

No. 670,943.

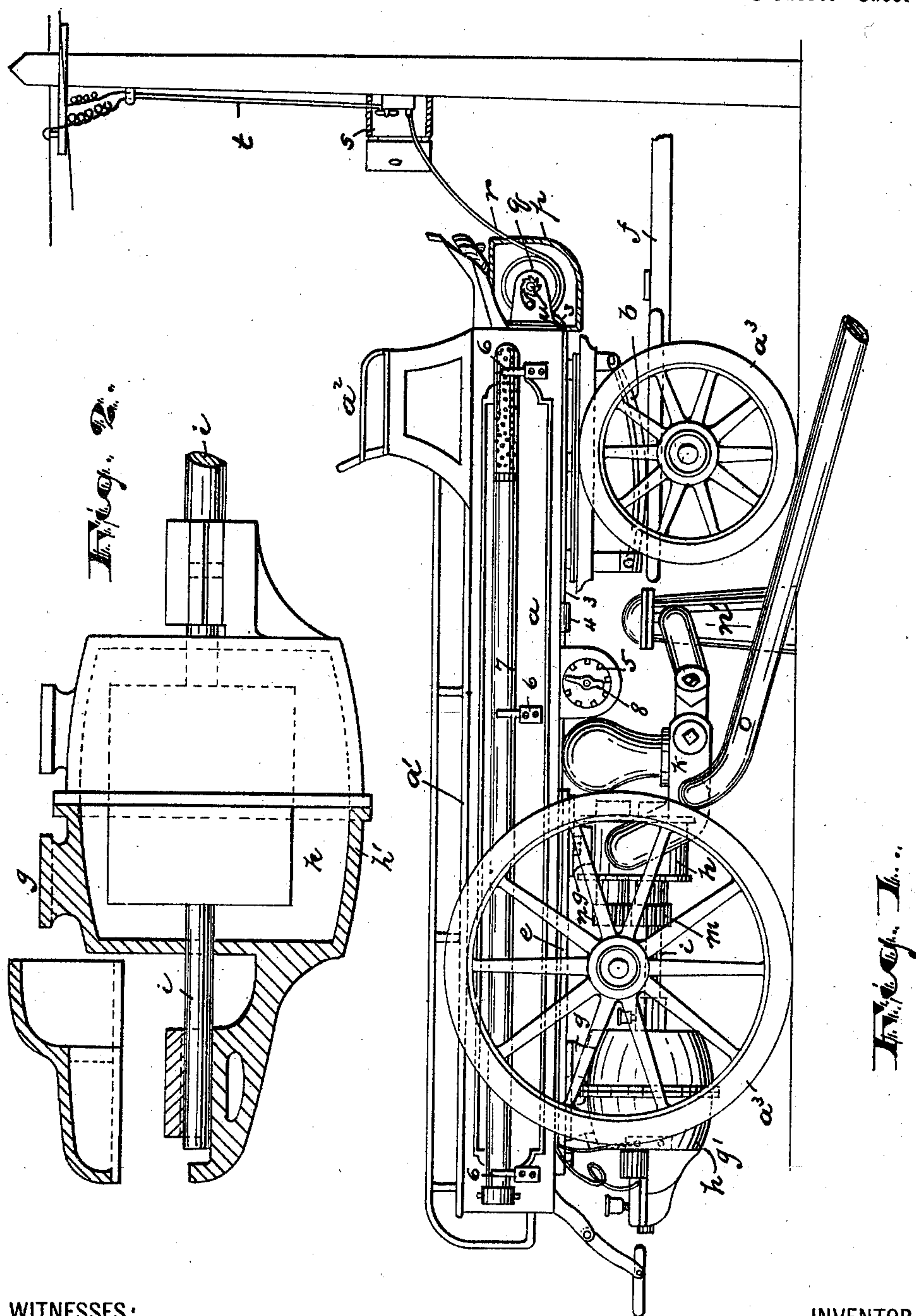
Patented Apr. 2, 1901.

