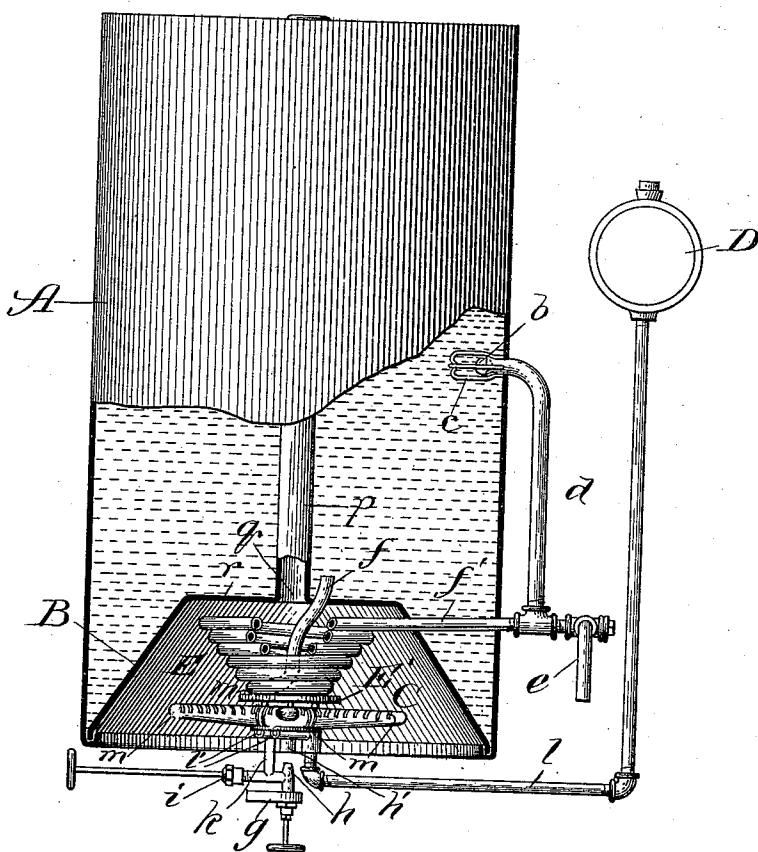


(No Model.)

A. H. KINGMAN & T. C. MOSELY.
HEATER.

No. 512,035.

Patented Jan. 2, 1894.



Witnesses:

Chas. E. Gaylord,
Clifford A. White.

Inventors

Alpheus H. Kingman
Thomas C. Mosely,
By Ogdenfork & Ogdenfork,
Attys

UNITED STATES PATENT OFFICE.

ALPHEUS H. KINGMAN AND THOMAS C. MOSELY, OF CHICAGO, ILLINOIS.

HEATER.

SPECIFICATION forming part of Letters Patent No. 512,035, dated January 2, 1894.

Application filed July 30, 1892. Serial No. 441,713. (No model.)

To all whom it may concern:

Be known that we, ALPHEUS H. KINGMAN and THOMAS C. MOSELY, citizens of the United State residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Heaters, of which the following is a specification.

Our invention relates particularly to an improved construction of water-heater designed especially for purposes where rapid heating of water is desirable, as for the bath, the latter being the immediate purpose for which we have devised our improvement.

The accompanying drawing shows our improved apparatus by a partly broken view in sectional elevation.

A is the water-holder provided with a counter-sunk base B, preferably in the form of an inverted flaring dish, from a central opening *q*, in the bottom *r*, of which extends a vent-pipe, or flue, *p*, through the upper closed end of the holder.

C is the burner-cap or burner-crown, of any desired construction, that shown having openings preferably in the form of slits *m*, which are provided close together in desired number.

A fuel-supply pipe *l* leads into one of the converging channels *l'*, on the base of the burner-crown, the source of supply shown being a holder D for gasoline, though, as heretofore suggested, that need not be the fuel employed, and the source of supply may be a different one. The other of the converging channels *l'* leads into the burner-tube *k* carrying, at its lower end, the usual regulating-valve device *i* controlling the supply of the fuel to the burner-proper *h*, provided with a suitable "kindling" pan or starting attachment *g* as is usual in connection with burners employed in the class of heaters to which our improvement relates.

