

(No Model.)

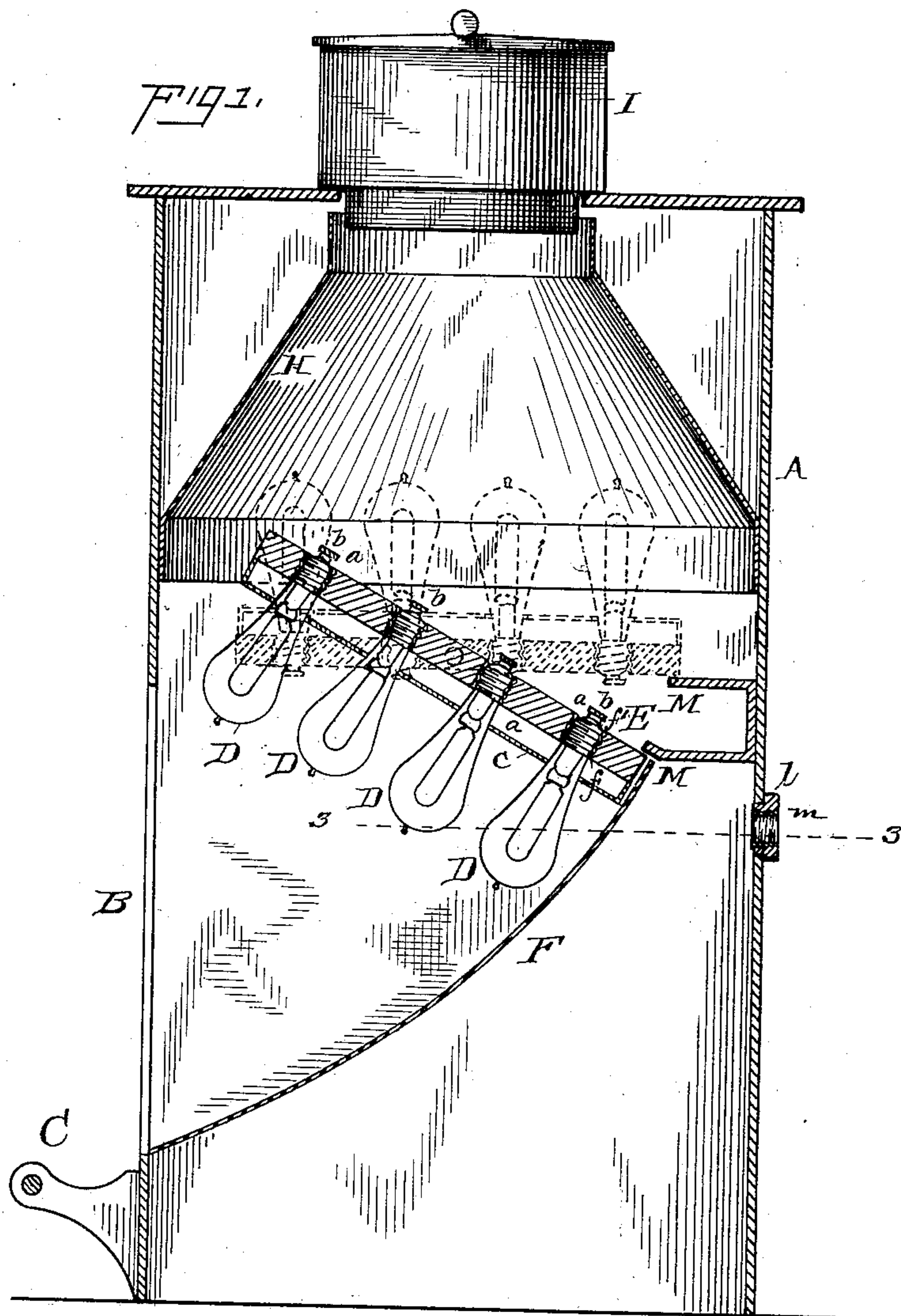
2 Sheets—Sheet 1.

J. P. BARRETT & J. F. MEHREN.

ELECTRICAL HEATER.

