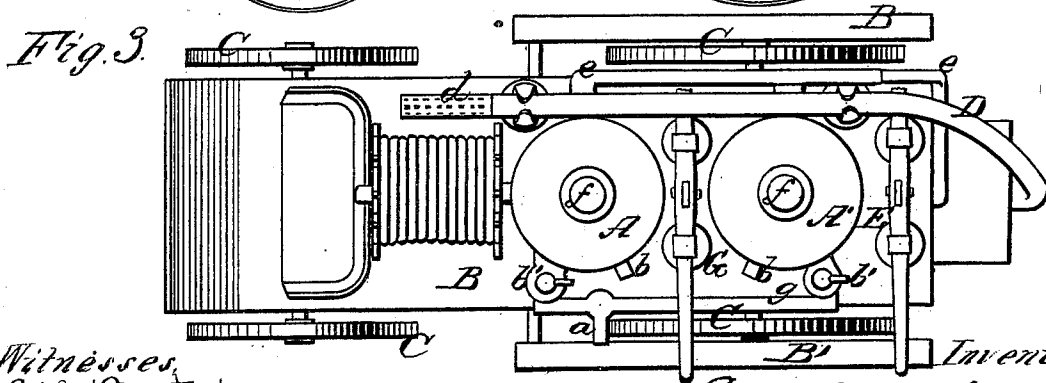
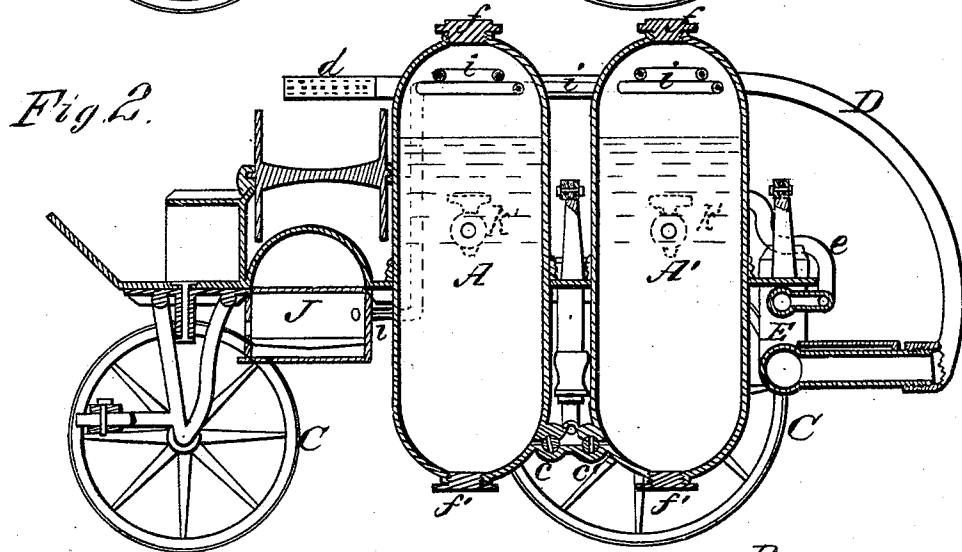
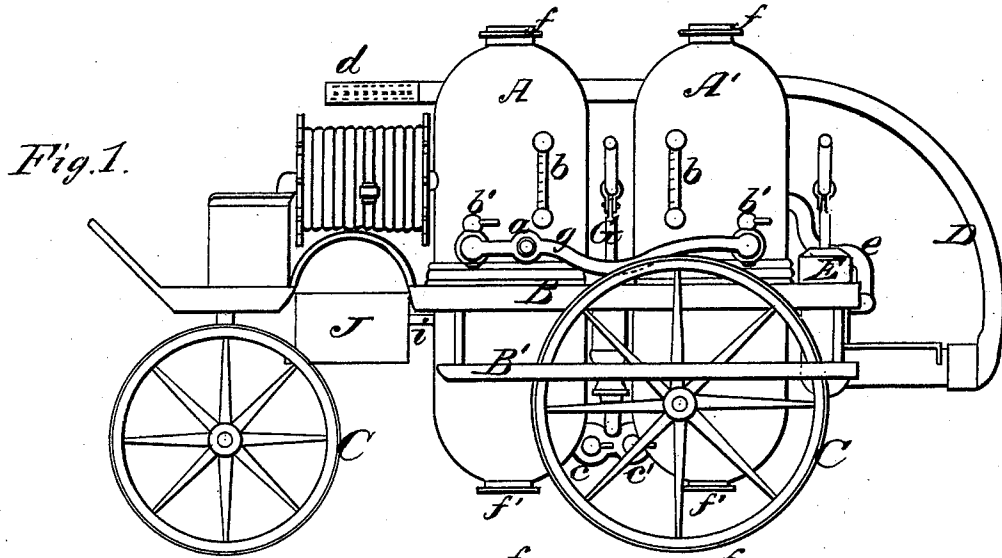


G. E. BARKER.
FIRE-ENGINE.

No. 170,699.

