W. BARSTOW.

ELECTRIC HEATER.

APPLICATION FILED MAY 21, 1912.

1,052,997.

Patented Feb. 11, 1913.

Fig. 1.

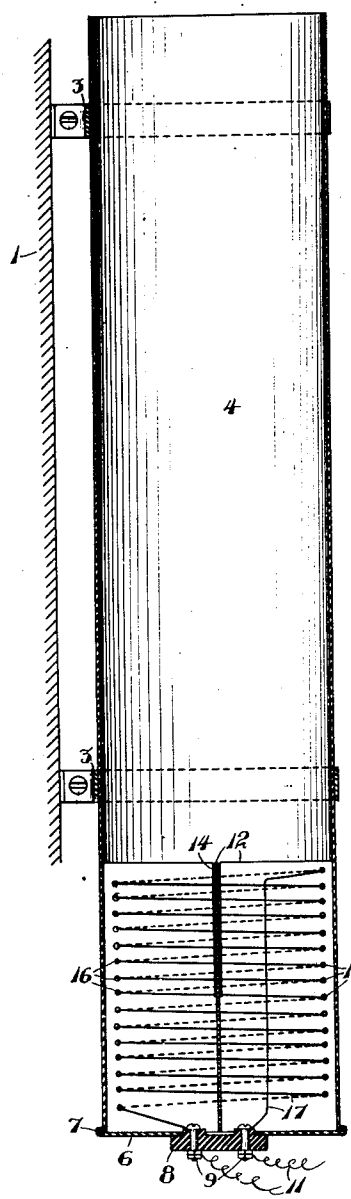


Fig. 2.

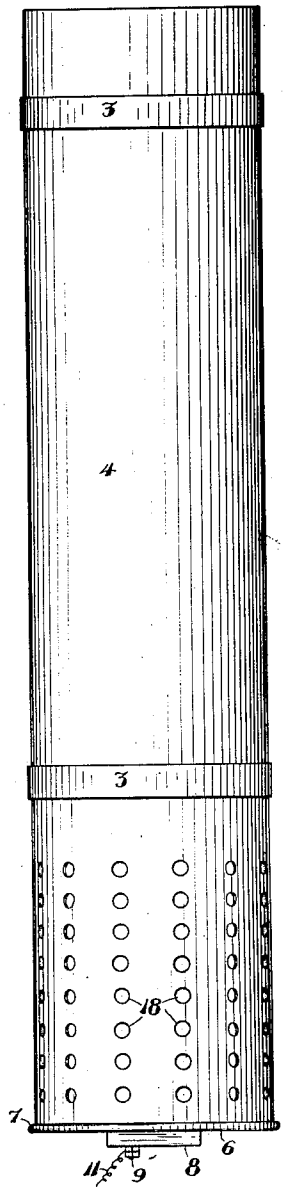
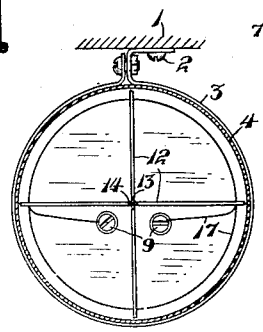


Fig. 3.



WITNESSES

F. C. Fliedner

N. B. Keating.

INVENTOR

W. Barstow,

BY

F. M. Wright,

ATTORNEY

UNITED STATES PATENT OFFICE

WELCH BARSTOW, OF SAN FRANCISCO, CALIFORNIA.

ELECTRIC HEATER.

1,052,997. Specification of Letters Patent. Patented Feb. 11, 1913.

Application filed May 21, 1912. Serial No. 698,816.

To all whom it may concern:

Be it known that I, WELCH BARSTOW, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Electric Heaters, of which the following is a specification.

The object of the present invention is to provide an effective form of electric heater for rapidly heating the air of an apartment, railroad car, or the like.

In the accompanying drawing, Figure 1 is a vertical cross section of the heater; Fig. 2 is a side view thereof; Fig. 3 is a horizontal section thereof.

Referring to the drawing, 1 indicates a wall of an apartment, car, or the like, to which are secured by screws 2, or in any suitable manner, bands 3 which are clamped around a cylindrical pipe 4, somewhat resembling in form and size a joint of an ordinary stove pipe. The lower end of said pipe is closed by a circular plate 6, the rim of which is, as shown at 7, beaded over the outwardly bent edge of the lower end of the cylindrical pipe 4, and to said plate is riveted an asbestos board terminal block 8, through which pass terminals 9 to which are secured wires 11 leading from any suitable source of supply of electricity. Upon said lower plate 6 are supported, at right angles to one another, vertical mica sheets 12, each sheet being slitted vertically from the center of a horizontal edge thereof to about the middle, the slit 13 of one sheet extending from the lower edge upward, and that 14 of the other sheet from the upper edge downward, the slitted portion of each sheet being passed over the unslitted vertical central portion of the other sheet. Near their outer vertical edges said sheets are formed with a vertical series of small apertures 16. A high resistance wire 17 is connected to one terminal 9 and is passed in succession through the lowermost aperture in each sheet, and then successively through higher apertures therein, finally passing through the uppermost aperture of one of the sheets and then connected to the other terminal 9. The pipe 4 is formed in the lower portion not higher than the mica sheets, with a number of apertures 18 allowing air to enter.

The mode of operation of the device will be readily understood from the foregoing description. When electricity is caused to pass through the high resistance wire, said wire becomes highly heated, heating the adjacent air and causing it to rise in the pipe and flow out from the top thereof, its place being supplied by air flowing through the apertures 18 and impinging against the highly heated wire, which is in turn heated and flows to the upper portion of the pipe.

I claim:—

1. In combination with a conduit open at the top and having an aperture at the bottom, a coil of high resistance wire within said pipe, and vertical sheets of mica supported within the pipe and crossing each other, and supporting said coil.

2. In combination with a cylinder, open at the top and having a plurality of openings in the lower portion, means for closing the bottom of the cylinder, two terminals carried by said means, vertical mica sheets supported upon said means, and extending as high as said lower portion and having a large number of apertures in their vertical edges, and a coil of high resistance wire connected to said terminals and passing successively through said apertures.

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

WELCH BARSTOW.

Witnesses:
FRANCIS M. WRIGHT,
D. B. RICHARDS.