W. M. WHITLOCK & E. P. HARRISON.
ELECTRIC FIRE ENGINE AND HOSE CARRIAGE.

(Application filed Apr. 21, 1899.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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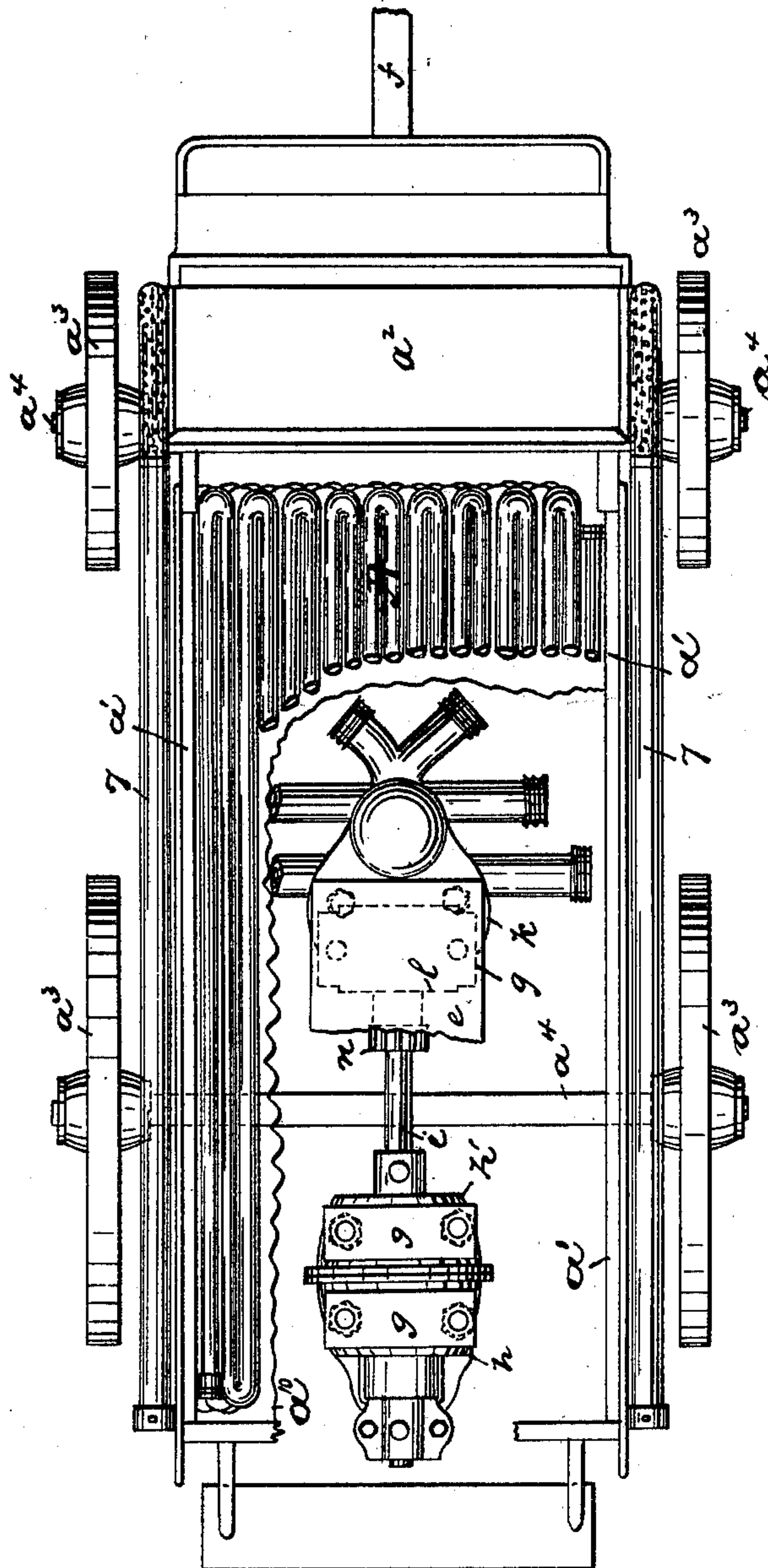


Fig. 2.

