

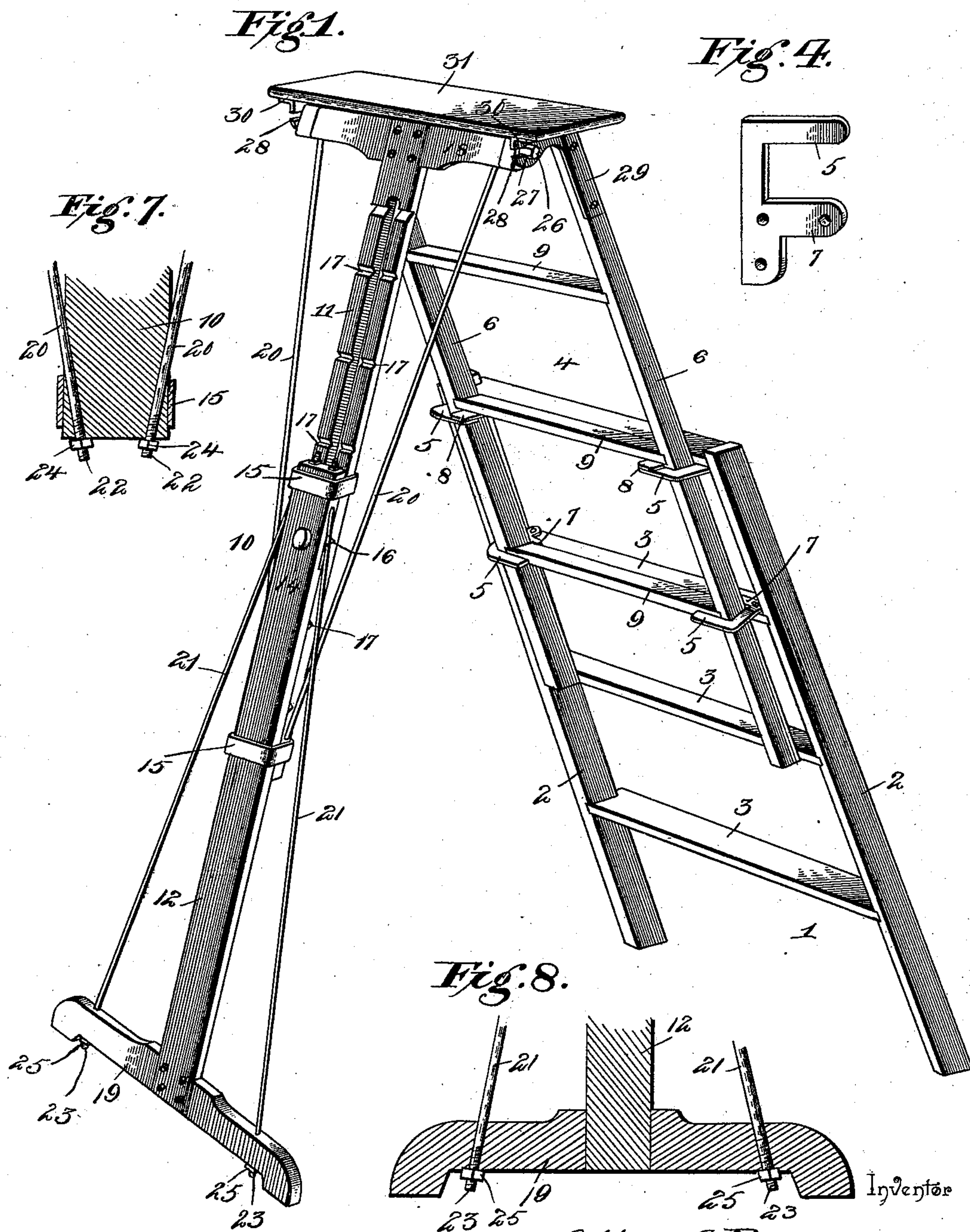
(No Model.)

2 Sheets—Sheet 1.

A. A. BOWSER.
EXTENSION STEP LADDER.

No. 534,463.

Patented Feb. 19, 1895.



Witnesses

John C. Shaw
J. W. Kilby

By his Attorneys,

Allen A. Bowser,

Chas. H. Bowser.

