(No Model.)

# E. L. STAPLES.

## STEP LADDER.

No. 265,173. Patented Sept. 26, 1882.

Fig. 2.

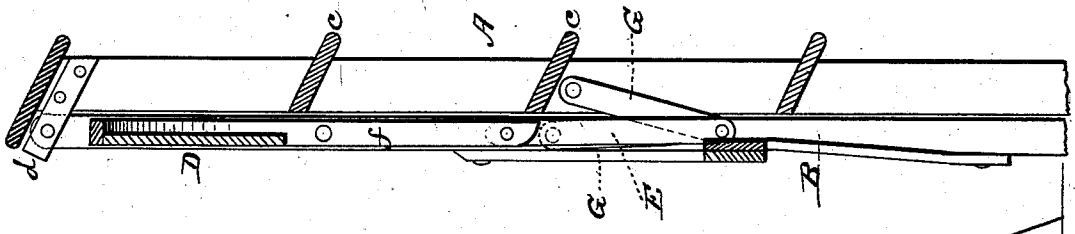
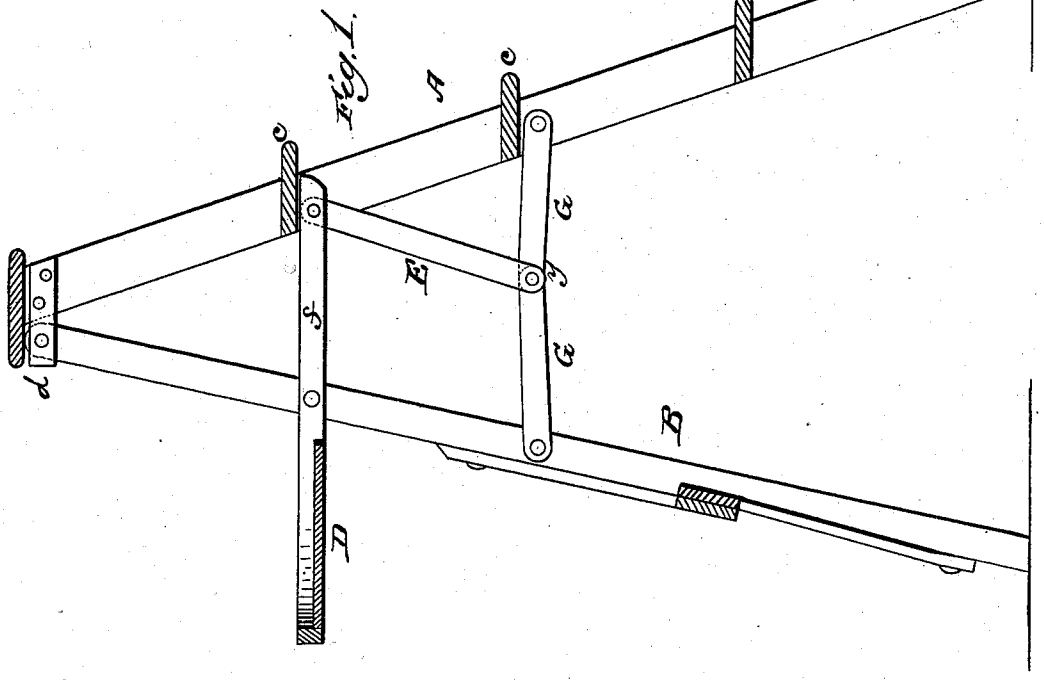



Fig. 1.




WITNESSES

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# UNITED STATES PATENT OFFICE.

EDMUND L. STAPLES, OF ILION, ASSIGNOR TO SOLOMON FORD, OF MOHAWK, NEW YORK.

## STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 265,173, dated September 26, 1882.

Application filed May 27, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDMUND L. STAPLES, a citizen of the United States, resident at Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Step-Ladders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings represents a vertical sectional view of my device opened; and Fig. 2 is a similar view, showing the ladder closed.

This invention relates to step-ladders; and it consists in the novel construction hereinafter described, by means of which the upright sections pivoted together may be locked and unlocked in both the open and closed positions by operating the shelf, substantially as specified.

The letter A of the drawings represents the section of my ladder in which the steps *c* are secured in the usual manner, and B represents the section which is adjusted in or out at will to serve as a brace or support. These two sections are pivoted together, as shown at *d*, and the adjustment of section B is effected by moving its bottom to or from the bottom of section A, as may be desired.

The letter D represents a shelf pivoted by its arms *f f* to the braces E, as shown, and in such manner that the rear ends of said arms shall rest against the lower side of a step, *c*, when the sections are separated as far as possible. The arms of the shelf are also pivoted to the side rails of section B, as represented. The braces E are pivoted at their tops to the arms *f f* of the shelf, and at their lower ends are respectively pivoted to the transverse pivoted arms G. These arms G are four in number, two of which are pivoted to the side rails of section A and the other two to the side rails of section B, as represented in the drawings. One pivot-pin only is employed for securing the brace E and arms G together on each side of the ladder, such pin being passed through both said arms and said brace, as shown. It will be observed that by this peculiar construction and arrangement of the shelf, its extended arms, and the brace E, together with the arms G, a knuckle-joint is formed at the point *y* on each side, by means of which the section B may be operated and moved at its base, either inward or outward, by raising or lowering the shelf D. It is obvious, also, that when the shelf is raised the sections are brought on nearly a parallel line, and that while said shelf rests within the walls of section B in a vertical position the sections are securely locked together. To unlock the sections the shelf is turned downward. When the arms *f* of the shelf are brought upward until their rear ends rest under a step, *c*, the arms G assume a position slightly curved upward beyond a right line, and thereby lock the sections apart. To unlock them from this position the operator lifts the shelf upward.

A shelf has been combined with a step-ladder in such a manner that the shelf can be automatically turned into position for use when the ladder is opened, and can be folded when the ladder is closed; but in said construction the parts were not so arranged as to cause them to be locked in the closed position. My arrangement causes an attempt to open or close the ladder-sections without the agency of the shelf to bring a direct end-pressure of two of the hinged pieces on each other, while the pivotal points, with each other and with the ladder-sections of said hinged pieces, are in a direct line.

I claim as my invention—

The combination of the shelf D, having arms *f f*, with the braces E, arms G, and sections A and B, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

E. L. STAPLES.

Witnesses:

THEO. MUNGEN,

PHILIP C. MASI.