June 23, 1925. 1,543,012

A. K. KLIMIS

INSTANTANEOUS HEATER

Filed Dec. 11, 1922 2 Sheets-Sheet 1

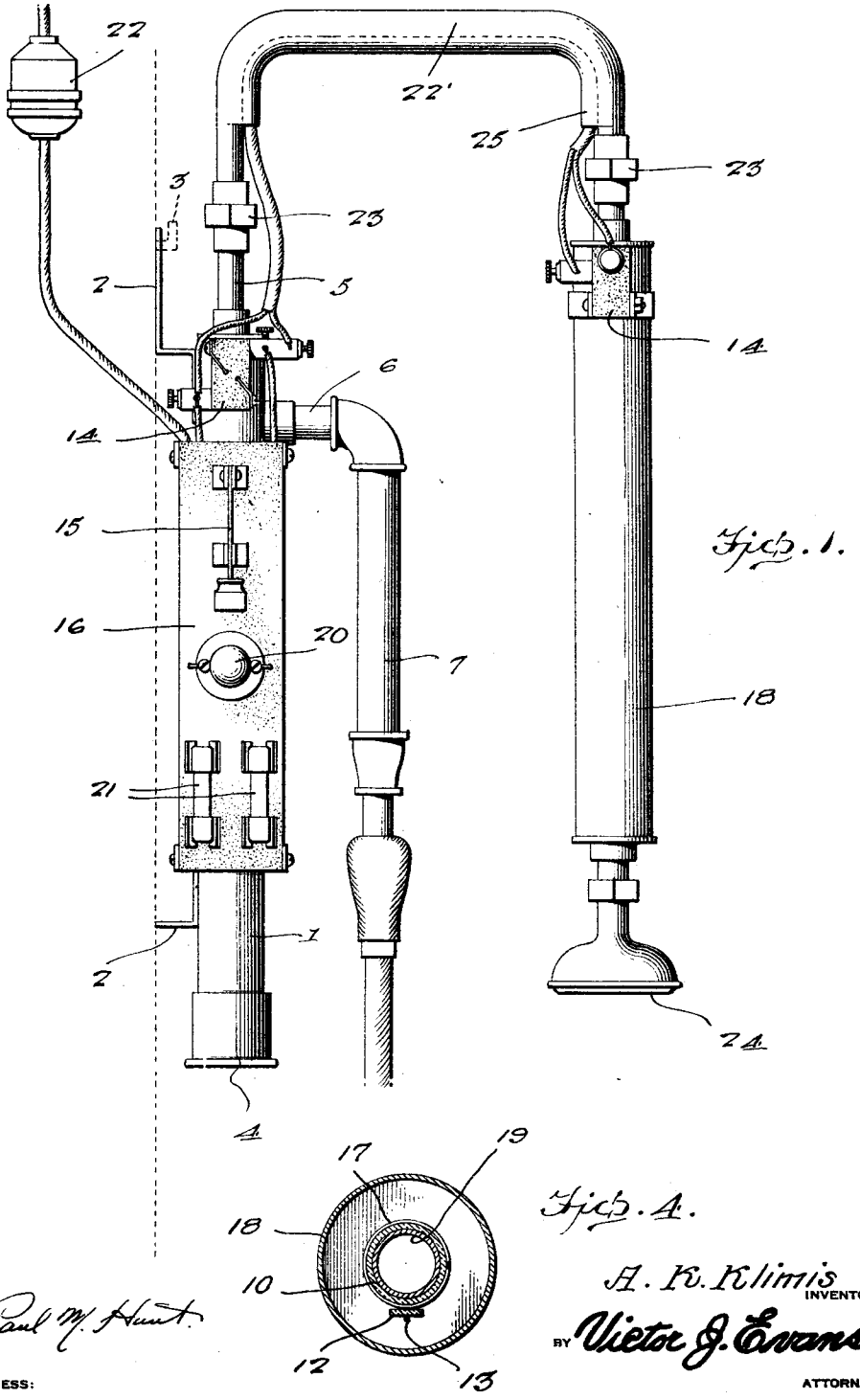


Fig. 1.

Fig. 4.

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Fig. 2.

