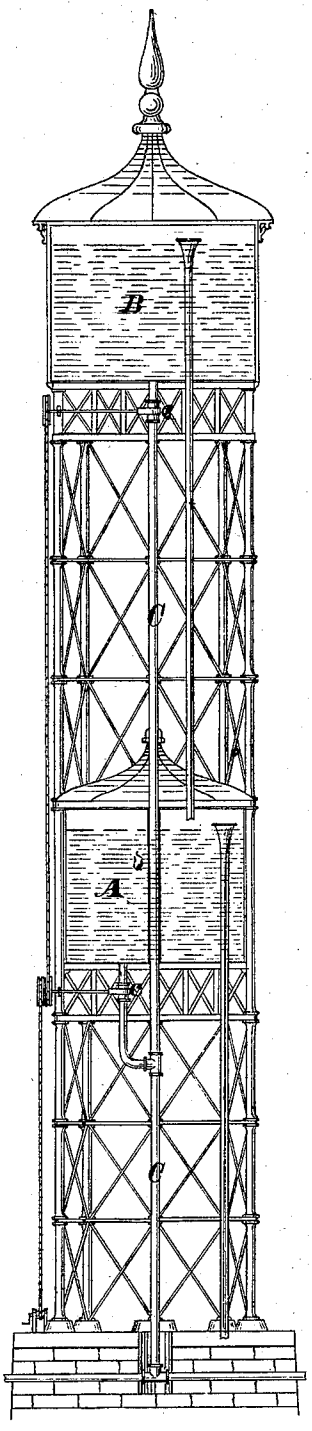
J. N. POAGE.

WATER-SUPPLY APPARATUS.

No. 169,577. Patented Nov. 2, 1875.




WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN N. POAGE, OF CINCINNATI, OHIO.

## IMPROVEMENT IN WATER-SUPPLY APPARATUS.

Specification forming part of Letters Patent No. **169,577**, dated November 2, 1875; application filed October 25, 1875.

*To all whom it may concern:*

Be it known that I, JOHN N. POAGE, of Cincinnati, in the county of Hamilton and in the State of Ohio, have invented certain new and useful Improvements in Water-Supply Apparatus; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which is shown, in sectional elevation, my improved apparatus.

In the employment of apparatus for furnishing water to cities, towns, &c., the method most frequently used consists of a reservoir for containing a supply of water, which reservoir has such elevation as to cause its liquid contents to pass through the supply-pipes to the points desired by the force of gravity. In many instances, stand-pipes are employed in place of reservoirs; but when the former are used the water-elevating mechanism must be kept in constant operation, as no appreciable quantity of water can be stored in said stand-pipes, and the pressure within the mains would become quickly exhausted in case said mechanism should, from any cause, be stopped.

When a reservoir is employed, it must either have such elevation as to give the necessary pressure within the mains for fire purposes—which pressure is far in excess of that required for domestic uses—or, if elevated to such height only as is necessary for the last-named purpose, the pressure will be insufficient in case of a fire, and fire-engines will become a necessity. In case but one reservoir is employed, and the same so elevated as to give a fire-pressure within the mains, the wear and strain upon the elevating mechanism, and the cost of keeping up and operating the same, will be largely in excess of what would be required if the water were raised only to the height necessary for domestic purposes, which excessive expenditure will be constant, and not capable of diminution.

To obviate these objections is the design of my invention, which consists in two reservoirs arranged at different elevations, and combined with each other and with water-supply and distributing mains, substantially as and for the purposes hereinafter specified.

In the annexed drawing, A and B represent two water tanks or reservoirs, which have any desired size or construction, and are supported by any suitable means at such elevation as to enable said lower tank A to furnish to any portion of a town or city a supply of water for domestic purposes, while said upper tank B has such further elevation as to afford the requisite higher pressure for fire purposes. The tanks A and B are connected with a supply-pipe, C, which also forms a distributing-main, and is furnished with suitable valves *c* and *c*, by means of which they may be combined; or either may be cut off from said pipe without interference with the operation of the other tank.

As thus relatively arranged and combined, the operation of the tanks is as follows: The upper tank is filled, and then cut off from the supply-pipe, after which the lower tank is filled and used in the ordinary manner, the supply being furnished constantly or at fixed periods, as desired. In case of a fire the lower tank is cut off from the pipe, and the upper tank placed in communication therewith, when the contents of the latter will become immediately available, and the supply of water furnished will have an increased pressure within the pipes, that corresponds to the greater elevation of said upper tank above said lower tank. As fires are more likely to occur during the night than day, and as at night the water-elevating mechanism (when steam is employed) is not usually in condition for immediate operation, the supply of water contained within the upper tank will be available at the moment when most needed, and at a moderate expense.

Said tank may have suitable dimensions to contain a supply sufficient to control an ordinary fire, or at least last until steam can be raised and said water-elevating mechanism placed in operation.

As the expense involved by the raising of water is in direct proportion to the height to which the same is raised, it will be seen that a large saving is effected by the use of two tanks or reservoirs over what would be possible if one only were employed, and the same sufficiently elevated to meet all requirements.

Having thus fully set forth the nature and

merits of my invention, what I claim as new is—

Two water tanks or reservoirs, arranged at different elevations, and combined with each other and with water-supply and distributing mains, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of October, 1875.

JOHN N. POAGE.

Witnesses:

GEO. S. PRINDLE,

WILLIAM FITCH.