E is the heating-coil, which we provide in the upwardly flaring form illustrated, and which is supported at its tapering base on the burner-cap preferably through the medium of an interposed plate *E'*, since thereby the moisture which accumulates, particularly in cold weather by "sweating," on the exterior of the coil and which trickles down strikes the heated plate and is dissipated by evaporation; and the burner-cap is thus shielded from such

moisture, which if allowed to deposit on the burner-cap would tend to impair its operation. The upper, flaring, end of the coil reaches short of the top *r* of the base B; and the convolutions of the coil are in close contact with each other, it being important for the effectiveness of our apparatus that there shall be no interstices between the convolutions.

One end, *f*, of the coil E extends from the tapering base thereof up through it and through the top *r* of the holder-base B slightly above the upper surface thereof so that all the contents cannot escape into the coil, thus maintaining always a sufficient quantity of water in the holder to prevent it from burning. The other end, *f'*, of the coil is extended through a side of the holder A, where it terminates in a usual construction of valve-faucet *e*, the latter being a swiveled faucet, turning of which operates a valve to close or open to it the passage in the pipes *f'*. There is also attached to the pipe-end *f'* a branch pipe *d* leading from outside the holder A into the latter, and forming a return or circulating pipe attachment for leading the water, heated in the coil, into the holder to heat the water therein while the contents of the coil are not being drawn off through the faucet *e*. In the pipe *d* is provided a valve to prevent the escape of water from the holder through the pipe *d* when the faucet *e* is open, thus permitting only the coil to discharge into the faucet; and the preferred form of such valve is that of a check-valve *b* confined in a cage *c* inside the holder on the end of the pipe *d*.

As will be understood, when the faucet *e* is shut off, the pressure in the coil forces the water being heated therein against the check-valve *b* into the holder A to mix with and heat the water therein.

The operation is as follows: The holder (which is to be supported with its attachments in convenient position with relation to the receptacle, such as a bath tub, for which it is designed to be used) being supplied through a filling-opening (not shown) with water, the gas from the burner *h* passes through the short tube *h'* into the burner-crown C, which was previously heated by the heat from the generating pan *g*, where the gas is ignited and whence it emerges through the

openings *m* enveloping and acting upon the exterior surface of the coil *E*, passing over it into the escape-flue *p* and so rapidly heating the contents of the coil that they may be immediately withdrawn therefrom on opening the faucet *e*, being sufficiently heated for bathing purposes. If it be desired more intensely to heat the water, or to heat the entire contents of the holder before utilizing any thereof, the faucet *e* is maintained closed, thereby causing circulation through the coil *E* back through the return-pipe *d* into the holder, which may be kept up as long as desired.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a heater the combination of a water-holder, a gaseous-fluid burning attachment supported below the holder, and an upwardly flaring pipe-coil having its convolutions contiguous to and surmounting the said attachment and terminating at one end in the base of the holder and at its opposite end in a suitable discharge faucet, substantially as described.

2. In a heater the combination of a water-

holder, a gaseous-fluid-burning attachment supported below the holder, an upwardly flaring pipe-coil supported at its tapering base on a shielding plate surmounting the said attachment, the coil terminating at one end in the base of the holder and at its opposite end in a suitable faucet, substantially as described.

3. In a heater, the combination of a water-holder, a gaseous-fluid-burning attachment supported below the holder, an upwardly flaring pipe-coil having its convolutions contiguous and surmounting the said attachment and terminating at one end in the base of the holder and at its opposite end in a suitable discharge-faucet, and a branch-pipe leading outside the plane of the holder from the discharge end of the coil, into the holder, and provided with a valve, substantially as described.

ALPHEUS H. KINGMAN.
THOMAS C. MOSELY.

In presence of—

M. J. FROST,
W. N. WILLIAMS.

It is hereby certified that in Letters Patent No. 512,035, granted January 2, 1894, upon the application of Alpheus H. Kingman and Thomas C. Mosely, of Chicago, Illinois, for an improvement in "Heaters," an error appears in the printed specification requiring correction as follows: In line 20, page 2, the word "to" should be stricken out; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 16th day of January, A. D. 1894.

[SEAL.]

JNO. M. REYNOLDS,

Assistant Secretary of the Interior.

Countersigned:

JOHN S. SEYMOUR,

Commissioner of Patents.