

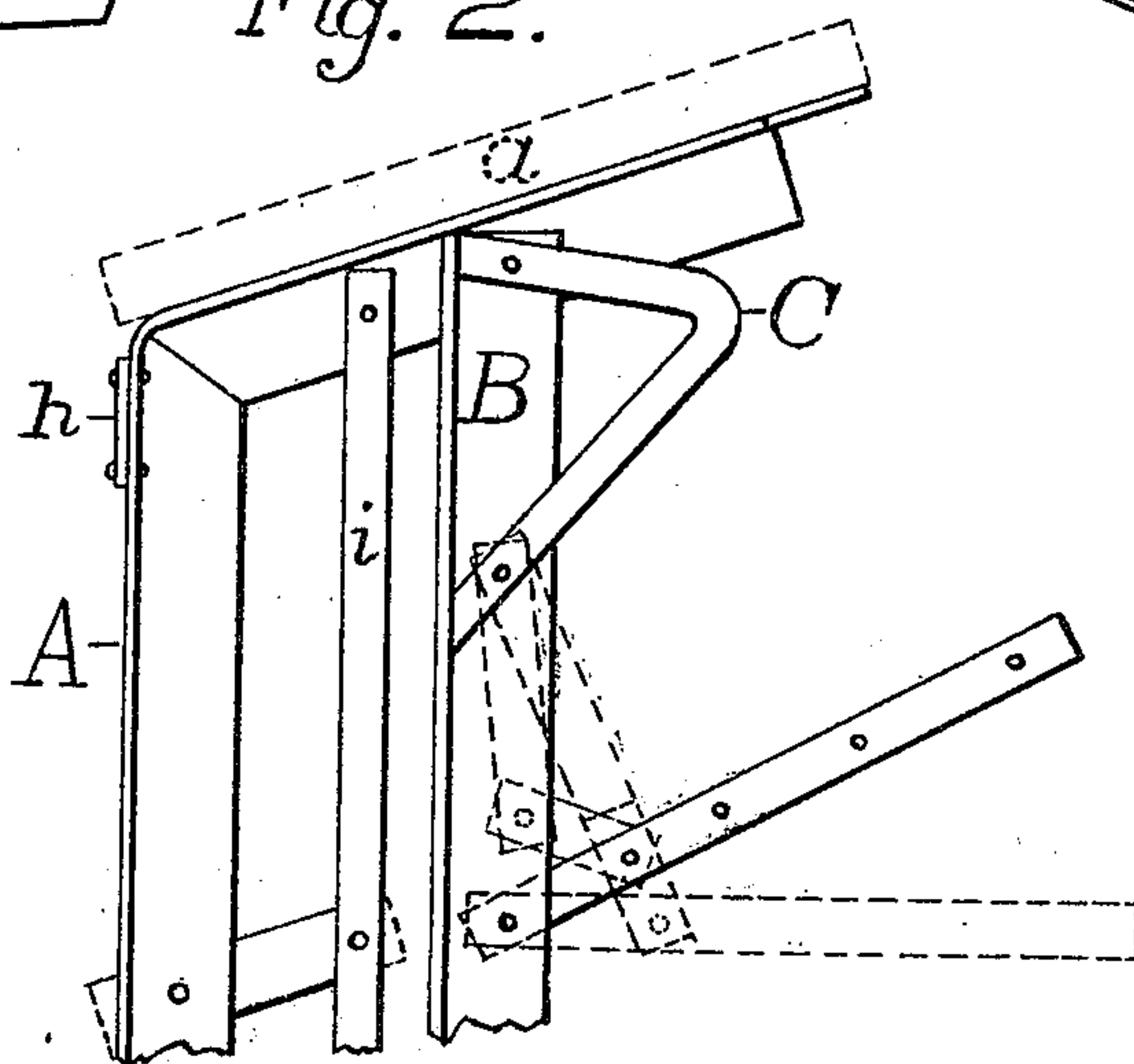
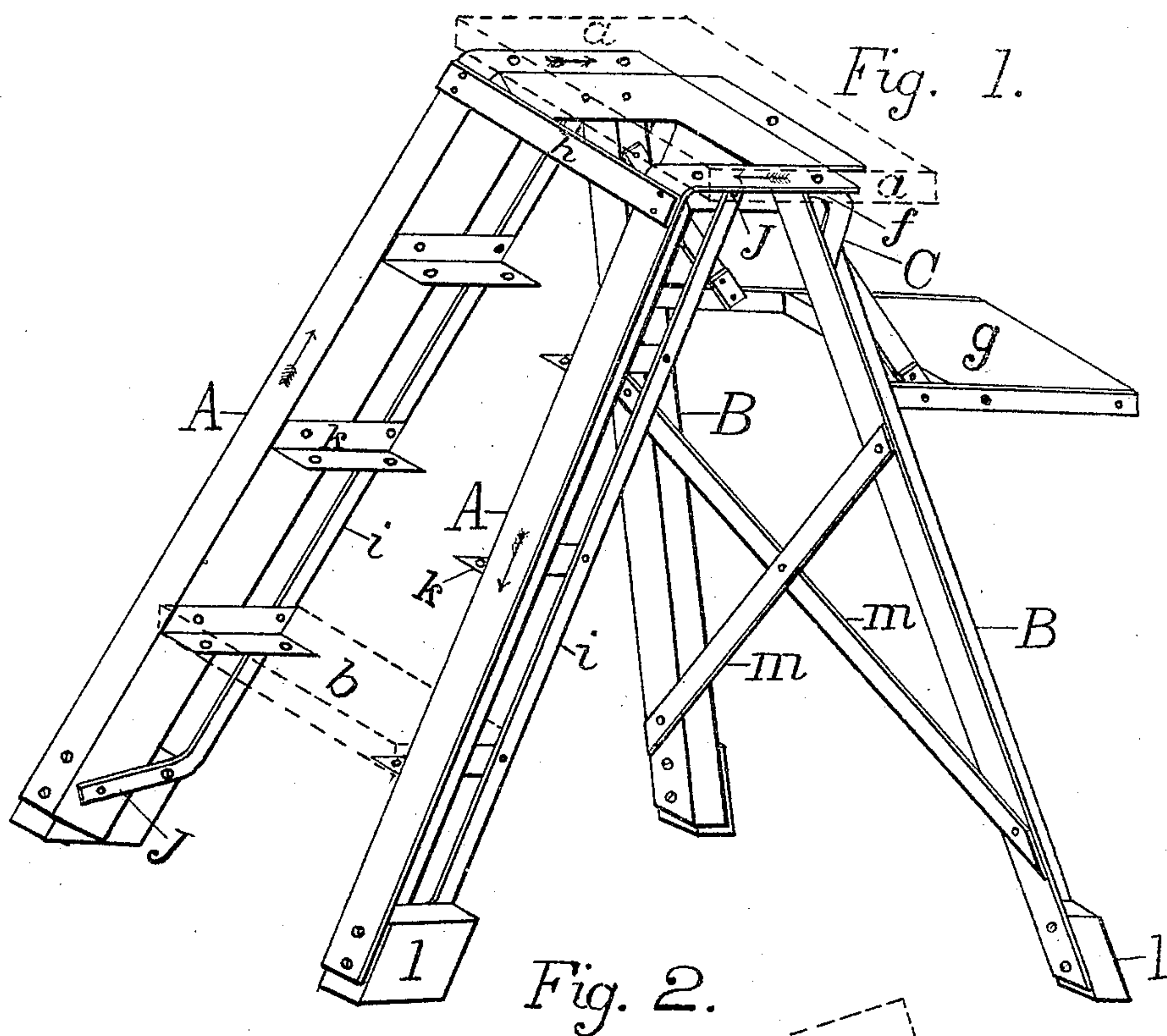
No. 820,370.

