No. 704,123. Patented July 8, 1902.

R. L. SCOTT.

LADDER.

(Application filed Nov. 7, 1901.)

(No Model.)

Fig. 1

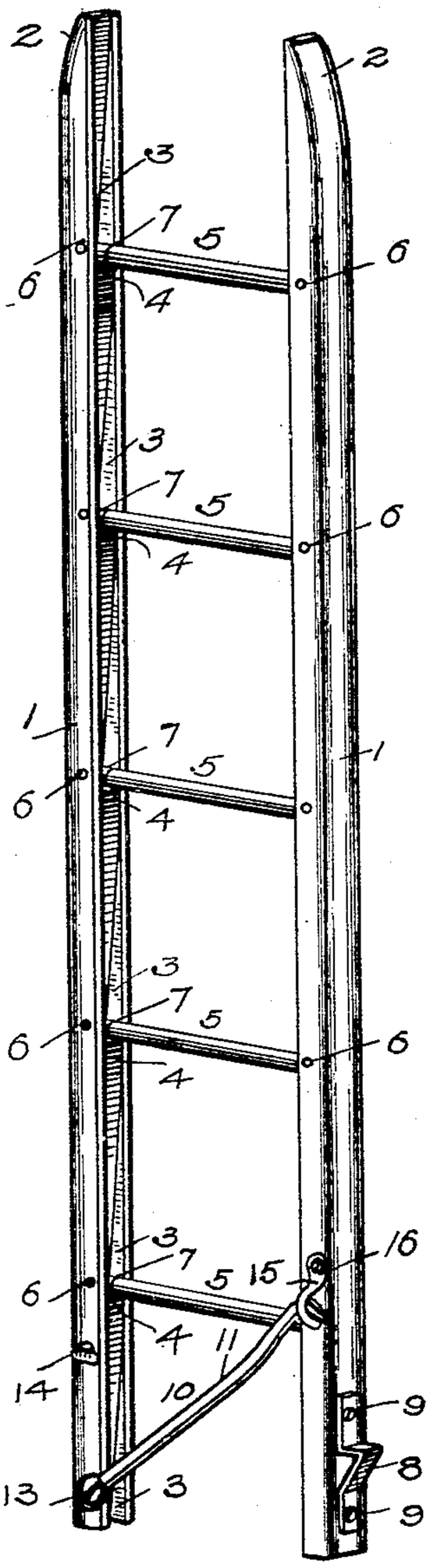


Fig. 2

Fig. 3

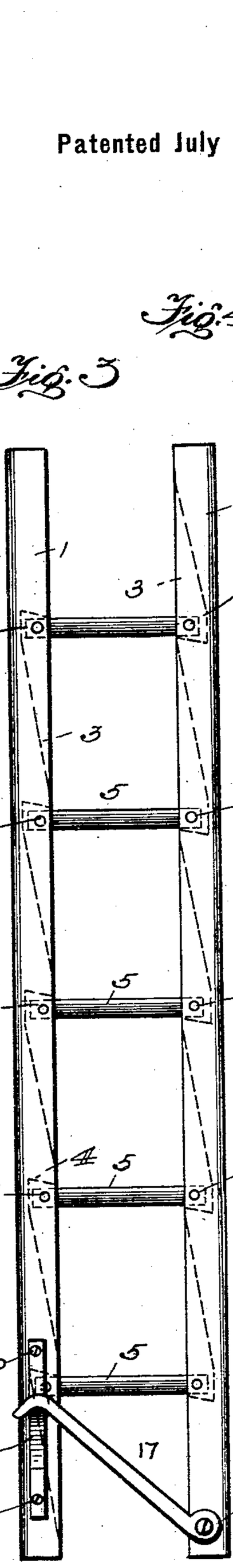
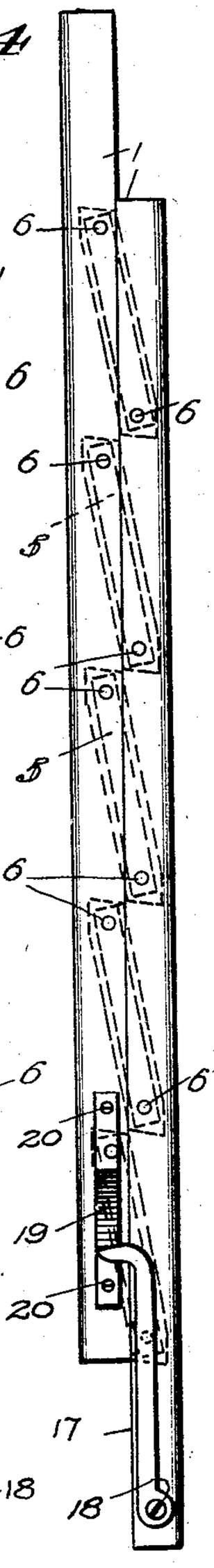


