

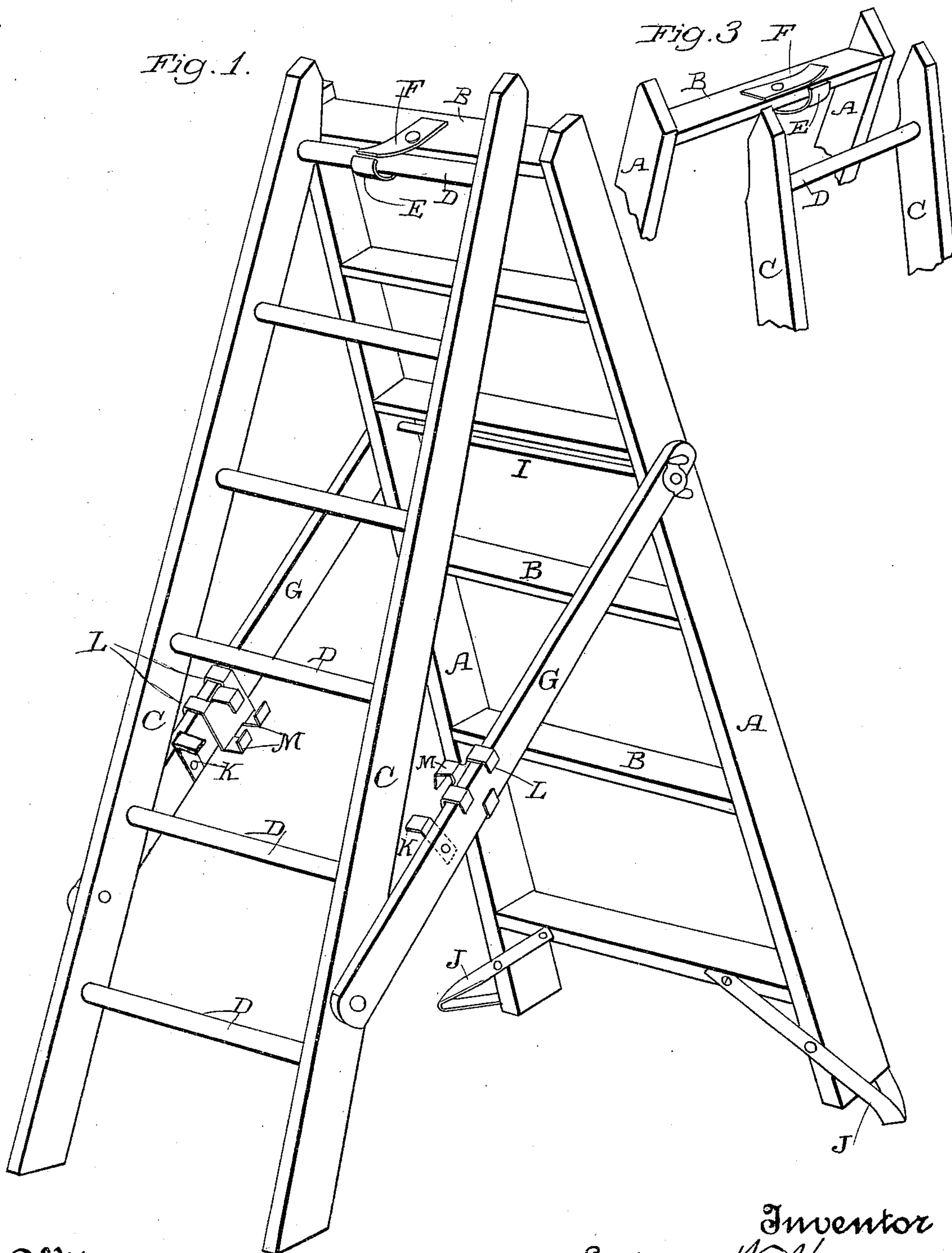
(No Model.)

2 Sheets—Sheet 1.

E. W. HAMMON.
EXTENSION STEP LADDER.

No. 514,223.

Patented Feb. 6, 1894.