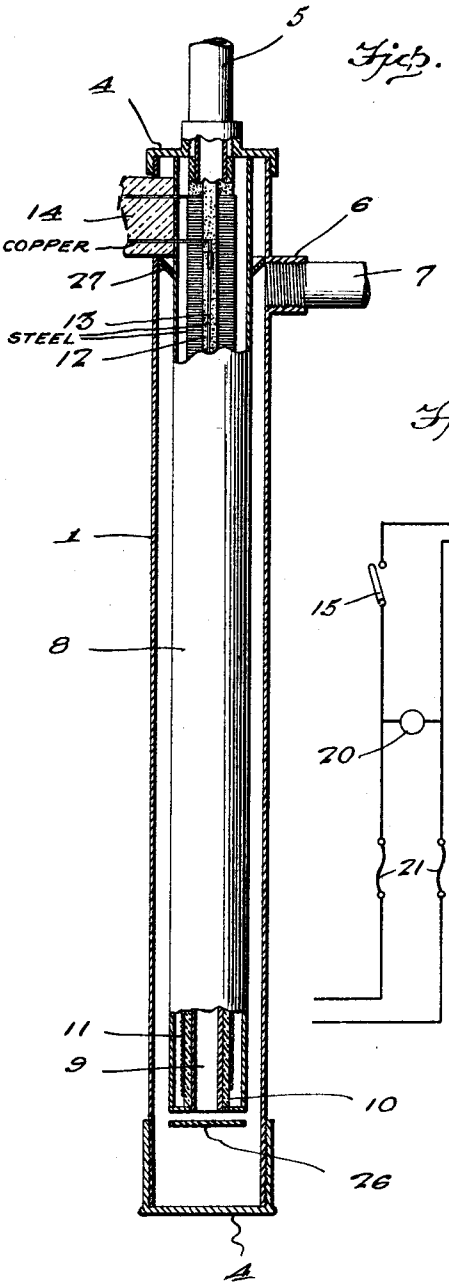


Fig. 3.

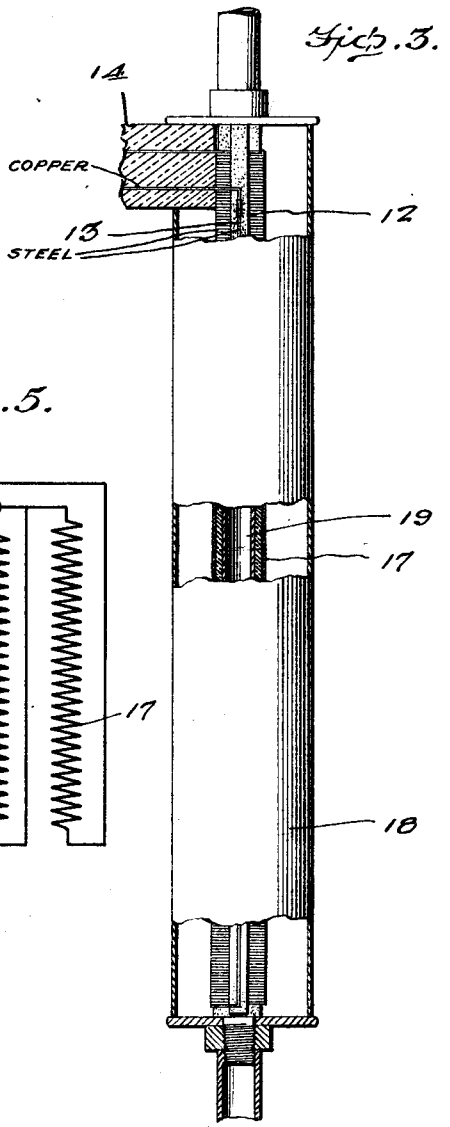
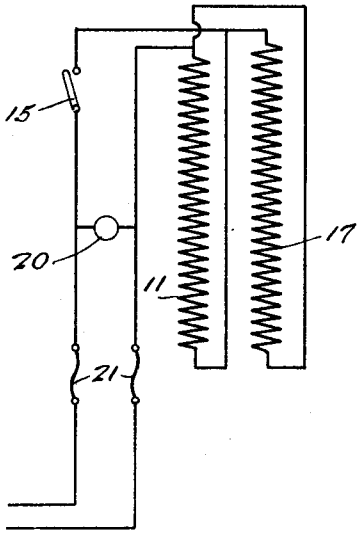


Fig. 5.



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UNITED STATES PATENT OFFICE.

