building for a distance sufficient to permit the user to gain a foot hold on the ladder rung. The body of the piping, adjacent the end of the semi-circular portion 2 is notched with a substantially V-shaped cut away portion 4, and since the end of the semi-cylindrical portion is square as indicated at 5, the portion of the material between the notch 4 and the semi-cylindrical portion 2 will provide a wedge member 6, the purpose of which will be hereinafter described. At the corner of the V-shaped notch opposite the member 6, a circular recess 7 is formed to receive the cable 8. The cable 8 is looped in the manner shown in Fig. 3 as indicated at 9, this being merely a simple loop which is made before the cable is applied. It will be noted by again referring to Fig. 2 that the V-shaped notch also provides a retaining tongue 10 opposite the wedge member 6. When the ladder is being constructed, the loop 9 will be slipped through the entrance of the notch 4 and over the tongue 10, the curved portion of the loop 9 extending over the outside of the tongue while the two strands of the cable are lodged in the notch, one being disposed in the circular recess 7. When this has been done, the end of the ladder rung will be bent at right angles as indicated in Fig. 4 of the drawing, causing the retaining wedge member 6 to tightly bind against the retaining tongue 10 to hold the strands of the cable in the notch and recess 7 and thus prevent it from being accidentally or casually displaced and, at the same time, maintaining it in rigid position without the use of any other fastening means.

Minor changes may be made in the details of construction without departing from the spirit of the invention or the scope of the claims hereunto appended.

What is claimed is:—

1. A rope ladder construction comprising a ladder rung having its ends bent at right angles from the main portion of the rung, the portion of the rung at which the bend is formed, being provided with a V-shaped notch forming a retaining tongue, one corner of the notch being equipped with a circular recess, the rope being provided with a single loop and slipped over the said tongue before the bend is formed, a wedging member also formed on the bent portion, the said wedging member binding the said rope in said recess and in the space between the retaining

tongue and the recess when the said bend is formed.

2. A rope ladder construction comprising a ladder rung of cylindrical formation, the ends of the rung being longitudinally cut to provide substantially semi-cylindrical end portions having pointed terminals, the opposite end of the semi-cylindrical portions terminating in a wedge member, the said rung adjacent the wedge member being provided with a V-shaped notch having an open end, one corner of the notch being recessed to form a circular opening, the adjacent portion of the material by the V-shaped notch being shaped to provide a retaining tongue, a cable looped and adapted to fit over the retaining tongue and be lodged in the said notch and recess, the said end of the rung being bent at the said notch to cause the said wedge member to bind in the notch against the said retaining tongue while maintaining the cable within the notch and recess.

In testimony whereof, I have affixed my signature.

RICHARD D. NILEON.