

(No Model.)

E. L. RIPP.
LADDER.

No. 472,141.

Patented Apr. 5, 1892.

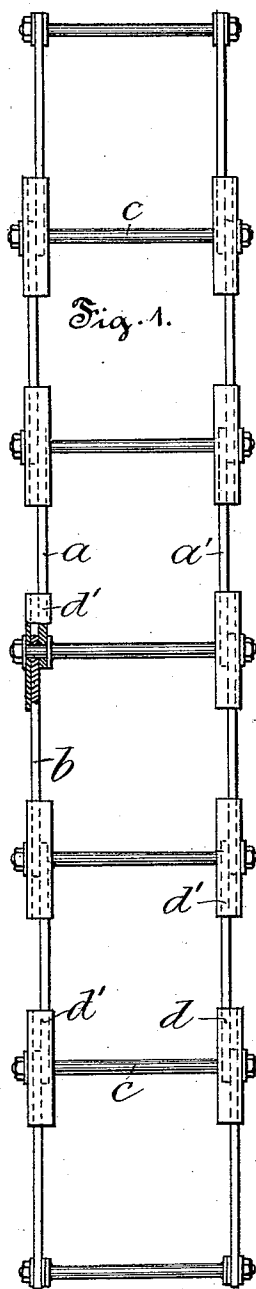


Fig. 1.



Fig. 2.

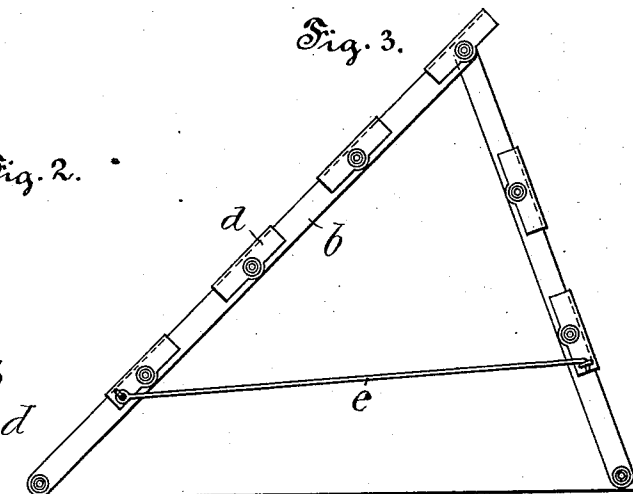


Fig. 3.

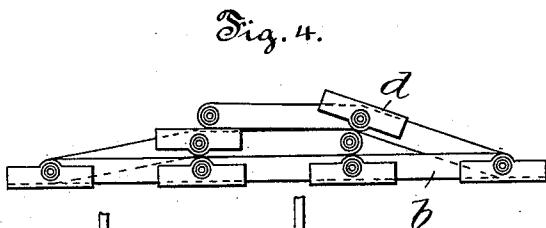


Fig. 4.

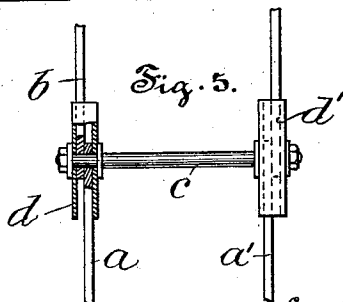


Fig. 5.

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att'y.

UNITED STATES PATENT OFFICE.

ERNST LOUIS RIPP, OF SCHÖNAU, NEAR CHEMNITZ, GERMANY.

LADDER.

SPECIFICATION forming part of Letters Patent No. 472,141, dated April 5, 1892.

Application filed September 12, 1891. Serial No. 405,452. (No model.)

To all whom it may concern:

Be it known that I, ERNST LOUIS RIPP, a subject of the King of Saxony, residing at Schönau, near Chemnitz, in the Kingdom of Saxony and German Empire, have invented certain new and useful Improvements in Ladders, of which the following is a specification.

The principal object of my invention is to provide a simple, durable, efficient, and comparatively inexpensive folding ladder.

My invention consists of the improvements hereinafter described and claimed.

The nature and characteristic features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a front elevation of a folding ladder embodying features of my invention and showing at the left-hand side thereof a broken section of a cap pivoted to one of the rounds and embracing the overlapping portions of the links forming the side pieces of the ladder. Fig. 2 is a side elevation of Fig.

1. Fig. 3 is a similar view showing an appliance arranged for use as a step-ladder and provided with hooked irons engaging certain of the caps. Fig. 4 is a view showing the ladder in folded condition, and Fig. 5 is a detached view showing a channeled cap pivoted to a round on opposite sides of the links.

In the drawings the side pieces *a* and *a'* of the ladder are composed of links or chain members *b*, and certain of the rungs or rounds *c* of the ladder serve as connecting bolts or pivots for the chain-links. The extremities of the rounds *c*, that serve as connecting-bolts, are provided with caps *d*, which impart stiffness or rigidity to the ladder in one direction by reason of their outer parts *d'* abutting against the chain-links *b*, and which also permit the ladder to be folded up in the other direction into the position shown in Fig. 4. These caps *d* may be pivoted to the rounds *c* to one side of the links *b*, as shown in Fig. 1, or they may be pivoted to the rounds *c* on opposite sides of the links *b*, as shown in Fig. 5. In both cases the caps *d* serve to impart

rigidity to the ladder in the manner above described without interfering with the operation of folding the same.

The hereinbefore-described ladder may be used as a scaffold or step ladder, Fig. 3, by employing one or more hooked irons *e*, engaging certain of the caps *d*, for the purposes of staying or stiffening the structure.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A flexible or folding ladder comprising a series of links disposed in pairs, rungs pivotally connecting the respective extremities of the links of each successive pair, and caps centrally pivoted to the respective extremities of said rungs and adapted to embrace the adjacent extremal portions of the corresponding links of each successive pair of links, substantially as and for the purposes set forth.

2. A flexible ladder comprising a series of links disposed in pairs, rungs pivotally connecting the respective extremities of the links of each successive pair, and channeled caps centrally pivoted to the respective extremities of said rungs on opposite sides of the links and adapted to embrace the adjacent extremal portions of the corresponding links of each successive pair of links, substantially as and for the purposes set forth.

3. The combination, in a flexible ladder, of a series of links disposed in pairs, rungs pivotally connecting the respective extremities of the links of each successive pair, channeled caps centrally pivoted to the respective extremities of said rungs and adapted to embrace the adjacent extremal portions of the corresponding links of each successive pair of links, and hooked irons adapted to engage certain of said caps, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ERNST LOUIS RIPP.

Witnesses:

M. P. BOYD,
R. E. JAHN.