APOSTOLOS KONIAS KLIMIS, OF BALTIMORE, MARYLAND.

INSTANTANEOUS HEATER.

Application filed December 11, 1922. Serial No. 606,094.

To all whom it may concern:

Be it known that I, APOSTOLOS KONIAS KLIMIS, a citizen of Greece, residing at Baltimore, in the county of Baltimore City and State of Maryland, have invented new and useful Improvements in Instantaneous Heaters, of which the following is a specification.

The principal object of this invention is to provide electrical means for heating a stream of water as it passes through a supply pipe to its point of discharge so that the water will be heated with the minimum amount of current consumption as the current is flowing through the heating coils while the water is being used.

Another object of the invention is to provide means for indicating that the current is flowing.

A further object of the invention is to provide a pair of heating elements, one of which initially heats the water and the other of which heats the water to a higher degree after it leaves the first element.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation of the invention.

Figure 2 is a longitudinal sectional view through the first heating element.

Figure 3 is an elevation partly in section of the second heating element.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a diagrammatic view of the circuits.

In these views 1 indicates the tubular member which has connected thereto the brackets 2 which are adapted to rest against a wall or the like and one of which is adapted to engage a hook, such as shown at 3, to support the device in position. The ends of the member are closed by the screw caps 4, the upper one of which being provided with a screw threaded boss to receive the screw threaded end of a pipe 5. An appreciable distance from the top of the member a nipple 6 is provided for receiving the end of the supply pipe 7 which is adapted to be connected with the source of supply in any desired manner. A casing 8 is arranged in the cylinder and a pipe 9 passes through said casing and has its lower end in communication with the lower part of the cylinder and its upper end is in communication with the pipe 5. A layer 10 of insulated material is placed on the tube 9 within the casing 8 and an electric coil 11 is wound around said layer. A strip 12 is placed on the coil to receive the part 13 of the wire after it leaves the coil. The terminals of the wire pass through holes in the casing and through a block 14 of insulating material, one wire leading to a switch 15 located on a switch block 16 and the other wire leading to a second coil 17 which is located in a tubular member 18 upon a tube 19 which passes through the said member. The parts of the coil in this member are arranged the same as those in the member 1 and the return wire leads back to the switch block which is provided with the tell tale lamp 20 and the fuses 21. The conductors are adapted to be connected to the lighting system of a house or other source of supply by the usual plug 22. The tube 19 is connected with the tube 5 by the U-shaped pipe 22′ and the couplings 23 and a sprinkler head 24 is connected with the lower end of the tube 19. The conductors passing from one coil to the other pass through a passage 25 formed on the pipe 22′.

From the foregoing it will be seen that when a cock, which controls the flow of water, is turned on the water will flow from the supply pipe 7 into the casing 1 and will pass from the casing through the tube 9 into the pipes 5 and 22′ and then through the tube 19 in the tubular member and will be discharged through the sprinkler head 24. A baffle plate 26 checks the flow of water into the tube 9 and a partition plate 27 prevents the water in the casing 1 from coming in contact with the parts at the upper end of the casing. The water is heated in the two members 1 and 18 by the heating coils so that it will flow from the sprinkler head in a hot condition. It is initially heated in the member 1 and is brought to a higher degree of heat in the tubular member. The lamp 20 indicates that the circuit

is complete and the location of the switch permits the user to easily control the flow of current.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A device of the class described comprising a casing, a supply pipe connected with the same adjacent its upper end, an outlet tube passing through one end of the casing and having its other end located a short distance from the other end of the casing, an electric heating coil surrounding said tube, a tubular member inclosing the coil for preventing water in the casing from reaching the same, a partition in the upper end of the casing between said casing and a tubular member for preventing water from reaching the upper end of the casing, a baffle plate in the casing spaced from the lower end of the outlet tube, a block of insulating material extending into the casing above the partition and conductor wires passing through the block and connected with the coil.

2. A device of the class described comprising a pair of casings, a tube passing through one casing, a tube passing through the top of the other casing and having its end terminating a short distance from the lower end of said casing, means for supplying water to the said casing, a U-shaped connection between the upper end of the two tubes so that water can pass from one tube to the other, electric heating means in the first casing for heating the water passing through the same and a nozzle connected with the lower end of the tube in the second casing.

In testimony whereof I affix my signature.

APOSTOLOS KONIAS KLIMIS.