

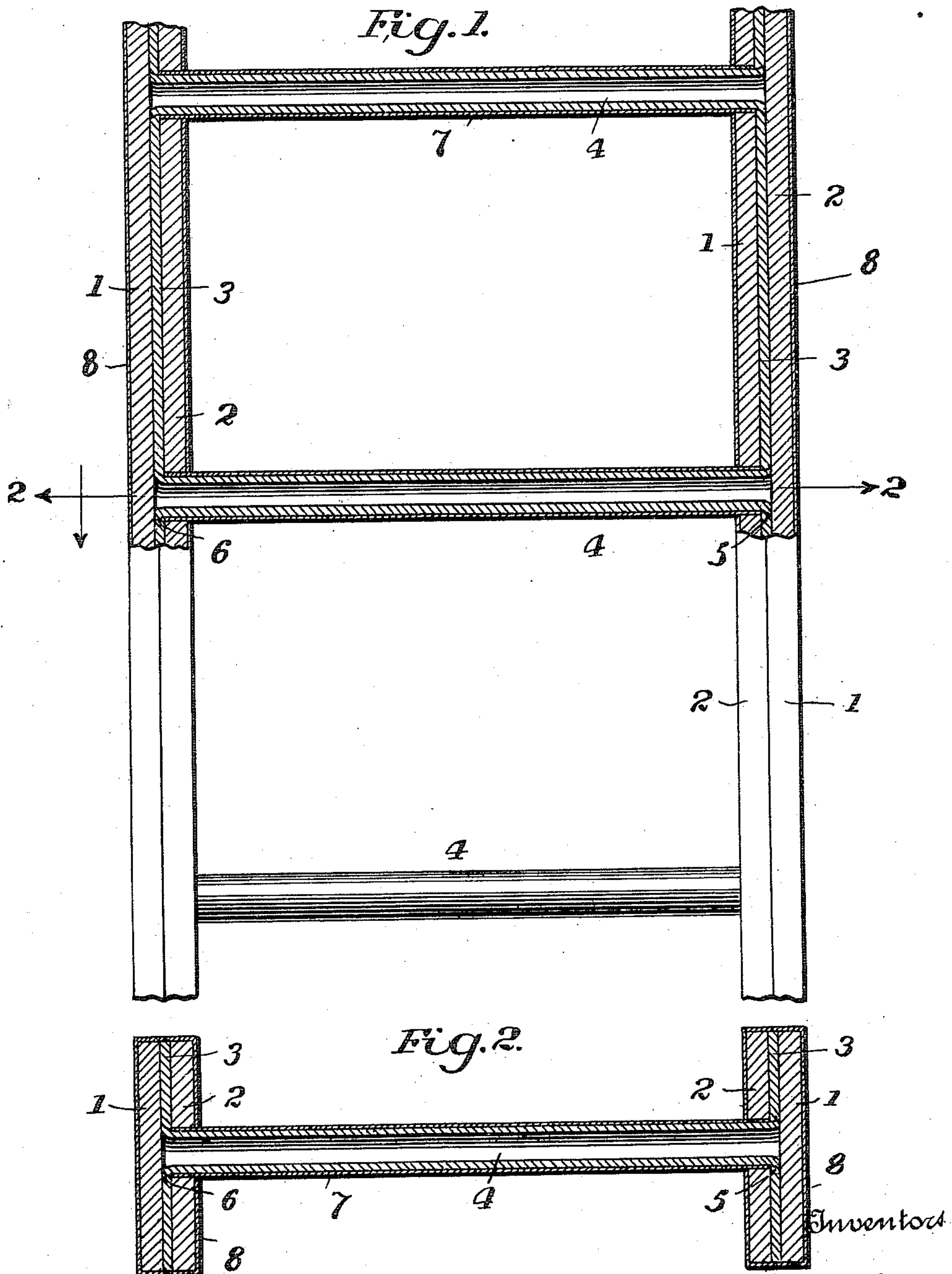
E. F. DAHILL & G. R. BARTLETT.

LADDER.

APPLICATION FILED JULY 20, 1910.

983,213.

Patented Jan. 31, 1911.



Witnesses  
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# UNITED STATES PATENT OFFICE.

EDWARD F. DAHILL, OF NEW BEDFORD, AND GAD R. BARTLETT, OF PLYMOUTH,  
MASSACHUSETTS.

## LADDER.

983,213.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed July 20, 1910. Serial No. 572,902.

*To all whom it may concern:*

Be it known that we, EDWARD F. DAHILL and GAD R. BARTLETT, citizens of the United States, and residents of New Bedford, Bristol county, Massachusetts, and Plymouth, Plymouth county, Massachusetts, respectively, have invented certain new and useful Improvements in Ladders, of which the following is a specification.

10 This invention relates to ladders and has particular reference to ladders which are adapted and intended for use in places exposed to the weather. Our ladder is especially adapted for use in fire fighting apparatus  
15 and it has been our purpose to so construct it as to make a strong, neat and light device and at the same time one on which ice will not form or collect.

20 The novel features of the invention will be apparent from the following description taken in connection with the accompanying drawing.

In the drawing, Figure 1 is a side view partly in section showing a portion of a  
25 ladder embodying our invention; and Fig. 2 is a cross section on the line 2—2 of Fig. 1.

The side rails or bars of our ladder are made up of wooden strips 1 and 2 between which we place the steel plate 3 which is  
30 preferably as wide as the wooden bars. The rungs 4 are in the form of steel tubes, the ends of which enter openings 5, 6, in the steel plates and the parts are secured together by expanding the ends of the tubes within  
35 the openings, as shown in the drawing. This construction gives the requisite strength to the ladder and at the same time the parts are made sufficiently thin to prevent the ladder as a whole from having any great  
40 weight.

Ladders, such as are used in fire fighting apparatus, are often exposed to rain and to the falling water discharged from the apparatus and in cold weather this water  
45 freezes on the ladder and makes it difficult for the firemen to climb it. We have found that this adhesion of ice may be avoided by covering the rungs of the ladder with a sheathing 7 of pure aluminum, since the

aluminum oxid formed at the surface of the  
50 metal has a greasy effect which prevents the adhesion of ice. We also preferably cover the side bars or rails with a sheathing  
8 of pure aluminum for the same purpose. This sheathing not only gives to the ladder  
55 as a whole a neat appearance but serves to prevent the adhesion of ice as above described as well as to protect the main parts of the ladder from the weather.

Having described our invention what we  
claim and desire to secure by Letters-Pat-  
ent is,

1. A ladder having its parts covered with a thin sheathing of aluminum.

2. In a ladder, the combination with side  
65 rails, of rungs secured thereto and aluminum sheathing for said rungs.

3. In a ladder, the combination with wooden side rails having steel plates embedded therein, of tubular steel rungs se-  
70 cured to said steel plates, and aluminum sheathing for said rungs.

4. In a ladder, the combination with wooden side rails having steel plates embedded therein, of tubular steel rungs se-  
75 cured to said steel plates, aluminum sheathing for said rungs, and aluminum sheathing for said side rails.

5. In a ladder, the combination with side rails composed of steel plates provided with  
80 openings and having wood sections secured thereto on each side, of tubular steel rungs entering said side rails and having their ends expanded in said openings in the side  
plates to secure the parts together. 85

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

EDWARD F. DAHILL.  
GAD R. BARTLETT.

Witnesses as to the signature of Edward F. Dahill:

FRANK L. ROGERS,  
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