

W. P. NEWMAN.
STEP LADDER.
APPLICATION FILED NOV. 1, 1910.

1,003,779.

Patented Sept. 19, 1911.

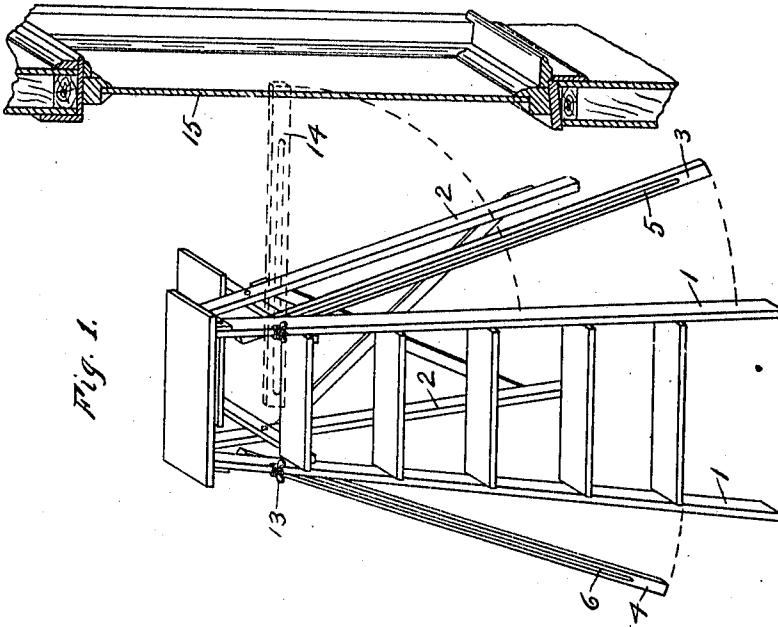


Fig. 1.

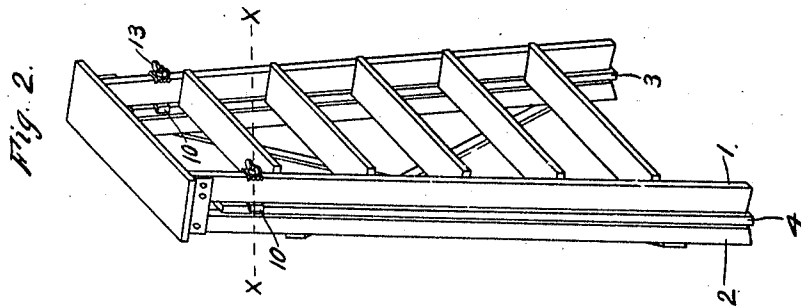


Fig. 2.

Fig. 3.

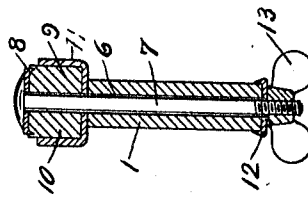


Fig. 4.



Witnesses

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By

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UNITED STATES PATENT OFFICE.

WILLIAM P. NEWMAN, OF BUCYRUS, OHIO.

STEP-LADDER.

1,003,779.

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To all whom it may concern:

Be it known that I, WILLIAM P. NEWMAN, a citizen of the United States of America, residing at Bucyrus, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Step-Ladders, of which the following is a specification.

My invention relates to means for bracing step-ladders.

One of the objects of my invention is to provide an efficient means for preventing a step-ladder from falling in a side or lateral direction. It is well known that step-ladders have a tendency to fall in a lateral direction and in many cases when in use it is necessary to employ assistance to keep the ladder from falling sidewise and it is this defect that I remedy by my invention. I attain these and other objects by the mechanism illustrated in the accompanying drawings in which:—

Figure 1 is a perspective view of an open step-ladder as it appears when in use showing my bracing device attached thereto. Fig. 2 is a perspective view of a step-ladder showing the legs folded or closed and my bracing device interposed between them. Fig. 3 is a sectional view taken on line X X of one of the legs of a step-ladder, the brace and the means of clamping them together when adjusted to the required position. Fig. 4 is a detail plan view in perspective of a serrated washer which is used as part of the clamping means.

In the drawings, reference numerals 1 and 2 represent the forward and rear legs of the ordinary step-ladder. Braces 3 and 4 having longitudinal slots 5 and 6 are secured by my novel clamp to the upper portion of the front legs 1 and are adapted when in use to swing outwardly in a lateral direction as shown in Fig. 1 and inwardly when the step-ladder is folded leaving the braces 3 and 4 folded between the rear and front legs 1 and 2 as shown in Fig. 2. Bolts 7 are inserted in the slots 5 and 6 leaving the threaded ends adapted to be inserted in apertures provided in the front legs and projecting beyond the edge surfaces to receive a nut. A serrated washer 8 is inter-

posed between the head of the bolts 7 and the slotted braces, the teeth of which are adapted to be embedded in the braces to prevent the braces from slipping when in use.

In order to keep the parts 9 and 10 of the braces from spreading, a clamp with a channeled body portion 11 is provided into which the braces are fitted, the sides of the clamp being adapted to prevent the parts 9 and 10 from spreading when the clamp is tightened or adjusted. Washers 12 having flanges adapted to fit the edges of the front legs are provided. Winged nuts 13 are provided and threadably engage the projecting threaded end of the bolts thereby providing a clamping means to hold the tightened braces 3 and 4 rigidly at any angle desired when the nut is tightened.

In Fig. 1 a short brace 14 is shown in dotted line which is used when it is desired to clean windows or the like the end of the short brace 14 being adapted to be adjusted to abut against a window 15 or the like. It will be apparent that when the brace 14 is used, it is not necessary to use the lateral brace 3 when it is in the position shown in Fig. 1.

It will be noted that the braces can be swung laterally to any inclination desired as the braces can be adjusted through the medium of the longitudinal slot or slots and held rigidly at any point of adjustment by the clamping means hereinbefore described.

What I claim is:—

1. The combination with a step-ladder of slotted braces pivotally attached thereto to swing in a lateral direction and provided with slots; of a clamping means comprising a channeled body portion to engage the sides of the braces adjacent to the slots and bolts passing through said slots and an aperture in the body portion to securely retain said body portion of the clamp to the braces whereby said braces are retained at any point of their adjustment.

2. The combination with a step-ladder of braces pivotally attached thereto to swing in a lateral direction and provided with slots, a clamping means comprising a channeled body portion to engage the sides of the braces adjacent to the slots and bolts pass-

ing through said slots and an aperture in the body portion to securely retain said body portion of the clamp to the braces whereby said braces are retained at any point of their
5 adjustment, and a serrated washer to engage said braces and adapted to be embedded therein for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM P. NEWMAN.

Witnesses:

JOHN H. COSS,

PEARL ACKERMAN.