

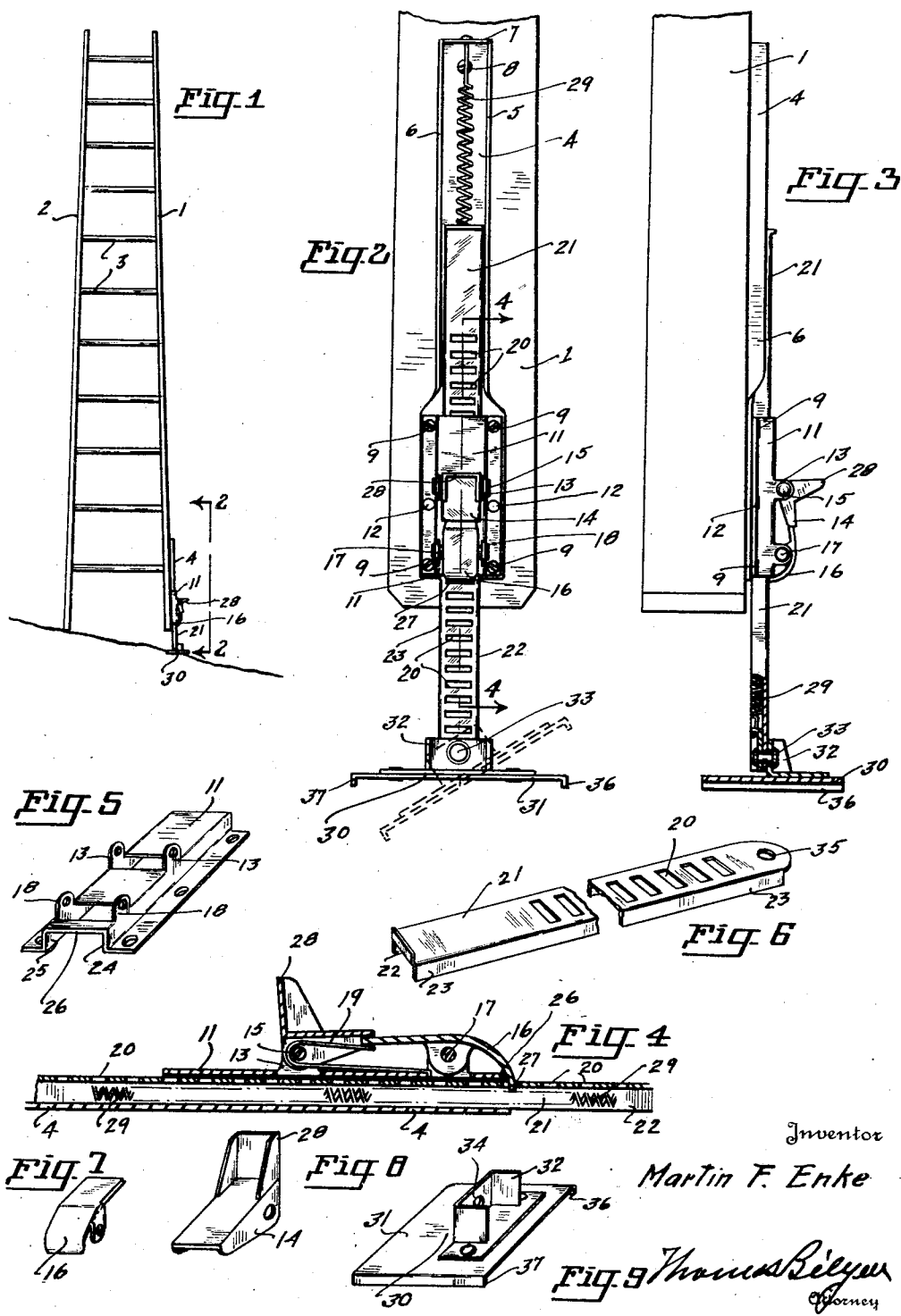
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ADJUSTABLE FOOT SUPPORT FOR LADDERS

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ADJUSTABLE FOOT SUPPORT FOR LADDERS

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The primary object of my invention relates to ladders and more particularly to ladders for use in orchards for the picking of fruit and the like and has for its primary object the
5 adapting of the ladder to uneven ground to make the same stand in a substantially upright position and free from leaning due to the unevenness of the ground upon which the same is used.

10 The invention consists primarily of a frame element attachable to the side frame of a ladder and having a locking element attached to the frame unit. A foot supporting element is disposed at the lower end of a
15 reciprocable element, means being provided for locking the reciprocable element at any placed position relative to the locking element.

20 Means being further provided for the returning of the reciprocable element into normal position. A foot member is disposed at the lower end of the reciprocable element and being hingedly secured thereto.

25 Means being further provided to lock the reciprocable element in placed position when weight is applied upon the ladder that prevents the unlocking of the reciprocable element until the weight has been relieved from the ladder.

30 The primary object of my invention is to provide means attachable to the side frame of a ladder to compensate in length for the side rail of the ladder when the same is in use upon uneven ground.

35 A further object of my invention consists in providing an enlarged base hingedly secured to form a foot at the base of the ladder.

I have shown in the drawings but one device attached to a ladder, but where the same
40 are being used upon stepladders and the like, it may be found desirable to place one of my devices upon either of the side frames of the ladder.

45 A further object of my invention consists in providing means for preventing the undue

sinking of the ladder into the soil when the same is relatively loose or mellow.

A further object of my invention consists in providing means that is easily applied, that may be used successfully by any one un-
50 familiar with mechanical devices, that may be cheaply made and that can be used over relatively long periods without alteration or repairs.