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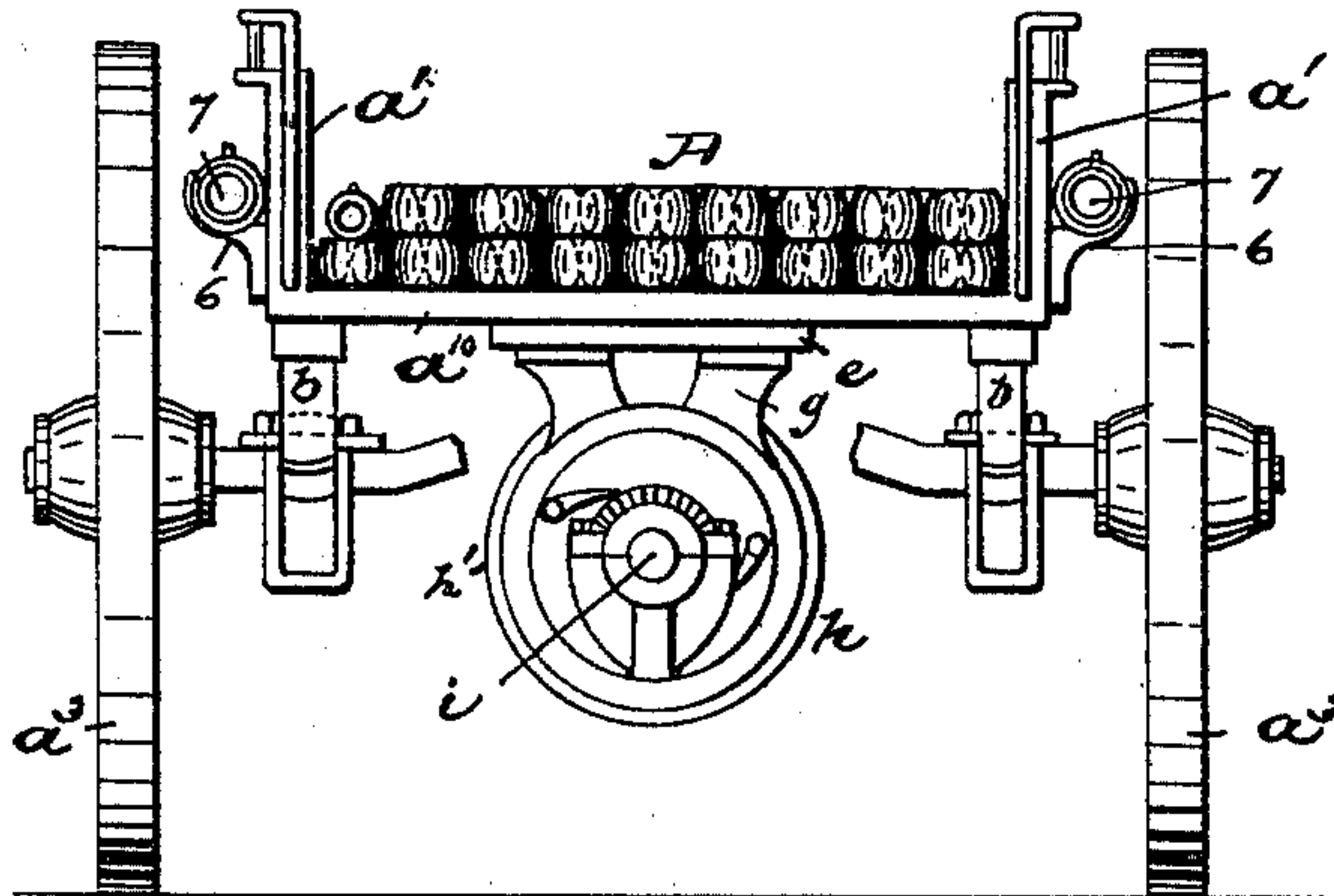


