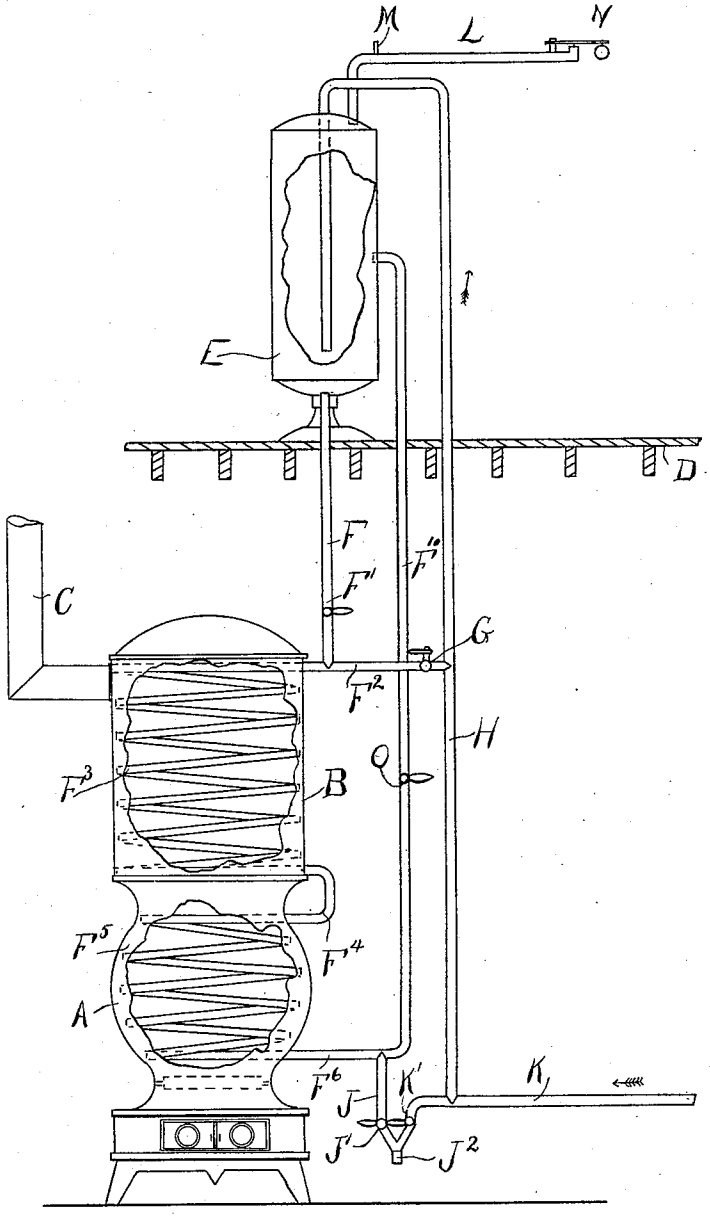
(No Model.)

H. B. CLARKE.

APPARATUS FOR HEATING WATER.

No. 482,076. Patented Sept. 6, 1892.



WITNESSES

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HENRY B. CLARKE, OF CHICAGO, ILLINOIS.

APPARATUS FOR HEATING WATER.

SPECIFICATION forming part of Letters Patent No. 482,076, dated September 6, 1892.

Application filed April 1, 1892. Serial No. 427,348. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. CLARKE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Apparatus for Heating Water, of which the following is a specification.

My invention relates to apparatus for heating water, and has for its object to provide convenient means for furnishing water of a higher temperature than that ordinarily used in barns and other such places.

It is illustrated in the accompanying drawing, wherein—

A is the base of an ordinary stove, B the drum thereon, and C the pipe therefrom.

D is the floor, above or upon which rests the tank E. From this tank the pipe F, controlled by the valve F′, leads down to the pipe F^2, and this pipe leads into the coil F^3 in the drum B, and thence the pipe F^4 leads to the coil F^5 in the stove proper. From this latter coil leads the pipe F^6 back to the tank E. The pipe F^2 is provided with the valve G and opens into the pipe H, and the pipe F^6 connects with the short pipe J, which has the controlling-valve J′, and terminates in the connection J^2. The pipe H is also connected with the main or supply pipe K, which is provided with the valve K′, and also terminates in the connection J^2.

L is a safety-pipe leading from the top of the tank E and provided with the valve M and the safety device N. These several connections might be somewhat altered and the arrangement and proportion of the parts be changed without departing from the spirit of my invention.

O is a valve in the pipe F^{10}.

The use and operation of my invention is as follows: The main water-pipe K is connected with the usual source of supply and a current is admitted, the same passing in the direction indicated by the arrows into the tank E, where it is stored. By opening the valve F′ in the pipe F and the valve J′ in the pipe J the water will be permitted to flow downwardly through and fill the coils in the stove and drum, and then pass outwardly through the connection and into whatever pipe may be associated with the connection J^2. The coils will of course fill if no discharge of water is made through the valve J′ by reason of the presence of the pipes F^6 and F^{10}. If the stove is provided with fire, it is evident that there will be a continuous circulation of water through its coils, for the cold water entering through the coils will gradually settle through them, and the hot water will pass upwardly through the pipes F^6 and F^{10}. If this water should be too warm when discharged, it may be tempered by mixing therewith a quantity of water by opening the valve K′. The circulation through the coils may be stopped, when desired, by closing the valve O or by closing the valve F′. By closing the valve K′ and G and opening the valves F′, O, and J′ the water to be used may be taken from the tank with little or no circulation through the coils. The safety-pipe L and safety device will prevent danger from overpressure incident to heating of the water.

I claim—

The combination of an elevated storage-tank, a lower heating apparatus containing a coil, a pipe F, leading from the top of the coil to the bottom of the tank, a pipe F^6, leading from the tank to the bottom of the coil, a supply-pipe K H, leading to the tank and discharging at the bottom thereof, a cross-pipe F^2, extending from the supply-pipe to the pipe which leads from the top of the coil to the bottom of the tank, and pipes communicating with the lower end of the pipe which leads from the tank to the bottom of the coil and with the feed-pipe, respectively, and terminating in an outlet-tube J^2, the said pipes being provided with suitable valves whereby the circulation through the coil may be stopped or controlled.

HENRY B. CLARKE.

Witnesses:

G. CLARKE,

HAMILTON B. DOE.