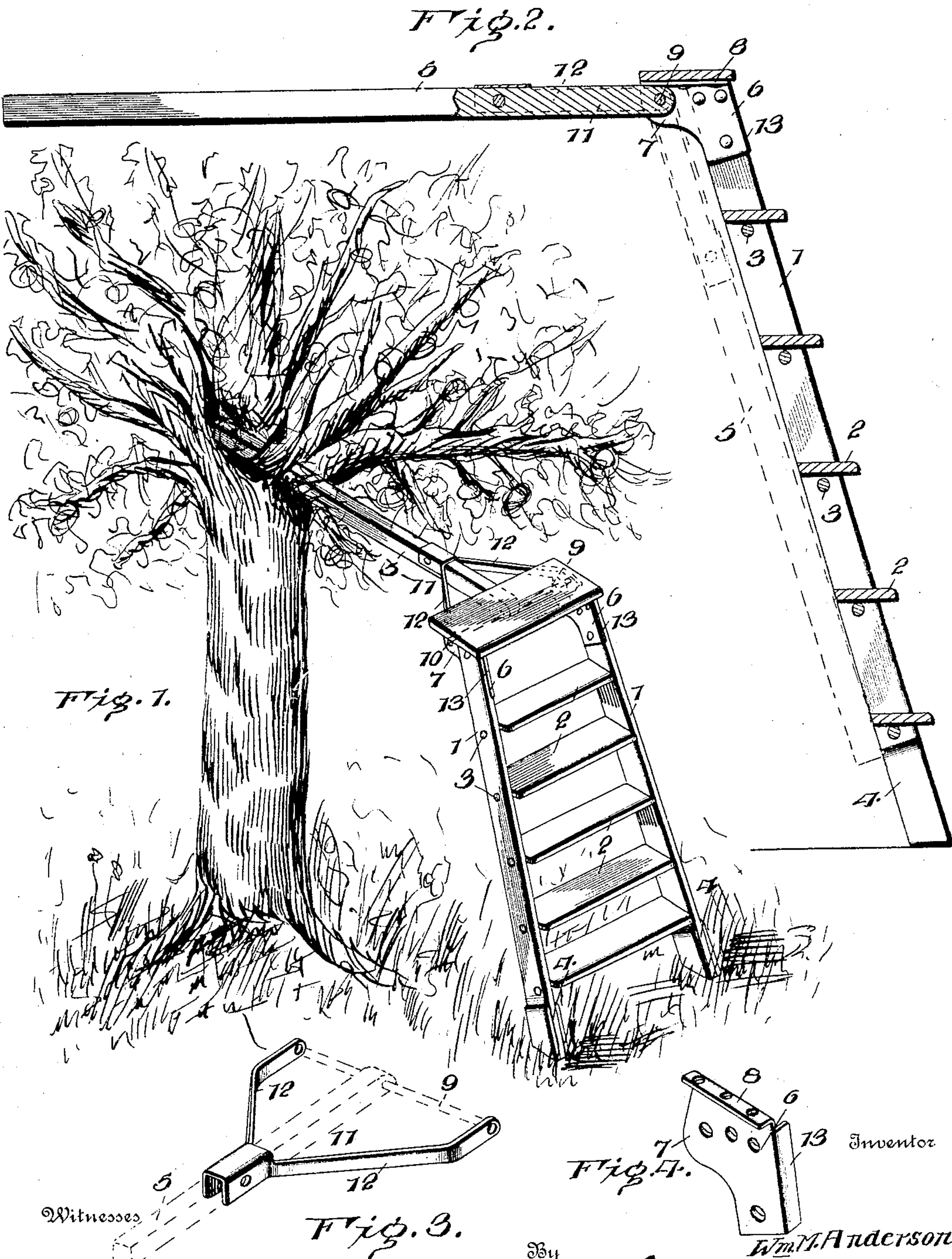


No. 779,829.

PATENTED JAN. 10, 1905.

W. M. ANDERSON.
STEP LADDER.
APPLICATION FILED JUNE 2, 1904.



Witnesses
J. W. M. Robb

By
R. H. B. Lacey, Attorneys
Wm. M. Anderson, Inventor

UNITED STATES PATENT OFFICE.

WILLIAM M. ANDERSON, OF SANTA PAULA, CALIFORNIA.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 779,829, dated January 10, 1905.

Application filed June 2, 1904. Serial No. 210,860.

To all whom it may concern:

Be it known that I, WILLIAM M. ANDERSON, a citizen of the United States, residing at Santa Paula, in the county of Ventura and State of California, have invented certain new and useful Improvements in Step-Ladders, of which the following is a specification.

This invention relates to improvements in step-ladders; and the object of the invention is to secure a structure of ladder of the above type particularly designed for fruit-picking purposes or to enable the user to have ready access to the limbs of a tree for pruning or similar purposes.

