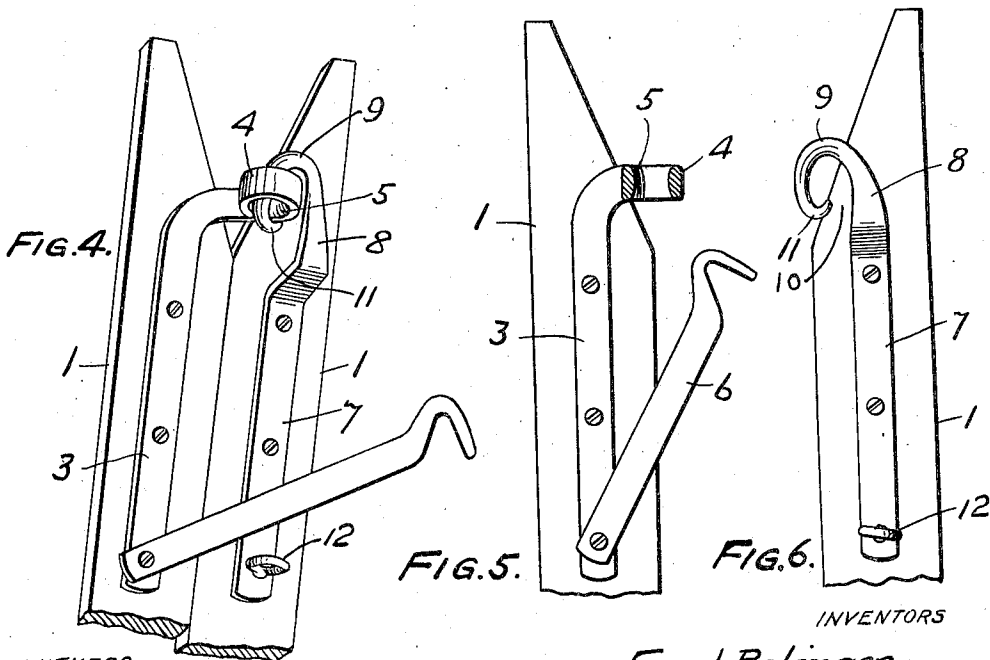
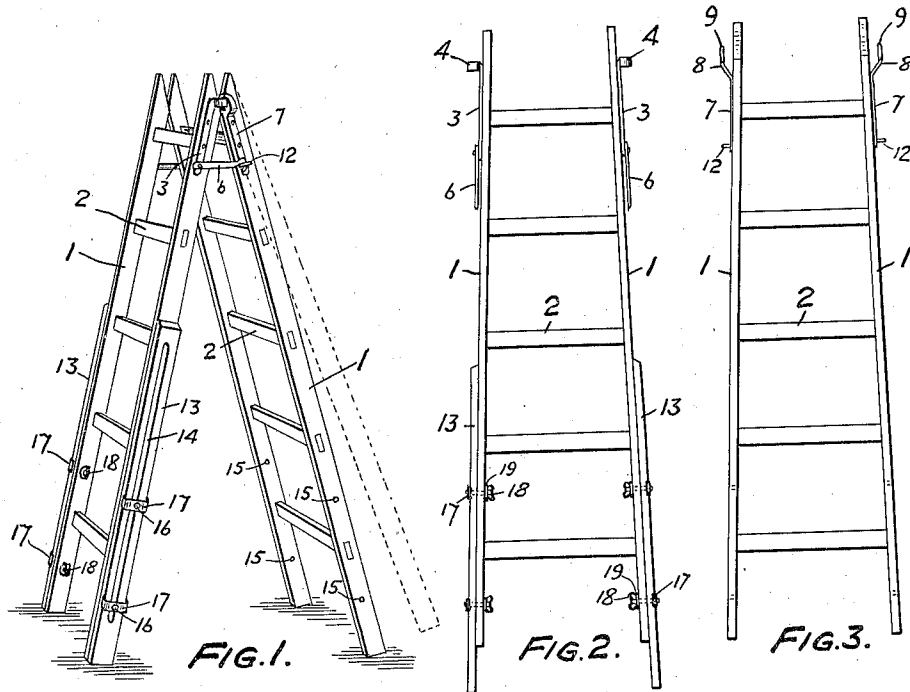


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F. BOTINGER ET AL
FLEXIBLE UTILITY LADDER

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WITNESS:
Robt. P. Mitchell

INVENTORS
*Fred Botinger &
Curtis Schreier*
BY
Augustus B. S. Foughton
ATTORNEY.

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FLEXIBLE UTILITY LADDER

Fred Botinger, Oakford, and Curtis Schreier,
Philadelphia, Pa.