With these and incidental objects in view, 55 the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims, and a preferred form of embodiment of which is here-
60 inafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:

Fig. 1 is a front view of a ladder erected
65 upon uneven ground, illustrating one of my new and improved devices in place upon one of the side frames of the ladder.

Fig. 2 is a side view, taken on line 2—2 of Fig. 1, looking in the direction indicated,
70 the same being made in an enlarged view to illustrate the detailed construction of the device.

Fig. 3 is a side elevation, partially in section
75 of the mechanism shown in Fig. 2.

Fig. 4 is a fragmentary, sectional, side elevation, taken on line 4—4 of Fig. 2, looking
in the direction indicated.

Fig. 5 is a perspective view of the locking
80 element, shown detached from the remainder of the device.

Fig. 6 is a perspective view of the reciprocable element, shown removed from the device and unattached to any of the associated
85 elements.

Fig. 7 is a perspective view of the locking
pawl.

Fig. 8 is a perspective view of the latch bar.

Fig. 9 is a perspective view of the foot ele- 90

ment shown detached from the associated elements.

Like reference characters refer to like parts throughout the several views.

1 and 2 are the side frames of an ordinary ladder, and where ladders of this kind are used they are reversible, both sides generally being similar in shape, and size, and the ladder rungs 3, being placed centrally thereof, so that in a ladder of this type but one of my devices would be necessary. Where the same is to be used upon stepladders, fruit picking and orchard ladders and the like, such ladders are not reversible; upon these ladders it may be found necessary and desirable to place one of my devices upon each side frame member, but in the event that this were done the devices are similar for either side so it is necessary to describe in detail but one.

I preferably form my device of a frame unit 4, having outwardly extending side walls 5 and 6, and having an end wall 7, and having outwardly flaring walls at the lower extremity to increase the width of the frame 4. The frame 4 may be attached to the side frame 1 of the ladder, by any suitable fastening means, as by screws 8 and 9. A locking bar 11 is attachable to the frame 4 by any suitable fastening means 12. These fastenings 8 and 9 may extend through the frame 4 and into the side frame 1 of the ladder. Outwardly extending lugs 13, are provided from the body portion of the locking bar 11 and the trip 14 is hingedly mounted therein by a journal pin 15. A locking pawl 16 hingedly journaled about a journal pin 17, is mounted within the lugs 18 of the locking bar 11 and a spring 19 disposed about journal pin 15, normally maintains the locking pawl in normal positions of engagement within spaced slots 20 of the reciprocable element 21. The reciprocable element 21 is slidable relative to the frame 4, and the locking bar. The side walls 22 and 23 of the reciprocable element 21, engaging the side walls 24 and 25 of the locking bar 11 and forms a guideway for the maintaining of the same in a proper and suitable working relationship. The inner surface of the engaging end of the locking pawl 16 adapted for engagement within the spaced slots 20 of the reciprocable element 21, and engages with the lower end 26 of the locking bar 11, so that a shearing action is applied to the locking pawl when weight is applied to the ladder. To unlock the locking pawl 16 from engagement with the slot 27, it is necessary to relieve the weight from the ladder and to depress the latch 14 by the application of pressure upon the outer end 28 of the latch 14 at which time the spring 19 will be depressed and the locking latch 16 will be partially rotated about the journal pin 17, and at the same time be released from engagement from the slot. When this is done the spring 29, which is secured to the reciprocable bar 21,

will return the same to normally raised position. When it is necessary to lower the reciprocable element 21 it is necessary to apply an added pressure to the foot 30 hingedly secured to the lower end of the reciprocable element 21, until the same has been sufficiently lowered, at which time the locking pawl 16 will engage a spaced slot 20 and the same be locked in position. It is highly desirable to have a hinged foot the lower end of the reciprocable element 21. This is accomplished by having an upturned lug 32 disposed upon the foot element 31 and a journal pin 33 passes through the opening 34 of the lug 32 and through the hole 35 of the reciprocable element 21, thus forming a hinged foot element in the lower end of the reciprocable element 21. Ledges 36 and 37 may be formed at each end of the foot 31 and downwardly extending therefrom to form calks to prevent slippage of the foot if applied upon fairly hard supporting surfaces.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

What I claim is:—

1. In a device of the class described, the combination of a frame element, a locking bar fixedly mounted upon the frame element, a reciprocable element having slots in spaced relation slidably disposed between the frame element and the locking bar, lugs upwardly extending from the locking bar, a trip pivotally mounted between said upwardly extending lugs by a journal pin, a second set of lugs disposed upon the outer surface of the locking bar, a locking pawl hingedly mounted upon the locking bar, a resilient element mounted to the journal pin of the trip and adapted for maintaining the trip and the locking pawl in intimate contact, one end of the locking pawl being in registerable alignment for engagement with the aforesaid slots, and means disposed within the frame element for maintaining the reciprocable element in a normally raised position.

2. In a device of the class described, the combination of a frame element adapted for engagement with the side frame of a ladder, a locking bar attachable to the frame element to form a guideway, a reciprocable element disposed therein, said reciprocable element having a multiple of slots in spaced relation, means for normally maintaining the reciprocable element in raised position, a locking pawl hingedly mounted upon the locking bar, a trip pivotally mounted between lugs upwardly extending from the locking bar, the locking pawl being adapted to coact with and engage within the spaced slots of the

reciprocable element, and means for tripping the locking pawl through the manual manipulation of the trip.

3. In a device of the class described, a stationary member, an extension member slidable therein, said extension member being provided with a plurality of spaced slots, a locking pawl rockably mounted to said stationary member, said locking pawl having a portion adapted for entrance into the aforesaid slots, including means yieldably urging such entrance, and a trip mounted upon the locking bar provided with a pedal for foot operation adapted for moving said pawl out of engagement with said slots.

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