No. 790,807. PATENTED MAY 23, 1905.

R. SCHILLING.

LADDER.

APPLICATION FILED DEC. 13, 1904.

Fig 5

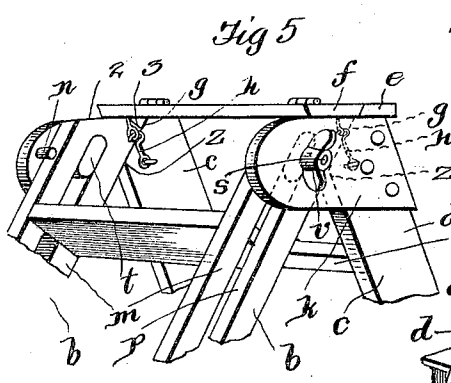
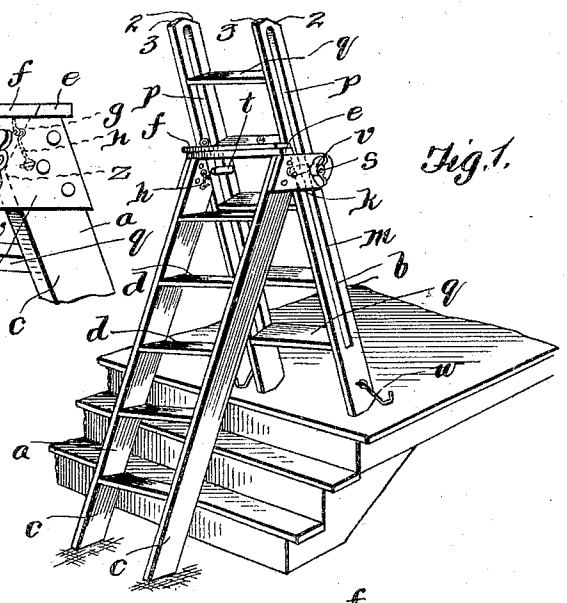


Fig. 1.



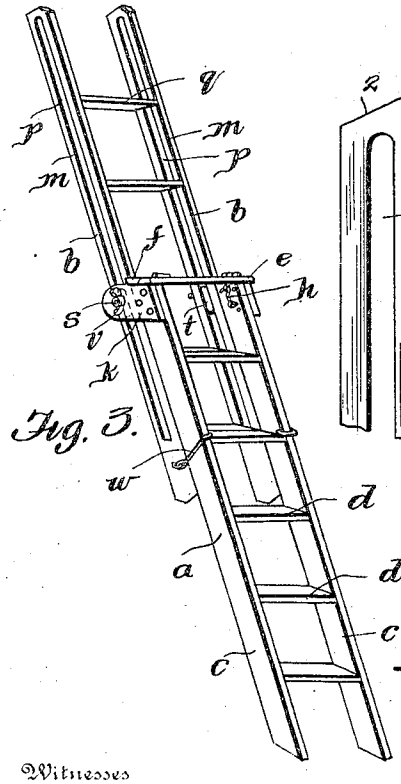


Fig. 3.

Fig. 4.

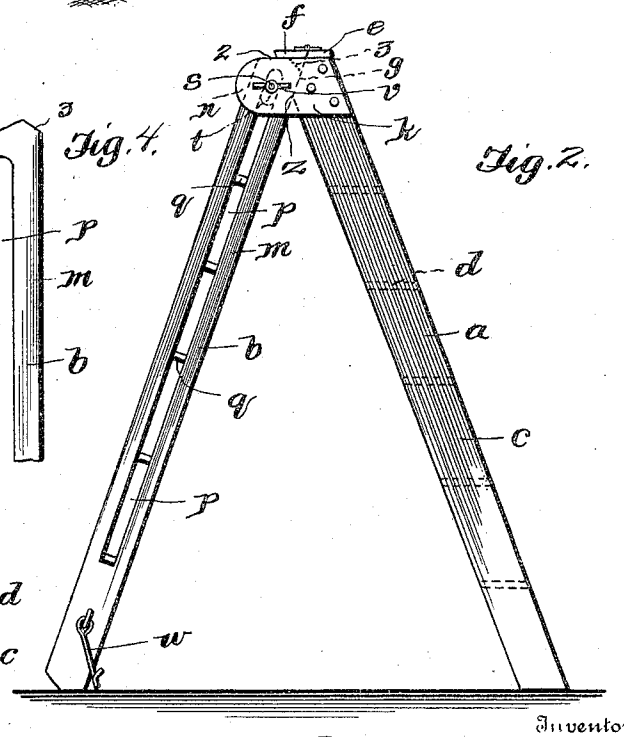


Fig. 2.

Witnesses

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No. 790,807. Patented May 23, 1905.

UNITED STATES PATENT OFFICE.

ROBERT SCHILLING, OF WARSAW, ILLINOIS.

LADDER.

SPECIFICATION forming part of Letters Patent No. 790,807, dated May 23, 1905.

Application filed December 13, 1904. Serial No. 236,718.

To all whom it may concern:

Be it known that I, ROBERT SCHILLING, a citizen of the United States, and a resident of Warsaw, in the county of Hancock and State of Illinois, have made a certain new and useful Invention in Ladders; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of the ladder with prop *b* raised. Fig. 2 is a side elevation of the same with prop *b* lowered. Fig. 3 is a perspective view of the ladder with prop *b* reversed and raised. Fig. 4 is a detail view of one end of prop *b*. Fig. 5 is a detail perspective view of the upper part of the ladder with prop *b* lowered.

