J. HILL.

Combined Step and Extension Ladder.

No. 218,742. Patented Aug. 19, 1879.

Fig. 1

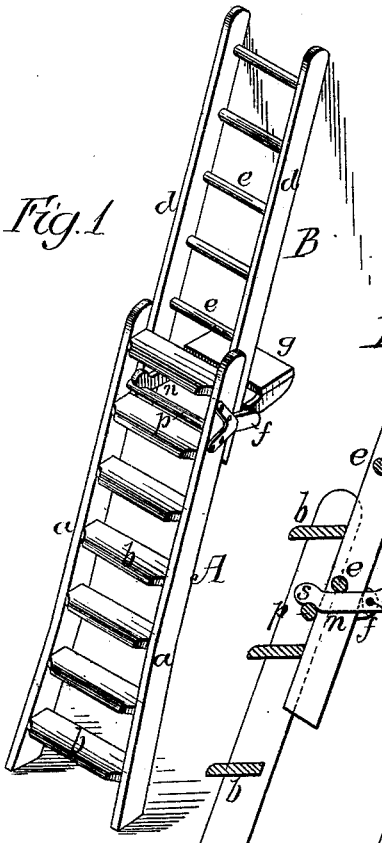


Fig. 2

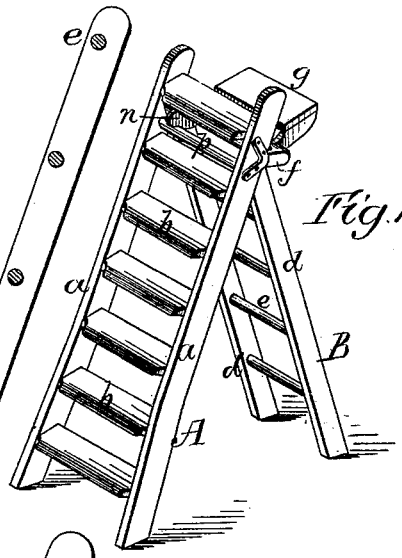


Fig. 3

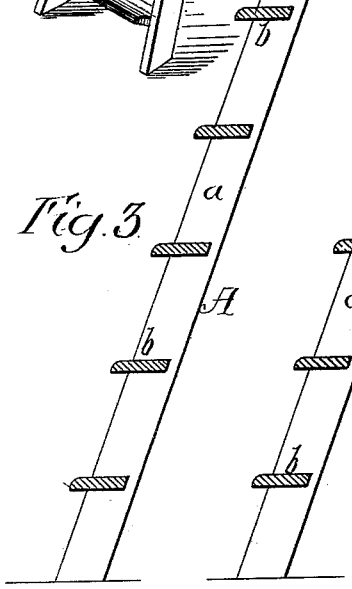


Fig. 4

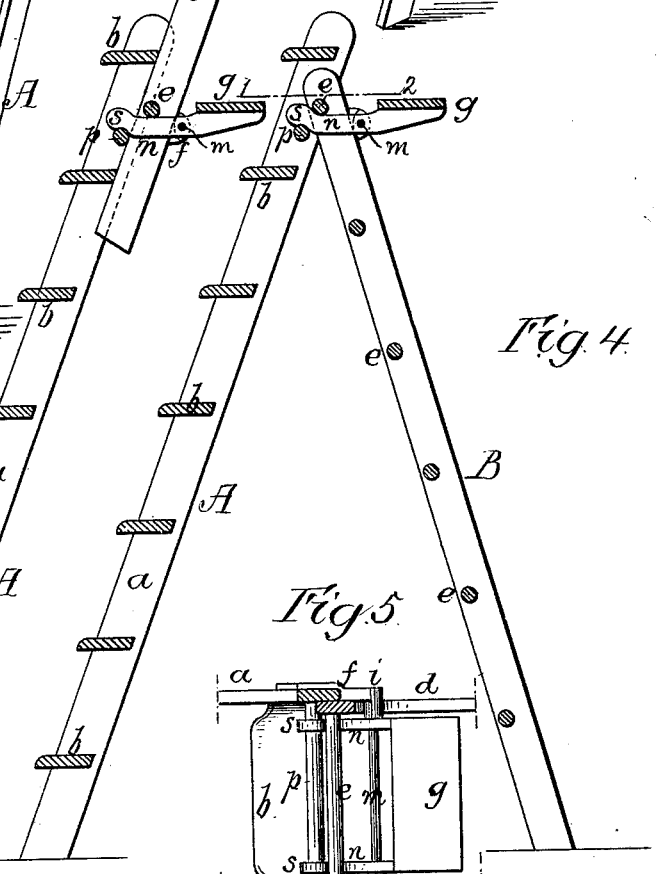
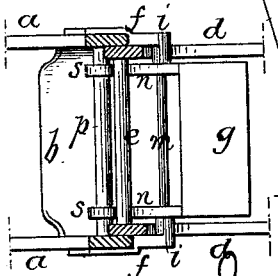


