W. C. PHILLIPS.
Combination Ladder.

No. 212,050. Patented Feb. 4, 1879.

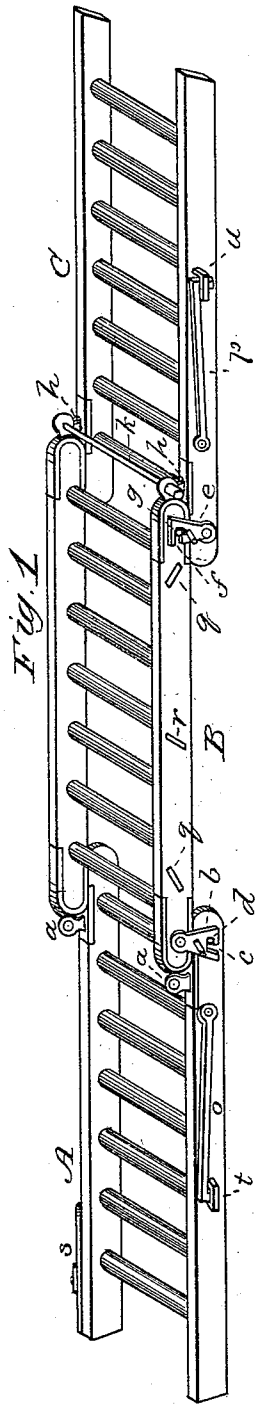


Fig. 1.

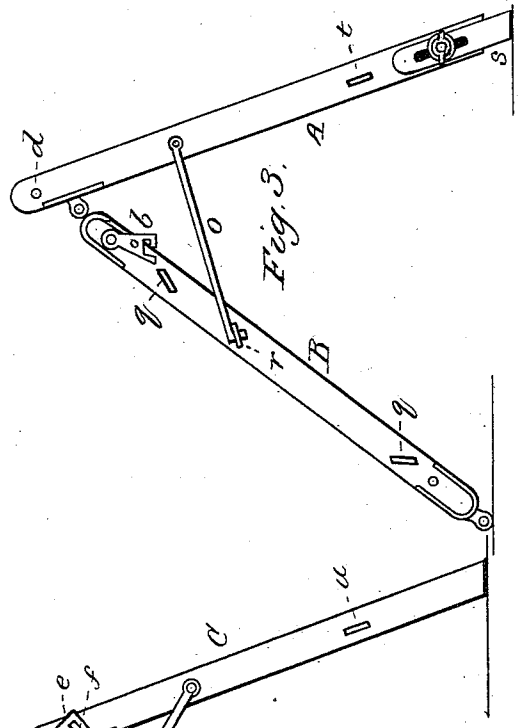


Fig. 3.

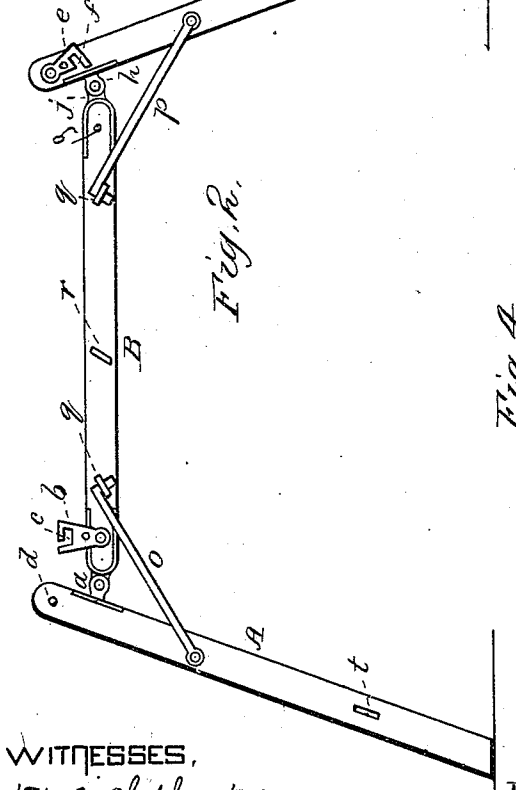


Fig. 2.

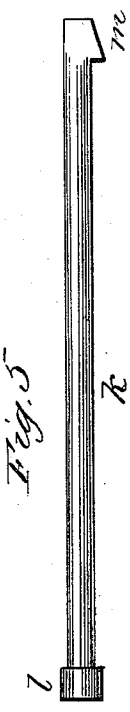


Fig. 5.

