

(No Model.)

J. S. BURNHAM.  
HEAT REGULATING DEVICE.

No. 336,088.

Patented Feb. 16, 1886.

Fig. 1.

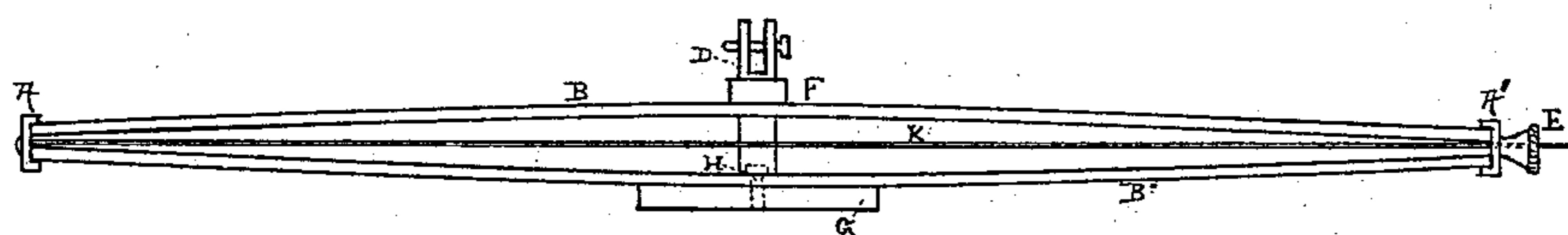
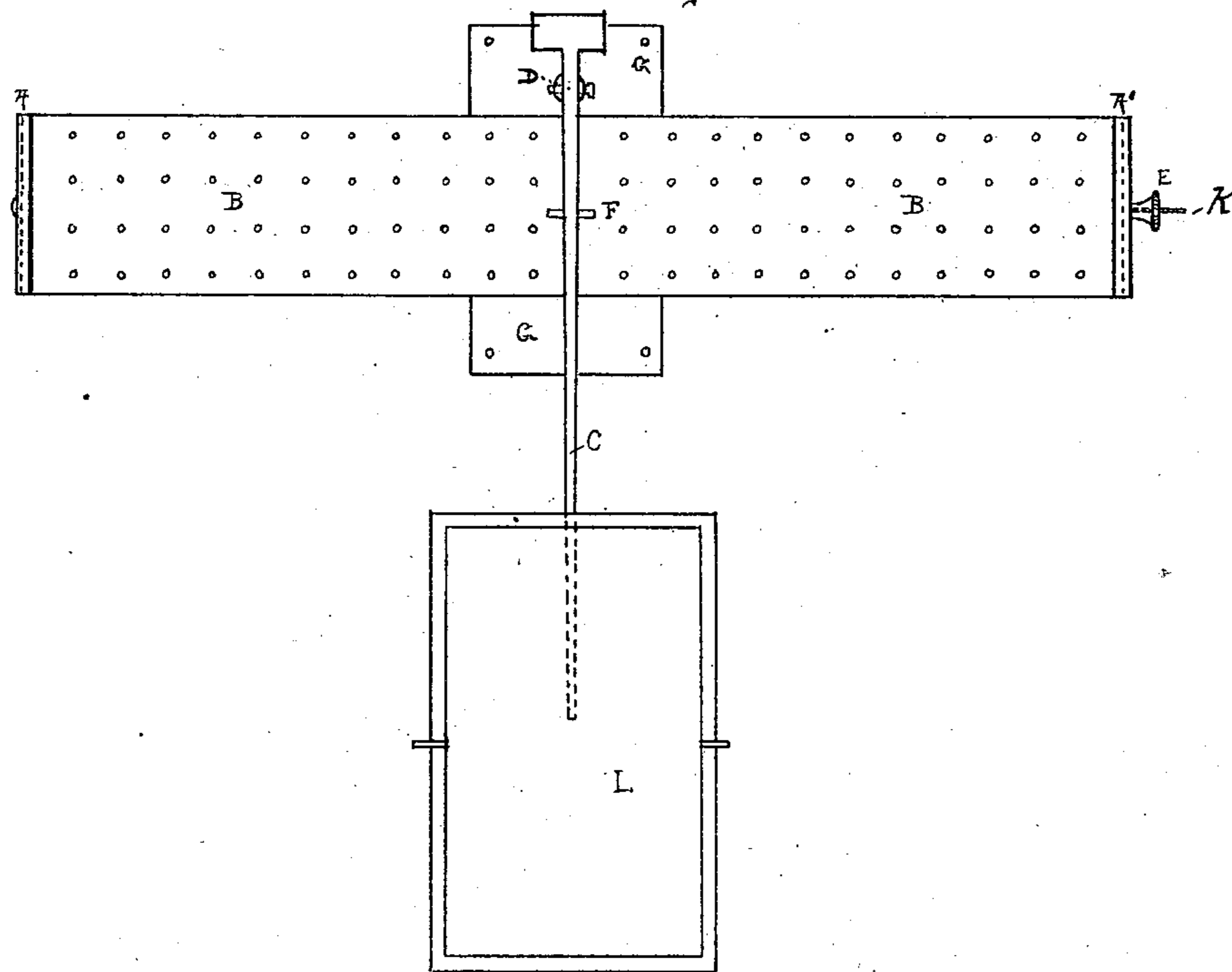


Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## HEAT-REGULATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 336,088, dated February 16, 1886.

Application filed September 12, 1885. Serial No. 176,900. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES S. BURNHAM, a citizen of the United States, residing at No. 124 Danforth avenue, Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Heat-Regulating Machine, of which the following is a specification.

My invention relates to improvements in devices for maintaining a uniform degree of temperature in incubators, closets, or rooms in which a constant unvaried temperature is desired; and the objects of my improvements are to furnish a simple, durable, and inexpensive device to open a door at any given degree of heat. I attain these objects by the mechanism illustrated in the drawings accompanying this specification.

Figure 1 is a side view of the device without the lever. Fig. 2 is a top view of the same with the lever attached and extending under the door.

Similar letters of reference indicate like parts in both the figures.

As is well known, heat-regulating devices have been in existence for some time, but much difficulty has been experienced in getting an apparatus that would act promptly at the required time with but slight variation in temperature and at the same time be inexpensive and simple. Devices of this kind heretofore used have been complicated, and consequently expensive. To obviate these difficulties, I construct my heat-regulator of vulcanized rubber or metal expansion-plates B B', which are held together at the ends by clamps A A'. Said clamps are held against the ends of the expansion-plates by a light bolt, K, and nut E. The screw H passes through the lower expansion-plate and holds it firmly to the base or bed plate G. The fulcrum F is fastened to the center of the upper expansion-plate, B, and on this fulcrum the lever C rests,

held in its place by being pinned to stud or standard D, said stud being fastened to the base-plate G. The short end of the lever is weighted for the purpose of nearly balancing the long end. The expansion-plates are perforated with holes for the purpose of making them more sensitive to changes of temperature.

Having thus described my invention, I will now proceed to show its mode of operation: The device is placed in the incubator or room with the lever adjusted so as to press against and open the door at any desired degree of heat. As the heat increases the expansion-plates, being prevented from extending endwise by the clamps and bolt above mentioned, rise in the middle and press the lever against the door, opening it and allowing the heated air to escape. As the temperature falls the plates contract, allowing the lever to drop from the door, which, being hung on pivots near its middle, closes, thus maintaining a uniform temperature.

I am aware that prior to my invention heat-regulators have been made and sidewise motion produced by fastening hard rubber and steel or other metal together, one of which expands more than the other, thereby producing sidewise motion. I therefore do not claim such a combination; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The combination of the expansion-plates B B' with clamps A A', rod or bolt K, nut E, standard D, bed-plate G, screw H, fulcrum F, lever C, and door L, when arranged and operating substantially as shown and described.

JAMES S. BURNHAM.

Witnesses:

JNO. N. BRUNS,  
C. H. BURNS.