Fig. 5



WITNESSES

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JAMES HILL, OF WILKESBARRE, PENNSYLVANIA.

IMPROVEMENT IN COMBINED STEP AND EXTENSION LADDER.

Specification forming part of Letters Patent No. **218,742**, dated August 19, 1879; application filed July 9, 1879.

To all whom it may concern:

Be it known that I, JAMES HILL, of Wilkesbarre, Luzerne county, Pennsylvania, have invented a new and useful Improvement in Combined Step and Extension Ladder, of which the following is a specification.

My invention relates to certain improvements in combined step and extension ladders; the object of my improvements being to so combine a pivoted shelf with the main ladder that its arms will serve to lock the supplementary section when used either as a brace for the main ladder or as an extension of the same.

This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved ladder in the form of an extension-ladder; Fig. 2, the same in the form of a step-ladder; Fig. 3, a vertical section of the extension-ladder; Fig. 4, a vertical section of the step-ladder; and Fig. 5, a sectional plan on the line 1 2, Fig. 4.

A is the main ladder, consisting of the usual side rails, *a*, and steps *b*, and B is the supplementary section, consisting of side rails, *d*, and rounds *e*.

Secured to each of the side rails, *a*, of the ladder A, some distance below the top of the same, is a plate, *f*, these plates projecting rearwardly, and having at the ends lugs *i*, a transverse rod, *m*, extending from the lug of one plate to that of the other, and serving as a pivot for the arms *n n* of a shelf, *g*. The front ends of these arms rest upon a transverse bar, *p*, of the ladder A, and when the section B is used as an extension of said ladder A, the arms *n* serve as supports for one of the rounds of the section B, as shown in Figs. 1 and 3, and thus maintain said section B in its proper vertical position.

When used as a step-ladder, the arms *n* engage with the uppermost round of the section B, as in Figs. 2 and 4, and lock the said section in the inclined position shown.

The lugs *i* on the plates *f* serve to hold the section B properly up to the ladder A, and lateral movement of said section independently of the ladder A is prevented, partly by the plate *f* and partly by the arms *n*.

In order to permit the use of the section B in either of its two positions in respect to the ladder A, the inner faces of the lugs *i* are curved, as shown in Figs. 3 and 4, and with the view of preventing the round of the section B from slipping off of the arms *n*, the ends of the latter are enlarged, as shown at *s*, Figs. 3 and 4.

In some cases the rod *p* on the ladder A may be dispensed with, and the front ends of the arms *n* may rest directly on one of the steps *b* of the ladder A.

I claim as my invention—

1. The combination of the ladder A, its steps *b* and plates *f*, the section B and its rounds *e*, and the shelf-arms *n*, arranged as described, so as to lock the section B in position either as a brace for the ladder A, or as an extension for the same, as set forth.

2. The combination of the ladder A, the section B, and the shelf-arms *n*, having enlarged front ends, *s*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES HILL.

Witnesses:
ALLAN H. DICKSON,
W. S. PARSONS.