An essential feature of the invention is comprised in the provision of a peculiarly-mounted supporting post or leg carried by the ladder which admits of firmly positioning the said ladder when in use.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a ladder embodying my invention. Fig. 2 is a vertical sectional view, the ladder being shown folded in dotted lines. Fig. 3 is a detail perspective view of the supporting leg or post, bringing out more clearly the brace means carried thereby. Fig. 4 is a detail view of one of the attaching-plates carried by the ladder, in which the supporting leg or post is mounted.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The ladder consists of the side bars 1 and the steps 2, said steps being suitably and substantially mounted upon the side bars 1, being braced by transverse bars 3, one of which is provided for each step, said transverse bars being located just beneath each step. The transverse bars 3 have their ends passed

through the side bars 1 and form rigid connecting means between the side bars, as well as serving in the capacity of reinforcing means to support the steps against vertical stress. The lower ends of the side bars 1 of the ladder are provided with side blocks 4, which blocks may be suitably secured in position, being designed to prevent sinking of the ladder when the same is resting upon soft ground.

The ladder when in operative position is supported by means of a leg or post 5, pivoted to the upper portion thereof and approximately intermediate the side bars 1. The pivoted leg or post 5 is adapted to be thrown in an uppermost position, (illustrated in Fig. 1 of the drawings,) and when in this position this leg may rest upon any suitable object to firmly position the ladder. The leg 5 when supporting the ladder in position assumes an approximately horizontal position, and it will be readily noted, in view of the foregoing, that the ladder can readily be advanced toward and from the trunk of a tree, so as to admit of pruning branches located at different distances from the trunk, and the same advantages arise when the ladder is used in the operation of picking fruit or any analogous purpose. The element 5 is secured to the ladder, so as to be readily folded thereagainst when the ladder is not being used. At the upper ends of and secured to the inner sides of the side bars 1 of the ladder are disposed the attaching-plates 6, said plates being provided with rear extensions 7 and laterally-disposed flanges 8 at their upper edges. The top step 2 of the ladder rests upon and is secured to the flanges 8 of the plates 6, and this step is somewhat wider than the remaining steps of the ladder. The rear extensions 7 of the plates 6 have mounted therein a pintle-bar 9, disposed in bearing-openings 10 of the plates, and the leg 5 is pivoted to the pintle-bar 9 at a point approximately between the ends of this bar. The pivoted end of the leg 5 is provided with an opening through which the bar 9 passes in order to establish the pivotal connection between the leg and the bar 9, and in order to hold the leg 5 in a relative position about intermediate the side bars 1 of the ladder a brace-plate 11 is used. The brace-plate 11 is

secured to the outer side of the leg 5 and is of U form in cross-section, so as to embrace the post upon three sides preferably. From the side portions 11^a of the brace-plate 11 are projected the brace extensions or straps 12, which are integrally formed therewith and which are provided with journal-openings to receive the ends of the pintle-bar 9. The brace-straps 12 are thus pivoted to the pintle-bar, and the pivoted ends of these straps are located upon the outer sides of the extensions 7 of the attaching-plates 6, cooperating to prevent any lateral movement of the leg upon the pintle-bar, thus normally holding the said leg at a point approximately intermediate the side bars, which disposition is advantageous in that the ladder is held more stable when in actual use. When folded, the leg 5 rests against the rear edges of the steps 2 of the ladder, so that room is economized in a manner which will be readily appreciated. The attaching-plates 6 are not only provided with the horizontal supporting-flanges 8, to which the top step of the ladder is secured, but these plates 6 are also formed with vertical flanges 13, which extend in front of the upper portions of the side bars 1 and afford a more substantial means for securing the plates 6 from displacement.

It will be noted that the ladder may be used in various ways as regards the operation of the supporting leg or post, and when the branches of a tree are low it will be noted that this leg may be readily passed downwardly through the limbs at any angle desired and rest on the ground. The leg may be folded against the ladder, if necessary, so as to admit of leaning the ladder against a limb or building, as the case may be. The post or

leg can be readily forced through heavy branches, and this is of no small advantage in the practical use of the ladder.

The construction of the plates 6 is such as to promote the general rigidity of the ladder as regards the mounting of the supporting-leg 5 in that the flanges 13 of said plate bearing against the side bars 1 of the ladder relieve the fastenings by which said plates are secured to the bars of the strain. The flanges 13 form stops which positively reinforce the plates in their disposition upon the ladder, and these plates themselves promote the general rigidity of the ladder structure.

Having thus described the invention, what is claimed as new is—

The combination of a step-ladder comprising the side bars 1 and the steps 2, attaching-plates 6 secured to the upper ends of the side bars 1 and provided with rear extensions 7, horizontal flanges 8 formed at the upper portions of the attaching-plates, the vertical flanges 13 projected from the plates and extending in front of the side bars of the ladder, the top step being secured to the horizontal flanges 8 aforesaid, the pintle-bar 9 mounted in said rear extension, the supporting-leg 5 pivoted to the pintle-bar 9 intermediate of the ends of the same, and the brace extension or strap 12 projected from the opposite side of the supporting-leg and provided with openings forming bearings receiving the ends of the pintle-bar 9.

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

WILLIAM M. ANDERSON. [L. s.]

Witnesses:

H. D. Soy,
N. O. Soy.