No. 375,915.

Patented Jan. 3, 1888.



ATTEST:
E. H. Rowland
Wm. Rye

INVENTOR:
John P. Barrett
Jacob F. Mehren
By Wm. Rye
attest

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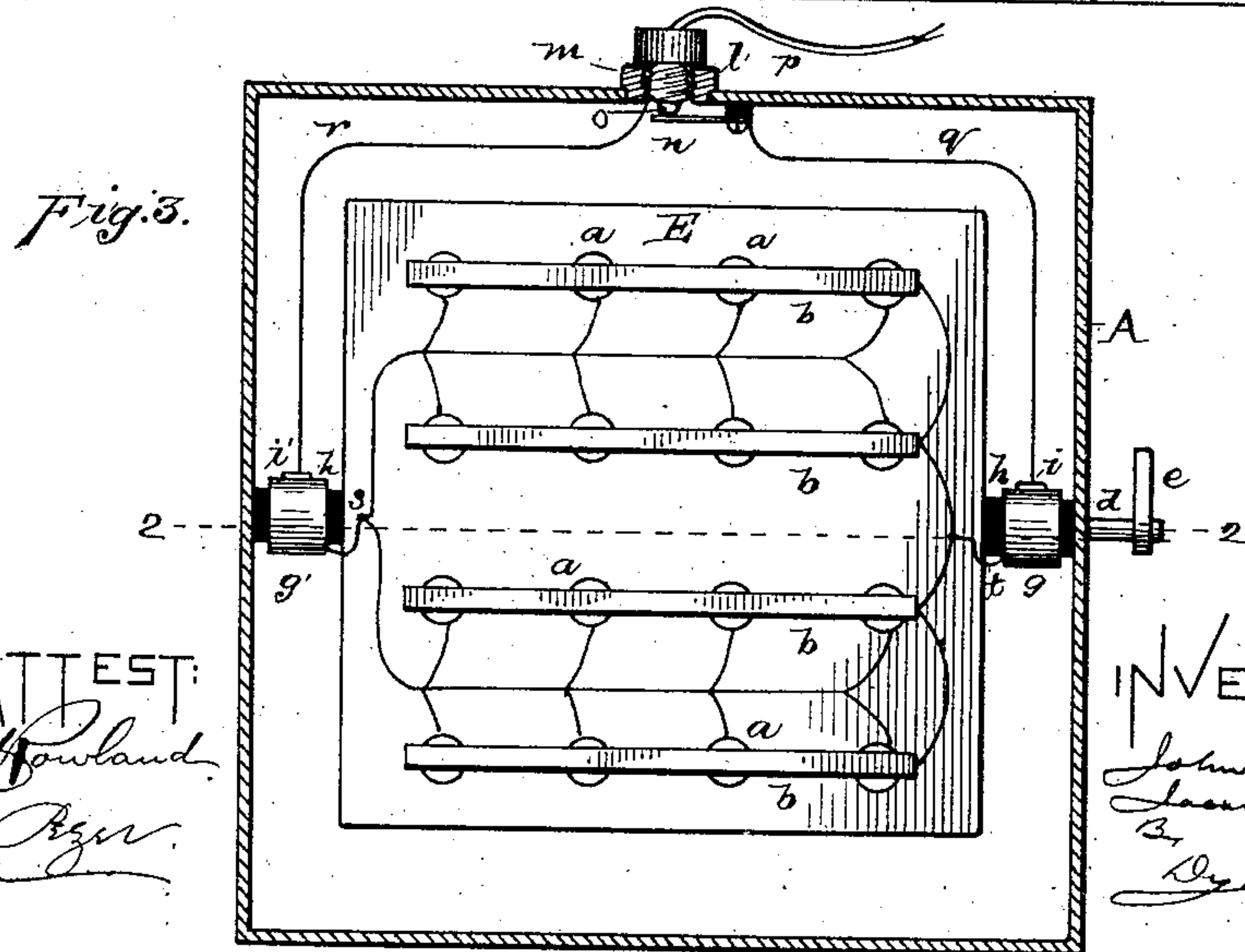
