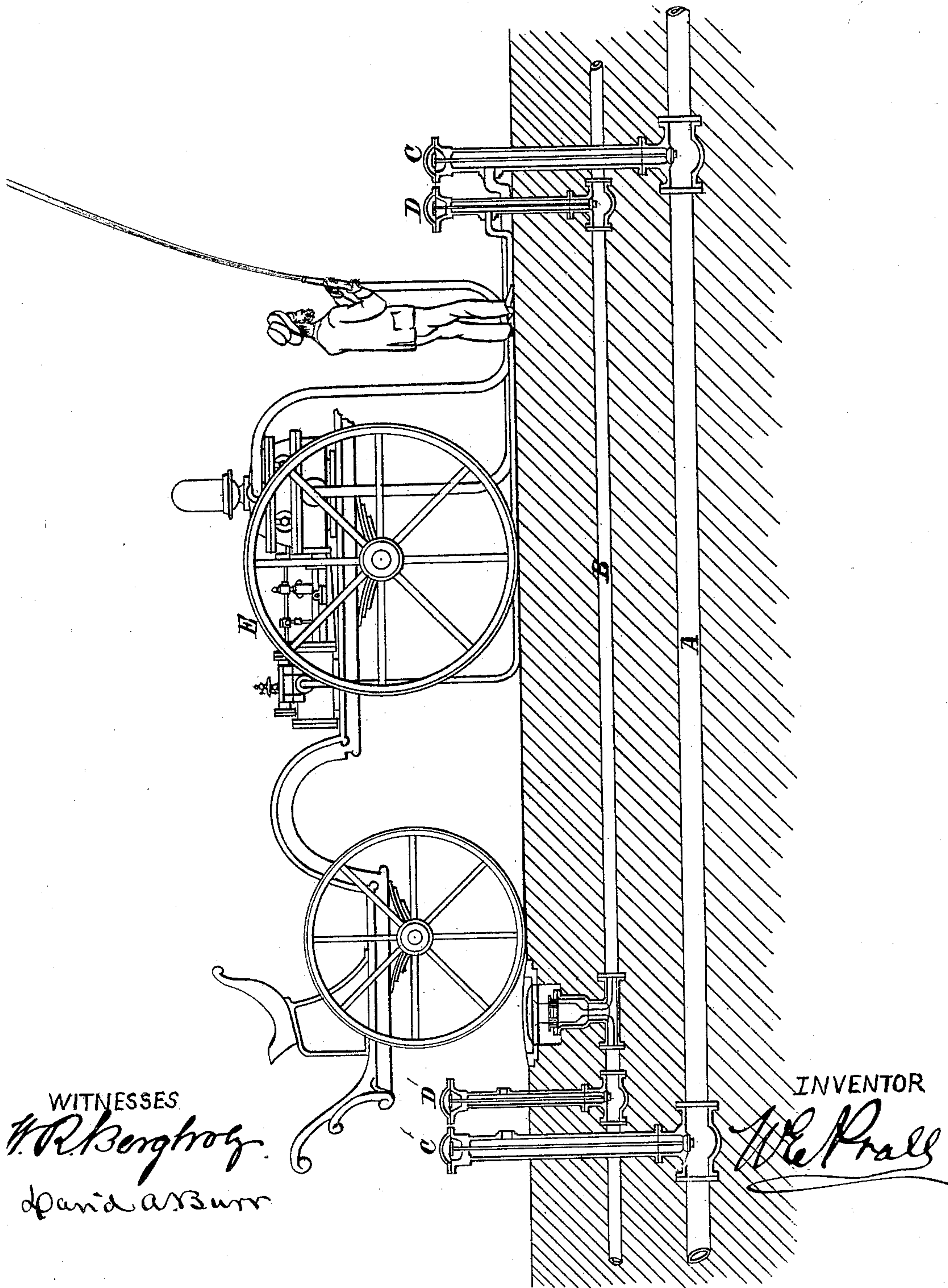


W. E. PRALL.

APPARATUS FOR EXTINGUISHING FIRE.

No. 176,147.

Patented April 18, 1876.





# UNITED STATES PATENT OFFICE.

WILLIAM E. PRALL, OF WASHINGTON, DISTRICT OF COLUMBIA.

## IMPROVEMENT IN APPARATUS FOR EXTINGUISHING FIRES.

Specification forming part of Letters Patent No. **176,147**, dated April 18, 1876; application filed March 25, 1876.

*To all whom it may concern:*

Be it known that I, WILLIAM E. PRALL, of Washington city, in the District of Columbia, have invented an Improvement in Apparatus for Extinguishing Fires in Towns and Cities, which is fully set forth in the following specification, reference being had to the accompanying drawings.

In extinguishing fires in towns and cities it is essential to concentrate quickly at the location of the fire an abundant supply of water, and abundant power for forcing the water in large volume to great heights or distances. To meet these requirements water-mains are chiefly relied upon for the water-supply, and portable steam-boilers connected with fire-pumps, constituting the well-known steam fire-engines, are provided and manned at great cost. As the steam-generators must be transported very rapidly upon wheels their size and consequent power and capacity is necessarily so limited as that the extreme of power which can thus be supplied is quickly reached, and is very small as compared with stationary boilers; and, moreover, as the size and power of the force-pumps in these engines is determined by the amount of power available to drive them, these are also comparatively small; hence, where the fire is located in the upper part of a very high building, or where the water-supply is insufficient from mains close at hand, or in case of extensive conflagrations, the best fire apparatus now in use proves very insufficient. The object of my invention is to remedy these serious defects in the present system by transmitting, through the agency of compressed air, the power obtained from stationary boilers to the portable fire-pumps after they have been transported to any given point, and connected with the usual water-mains, and to dispense thereby wholly with the need of portable power-generating apparatus, substituting therefor pumps of greater power and capacity.

In the accompanying drawing, A is a water-main of the ordinary description; B, a main of air-tight pipes kept charged with compressed air by means of powerful stationary

machinery. C and D, C' and D', &c., are, respectively, hydrants or water-plugs, and air-delivery valves or plugs, arranged in pairs, proximately, so as that connection can be readily made to an air-plug for operating a portable fire pump or engine, whenever it is connected to a water-plug for obtaining a supply of water. E is a large and powerful force pump or engine mounted on wheels, substantially as are the ordinary forms of fire-engines. This pumping engine is driven, as required, by the air delivered from the main B, and as the capacity of the machinery for furnishing this power may be increased far beyond what is possible with any form of portable machines the power of the pumping-engine is correspondingly increased by this invention. In fact, the power of immense air-compressing machinery may be concentrated at any point reached by the mains, and the pumps driven thereby (because of the greatly-increased motive power driving them and their larger size) can be made to transmit the water very much farther, and deliver it with greater force and larger quantities than is possible in the present system.

The apparatus is less costly, requires fewer attendants, is wholly free from danger of explosion, requires no fuel carried in connection with the pump, and is less liable to become the subject or the cause of accidents than the present cumbersome apparatus.

I claim as my invention—

An improved apparatus for extinguishing fires in towns or cities, consisting of a series of suitable delivery-plugs arranged in pairs, one of each connecting with a main charged with compressed air, and the other with a water-main, and both combined with a portable pumping-engine, to be supplied simultaneously from any pair of the series with air for power and water for delivery, substantially as and for the purpose herein set forth.

W. E. PRALL.

Witnesses:

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