

No. 675,421.

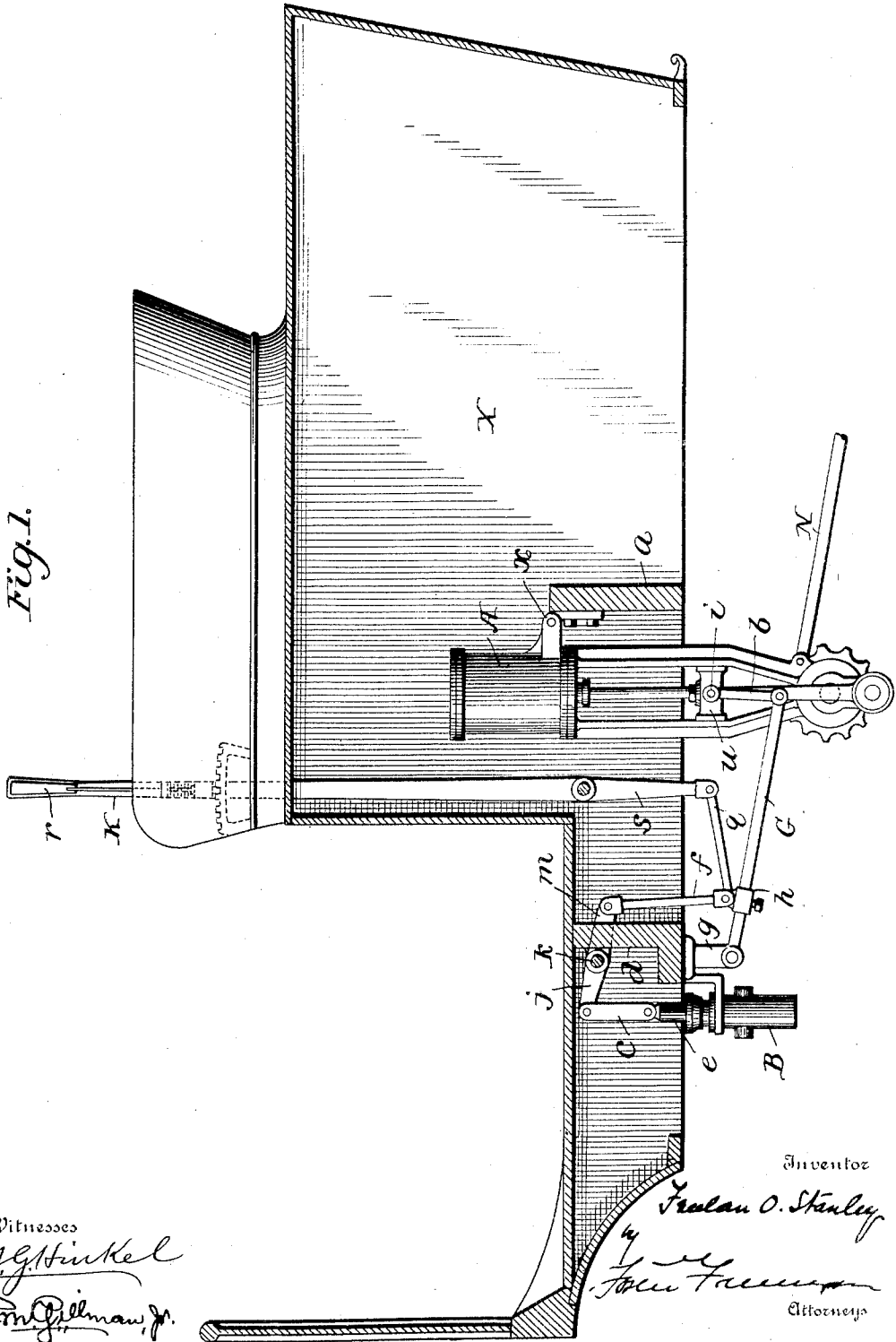
Patented June 4, 1901.

F. O. STANLEY.
MOTOR VEHICLE.

(Application filed Mar. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.



