

(No Model.)

A. W. AUSTIN.
PUMPING ENGINE.

No. 586,654.

Patented July 20, 1897.

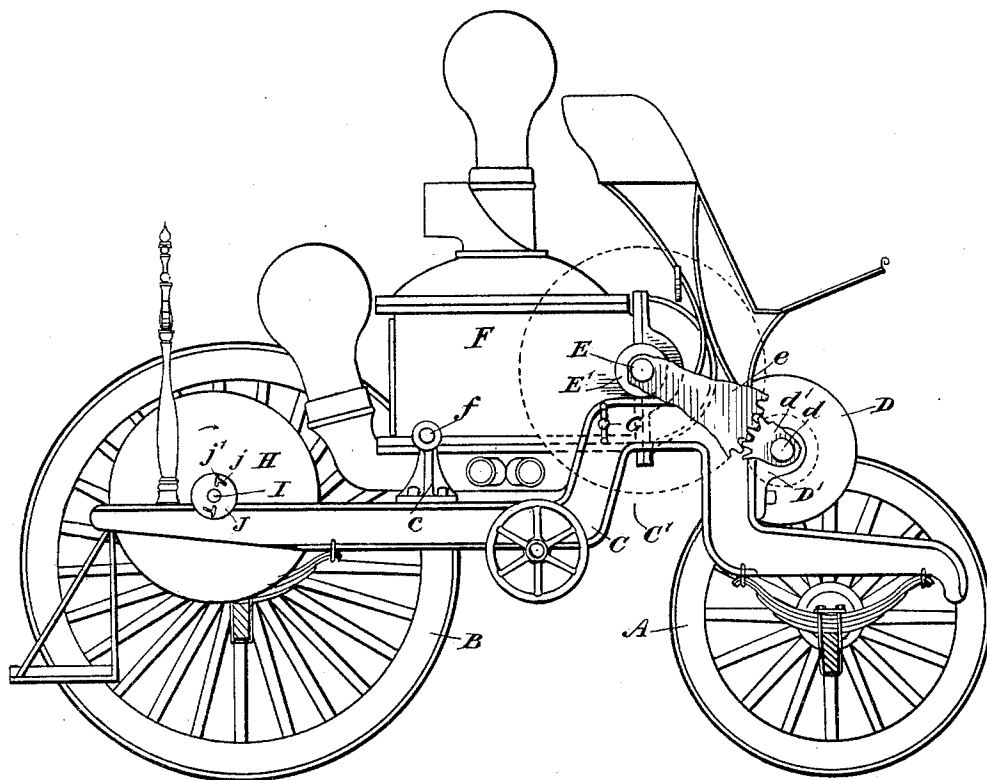


Fig. 1.

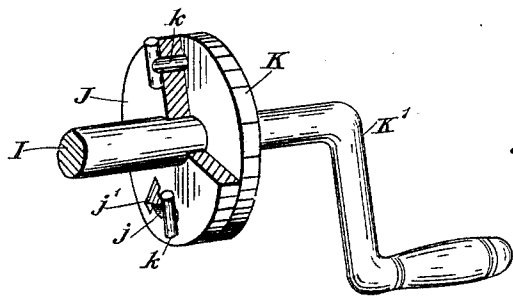


Fig. 2.

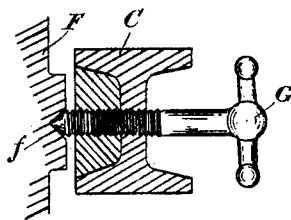


Fig. 3.

Witnesses.

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ALBERT WILLIAM AUSTIN, OF TORONTO, CANADA.

PUMPING-ENGINE.

SPECIFICATION forming part of Letters Patent No. 586,654, dated July 20, 1897.

Application filed February 24, 1896. Serial No. 580,446. (No model.)

To all whom it may concern:

Be it known that I, ALBERT WILLIAM AUSTIN, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Pumping-Engines, of which the following is a specification.

