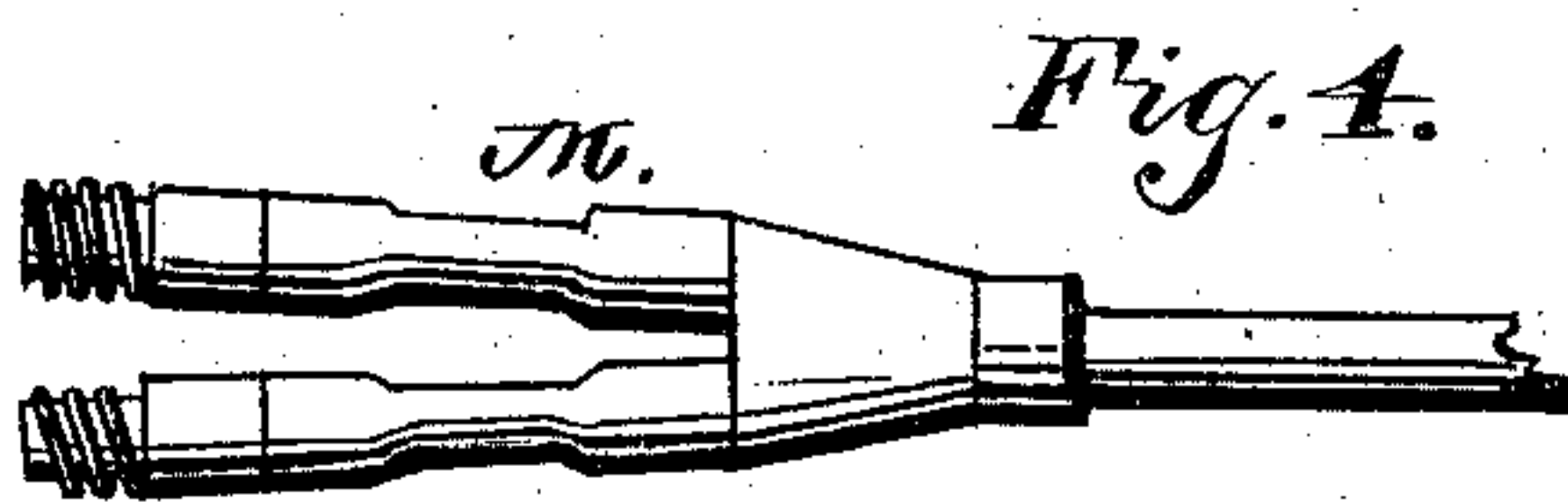
