Sept. 3, 1929. R. M. MARLATT 1,727,211

LADDER

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Fig. 1.

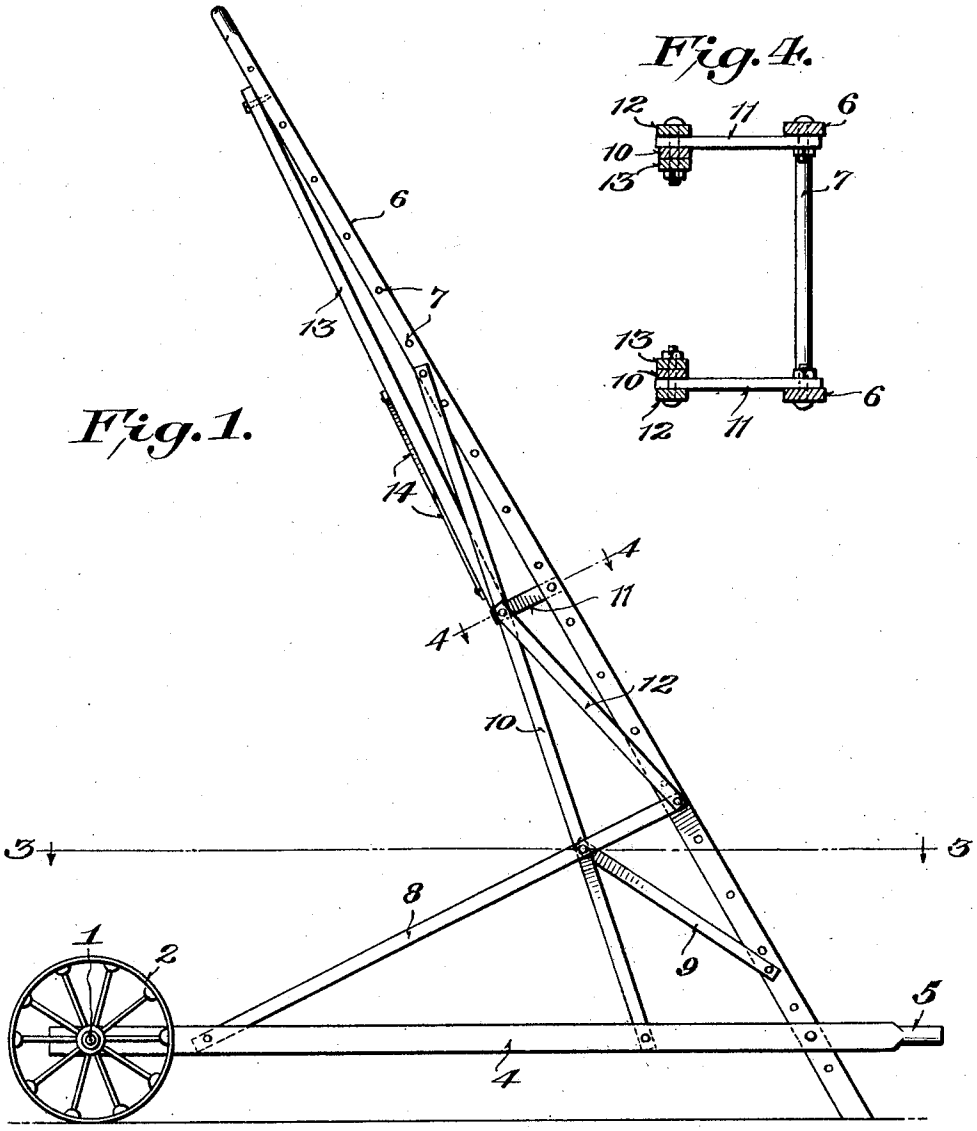


Fig. 4.

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Fig. 2.

