No. 844,875. PATENTED FEB. 19, 1907.

H. T. KINGSBURY.

TOY LADDER TRUCK.

APPLICATION FILED MAY 14, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

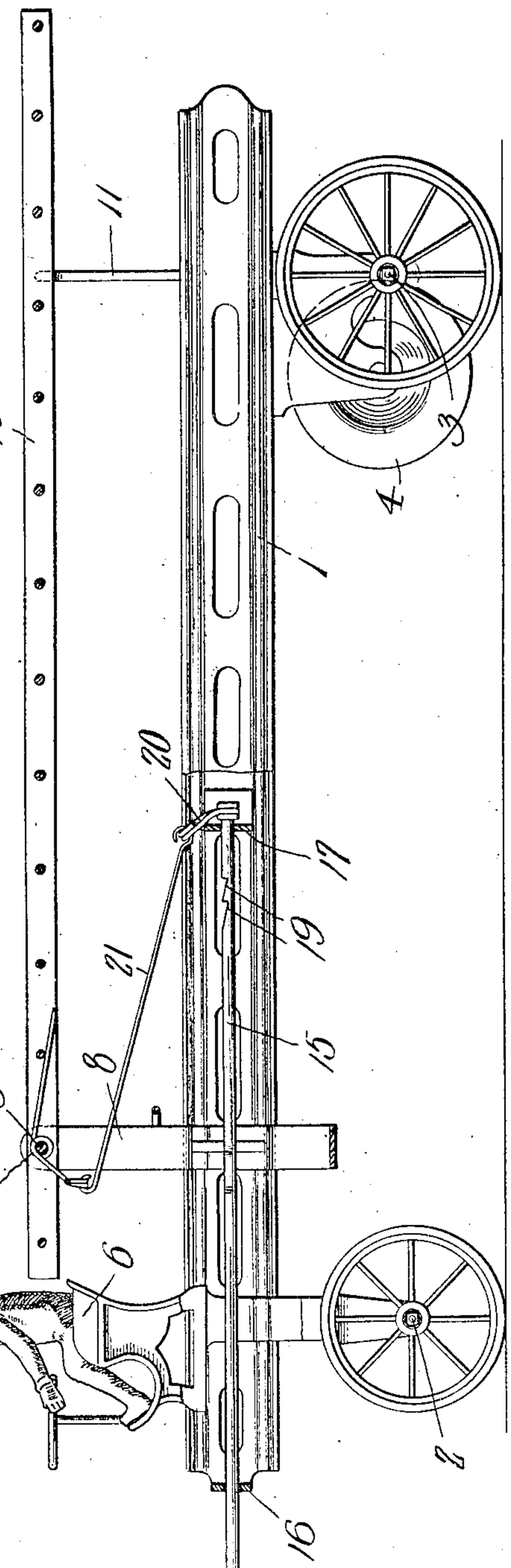
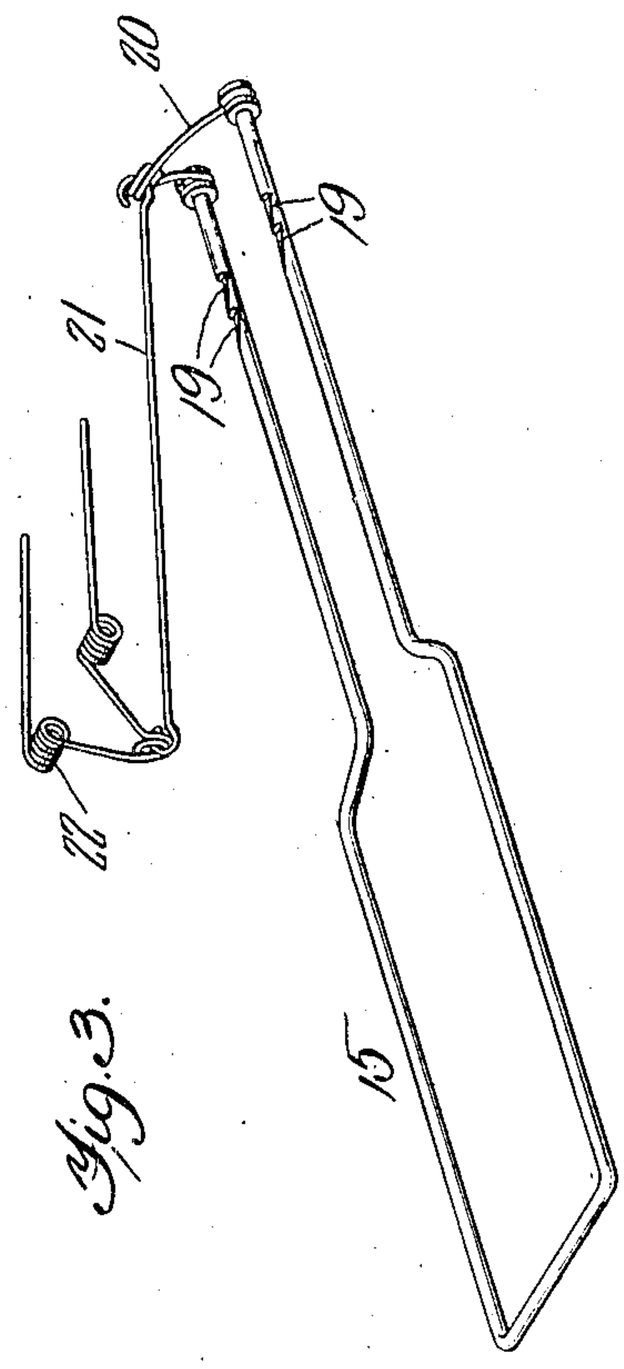