Fig. 3a

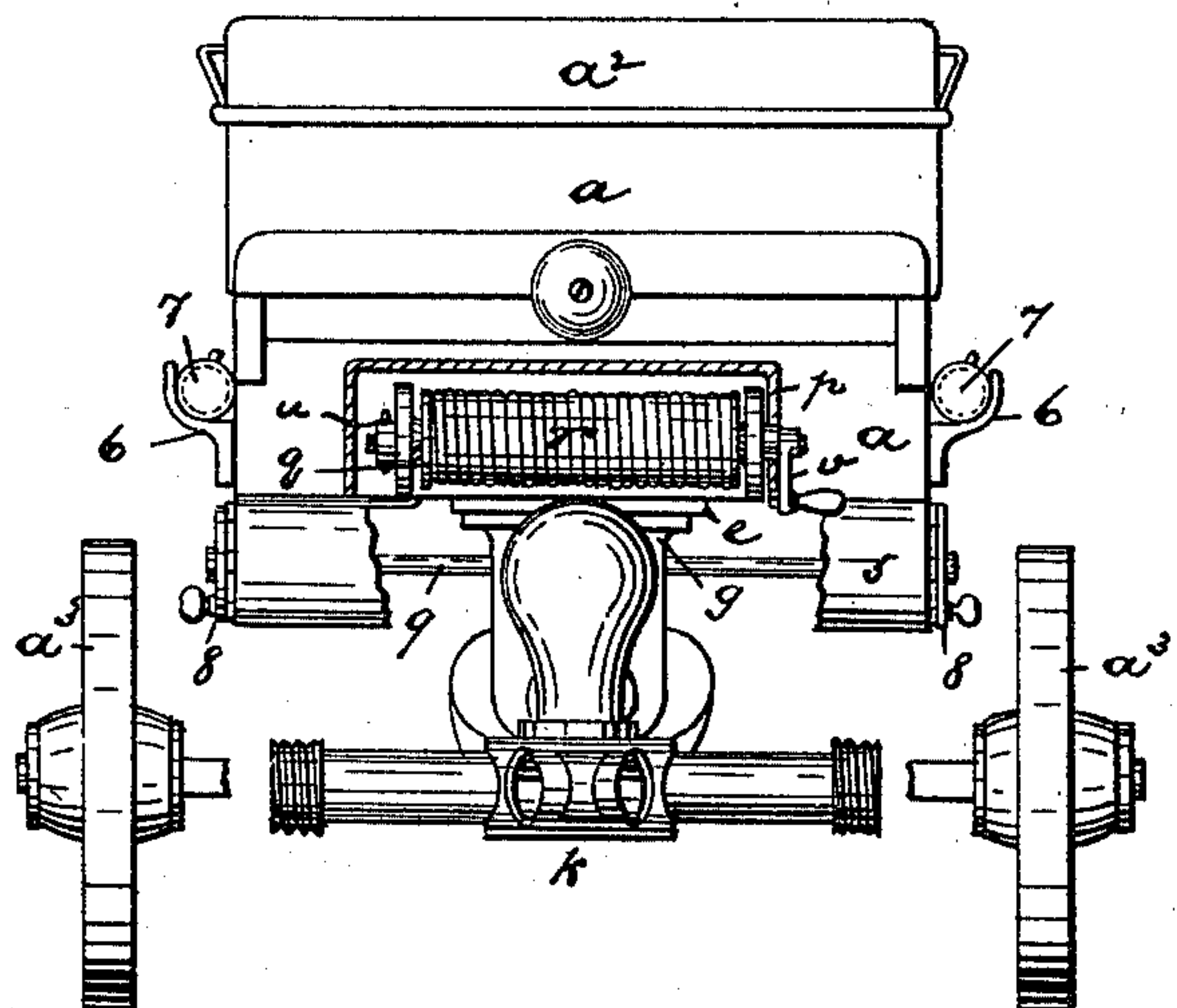


Fig. 4

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UNITED STATES PATENT OFFICE.

WILBUR M. WHITLOCK AND EDGAR P. HARRISON, OF NEWARK, NEW JERSEY.

ELECTRIC FIRE-ENGINE AND HOSE-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 670,943, dated April 2, 1901.

Application filed April 21, 1899. Serial No. 713,864. (No model.)

To all whom it may concern:

Be it known that we, WILBUR M. WHITLOCK and EDGAR P. HARRISON, citizens of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Electric Fire-Engines and Hose-Carriages; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention relates to that class of fire-engines the pumps of which are adapted to be operated by electric motors arranged in connection with the engines and adapted to be brought into connection with an electric-power circuit or circuits when drawn to or near the fire, the objects of the present improvements being to secure a more convenient structure, one that can be more conveniently employed both as a wheeled engine and as a hose-carriage for conveying the hose and firemen to the fire, to reduce the cost of construction and supply a more simple and effective machine, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved electric fire-engine and hose-carriage combined and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the claim.

Referring to the accompanying drawings, in which like characters of reference indicate corresponding parts in each of the several views, Figure 1 is a side elevation of the improved combined hose-carriage and fire-engine, showing the same in connection with the fire-plug and electric-power circuit. Fig. 2 is a detail, partly in section, of the motor and its casing. Fig. 3 is a plan of the engine, partly broken away to show the relation of parts more clearly. Fig. 3^a is a rear end view, the rear axle being broken away to show the

motor; and Fig. 4 is a front elevation, the front axle being similarly broken.