Witnesses,
J. A. Baryless

Inventor
Edmund W. Hammon
By *Dewey & Co*
attys

(No Model.)

2 Sheets—Sheet 2.

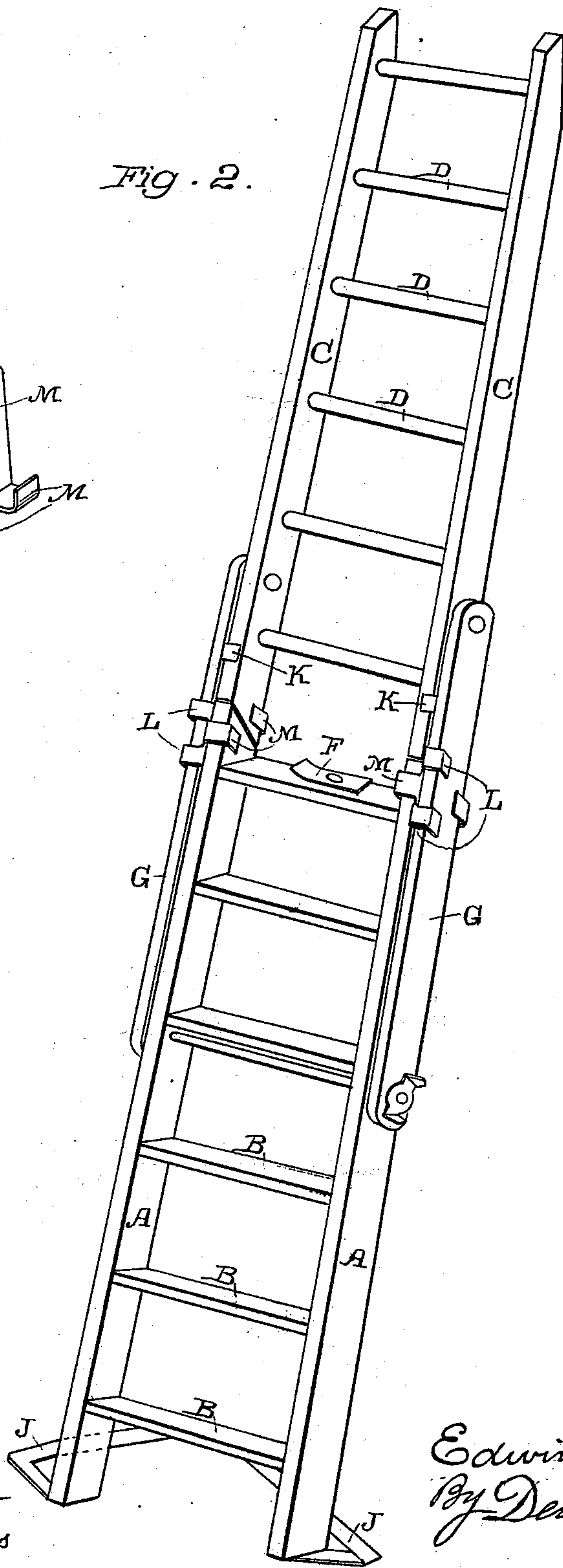
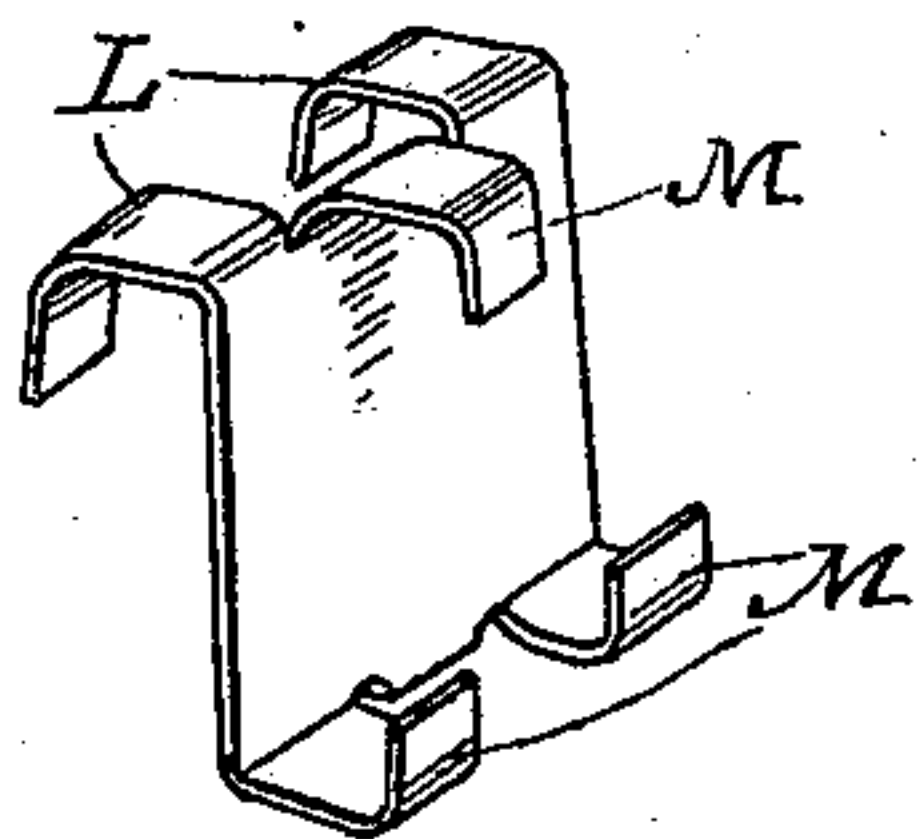
E. W. HAMMON.
EXTENSION STEP LADDER.

