

No. 820,282.

PATENTED MAY 8, 1906.

W. A. BROWN.
ELECTRICAL WATER HEATER.
APPLICATION FILED APR. 6, 1905.

Fig.1.

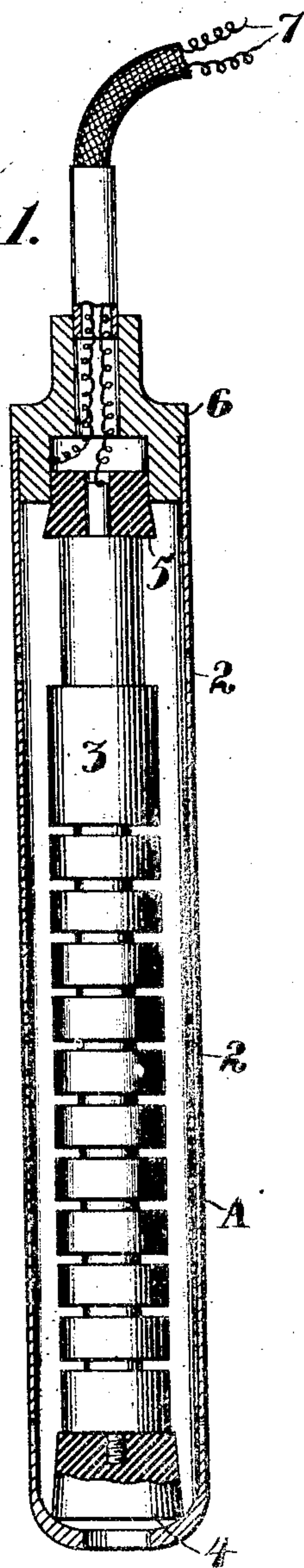
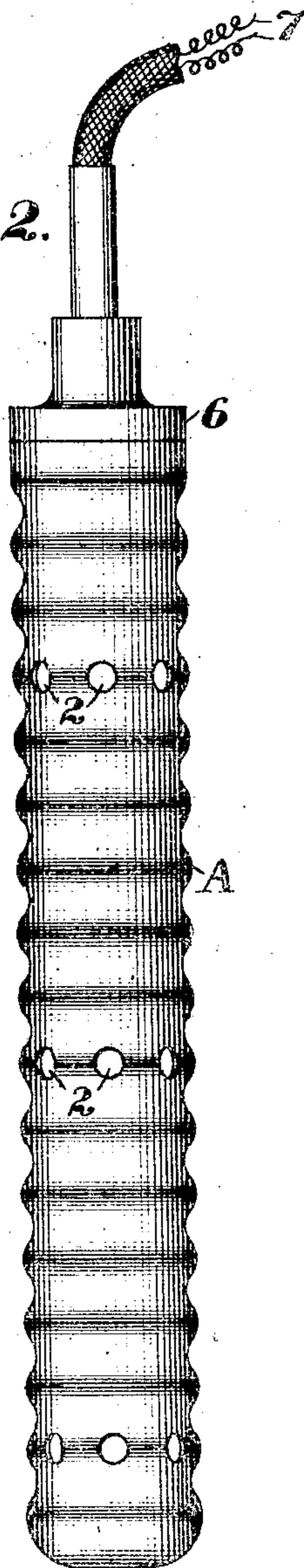


Fig.2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM A. BROWN, OF OAKLAND, CALIFORNIA.

ELECTRICAL WATER-HEATER.

No. 820,282.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed April 6, 1905. Serial No. 254,142.

To all whom it may concern:

Be it known that I, WILLIAM A. BROWN, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Electrical Water-Heaters, of which the following is a specification.

My invention relates to a device for heating water by means of an electrical current and a device by which a resistance is produced to raise the temperature of the water in the containing vessel.

It comprises combinations of parts and details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a sectional view of my device. Fig. 2 is an outside view of a corrugated tube.

It is the object of my invention to provide a means for rapid heating of liquids by the immersion of the heater mechanism within the liquid.

As shown in the drawings, A is a hollow tube having perforations in its sides, as shown at 2.

3 is the part through which heat is communicated to the water. This part is here shown in the form of a bar of smaller diameter than the interior of the tube and having grooves, channels, or corrugations of any desired character formed upon its surface, the object being in any construction to make as large a contact-surface for the water as possible. The ends of this bar are provided with non-conductors, as at 4 and 5. The non-conductor 4 is of such greater diameter than the bar that it prevents contact of the bar with the sides of the tube near one end. The other non-conductor 5 forms an insulation between the bar and the head 6, which fits into one end of the tube.

7 represents the conducting-wires which are connected with the opposite poles of a source of electrical energy, and one of these wires is connected with the head or cap 6 and the other with the bar 3. As these parts are not in direct electrical communication, it will be manifest that the electrical current pass-

ing through the circuit must include as a means of transmission a body of water which is inclosed within the tube A and which forms the resistance. The water is constantly circulating through the tube by reason of the openings in the side of the tube, which may also be corrugated, if desired.

A device thus constructed may be immersed in any vessel containing water, and the water will be heated to any desired temperature in a short space of time.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An improved water-heater consisting of a perforated tube having a bottom substantially closed and having an open top portion, a head fitting the open top portion of the tube said head provided with a socket, a bar within said tube said bar having a non-conducting portion at its lower end adapted to rest upon the bottom of the tube, and having a non-conducting portion at its upper end adapted to fit the socket of said head and electrical connections between the bar and head.

2. An improved water-heater consisting of a perforated tube having a bottom substantially closed and having an open top portion, a head fitting the open top portion of the tube said head provided with a socket, a bar within said tube said bar having a non-conducting portion at its lower end adapted to rest upon the bottom of the tube, and having a non-conducting portion at its upper end adapted to fit the socket of said head and electrical connections between the bar and head; said bar being grooved or channeled to increase the contact-surface for the water, and electrical connections between the bar and head.

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

WILLIAM A. BROWN.

Witnesses:

C. W. WHITNEY,
B. E. STRANGE.