UNITED STATES PATENT OFFICE.

JOHN H. BALSLEY, OF DAYTON, OHIO.

IMPROVED STEP-LADDER.

Specification forming part of Letters Patent No. **34,100**, dated January 7, 1862.

To all whom it may concern:

Be it known that I, JOHN H. BALSLEY, of the town of Dayton and State of Ohio, have made certain new and useful Improvements in Step-Ladders; and I do hereby declare that the following is a true and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The annexed drawing, which is made a part of this specification, exhibits a side view of the ladder.

The letters A A represent the supports, to which the steps are attached. The supports rest on each other at the ends, but gradually recede as they approach the center, forming an elongated ellipsis.

The letters *b b* represent the steps, which are let into the supports sufficiently deep to give them strength, and are also secured in their position by nails driven into their ends through the supports. In order to give additional solidity to the steps, the braces D D in the figure are securely fastened to the supports A A, and being slightly curved are made to rest against the backs of the steps, and firmly nailed to them.

E represents the adjustable back of the ladder, having two supports F F, and are connected to the tops of A A by hinges, so as to be folded up or extended at pleasure.

G is a cross tie or brace of F F, hinged in the middle. When the ladder is put in condition to be used, this cross-tie is extended at full length and throws out the supports at the bottom, thereby giving them greater strength and solidity.

The supports F F have two braces *g g* passing from bottom to top and intersecting each other at the point H. These braces are confined to the supports at the points I I, each having a slot with a pin passing through it, by the means of which they can be drawn up or lengthened to suit the change of position in the supports.

To keep the front of the ladder when used at the proper distance from the back there are two metallic rods extending horizontally from A A to F F. These rods are hinged at F F and pass through staples in A A, and being hooked at the end, rest securely in the staples and answer as braces when the ladder is in use; but when folded up the rods are raised until the hooks are disengaged from the staples and will then pass through them, falling down in a line with the supports A A, and thus be entirely out of the way.

What I claim, and for which I desire to procure Letters Patent, is—

The employment of the supports A A, the braces D, and the horizontal rods connecting front and back of ladder together, with the supports F F, braces *g g*, and hinged cross-tie G, arranged, connected, and operating as and for the purpose specified.

In witness that I claim the foregoing I have hereunto set my name in the presence of witnesses.

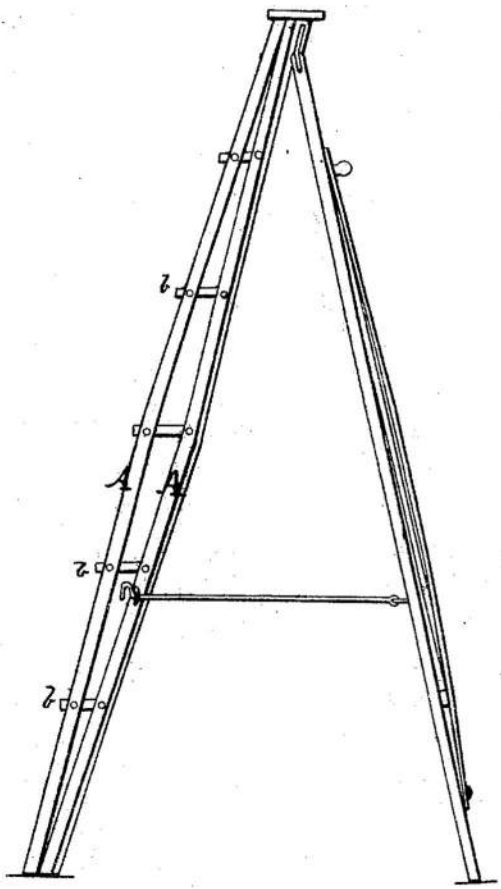
JOHN H. BALSLEY.

