

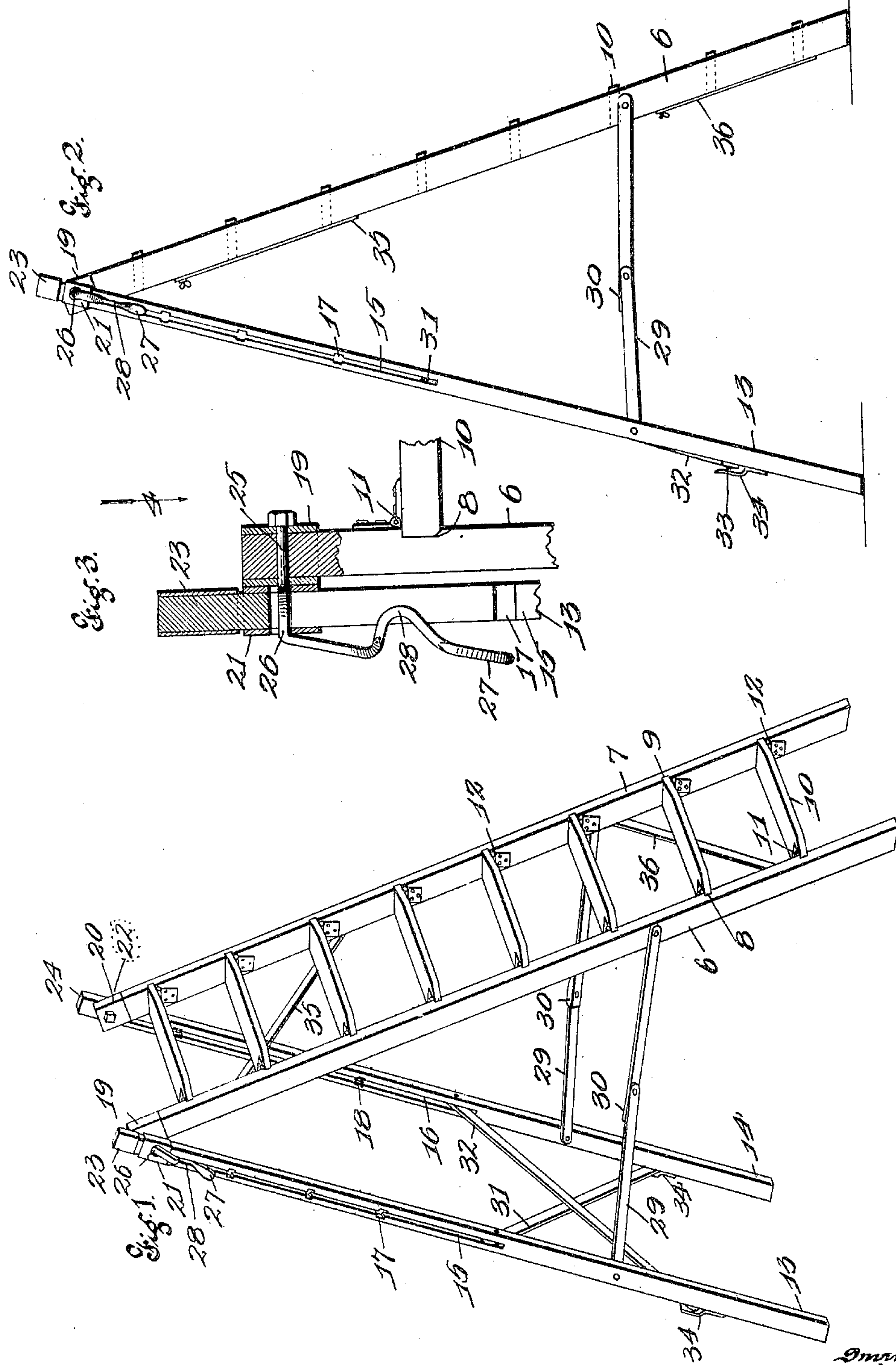
No. 798,388.

PATENTED AUG. 29, 1905.

J. H. W. BODENDIECK & VAN Z. PRIBBLE.
LADDER.

APPLICATION FILED MAR. 6. 1905.