My invention relates to improvements in fire pumping-engines other than the portable steam fire-engines now commonly in use; and the object of the invention is to make a light engine in which the weight may be distributed so that it may be enabled to be drawn more advantageously for short distances and also to improve the construction; and it consists, essentially, in providing a motor over and slightly to the rear of the front axle, so that the center of gravity of the engine may be thrown forward of the vertical plane midway between the axles, the said motor being geared to a counter-shaft for driving the pump and the pump and other portions of the engine being otherwise constructed as hereinafter more particularly explained.

Figure 1 is a side elevation of an engine constructed in accordance with my invention, the rear wheels being removed. Fig. 2 is a detail showing the connection between the crank and the end of the reel-shaft. Fig. 3 is a detail showing the means of holding the pump firmly in position.

In the drawings like letters of reference indicate corresponding parts in each figure.

A are the front wheels, B the rear wheels, and C the side bars of the frame, which have a reverse U-shaped central portion C', formed as shown.

D is a motor, preferably electric, the shaft *d* of which is supported in bearings D' on the side bars C in front of the reverse U-shaped portion C'.

d' is a gear-wheel which meshes with a gear-wheel *e*, secured to the counter-shaft E, which is supported in suitable trunnion-bearings E', forming part of the casing of the pump F. The counter-shaft E is the operating-shaft of the pump.

The pump F is pivoted at *f* upon the brackets *c*, secured to the side bars C. The forward end of the pump is supported by the trunnion-bearings E' upon the top of the reverse U-shaped portion C' of the side bar C.

G is a hand set-screw which extends through the side bar C into a conical recess *f'* in each side of the pump-casing. One only of such hand set-screws is shown, one being preferably, however, provided at the opposite side of the pump to that shown in the drawings.

H is a reel which is supported upon the shaft I. The end of the shaft I has a disk J secured to it, which is provided with arc-shaped slots *j* with enlarged ends *j'*.

K is a disk provided with T-shaped bolts *k* and a crank-handle K'. By means of the crank-handle K' it will be seen that when the shaft is turned in the direction indicated by arrow the T-shaped bolts, which are inserted through the enlarged ends *j'* of the slots *j*, will pass to the end of the narrow end of the slots, and thereby securely bind the disk K to the disk J, so that the reel may be readily turned.

The object in providing the form of connection above described for the crank is on account of the reel being inside the wheels, and by the means above described when the engine is stationary the disk K may be readily inserted and the reel turned to wind.

When the reel is not in use, it will be readily seen that there will be nothing extending out from the end of the shaft to prevent the free rotation of the wheels of the engine when it is being drawn or propelled.

The object of the reel hereinbefore provided is for the purpose of carrying insulated electric wires which form the connections to the electric motor from any suitable source or supply where trolley-wires or other electric systems are used, but it will of course be understood that such form of reel may be utilized for hose.

In the engine above described it will be noticed that the pump is pivoted to the rear and that the gear-wheel *e* comes in the path of the front wheels, which have to be turned underneath the reverse U-shaped portion. Consequently it is necessary to provide means for raising the front end of the pump and gear-wheel, so as to throw the gear-wheel out of mesh to permit of the engine being drawn, and this is done by any suitable form of gearing suitable for the purpose, this mechanism not being illustrated.

In the above description it will be seen that

I have departed from the commonly-accepted form of fire-engine in which the weight is supported more to the rear of the engine and beneath the rear wheel, for the reason that
5 in short distances in which my engine is designed to be used it may be more readily and quickly drawn by placing the motor in the position described, so that the weight is distributed more to the front of the vertical plane
10 midway between the axles of the engine and higher than heretofore.

What I claim as my invention is—

1. In a fire-engine, the combination with the running-gear, of the electric motor supported in proximity to the front axle, the
15 pump arranged in rear of the motor and having its rear edge pivotally mounted upon the

frame, and set-screws passing through the frame and having pointed ends engaging recesses in the forward portions of the pump, 20 and a reel in rear of the pump, substantially as described.

2. In a fire-engine, the combination with the motor supported above and to the rear of the front axle, of a pump pivotally supported 25 at the rear upon the frame behind the motor and at the front upon the journals of the operating-shaft and set-screws extending through the side bars into recesses in the pump as and for the purpose specified.

ALBERT WILLIAM AUSTIN.

Witnesses:

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H. DENNISON.