PERRINE & STEWART.

Hose-Carriage.

No 47,330 Patented Apr. 18, 1865.

Fig. 1.

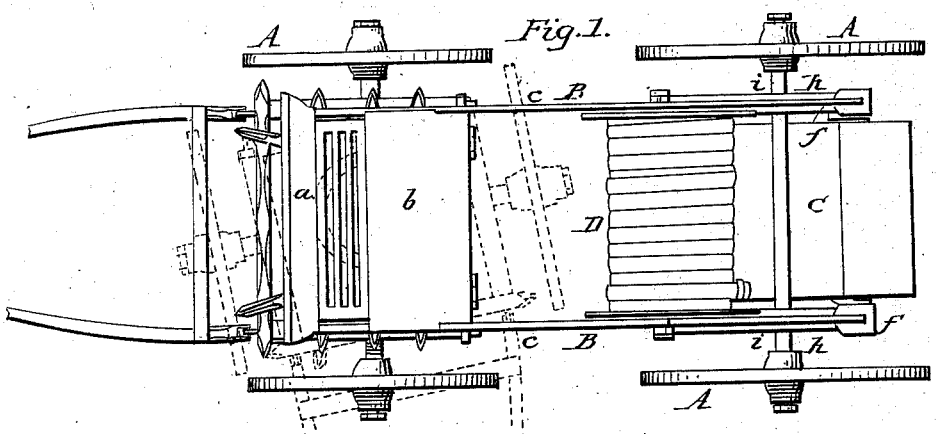


Fig. 2.

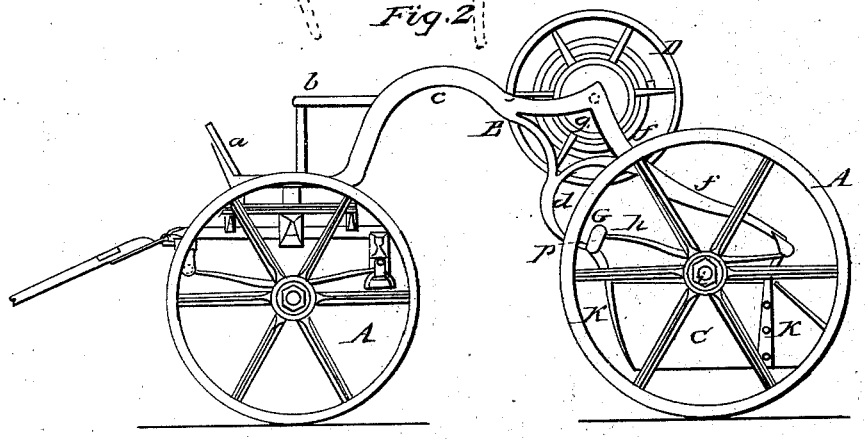


Fig. 3.

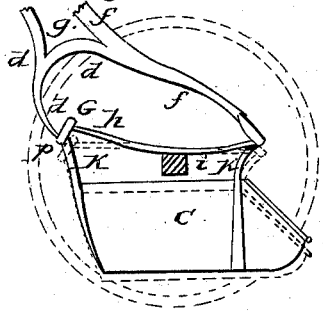
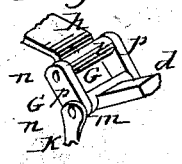


Fig. 4



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J. A. Davis

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UNITED STATES PATENT OFFICE.

ROBERT PERRINE AND SAMUEL M. STEWART, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN HOSE-CARRIAGES.

Specification forming part of Letters Patent No. **47,330**, dated April 18, 1865.

To all whom it may concern:

Be it known that we, ROBERT PERRINE and SAMUEL M. STEWART, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Steam Fire-Engine Tenders or Hose-Carriages; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 is a plan of our improved carriage; Fig. 2, a side elevation of the same; Fig. 3, a diagram showing an elevation of the rear portion of the carriage, and exhibiting particularly the manner of connecting the parts with the springs; Fig. 4, a view of the joint connecting the parts with the springs.