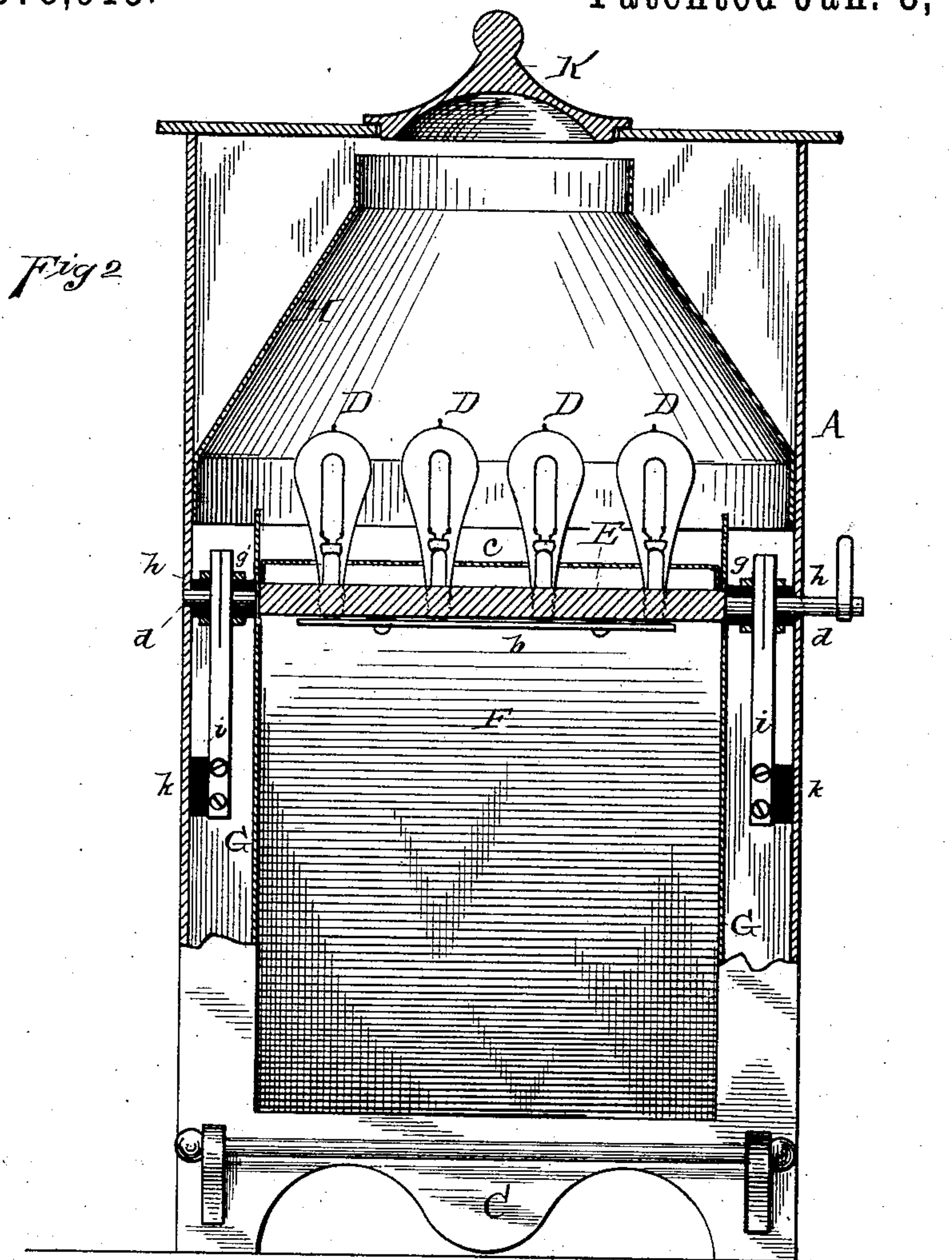
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ATTEST:
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Wm. B. Ryan

INVENTOR:
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UNITED STATES PATENT OFFICE.

