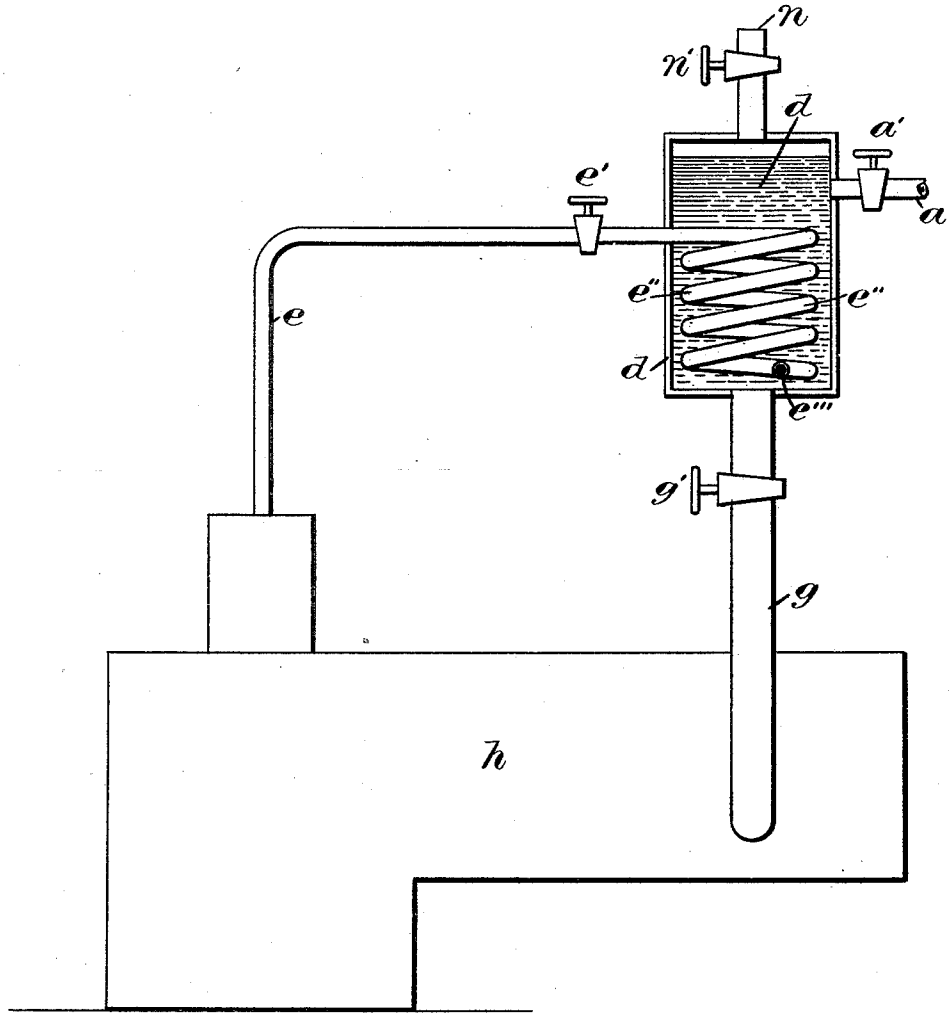
(No Model.)

F. G. FOWLER.

BOILER FEEDER.

No. 467,749. Patented Jan. 26, 1892.



Witnesses
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Charles B. Curtis

Inventor
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UNITED STATES PATENT OFFICE.

FRANK G. FOWLER, OF BRIDGEPORT, CONNECTICUT.

BOILER-FEEDER.

SPECIFICATION forming part of Letters Patent No. 467,749, dated January 26, 1892.

Application filed September 13, 1890. Serial No. 364,915. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. FOWLER, a citizen of the United States, and a resident of Bridgeport, State of Connecticut, have invented a new and useful Improvement applicable to Steam-Boilers, of which the following is a specification.

In my Patent No. 423,423 I have described a process for removing gases from the water before it is used to produce steam.

My present invention is designed as an improvement on that described in said patent, and is especially applicable to small boilers which do not drive an engine and where no exhaust-steam is available to heat the feed-water, as in the case of boilers used to heat houses and other analogous purposes and where it is to be operated by unskilled labor and where the use of a feed-pump would be undesirable.

It consists of a receptacle *d*, of sufficient strength to withstand boilure-pressure and located so that its lowest portion will be above the water-line of the boiler *h*. On one side is inserted the hydrant-pipe *a*, provided with a valve *a'* for the admission of water. On its top is inserted the escape-pipe *n*, provided with the valve *n'*. On the opposite side is inserted the steam-pipe *e*, connecting with the boiler *h* and provided with the valve *e'* and forming on the inside of the receptacle *d* the worm *e''*, terminating with the drip or open end *e'''*. On the lower end is inserted the feed-pipe *g*, provided with the valve *g'* and also connecting with the boiler *h* below the water-line. Its upper end may project some distance into the receptacle *d*, so that any sediment deposited in said receptacle cannot pass into the boiler.

The operation is as follows: The valve *a'* is opened and the receptacle *d* nearly filled with water. The valve *a'* is then closed and the valve *e'* is opened, which admits live steam to the coil *e''*, which soon heats the water to the boiling-point. The valve *n'* being open, the gases held in solution in the water are expelled and pass off through the pipe *n*. As soon as the water is freed from gases the valve *n'* is closed, and there being a small steam-space in the receptacle *d* the pressure rapidly rises to that of the boiler, whence by opening the valve *g'* the water descends by gravity and feeds the boiler, as required.

When the boiler is of considerable size, this apparatus can be made in duplicate, so that while in one the gases are being expelled the other is feeding the boiler.

I claim—

The combination of means consisting of the steam-boiler *h* and receptacle *d*, located above the water-line of the boiler and provided with the hydrant-pipe *a*, the pipes *e* and *e''*, permitting of the passage of steam only, the escape-pipe *n* and valve *n'*, permitting of the escape of gases as the water is heated, and the feed-pipe *g*, communicating with the boiler below the water-line, whereby the water is freed from the gases and deposited in the boiler, substantially as set forth.

FRANK G. FOWLER.

Witnesses:
WM. H. ALTUM,
CHARLES B. CURTIS.