Patented Dec. 7, 1875.



Witnesses,
E. A. Bates
George E. Upham,

Inventor,
George E. Barker,
Chipman, Henshaw & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE E. BARKER, OF WAVERLY, NEW YORK, ASSIGNOR OF ONE-HALF
HIS RIGHT TO LESTER D. STONE, OF SAME PLACE.

IMPROVEMENT IN FIRE-ENGINES.

Specification forming part of Letters Patent No. **170,699**, dated December 7, 1875; application filed
April 18, 1874.

To all whom it may concern:

Be it known that I, GEORGE E. BARKER, of Waverly, in the county of Tioga and State of New York, have invented a new and valuable Improvement in Fire-Engines; and I 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, and to the letters and figures of reference marked thereon.

Figure 1. of the drawing is a representation of a side view of my fire-engine, and Fig. 2 is a sectional view of the same. Fig. 3 is a plan view of the same.

This invention has relation to means for extinguishing fires by throwing upon them strong solutions of soda and other like substances.

The nature of my invention consists in the combination, in a suitable carriage, of two or more receivers of suitable strength and capacity, with an engine for supplying them with water, and another engine for forcibly injecting air into their lower ends and agitating the substance therein, said receivers being connected together and to their engines in such manner that while the solution is being forced out of one receiver the other receiver can be supplied with the solution, thereby enabling me to throw a continuous stream, and also to mix the solid chemical thoroughly with the water before ejecting the same from the receivers, as will be hereinafter explained.

In the annexed drawings, A A' designate two strong receivers, which are suitably secured in upright positions by the body B of a carriage, which is mounted upon wheels C. These receivers are constructed with openings in their upper ends, closed by caps *f*, through which openings the receivers are supplied with the soda or other suitable substance, and at the lower end of these receivers are discharge-openings, which are closed by caps *f'*. E designates a double-acting water-supply engine, and D the flexible suction-pipe, which is provided with a strainer, *d*, on one end. The injecting-pipe *e* leading out of this engine communicates with both the two receivers A A' by means of cocks *k k'*, indicated by dotted lines, Fig. 2, so

that by adjusting these cocks water can be thrown into one receiver at a time, or into both of these receivers, as may be desired. The water-supply engine is operated by a vibrating lever under control of men who will be mounted upon the stands B B'. G designates a double-acting engine for injecting air into the receivers A A' for the purpose of ejecting the solution therefrom, and also for agitating the chemical substance and causing it to be suspended in the water. This engine G, like the engine E, is operated by persons upon the stands B B', and, if desired, the working levers of both engines may be connected together, so that they will be operated together. The lower end of the air-injecting engine G communicates with the receivers A A' at their lower extremities by means of short pipes, to which cocks *c c'* are applied. The air which is forced into the receivers for the purpose of ejecting the solution therefrom will violently agitate the solid particles and cause their suspension in the water, so that they will be ejected therewith. J designates a furnace, which is located beneath the front part of the carriage-body B, and which has a pipe, *i*, leading from it and entering the receivers A A' at their upper ends. In these receivers the pipe *i* is formed in coils, the object of which is to rarefy the compressed air therein, and thus add to the force for ejecting the solution. The receivers A A' communicate with each other by means of a pipe, *g*, from which the solution is ejected through a branch pipe, *a*, adapted to have attached to it a hose. This pipe *g* is provided with two cocks, *b' b'*. The receivers are charged with the chemicals through the openings in their upper ends, and after these openings are closed the cocks *k k'* are opened and the cocks *b' b'* closed. The receivers are then charged with water by working the engine E, and when they are properly charged the cocks *k k'* are shut. Either one of the cocks *c' c'* is then opened, also one of the cocks *b'* is opened, and the engine is worked, which will force air into the receiver communicating with it and eject the solution from pipe *a*. When one receiver is exhausted the solution can be ejected from the filled receiver by properly adjusting the

cocks, and while this is being done the first receiver can be recharged with chemicals and water. In this way the receivers can be kept constantly charged and ready for use, and all delay which the filling of the same might cause is thus obviated.

It is obvious that any number of these receivers can be grouped together and operated as the above-described two receivers.

What I claim, and desire to secure by Letters Patent, is—

1. In a fire-engine, a common water-supply pipe, provided with cocks opening into two water-receivers, in combination with a pump forcing air into either of the receivers at pleasure, and a common discharge-pipe,

whereby, while one of the receivers is being exhausted of its contents the other is being filled, and the water therein agitated to form a solution of carbonic-acid gas and the water therein, substantially as described.

2. The air-heating pipe *i*, arranged inside of the air-spaces of the receivers A A', and communicating with a furnace, J, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE E. BARKER.

Witnesses:

C. A. MORAN,
JOHN A. KUHNERT.