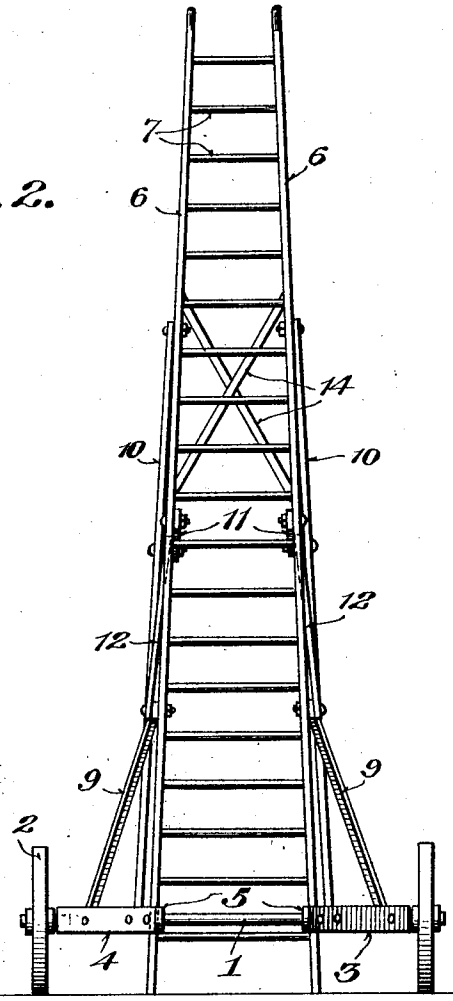
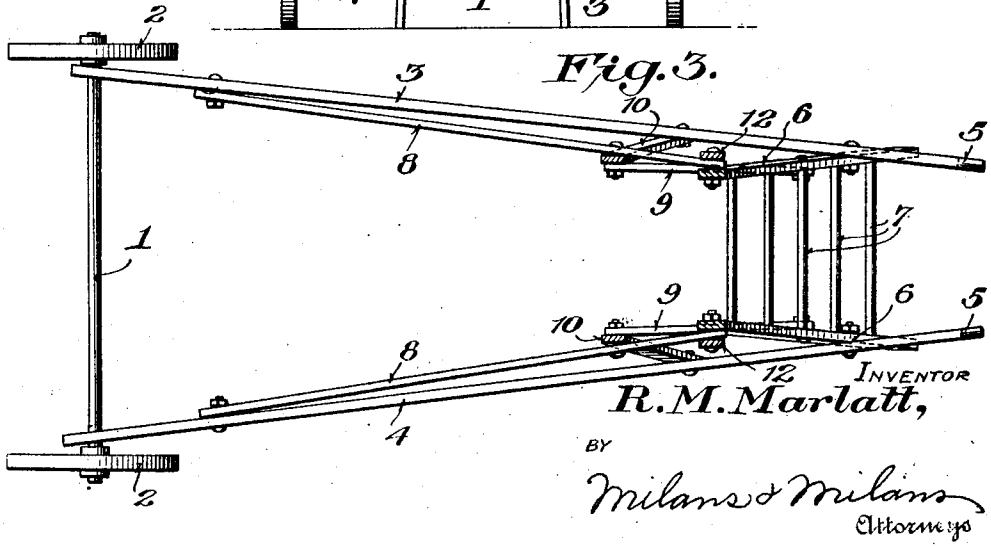


Fig. 3.



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UNITED STATES PATENT OFFICE.

RUSSELL M. MARLATT, OF PORT MURRAY, NEW JERSEY.

LADDER.

Application filed August 4, 1927. Serial No. 210,602.

My invention relates to new and useful improvements in ladders and more particularly to a wheeled ladder, the principal object of the invention residing in the provision of such a device more particularly adapted for use in orchards or the like, the construction being such that the ladder may be positioned adjacent the tree, in position for the picker to reach the fruit, without interference from the limbs of the tree.

A further object of the invention resides in the provision of a ladder which is so braced as to have maximum strength and so that the ladder will not tilt or turn over.

Still another object resides in so forming the ladder that the upper end of the step portion thereof is positioned intermediate the ends of the supporting frame so as not to tilt or turn over when the picker is at the upper end of the step portion.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the novel details of construction and arrangement of parts, described in the following specification and illustrated in the accompanying drawings, and while I have illustrated and described the preferred embodiments of the invention, as they now appear to me, it will be understood that such changes may be made as will fall within the scope of the appended claims.

In the drawings:

Fig. 1 is a side elevation.

Fig. 2 is a front elevation.

Fig. 3 is a section on the line 3—3 of Fig. 1 looking in the direction of the arrows, and

Fig. 4 is a section on the line 4—4 of Fig. 1.

In the drawings 1 indicates an axle upon which are mounted the wheels 2. Side rails 3 and 4 are supported at one end by the axle 1 and converge inwardly towards the opposite end as shown more particularly in Fig. 3 of the drawings with the free ends formed into the handholds or grips 5. Positioned between the side rails 3 and 4, adjacent the ends thereof having the hand grips or handholds 5, is the lower end of the step portion of the ladder. The step portion is of usual construction having the vertically extending side bars 6 and transversely extending rods or bars 7 forming the steps. The step portion of the ladder is inclined towards the wheels 2, as shown more particularly in Fig. 1 of the drawings, and the lower ends of the side bars 6 are adapted to rest upon the ground to cooperate with the wheels 2 in supporting the side rails 3 and 4 in a substantially horizontal position. The upper end of the step portion of the ladder is so positioned as to be on a vertical line inwardly of the axle 1 or in other words the vertical line of the upper end of the step portion of the ladder is positioned at a point intermediate the ends of the side rails 3 and 4. The purpose of this will be presently brought out. Braces 8 are positioned between the side bars 6 of the step portion of the ladder and the side rails 3 and 4, these braces being upwardly inclined from the side rails 3 and 4 towards the side bars 6 as shown more particularly in Fig. 1 of the drawings. Braces 9 are positioned between the side bars 6 of the step portion of the ladder and the braces 8, one end of each brace 9 being secured to the side bar 6 and the opposite end secured to a brace 8. These braces 9 extend upwardly from the side bars 6 towards the braces 8, as more particularly illustrated in Fig. 1 of the drawings.

