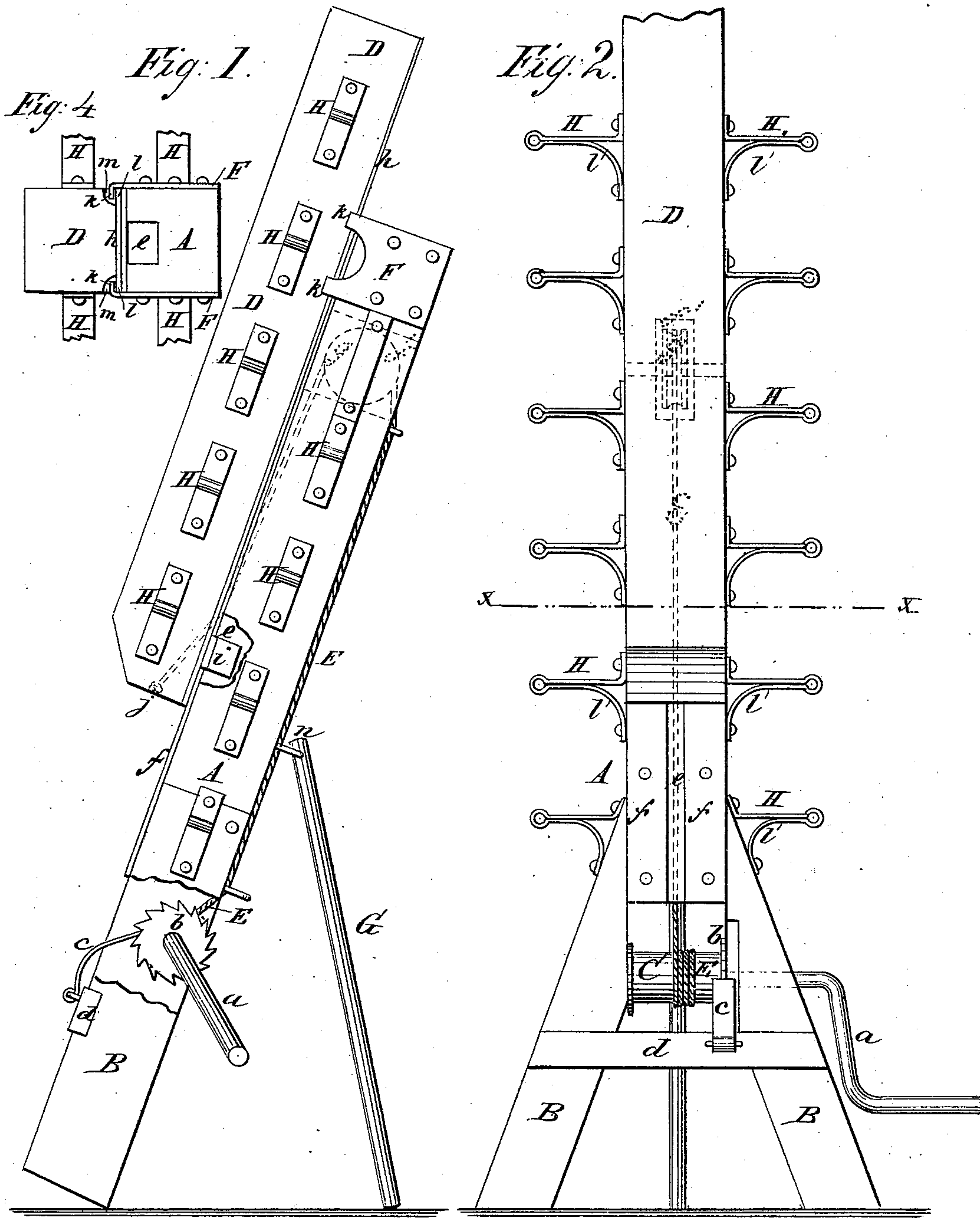


Ladder.

