

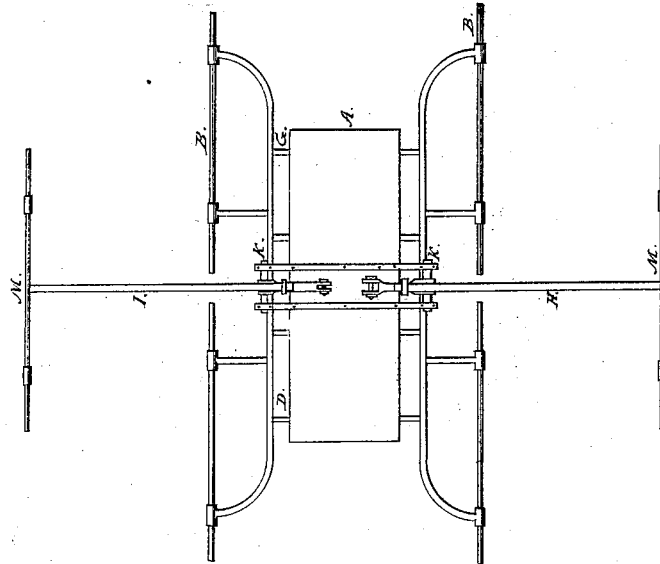
*G. Barton, Jr. & L. Button,*

*Fire Engine,*

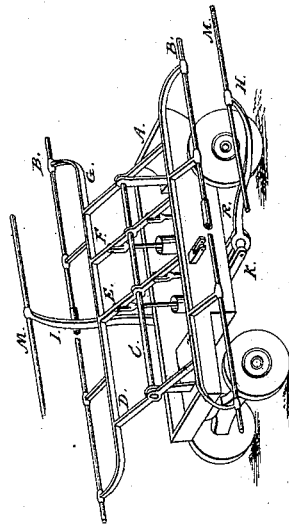
*N<sup>o</sup> 1,767.*

*Patented Sep. 19, 1846.*

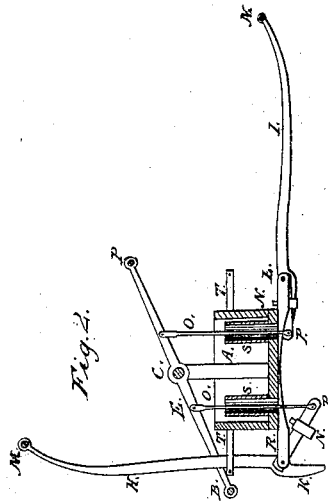
*Fig. 3.*



*Fig. 1.*



*Fig. 2.*



*Inventors,*  
*Gordon Barton Jr. & L. Button*

# UNITED STATES PATENT OFFICE.

GARDNER BARTON, JR., AND LYSANDER BUTTON, OF WATERFORD, NEW YORK.

## FIRE-ENGINE.

Specification of Letters Patent No. 4,767, dated September 19, 1846.

*To all whom it may concern:*

Be it known that we, GARDNER BARTON, Jr., and LYSANDER BUTTON, of Waterford, in the county of Saratoga and State of New York, have invented a new and Improved Mode of Applying Power to Fire-Engines; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a transverse section. Fig. 3 is a bottom view.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

The fire engine may be constructed in any of the common or well known forms. For illustration we will here describe an engine with our improvements attached.

The water tank A is about ten feet long and two feet wide. The hand poles B B are about twenty feet long and seven feet apart and operated on by the firemen; motion is given to the pumps which are placed in the tank.

C is the main vibrating arbor or shaft sustaining the cross bars D E F and G which are made of iron or some strong material about three feet eight inches long one inch thick and three inches deep. Holes are made at the center through which the arbor C is passed and firmly secured by keys. On the out ends of the cross bars are raves with thimbles in which are inserted the hand poles B B on the cross bar F are pins or studs which operate on the piston rods of the pumps.

To the fire engine as before described we attach two levers H and I one on the right and the other on the left side of the tank. The levers last named may be made of iron or some strong material extending outward from their axis about five feet and six inches in such manner that two additional lines of fire men can have room to stand on the ground and work on the hand poles attached at the out side ends. The thickness of the last named levers should be about one inch, the depth near the axis should be three inches and decrease gradually toward the out ends to which the out side hand poles M M are attached. At the inside ends of the levers are holes through

which pass the axis as at K and on the under sides are projections about six inches long on which the inside or jointed ends of the levers marked P P are supported and connected therewith by means of the clasps and binding screws N N.

P P are the loose inside ends of the levers H and I and are about one foot and four inches long from the center of the axis to the connecting pins at the inside ends. The ends through which the axis are passed are divided forming a hinge joint. The inside ends are perforated with holes about one inch in diameter through which pins are passed to which the connecting rods O O are attached.

N N are clasps made of iron in the form of oblong bands furnished with binding screws on the top sides. The clasps are passed around the lower ends of the levers H and I and around the jointed ends P P and fastened by the binding screws or may be detached at pleasure and the outside levers H and I turned up. See Fig. 2 at H. The outside levers when in use will be attached as seen at H Fig. 1 and at I Fig. 2.

R R are boxes connected by bolts to the under side of the water tank and should be made of wrought iron or some strong material and the planes of the axis should be about seven inches from the out side of the tank.

O O are connecting rods made of iron about two feet and six inches long and the ends furnished with holes or boxes with strap heads by which they are connected to the pins or studs on the cross bar E and at the lower ends of the hinge parts P P.

M M are hand poles which are attached on ends of the out side levers H and I.

S S are tubes made of upper or other material through which the connecting rods O O are passed serving to prevent the water in the tank from escaping through the bottom.

The mode of operation on arriving at the scene of conflagration will be to let down the out side levers H and I and secure them to the jointed ends P P by the clasps and binding screws and the engine is ready for use.

It will be perceived that on either side of the engine when the inside hand poles of that side are descending the outside hand poles on the same side will be ascending. The power thus applied prevents the engine from rocking a desideratum heretofore much

sought for. It will also be seen that the firemen when operating on this engine will all stand on the ground arranged in six parallel lines or in three lines on each side of the engine.

5 The out side hand poles M M may be worked with men facing each other. In this mode any fireman when fatigued may step off and a fresh hand may take his place  
10 when the engine is in motion without incommoding any one.

If it be desirable to operate the engine by means of the inside levers and hand poles only, then unloose the binding screws and  
15 clasps N N and turn up the levers I and H and secure them in a vertical position by means of pins in the ends of the forked arms T T which are attached to the tank and the engine may then be worked by the inside  
20 hand poles in the same manner that ordinary engines are operated to which no out side levers are attached. The out side levers may be turned up when in the engine house or when passing along the street or through  
25 any narrow passage.

We would here suggest that in some cases a variation of the construction of the out side levers may be made and for instance

make one long lever and apply it crosswise above the engine turning at the center on the 30 main arbor C and by means of studs and gear or by pulleys and chains connect it with the levers of the pumps in such manner that the poles on the out ends will possess a reverse motion to those on the inside 35 whereby the engine is also prevented from rocking.

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

The combination, arrangement and appli- 40 cation of the outside levers H and I, as before described and their agreement with the inside levers in such manner that when force is applied to the hand poles of the outside levers in a reverse direction to that which is 45 applied to the hand poles of the inside levers, both powers will agree in forcing the pistons of the pumps in one and the same direction while the reverse motion of the levers will prevent the engine from rocking. 50

GARDNER BARTON, JUN.  
LYSANDER BUTTON.

Witnesses:

ROBERT SAFTEY,  
ERASTUS M. CLARK.