Extending upwardly from the side rails 3 and 4, with their lower ends secured thereto, are the substantially vertical braces 10 having their upper ends secured to the side bars 6 of the step portion of the ladder. These braces are slightly inclined from the vertical as shown more particularly in Fig. 1 of the drawings. Extending outwardly from each of the side bars 6 is an arm 11, one end of each of the arms being secured to its associated side bar and the opposite end being secured to the brace 10 intermediate the ends thereof. Braces 12 are secured to and extend between the side bars 6 and the arms 11, these braces 12 being arranged at an angle as shown more particularly in Fig. 1 of the drawings. Braces 13 are secured to and extend between the side bars 6 and the arms 11, these braces 13 being relatively longer than the braces 12 and being inclined inwardly from the ends of the arms 11 towards the side bars 6, the upper ends of the braces being secured to the side bars 6 adjacent the upper ends thereof. Crossed braces 14 are secured between the braces 13 as more particularly illustrated in Figs. 1 and 2 of the drawings, these braces 14 reinforcing and bracing the braces 13 to hold the same against side sway or lateral movement.

From the above detailed description it is thought that the construction of my ladder will be clearly understood and it will also be

understood that there are two sets of each of the braces as is quite clearly illustrated in Fig. 2 of the drawings. I wish to lay particular stress upon the fact that while the step portion of the ladder is securely braced so that it will not turn over and will not have lateral or side movement nevertheless the braces will not in any way interfere with positioning the ladder sufficently close to the tree so that the fruit will be more easily reached by the picker. There is sufficient space between the wheels 2 and the braces that the limbs of the tree will not interfere with the positioning of the ladder. At the same time, as has been previously stated, the upper end of the step portion is positioned so that a vertical line therefrom will be at a point inwardly from the wheeled end of the device and no matter how much weight is positioned upon the step portion of the ladder the line of weight will be inwardly of the ends of the side bars 3 and 4 so that the side bars will not be swung in a position to tilt the ladder. I have found by actual practice that the ladder works successfully no matter how much weight is positioned thereon.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. A ladder of the character described including horizontal side rails, a step portion extending upwardly from the side rails, braces extending between and secured to the side rails and step portion intermediate the ends thereof, braces extending between and secured to the step portion and first mentioned brace, and other braces extending between and secured to the side rails and step portion, said last mentioned braces being secured to the first two mentioned braces.

2. A ladder of the character described including horizontal side rails, a step portion extending upwardy from the side rails, arms extending outwardly from one face of the step portion, braces extending between and secured to the arms and step portion, and braces extending between and secured to the first mentioned braces.

3. A ladder of the character described including side rails, a step portion extending upwardly from the side rails, braces extending between and secured to the side rails and step portion, braces extending between and secured to the step portion and the first mentioned braces, a second set of substantially vertical braces extending between and secured to the side rails and step portion, arms extending outwardly from one face of the step portion, braces secured to said arms and extending downwardly and secured to the step portion, and braces secured to said arms and extending upwardly and secured to the step portion.

4. A ladder of the character described including side rails, a step portion extending upwardly from the side rails, braces extending between and secured to the side rails and step portion, braces extending between and secured to the step portion and the first mentioned braces, a second set of substantially vertical braces extending between and secured to the side rails and step portion, arms extending outwardly from one face of the step portion, braces secured to said arms and extending downwardly and secured to the step portion, braces secured to said arms and extending upwardly and secured to the step portion, and braces extending between and secured to the last mentioned braces.

5. A ladder of the character described including horizontal side rails, a step portion extending upwardly from the side rails, a brace extending between and secured to each side rail and step portion intermediate the ends thereof, and a brace extending upwardly from each side rail with its upper end secured to the step portion, said last mentioned braces crossing the first mentioned braces intermediate the ends thereof.

In testimony whereof I hereunto affix my signature.

RUSSELL M. MARLATT.