2 SHEETS—SHEET 1.



Witnesses
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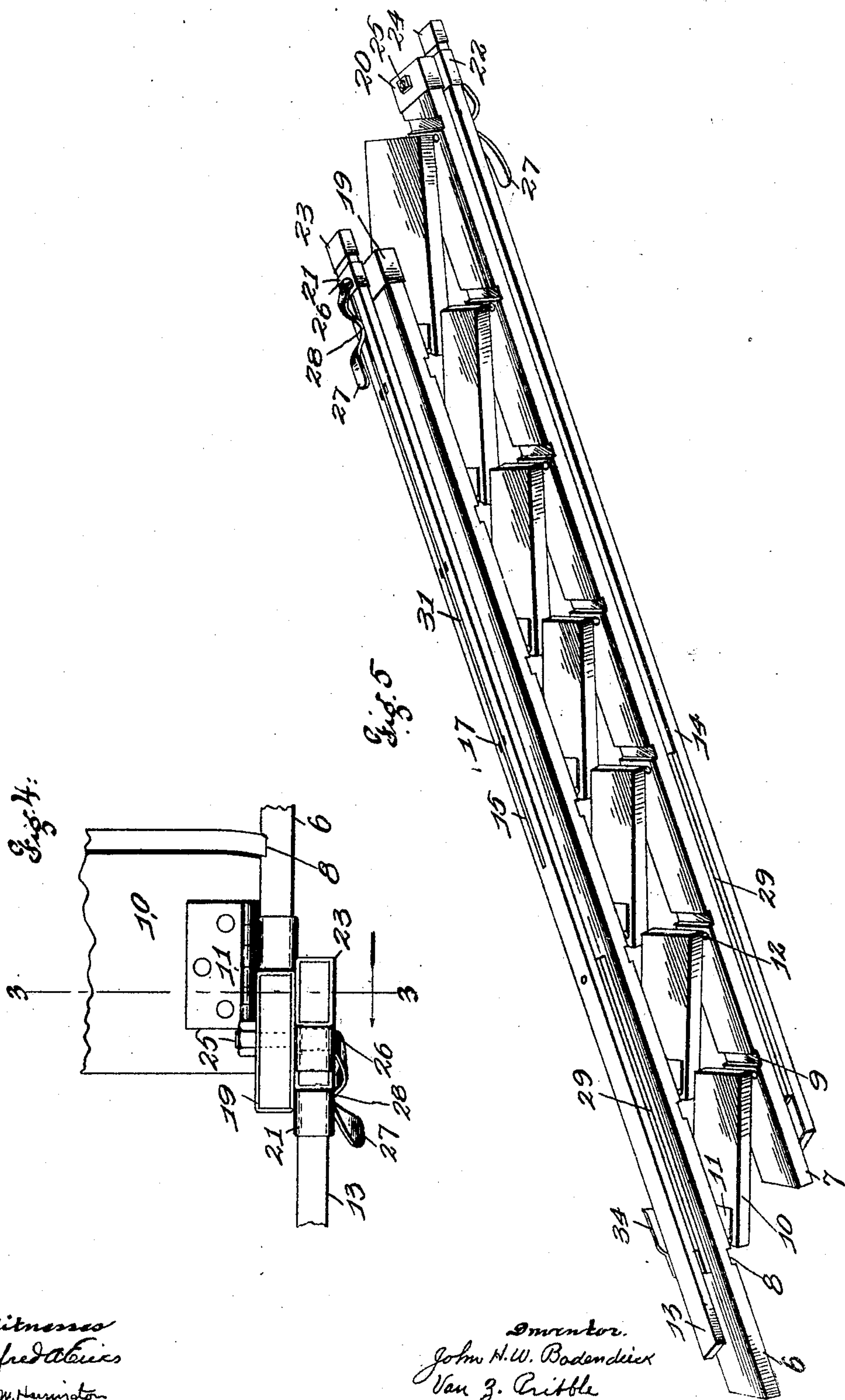
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN H. W. BODENDIECK AND VAN Z. PRIBBLE, OF EAST ST. LOUIS,
ILLINOIS.

LADDER.

No. 793,388.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed March 6, 1905. Serial No. 248,672.

To all whom it may concern:

Be it known that we, JOHN H. W. BODENDIECK and VAN Z. PRIBBLE, citizens of the United States, and residents of East St. Louis, Illinois, have invented certain new and useful Improvements in Ladders, of which the following is a specification, containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to improvements in ladders; and it consists of the novel features herein shown, described, and claimed.

In the drawings, Figure 1 is a perspective of a ladder embodying the principles of our invention. Fig. 2 is a side elevation of the ladder shown in Fig. 1. Fig. 3 is an enlarged sectional detail showing the adjustable connection between the upper ends of the bars and the upper ends of the braces, the view being taken substantially on the line 3 3 of Fig. 4 and looking in the direction indicated by the arrow. Fig. 4 is a top plan view of parts shown in Fig. 3 as seen looking in the direction indicated by the arrow 4. Fig. 5 is a perspective of the ladder folded.

