M. F. SALING.

SAFETY CAR LADDER.

APPLICATION FILED JULY 7, 1910.

987,258. Patented Mar. 21, 1911.

Fig. 1.

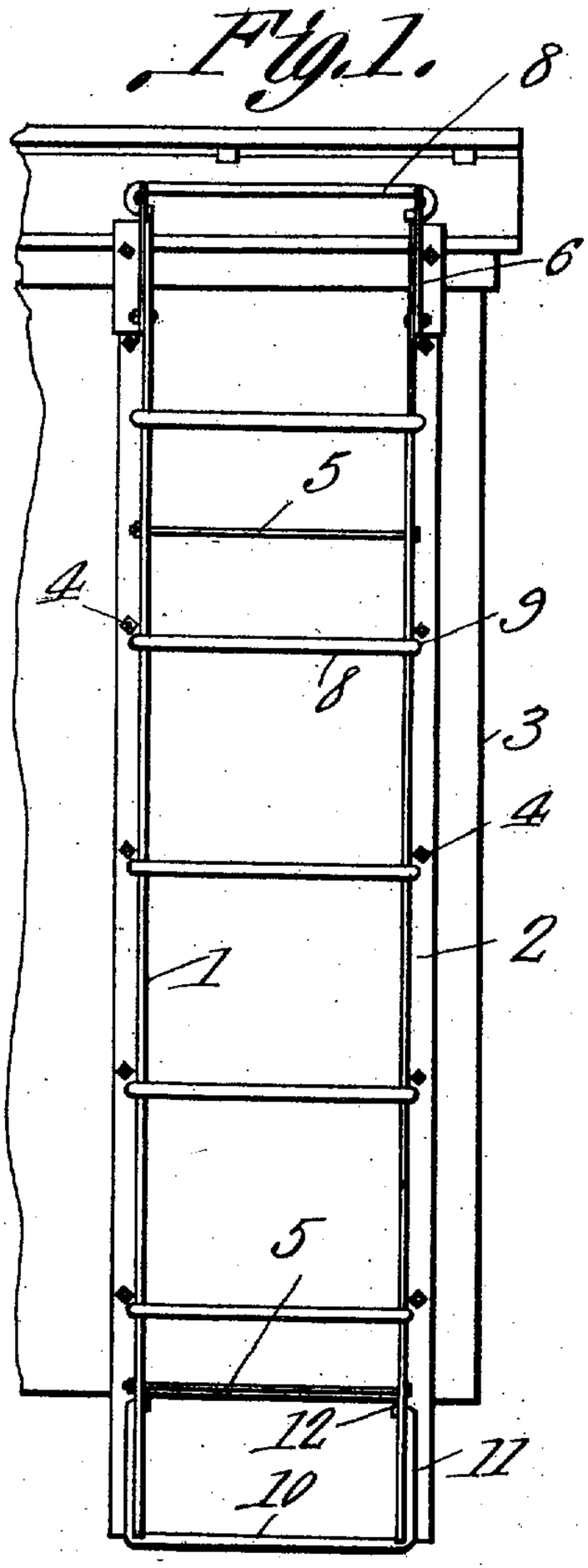

Fig. 2.

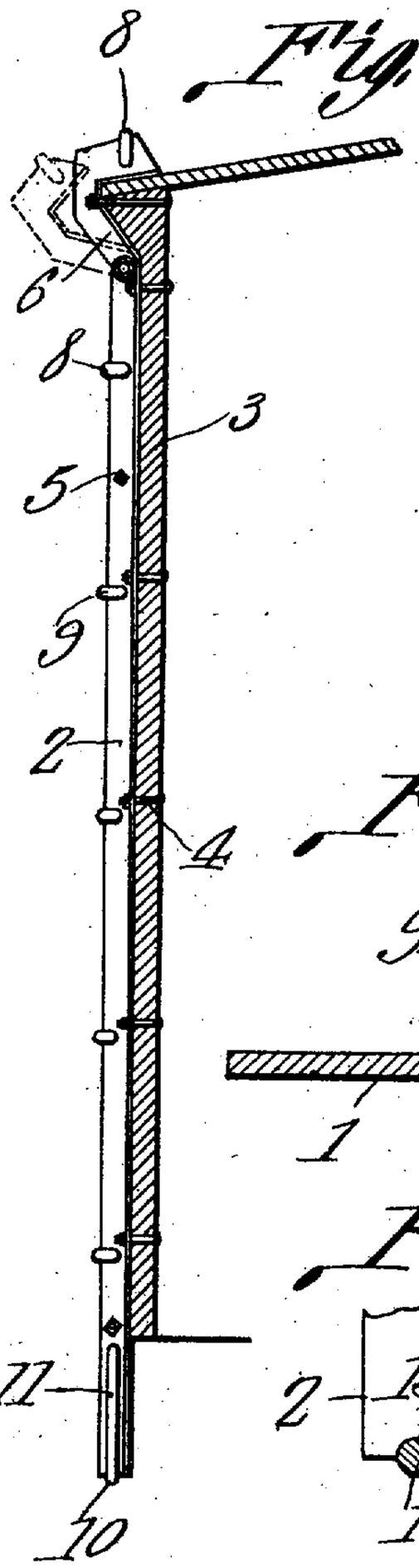

Fig. 3.

