G. W. ROWLEY.

LADDER.

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1,149,786.

Patented Aug. 10, 1915.

Fig. 1.

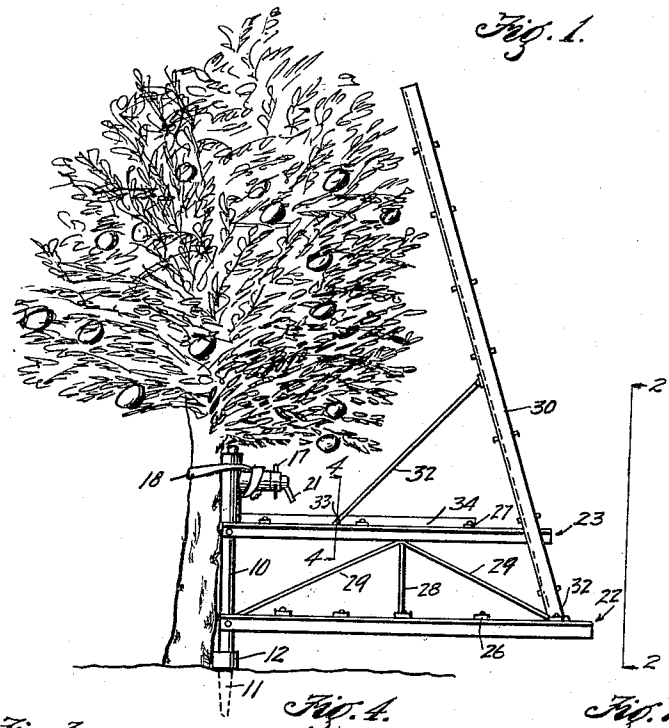


Fig. 3.

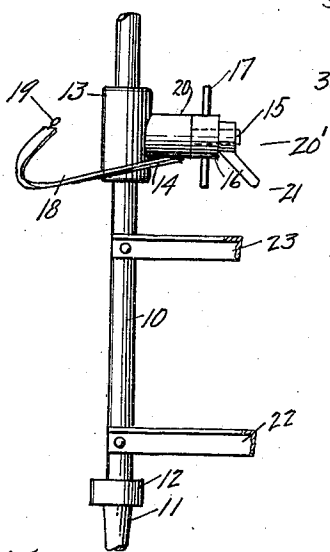


Fig. 4.

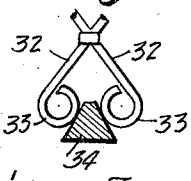


Fig. 5.

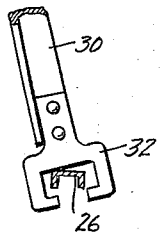
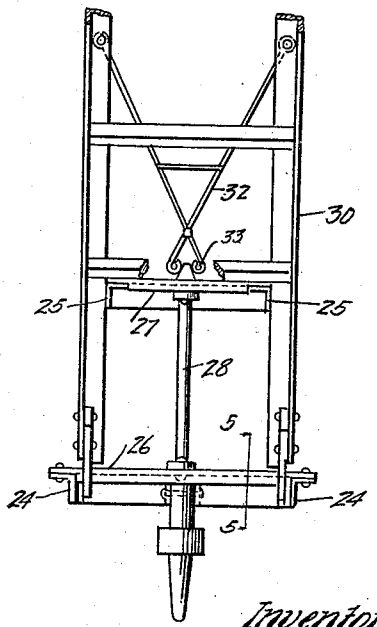


Fig. 2.



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LADDER.

1,149,786. Specification of Letters Patent. Patented Aug. 10, 1915.

Application filed May 26, 1914. Serial No. 841,007.

To all whom it may concern:

Be it known that I, GEORGE W. ROWLEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Ladders, of which the following is a specification.

This invention relates to a ladder, and particularly pertains to improvements in a ladder for fruit pickers' use.

It is the object of this invention to provide a ladder and a support therefor by which the ladder may be pivotally connected to a tree so that it may be swung to various points around the tree.

A further object is to provide a pivoted ladder support and means for adjusting a ladder thereon at various inclinations by which the ladder can be adjusted to various positions in relation to a tree so as to be supported independent of the branches thereof.

A further object is to provide a simple and effective means for attaching the ladder support to a tree, which will permit of its quick connection and removal, and to also provide a simple means for adjusting the position of the ladder on its pivotal support.

The invention is illustrated in the accompanying drawing, in which:

Figure 1 is a side view of the ladder and its support as applied to a tree. Fig. 2 is a detail end elevation as seen on the line 2—2 of Fig. 1 in the direction indicated by the arrows. Fig. 3 is a detail in elevation of the pivotal member showing the means of attaching same to the trunk of a tree. Fig. 4 is an enlarged detail section on the line 4—4 of Fig. 1. Fig. 5 is an enlarged detail section on the line 5—5 of Fig. 2.

More specifically, 10 indicates a post, the lower end of which is formed with a point 11 adapted to be driven into the ground and having a flange 12 formed thereon at the intersection of the point 11 and main body of the post 10, which is adapted to engage the surface of the ground to form a support for the post 10 and limit the extent of its projection into the ground. The upper end of the post 10 is rounded and fits in a sleeve 13 loosely mounted thereon, which sleeve is formed with a hub 14 on one side thereof to which a horizontally extending stud 15 is attached. This stud 15 forms a pivot for a winch 16 having handles 17 and to which one end of a strap 18 is permanently attached. This strap 18 is adapted to be wound around the trunk of a tree at a convenient point and a ring 19 on the outer end thereof connected to a hook 20 on the winch 16 in such manner that when the latter is rotated the strap 18 will be wound thereon to bind the sleeve 13 against the tree trunk to form a pivotal support for the upper end of the post 18, the lower end of which is pivoted in the ground by the point 11. As a means for holding the winch against reversed rotation the outer end of the stud 15 is threaded and a nut 20′ having a handle 21 thereon is screwed on the stud 15 and adapted to bear against the outer end of the winch 16 to crowd the latter against the hub 14 and thereby hold it against rotation.

