

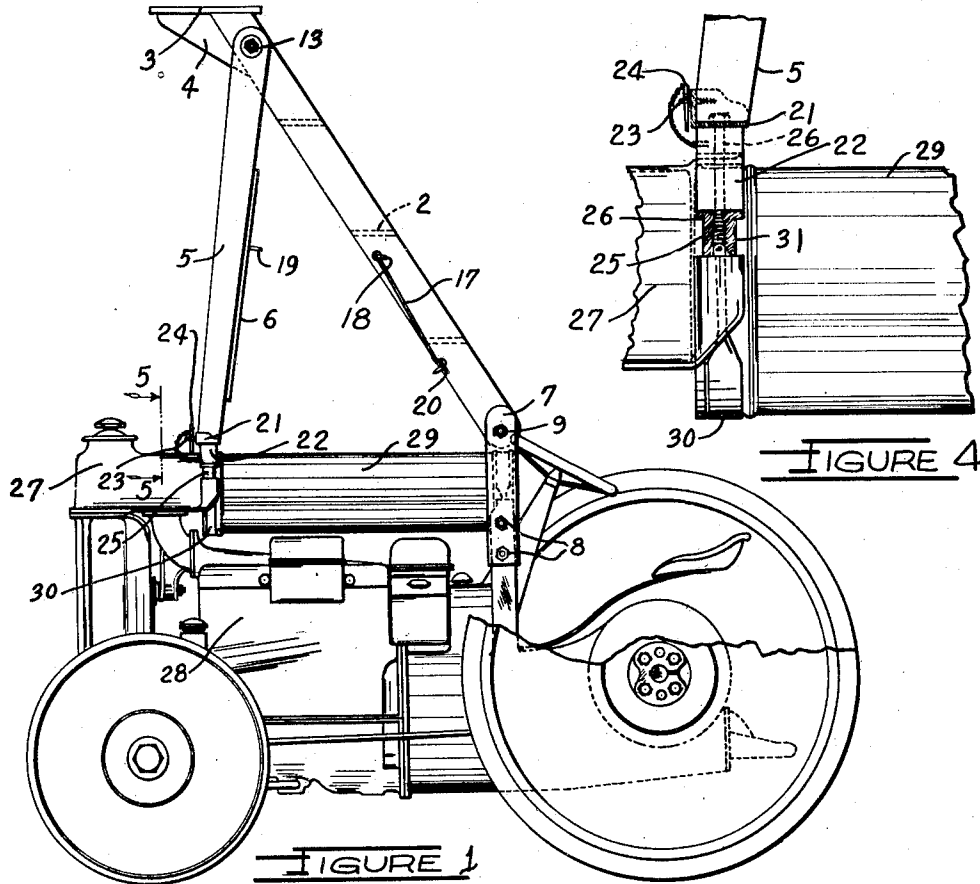
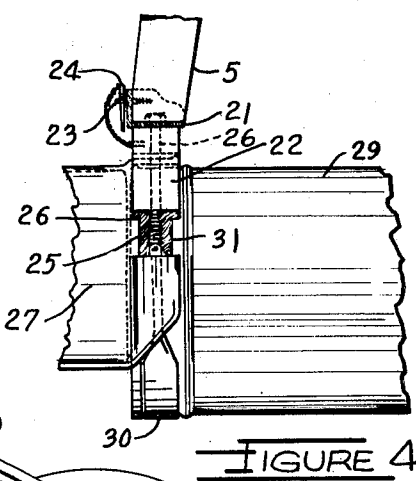
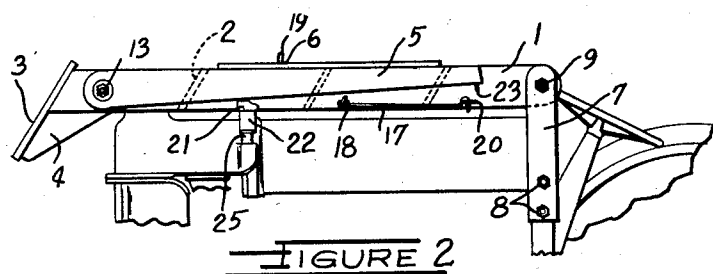
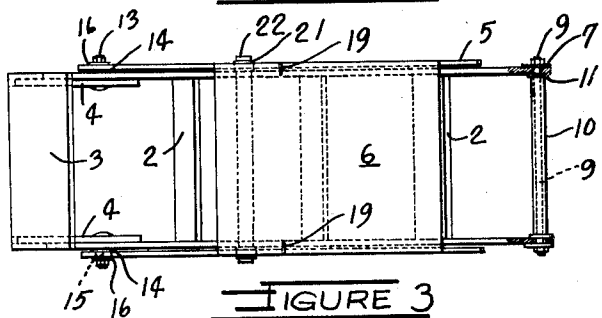
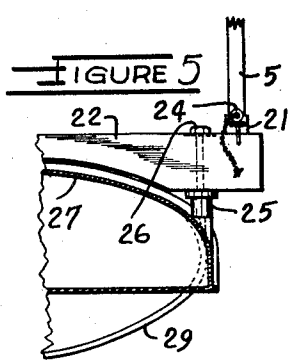
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A. K. JORGENSEN