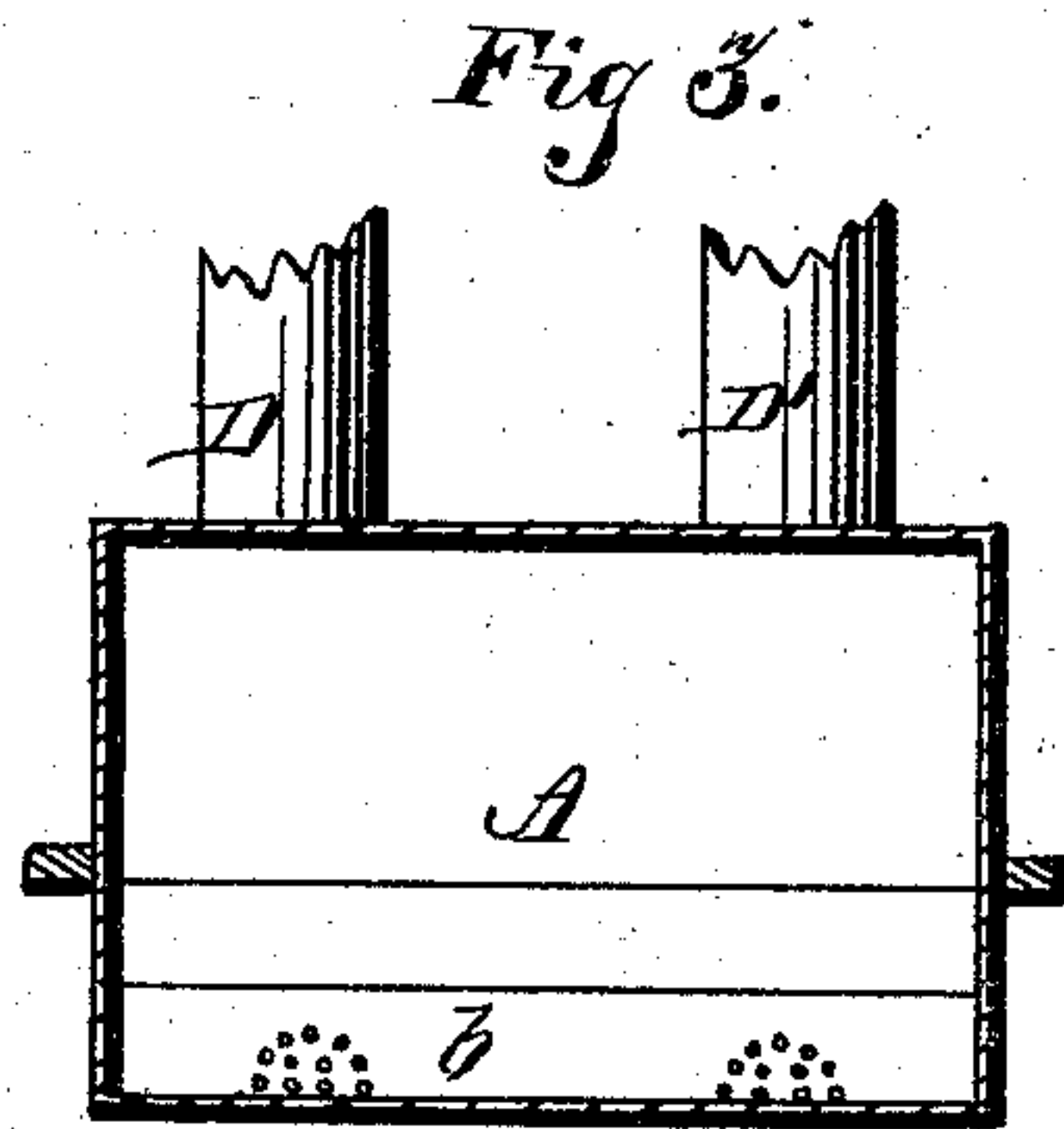
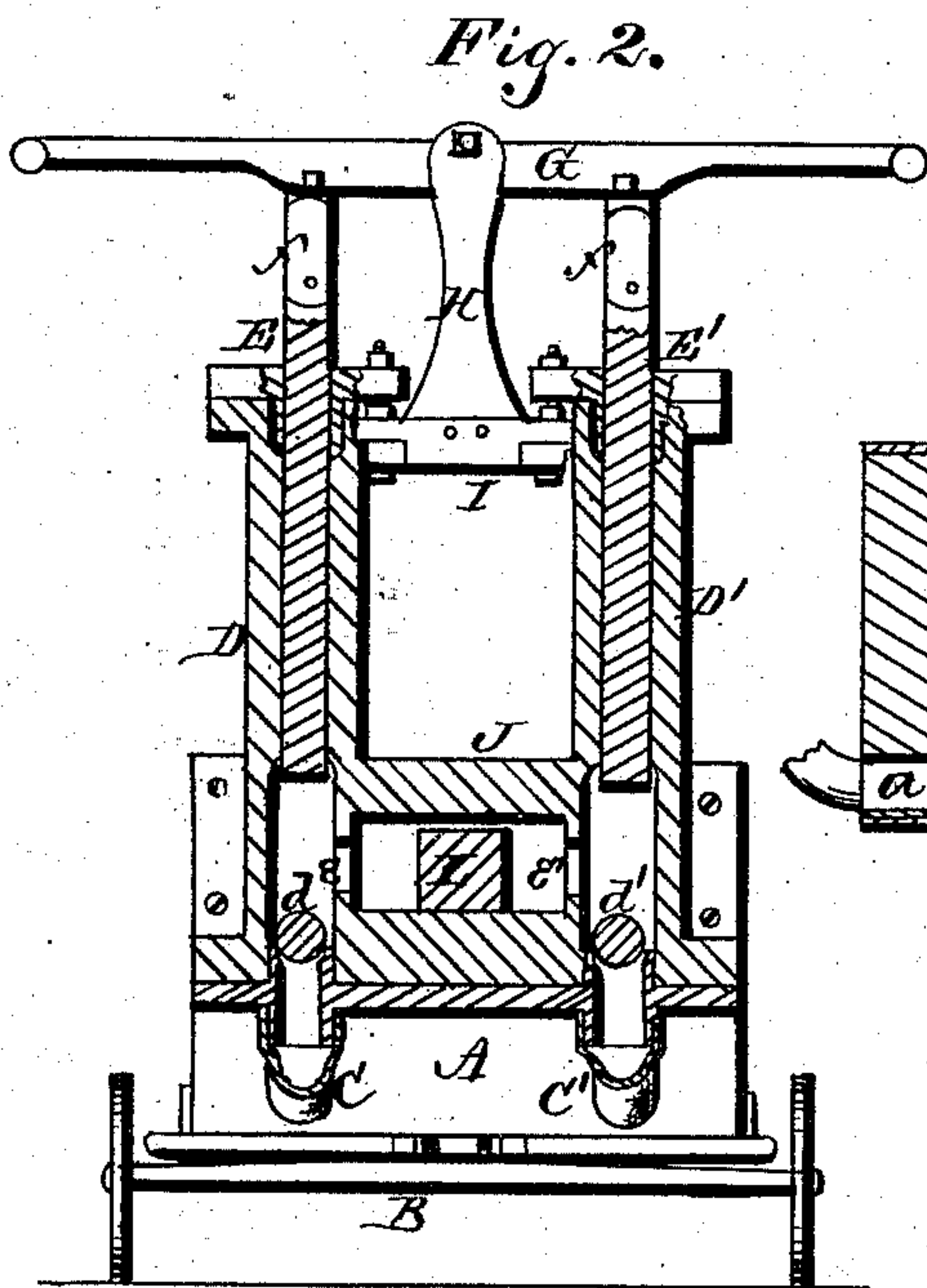
