(No Model.)

H. D. OLDS.

LADDER TRUCK.

No. 280,227. Patented June 26, 1883.

Fig. 1.

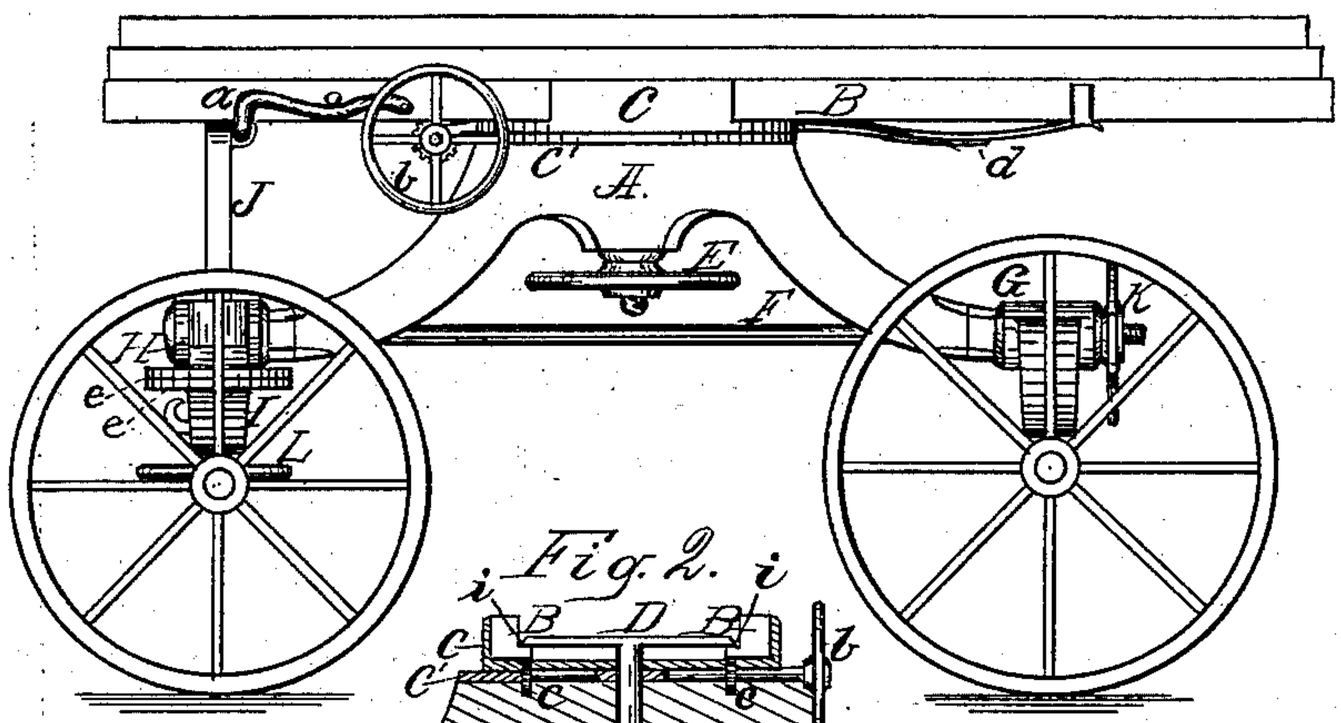

Fig. 2.

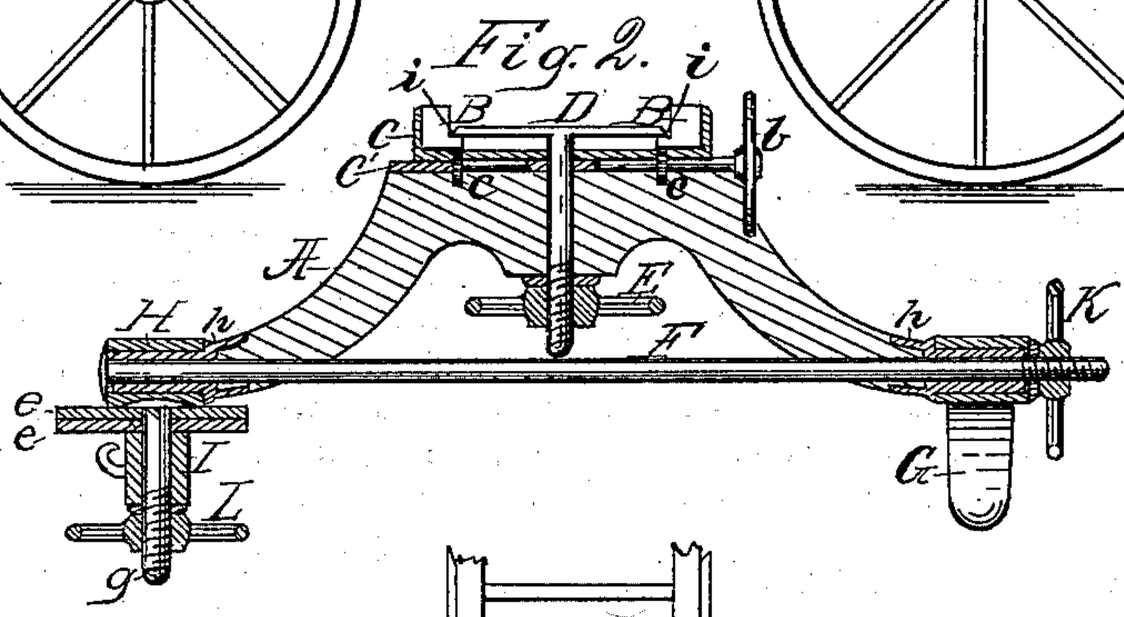

Fig. 3.

