F. DYER.
Step-Ladder.

No. 203,327. Patented May 7, 1878.

Fig. 1.

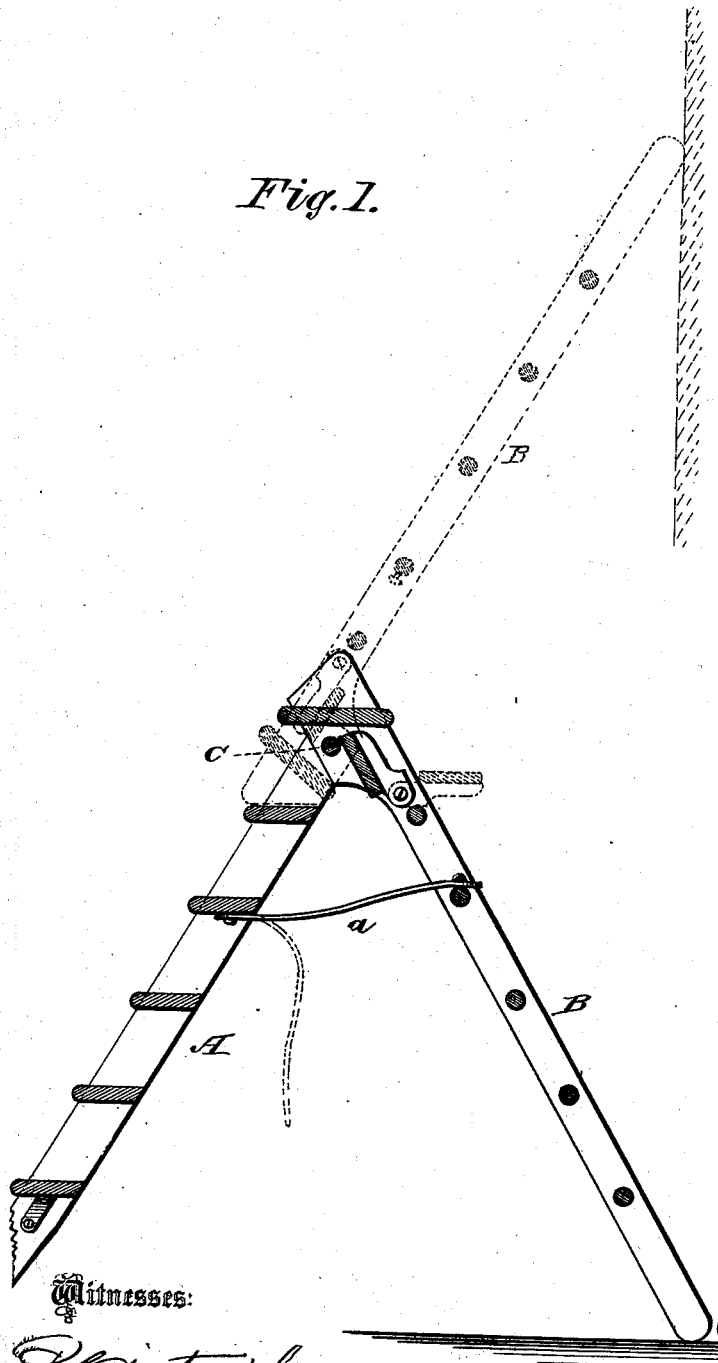
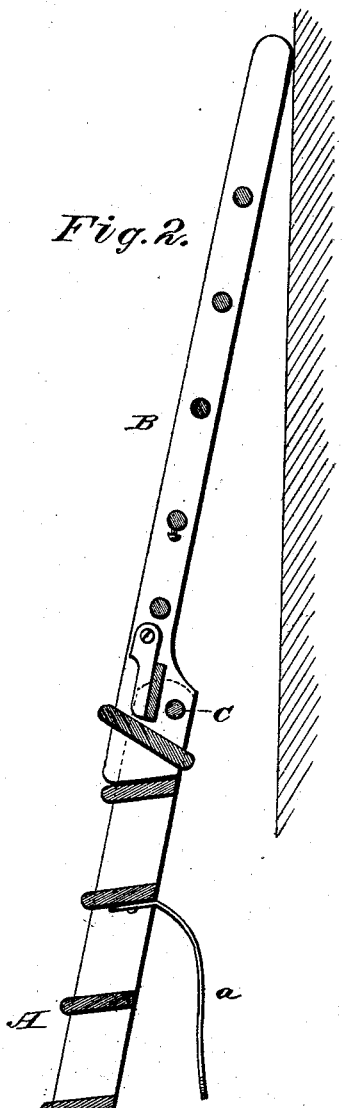


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

FAYETTE DYER, OF ROCK FALLS, ILLINOIS.

IMPROVEMENT IN STEP-LADDERS.

Specification forming part of Letters Patent No. **203,327**, dated May 7, 1878; application filed February 21, 1878.

To all whom it may concern:

Be it known that I, FAYETTE DYER, of Rock Falls, in the county of Whitesides and State of Illinois, have invented certain new and useful Improvements in Step-Ladders; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification.

My invention belongs to that class of step-ladders in which the brace of the first section can be converted into an extension of such first section, and such step-ladder be thereby readily convertible into an extension-ladder.

The object of my invention is to construct a step-ladder so that the parts in ordinary use may serve also to perform the functions involved in such convertibility.

In the drawing, Figure 1 is a central vertical section when used for a step-ladder, and Fig. 2 is a similar section when used as an extension-ladder.

The part A is the ordinary step-section, pivoted near the top to the part B, by means of the round C passing through the side plates of both parts. These parts, when acting counter to each other, are held from spreading by the strap *a*.

The sides of the part B extend above the round C, and in this extension is placed another step, which, in the first position of the ladder, forms the upper step. The upper ends of the sides of the part B are so proportioned and shaped as that, when the parts are turned so that B is a prolongation of A, the upper ends of B engage with and lock upon the upper step of the part A. As such upper step is set oblique to the line of the sides of A, the ends of B, being shaped conformably thereto, cannot pass farther between the sides of A than to bring the parts into a line. Thus the two parts are connected rigidly, as against pressure from the upper side.

It will be noticed that the sides of B, at and above the point of pivoting, are widened so as to give the full strength of the sides at the point of locking.

The merit claimed in this invention is that the parts invariably and necessarily used in an ordinary step-ladder for the purpose of steps and brace are so relatively shaped and placed as to serve the further purpose of interlocking in an extension-ladder. Thus, without the intervention of extraneous parts, all possible purposes are served. By this provision the construction of the ladder is simplified, and, of course, cheapened, while, as a further consequence of such simplicity, greater durability is attained.

The parts hinged together at the top may have been used heretofore in step-ladders; but a special advantage in my invention, in addition to its simplicity of construction, is that, in extending the ladder, the inside of the upper part of the sides of A lie contiguously to and along the outside of the lower end of the part B, whereby the point of junction is rendered stronger against lateral pressure and more rigid as to lateral movement.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a step-ladder, the parts A and B, so constructed and placed relatively that the top of B shall abut upon the upper step of A, and the part A partially inclose the part B, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

FAYETTE DYER.

Witnesses:

FRANK H. DUFFY,

WM. P. UPPERMAN.