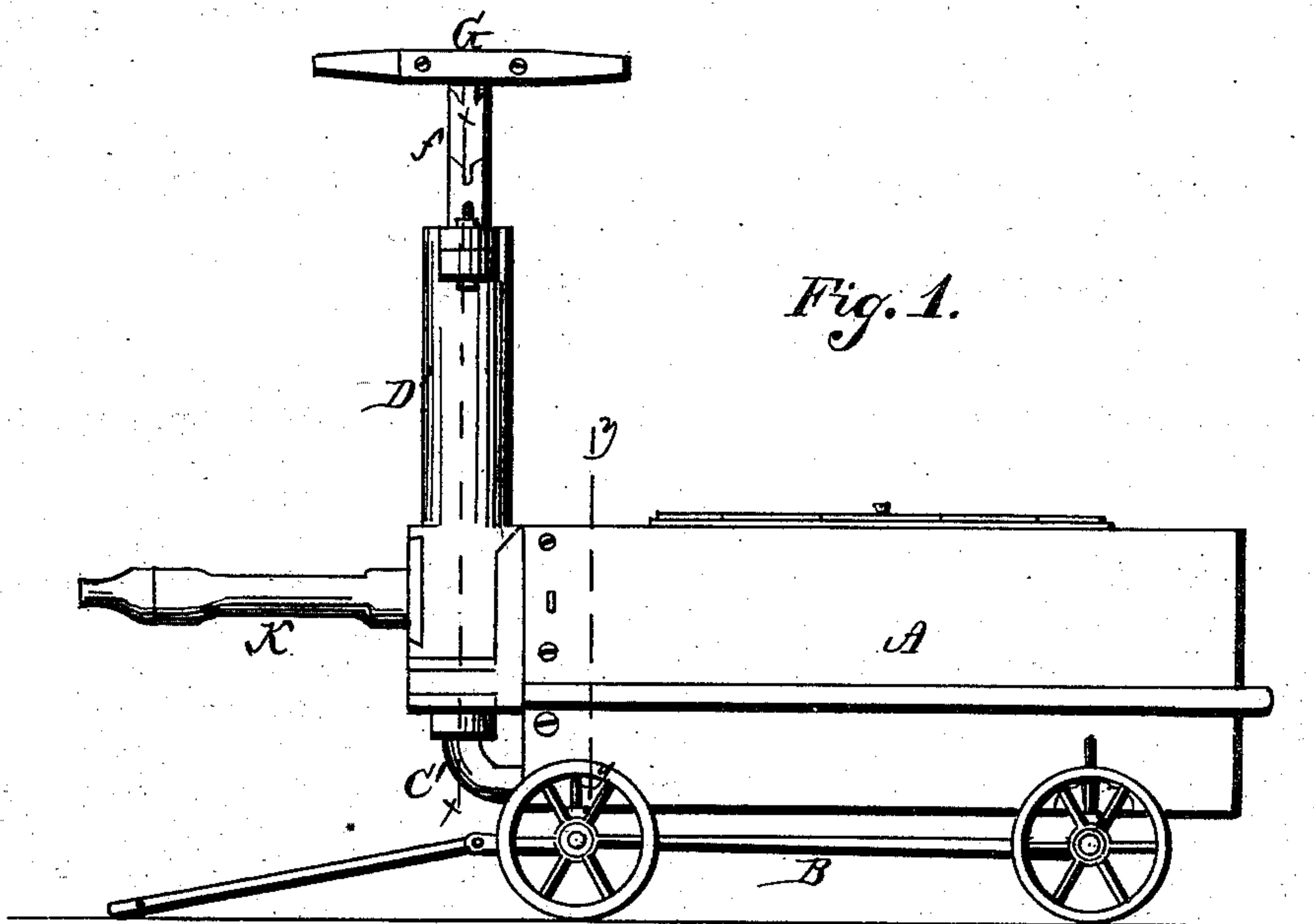


