J. PINE.

HOOK AND LADDER TRUCK.

No. 184,660. Patented Nov. 21, 1876.

Fig. 1.

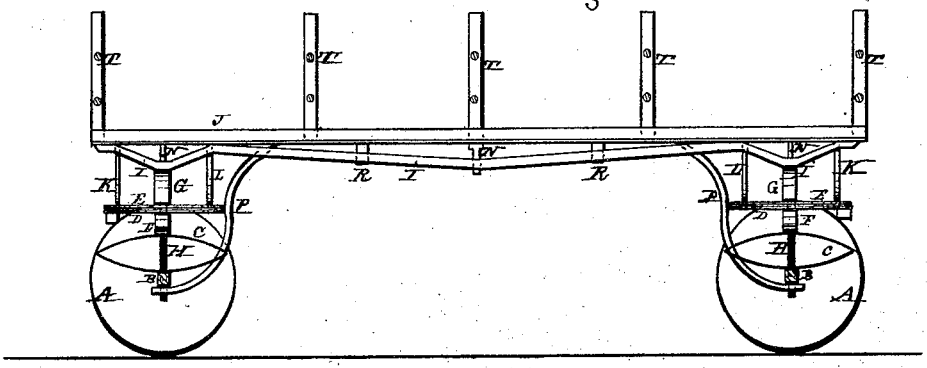


Fig. 2.

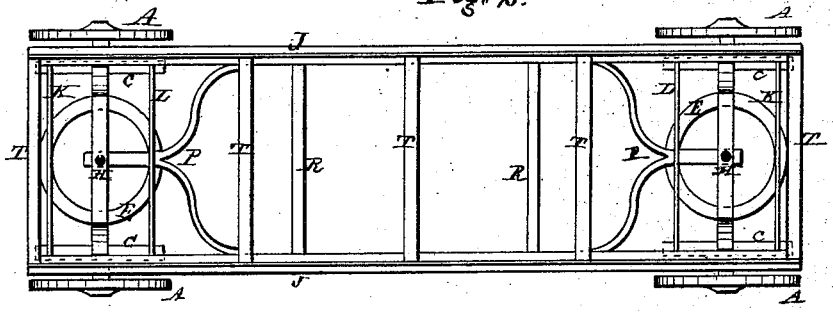
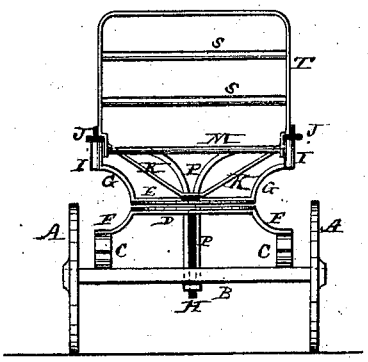


Fig. 3.



Witnesses
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JOSEPH PINE, OF NEW YORK, N. Y.

IMPROVEMENT IN HOOK-AND-LADDER TRUCKS.

Specification forming part of Letters Patent No. **184,660**, dated November 21, 1876; application filed October 6, 1876.

To all whom it may concern:

Be it known that I, JOSEPH PINE, of the city, county, and State of New York, have invented an Improved Hook-and-Ladder Truck, of which the following is a specification:

The object of my invention is to combine the truck-body with the axle, fifth-wheel, and king-bolt, to give firmness and steadiness of motion in the running-gear of the truck, and at the same time the requisite amount of strength for the duties required of it.

But to describe my invention more particularly, I will refer to the accompanying drawings, forming a part of this specification, the same letters of reference wherever they occur referring to like parts.

Figure 1 is a side elevation of the truck. Fig. 2 is a plan view of the same. Fig. 3 is a front elevation of the same.

Letter A represents the wheels; B, the axles; C, the springs; and D and E, the two circle-plates, or "fifth-wheel," as commonly called. The fifth-wheel is elevated above the axles to about a level with the height of the wheels, and supported at that elevation by means of curved supports F and G. The support F at its upper end is solidly attached to the outer edge of opposite sides of the lower circle-plate D, and at its lower end to the upper side of the elliptic springs C. By this means the lower circle-plate is solidly attached to the axle and wheels, and turns on the king-bolt H, passing vertically through its axis and that of the upper circle-plate E, and thence down through the axles B. To support the upper circle-plate E and preserve its firm contact with the lower plate D, and yet allow of its turning on the king-bolt, the opposite edges of it are solidly attached to the lower end of the curved supports G, while its upper end is solidly attached to the truss-rod I, secured to the under side of the side rails J of the body of the truck. As a further support to the upper circle-plate, and to preserve the smooth and even surface-contact of the two parts of the fifth-wheel in their circular motions on each other, braces K and L are at their lower ends secured to the upper surface of the circle-plate E, and at their upper ends to the side rails J of the truck-body. As the truck-body is elevated above the fifth-wheel about the same distance that the fifth-wheel is elevated above the axle C, it will be obvious that the braces K and L, arranged as described, in combination with the side supports G, give the amplest security for the perfect working of the fifth-wheel and support of the body of the truck. The frame of the truck consists of two side rails, J, made of inverted **T** or angle-iron bars, joined together on parallel lines, and at suitable distances apart, by cross-bars M. To strengthen these side rails, truss-rods I are secured to their under sides by bolts at suitable points, to resist the greatest strain on the rails, according to their lengths, and by means of braces N firmly and securely joined together, to prevent the rails from bending or weakening under the load of ladders thereon; also, in connection with the truss-rods, as a means of strengthening the truck-body, and supporting it upon the fifth-wheel, and in combination with the king-bolt and axles, is formed at each end of the body of the truck, and just behind the axles, an **S**-shaped pendent brace or stiffening rod, P, having its lower end secured to the lower side of the axles by the king-bolt passing through an eye in its end, and thus making a firm connection with the axle, to hold it rigidly on parallel lines of motion with the parallel motions of the two parts of the fifth-wheel. The upper end of the stiffening-rod P is made branching, and secured by suitable bolts to the lower sides of the side rails of the truck-body, while at about a level with the fifth-wheel the branching ends are united together, and solidly bolted or otherwise secured to the upper half of the fifth-wheel. By this means the truck-body is greatly stiffened and solidly supported, the fifth-wheel kept securely in its place to give a firm and solid support to the head of the king-bolt, while its lower end is as firmly and solidly supported by the eye in the lower end of the stiffening-rod P, and thus the axles allowed to rotate freely on the king-bolt, and at the same time with perfect security. Letters R are cross-bars between the side rails, having hooks attached to the lower side thereof for hanging fire-hooks, axes, fire-buckets, and other articles commonly used in connection with hook-and-ladder trucks. For the support of the ladders, a number of iron bows, T, are ele-

vated at suitable distances apart on the side rails of the truck-body, and having two or more cross-bars, *s*, with rollers thereon to each bow, so that the ladders may be freely and easily placed and displaced on the truck, and with but little labor.

Having now described my invention, I will set forth what I claim and desire to secure by Letters Patent of the United States.

I claim—

As a means of stiffening and supporting the body of a hook-and-ladder truck without a perch, the S-shaped brace or stiffening rod P, having a forked or branching upper end, in combination with the trussed side rails J, fifth-wheel D and E, king-bolt H, and axle B, substantially as described.

JOSEPH PINE.

Witnesses:

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