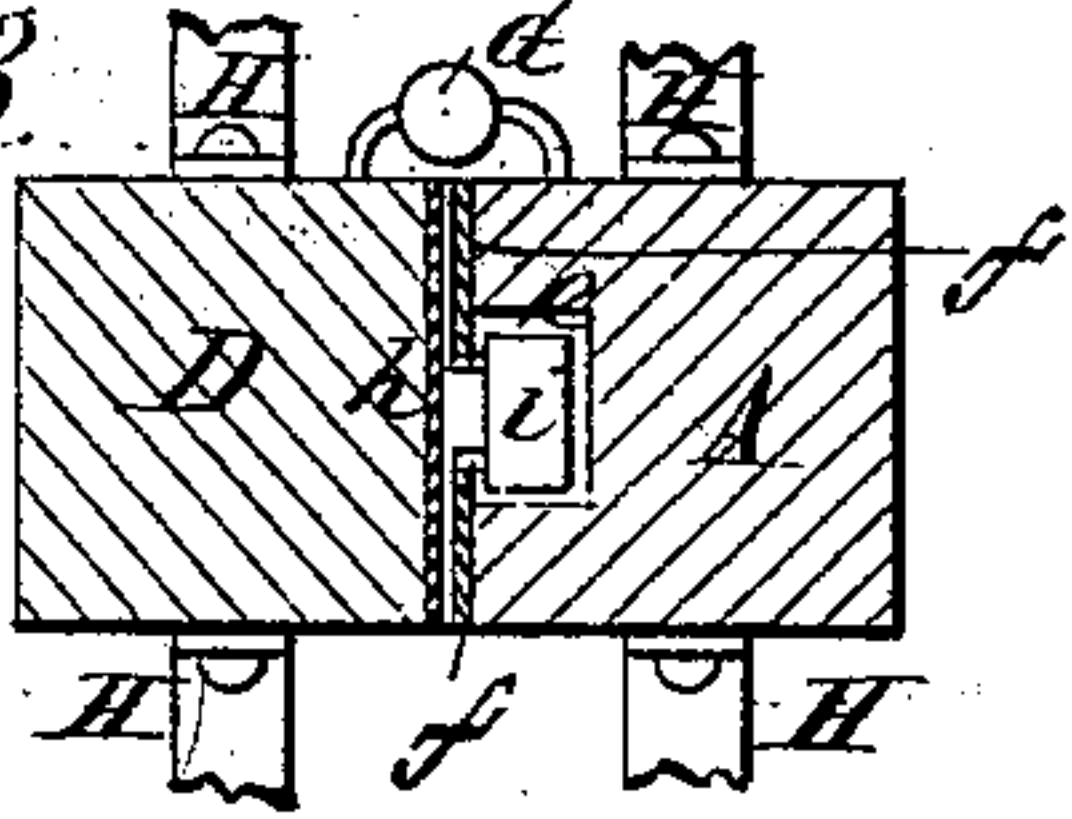
**No. 227,312.**

**Patented May 4, 1880.**



WITNESSES: *Fig. 3.*

A. Schehl.  
C. Beugwien



INVENTOR:

B.Y

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHN L. SIPPY, OF VENICE, ILLINOIS.

## LADDER.

SPECIFICATION forming part of Letters Patent No. 227,312, dated May 4, 1880.

Application filed October 21, 1879.

*To all whom it may concern:*

Be it known that I, JOHN L. SIPPY, of Venice, in the county of Madison and State of Illinois, have invented a new and Improved Ladder, of which the following is a specification.

The object of my invention is to furnish a simply-constructed, light, and easily-worked extension-ladder.

Figure 1 is a sectional side elevation of my improvement. Fig. 2 is a front elevation of the same. Fig. 3 is a cross-section of the ladder, taken on line *xx* of Fig. 2; and Fig. 4 is an end elevation or view of the sections of which the ladder is composed.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the bottom section of the ladder, supported on legs B B, in which is pivoted horizontally a windlass, C, provided with a crank, *a*, and a ratchet, *b*, in position to be engaged by a pawl, *c*, pivoted to a cross-bar, *d*, connecting legs B B.

In section A is a deep longitudinal groove, *e*, and to the face of the section, on either side of groove *e*, are fixed metal plates *f f*, which extend part way over groove *e*, as shown in Fig. 3. In the upper end of section A is a recess, *f'*, (indicated by dotted lines,) in which is pivoted a grooved pulley, *g*.

D is a movable or sliding section, having on its under side, next to section A, a metal face-plate, *h*, and near its lower end a tongue, *i*, which projects between and under plates *f f* into groove *e*, and serves as a connection between sections A D.

E is a rope attached to windlass C, and running up under section A into recess *f'*, over pulley *g*, thence down through groove *e* to the lower end of section D, where it is fastened at *j*.

At the upper end of section A, on each side, are plates F, the projecting portions *kk* whereof are turned over at right angles, so as to bear on the edges *ll* of plate *h*. A groove, *m*, is cut in the section D just over the edges *l*, to allow the ends *k* opposite F to bear on edges *ll*. The plates F, bearing against the edges *l*, serve as guides for the section D, and the bent ends *k* assist the tongue *i* in holding the section D in connection with the section A.

G is a folding leg pivoted to the under side of section A at *n*, so that it can be folded against section A or thrown out to serve as a brace for sustaining the ladder in an inclined position, as in Fig. 1. On each side of sections A D are projecting steps or rungs H, supported by brackets *V*.

When the ladder is set up, and it is wished to extend it, the rope E is wound on the windlass C. This draws section D up, thus adding its length to that of section A. It is retained in its extended position by the pawl *c* engaging ratchet *b*. To lower the extended section D, release the pawl *c* and turn the windlass backward. This permits section D to slide down section A until the tongue *i* reaches the end of groove *e*.

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

An extension-ladder consisting of the single-bar sections A D, provided with the steps or rungs H and the brackets *V*, substantially as shown and described.

JOHN LOVELL SIPPY.

Witnesses:

CHAS. S. YOUREE,

RUDOLPH HAMMACHER.