

(No Model.)

A. J. THOMPSON.  
HEATER OR RADIATOR.

No. 462,337.

Patented Nov. 3, 1891.

Fig. 1.

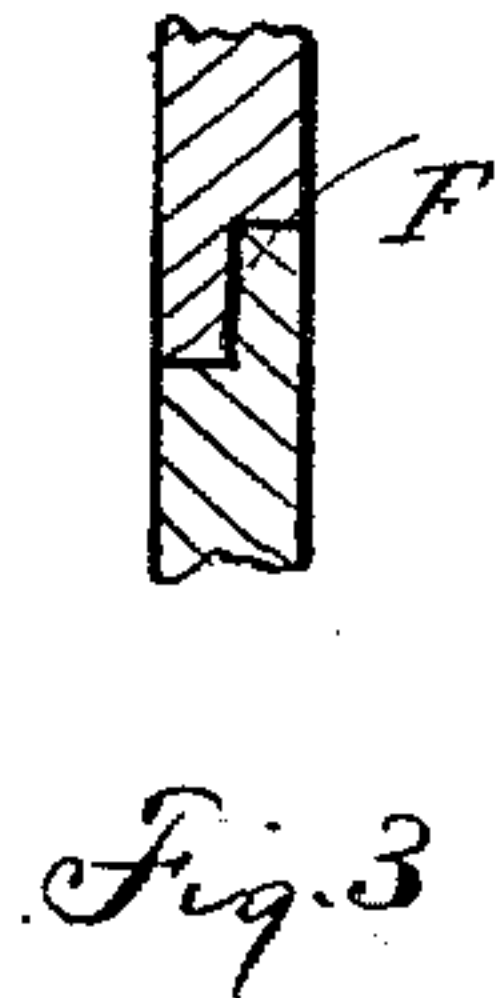
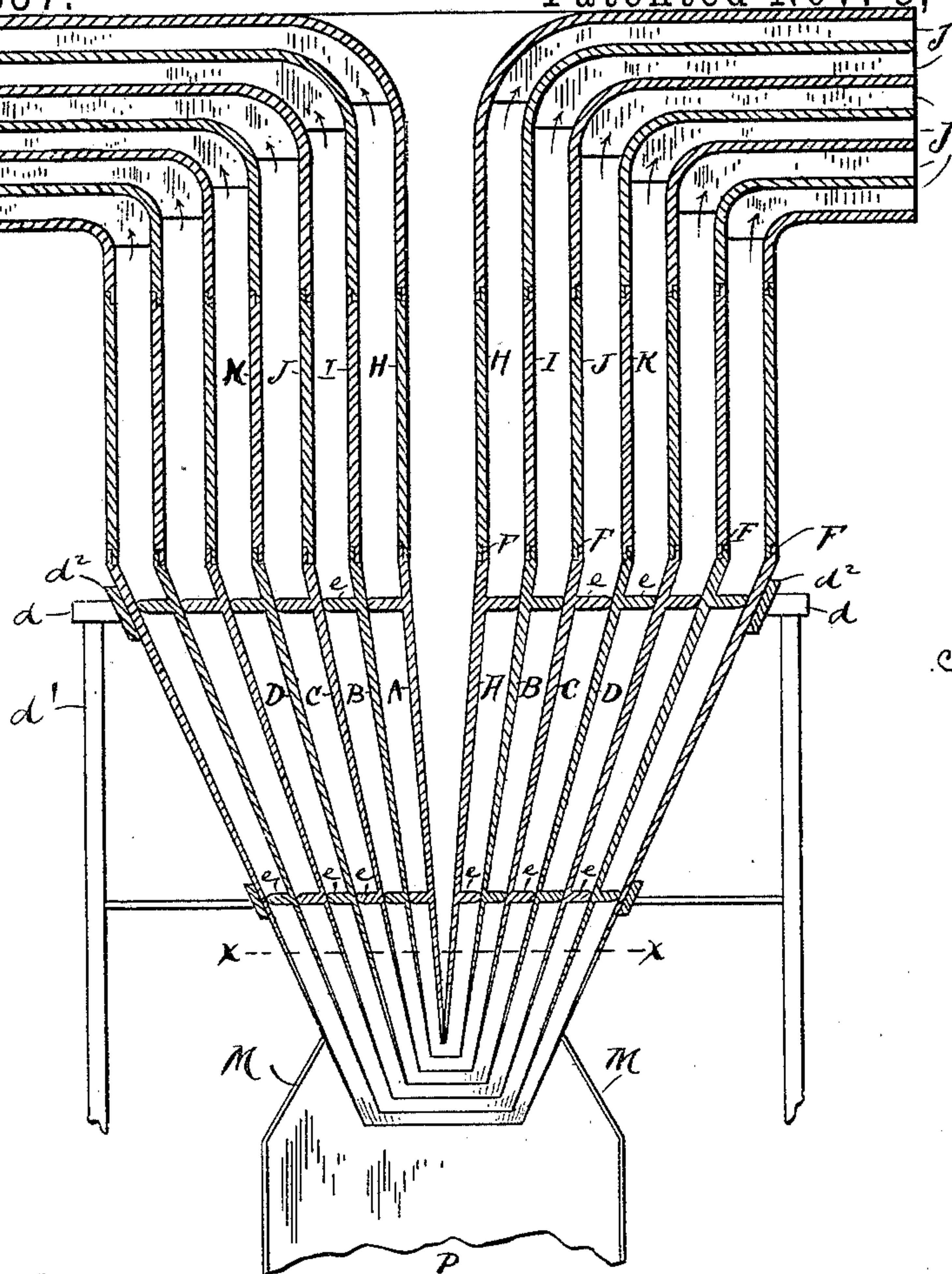
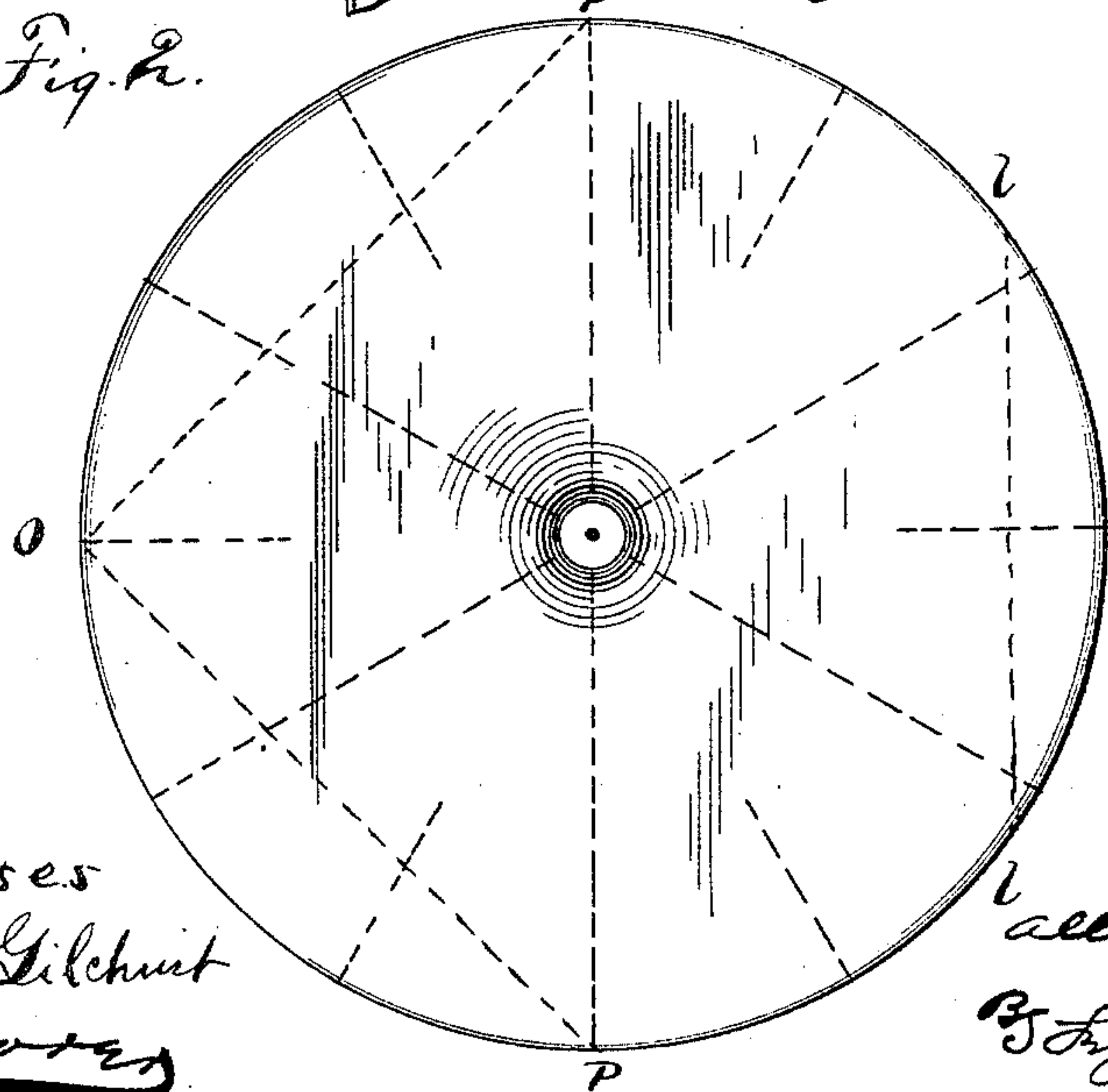