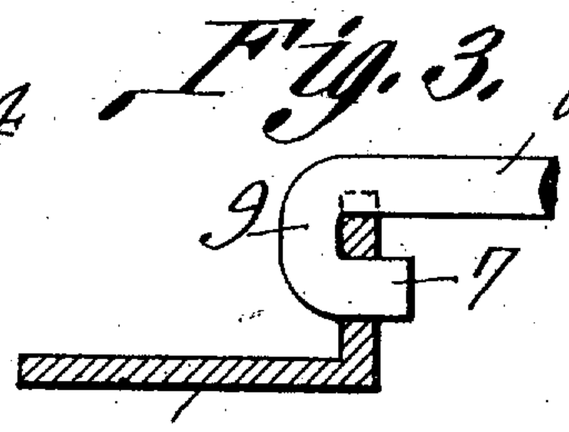

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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SAFETY CAR-LADDER.

987,258. Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed July 7, 1910. Serial No. 570,881.

To all whom it may concern:

Be it known that I, MARSHALL F. SALING, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented a new and useful Safety Car-Ladder, of which the following is a specification.

This invention has reference to improvements in safety car ladders and its object is to provide a ladder for box cars or for other cars where it is desirable to climb the side of the car, which ladder shall be of simple and efficient construction and particularly adapted for ready repair and at the same time resistant to damage. The ladder may be repaired by any railroad blacksmith thus avoiding the necessity of special tools for the purpose and making it possible to repair the ladder without necessity of sending the car into the shop.

In a ladder constructed in accordance with the present invention the grabs or rungs and the lower terminal step are so constructed as to be readily applied or removed and at the same time are so secured to the sides of the ladder as to preclude the likelihood of the grab becoming loose while in use to the injury of the user.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings,

Figure 1 is a side elevation of one end of a box car showing the ladder in position. Fig. 2 is a section through the car showing an edge view of the ladder. Fig. 3 is a cross section through one side of the ladder at a point traversed by a grab or rung. Fig. 4 is a section through the lower step showing the terminal end of one side of the ladder.

Referring to the drawings there is shown a ladder composed of two side members 1, 2 which in the present instance are constructed of angle metal with the adjacent flanges of the two sides outturned and parallel one with the other and spaced apart the desired distance, these angle sides 1 and 2 being held to the side of a car 3 by means of bolts 4 or other suitable securing devices. The sides 1 and 2 may be held in spaced relation by bolts 5 or any other suitable means adapted for the purpose. The lower ends of the sides 1 and 2 extend below the bottom of the car as far as desirable and at the upper ends of the side members there is pivotally connected to each a bracket 6 shaped to extend around the projecting eaves of the roof of the car.

At appropriate points in spaced relation one to the other each outstanding web of the sides 1 and 2 is provided with a longitudinal series of perforations designed to receive the ends 7 of grabs or rungs 8, these grabs 8 being each formed at the end with a return bend 9 terminating in the end 7 parallel with but spaced from the body portion of the grab. Each grab 8 extends across the space between the sides 1 and 2 of the ladder and over the outer edge of the outturned flange of each side while the end 7 enters the corresponding perforation in the flange from the outer face thereof so that a portion of each flange is embraced by the bend 9 and end 7 of the grab. An appropriate number of grabs are provided so that the space between them is that usually employed and a terminal grab at the top is made fast in like manner to the brackets 6 each of which is made of angle metal like the sides 1 and 2.

The bottom step of the ladder is made of a rung 10 with extended end members 11 bent at substantially right angles to the main portion of the step while the free ends of each member 11, which free ends are indicated at 12, are bent one toward the other so as to traverse appropriate perforations in the outturned flanges of the sides 1 and 2. The bottom ends of the side members 1 and 2 may be notched as indicated at 13 for the reception of the step 10 and the end extensions 11 of the step 10 lie in close relation to the outer faces of the outturned flanges of the sides 1 and 2, the terminal portions 12 passing through the flanges from the outer face toward the inner face thereof. The step 10 is thereby locked in place effectually.

The side members 1 and 2 may, as before stated, be made of angle metal and the grabs 8 may be made of round bar metal, both of which materials are readily obtainable and easily worked so that in case of necessity repairs may be made by a railroad blacksmith, the parts being readily formed by such tools as are found in a blacksmith shop or outfit, and no rivets or riveting being necessary the structure is easily assembled or dismantled as may be found desirable. Furthermore the grabs 8 lock firmly into the side members 1 and 2 with-

out the liability of working loose as might occur with riveted grabs or where the grabs have nuts applied to their extremities.

The interlocking of the grabs 8 with the outstanding webs of the side members 1 and 2 is secured by the seating of the body portions of said grabs in the notches or depressions in the outer edges of said webs.

What is claimed is:—

1. A safety ladder for railway cars having side members in spaced relation provided with outstanding webs, and grabs or rungs connecting and secured to said side members, the body portions of said grabs or rungs being seated or embedded in the outer edges of the outstanding webs, and having returned ends extending through openings in said webs from the outer faces thereof.

2. A safety ladder for railway cars having side members in spaced relation and provided with outstanding webs provided with spaced openings and respectively adjacent notches or depressions, and grabs or rungs seated in said depressions or notches and terminally returned to extend through said openings from the outer faces of the webs.

3. A safety ladder for railway cars comprising side members, grabs or rungs extending between the side members, and a bottom step having end extensions with terminals bent one toward the other, said end extensions being exterior to the sides of the ladder and the bent in terminals entering the side members through the outer faces thereof.

4. A safety ladder for railway cars comprising angle side members in spaced relation, grabs or rungs having their ends returned on themselves and said grabs or rungs overlying the side members with the returned ends extending through the side members from the outer faces thereof, top terminal members for the side members pivotally connected thereto and shaped to extend onto the roof of a car and there provided with a grab or rung and a bottom step having end extensions with terminals bent one toward the other, said end extensions being exterior to the sides of the ladder and the bent in terminals entering the side members through the outer faces thereof.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

MARSHALL F. SALING.

Witnesses:
FRANK T. PATILLO,
E. M. FOWLER.