Nov. 15, 1927. 1,649,206

F. G. YAWMAN

STEPLADDER

Filed May 18, 1927

Fig. 1

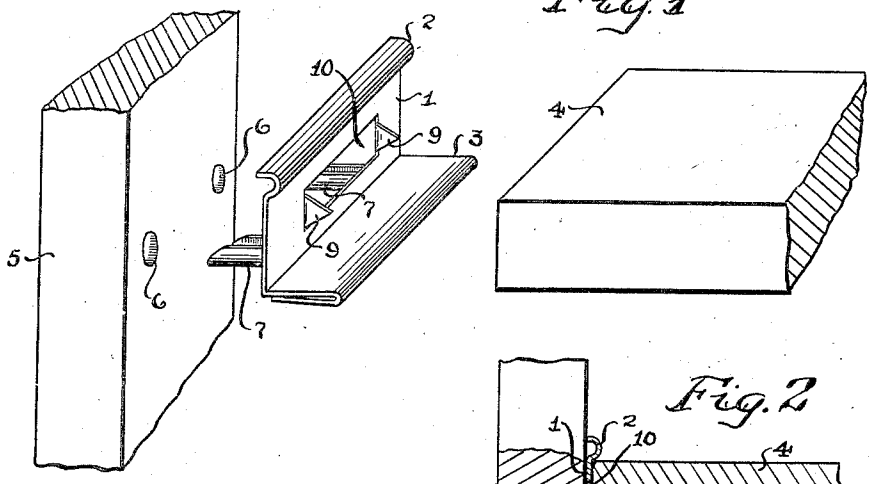
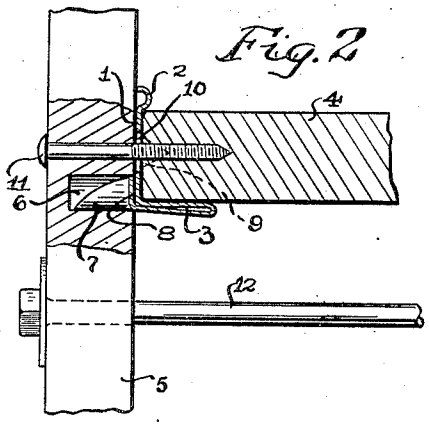


Fig. 2



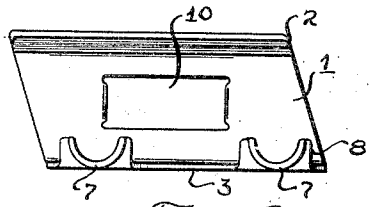
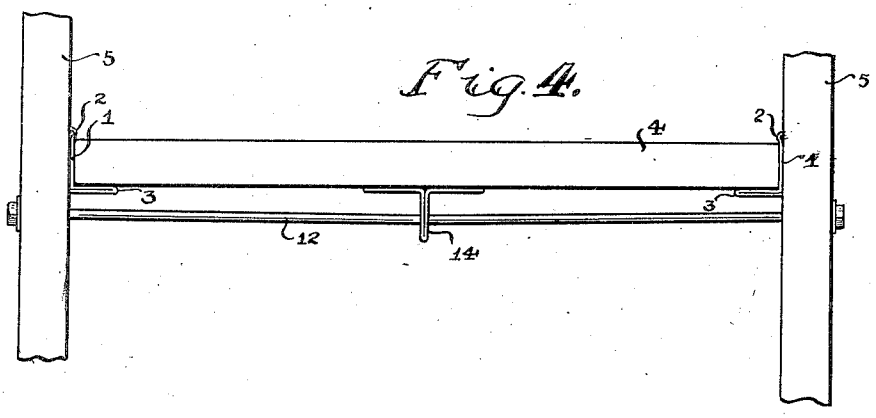


Fig. 3

Fig. 4.



INVENTOR

Frederick G. Yawman

BY

W. P. Simms

his ATTORNEY

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UNITED STATES PATENT OFFICE.

FREDERICK G. YAWMAN, OF ROCHESTER, NEW YORK.

STEPLADDER.