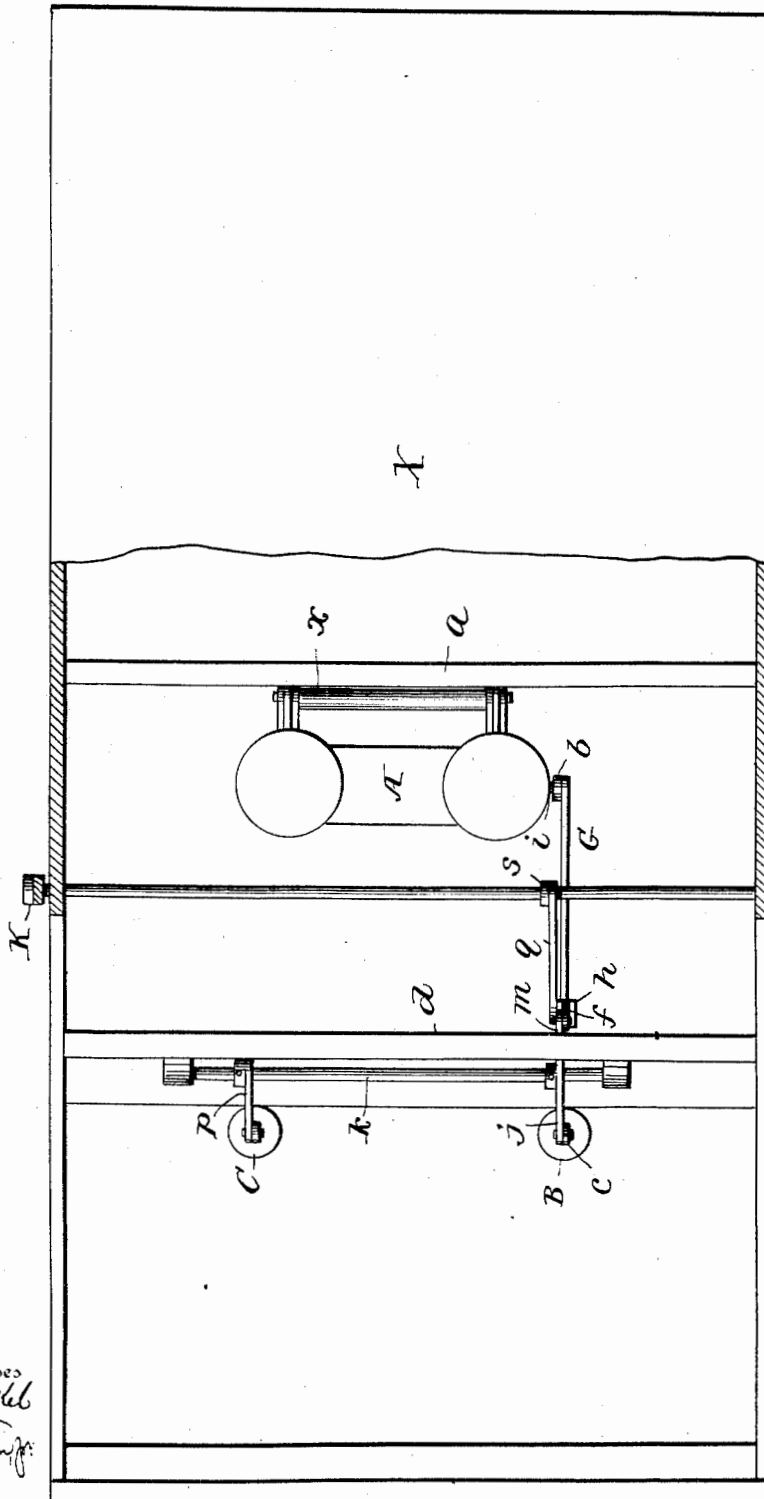
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2 Sheets—Sheet 2.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

FREELAN O. STANLEY, OF NEWTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO FRANCIS E. STANLEY, OF SAME PLACE.

MOTOR-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 675,421, dated June 4, 1901.

Application filed March 2, 1901. Serial No. 49,610. (No model.)

To all whom it may concern:

Be it known that I, FREELAN O. STANLEY, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Motor-Vehicles, of which the following is a specification.

In that class of motor-vehicles in which steam is employed as the motive power it has been the practice to mount the water-pump and also the oil-pump when the latter is used upon the frame of the engine, with independent operating means incapable of adjustment, with flexible pipes between the pumps and the supply-tanks and burner and boiler, rendering the piping difficult or otherwise objectionable.

To overcome the objections incident to the usual constructions, to provide an easy means of changing the throw of the pumps, and to change the throw of both the gasolene and the water pumps in the same proportion, and also to avoid the necessity of using flexible piping, I construct and arrange the parts as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation of part of a motor-vehicle and appurtenances sufficient to illustrate my invention. Fig. 2 is a plan view.

The frame of the engine A is connected to the cross-bar *a* of the vehicle-body X by jointed or flexible connections at *x*, as usual, thus permitting the engine to swing back and forth, while a strut N maintains a uniform distance from the driving-axle.

The water-pump B is rigidly attached to the cross-bar *d* of the frame, as is also the oil-pump C when the latter is used. These pumps may be of various constructions, but as shown each has a plunger to which a reciprocating motion is imparted by flexible connections from the engine—that is, such jointed connections that the plungers will have the desired movements imparted to them regardless of the changes in the position of the engine.