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TRACTOR LADDER

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INVENTOR.
AAGE K. JORGENSEN
BY Joseph B. Gardner
ATTORNEY.

UNITED STATES PATENT OFFICE

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TRACTOR LADDER

Aage K. Jorgensen, Berkeley, Calif.

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3 Claims. (Cl. 228—5)

My invention relates to a ladder and tractor or truck combination, my primary object is to provide a ladder, which may conveniently be moved from place to place while in an upright or folded position on the tractor. This object accomplished, its utility may be extended far beyond that of the free standing ladders now generally used, principally in orchards for such operations as pruning, training of trees, tree surgery, fruit thinning, fruit picking, top grafting, spraying and dusting and the like, and it will be especially useful in orchards, run by a single man.

Much time and labor are being expended at every re-location of a free standing ladder, before it has been finally placed, lined up and made firm. Furthermore, being handled by manual labor, it follows that this type of ladder must be of light construction. These objectionable features have been entirely eliminated in my tractor ladder with its wide steps and platforms, its thoroughly rigid nature when set up and therefore, its high degree of safety.

I have constructed my ladder in such a manner, that when it is in an upright position and overhanging branches or other obstructions interfere with the free movements of the outfit, the ladder can be lowered into a horizontal position. This feature will also allow the outfit to be housed in a building with a low overhead clearance, without removal of the ladder from the tractor. (The term "outfit" is used to designate the ladder and the tractor as a unit.) When the ladder is in its horizontal position, a working platform is uppermost. The height above the ground of this platform, will in many cases be found convenient for the job at hand and it (the platform) further acts as a brace for the latter, when same is in its upright position. Also, it will serve to some extent for transportation of tools and the like.

One of the important features of the invention is the location of the ladder on the tractor with respect to the driver's seat. With my arrangement the ladder is at all times in front of the seat so that the driver may without removing his gaze from ahead, guide the vehicle to bring the ladder to any place desired. Further the ladder is in such position with respect to the driver's seat that the driver, who in this type of device is the one to use the ladder, may with practically one movement leave the seat and mount the ladder, or dismount from the ladder and simultaneously resume his place on the seat.

One form of the invention is illustrated in the accompanying drawing, in which Fig. 1 is a side elevation of the ladder in its raised position and mounted on a tractor; Fig. 2 is a fragmentary side elevation with the ladder in its horizontal position; Fig. 3 is a plan view of the ladder in its horizontal position; Fig. 4 is a detailed side view of the support for the front legs, with part of the fuel tank and its hanger; and Fig. 5 is a front view of the left half of the front leg support with part of the radiator top tank and part of the fuel tank and its hanger, as they appear in a vertical section on line 5—5.

The ladder as here shown comprises two parallel stringers 1, steps 2, a top platform 3, braced by two brackets 4, and two supporting legs 5 carrying and braced by a secondary platform 6.

