

DISTRIBUTION OF HOT WATER AT PARIS.

The distribution of cold water to houses in large cities has now become a necessity. How convenient and even useful would it not be to have hot water also under the same conditions. We have constant need of it for many purposes. In certain cities of the United States it is distributed by pipes, and perhaps it will be so distributed in France some day, but up to the present there has been no question of it. In the meanwhile, a company has just installed in Paris a series of small structures similar to newspaper kiosks (Fig. 1), where, for a cent, one can at once procure from 8 to 10 quarts of water at a temperature of 60 or 80 degrees. These apparatus are automatic. The customer has only to place a coin in a slot and then push a button, when the flow will begin. How this is done we shall endeavor to explain by means of the details in Fig. 2.

The water is not, as might be supposed, heated in advance and kept in this state in a reservoir, but is heated at the moment that it flows, and the apparatus is connected with the city mains that lead the water through the conduit, A, to the meter, O. Thence it is led by the tube, *a*, to a bifurcation, *b*. Through one of the branches, E, it enters a reservoir, R, provided with an outlet, *h*, and a float valve, *m*, limits its entrance. Through the other branch, F, controlled by a

the customer's receptacle. The funnel, D, has a nozzle provided with a cock, and the opening is so calculated that it shall take about a minute to empty itself, the length of time necessary for the passage of 8 or 10 quarts of water into the coil. As soon as it is empty the counterpoise, *p*, lifts the rod, *f*, and closes the cock, *r*. Then everything stops.

We have said that the row of gas jets burns only at the moment desired. In fact, the pipe that supplies it traverses a box, V, with a valve, and it is the pressure of the water that opens the latter as soon as the cock, *r*, is itself open. A small gas jet, *x*, which is constantly burning, lights the row of burners. As for the coin, as soon as the pressure exerted upon the button is sufficient, it comes opposite a slot, whither it has been pushed by a spring, H, and falls into a box. The rod and the valve, as well as the button, resume their position and all is arranged for a second operation.

It will be seen that this system, which was devised by Mr. Robin, is most ingenious. It will render many services to the Parisian population. A cent is a small affair, but if one has not always need of 10 quarts of water he can make an agreement with a neighbor to divide, and each put in in his turn the coin necessary to set the apparatus in operation. In its concession to the company, the city stipulates that it shall rapidly

How Modern Cremation is Conducted.

Miss Mary B. Comyns, of Boston, a member of the Massachusetts Cremation Society, has issued "A Plea for Cremation," in which the ceremony of incineration is described as follows:

"The body, simply clad and placed in a coffin, is not put into the fire, as many persons suppose, but into a so-called chamber of clay, little larger than itself, which is wholly closed except for a few small perforations in the top, for the escape of the gases, which are conducted through the fire and consumed. This chamber is heated to a temperature of about 2,000 degrees. Nothing but heated air touches the body. It lies absolutely undisturbed, maintaining its perfect shape until the last moment, when the beautiful rosy color it has gradually assumed changes to white, and it instantly falls together in the form of pure ashes. Sad, yes, heartbreaking it would be to watch the process, because anything which takes from us forever the forms of those we love is sad and heartbreaking; but, when our dear ones have been buried, is there ever a moment during those years and years of terrible changes through which they pass, when we could bring ourselves to look upon them?"

"The crematory which contains the heated chamber may be as beautiful as money and refined taste can make it. The room in which the religious services are