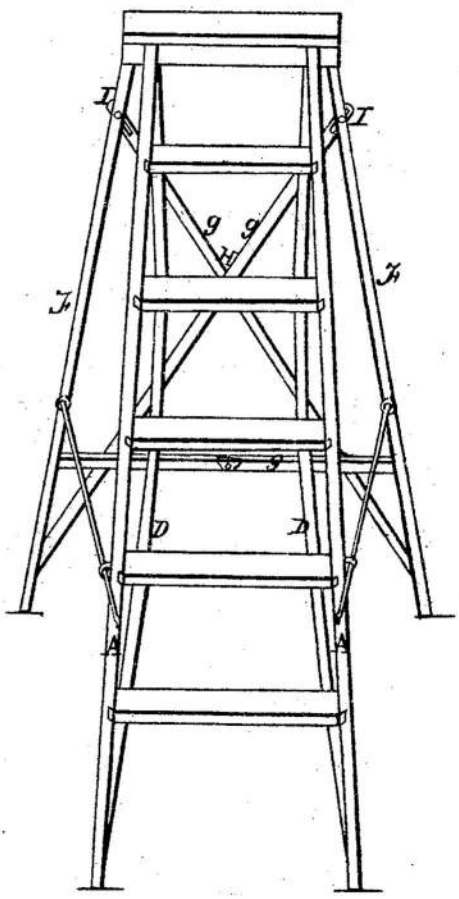
Witnesses:
JAMES TURNER,
EZRA JEFFERYS.

J. H. Balsley.

Step Ladder.

No 34,100. Patented Jan 7. 1862.





Witnesses:

Chas. A. Alexander

Charles Alexander

Wm. F. Bates

Inventor:

Jno H Balsley

United States Patent Office.

JOHN H. BALSLEY, OF DAYTON, OHIO.

Letters Patent No. 99,621, *dated February* 8, 1870.

IMPROVEMENT IN STEP-LADDERS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, JOHN H. BALSLEY, of the city of Dayton, county of Montgomery, and State of Ohio, have invented a new and improved Mode of Constructing Step-Ladder Sides; and I do hereby declare that the following is a full and exact description thereof, reference being had to the drawing, and letters marked thereon.

The nature of my invention consists in the construction of step-ladder sides, of two strips, their width being greater than their thickness, and the edge of one joined to the sides of the other.

To enable those skilled in the art to make and use my invention, I will describe its construction.

I construct step-ladder sides of two strips, A and B, fig. 1, their width being greater than their thickness, the face of the top strip A being horizontal, and that of the bottom strip, B, vertical. The ends of said strips being joined, as shown in the drawing, with marine glue and screws, so as to make a permanent joint, thus making a strong and neat ladder side, with vertical and lateral strength, with the least amount of material.

Figure 2 represents the face or top of the side.

Figure 3 represents a cross-section of side cut at the point C.

Figure 4 represents a ladder constructed with the above described side, showing their connection with other parts of the ladder.

What I claim as new, and desire to secure by Letters Patent, is—

The construction of step-ladder sides, of strips of wood or other material, the strips having a greater width than thickness, and the edge of one joined to the side of the other, thus forming an angle, to give vertical and lateral strength with the least amount of material, all substantially as set forth.

JOHN H. BALSLEY.

Witnesses:

N. S. EVERETT,

JNO. P. ACHEY.

J. H. Balsley.

Step Ladder.

No. 99,621. Patented Feb. 8, 1870.

Fig. 3.

Fig. 2.

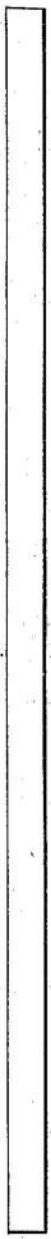
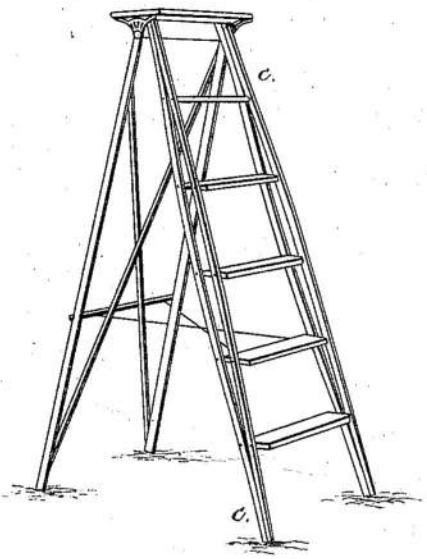
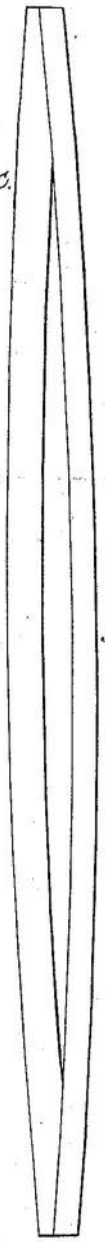


Fig. 4.



C.

B. A Fig. 1.



Witnesses:
N. S. Everett
Jno. P. Acker

Inventor:
John H. Balsley
F. B. Brocke