JOHN P. BARRETT AND JACOB F. MEHREN, OF CHICAGO, ILLINOIS.

ELECTRICAL HEATER.

SPECIFICATION forming part of Letters Patent No. 375,915, dated January 3, 1888.

Application filed January 27, 1887. Serial No. 225,605. (No model.)

To all whom it may concern:

Be it known that we, JOHN P. BARRETT and JACOB F. MEHREN, both of Chicago, in the county of Cook and State of Illinois, have jointly invented a certain new and useful Improvement in Electrical Heating, of which the following is a specification.

The object of our invention is to utilize incandescent electric lamps for heating and cooking purposes; and our invention consists, mainly, in an electric stove in which a suitable number of such lamps are placed in an inclosing-case or chamber in such manner that their heat will be radiated therefrom, the case or chamber acting to conserve the heat of said lamps. We provide within said case suitable reflectors or other devices for directing and concentrating the heat of the lamps in the required direction, and we prefer, also, to provide means for adjusting the position of such lamps so that their heat may be thrown out for the purpose of warming a room or other place, or upwardly for heating or cooking the contents of a vessel placed above them upon the top of the inclosing-case or stove. By employing as electric heating devices incandescent electric lamps with glass globes the stove not only radiates heat, but light also into the room, which effect does not take place with the forms of electric-heating devices heretofore proposed.

In addition to these features our invention consists in other novel devices and combinations of devices, as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a vertical section of an electric stove embodying our invention; Fig. 2, an opposite vertical section on the line 2 2 of Fig. 3; and Fig. 3, a bottom view of the lamp-holder, with the case in horizontal section on line 3 3 of Fig. 1.

A is the inclosing-case, chamber, or stove, preferably made of metal and provided with an opening, B, in its front. C represents a foot-rest, which may be placed in front of said opening.

D D represent incandescent electric lamps, which are held in a pivoted frame or holder, which may be turned, as shown in Fig. 1, so as to bring the lamps into either the inverted or downwardly-hanging position shown in full lines or the upright position shown in dotted

lines in said figure. The lamp-holder consists of a block or plate, E, of electrical insulating material of such character as will withstand the heat to which it may be subjected, such as slate, hard wood, &c. This plate is provided with a number of apertures, each containing an internally-screw-threaded sleeve, *a*, forming sockets for the lamps. To the side of the frame opposite the lamps are attached several metal strips, *b b*, and upon the other side is placed a reflecting-surface, *c*. The pivotal support of the lamp-holder is by short shafts *d d*, extending through and turning in the sides of the chamber. A handle, *e*, outside the stove, is provided for turning the holder. The stop M M holds the lamp-holder in the position in which it is placed.

F is a curved reflector placed behind the lamps when they are in their inverted position and acting to direct the heat and light of the lamps toward the opening B. Side reflectors, G G, are also provided for the same purpose.

Above the pivoted lamp holder is placed a deflector, which may be a cone-shaped funnel or two or more deflecting-plates. Such deflector directs the heat and light toward an opening in the top of the stove, upon which, for cooking purposes, may be set a vessel, I, Fig. 1. When the stove is not used for this purpose, the opening may be closed by a cover, K. The reflector *c* acts in both positions of the holder, and also serves to protect the sockets and the connections from the heat to which they would otherwise be subjected. The reflectors are all preferably made of burnished copper, though any other suitable material may be employed.

The lamps used are preferably of the ordinary construction, in which the base of the lamp is provided with a screw-threaded contact-ring, *f*, and a contact tip or button, *f'*. The lamps being placed in the sockets provided in the lamp-holder, the ring-contacts engage with the screw-threaded sleeves *a*, and the button-contacts bear firmly upon the metal strips *b*. Upon each of the short shafts *d* is mounted a metal ring, *g* or *g'*, insulated from the shaft by an insulating-collar, *h*, and upon each of these rings bears a spring or brush, *i* or *i'*, supported stationary by and insulated from the walls of the stove at *k k*. In the