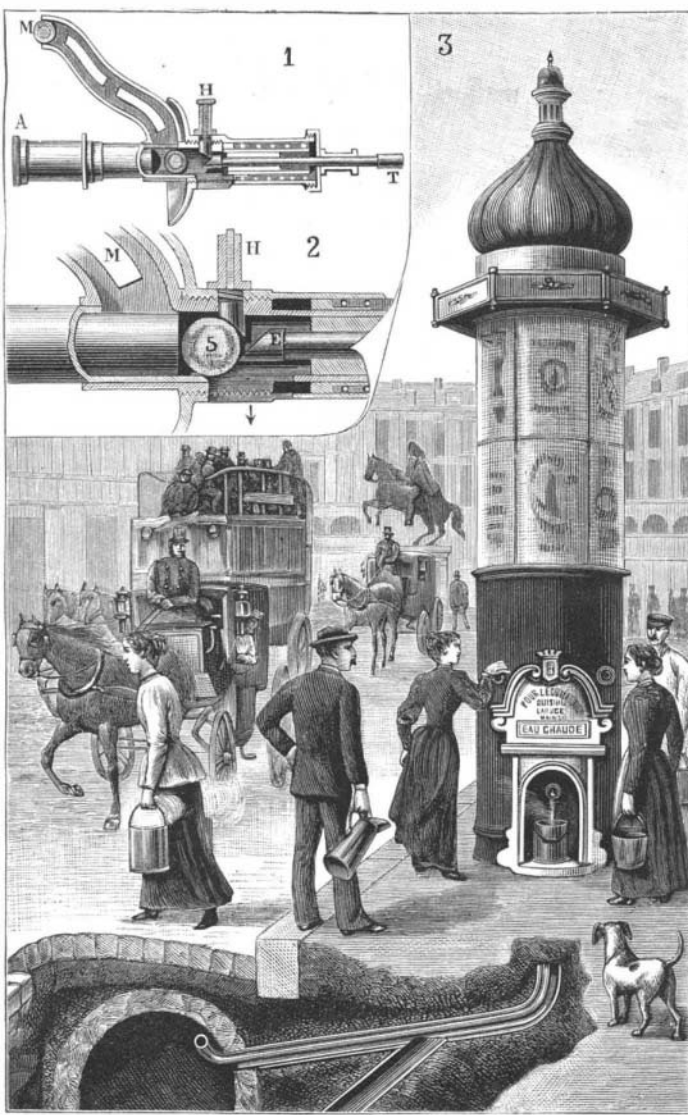


Fig. 1.—A PENNY-IN-THE-SLOT HOT WATER DISTRIBUTER AT PARIS.

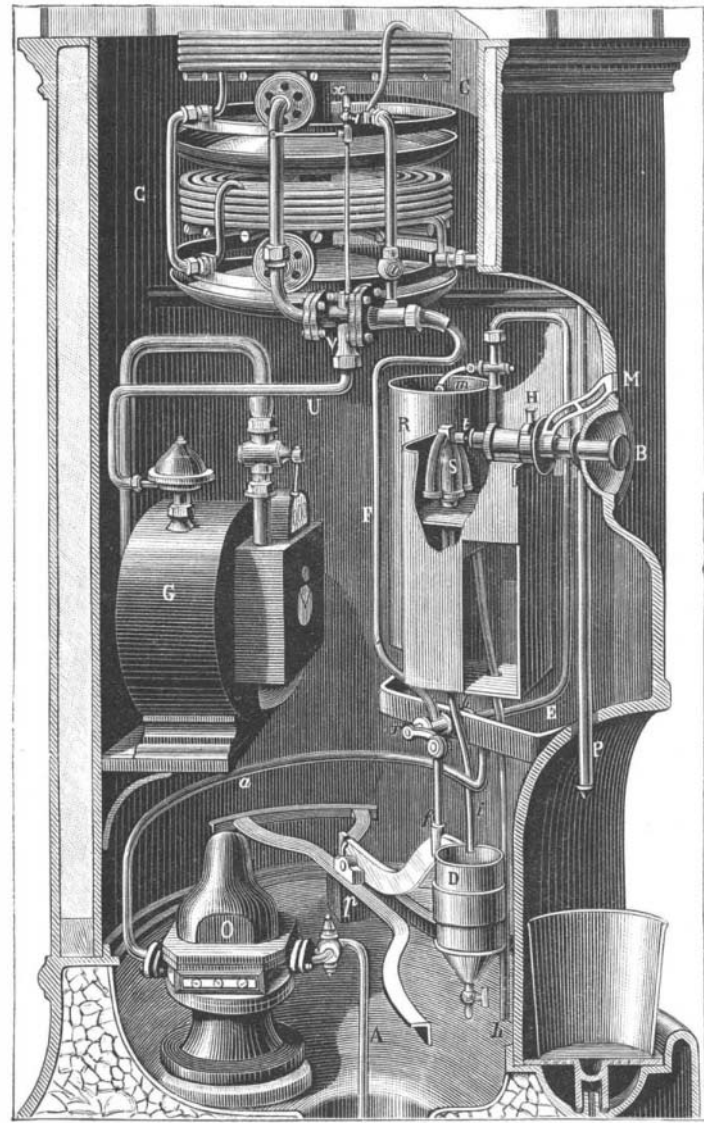


Fig. 2.—DETAILS OF THE MECHANISM.

