

A. M. D. MENGELER.

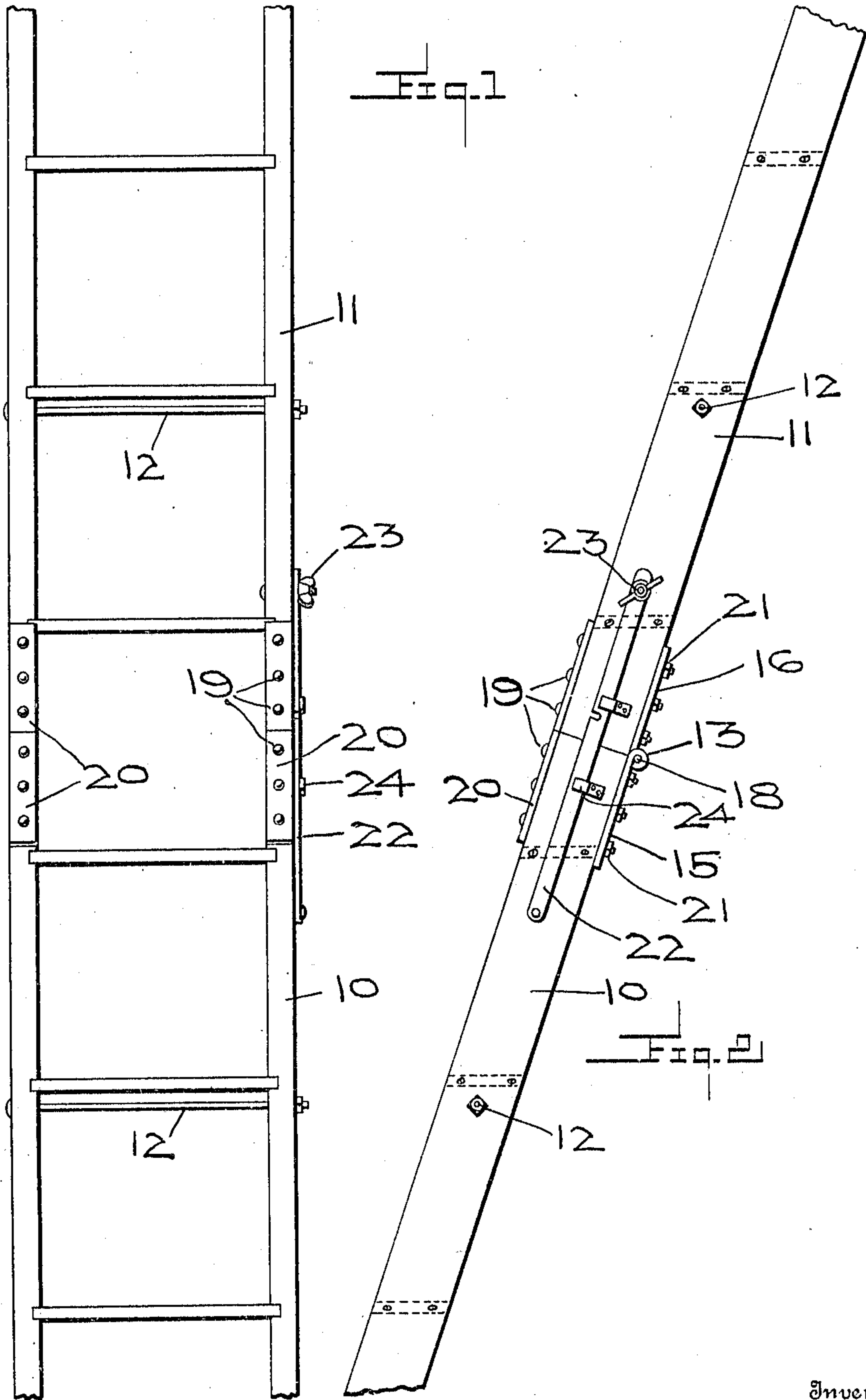
LADDER.

APPLICATION FILED OCT. 31, 1908.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.

953,097.



