(No Model.)

S. R. SMITH.

STEP LADDER.

No. 490,991. Patented Jan. 31, 1893.

Fig. 1

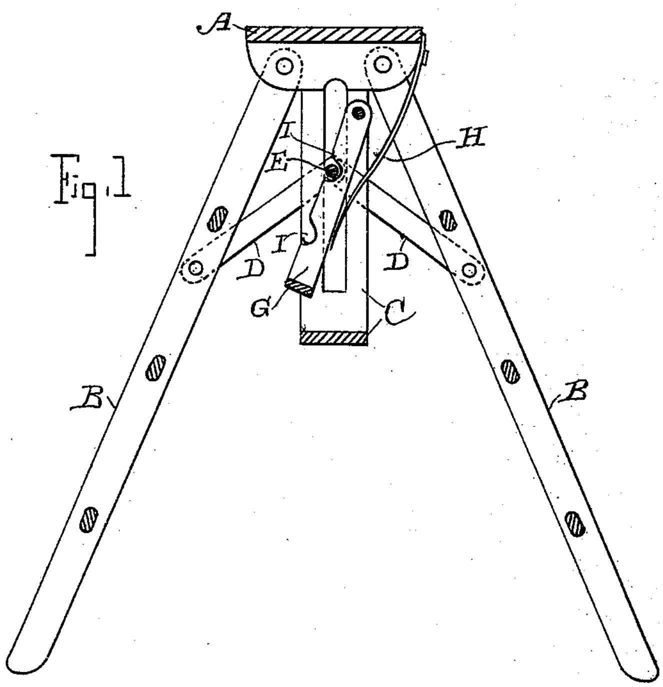
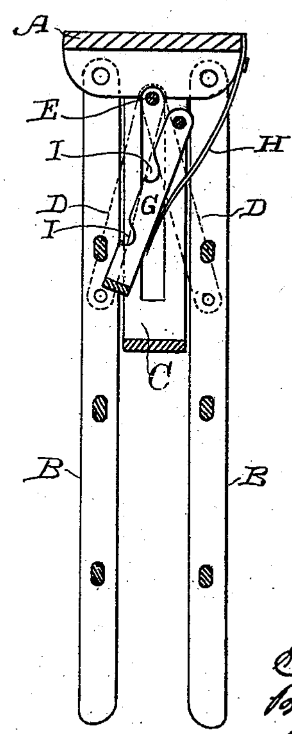


Fig. 2



Witnesses;
J. H. Nourse
J. A. Bayless

Inventor,
Samuel R. Smith
By Dewey & Co.
attys

UNITED STATES PATENT OFFICE.

SAMUEL R. SMITH, OF COLUSA, CALIFORNIA.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 490,991, dated January 31, 1893.

Application filed October 10, 1892. Serial No. 448,425. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. SMITH, a citizen of the United States, residing at Colusa, Colusa county, State of California, have invented an Improvement in Step-Ladders; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a step-ladder, and it consists essentially in a safety adjusting and locking attachment which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a sectional view showing the ladder partially open. Fig. 2 is a view showing it closed.

The object of my invention is to provide an improved step-ladder to be used at any points where such ladders are available. It is especially useful for fruit picking and other similar work, and its object is to give the ladder a firm base, any desired spread of said base, and a means for absolutely locking it at any point to which it may be adjusted.

In the present case I have shown this ladder constructed with a platform or top A and two ladders B B pivoted to this top so as to open and close about their pivot points, the lower ends of the ladders being suitably spread and movable outward to form the proper base. The upper ends of the ladders might be pivoted together, but for better convenience in use, and for the attachment of other parts, I have here shown the platform.

Between the ladders B is a frame C which is rigidly fastened to the frame timbers of the platform and the sides are vertically slotted, extending downward midway between the two ladders B B. These sides are also united at the bottom by a cross timber to give the whole sufficient strength and rigidity.

To each of the ladders B is attached a link D. These links are loosely pivoted to the side of the ladder and their ends meet and are pivoted upon a cross rod or pin E which extends through the slots in the side timbers C. When the ladders are closed together, the meeting point and cross-bar of these links are forced upwardly in the side slots, so that the links stand at an acute angle and the cross-bar is at the top of the slots. When the feet of the ladders are drawn apart, the links and cross-bar are correspondingly drawn downward proportionately to the distance which separates the feet of the ladders.

Upon the frames C, at one side of the slot, is fulcrumed a yoke G. This yoke is rectangular in shape and its upper ends are pivoted as shown to the frame C by a rod passing through them. Springs H are secured to the platform timbers and press against the back of the yoke so that the front edges of the sides are pressed against the rod which unites the links and which travels up and down in the slot. The front edges of this yoke, upon each side, have notches or depressions formed in them as shown at I, and when the feet of the ladder are separated and the rod uniting the links is moved downward, it will drop into either one or the other of these notches where it will be locked and prevented from moving in either direction. As many of these notches may be made between the top and bottom of the yoke as may be desired, each notch representing a certain spread of the feet of the ladder. If it is desired to change the position of the feet of the ladder it is only necessary to push the yoke backward against the pressure of the springs until the notches are released from the rod, when the rod can be moved either up or down to another notch, the feet of the ladder being correspondingly drawn together or spread apart. The springs will always force the yoke forward so that a notch will engage the traveling rod whenever they arrive in line with each other, and will retain them in this locked position until released by pressing the yoke backward.

It will thus be seen that any area of base may be had for the ladder, and when locked it will be impossible for the ladder to spread or close up, or in any way become disarranged.

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

1. The ladders pivoted at the upper ends and having the bases movable to or from each other, links connected together at their meeting point and having their outer ends pivoted to the sides of the ladders, in combination with a spring actuated yoke having notches upon one side adapted to engage the central pivot pin of the links, whereby the links and the ladders are locked, substantially as herein described.

2. The ladders having their upper ends pivoted and their lower ends movable to or from each other, links having the outer ends pivoted to the sides of the ladder and their meeting ends connected by a pivot pin about which they turn, a slotted frame fixed centrally between the ladders and serving as a guide within which the pivot pin travels up and down, a yoke having its upper end fulcrumed at one side of the pivot pin, springs pressing against the back of the yoke to force its front edge in contact with the pivot pin, and notches formed in the front edge of the yoke adapted to engage the pivot pin and lock the ladders at any point whereby they are prevented from moving and a permanent base maintained, substantially as herein described.

In witness whereof I have hereunto set my hand.

SAMUEL R. SMITH.

Witnesses:
S. H. NOURSE,
J. A. BAYLESS.