Fig. 4



WITNESSES

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ROBERT L. SCOTT, OF ARLINGTON, CALIFORNIA.

LADDER.

SPECIFICATION forming part of Letters Patent No. 704,123, dated July 8, 1902.

Application filed November 7, 1901. Serial No. 81,512. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. SCOTT, a citizen of the United States, residing at Arlington, in the county of Riverside and State of California, have invented a new and useful Ladder, of which the following is a specification.

This invention relates to ladders, and particularly to those constructed to collapse; and one of the objects of this invention is to provide a device of this general character which will be simple and cheap in construction and at the same time efficient in operation.

Another object of the invention is to provide a ladder capable of being collapsed, so as to occupy a minimum amount of space when not in use and during transportation.

It is also an object of this invention to provide a ladder particularly applicable for the use of persons engaged in picking fruit, so that the ladder may be placed in the desired position among the limbs of the tree without injury thereto and without injuring or knocking off the fruit by reason of the collapsed position of the ladder.

A further object of the invention is to construct a collapsible ladder adapted to receive the pressure of the foot of the user to expand the same after the ladder shall have been introduced into the desired position among the limbs of the tree into which it is desired to ascend.

With these and other objects in view the invention consists, essentially, in the construction, combination, and arrangement of parts substantially as more fully described in the following specification and illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a perspective view of a ladder constructed to collapse. Fig. 2 is a side elevational view of the same in a collapsed position. Fig. 3 illustrates a modified form of construction showing the same in an extended position, and Fig. 4 shows the same in a collapsed position.

Similar characters of reference designate corresponding parts throughout the several views.

Referring to the drawings, and particularly to the construction illustrated in Figs. 1 and 2 thereof, the reference character 1 designates the side bars or rails of a ladder and which may be of any suitable dimensions and exterior configuration; but the rails 1 are preferably convexed or curved at one end, substantially as shown at 2, to facilitate the introduction of the end of the ladder among the limbs of a tree into which it is desired to ascend and to render the end of the ladder less liable to engage with or to be caught by obstructions during transportation of the ladder.

The inner edges of the rails 1 are preferably provided with inclined longitudinal recesses 3, desirably terminating in transverse shoulders 4, and in practice the inclined recesses will be oppositely disposed, substantially as indicated in dotted lines in Fig. 3, so that the shoulders 4 will lie on opposite sides of the rounds 5, which are preferably pivoted in the deepest part of the recesses 3, adjacent to the shoulders 4 by means of a pin or other device 6, the position of the rounds 5 being such that the same are above the shoulders 4 in one of the rails and below said shoulders in the other rail, whereby the ladder may be collapsed or folded in only one direction, the shoulders preventing the movement of the rounds in the other direction.

If found desirable in practice, the rounds 5 may be provided with a cap or sleeve 7, Fig. 1, through which a pivot-pin or device 6 may pass, whereby the end of the round will be prevented from splitting when force is exerted upon the ladder, and when the ladder is collapsed the rounds will enter and be retained in the recesses 3, which preferably slope in opposite directions, thereby accommodating the rounds and allowing the rails or side bars 1 to lie closely against each other, Fig. 2 of the drawings.

To provide for the expansion of the ladder after the same shall have been introduced among the limbs of the tree into which it is desired to ascend or under other conditions, a foot bracket or rest 8 of any preferred construction may be secured by screws or bolts 9 passing through the attaching portion thereof and through or into the edge of one, preferably the right-hand, rail of the ladder, and by means of this construction great force can be exerted upon one of the rails by pressure

of the foot of the user, so that the ladder may be expanded against the action or resistance of the limbs of the tree between which the ladder shall have been introduced in a collapsed position.