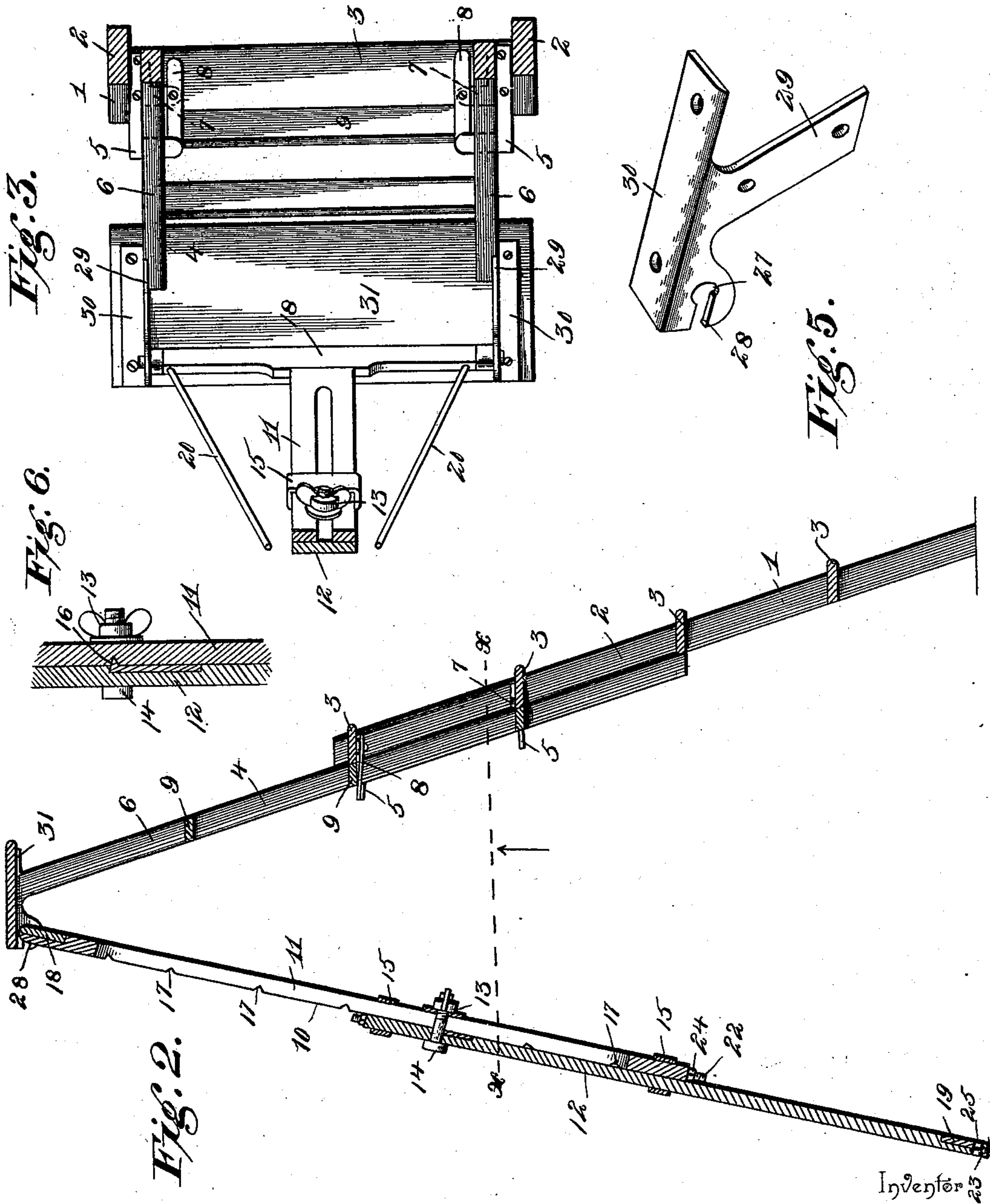
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Inventor 23

Allen A. Bowser,

Witnesses

John C. Shaw
J. H. Clay

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ALLEN A. BOWSER, OF FORT WAYNE, INDIANA.

EXTENSION STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 534,463, dated February 19, 1895.

Application filed February 23, 1894. Serial No. 501,191. (No model.)

To all whom it may concern:

Be it known that I, ALLEN A. BOWSER, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented a new and useful Extension Step-Ladder, of which the following is a specification.

