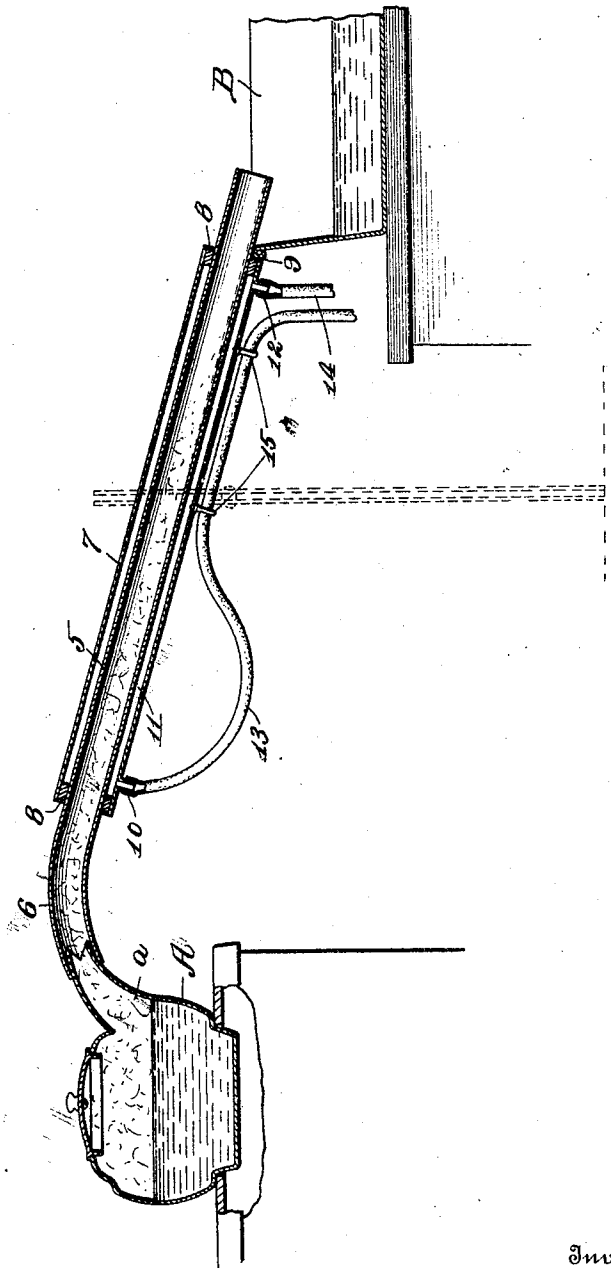
E. N. BALDWIN.

CONDENSING ATTACHMENT FOR TEA KETTLES.

APPLICATION FILED APR. 14, 1914.

1,199,147. Patented Sept. 26, 1916



Inventor

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Witnesses

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EUGENE N. BALDWIN, OF JOLIET, ILLINOIS.

CONDENSING ATTACHMENT FOR TEA-KETTLES.

1,199,147. Specification of Letters Patent. Patented Sept. 26, 1916.

Application filed April 14, 1914. Serial No. 831,714.

To all whom it may concern:

Be it known that I, EUGENE N. BALDWIN, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented new and useful Improvements in Condensing Attachments for Tea-Kettles, of which the following is a specification.

This invention relates to an attachment for tea kettles for domestic use, and has for its object to provide a simple, inexpensive, and efficient condenser which may be removably attached to the spout of an ordinary tea kettle for condensing the steam of boiling water and aerating the same, providing in an economical manner potable distilled water whenever desired.

The drinking water found in many places is rendered unfit for use by the presence therein of foreign substances, such as clay and earth in suspension, salts of various kinds in solution, and innumerable organic bodies which cause sickness and disease to persons using the water. To purify such water by filtering the same is expensive and rarely, if ever, results in pure water, and no means, so far as known, whereby water may be distilled in an economical manner, has been devised. To fill such a want, a simple and inexpensive apparatus, hereinafter described, has been designed that can be attached to an ordinary tea kettle to condense the steam issuing from the spout thereof, and deliver the distilled water in a potable condition into a suitable receptacle for use. The simplicity of the apparatus and the ease with which it may be set up for use brings it within the reach of all and provides a ready means whereby pure drinking water is made accessible to every person.

The accompanying drawing is a longitudinal sectional view of the apparatus as it appears when in use; and comprises a tube 5, preferably made of aluminum as this is the most economical of the obtainable metals that are unaffected by water, steam or heat, and gives no injurious solution or bad taste to the condensed water. The tube 5 is sufficiently long to insure complete condensation of all steam passing thereinto, and is preferably straight for the greater part of its length, but may be of other shape. The upper or inlet end of tube 5 that fits over the spout *a* of a tea kettle A is curved sufficiently to maintain a downward inclination of the apparatus when in operative position and insures complete drainage of the tube of all water condensed therein.

