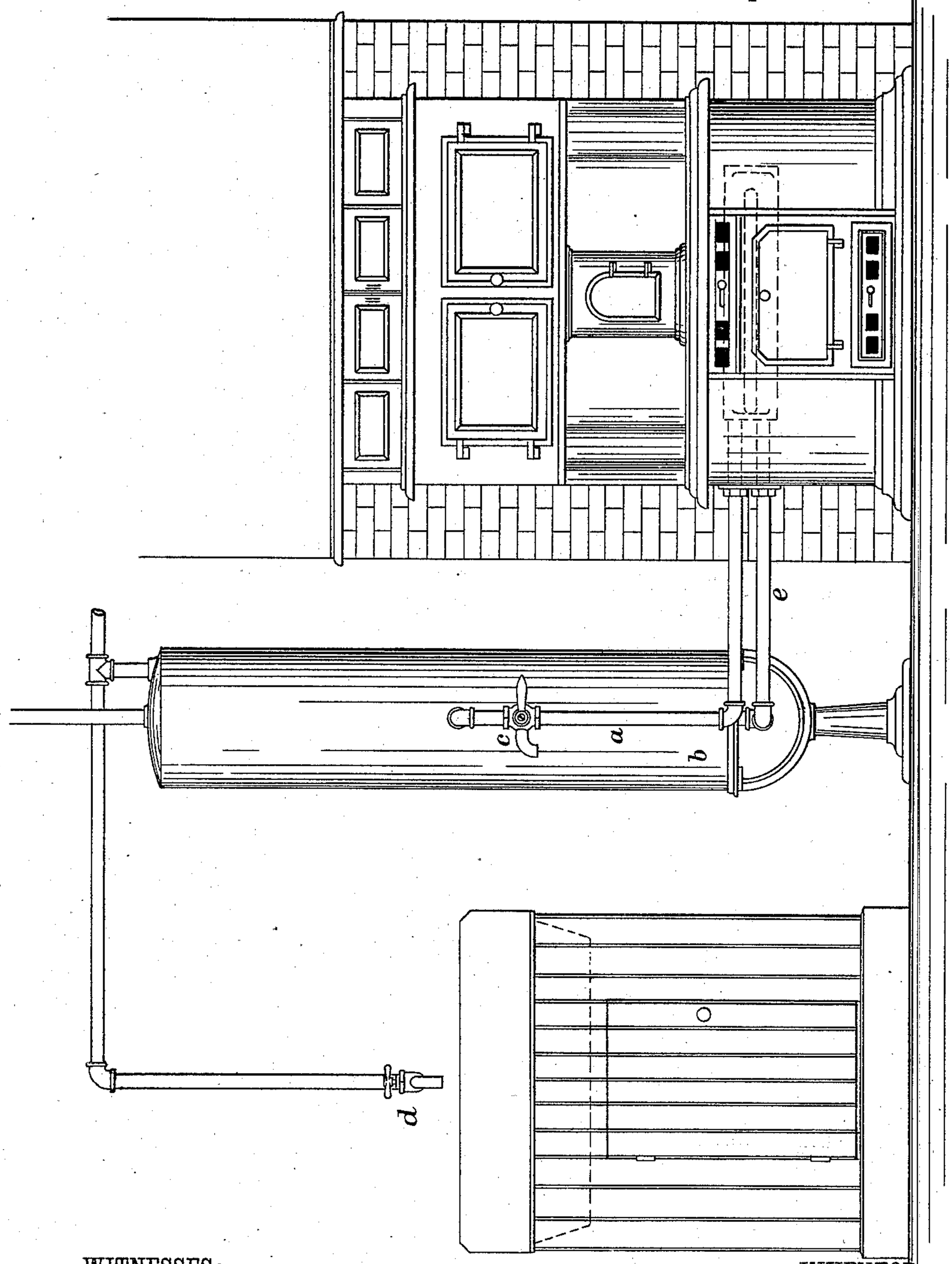
(No Model.)

# W. N. MILSTED.

## HOT WATER APPARATUS.

No. 305,400. Patented Sept. 16, 1884.




WITNESSES:

Charles E. Havens

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# UNITED STATES PATENT OFFICE.

WILLIAM N. MILSTED, OF BROOKLYN, NEW YORK.

## HOT-WATER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 305,400, dated September 16, 1884.

Application filed September 13, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM N. MILSTED, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Hot-Water Apparatus, of which the following is a specification.

In the ordinary method of arranging domestic heating apparatus in which a hot-water reservoir, or "boiler," as it is called, is connected with a water-back or a coil in a stove or range, it is necessary that the mass of water in the boiler should become heated before even a small portion can be drawn for domestic use. The entire body of the water is heated by the circulation, and if merely a small quantity be required when the fire is first made it can only be obtained when the large quantity comprising the contents of the reservoir shall also have been raised to the required temperature. The contents of the boiler may require an hour or longer to heat, while the water passing from the stove before it mingles with that in the boiler may have been raised sufficiently high in the course of a few minutes.

The object of my invention is to intercept the hot water before it reaches the boiler and to draw it from the pipe that conducts the hot water from the range before it has been cooled by intermixing with the large quantity of cold water in the boiler. This object is effected by combining the hot-water pipe of the stove with a three-way cock and suitable connections with a delivery and the boiler or reservoir. With this combination of the stove, boiler, and cock with its connections and delivery the water may be drawn directly from the water-back or coil at the fire, and when it is not being so drawn the circulation will be conducted through the boiler and back to the fire in the usual way.

To enable others skilled in the art to which it appertains to make and use my invention, I will proceed to describe its construction and operation with reference to the drawing, which represents in elevation an ordinary range combined with a boiler by means of a three-way cock and its connections in the manner described.

The hot-water pipe *a* proceeds from the range to the boiler *b*, and it is furnished with the three-way cock *c*, by which the connection with the boiler may be closed and the hot water drawn directly from its nozzle or supplied by a branch to a sink, *d*. When the cock is opened to its nozzle, the water is delivered in the direction of least resistance, in preference to rising against the pressure in the boiler, and when it is opened to the boiler the hot water rises to the top of the boiler, and the circulation is effected by the cold water from the bottom of the boiler flowing through the return-pipe *e* to the source of heat at the stove.

The essential features of the combination constituting the said invention are the water-back, the boiler, and the cock, with appropriate connections; but it will be understood by those who are acquainted with the circulation of hot water that the provision for the circulation of the water to replace that drawn from the water-back must be retained to prevent accidents arising from closing the upper connection with the boiler. With the ordinary connections in such cases it answers a useful purpose to have the passages of the cock so made that when the delivery to the nozzle is thoroughly closed the connection to the boiler is necessarily open. A similar arrangement for drawing hot water was partially described in my application for a patent for a gas cooking-stove filed June 30, 1883, and numbered 98,640, but was not therein claimed, as it was believed to constitute the subject for another patent.

I claim as my invention—

The combination of the water-back or coil of a stove or range, a boiler, and a three-way cock on the hot-water pipe, substantially in the manner and for the purpose described.

WM. N. MILSTED.

Witnesses:

CHAS. E. LANSING,

WM. KEMBLE HALL.