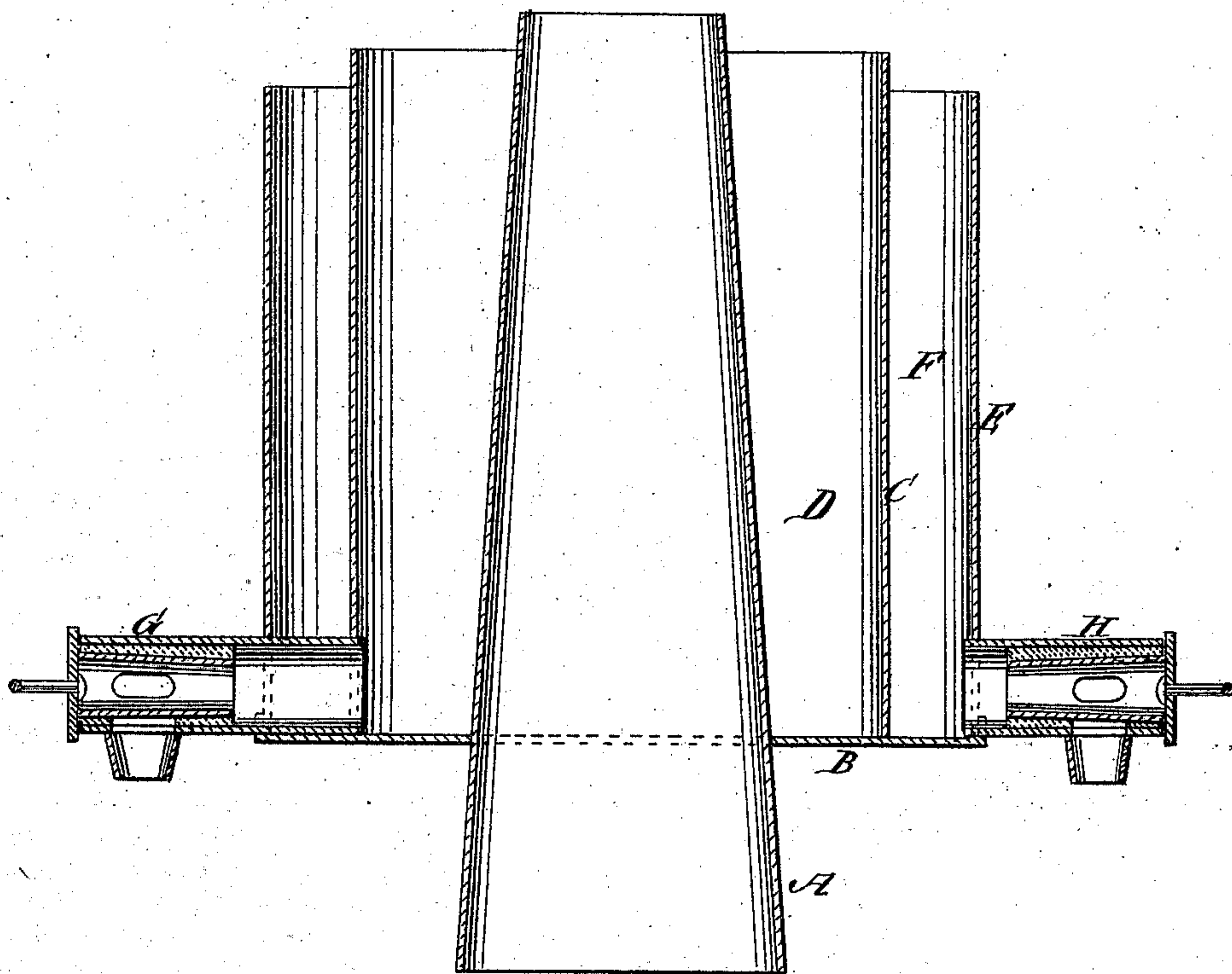


Z. B. GRANDY & C. E. GRANDY.

Kerosene Heaters.

No. 141,046.

Patented July 22, 1873.



Witnesses:

E. Wolff.
August 10

Inventor:

Z. B. Grandy
C. E. Grandy
Per *Wm. H. [Signature]*
Attorneys.

UNITED STATES PATENT OFFICE.

ZIBA B. GRANDY AND CYRUS E. GRANDY, OF STAFFORD SPRINGS, CONNECTICUT, ASSIGNORS TO THEMSELVES AND WILLIAM D. HEALD, OF SAME PLACE.

IMPROVEMENT IN KEROSENE HEATERS.

Specification forming part of Letters Patent No. 141,046, dated July 22, 1873; application filed April 26, 1873.

To all whom it may concern:

Be it known that we, ZIBA B. GRANDY and CYRUS E. GRANDY, of Stafford Springs, in the county of Tolland and State of Connecticut, have invented a new and useful Improvement in Kerosene Heaters, of which the following is a specification:

The object of this invention is to furnish improved facilities for heating water and other liquids by means of a kerosene-lamp; and it consists in two annular liquid-reservoirs arranged around the lamp-chimney, the construction and arrangement being as hereinafter described.

The accompanying drawing illustrates our invention.

Similar letters of reference indicate corresponding parts.

A is the lamp-chimney, which is securely fastened through the bottom B by soldering or otherwise. The chimney projects below the bottom an inch or more, as seen in the drawing, and extends upward to or above the top of the reservoir. C is a cylinder attached to the bottom and surrounding the chimney, forming a water-tight annular reservoir, D, around the chimney. E is another cylinder, also attached to the bottom B surrounding the cylinder C, and forming another annular water-tight reservoir, F. In these reservoirs or either of them the liquid to be heated is placed, the heat for the purpose being radiated from

the lamp-chimney, and is conducted from the liquid in the inner to the liquid in the outer reservoir. Two different kinds of liquid—as water and milk, for instance—may be heated at the same time. G is a discharge-faucet, which connects with the inner reservoir, and H is a discharge-faucet, which connects with the outer reservoir. The reservoirs may be left open or covered at the top.

When in use, the base of the chimney is placed over the common kerosene-lamp flame, and the heater is supported by the lamp.

This is extremely convenient for heating milk for children at night as well as at other times when a fire is not handy; also, for heating water for shaving or other purposes.

The heater is made of tin or similar material, and the chimney is riveted or soldered with hard solder so as to resist the effects of the heat.

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

The lamp-chimney A, combined with two concentric chambers, D F, arranged on a common base, B, and having cocks G H, respectively, as and for the purpose described.

ZIBA B. GRANDY.
CYRUS E. GRANDY.

Witnesses:

JOSEPH W. CHANDLER,
S. H. SEWARD.