back of the stove, or at other suitable place in the walls thereof, is an aperture holding an insulating-collar, *l*, having an internally-screw-threaded metal ring, *m*, and directly below this
 5 aperture is a metal spring, *n*, supported by and insulated from the case. In the collar *l*, to make connection with the stove, is inserted a connecting-plug, *o*, of ordinary construction, making contact with ring *m* and spring *n*, and
 10 from this plug extend flexible or other wires *p*, which convey current to the stove from the wires of an electric-lighting system, or from any suitable source of electricity. From the collar *l* and spring *n* wires *q* and *r* extend, re-
 15 spectively, to the springs *i* and *i'*. From the ring *g'*, on which spring *i'* bears, a wire, *s*, extends, from which branch wires extend to all the screw-threaded collars *a* in the lamp-sockets, such wires being placed upon or passing
 20 through the material of the lamp-holder; and from the ring *g*, on which rests spring *i*, a wire, *t*, extends, which branches to all the contact-strips on which the tip-contacts of the lamps rest. The lamps are thus all connected in
 25 multiple arc between the rings *g g'*, or between the terminals of the connecting-plug. It is evident, however, that the lamps may be otherwise connected, in series or in multiple series, should the character of the lamps or of
 30 the current require it.

It will be seen that the lamp-holder may be turned in either of the two positions shown, and in either case the heat will be directed in the desired way, while the sliding contacts permit the turning of the holder without interfering with the circuit-connections. The lamps
 35 are preferably of such resistance as will cause them to be brought to such incandescence by the current employed as to produce the greatest amount of heat-rays with the greatest degree
 40 of economy.

What we claim is—

1. In an electric heater, the combination of an inclosing-case, chamber, or stove provided
 45 with an opening, a support within the same carrying incandescent electric-lamp sockets, incandescent electric-lamps having glass globes held in said sockets, connections from an external electric circuit to said lamps, and re-
 50 flectors for directing the heat and light from said lamps toward the opening in the case, substantially as set forth.

2. In an electric heater, the combination of an inclosing-case, chamber, or stove, a support
 55 within the same provided with sockets for incandescent electric lamps, and a reflecting-screen interposed between said support and

the body of the lamps, substantially as set forth.

3. In an electric heater, the combination of an inclosing-case, chamber, or stove, incandescent electric lamps situated within the same, and means for adjusting the position of said lamps to direct their heat in different directions, substantially as set forth. 65

4. In an electric heater, the combination of the inclosing-case, chamber, or stove having a front opening and a top opening, the incandescent electric lamps situated within the same, and means for adjusting the position of the
 70 lamps to direct their heat toward one or the other of said openings, substantially as set forth.

5. In an electric heater, the combination of an inclosing-case, chamber, or stove, incandescent electric lamps situated within the same, means for adjusting the position of the lamps to direct their heat in different directions, and reflectors for directing and concentrating the heat from said lamps when in either position, 80 substantially as set forth.

6. In an electric heater, the combination of the inclosing-case, chamber, or stove, the lamp-holder pivoted in bearings in said stove, and the incandescent electric lamps carried there- 85 by, substantially as set forth.

7. In an electric heater, the combination of the inclosing-case, chamber, or stove, the pivoted lamp-holder, and sliding electrical connections therewith, substantially as set forth. 90

8. In an electric heater, the combination of the inclosing-case, chamber, or stove, a number of incandescent electric lamps within the same, and a supplying-circuit, said lamps being connected in multiple arc with said circuit, substantially as set forth. 95

9. In an electric heater, the combination of the inclosing-case, chamber, or stove, and the lamp-holding frame consisting of a plate provided with sockets for said lamps, said sockets 100 having contacts for closing the lamp-circuits, substantially as set forth.

10. In an electric heater, the combination of the inclosing-case, chamber, or stove, the pivoted lamp-holder, and the stop for holding the
 105 same in either position, substantially as set forth.

This specification signed and witnessed this 22d day of January, 1887.

JOHN P. BARRETT.
 JACOB F. MEHREN.

Witnesses:

JOHN J. SWENIE,
 C. F. STRUBBE.