cock, *r*, it reaches the apparatus, CC, seen at the upper part of the figure. It is here that it is heated in traversing a copper coil 328 feet in length, under which burns a row of gas jets supplied by a pipe, U, that starts from a meter, G.

It is clear that the flow of the water, like that of the gas, is arrested while nothing is being drawn from the apparatus, which consumes only when it produces.

Let us now examine its working. It is set in operation by a pressure upon the button, B, represented apart upon a larger scale at the top of the engraving (Fig. 1). This button is connected with a rod which presents a gap that is filled by the coin that has been introduced into the slot, M. Before the coin is introduced the rod meets only with empty space, and the machine does not operate; but as soon as this space is filled, a second rod, *t* (Fig. 2), forming a continuation of the first, is likewise pushed and lifts a valve, S, which closes the orifice of a siphon, *i*, through which the water of the reservoir, R, flows to the exterior. This water flows rapidly into a funnel, D, mounted upon a lever and balanced by a counterpoise, *p*. As soon as it enters, it destroys the equilibrium of the funnel, and the lever tilts and carries along the rod, *f*, which opens the cock, *r*, and permits the water to enter the copper coil. Herein it is immediately heated and escapes through the pipe, P, which extends to the exterior, and under which is

supply the carriage stations. In this way, the coachmen will be able, very easily and at slight expense, to renew the water of their foot warmers. It will be possible then to forbid the use of charcoal heaters, which have several times occasioned accidents. The laboring classes especially will very quickly see the advantages that they can derive from the hot water fountain. The copper coil that we have spoken of above is nothing else than a boiler of great heating surface. It is applicable to domestic uses, and Mr. Robin has for several years been constructing models which are adapted, in apartments, to the delivery pipes of the city water. This arrangement is very convenient for hair dressing saloons, bath halls, etc. It suffices to turn the supply cock by hand in order to obtain hot and even boiling water in an instant. A varying degree of heat may be easily obtained by regulating the velocity of the flow. It will be understood, in fact, that the more rapidly the water circulates in the coil, the less it becomes heated, and reciprocally. As for the operation of the system, that is the same as that which we have described above. There is a small burner always lighted, and it is the difference of pressure of the water at the moment that it flows that opens the gas inlet. If the apparatus has not to be used often, one can extinguish the burner and do the lighting by hand, either with a flame or electrically.—*La Nature*.

held may be as quiet and peaceful as the chapels in our cemeteries. As the service is solemn and reverential, so is there neither carelessness nor levity when the body is removed to its final resting place. All is tenderly done for the moment, and we know that no harm can ever again come to the forms of those we have loved. Is it so with inhumation?"

Boric Acid in Beer.

On the evidence of J. Brand, boric acid should be regarded as a normal constituent of beer. He has detected borates in the ash of Munich, other Bavarian, German, Austrian, and Brazilian beers, by the turmeric paper test, applied both to the ash itself and to the product obtained by distilling the ash with methyl alcohol and sulphuric acid, after Gooch. A search for the source of the boric acid resulted in the discovery that every variety of hops examined contained boric acid, not only in the strobiles, but in leaves, stalks, and tendrils. Barley and malt were found to be entirely free from this acid. No attempt appears to have been made at quantitative determinations; 100 cubic centimeters of beer sufficed for the detection of the boric acid and 5 grammes of hops always gave a certain reaction. It is a pity that such an excellent indication of the presence of genuine hop bitters in beer should be of a nature so easily imitated by the brewer.—*Zeits. fur das ges. Brauw.*