The invention relates to improvements in extension step ladders.

10 The object of the present invention is to improve the construction of extension step ladders, and to provide a simple and inexpensive one, which will be strong and durable, and in which the parts may be readily assembled.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

20 In the drawings—Figure 1 is a perspective view of a step ladder constructed in accordance with this invention. Fig. 2 is a central vertical sectional view of the same. Fig. 3 is a horizontal sectional view, on line $x-x$ of Fig. 2. Fig. 4 is a detail view of one of the guide plates. Fig. 5 is a detail perspective view of one of the bearing plates. Fig. 6 is a detail sectional view illustrating the means for locking the adjustable support. Figs. 7 and 8 are detail sectional views showing the lower ends of the upper and lower brace rods, and illustrating the means for regulating their tension.

35 Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a lower section or step ladder proper composed of side pieces 2 and steps 3, and having slidably mounted on it an upper extensible section 4, which is connected with the lower section by L-shaped guides 5 projecting rearward from the steps of the lower section 1. Each of the L-shaped guides 5 is constructed of suitable metal, and receives within its angle the adjacent side 6 of the upper extensible section 4; and it is provided with a substantially L-shaped securing plate or portion 7, which is fastened by screws or other devices to the steps 3 of the lower section. Any number of the L-shaped guides

may be employed as is desired or found necessary according to the length of the ladder and the weight to be supported; and the upper extensible section 4 is held at the desired adjustment by outwardly moving rests 8, pivoted or otherwise secured to the uppermost step 3 of the lower section, and adapted to be raised beneath one of the steps or rungs 9 of the upper extensible section.

The upper and lower sections of the step ladder are braced by a folding support 10 composed of upper and lower sections 11 and 12 slidably mounted on each other and secured at the desired adjustment by a thumb nut 13 and screw 14. The lower end of the upper portion of the support, and the upper end of the lower portion, are provided with sleeves or loops 15, whereby the portions or sections are connected. The lower section or portion 12 carries the screw and the upper section is provided with a longitudinal slot to receive the same. In order to hold the adjustable support against accidental slipping, one of the sections is provided with flanges 16 adapted to engage any one of a series of recesses 17. The sections of the adjustable support are respectively provided at their upper and lower ends with cross-pieces 18 and 19, and are braced by inclined rods 20 and 21 extending from the outer ends of the cross-pieces 18 and 19 to the opposite ends of the sections. The upper ends of the tie or brace rods are firmly secured by any suitable means, and the lower ends of the rods are threaded at 22 and 23, and provided with nuts 24 and 25 to maintain the rods at the proper tension.

The upper cross-bar is provided at its ends with flattened journals 26, arranged in bearing openings 27 having contracted entrance slots 28 to permit the journals to be introduced into the bearing openings when the former are arranged in a line with the slots, and to prevent the journals accidentally leaving the bearing openings when they are not in a line with the slots.

Each bearing plate is constructed of suitable metal and is provided with a depending extension 29, which is secured to the adjacent side 6 of the upper extensible section of the step ladder; and it has an outward extending

flange 30 projecting laterally from the bearing plate and arranged at an angle to the length of the extension 29, and serving as the means for connecting the top of the extension
5 ladder to the sides of the upper extensible section 4. The top 31 is fastened to the flanges 30 of the bearing plates by screws or other fastening devices.

The step ladder has its parts firmly connected. The step ladder sections 1 and 4, which are adapted to slide on each other may be quickly connected to permit such a movement; and the adjustable support is firmly braced, and is held against any accidental
15 slipping. It will also be seen that the bearing plates serve as the means for connecting the top of the ladder with the upper extensible section thereof, and also for connecting the upper end of the support with those parts.
20 Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle, or

sacrificing any of the advantages of this invention.

What I claim is—

In an extension ladder, the combination of upper and lower ladder sections, the series of flat L-shaped guides arranged in pairs and secured to the faces of the steps of the lower ladder section and projecting rearward therefrom and forming a way for the upper section, one pair of the guides being provided with pivoted plates arranged to swing outward to close the guides and to secure the upper section at the desired adjustment, and an adjustable support, substantially as described. 25 30 35

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALLEN A. BOWSER.

Witnesses:

ROBERT V. CRAGG,
JOHN N. BROOM.