E. A. WARREN.

Means of Supplying Water to a Building.

No. 203,802. Patented May 14, 1878.

Fig. 1.

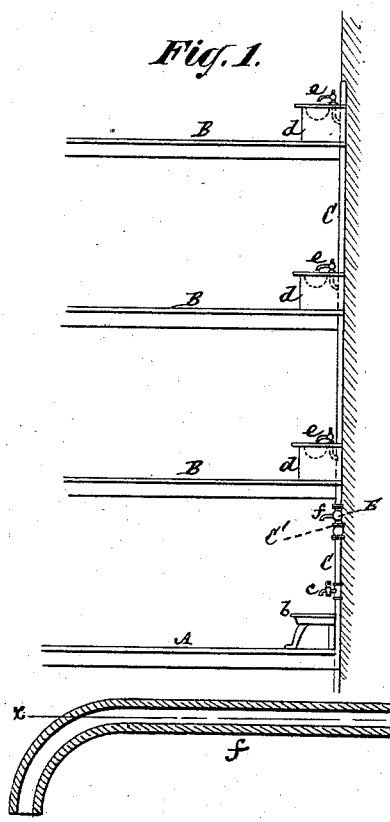


Fig. 2.

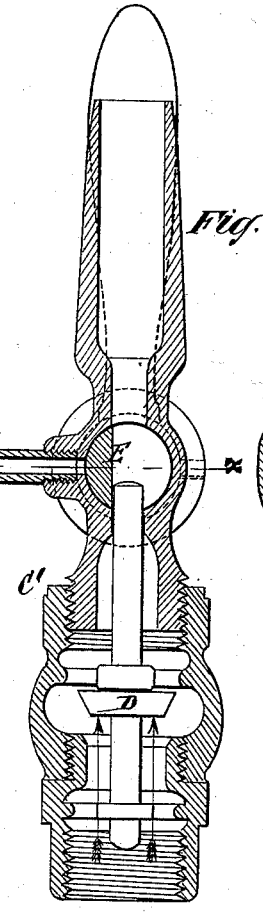


Fig. 3.

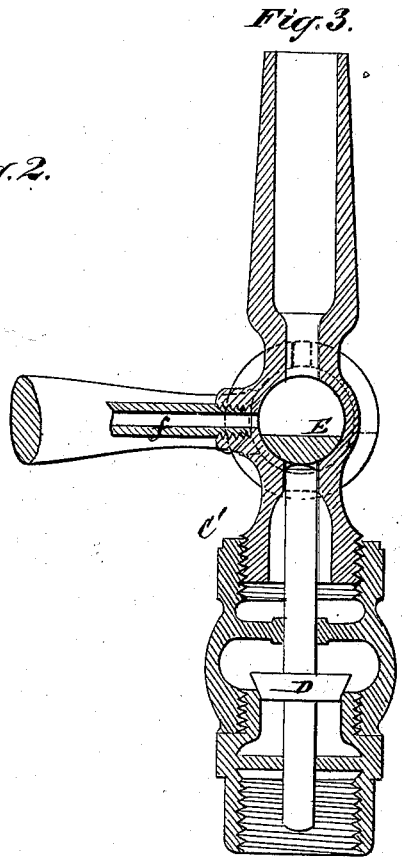
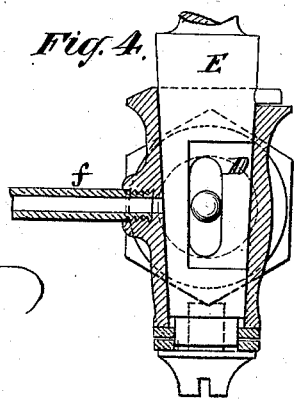


Fig. 4.



Witnesses

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IMPROVEMENT IN MEANS OF SUPPLYING WATER TO BUILDINGS.

Specification forming part of Letters Patent No. **203,802**, dated May 14, 1878; application filed April 16, 1878.

To all whom it may concern:

Be it known that I, EDMOND A. WARREN, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Means for Supplying Water to Buildings, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to the supply of water under pressure to houses or buildings—as, for instance, from a street-main—by a pipe connected with the latter, and serving to supply water to two or more floors of a house or building; and the invention consists, in combination with said pipe, of a check-valve arranged in said pipe between the lower and upper draft-cocks. By this combination the water is retained in the upper part of said pipe while drawing off below, thus doing away with or reducing that throbbing of the pipe and liability to bursting of it which is so frequently experienced when said pipe is not provided with a check-valve, and which is caused by the sudden influx of water from the main into the upper part of said pipe on closing the lower draft-cock by reason of the vacuum formed in such part of the pipe by the fall of the water therein when drawing off from below by said cock.

The invention also consists in a combination, with the pipe for supplying water to two or more floors of a house or building, and a check-valve arranged in said pipe between the lower and upper draft-cocks, of a removable or adjustable stop for keeping said check-valve closed when it is desired to empty the pipe or pipes above for repair.

In the accompanying drawing, Figure 1 is a diagram, illustrating my invention as applied to a house or building having a series of floors. Figs. 2 and 3 are vertical sections, in planes at right angles with each other, of a connecting device to the supply-pipe for the different floors, and virtually forming a portion of said pipe between the lower and upper draft-cocks, and containing the check-valve and removable stop hereinbefore referred to. Fig. 4 is a horizontal section on the line *x x*.

In Fig. 1, A represents the ground-floor, and B B the upper floors, of a building. C is the pipe which supplies the water from a street-main to the different floors, as, for instance, to a sink, *b*, on the ground-floor by a lower draft-cock, *c*, and to a series of stationary wash basins or stands, *d*, on the floors above by a corresponding number of upper draft-cocks *e*.

Of course, the pipe C may have other pipes connected with it to supply different apartments on the different floors, or sinks, wash-basins, baths, or water-closets thereon.

C′ is a coupling or connection in the pipe C, and virtually forming a part of the latter between the lower draft-cock *c* and the upper draft-cocks *e*. This connection is provided with a check-valve, D, opening upward, whereby the water is retained in the upper part of the pipe C while drawing off below by the draft-cock *c*, for the purpose or purposes hereinbefore specified. Said check-valve is kept closed, when it is desired to empty the pipe or pipes above for repairs, by means of an adjustable or removable stop, E, which, when adjusted as shown in Fig. 3, bears on the stem of the check-valve, to keep the latter down to its seat, and so prevent ingress of water from the main to the upper part of the pipe C. When said stop, however, is adjusted as shown in Fig. 2, the check-valve D is free to open under pressure of water from the main when not drawing water from below by the cock *c*. Said stop E is here shown, for convenience' sake, as formed by the usual stop-cock arranged in the pipe C, for shutting off the supply of water to the upper stories, and for running off the water by a waste-nozzle, *f*, from said pipe above the lower draft-cock; but any other removable stop may be used for keeping the check-valve D closed when necessary, which check-valve is automatic in its action, when the stop is removed, for retaining water in the pipe C above when drawing off below, also providing for the drawing of water by the upper draft-cocks.

I claim—

1. In combination with the pipe for supplying water to two or more floors of a house or building, a check-valve arranged in said pipe between the lower and upper draft-cocks, for

retaining the water in the upper part of the pipe while drawing off below, substantially as specified.

2. The combination, with the pipe for supplying water to two or more floors of a house or building, and a check-valve arranged in said pipe between the lower and upper draft-cocks, of a removable stop for keeping said check-valve closed when it is desired to empty the pipe or pipes for repairs, essentially as described.

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