Surrounding the tube 5 for a greater portion of its length is a second tube 7, preferably spaced a short distance from the tube 5 and sealed water-tight thereto at its upper and lower ends by rings of solder 8. These solder rings are cast in place by first filling the space between the inner and outer tubes with sand nearly to the ends, then pouring the molten solder into the ends of the tubes, the copper tube being sweated beforehand. The sand can be worked out between the tubes after casting the rings through the inlet and outlet apertures of the tube 7, presently to be described. The solder rings being thus sweated to the tube 7 will always remain tight. Should, however, a leak occur between a ring 8 and the tube 5, a few light blows of a hammer over the leak will close the opening. The delivery end of the tube 5 projects a short distance beyond the tube 7 and forms a shoulder 9 that supports the lower end of the apparatus upon the edge of a receptacle B in which the water of condensation collects.

Projecting from the upper end of the outer tube 7 is a small hollow stem 10 communicating with the space between the tubes; a similar stem 12 is provided at the lower end of the tube 7. Connected to these stems are two flexible tubes 13 and 14, the former supplying cold water to the upper end of the space 11, and the latter carrying off the water that has been more or less heated by the condensed steam. The flexible tube 13 is connected to any cold water supply, and if desired may be supported on the underside of the apparatus by means of rings 15 mounted thereon.

In setting up the apparatus, it is only necessary to place a kettle of water upon a stove or other heater and insert the spout in the end 6 of the tube 5 supporting the lower end of the apparatus upon the edge of a receptacle B which may rest upon the floor, a stool or any other convenient support. The tube 13 is then connected to the cold water supply and the end of the tube 14 carried to a suitable place of discharge. When the water in the kettle begins to boil, steam emerging from the spout *a* enters the tube 5 and passing down the same is condensed

by contact with the walls of the tube cooled by the water passing through the space 11. The condensed water flows down the tube and out of its lower end into the receptacle B, becoming more or less aerated during its passage. It is not necessary to provide a packing at the end of the tube that fits over the spout *a* of the kettle; as the metal of the tube is rather soft, the end thereof may be forced over the spout of the kettle and be sufficiently tight to prevent leakage. Usually this connection will hold the entire apparatus in position but if desired the lower end may be supported as indicated in the drawing, or a pair of crossed legs 16, indicated by dotted lines, may be provided upon which the apparatus rests.

As soon as sufficient distilled water has been obtained the apparatus is disconnected from the kettle, and the tube 13 from the water supply and the apparatus put away.

I claim,—

1. A condenser for domestic purposes, comprising a substantially straight tube formed of aluminum and open at both ends, one of which ends is slightly curved and adapted to detachably engage a steam orifice of a tea-kettle or a similar vessel and receive steam issuing therefrom, and to further maintain the tube in an inclined draining position, a second tube composed of copper of less length than the first-mentioned tube and surrounding the same in spaced-apart relation, a soft metal ring cast in each end of the outer tube and sweated thereto and sealed tightly to the inner tube to form a closed cooling chamber around the inner aluminum tube, said ring being formed of a relatively soft metal that will under light pressure, or light strokes of the hammer, close any leaks that may occur between a ring and one of the tubes, an inlet leading into the upper end of said cooling chamber and a drainage pipe leading from the lower end thereof, said cooling chamber being adapted to receive cool water through said inlet pipe and to discharge through said drainage pipe.

2. A condenser for domestic purposes, comprising a substantially straight tube formed of aluminum and open at both ends, one of which ends is slightly curved and adapted to detachably engage a steam orifice of a tea-kettle or a similar vessel and receive steam issuing therefrom, and to further maintain the tube in an inclined draining position, a second tube composed of copper of less length than the first-mentioned tube and surrounding the same in spaced-apart relation, a soft metal ring cast in each end of the outer tube and sweated thereto and sealed tightly to the inner tube to form a closed cooling chamber around the inner aluminum tube, said ring being formed of a relatively soft metal that will under light pressure, or light strokes of the hammer, close any leaks that may occur between a ring and one of the tubes, an inlet leading into the upper end of said cooling chamber and a draining pipe leading from the lower end thereof, a flexible tube attached to said inlet, rings on the underside of the outer jacket for supporting the flexible tube, said cooling chamber being adapted to receive cool water through said inlet pipe and to discharge through said drainage pipe.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EUGENE N. BALDWIN.

Witnesses:
RUDOLPH W. MENK,
EDWARD C. BARRETT.