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COMBINATION COOLER AND FILTER.

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To all whom it may concern:

Be it known that I, HARRY T. ALLEN, a citizen of the United States of America, residing at Guilford, Connecticut, have invented a new and useful Combination Cooler and Filter, of which the following is a specification.

My present invention has for its objects to provide a simple, practical and inexpensive combined water cooler and filter which can be readily installed wherever desired and which will be thoroughly efficient and desirable in all respects.

A special object is to insure the cooling of a plentiful supply of the water and to secure a rapid and at the same time thorough filtration of this cooled water.

Another special object is to prevent drip page from the dispensing spout after the flow has been cut off.

In the accomplishment of the foregoing and other objects I employ a coil or an equivalent for cooling the water and interpose between said cooling coil and the dispensing spout a filter, the flow of water from the cooling coil through the filter and out through the dispensing spout being controlled by a suitable valve located preferably between the coil and filter.

To prevent drippage after the controlling valve is operated to shut off the flow, I provide a drip-preventing valve which may be in the form of a spring-pressed valve which will open to the flow of the water under pressure but will close as soon as the flow is cut off and the pressure therefore is no longer present upon it.

Various other objects and features of the invention will appear as the specification proceeds.

In the accompanying drawing I have illustrated the invention embodied in a practical form of "built-in" household type of cooler and filter but it will be understood that changes and modifications may be made without departing from the true spirit and scope of the invention.

This drawing:

Fig. 1 is a front elevation illustrating the cooler mounted in a recess or niche in the wall.

Fig. 2 is a vertical sectional view of the same taken substantially on the plane of the line 2-2 of Fig. 1.

Fig. 3 is an enlarged sectional view of one form of drip-preventing valve.

In the built-in type of device illustrated, the entire device is mounted in a seat or recess 7 formed in the wall or other support 8, this recess or niche in the wall being sufficiently high as indicated, to leave space enough above the top of the device for placing ice or other cooling medium in the cooling compartment of the device.

The body of the device is in the form of a double walled compartment 9, divided in the present instance, by means of a vertical partition 10 into a rear cooling compartment 11, and a forward filtering compartment 12.

The top of the compartment is closed by a suitable cover 14, this cover in the illustration being arranged to open by sliding forward as indicated in dotted lines, Fig. 2. The outward sliding movement of this cover may be limited to a position wherein the rearward cooling compartment will be open, this being provided for in the illustration by a stop 15 on the under side of the cover coming into engagement with the upper edge of the vertical partition 10, this stop being pivoted as indicated at 16 so as to permit it being swung up out of the way when it is desired to wholly withdraw the cover.

Within the cooling compartment is mounted a cooling coil or an equivalent cooling means 17, the entrance end of this coil being suitably connected as by means of a coupling 18 with a source of water supply 19, this source ordinarily being the usual water main.

The other or outlet end of the cooling coil is connected with the filter 20 located in the forward filtering compartment 12, this filter being shown herein as a receptacle filled with suitable filtering medium, and supported in said compartment on brackets 21.

Interposed between the cooling coil and the filter, is the controlling valve 22, said valve being herein shown as located in the filter compartment above the filter and provided with an operating stem 23 projecting out through the front wall of the casing.

The cooled and filtered water is delivered through a suitable dispensing spout 24.
admitted to the filter and will flow through the same out the dispensing spout. The water is thus cooled when it reaches the filter and it then only remains for it to be cleansed by passage through the filtering medium. The filter is preferably made of a capacity sufficient to permit flow of a good stream of water.

To prevent drippage after the controlling valve has been actuated, I preferably locate a drippage preventing valve between the filter and the dispensing spout, said valve here taking the form of a valve plate 25 held by the screw collar 26 between the abutting ends of the pipe sections 27-28, and provided with a valve opening 29 therein normally closed by the valve 30, said valve being pivotally supported at 31 and normally held to its valve seat by a spring 32. This valve spring is of sufficient strength to hold the valve seated against gravity but not strong enough to hold the valve closed against the pressure of the water in the water main. It follows from this, therefore, that as soon as the controlling valve is closed and the pressure therefore is no longer present, that this valve will close and prevent any drippage from the dispensing spout.

A screen 33 may be provided at this joint above the drippage valve to catch and hold any of the filtering material that may escape the first screen 34 and to prevent clogging of this valve.

A door 35 may be provided in the front of the casing to admit access to this drip preventing valve. The filter is preferably made readily removable from the casing for the purpose of cleaning or renewal of the filtering material. For this reason the valve operating stem 23 is preferably made with a joint 36 and the filter is made readily disconnectable from the cooling coil as by means of a suitable coupling 37. It will be apparent that when the coupling 37 is opened and the valve stem 23 is disconnected and the coupling 26 is undone, that the filter as a whole may be lifted out of the filtering compartment.

The filter casing is preferably provided with a filling opening closed by a removable plug 38. When this plug is removed the entire contents of the filter casing may be dumped out and cleaned or renewed, as the case may be.

The upper end of the cooling coil may be connected by a coupling 39 to the opposite end of the sleeve 40 with which the coupling 37 connects. This construction makes it possible to disconnect either the cooling coil or the filter without disturbing the one which is not disconnected.

The forwardly sliding cover 14 may be guided in a suitable guide-way 41, as indicated in Fig. 2.

From the foregoing, it will be seen that the invention is adapted for ready installation in residences, offices, etc., without making any changes in the water connections, the only thing necessary being a connection with the water main, and it will further be seen that when installed in a wall as illustrated, the device is inconspicuous and out of the way.

What I claim is:

1. A combined liquid cooler and filter comprising a casing, a cooling coil in said casing adapted for connection at its inlet end with a liquid supply main, a filter in the casing connected at one end with the outlet end of the cooling coil, a control valve interposed in the connection between the outlet end of the cooling coil and the inlet end of the filter, said control valve having an exposed manually operable handle projecting through the casing, and an exposed freely delivering dispensing spout connected with the outlet end of the filter and projecting through the casing, whereby, upon operation of the exposed valve handle, cooled liquid from the cooling coil will be admitted to the filter and will flow through the filter and out of the open dispensing spout connected with the discharge end thereof.

2. A combined liquid cooler and filter comprising in combination with a liquid supply main, a cooling coil connected with said main, a filter connected with said cooling coil and provided with a dispensing spout open to freely deliver liquid when liquid under pressure is admitted from the cooling coil to the filter, a control valve interposed between the filter and cooling coil provided with an exposed operating handle, all whereby upon operation of said exposed handle liquid from the main flowing through the cooling coil will be admitted to the filter and will be delivered by the filter through the open dispensing spout and an automatic drip preventing valve connected with said freely discharging dispensing spout to thereby prevent drippage from the filter after the manually controlled valve has been operated.

3. A combined filter and cooler comprising a casing having a partition dividing the same into front and rear compartments, a cooling coil located in the rear compartment, a filter located in the front compartment, a dispensing spout connected to said filter and a valve interposed between the cooling coil and the filter and having an operating stem projecting through the front of the casing.

HARRY TIERNEY ALLEN.