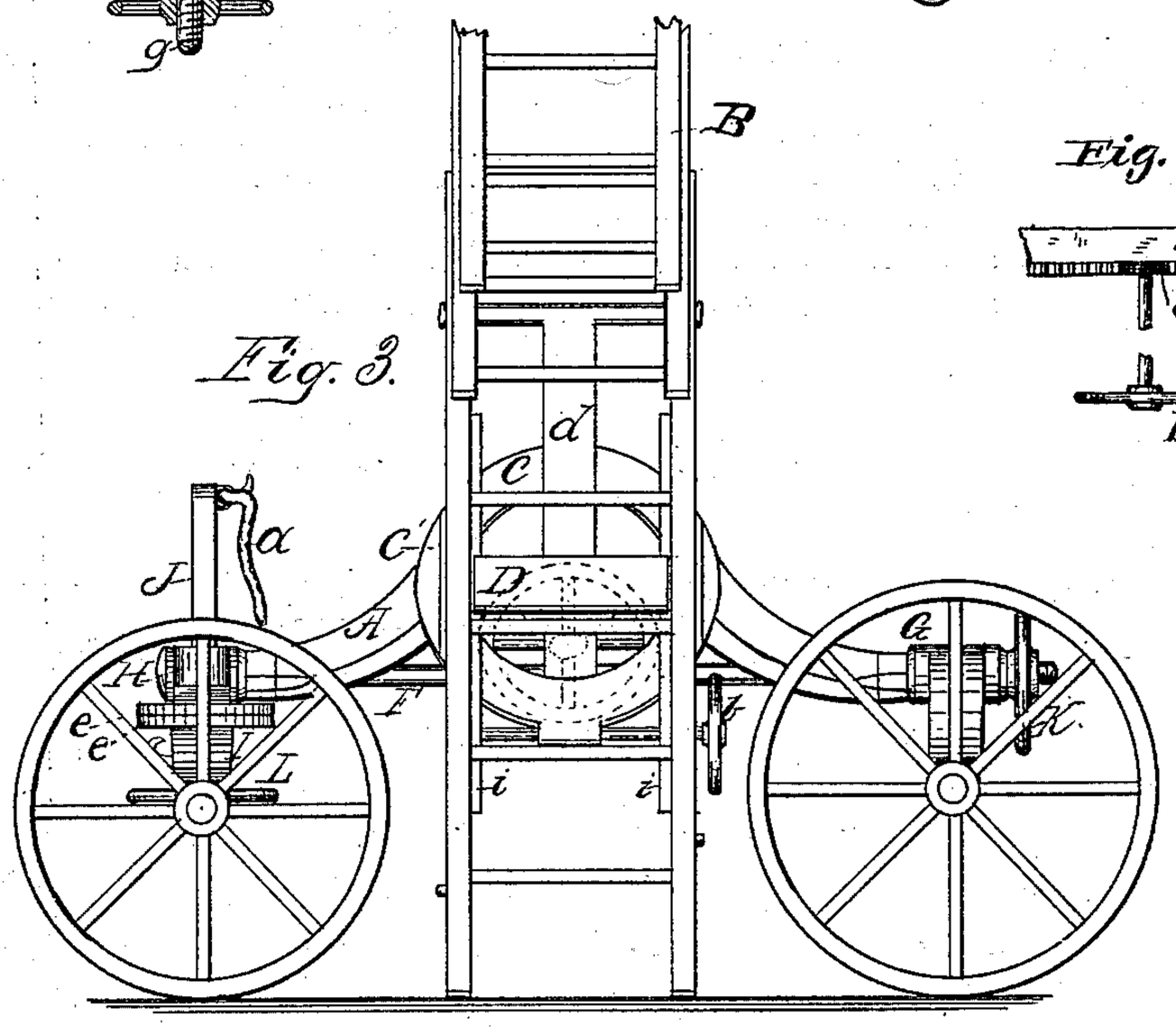

Fig. 4.

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UNITED STATES PATENT OFFICE.

HARMON D. OLDS, OF CEDAR RAPIDS, IOWA, ASSIGNOR TO ANNIE H. OLDS, OF SAME PLACE.

LADDER-TRUCK.

SPECIFICATION forming part of Letters Patent No. 280,227, dated June 26, 1883.

Application filed February 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, HARMON D. OLDS, of the city of Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Ladder-Trucks; and I declare the following to be a full, true, and exact description of the invention, which will enable those skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to trucks used for the conveyance of ladders, and particularly those used at fires; and its object is to facilitate the erection of ladders at such times for the speedier rescue of persons and property from burning buildings, and for the general convenience of firemen in the manipulation of hose and other purposes to which it is adapted.