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1 Claim. (Cl. 228—27)

The principal object of our invention is to provide a flexible utility ladder of which the two sections may be detached and which has provision for adjustment for use on steps or other sloping or irregular surfaces. Such ladders are useful for soldiers, acrobats, and particularly for workmen such as painters or paper hangers who, by straddling the top of the ladder, can move the ladder about the room or other place in any direction and can thus work in any elevated position without descending from the ladder to move it.

One object of the invention is to provide a strong, sturdy walking ladder capable of movement in all directions and having means for holding it rigid in its position of use.

Another object of the invention is to provide a walking ladder two sections of which are detachable so that the ladder may be taken apart for shipment or for use in two, separate sections.

Another object of the invention is the provision of adjustments for the sides or lower ends of the ladder so that the ladder can be used on a sloping or irregular surface such as a flight of stairs or the side of a hill, thus adapting the ladder for use by farmers for picking fruit or the like.

Further objects of our invention will be apparent from the annexed drawing and specification at the end whereof the novel features of our invention will be specifically pointed out and claimed.

In the drawing:

Fig. 1 is a perspective view of our ladder.

Fig. 2 is an end elevation of one part of the ladder.

Fig. 3 is an end elevation of another part of the ladder.

Fig. 4 is a perspective view of one end of the ladder on an enlarged scale.

Fig. 5 is a detailed view of one end of one part of the ladder with parts in vertical cross section.

Fig. 6 is a detailed view of one end of the other part.

In that embodiment of our invention chosen for illustration in the drawing and description in the specification, our ladder is shown as consisting of a plurality of sides 1 sloping towards each other and connected by rungs 2. At their upper ends, the two sections formed of the sides 1 and rungs 2 are strongly but flexibly and detachably connected together by connections consisting of a plate 3 having a vertical ring 4 at its upper end, the inner surface of ring 4 being curved or circular as shown in Fig. 5 at 5. Plate

3 has pivotally connected thereto a latch 6. The opposite ladder section carries on it a plate 7 having an offset end 8 which terminates in a crook 9 having an opening 10 and a bent-over or curved end 11. Plate 7 also carries an eye 12 which cooperates with latch 6 to hold the ladder in the position of use as is seen in Fig. 1.

At the lower ends of the ladder sections, there are provided adjustments which consist of side-pieces 13 each having a longitudinal or lengthwise slot 14 therein. Each of the sides 1 is provided with a pair of holes 15 through which may be located screws 16, which carry at one end clamps 17 which engage the side-pieces 13. At their opposite ends, screws 16 carry wing-nuts 18 which wing-nuts stress washers 19.

When it is desired to connect the two ladder sections together, the sections are laid side-by-side as shown in Figs. 3 and 4. The sections are then moved lengthwise of each other so that ring 4 enters opening 10, and so that hook 9 engages ring 4. End 11 prevents ready disengagement of the connection. The ladder sections may be then spread apart at their bottom ends into the position shown in Fig. 1. The user of the ladder may then go up on it and straddle the upper end. Since the connections are strong yet flexible, the ladder sections can move slightly relative to each other in both vertical and horizontal directions so that the user can walk the ladder in any direction, backward, forward or in a circle. If it is desired to use the ladder for a considerable time in one position, the latch 6 is engaged with the eye 12 which holds the ladder securely in its position of use.

To adapt the ladder to an irregular or sloping surface, the wing-nuts 18 are loosened and the side-piece held by the clamp 17 slid lengthwise of the side 1 into the desired position. As shown in Fig. 2, both side-pieces 13 are connected to the sides 1 of one ladder section. However, if it is desired, one of the sections 13 may be detached and, by passing the screws 16 through the holes 15 in the side 1 of the opposite section, the side-pieces may be used on the sides of both sections.

We do not intend to be limited save as the scope of the prior art and of the attached claim may require.

We claim:—

A walking-ladder comprising, sections made up of sides and rungs, and hinge means for firmly, flexibly and detachably securing the ends of the two sections together so as to form an elevated, movable support for a workman or the

like, said hinge means comprising, a pair of flat plates adapted for engagement and attachment to the sides of one of said ladder sections; a ring formed at the end of each of said plates and
5 lying in a plane transverse to said section and having the axis of the hole therethrough lying parallel to the larger dimension of said section, the inner surface of said ring surrounding the hole therethrough being curved for co-operation
10 with a contacting element; second flat plates arranged for engagement and attachment with the sides of the other of said sections; an offset por-

tion forming a part of each of said second plates; and a crook bent over from the end of each of said second plates substantially in the plane of said offset portion, the ends of said crooks being spaced from the sides of said offset portion so as to leave an opening therebetween, said ends of said crooks being bent back parallel to said offset portions so as to receive said rings securely but detachably within said crooks.

FRED BOTINGER.
CURTIS SCHREIER.