On the tractor are two iron straps 7 which are attached by means of bolts 8 to the cast iron fuel tank and fender supporting bracket or dash board of the tractor. The clearance between the straps is the same as the over all width of the ladder, and the ladder stringers 1 are bolted directly to such straps with a through bolt 9, a flanged pipe separator 10 being fitted between the stringers and held by the bolt. Between the ends of the separator 10 and the straps 7, are pipe ferrules 11, which extend through holes provided for same in the stringers and are made slightly longer than the thickness of the stringers, thereby allowing the nut of bolt 9 to be drawn up tight and making this whole assembly rigid and yet allowing the ladder to swing freely during the raising and lowering operations. It will be clear that the separator 10 may serve as a rung or step for the ladder.

A carriage bolt 13, a heavy washer 14 to provide ample clearance between leg and stringer, a pipe separator 15 and a washer 16, constitute the connection of each supporting leg to the stringer. The pipe separator is slightly longer than the thickness of the stringer, so that the whole assembly may be screwed up tight, and yet allow the leg to swing freely on the separator, when raising and lowering the ladder. Two hooks 17 and eyes 18, 19, and 20 are provided for bracing the ladder when being used off the tractor.

When the ladder is in its raised position, its front legs rest in two metal shoes or sockets 21 fastened to a cross piece 22. Screw eyes 23 are secured to the legs and arranged to pass

through oblong holes in the shoes so that they may be secured on the outside of same by pins 24 and thereby hold the legs securely in place and still providing for quick release of same.

5 When the ladder is in its horizontal position, it rests on the cross piece and against the inner sides of the shoes. The cross piece 22 in the present embodiment, is recessed on its under side to set in close but in spaced relation to the
10 radiator top tank 27 of the tractor engine unit 28, and is preferably secured in place by attachment to the means provided on the tractor for securing said tank 27 to the fuel tank 29, such means including a strap 30 which has exposed
15 threaded ends 31 at opposite sides of the tractor. On the ends 31 are firmly screwed fittings 25, and the cross piece is secured to the fittings by means of bolts 26 each of which in common with an end 31 engage in a threaded bore 32 in
20 the fittings.

To lower the ladder from its upright position in Fig. 1, into its horizontal position in Fig. 2, the operator will stand in front of the tractor, facing the radiator. He will then on releasing
25 the legs 5 from the shoes 21, carry them downwards in front of the radiator until the ladder rests on the cross piece 22; then thereafter he will swing the legs away from the radiator and over the top of the ladder until the platform
30 6 comes to rest on the ladder stringers. To raise the ladder, these operations are reversed.

While I have herein shown and particularly described one form of my invention, I do not wish to be limited to the precise details of construction shown, as changes, such as varying
35 heights of ladders and their connections to various types of tractors, may readily be made without departing from the spirit of my invention.

40 I claim:—

1. In combination with a vehicle having a power plant carried thereby for the propulsion thereof, a seat at one end of said plant, a ladder pivoted to the vehicle adjacent said end and

arranged to extend upwardly or horizontally from said end and over said plant, said ladder having provided thereon a top platform and a secondary platform in such manner that in the horizontal position of the ladder the top platform will extend across the other end of the plant while the secondary platform will extend horizontally across the top of the plant. 80

2. In combination with a vehicle, a ladder connected to the vehicle for positioning thereon upright or horizontally and including stringers, supporting legs pivoted to the stringers and positioned at the outer sides thereof whereby the legs may be swung through an arc in excess of 180 degrees, a platform secured to and extending across said legs arranged to overlie the stringers when the ladder is horizontally disposed, and means on the vehicle for holding the legs against displacement when the ladder is in upright position. 85 90 95

3. In combination with a self-propelled vehicle having the driver's seat spaced rearwardly from the front end thereof, a ladder mounted on the vehicle for upright or horizontal positioning in front of the seat and including stringers pivoted at one end to the vehicle at a point immediately in front of said seat, a cross-bar between the stringers adjacent the pivot connection and located sufficiently close to the seat to permit the driver to grasp the bar while at the seat, supports on the vehicle for the pivoted ends of the stringers, supporting legs for the ladder pivoted to the stringers and lying without the outer sides thereof in a manner permitting swinging of the legs relative to the stringers through an arc in excess of 180 degrees, a platform fixed to the legs and arranged to overlie the stringers when the ladder is horizontally disposed, and means on the vehicle to hold the legs against displacement and in bracing relation to the stringers when the ladder is in upright position. 100 105 110 115

AAGE K. JORGENSEN.

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