Referring to the drawings in detail, the step-bars 6 and 7 have step-recesses 8 and 9 in their inner faces to receive the ends of the steps 10. Hinges 11 connect the steps 10 to the bars 6, and hinges 12 connect the steps 10 to the bars 7, the hinges 11 being upon the opposite sides of the steps from the hinges 12, so that the parts will fold. In the construction shown the steps 10 swing upwardly against the bars 6, bringing the bars 7 against the lower sides of the steps. The step-bar braces 13 and 14 have longitudinally-extending slots 15 and 16 extending near their centers to near their upper ends, said slots being enlarged at regular intervals to form the bearings 17 and 18. Metallic bindings are applied to the extreme upper ends of posts 6 and 7 to form the pivoted bearing-blocks 19 and 20. Metallic boxes are slidingly mounted upon the braces 13 and 14 to form the sliding bearings 21 and 22. Metallic boxes 23 and 24 are fixed upon the upper ends of the braces 13 and 14 to hold the braces from sliding and to form steps to limit the upward motion of the bearings 21 and 22. Pivots 25 are rotatably mounted through the bearing-blocks 19 and 20. The locking-plates 26 extend outwardly

from the pivots 25, through the bearings 21 and 22, and through the slots 17 and 18, so that when the plates 26 are turned one way they will slide in the slots 15 and 16 and so that when they are turned one-quarter around they will fit in the bearings 17 and 18 and not slide in the slots 15 and 16. Handles 27 extend outwardly and downwardly from the plates 26, said handles being bent inwardly and outwardly to form the latches 28 and said handles being slightly springy, so that the latches 28 may be snapped out of and into the slots 15 and 16.

When it is desired to change the height of the step-ladder, the handles 27 are operated to move the latches 28 out of the slots 15 and 16, thereby turning the plates 26 in the bearings. Then the bearing-blocks 21 and 22 are moved up or down upon the braces to the desired points. Then the handles 27 are again operated to their locked positions.

The tie-rods 29 connect the step-bars 6 and 7 to the braces 13 and 14, said tie-rods being jointed in the middle and there being lips 30 upon one piece to engage the other piece and hold the tie-rods from swinging downwardly past a straight line, so that when it is desired to fold the braces 13 and 14 against the bars 6 and 7 the tie-rods are swung upwardly. The cross-braces 31 and 32 have their upper ends placed in the lower ends of the slots 15 and 16, and pins are inserted to connect the cross-braces to the vertical braces 13 and 14. Pins 33 project outwardly from the braces 13 and 14, and the cross-braces 31 and 32 are crossed and the lower ends buttoned onto these pins 33. Springs 34 are secured to the braces 13 and 14, and their free ends extend upwardly back of the pins 33 to hold the braces in their buttoned positions, so that when it is desired to fold the ladder the braces may readily be unbuttoned and the braces 13 and 14 folded together. Cross-braces 35 and 36 are pivotally connected to the bars 7 and removably connected to the bars 6 by bolts and thumb-screws, so that the braces may be disconnected and folded.

A ladder embodying the principles of our invention may be readily adjusted to any desired height within its limits and with a few motions may be folded into a bundle, as shown in Fig. 5, and at the same time the ladder is strong, durable, and inexpensive.

We claim—

1. In a ladder, a pair of step-bars; steps hinged at each end to said step-bars; a pair of braces, in the upper ends of which are formed
5 longitudinally-extending slots and latches secured to the upper ends of the step-bars and passing through the slots in the braces to form an adjustable connection between said step-bars and braces; substantially as specified.
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2. In a step-ladder, step-bars; steps hinged at each end to said step-bars; a pair of braces provided with longitudinally-extending slots in their upper ends; and there being bearings
15 formed in said slots, and latches pivotally secured to the upper ends of the step-bars and passing through the slots in the braces and adapted to lock the step-bars to the braces at the bearings formed in the slots; substantially
20 as specified.

3. In a ladder, a pair of step-bars; steps hinged at each end to said step-bars; a pair of braces, in the upper ends of which are formed

longitudinally-extending slots, latches secured to the upper ends of the step-bars; and passing through the slots in the braces to form an adjustable connection between said step-bars and braces; and folding braces between the step-bars and the first-mentioned braces; substantially as specified.
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4. In a ladder, a pair of step-bars; steps hinged at each end to said step-bars; a pair of braces in the upper ends of which are formed longitudinally-extending slots; and means whereby the upper ends of the step-bars are
35 detachably connected to the slotted upper ends of the braces for varying the height of the ladder; substantially as specified.

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

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Witnesses:

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