No. 514,223.

Patented Feb. 6, 1894.

Fig. 2.

Fig. 4.



Witnesses,
J. H. House
J. A. Boyless

Inventor,
Edwin W. Hammon
By Devey & Co.
attys

UNITED STATES PATENT OFFICE.

EDWIN W. HAMMON, OF DAVISVILLE, CALIFORNIA.

EXTENSION STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 514,223, dated February 6, 1894.

Application filed July 29, 1893. Serial No. 481,890. (No model.)

To all whom it may concern:

Be it known that I, EDWIN W. HAMMON, a citizen of the United States, residing at Davisville, Yolo county, State of California, have
5 invented an Improvement in Extension and Step Ladders; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in
10 combined extension and step ladders, and consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

15 Figure 1 is a view of the ladder in position to be used as a step ladder. Fig. 2, illustrates the ladder extended. Fig. 3 shows the two parts of the ladder separated. Fig. 4 is a perspective view of one of the clasps.

20 A A are the side rails having the steps B, and forming that portion of the ladder which is used as a step ladder.

C C are the side rails of that portion which forms a rear support for the step ladder when
25 it is used as such, and D are transverse rounds fixed therein at a suitable distance apart so that they may be used for climbing, similarly to the steps B of the other portion, when the two are extended in line to form a continuous
30 ladder.

When used as a step ladder, the two parts A and C are used with their bases upon the ground, the upper ends meeting like the letter "A," and the top rounds B and D of the
35 two parts stand approximately in a horizontal plane and close together.

The first portion of my improvement relates to a means for uniting the upper step B and the upper round D. This consists of two
40 plates E and F pivoted respectively upon the bottom and top of the upper step, so that they are movable around their pivot pin. The lower plate E has its projecting end curved upwardly, as shown, and the upper plate F
45 projects sufficiently beyond the step at the rear, so that its end will meet the up-turned end of the plate E.

In order to connect the two parts of the ladder, the plate F is turned parallel with the
50 step and the upper round D of the rear portion is allowed to rest in the curved portion

of the plate E between it and the rear edge of the step B. The plate F is then turned so that its end extends out approximately into contact with the up-turned end of the plate E, 55 and this loosely connects the upper ends of the two ladders, while preventing them from being separated.