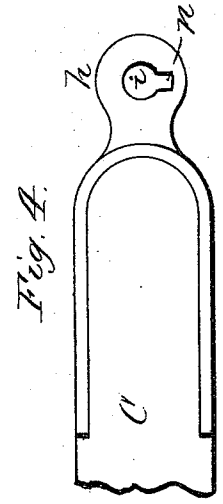


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM C. PHILLIPS, OF SOUTH NORWALK, ASSIGNOR TO HIMSELF AND AUGUSTUS W. MERWIN, OF WILTON, CONNECTICUT.

IMPROVEMENT IN COMBINATION-LADDERS.

Specification forming part of Letters Patent No. **212,050**, dated February 4, 1879; application filed December 11, 1878.

To all whom it may concern:

Be it known that I, WILLIAM C. PHILLIPS, of South Norwalk, in the county of Fairfield and State of Connecticut, have invented a new and valuable Improvement in Combination-Ladders; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective view of my invention. Fig. 2 is a side elevation, showing it in use as a scaffold-ladder. Fig. 3 is a similar view of the device in use as a step-ladder. Figs. 4 and 5 are detailed views, upon an enlarged scale, of the eye and rod for detachably hinging or pivoting one of the sections of ladder.

The object of the present invention is to construct a ladder in sections, whereby either a long ladder may be formed, a step-ladder, or short ladder, and a scaffold-ladder may be readily obtained by adjusting or detaching one or more of the sections, as will be hereinafter described, and subsequently pointed out in the claim.

In the accompanying drawings, A B C are three sections of ladder. The section A, near its upper end and upon its under side, has ears *a*, to which are hinged or pivoted the ends of the section B. To the sides and near the ends of the section B are pivoted locking-plates *b*, having an L-shaped slot, *c*, so that when the ladder is in use as an upright ladder or continuous ladder, as illustrated in Fig. 1 of the drawings, the plates *b* are swung around so as to bring the slot in the plates to engage with pins *d* on the section A, thereby locking the two sections in position to be used. Similar locking-plates *e* are pivoted to the sides of the section C, and have similar L-shaped slots *f*, which engage with pins *g* upon the section B. The section C is detachably connected to the section B in the following manner: The section C, upon its under side, has plates *h*, with slots *i*, and the end of the section B, eyes *j*. A rod, *k*, passes through the eyes and slotted plates which connect the sections together. The rod *k* is formed with a head, *l*, and upon its opposite end with a shoulder, *m*, the shoulder engaging with the small or elongated part *n* of the slots *i*.

When the three sections are securely locked together, as illustrated in Fig. 1 of the drawings, it may be used as a high vertical ladder for roofing, painting, or other purposes; and should a scaffold-ladder be required, the locking-plates *b e* are disengaged with the pins *d g*, after which the sections A C are swung down at nearly right angles to the middle section, B, and in that position are firmly locked by hooked brace-rods *o p* engaging with staples *q* upon the sides of the section B, thus forming a scaffold, as illustrated in Fig. 2 of the drawings.

When a step-ladder is required for use, the section C is detached from the section B by turning the rod *k* around until the shoulder *m* registers with the small or elongated part *n* of the slot *i*, when the rod may be withdrawn and the section C detached by disconnecting the brace-rods *p*. The section B is folded down at the required angle, and the hooked ends of the brace-rods *o* are made to engage with staples *r* upon the side of the section B, which hold the two sections apart and at the required angle to form a strong and convenient step-ladder; and in case the step-ladder is used upon hilly or uneven surfaces, an adjustable gage, *s*, can be adjusted to accommodate the ladder to the locality in which it is used. The section C can be used independent of the sections A B, and an excavating-platform can be made by lowering at a right angle to the other two sections the section C, and allowing the end of the section A to rest upon the side hill, the section C assisting in supporting the other two sections in a horizontal, or nearly horizontal, position.

When the hooked brace-rods *o p* are not in use they are held out of the way and up against the sides of the sections A C by engaging with staples *t u*.

A ladder constructed according to my in-

vention may be used for a variety of different purposes, and is not only simple in its parts, but durable and not easily gotten out of order.

It will be further noticed that the pivoted brace-rods, hooked at their free ends and made to engage with the staples upon the central section, dispense with the series of holes in the side pieces of the sections, which greatly weakens the sections, and renders them more liable to break where any great weight is required to be supported; also, the pins necessarily required to secure the braces to the sections are entirely dispensed with, thus making a stronger and more durable ladder.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The sections A B, the latter being provided upon its sides with pivoted locking-plates *b*, having L-shaped slots *c*, to engage with pins *d*, in combination with the detachable section C, provided with locking-plates *e*, having L-shaped slots *f*, to engage with pins *g* upon the section B, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM C. PHILLIPS.

Witnesses:
CHAS. E. SEYMOUR,
J. J. MILLARD.