The superior force and ease obtained from the employment of the foot to expand the ladder will be readily appreciated as against the former practice of separating or pulling apart the rails by force exerted thereon by the hands of the user, and by putting the foot rest or bracket 8 near the lower end of the rail or side bar the same is within easy reach of the foot when the ladder is collapsed, as shown in Fig. 2 of the drawings.

To prevent the accidental collapsing of the ladder after the same shall have been expanded as before described, there is preferably provided a hook or similar device 10, desirably slightly curved or bent, as at 11, in order that the free end or bent portion 12 of the hook will lie upon the side bar or rail 1 of the ladder, to which the hook is movably connected by a screw or other device 13, Figs. 1 and 2, and to retain the hook in a disengaged position upon the rail 1 of the ladder there is preferably employed a clamp or jaw 14, suitably connected with or attached to the side bar or rail 1 in such a manner as to frictionally engage and retain the hook, substantially as shown in Fig. 2 of the drawings.

The hook 10 is constructed to engage an eye or loop 15, secured upon the opposite rail to that upon which the hook is mounted, and the eye may be extended through the rail and through one end of the rounds 5, so as to serve as a pivot therefor, while the other end of the loop may be secured by a screw or bolt 16 upon the rail essentially in the manner shown, whereby the bent portion 12 of the hook 10 may be forced within the loop 15 to prevent the collapsing of the ladder. (See Fig. 1.)

Adverting to Figs. 3 and 4 of the drawings, there is illustrated a slightly-modified form of the construction before described wherein rails 1 are employed having inclined recesses 3 and shoulders 4, wherein are movably-mounted rounds 5; but the ladder is preferably provided with a straight hook 17, movably mounted at 18 upon one of the rails and constructed to engage the under side of a combined foot rest or bracket and staple or eye 19, secured by bolts or screws 20 upon the side of the other rail of the ladder, substantially as shown in Fig. 4, to prevent the expansion of the ladder. In this construction when it is desired to expand the ladder the foot of the user is placed upon the foot rest or bracket 19, the hook 17 having been forced from beneath the same, and force is exerted thereon to cause the rail carrying the foot-rest to descend, whereupon the hook 17 is thrown over the foot rest or bracket, as in Fig. 3, to prevent the accidental collapsing of the ladder, as will be readily understood.

It is not desired to confine this invention to the specific construction, combination, and arrangement of parts herein shown and described, and the right is reserved to make all such changes in and modifications of the same as come within the spirit and scope of the invention.

The operation of the invention will be readily understood from the foregoing description when taken in connection with the accompanying drawings, and further explanation thereof will not be required.

I claim—

1. A ladder consisting of two rails, rounds pivoted to the rails respectively, stops on said rails for the rounds, the stops on one of the rails being above their respective rounds and stops on the other rail being below their respective rounds, a combined foot-rest and catch near the bottom of one of the rails and a hook pivoted to the other rail near the bottom thereof to extend obliquely upward to hook over the catch when the ladder is in an expanded position.

2. A ladder provided with recessed side rails or bars having shoulders, rounds movably mounted within said recesses on opposite sides of said shoulders, a hook movably connected with one of the side bars and a device upon the other side bar constructed to be engaged by said hook in one position to prevent the collapsing of the ladder and in another position to prevent the expansion thereof.

3. A ladder provided with recessed side rails or bars having shoulders, rounds movably mounted within said recesses on opposite sides of said shoulders, a hook movably connected with one of the side bars and a bracket upon the other side bar constructed to be engaged by said hook in one position to prevent the collapsing of the ladder and in another position to prevent the extension thereof, said bracket being constructed to receive the pressure from the foot of the user to expand the ladder.

4. A ladder provided with rails or bars, rounds movably connected therewith and a foot rest or bracket secured upon one of said bars or rails, constructed to receive the pressure of the foot of the user to expand the ladder.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT L. SCOTT.

Witnesses:
J. W. KEMP,
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