G G are side bars, one end of each of which is pivoted near the lower ends of the side bars 60 or braces C, and the opposite ends are attached by a pivot pin or rod I through the sides A of the step ladder, so that the two bars G stand at an inclination extending between the two parts of the ladder and firmly 65 bracing and holding the two together. The lower ends of the parts C are separated from each other a distance just equal to the space between the upper ends of the parts A, but owing to the taper of the whole ladder, it will 70 be manifest that when the parts are united to form a step ladder, the upper ends of the parts C will be narrower than the upper ends of the parts A, thus allowing of some adjustment by reason of the loose connection, 75 for side movement on land which is not exactly level.

In order to make the step ladder portion A as narrow as possible, and at the same time to provide suitable braces to stiffen it, and an 80 enlarged base to give it firm support upon the ground, I have shown braces J extending diagonally from the lower step B downwardly and across the rear sides A below the step, being firmly secured to the step and the sides 85 so as to stiffen the sides against side motion, and loosening. These braces J are extended outwardly beyond the sides A to a considerable distance, and are then bent inwardly so as to pass beneath the lower ends of the 90 sides A to which they are secured. This increases the base of the ladder without increasing the distance between the sides A so much as to make the ladder bulky, or to weaken the steps B by reason of too great 95 length, and this widening of the base gives the ladder a firm support upon the ground, and in case of soft ground prevents its sinking too deeply therein.

I have improved the mechanism for con- 100 necting the two parts of the ladder when they are extended in line with each other as fol-

lows: Upon the side bars G are fixed the angle plates K having the ends bent inwardly so that when the upper end of the sides A, and the lower ends of the sides C (which are
 5 beveled to fit against each other) are brought into line, these bent ends of the plates K will rest against the bottom of the sides C as shown, and thus temporarily hold them in position; while the side bars G are pivoted upon
 10 the sides A sufficiently distant from the upper ends of A, and to the sides C sufficiently distant from their lower ends, so that when the sides A and C are in line, the bars G will extend along the outside, overlapping the
 15 beveled joints between the two. In order to permanently and firmly secure these parts together, I have shown peculiar clamps, consisting of plates bent so as to form clasping hooks L L, which fit around the bars G, and
 20 allow the clasps to slide upon them. Upon the same plates are the inwardly bent hooks M so constructed as to clasp the lower ends of the bars C and the upper ends of the side bars A.
 25 The two parts are connected as follows: When the parts C have been moved around the fulcrum points of the side bars G until the parts A and C are in line, the clasps are slipped up, so that one of the inwardly turned
 30 hooks M on each clasp will clasp the lower end of the part C, and the other hooks M will clasp the upper end of the part A, while the outwardly turned hooks L remain clasped around the side bars G, and the clasps rest
 35 upon the upper step B of the step ladder, thus holding it in place to firmly unite the two sections of the ladder and prevent their being separated.

40 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a step ladder, and in combination with the sides A and steps B, the sides C with the cross-bars or steps D, the side bars pivoted respectively to the parts A and C so that the
 45 upper ends of the sections may be brought together, in combination with the device for connecting the upper steps of the two parts, consisting of the plate E pivoted to the lower side and having the up-turned end, and the
 50 plate F pivoted and swiveling upon the upper side of the step and adapted to close against the up-turned end of the plate E after the round D has been inserted therein, substantially as herein described. 55

2. In a step ladder, the sections A and C with the transverse steps, side bars pivotally connected with the two sections whereby the ends of the sections may be made to abut, and the sections stand in line with each other,
 60 angle pieces fixed to the side bars and extending inwardly to serve as a rest for the sides C, and holding clamps slidable upon the bars G, having inwardly projecting hooks adapted to clasp the meeting ends of the two sections and
 65 lock them together, substantially as herein described. 70

3. In combination with the sides A and stops B of a step ladder, the angular braces J having their inner ends secured to a step in
 70 intermediate points secured to the sides A, and the outer ends extending beyond the sides and turned inwardly to form bases which are secured to the lower ends of the sides A, substantially as herein described. 75

In witness whereof I have hereunto set my hand.

EDWIN W. HAMMON.

Witnesses:

S. H. NOURSE,
 J. A. BAYLESS.