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 2.

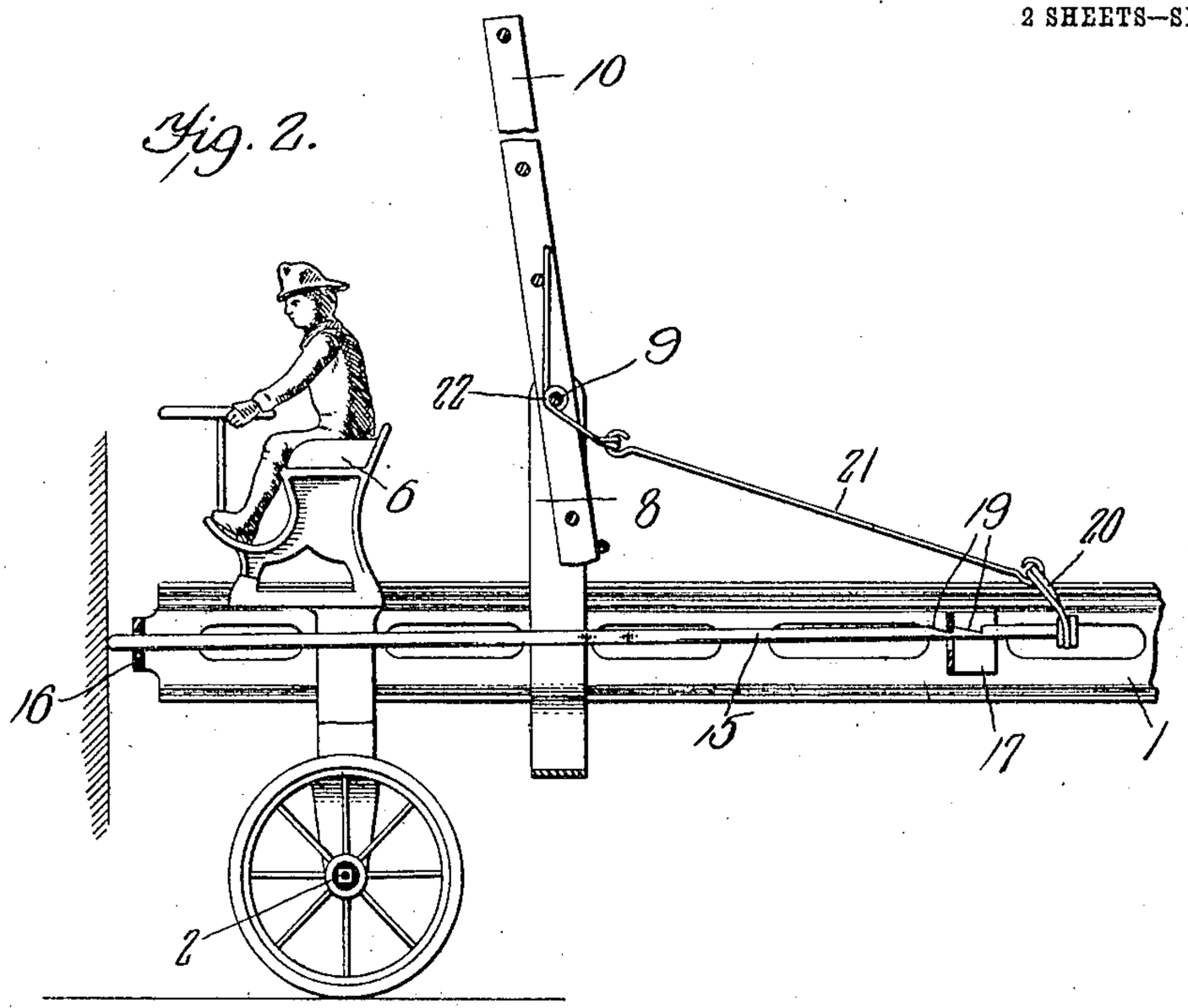
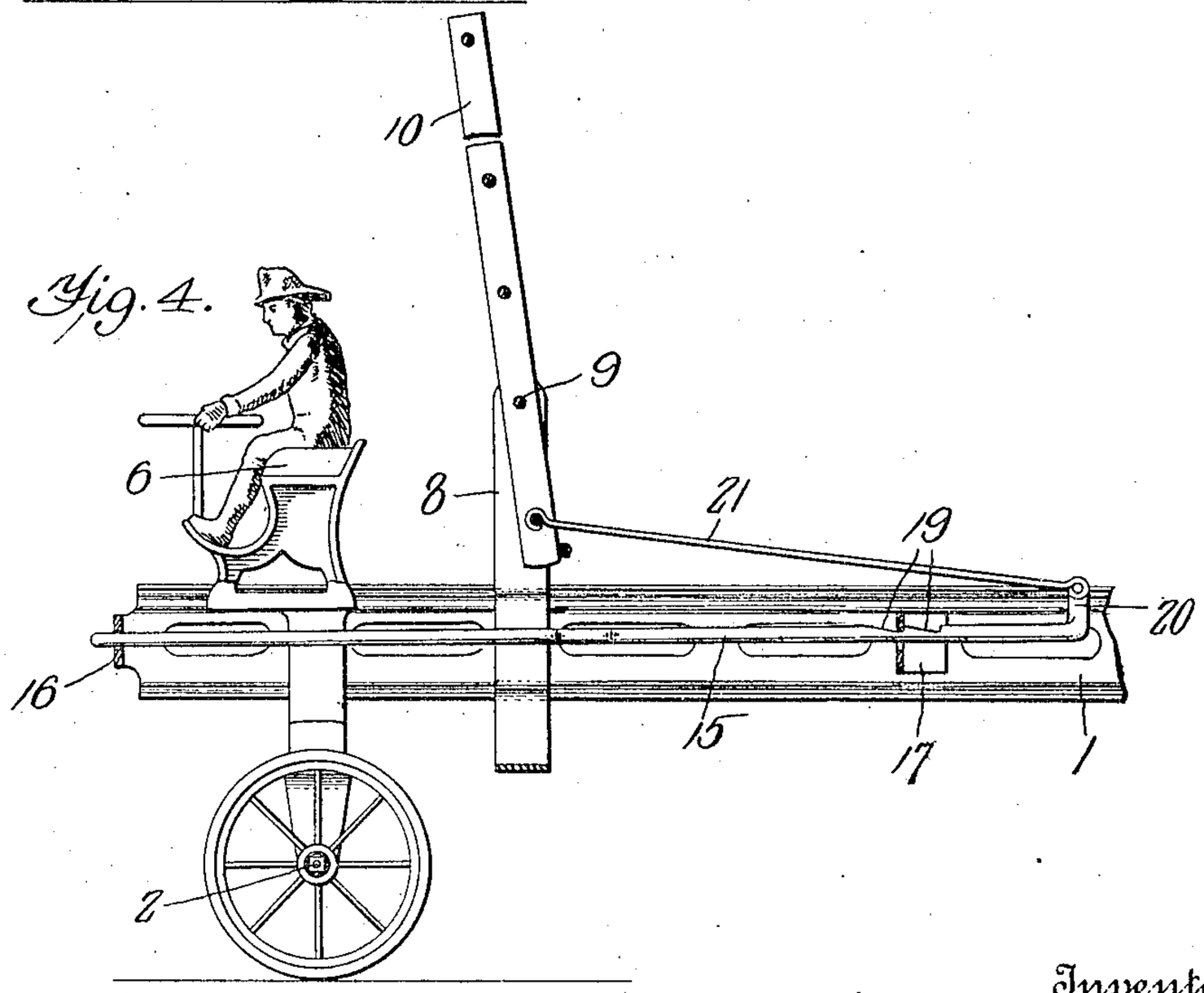


