

(No Model.)

H. C. HACHMUTH.
STEP LADDER.

No. 555,156.

Patented Feb. 25, 1896.

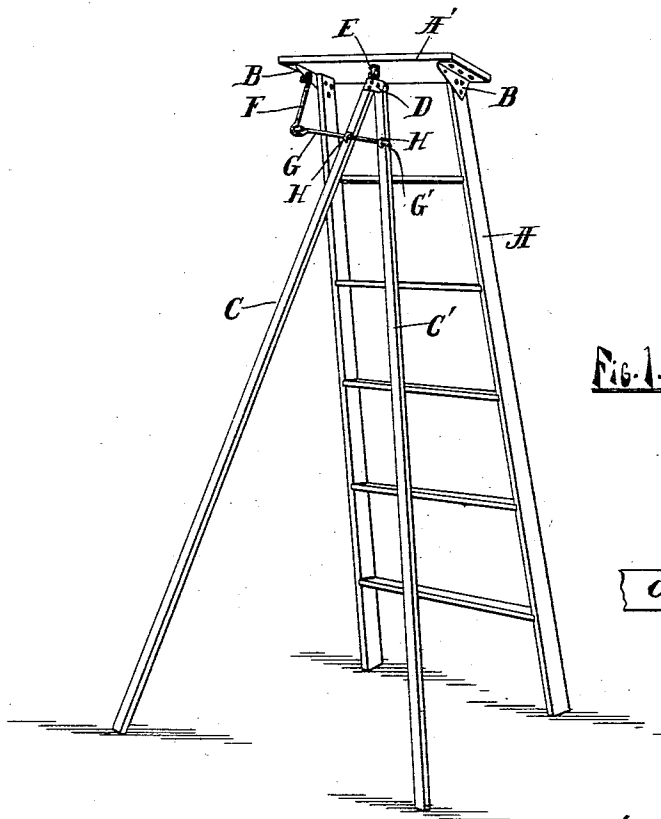


Fig. 1.

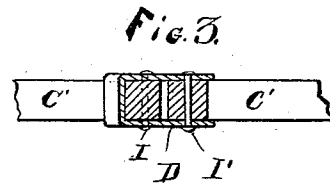


Fig. 3.

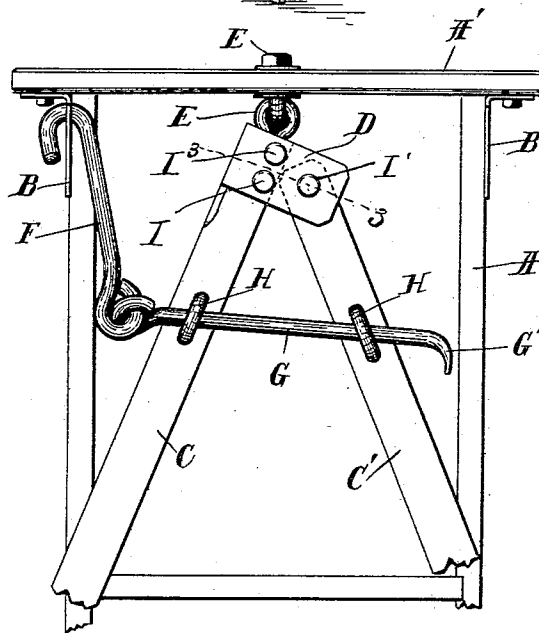


Fig. 2.

Witnesses

Louis Moulton
Lewis E. Flanders

Inventor

Henry C. Hachmuth
By Attorney
Luther V. Moulton

UNITED STATES PATENT OFFICE.

HENRY C. HACHMUTH, OF GRAND RAPIDS, MICHIGAN.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 555,156, dated February 25, 1896.

Application filed September 11, 1895. Serial No. 562,136. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. HACHMUTH, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, 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.

My invention relates to improvements in step-ladders, and its object is to provide the same with certain new and useful features, hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of a device embodying my invention; Fig. 2, an enlarged detail of the upper part of the same in front elevation; and Fig. 3, a detail of the hinge-joint of the props, being a transverse section on the line 3 3 of Fig. 2.

Like letters refer to like parts in all of the figures.

A represents the ladder proper, having a broad top step A' securely attached by angle-plates B. Said ladder is supported in an inclined position when in use by means of two props C C', which props are pivotally connected to each other at their upper ends by means of the U-shaped strap D secured to one of said props by bolts or rivets I and having its arms embracing the other of said props, to which it is pivotally connected by a bolt or rivet I' loosely passing through the same, the props being independently separable laterally at their lower ends. Said props are also connected to the top step A' by a universal joint E, which permits of swinging the lower ends of said props freely in all directions. By thus providing for free movement in all directions of the lower ends of the props C C' when the ladder is placed upon any uneven surface each of said props independently finds a bearing upon said surface, and thus the structure is provided with four separate supports, giving it great stability, said supports all finding a bearing upon any irregular surface, which is not the case with structures having four supports, as usually constructed.

The upper end of the ladder, being sup-

ported at the center only, would tend to tilt if the load were placed at one side of the same—for instance, upon the end of the step A'. To prevent this and also to limit the lateral spreading of the props C C', I provide said props near their upper ends with eyebolts H H, in which is inserted a longitudinally-movable rod G, having a hook G' at one end engaging the outer side of one of said props, and an eye in the other end engaging the outer side of the other prop, to which eye is attached a brace-rod F, having its upper end bent and passed through one of the angle-plates B, substantially in line with the axis of the joint E. The spread of the props is thus limited by the rod G. The brace-rod F, while permitting the lower end of said props to swing freely to and from the base of the ladder, holds the top step A' parallel with the rod G and prevents any tilting of the ladder when the load is placed at the side thereof.

Having thus fully described my invention, what I claim is—

1. In a step-ladder, two props, one pivoted to the other at its upper end, said props being independently separable at the lower ends, and a universal joint connecting said second prop to the upper part of the ladder, substantially as described.

2. In a step-ladder, two props pivoted at their upper ends to the upper end of the ladder, and freely movable in all directions at their lower ends, a transverse rod longitudinally movable upon and connected to said props, and a brace-rod connecting said transverse rod and the upper end of said ladder, substantially as described.

3. In a step-ladder, two props connected to each other, and pivoted to the upper part of the ladder by a universal joint, eyebolts in said props, a rod longitudinally movable in said eyebolts, having a hook at one end and an eye at the other, and a brace-rod pivoted at one end to said eye, and pivoted at the other end to the upper part of said ladder and in line with the axis of said universal joint, substantially as described.

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

HENRY C. HACHMUTH.

Witnesses:

LUTHER V. MOULTON,
SILAS H. RAYMOND.