No. 662,545. Patented Nov. 27, 1900.

H. OVENDEN.

LADDER.

(Application filed June 28, 1900.)

(No Model.)

Fig. 4.

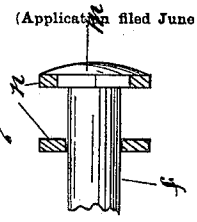


Fig. 5.

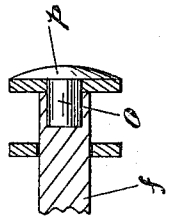


Fig. 3.

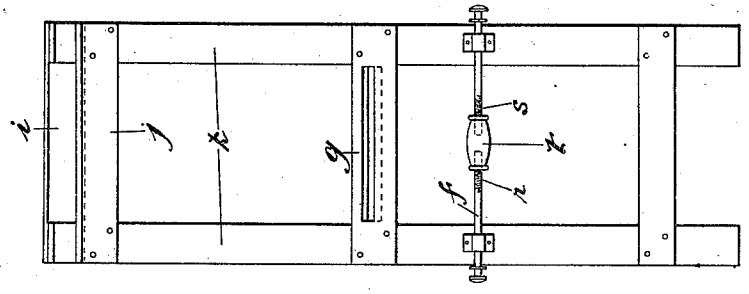


Fig. 2.

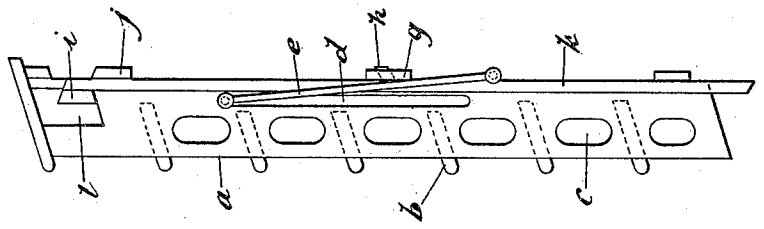
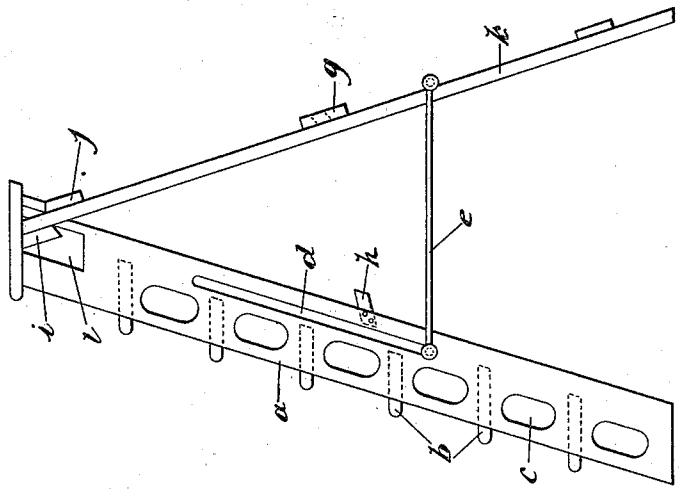


Fig. 1.



Witnesses:-

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UNITED STATES PATENT OFFICE.

HENRY OVENDEN, OF TUNBRIDGE WELLS, ENGLAND.

LADDER.

SPECIFICATION forming part of Letters Patent No. 662,545, dated November 27, 1900.

Application filed June 28, 1900. Serial No. 21,984. (No model.)

To all whom it may concern:

Be it known that I, HENRY OVENDEN, a subject of the Queen of Great Britain, and a resident of Tunbridge Wells, in the county of Kent, England, have invented certain new and useful Improvements in Ladders, (for which I have applied for a patent in Great Britain, No. 5,438, dated March 22, 1900,) of which the following is a full, clear, and exact specification thereof.

This invention consists of improvements in or relating to step-ladders, and has particular reference to means of connecting various parts to the other for the purpose of enabling such parts to be readily attached to or detached from one another.

For purposes of illustration I will now refer to the annexed drawings, in which—

Figure 1 is a side elevation showing my invention applied to a step-ladder in its open position; Fig. 2, a side elevation showing same in its closed position; Fig. 3, a rear view of what are known as "back legs" of the ladder; Fig. 4, a view, to enlarged scale, of a means for attachment of stay-rods; Fig. 5, a sectional view, to enlarged scale, of modified arrangement.

In Figs. 1, 2, and 3, *a* represents the sides of the ladder, having the steps *b* and being cut for the purpose of lightness at *c*. These sides *a* are provided with slots *d*, in which a connecting rod or bar, formed as shown in Fig. 3 and pivotally carrying stay-rods *e*, slides. The stay-rods *e* are again pivotally connected to a similar bar *f*. *g* is a piece attached to the back legs *k* and which is adapted to engage upon the piece or catch *h*. *i* and *j* are two strips of suitable material or stop-pieces which are adapted for the purpose of maintaining the back legs *k* in the required position, being passed through an opening or slot *l*. By this arrangement ordinary hinges are dispensed with for connecting the back legs to the thread-supports, and the whole is capable of adjusting itself to uneven surfaces.

In Fig. 4 the head *m* is formed integral, if required, upon the rod *f*, *n* being a washer; but in Fig. 5 the end of the rod is provided with an aperture into which the stud *o* upon the head *p* is placed when the end of the rod is in a heated condition and, owing to the contraction when cooling, is secured therein. *r* and *s* are the threads upon the connecting-rod *f*, which in this case is shown as being formed in two sections and adjusted by means of the rotatable screw-collar or socket-piece *t*.

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

The step-ladder comprising back legs or supports having two bars or supports adapted to engage in an opening carried in the step-support, a projection upon the step-support portion of the ladder adapted to engage in a slot upon the back-leg portion of the ladder when in its closed position, stay-rods for connecting the two portions of the ladder together, sectional rods upon which said stay-rods are pivotally carried, a screw-collar or socket-piece for engagement upon the screwed ends of the said connecting-rods for the purpose of adjustment, substantially as described and illustrated herein and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of June, 1900.

HENRY OVENDEN.

Witnesses:

BENJAMIN CLARK,

HENRY DENIS HOSKINS.