Inventor

Albert M.D. Mengeler

Witnesses

E. R. Luby
E. L. Chandler

By Woodward & Chandler

Attorneys

A. M. D. MENGELER.

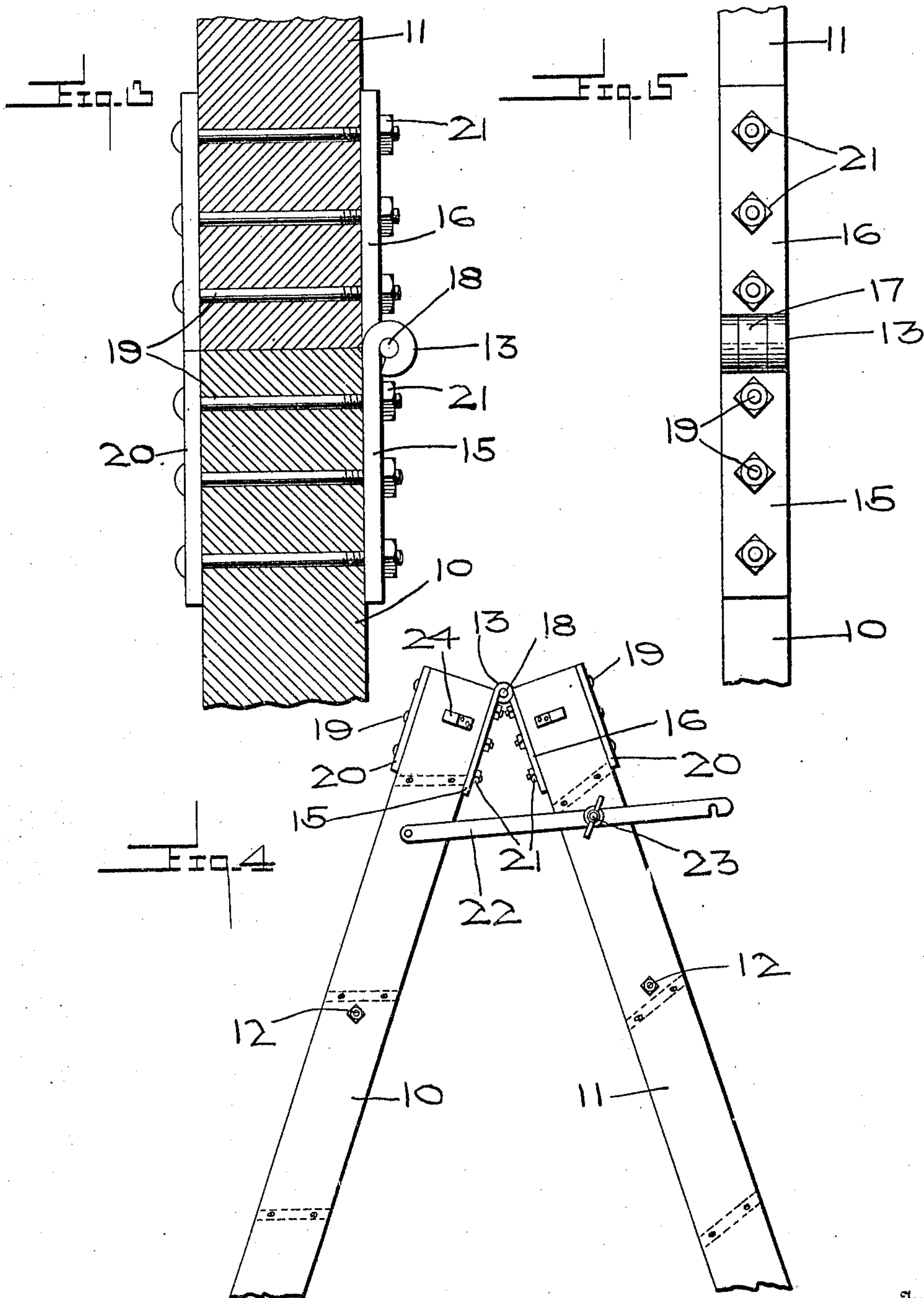
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Witnesses

Ed. R. Lusk
E. L. Chandler

By *Woodward & Chandler*

Attorneys

UNITED STATES PATENT OFFICE.

ALBERT M. D. MENGELER, OF ELGIN, ILLINOIS.

LADDER.

953,097.

Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed October 31, 1908. Serial No. 460,455.

To all whom it may concern:

Be it known that I, ALBERT M. D. MENGELER, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Ladders, of which the following is a specification.

This invention relates to ladders and has special reference to a device of this character which is known as a folding ladder.

An object of this invention is to provide a ladder with means whereby the same may be extended or may be employed as a step ladder according to the will of the operator.

The invention has for a further object the provision of means which may be applied to ladders of common construction which will render them adjustable so that they may be extended or folded in order to form a propped ladder.

The invention has for a still further object the provision of means for accomplishing these results which is simple in construction, is strong and durable and which may be readily applied to ladders of common construction.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claim without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a front elevation of the improved ladder in an extended position, Fig. 2 is a side elevation of the brace for the same, the ladder sections being broken away, Fig. 3 is a side elevation of the hinge employed in connection with the ladder showing a fragmentary view of the ladder sections, Fig. 4 is a side elevation of the ladder in its folded position, showing the position of the brace. Fig. 5 is a detailed and enlarged view of the hinge member employed in connection with the ladder.

Referring to the drawings, 10 and 11 designate ladder sections which are of common formation and which are reinforced by a plurality of transverse bolts 12. The adjoining extremities of the ladder sections 10 and 11 are secured together by the hinges 13 which are of peculiar construction. The hinges 13 each comprise metallic plates 15

and 16 which are joined together by the pivot member 17 which is rigidly carried upon the plate 16 and extended into a recess portion formed upon the plate 15 and held in such position by a pin 18. The plates 15 and 16 are adapted to be secured upon the rear edges of the ladder sections 10 and 11 and held in such position by bolts 19 which are passed through the same and into the ladder sections 10 and 11 where they are engaged through reinforcing plates 20 which are positioned upon the opposite edges of the ladder sections 10 and 11 and held in such position by nuts 21. For the purpose of securing the sections 10 and 11 in position, a brace 22 is employed which is hingedly disposed upon the side of the section 10 and which is extended longitudinally beyond the end of the section where it is engaged by a lock bolt 23 carried upon the side of the section 11. The brace 22 has an intermediately positioned notch 9 and a terminal notch and is further held in position by an ear 24 carried upon the side of the section 10 at the end thereof for engagement about the brace 22 to prevent the lateral displacement of the same.

When the device is to be used as a step ladder the lock bolt 23 is operated to release the upper extremity of the brace 22 when the brace is disengaged from the arm 24 and swung into a horizontal plane. The upper section 11 is turned downwardly to form the prop for the step section 10 and the brace 22 by means of its notch 9 is brought into engagement with the lock bolt 23 to secure the two sections at the desired angle as shown in Fig. 4.

By referring particularly to Fig. 4 of the drawings, it will be seen that when the device is used as a step ladder, the brace will be held in its proper position by the lock bolt engaging with the intermediate notch or that nearest the pivotal end of the brace, but when the sections of the ladder are adjusted on a plane with one another, the lock bolt is adapted to engage with the notch formed in the brace adjacent to the free end thereof, in which position the brace will be on a line with the sections and overlapping the same and cooperating with and being supported in a locked and rigid position by the hooked ears 24, as clearly shown in Fig. 2, all of which construction forms a perfect and efficient lock and brace and prevents accidental displacement of the parts.

What is claimed is:—

A ladder comprising two similar sections, hinges for connecting the adjoining extremities of the ladder, a laterally yielding arm
5 or brace having an intermediate and a terminal notch formed from one edge thereof, said arm being pivotally secured to one section of the ladder and of sufficient length to overlap the other section of the ladder when
10 the two sections are arranged on a straight line or plane with one another, hooked ears carried by each ladder adjacent to the ends thereof, and a lock bolt carried by the opposite section of the ladder for engagement

with said notches of the arm, whereby when 15 the sections of the ladder are arranged in a straight line the yielding locking arm will be rigidly held in a longitudinal position with respect to the sections by said hooked ears and lock bolt coöperating with the ter- 20 minal notch of the arm or brace.

In testimony whereof I affix my signature, in presence of two witnesses.

ALBERT M. D. MENGELER.

Witnesses:

OTTO MENGELER,
AUGUST MENGELER.