

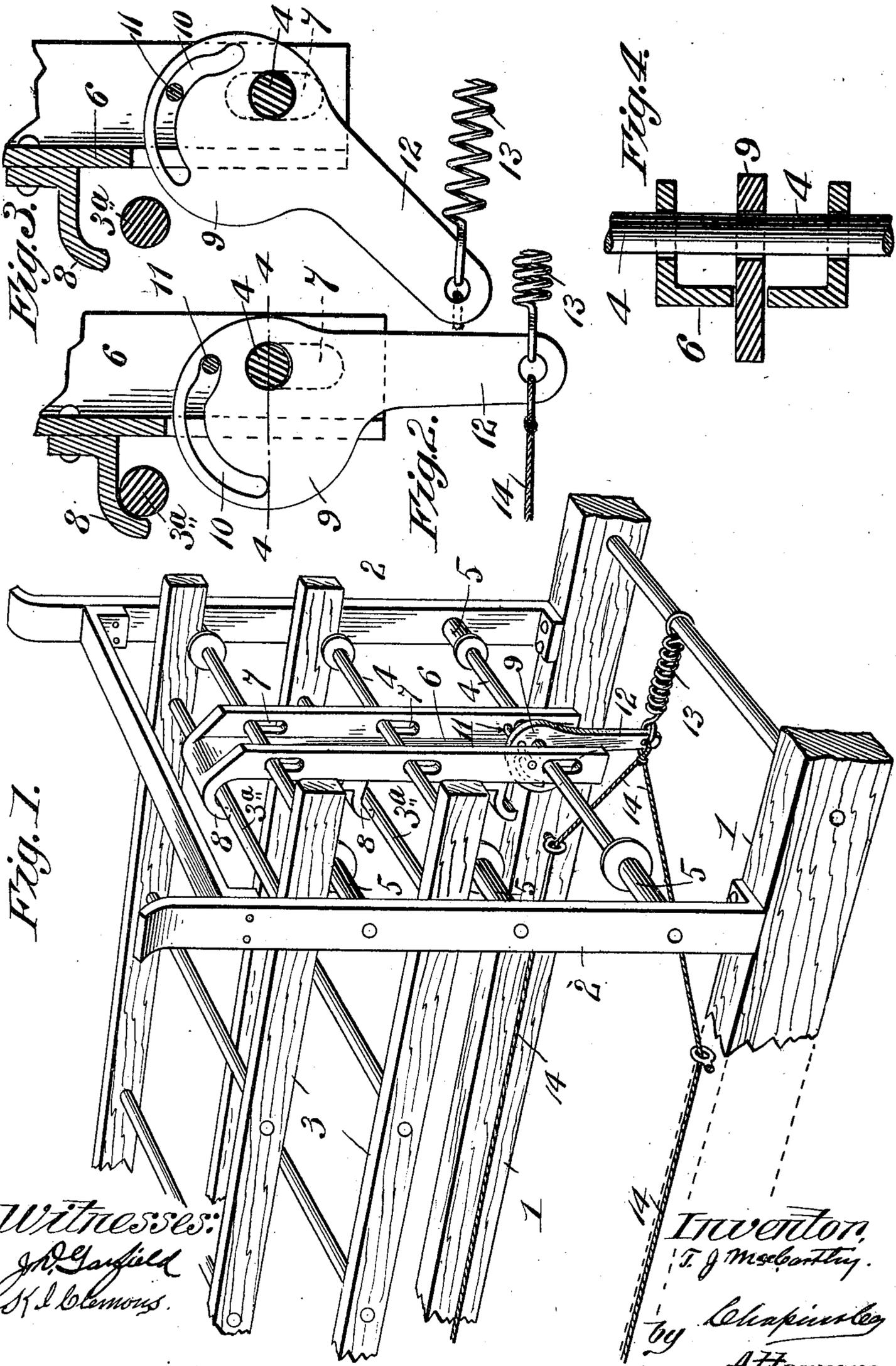
No. 659,449.

Patented Oct. 9, 1900.

T. J. MACCARTHY.
LADDER TRUCK.

(Application filed Apr. 12, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

TIMOTHY J. MACCARTHY, OF HOLYOKE, MASSACHUSETTS.

LADDER-TRUCK.

SPECIFICATION forming part of Letters Patent No. 659,449, dated October 9, 1900.

Application filed April 12, 1900. Serial No. 12,626. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY J. MACCARTHY, a citizen of the United States of America, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Ladder-Trucks, of which the following is a specification.

This invention relates to ladder-trucks used for fire purposes, and has for its object the construction of means for securing the ladders in a truck of the class described, to the end that in ascending a hill or in running rapidly over a rough pavement the ladders may not slide backward.

The invention consists in applying to the frame of the truck at its forward end a device which may be operated from any part of the truck for engaging the first round of a ladder or a series of ladders that the truck may be carrying and lock the same firmly to the truck-frame, all as fully described in the following specification, and particularly pointed out in the claims.

In the drawings, forming part of this specification, Figure 1 is a perspective view of a part of the forward end of a ladder-truck having my invention applied thereto. Fig. 2 is an enlarged vertical sectional view of the lower end of the device embodying my invention. Fig. 3 is a view similar to Fig. 2, showing the parts in another position; and Fig. 4 is a transverse section of the device, taken on line 4 4, Fig. 2.