Like letters of reference indicate corresponding parts in all the figures.

Our invention consists in the employment of a peculiarly-formed "crane" or frame, on each side of the carriage, for supporting the hose-reel, so arranged as to furnish the greatest amount of strength, and to allow the front wheels to run under the same to turn short, and in the peculiar connection of the same and the box that contains the fuel, with a single spring on each side, which thus answers to give the desired elasticity to both cranes and fuel-box.

As represented in the drawings, A A are the supporting-wheels, and B B the cranes, one on each side, thus forming the frame of the carriage. These cranes are of peculiar formation. They are made of metal and the front portion is of such shape as to receive the foot-board *a* and seat *b* of the driver. In the rear of this, concentric with the king-bolt or axis on which the axle of the front wheels turns, the cranes are formed into arches *c c*, of sufficient height to allow the front wheels to run under in turning around. From thence they extend downward and backward a suitable distance, when they separate into two branches, *d* and *f*, with an open space, *g*, forming an enlargement between the branches *d*, uniting with the front end of springs *h*, resting on top the rear axle *i*, and the branches *f*, connecting in like manner with the rear end of said springs.

We prefer half-elliptical springs, as shown, but, if desired, entire elliptical springs may be employed, or other form that will produce the desired result. The hose-reel D rests in the cranes B, above the enlargement *g*. The fuel-box C, for containing the reserve for the engine, is also suspended, beneath the axle *i*, to the springs *h h*, by means of suspending-rods *k k*.

In connecting the branches *d* of the cranes B and the suspension rods *k* of the fuel-box C with the springs *h*, in front, we prefer the joint G. (Indicated most clearly in Fig. 4.) The end of each spring is formed into an eye or socket, *l*, and the end of each branch *d* into a similar eye or socket, *m*. Through these eyes pass bearings *n n'* of a yoke or clevis, *p*, substantially of the form indicated. On the inner end of the bearing *n'* the suspension-rod *k* attaches.

By the peculiar formation of the cranes, as before described, they may be made of iron and very light. The front is so formed that the seat is readily attached, while the arches *c c*, in the rear, not only give greater strength than would be attained if they were merely horizontal, but they enable the front wheels to run under, as indicated by red lines, Fig. 1, so that the carriage may be turned short around, as is frequently necessary, and by this means the horse may be hitched securely to the hind wheels in standing. The enlargement *g*, however, is of the greatest importance in giving the requisite strength to the cranes, for it is over this enlargement that the hose-reel rests, and it is also on the center of the cranes that the greatest strain comes, under all circumstances. It will be seen that by this arrangement there can be no sagging or bending of the cranes, and the same can be made of exceeding lightness.

By the particular arrangement before described, it will also be perceived that both the cranes and the fuel-box C are connected with the springs *h h*, so as to give the necessary elasticity to each, and that without any intermediate parts or other connection with the rear axle.

We are aware of no other device in which this effect is accomplished. We have never seen any arrangement in which the fuel-box could be connected with a hose carriage, much less one in which both cranes and box were connected with the same springs. Or-

dinary construction would require separate springs for the fuel-box. The fuel-box when filled weighs several hundred pounds, and adding to this the weight of an attendant, some elasticity is required in driving rapidly over the roughly-paved streets of a city to prevent breakage or disarrangement. This effect is accomplished perfectly in our device.

The arrangement of the joints G is also of importance, for it allows the necessary play and adaptation of the cranes and the fuel-box—that is, as the spring lengthens by compression the joint correspondingly shortens in the same degree, and vice versa. It furnishes also the most convenient means of attachment and connection of the parts.

What we claim as our invention, and desire to secure by Letters Patent, is—

The construction and arrangement of the cranes B and the box C, and their connection with the same springs *h*, by means of the joints G, or equivalent, substantially as and for the purposes herein set forth.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

ROBERT PERRINE.
SAMUEL M. STEWART.

Witnesses:
R. F. OSGOOD,
J. A. DAVIS.