Fig. 4.



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UNITED STATES PATENT OFFICE.

HARRY T. KINGSBURY, OF KEENE, NEW HAMPSHIRE.

TOY LADDER-TRUCK.

No. 844,875. Specification of Letters Patent. Patented Feb. 19, 1907.

Application filed May 14, 1906. Serial No. 316,795.

To all whom it may concern:

Be it known that I, HARRY T. KINGSBURY, a citizen of the United States, residing at Keene, in the county of Cheshire, State of New Hampshire, have invented certain new and useful Improvements in Toy Ladder-Trucks, of which the following is a description, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

This invention relates to wheeled toys of that general class illustrated in Letters Patent issued to me on April 17, 1906, No. 818,261.

The principal object of the present invention is to improve and simplify the construction of the ladder-elevating means with a view of facilitating the raising and lowering of the ladder.

A further object of the invention is to provide a construction in which the ladder when lowered to horizontal position may rest by gravity on its support and is not placed under the stress of a spring; and a further object in this connection is to provide a tension-developing device operated by contact with an obstacle, by hand or by any other means, to effect the raising of the ladder after the bumper starts to move.

A still further object of the invention is to provide a device of this class in which an inertia-wheel is employed as a driving medium in place of a propelling-spring, so that the greater pressure exerted may be utilized to advantage in the raising of the ladder.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a toy constructed in accordance with the invention, the ladder being shown in horizontal position on the truck. Fig. 2 is a similar view of the front end of the device, the ladder being elevated. Fig. 3 is a detail perspective view of the bumper and the connections between the bumper and the ladder. Fig. 4 is a view, similar to Fig. 2, showing the use of the device without an elastic connection, the parts being so arranged as to permit the direct raising of the ladder by the operation of the bumper.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The truck proper is formed of stamped sheet metal or other suitable material, and includes longitudinal sills 1, mounted on suitable front and rear wheel axles 2 and 3. The rear axle includes a driven member that is propelled by an inertia-wheel 4, the wheels serving to drive one or both of the front wheels and propel the truck. At the front of the frame is a seat 6 for a wheelsman or chauffeur.

The longitudinal sills are provided with vertically-arranged lugs 8, carrying a pivot-pin 9, which may form one of the rungs of a ladder 10, and the rear end of the ladder is arranged to rest on a suitable arched support 11 near the rear end of the truck.

In the front portion of the frame is arranged a bumper, comprising a substantially U-shaped rod 15, the looped end of which extends through a suitable cross-bar 16 at the front of the truck and is designed to engage with the wall, a chair, or any other object against which it may be forced as the truck is propelled. The rear ends of the arms of rod 15 extend through guiding-openings formed in a cross-bar 17, and these arms are provided with a number of notches 19, which when the bumper is moved rearwardly are engaged by the walls of the guiding-openings in the cross-bar for the purpose of retaining the bumper in the rearmost position. The two arms of the bumper are connected at their rear ends by a bar 20, from which extends a rod 21 to a spring 22. This spring is preferably formed of wire, and its central loop is connected to the rod 21, while its arms are wound around the pivot-pin or ladder-rung 9, and thence are extended rearward to pass under the next adjacent rung of the ladder.

In the operation of the device, the bumper is moved out to the forward position by depressing the rear arms of the bumper until the notches 19 are free from the walls of the guiding-opening in the bar 17. This forward movement relieves the spring 22, so that there will be no stress whatever on the spring

and the ladder will be free to assume a horizontal position and rest by gravity on the support 11. The inertia-wheel is then set into motion in the manner usually practiced in devices employing motors of this class, and then the truck is placed on the floor or other surface and allowed to run until the bumper strikes against the wall or any other obstacle, the bumper being thus forced to the rear and its forward notches becoming interengaged with the walls of the guiding-openings of rod 15. This rearward movement places the spring 22 under stress, and the ladder is thrown upward to an approximately vertical position. To restore the parts to initial position, the rear ends of the arms of the bumper are depressed until the bumper is again free and is readjusted to its forward position, after which the ladder may be readily lowered.

In the construction shown in Fig. 4 the connection between the rod 21 and the ladder is direct, so that the spring is dispensed with, it being found that where an inertia-wheel is used for motor power the greater weight and pressure exerted is sufficient to permit the raising of the ladder by the force exerted between the bumper and the obstacle which it engaged.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a toy, a truck, a ladder, an obstacle-engaging bumper, and means for operatively connecting the bumper to the ladder to elevate the latter.

2. In a toy, a truck, a ladder, an obstacle-engaging bumper, and a yieldable connection between the bumper and the ladder to elevate the latter.

3. In wheeled toys, a truck, an inertia-wheel, a pivoted ladder, an obstacle-engaging bumper, and means for connecting the bumper to the ladder.

4. In a wheeled toy, a truck, a ladder, an obstacle-engaging bumper, and means including a tension-developing device for connecting the bumper to the ladder.

5. In a wheeled toy, a truck, a ladder pivoted thereto, an obstacle-engaging bumper, a tension-developing device connecting the bumper to the ladder, and means for automatically locking the bumper in its rearmost position to retain the tension.

6. In a wheeled toy, the combination with a truck, of a ladder pivoted thereto, an obstacle-engaging bumper, a bumper-guide, interengaging means between the bumper and guide for locking said bumper in the rearmost position, a spring connected to the ladder, and means for connecting the spring to the bumper.

7. In a wheeled toy, the combination with a truck, of a ladder, an obstacle-engaging bumper having a notched rear end, a guide having an opening, the wall of which is arranged to engage the notch, a spring carried by the ladder, and means for connecting the spring to the bumper.

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

HARRY T. KINGSBURY.

Witnesses:
CHARLES C. STURTEVANT,
W. L. MASON.