Mounted on the post 10 and extending horizontally therefrom are a pair of spaced superposed frames 22 and 23, each of which consists of a pair of parallel rails 24 and 25 respectively, connected together by cross bars 26 and 27. The frames 23 and 24 are connected together by means of a central post 28, which connects with a transverse cross bar 26 on the lower frame 22 centrally thereof and is engaged with the cross bar 27 on the upper frame 23 at its center; brace rods 29 connected to the upper end of the post 28 extending downwardly on opposite sides thereof and engaging the end cross bars 26 on the lower frame 22. The cross bars 26 on the lower frame 22 are designed to support a ladder 30, the lower ends of the side members of which are provided with hooked-shaped foot members 31 adapted to be positioned in engagement with any of the cross bars 26, as shown in Fig. 5.

The side rails of the ladder 30 are designed to extend upwardly alongside of the outer faces of the side rails 25 of the frame 23 and attached to the side rails of the ladder are downwardly and inwardly extending brace rods 32 which cross each other and are connected together as indicated at 33 in any suitable manner. The lower ends of the brace rods 32 are turned inwardly to form a pair of spaced shoes 33 adapted to extend on opposite sides of a tapered rail 34 carried on the upper frame member 23 centrally thereof and extending parallel with the side members 25.

In the operation of the invention, the post 10 is attached to the trunk of the tree as be-

fore described and as illustrated in Fig. 1. The ladder 30 is then placed in any desired position on the lower frame 22 with the shoes thereon in engagement with any one of the cross bars 26; a number of these cross bars 26 being provided so that the ladder 30 may be supported at various points throughout the length of the frame 22. The ladder 30 is then adjusted at any desired inclination to dispose it in the required position in relation to the tree, whereupon the shoes 33 on the brace rods 32 are disposed in frictional engagement with the tapered rail 34 as shown in Fig. 4; the weight of the ladder and the loads carried thereon acting to force the shoe members 33 downward on the tapered sides of the rail 34 so that the latter will act as a wedge to securely engage the shoes 30 and hold them against movement. When the device has been thus assembled it may be freely swung from one side of the tree to the other and the ladder adjusted at any desired inclination by means of the brace rods 33 and their engaging rail 34.

The use of this invention obviates damaging of the branches of the trees in gathering fruit and also obviates damaging of vegetation which may be growing adjacent the tree.

What I claim is:

1. A ladder support, comprising a post, means for pivotally attaching said post to a tree, a pair of spaced horizontally extending frames carried by said post, a series of ladder supporting bars on the lowermost frame, a ladder adapted to be detachably connected to said bars, a brace rod carried by the ladder, and means on the upper frame frictionally engaging the brace rod to hold the ladder at various inclinations.

2. A ladder support, comprising a post, a sleeve loosely mounted on said post, a threaded stud on said sleeve, a winch carried by said stud, a strap attached to said winch adapted to encompass a tree to bind the sleeve thereagainst, and a nut on said stud for locking the winch against movement.

3. The combination with a ladder having brace rods connected thereto, of a pair of spaced horizontally extending frames, means for detachably connecting the ladder to the lowermost frame, means for detachably connecting the brace rods on the ladder to the uppermost frame, and a pivoted post on which said frames are mounted adapted to be secured to a tree trunk.

4. A ladder support comprising a post, a pair of spaced, superposed, horizontally-extending frames on said post, a ladder, means for detachably connecting the lower end of the ladder to the lowermost frame, a brace on said ladder, and means for detachably connecting the brace to the lowermost frame.

5. The combination with a ladder of, a pair of spaced, horizontally-extending frames, means for detachably connecting the ladder to the lowermost frame at intervals throughout its length, a rearwardly-extending brace rod on the ladder, and means on said brace rod for detachably engaging the uppermost frame at any point throughout its length.

6. A ladder support comprising a pair of parallel, horizontally-extending frames, a ladder adapted to be supported at its lower end on the lowermost frame, a tapered rail extending longitudinally of the uppermost frame, a brace on the ladder, and means on said brace for frictionally engaging said rail to support the ladder.

7. A ladder support comprising a pair of spaced, horizontally-extending frames, a ladder, means for detachably connecting the lower end of the ladder to the lowermost frame at intervals throughout its length, a tapered rail extending longitudinally of the uppermost frame, a pair of brace rods on the ladder, and means adapted to frictionally engage the rail to support the ladder in an inclined position.

8. A ladder support comprising a pair of spaced, horizontally-extending frames, a ladder adapted to be supported at various positions throughout the length of the lowermost frame, a tapered rail extending longitudinally of the uppermost frame, a pair of crossed brace rods on the ladder, and shoes formed on said brace rod adapted to frictionally engage the opposite sides of the tapered rail.

In witness that I claim the foregoing I have hereunto subscribed my name this 5th day of May, 1914.

GEO. W. ROWLEY.

Witnesses:
MARGUERITE BATES,
MARIE BATTEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."