Referring to the drawings, 1 indicates the lengthwise members of the truck-frame, and 2 the vertical members of a ladder-supporting rack, one of which is located at or near each end of the truck, said ladders (represented by 3) resting on the transverse rods 4, extending between the vertical members 2. Said rods 4 are provided with sleeves 5, which are adapted to rotate thereon close to the said vertical members 2 of the rack, which serve as rolls, on which the ladders may run as they are pushed into the racks.

For many reasons it is desirable that after the ladders 3 have been placed in their racks there should be some convenient and sure means for holding them against endwise movement, and to this end I place on the forward ladder-rack a vertically-operating

bar, (indicated by 6.) This bar may be made of any suitable material; but preferably it is constructed from a piece of channel-iron, as shown in the drawings, and elongated slots 7 are oppositely punched in the parallel sides thereof, through which the said transverse rods 4 may pass and on which said bar 6 is supported. On that side of said bar 6 facing the rear of the truck are located a series of hooked arms 8, adapted by the vertical movement of the bar 6 to hook over the first round 3^a of the ladder next to said bar. These arms may be made as separate members and secured to the bar 6, or they may be formed from the bar itself, as desired.

To provide means for raising or lowering the bar 6 to lock the ladders to their racks or to release them therefrom, I place a cam 9 on one of the rods 4 of the rack, (generally, as shown in Fig. 1 of the drawings, on the lower rod,) and I slot the lower end of the bar 6 in such manner as to set astride over said cam. Said cam is provided with a cam-slot 10, through which a pin 11 passes, and which also passes through the two parallel sides of the bar 6, in which it is secured, and the weight of the bar is supported on said pin 11 whenever the bar is raised, the pin being located vertically over the rod 4, on which the cam swings. The end of said cam-slot 10, in which the pin rests when the bar 6 is down in locking engagement with the ladders, is made of such shape as to bring additional pressure on said ladders after the hooked arms have come into contact with the rounds 3^a thereof, and said slot is then continued in substantially a horizontal direction, whereby the cam is locked in this position, and is thereby rendered secure against being jarred loose by the running of the truck over pavements, &c.

The cam 9 is provided with a downhanging arm 12, whereby it may be swung on said rod 4, and thereby force the bar 6 upward. A spring 13, extending from said arm 12 to some point of the truck, is adapted to retract said arm after it has been swung to raise said bar, and thus move the latter downward and cause the hooked arms to engage the first round of each of the ladders in the rack, as described.

To provide for the raising of the bar 6 from

any part of the truck, a suitable connection 14 with the arm of the cam 9 extends there-
 from along each side of the truck, which may
 be operated to swing said arm in the direc-
 5 tion required to raise said bar. The said
 connection is preferably of some flexible ma-
 terial, as rope, which may be run through
 guides, like screw-eyes, secured to the lon-
 10 gitudinal members of the truck-frame, as
 shown. Fig. 2 shows the position of the cam
 relative to the bar 6 when the latter is in
 locked position, and Fig. 3 shows the same
 parts when the cam has been operated to
 15 raise the bar to free the ladders from the en-
 gagement of the hooked arms 8.

When ladders are to be run into the racks,
 the cam 9 is operated to raise the bar 6, and
 the latter is held in a raised position by
 means of the connection 14, which may be
 20 held by hand or made fast to the truck-frame,
 and the ladders may then be pushed into the
 racks until they are brought to a stop by the
 contact of the first round 3^a thereof with the
 bar 6. When all of the ladders have been put
 25 in place, the connection 14 is loosened, and
 the spring 13, which had been extended when
 the bar was raised, will retract and draw back
 the arm 12 and, as described, move the bar 6
 30 down into locking engagement with the lad-
 ders.

There may be as many arms on the bar 6
 as there are ladders on the rack, and the
 hooked arms which engage the ladders may,
 if desired, be reversed, and the bar 6 may be
 35 supported on the ladder-rack in some other
 suitable way than that shown in the drawings
 without departing from the spirit of my inven-
 tion.

Having thus described my invention, what

I claim, and desire to secure by Letters Pat- 40
 ent of the United States, is—

1. In a ladder-truck, racks for receiving the
 ladders, and a locking device adapted to en-
 gage simultaneously with one or more ladders
 in said racks and to secure them thereto, sub- 45
 stantially as described.

2. In a ladder-truck, racks for receiving lad-
 ders a locking device supported on one of the
 racks and adapted to be moved into locking
 engagement with one or more of the ladders 50
 therein by a single movement of said device,
 substantially as described.

3. In a ladder-truck, racks for receiving the
 ladders, a locking device supported on one of
 the racks, and adapted to be moved into lock- 55
 ing engagement with said ladders, and means
 for operating said locking device from differ-
 ent points on the truck, substantially as de-
 scribed.

4. The combination in a ladder-truck, of 60
 ladder-receiving racks, a locking device sup-
 ported on one of said racks consisting of a
 bar 6, ladder-engaging arms 8 thereon, and a
 cam adapted to move said bar vertically,
 whereby said arms may be moved into and 65
 out of locking engagement with ladders in
 said racks, substantially as described.

5. In a ladder-truck racks for receiving the
 ladders, a locking device supported on one of
 the racks, and adapted to act as a stop for 70
 the ladders when they are slid into the rack,
 and to secure them to the latter, substantially
 as described.

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