In said drawings, *a* indicates the body of the vehicle, adapted to receive the various coils of hose *A* commonly employed in extinguishing fires, the said body being long and angular in general plan and providing a flat horizontal flooring upon which the long delivery-hose can be folded back and forth from the front of the vehicle to the rear thereof, the folds being in series and the series forming layers, so that a level is maintained at the top of the topmost layer on which the firemen may find a footing or resting-place while the vehicle is being driven to the conflagration, together with their loose garments, implements, &c. Thus a large quantity of delivery-hose (a thousand feet, more or less) can be packed in the carriage. At the opposite longitudinal sides of the horizontally-level flooring the vehicle is provided with raised side-boards *a'*, which extend a foot, more or less, above the flooring, and at the front of the vehicle, above the flooring, the vehicle is provided with an elevated seat *a²* for the driver. The side-boards hold the longitudinally-folded hose in place on the flooring and preferably project a little above the level of the topmost layer of delivery-hose, so as to retain the clothing and loose implements of the firemen in place while the vehicle is rapidly driven to the fire. The one flooring and its supports not only serve the functions above described, but serve the further function of holding the motor and pump fixed in operative alinement, ready for working upon making an electrical connection upon arrival at the fire. In mentioning the hose-carriage herein we refer to the vehicle for carrying the long hose commonly known as the "delivery-hose," as distinguished from the short hose known as the "suction-hose," which latter has been and is usually carried by the engine. Beneath the said flooring the said vehicle-body is provided with suitable axles *a⁴* and wheels *a³*, upon which said body is supported. Beneath the said body and on the said axles are arranged suitable springs *b*, upon which the said body is supported, said springs being secured to the body and axle

by suitable bolts, clips, or fastening means, and all said parts may be of any construction desirable.

f indicates a shaft or pole attached to the front of the vehicle and to which the horses may be attached in driving the vehicle to the scene of conflagration.

The horizontal flooring *a*¹⁰ of the body *a* serves as the level bed-plate from which the motor and pump are suspended, the main bed-plate *a*¹⁰ providing a firm support for the heavy castings and operative parts and also a level top surface to receive the folded hose and hold the same horizontally level, as before described. To said bed-flooring *a*¹⁰ may be attached a cast-iron bed *e*, held to said flooring *a*¹⁰ by bolts or any other suitable means, and from said cast-iron bed are fastened hangers *g*, to which the electric motor *h* is secured in any suitable manner. The said motor is of any suitable construction and is inclosed in a box or casing *h'*, formed in connection with or being a part of one of the hangers *g* above referred to. Said casing provides at its ends bearings for the motor-shaft *i*, by which the pump is driven. Forward of the said motor *h* is arranged a double rotary pump *k*, the pistons *l* of which connect with the motor-shaft, or the motor-shaft *i* and the main-pump piston-rod are preferably one continuous piece.

The double pump *k* employed is preferably such as employs two pistons connected by gear-wheels *m n* and working together to eject the water.

The construction of the double pump is common in pumping apparatuses in fire-engines and is supplied with water from the water-plug *n'* and ejects the water through the hose *o* or *A* to extinguish the fire.

At the front of the vehicle-body is arranged a case or receptacle *p* for a reel *q*, upon which is wound electrical conducting-wires *r*, suitably insulated in any common manner and adapted to be brought into connection with any electric station *s* having suitable terminals to receive said wires. The positive and negative wires are preferably each protected from the other by a suitable covering of insulation, and the said wires are together inclosed in an insulating casing or inclosure, excepting at the ends where adapted to be brought into contact with the terminals in the station *s* of the electric circuit-wires *t*.

The said reel *q* is preferably provided with a ratchet and pawl *u*, adapted to permit a free unwinding of the reel in one direction and prevent such an unwinding in the opposite direction, excepting when the pawl is disengaged from the ratchet-wheel. At the opposite end of the reel from the ratchet and pawl is arranged a crank *v*, by means of which the wires may be wound upon the reel. By means of this reel and electric wires we are enabled to arrange the engine in connection with a fire-plug or water-reservoir at a long distance from an electric station.

The reel *q* is preferably insulated from its supports and receptacle *p* in any suitable manner and is in connection with circuit extensions 3 of the circuit-wires *r*, permanently arranged upon the body of the vehicle and extending through a fuse-box 4 and controlling or starting box 5 to the motor *h*.

The sides of the body portion are provided with brackets 6, adapted to receive the suction-hose 7.

The controller 5 extends from side to side of the vehicle, or nearly so, so that the same may be operated from either side of the vehicle by the handles or cranks 8 8, as indicated in Fig. 4.

The construction of the controller is such as is common in the electrical art, excepting that the crank-shaft 9 for operating the same extends from end to end of the case and is provided with two cranks instead of one.

Having thus described the invention, what we claim as new is—

The improved hose-carriage and electrical fire-engine combined, comprising a long vehicle-body having wheels, and at the front a raised seat, said body having a horizontal flooring which serves to hold the folded hose and as a supporting-bed for the motor and pump to hold the same in alinement, said motor and pump being suspended from beneath said level flooring and bed-plate and held in operative relation thereby, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 10th day of April, 1899.

WILBUR M. WHITLOCK.
EDGAR P. HARRISON.

Witnesses:

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C. B. PITNEY.