The invention consists in a longitudinal reach pivoted to the front and rear axles of the truck, and provided with a horizontally-rotating seat, in which the ladder is fixed, and by means of which the ladder may be swung crosswise of the truck and set at any desired angle.

It further consists in means for securing the reach in any position, for adjusting the ladder with respect thereto, for supporting the ladder when not in use, and for securing the front axle at any angle to the rear that may be desired, all of which will be more particularly described hereinafter.

In the accompanying sheet of drawings, Figure 1 represents a side elevation of the truck when not in use; Fig. 2, the detail of the same in cross-section, and Fig. 3 the truck with the ladder elevated as in use. Fig. 4 is a detail showing the ladder-seat, the cog-rack, and wheel.

The reach A, having bearings *h h*, is mounted on front bolster, H, and rear axle, G, provided with suitable boxes. A rod, F, passes the entire length of the reach, and fastens the reach at any point by means of a hand-wheel, K, which, turning on its threaded end, tightens bolster and axles against the inner flange of the bearings *h h*. On the upper side of the reach is attached a wearing-plate or fifth-wheel, C′, with a corresponding wheel, C, just above it, which forms the seat for the ladder B, secured to it by means of the clamp D, drawn down upon the internal flanges, *i i*, of the ladder by the hand-wheel E turning on the thread of the king-bolt D′. For convenience in adjustment the under sides of these flanges are cogged, so as to form a rack, *c′*, which operates in connection with the pinions *c c* to move the ladder back and forth in its seat. Suitable flanges on the seat C, each side *c″* of the ladder, act as a guide for it, and a spring, *d*, extending from the rear of such seat and provided with transverse arms at the end, supports this end of the ladder, and avoids undue jar in passing over the road. A lever, *a*, locks the ladder in its normal position on the truck.

It is often desirable to secure the front axle either parallel with or at an angle to the rear axle. To this end the king-bolt is provided with a suitable thread, and the parts are tightened by means of a hand-wheel, L.

To operate the truck it is put in the position shown in Fig. 1, with all of the tightening parts mentioned above left loose enough to allow a free movement of the parts both in passing over the ground and in elevating the ladder. The truck is drawn alongside the building and parallel with it, at a convenient distance therefrom. The lever *a* is thrown down, the ladder swung around across the truck, and its foot depressed, as shown in Fig. 3. The reach is fastened by the hand-wheel at the rear, and the ladder rigidly clamped by the hand-wheel E, when the ladder is extended to such height as is required, with its top resting against the building. Should it be necessary to change its position to some other part of the building, the ladder is lowered slightly or its pitch changed, so that it clears the building, when it can be run to such new position without completely lowering the ladder, greatly expediting the rescue of persons in different parts of such building, or its use for other purposes, as occasion may require. It is also adapted to the use of hosemen, as it can be quickly brought to any required point and the ladder brought to bear in any door or window where their services may be required. Being placed crosswise of the truck, the ladder has a firm base, which se-

cures it against the possibility of slipping. From its peculiar construction and operation it will be seen that it is adapted to use where telegraph-wires and other obstructions interfere with the erection of other ladders. The truck may be run under them and the ladders raised between them and the building without difficulty.

The particular form of the reach shown in the drawings is of advantage in two ways: It aids in raising the ladder, its overhanging weight tending to counterbalance the overhanging weight of the ladder, and it throws the base of the ladder a greater distance from the inner wheels, and thus keeps the center of gravity within such wheels, which is the extreme limit. It will be apparent, however, that the device may be applied to a straight reach, if found desirable. Other means of securing the reach in position may be used; but from its simplicity and quickness in operation I regard the one shown as best for the purpose. The same may be said of the device for fastening the ladder to the truck and adjusting the same thereon. This invention contemplates all such means for securing and adjusting a ladder on the pivotal reach of a ladder-truck as will carry into effect the purposes herein described.

I am aware that the extension-ladder is old. I therefore make no claim thereto.

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

1. In a ladder-truck, the pivotal reach A, provided with a rotating ladder-seat, to which the ladder is secured, the whole being so arranged that the ladder may be swung crosswise of the truck and adjusted to any desired angle of elevation, for the purposes set forth.

2. In a ladder-truck, the pivotal reach A, adapted to be secured in any required position, provided with a horizontally-rotating ladder-seat, C, to which the ladder is clamped, substantially in the manner and for the purposes set forth.

3. In a ladder-truck having a rotating ladder-seat capable of swinging on a pivoted reach, the ladder B, the ladder-seat C, having a rack, c'' c', on each side, the cogs c, and the hand-wheel B, all combined and adapted to be operated as described.

4. In a ladder-truck, substantially as described, the supporting-spring d, substantially as set forth.

5. In a ladder-truck, substantially as described, the combination of ladder B, ladder-seat C, clamp D, and hand-wheel E, substantially as shown and described.

In testimony that I claim the foregoing as my own witness my hand this 17th day of February, 1883.

HARMON D. OLDS.

Witnesses:
A. B. DENNIS,
E. CHICKERING.