As shown, an arm *j* on a shaft *k*, rocking in bearings on the cross-piece *d*, is connected by a link *c* with the plunger *e* of the water-pump B, and an arm *m* on the shaft *k* is connected

by a connecting-rod *f* with a lever G, which is pivoted at one end to a stud *g* on the vehicle-frame. Preferably the connection between the rod *f* and lever G is adjustable, so as to vary the movement communicated to the arm *j* from the lever G. A reciprocating part of the engine is connected by a link *b* with the end of the lever G, so as to vibrate the latter. This reciprocating part may be a lever pivoted to the frame of the engine, as usual; but as shown it is a wrist-pin *i* on the reciprocating cross-head *u*, so that the link *b* permits the engine-frame to swing back and forth without interfering with the movement imparted to the lever G.

When an oil-pump is employed, its plunger is preferably connected to an arm *p* on the rock-shaft *k*, although, of course, a separate lever, like the lever G, might be used.

It is often very desirable to be able to vary the pumping action from the seat of the vehicle. This can be done by making a slip connection between the rod *f* and one of the levers to which it is connected and providing connection between the parts and the seat. As shown, the lower end of the rod *f* is pivoted to a sleeve *h*, sliding on the lever G, and this stem is connected by a rod *q* to an arm *s* on a rock-shaft carrying a lever K and provided with a locking-lever *r* for holding it in any position in which it is set.

As the pumps are supported in immovable supports, the pipes leading to and from the pumps may be rigid throughout and have no play whatever. As both pump-plungers are connected with the same actuating means, any change in movement of one equally affects the other, so that when a greater amount of oil is supplied to increase the activity of the burner a corresponding increase in the action of the water-pump insures the desired increase in the volume of water fed to the boiler.

It will be seen that by providing means for varying the action of the pumps from the seat the action of both burner and generator may be regulated as desired.

In case it should be necessary to fill the boiler when the engine is not operative—as, for instance, before firing up—this can be done by using the lever G as a hand-lever

after disconnecting its outer end from the engine. In such case increased throw may be imparted to the pump-plunger by setting the sleeve *h* farther out from the fulcrum of the lever or by swinging the lever *G* to a greater extent than is effected by the engine when connected therewith.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The combination with the body, seat and engine of a motor-vehicle, of water and oil pumps, means for actuating them from the engine, and means for varying the action from the seat, substantially as set forth.

2. The combination with the body, seat and engine of a motor-vehicle, of water and oil pumps, means for actuating them from the engine, and means for varying the action of both pumps simultaneously from the seat, substantially as set forth.

3. The combination with the body, seat and engine of a motor-vehicle, of water and oil pumps, means for actuating them from the engine, and means for varying the action simultaneously of both pumps in the same proportion, from the seat, substantially as set forth.

4. The combination with the body of a motor-vehicle, of an engine supported to swing on the body, a pump rigidly supported on the body, and flexible connections between the pump and the engine, substantially as set forth.

5. The combination with the body of a motor-vehicle, of an engine supported to swing on the body, a pump rigidly supported on the body, and adjustable flexible connections between the pump and the engine, substantially as set forth.

6. The combination with the body of a motor-vehicle, of an engine supported to swing on the body, a pump rigidly supported on the body, flexible connections between the pump and the engine, and means for adjusting said connections from the seat of the vehicle, substantially as set forth.

7. The combination with a motor-vehicle frame, engine and pump, of means for rigidly

supporting the pump upon the frame independently of the engine, and a flexible working connection between the engine and the pump, substantially as set forth.

8. The combination with a motor-vehicle frame, engine and pump, of means for supporting the pump upon the frame independently of the engine, and a lever also supported by the vehicle-frame and connected to operate the pump and to be operated by the engine, substantially as set forth.

9. The combination with a motor-vehicle frame, engine and pump, of means for supporting the pump upon the frame independently of the engine, and a lever also supported by the vehicle-frame and connected with the pump and by a flexible connection with the engine, substantially as set forth.

10. The combination with the frame of a motor-vehicle, of an engine, oil and water pumps supported by the frame of the vehicle independently of the engine, and a lever connected to operate both pumps and supported by the frame and connected to be operated by the engine, substantially as set forth.

11. The combination with the body, seat and engine of a motor-vehicle, of water and oil pumps, means for actuating them from the engine, and adjustable means for varying the extent of movement thereof, substantially as set forth.

12. The combination with the body, seat and engine of a motor-vehicle, of water and oil pumps, means for actuating them from the engine, and adjustable means for simultaneously varying the extent of movement thereof, substantially as set forth.

13. The combination with the pump and engine of a motor-vehicle, of a lever, and connections whereby it may be used as a handle or as a connection between the pump and engine, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREELAN O. STANLEY.

Witnesses:

J. W. BACON,
JAS. H. GILKEY.