PATENTED MAY 8, 1906.

F. W. SHOECRAFT & H. L. ALLARD.

STEP LADDER.

APPLICATION FILED JULY 25, 1904.



Witnesses.
Hiram Arthur
David V. Runyan

Inventors
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UNITED STATES PATENT OFFICE.

FRED W. SHOECRAFT AND HOMER L. ALLARD, OF STURGIS, MICHIGAN;
SAID ALLARD ASSIGNOR TO SAID SHOECRAFT.

STEP-LADDER.

No. 820,370.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed July 25, 1904. Serial No. 218,175.

To all whom it may concern:

Be it known that we, FRED W. SHOECRAFT and HOMER L. ALLARD, citizens of the United States, residing at Sturgis, in the county of St. Joseph and State of Michigan, have invented a new and useful Step-Ladder, of which the following is a specification.

Our invention relates to improvements in step-ladders, and has for its principal object a strong and cheap frame of continuous structure and lasting material, which will be shown in the following description, and illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of a step-ladder embodying our improvement. Fig. 2 is a detail view of the device, showing the rear part or struts of the ladder closed on the frame.

Similar letters refer to similar parts throughout both views.

This ladder is of the usual form, consisting of a frame A to carry the top platform *a* and steps K, with auxiliary struts B pivoted beneath the platform at *f*, supporting a shelf *g*, arranged to be folded up inside the struts B when not in use. Triangular braces C are bolted to the upper parts of the struts B and assist in supporting the top platform-frame and also limit the spread of the struts B when extended. The frame A is constructed of rectangular flanged metal and consists of a single piece bent in curves at the angles, without joints, nuts, or bolts, formed as indicated by the direction of the arrows in Fig. 1, eliminating from the structure of the frame all perishable material of wood and the necessity for numerous joints, rods, bolts, and nuts. Said frame is formed into rectangular shape at the top and supports a platform, beneath which a cross-bar *h* is secured by bolts to and connects the vertical members of A and holds the same rigidly in relation to each other. Two metal strips *i* are attached to

frame A at its upper and lower extremities at *j* and serve to support, with said frame, a suitable number of brackets *c*, secured to said frame A and strip *i* and on which are secured by screws the ladder-steps K, abutting against A and *i*, thus forming substantial braces between the two limbs of the frame, which being formed of flanged metal in one continuous bar is of sufficient strength and rigidity without the costly interposition of rods and other devices.

l represents blocks secured to the lower end of frame A and struts B to give those parts enlarged bearings.

The struts B are further connected by diagonal braces *m*.

Having thus described our invention fully, we are aware that top platforms and braces have been previously placed in step-ladders. Therefore we do not claim such parts, broadly; but

What we do claim, and desire to secure by Letters Patent, is—

In a step-ladder the combination of a frame A composed of two standards and a rectangular portion on the upper ends thereof, shaped to support a platform, all formed of a single piece of flanged metal, a bar connecting the upper ends of said standards, metal strips secured to frame, brackets attached to said strips and frame for the support of ladder-steps, struts pivoted on rear of upper end of said frame with triangular braces bolted thereto to limit extension of struts and to assist in support of platform, all as hereinbefore described and for the purposes set forth.

In testimony whereof we have signed our names to this specification in presence of two subscribing witnesses.

FRED W. SHOECRAFT.
HOMER L. ALLARD.

Witnesses:

WILLIAM McLAUGHLIN,
H. L. ANTHONY.