## Fire-Engines.

No. 156,555.

**Patented Nov. 3, 1874.**



WITNESSES

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# UNITED STATES PATENT OFFICE.

URIAH FARIS AND ABRAHAM MILLER, OF RED ROCK, IOWA.

## IMPROVEMENT IN FIRE-ENGINES.

Specification forming part of Letters Patent No. **156,555**, dated November 3, 1874; application filed July 3, 1874.

*To all whom it may concern:*

Be it known that we, URIAH FARIS and ABRAHAM MILLER, of Red Rock, in the county of Marion and in the State of Iowa, have invented certain new and useful Improvements in Fire-Extinguisher; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a fire-extinguishing apparatus, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of our machine. Fig. 2 is a transverse vertical section of the same through the line *x x*, Fig. 1. Fig. 3 is a similar section through the line *y y*, Fig. 1; and Fig. 4 is a view of a forked pipe used with our machine.

A represents a tank of any suitable dimensions, mounted upon a low truck or wagon, B. At one end of this tank, near the bottom, are two apertures, *a*, for the insertion of two flexible pipes, C C'. The apertures *a a* are, on the inside of the tank, protected by means of a strainer, *b*, to prevent dirt and other trash from passing from the tank into the pumps. The flexible pipes C C' connect with the lower ends of two pump-cylinders, D D', respectively. In the lower end of each cylinder is a ball-valve, marked *d d'*, respectively. E E' are the pistons working in the cylinders, and connected by hinged rods *f f* with the lever G, pivoted in a forked standard, H, extending upward from a cross-bar, I, connecting the upper ends of the pump-cylinders. Between the lower ends of the two pump-cylinders D D' is

formed a valve-chamber, J, communicating through ports *e e'*, respectively, with said cylinders, and in this chamber is placed a floating valve, L, which moves from side to side, to close alternately the ports *e* and *e'*.

The operation of our machine is as follows: The tank being filled with water, the pump is operated by means of the lever G, in the usual manner. As the plunger E ascends it draws water by suction from the tank A through the pipe C into the cylinder D. At the same time the plunger E' descends, forcing the water in the cylinder D' through the port *e'* into the valve-chamber J, and out through the outlet-pipe K. The water thus forced from the cylinder D' closes the ball-valve *d'*, and moves the floating valve L over toward and against the cylinder D, so as to close the aperture or port *e* therein, which port must be closed while the water is being drawn up into said cylinder D. As the motion of the lever G is reversed the valve L is at once moved across to the other side of the valve-chamber.

For filling the tank A from a well or cistern the pipes C C' are removed and a forked hose, M, attached thereto, when the machine is ready for use.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the tank A, with apertures *a* and strainers *b*, connecting-pipes C C', cylinders D D', with ports *e e'* and valves *d d'*, plungers E E', valve-chamber J, valve L, and outlet-pipe K, all constructed substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 15th day of June, 1874.

URIAH FARIS.  
ABRAHAM MILLER.

Witnesses:

J. S. BARR,  
M. L. REED.