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The present invention relates to step ladders and more particularly to a means for anchoring the steps of the ladder to the ladder uprights. An object of this invention is to provide a novel anchoring device which is adapted to be positioned between the end of a step and the side face of an upright so that the grooving of an upright for reception of the end of a step may be eliminated. A further object of the invention is to provide a novel anchoring device provided with projections on the opposite sides for engaging the step and the upright. Still another object of the invention is to provide an anchoring device adapted to be arranged between the end of a step and an upright and having devices for cooperating with the upper and lower faces of the step to sustain the step on the upright. A still further and other object of the invention is to provide an anchoring device formed with a groove for receiving one end of the step and having projections provided on one end to hold the anchoring device against shifting movement on the upright. Still another and further object of the invention is to provide an anchoring device having a groove to receive one end of a step, projections to enter the uprights and an opening through which a nail may be passed to enter the end of a step after being passed through an upright.

To these and other ends, the invention consists of certain parts and combinations of parts, all of which will be hereinafter described: the novel features being pointed out in the appended claims.

In the drawings:

Fig. 1 is a detached perspective view of the anchoring device showing fragments of the step and the upright;

Fig. 2 is an assembled front view of a fragment of the ladder adjacent one end of the step showing the anchoring device in position and parts in section;

Fig. 3 is a view in elevation of the outer face of the anchoring device; and

Fig. 4 is a view in elevation showing a complete step supported by two of the anchoring devices connected to two of the uprights.

Referring more particularly to the illustrated embodiment of the invention, the anchoring device comprises a central or web portion 1 having on one face thereof two longitudinally extending projections 2 and 3, forming between them a groove or way for the reception of one end of a step 4 of a step ladder. In the present instance, the web 1 and the longitudinally extending projections 2 and 3 which cooperate respectively with the upper and the lower faces of the step 4, are formed from sheet metal, the projection 2 being in the form of a bead being U shaped in cross section, and the projection 3 being longer to form a rest and the metal in such projection 3 being double or folded upon itself to give strength to the projection.

With the end in view of providing means for interlocking with an upright 5 of a ladder, the upright is provided with two parallel bores 6, and projections 7 are extended from the outer face of the anchoring device to enter these openings or bores in the uprights. In this instance, these projections are formed as extensions on the lower fold of the projection 3 so as to be formed in one piece of metal with the remaining portions of the anchoring device. The projections 7 are curved transversely and the sides of the projections extend upwardly and abut at their ends the outer face of the web 1, so as to give strength to the projection 7. The transversely curved form of the projection 7 as well as the abutment of the upwardly turned edges against the outer face of the web 1 provides an extremely strong construction.

From the inner face of the web 1 two prongs or projections 9 may be extended, these prongs or projections being pointed so that they may be driven into the end of a step 4 prior to the fastening of the step to an upright. Preferably these projections 9 are cut from the metal of the web 1 at the end of the elongated opening 10. Through this opening may be driven a nail 11 to pass into the end of the step 4 after being passed through the upright 5.

The two uprights 5 may be held together by a tie rod 12 which passes through both uprights 5 below the step 4 and also through the brace 14 which abuts the under side of step 4 and slightly deflect the tie rod 12 at its center, thus providing a truss for the step 4.

What I claim as my invention and desire to secure by Letters Patent is:

1. The combination with an upright and a step, of a step anchoring member arranged between the end of a step and the upright and formed from sheet metal bent

to provide a web portion and two longitudinally extending projections forming a groove between them in which the end of the step is received, the lower projection being doubled upon itself and provided with a rigid extension mounted upon the outer side of the web and extending into the upright.

2. The combination with an upright and a step, of a step anchoring member arranged between the end of a step and the upright and formed from sheet metal bent to provide a web portion and two longitudinally extending projections forming a groove between them in which the end of the step is received, the lower projection being doubled upon itself and provided with an extension upon the outer side of the web for extending into the upright, said extension being curved transversely, the inner end of the curved portion abutting the outer face of the web.

3. The combination with an upright and a step, of a step anchoring member arranged between the end of a step and the upright and formed from sheet metal bent to provide a web portion lying between the end of the step and the upright and two longitudinally extending projections forming a groove between them in which the end of the step is received, one projection lying above the step and the other projection lying below the step, the web portion being cut to provide an elongated opening and two prongs at opposite ends of the opening, the prongs being bent from the inner face of the web portion to extend into the end of the step between the two longitudinally extending projections and the opening being provided to permit a nail to be driven thereto after being passed through the end of the upright.

FREDERICK G. YAWMAN.