The invention relates to adjustable step-ladders; and it consists in the novel construction and combinations of parts, as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the letter *a* designates the main portion or body of the step-ladder, and *b* the prop portion or brace portion, which can be adjusted either at an angle to the main portion, so that its ends rest on the ground or floor in the manner of an ordinary step-ladder, or in line with the main portion to provide a longer ladder, its ends then resting against the wall.

The main portion of the ladder consists of the sides *c* and steps *d*. The upper step or top *e* is usually made in two pieces, one of which is secured to the upper ends of the sides, while the other, or hinged piece *f*, extends over the sloping bearing edges *g* at the rear of the upper ends of the sides. The hinge edge of the fixed portion of the top is in the plane of these sloping bearing edges, as is also that of the hinged portion *f*, whether it be closed down or turned back, so that the upper end portion of this part of the ladder has a general slope. When the portion *f* is closed down, it is designed to be secured in position by means of the hooks *h*. These hooks are connected to the transverse brace-cheeks *k*, which are secured to the upper ends of the sides *c* just below the top *e* and project rearward outside the lateral bars *m* of the brace portion *b* of the ladder. At their rear end portions these bracing-cheeks are provided with inward-projecting guide-studs *n*, which are placed at the proper distance from the sloping bearing edges *g* to admit the lateral bars *m*, which when reversed slide between such edges and studs and are braced in position thereby. These studs *n* also limit the outward movement of adjustable portion *b* when it is in the position of Fig. 2 with its lower end resting on the ground.

The lateral bars *m* are longitudinally slotted, as indicated at *p*, and are provided with the steps *q*. Their upper ends are sloped in angular form, as indicated at 2 and 3, in order that these ends shall fit neatly under the hinged portion of the top *e* when the latter is closed down and secured by the hooks *h*.

In the middle of the projecting portion of each bracing-cheek *k* is provided a perforation which is designed to receive a bolt *s*, the inner end of which is attached to a bearing-block *t*, which is slidingly seated in the longitudinal slot *p* of the lateral bar *m* when the portion *b* of the ladder is being adjusted longitudinally, but which is turned crosswise in engagement with the inner sides of bars *m* when this portion *b* is to be clamped in adjusted position. The thumb-nut *v* is adjusted upon the bolt *s* to admit of endwise movement of bearing-block or turn-button *t* for this purpose. To the outer end of the bolt *s* is secured a thumb-nut *v*. These blocks *t* form bearings on which the brace portion *b* of the ladder may be adjusted up or down, its lateral bars sliding on the blocks in the movement. When the thumb-nut on the bolt of the block is tightened, the lateral bars are designed to be held securely in adjusted position. The fastening is reinforced by means of the tie-hooks *w*, which are pivoted to the lower end portions of the lateral bars *m* on the outside and are designed to extend over and around the edges of the sides *a* of the body of the step-ladder, engaging one of its steps.

The sloping bracing edges *g* at the upper

ends of the sides *a* in rear meet the longitudinal rear edges of said sides in an angular manner, forming the corners *z*, which are opposite and in line with the inward studs *n* of the bracing-cheeks.

When the ladder is to be used as an ordinary step-ladder, the movable or brace portion *b* is drawn down until the ends of its lateral bars are level with the top of the main portion, the hinged part of which is then closed down and secured by the hooks *h*. In this position the brace portion *b* forms an angle with the main portion *a* of the ladder and supports it from the floor or ground. If it be desired to support the ladder from a step or porch platform somewhat higher than the ground, the hinged portion of the top *e* is turned back and the movable portion *b* of the ladder adjusted upward in the space vacated by said movable section *f* of the top step *e* along the bearing inclines *g* of the main portion of the ladder until the lower ends of the lateral bars *m* are in proper position, when the parts are secured by means of the thumb-nuts and bearing-blocks.

In order to use the ladder as a long ladder in inclined position against a wall, the movable portion *b* is brought against the rear of the body portion *a* and is then adjusted upward to the desired height, and the parts being secured together by means of the bearing-blocks and the hooks the ladder is ready for use.

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

1. A ladder having a main stepped portion a top step having a movable section an adjustable stepped portion adapted for movement into the space vacated by said movable section of the top step, and fastening devices for securing said parts in adjusted position, substantially as specified.

2. A ladder having a main stepped portion, an adjustable stepped portion, means for securing the parts in adjusted position, and a pivoted hooked step-engaging fastening device carried by said adjustable portion, substantially as specified.

3. A ladder having a main stepped portion provided with upper sloping bearing edges, a top step having a hinged section having its hinge edge in line with said sloping bearing edges, an adjustable stepped portion, and means for securing the same in adjusted position, substantially as specified.

4. A ladder having a main stepped portion provided with cheek-pieces, an adjustable stepped portion fitting within said cheek-pieces and having longitudinally-slotted sides, said cheek-pieces extending out beyond said adjustable stepped portion and being provided with bracing guide and limiting studs therefor, and an endwise-extensible clamping device for said adjustable portion, substantially as specified.

5. A ladder consisting of the main stepped portion having the studded brace-cheeks, and beveled upper end portion, the adjustable stepped portion having the longitudinally-slotted sides, and fastening bearing-blocks engaging said sides, the hinged top section and its fastening-hooks, substantially as specified.

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

ROBERT SCHILLING.

Witnesses:
EDW. GRIMPE,
J. M. DOVE, Jr.