Fig. 3

Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## HEATER OR RADIATOR.

SPECIFICATION forming part of Letters Patent No. 462,337, dated November 3, 1891.

Application filed May 14, 1891. Serial No. 392,774. (No model.)

*To all whom it may concern:*

Be it known that I, ALLISON J. THOMPSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Heaters or Radiators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to an improved heater or radiator; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation in central section. Fig. 2 is a plan. Fig. 3 is an enlarged section of a joint F.

A represents the central member of the heater, the same comprising a conical-pointed cast-metal bar, preferably hollow at the top, in which case the cavity therein may serve as a water-reservoir. Outside of member A is a series of conical concentric tubes or shells B C D, &c., separated from each other so as to form air-spaces between and held in their relative position by intermediate lugs or wings *e e*, preferably cast onto the rings. The lower ends of the rings or shells taper to thin edges below, and each outer ring extends somewhat below the next inner ring, so that the lower end of the heater presents a concaved or inverted-cup-shaped surface, whereby the heat from the burner, that is supposed to be located directly below, is concentrated rather than diffused by such configuration of the lower end of the heater. The heat from the burner or fire engages these thin edges and point of the rings and member A, so that these soon become intensely heated, and the entire structure eventually becomes heated to a high degree, so that the current of air passing up between the rings becomes correspondingly heated, and in such heated condition is discharged into the room. It is found extremely difficult to obtain perfect combustion from a burner. With the construction shown any gases escaping from the burner coming in contact with the heated metal and being enveloped by or commingled with the heated

air such gases are ignited and add much to the heat discharged from the heater, and the heater under all ordinary circumstances is odorless.

The lower section of the heater is preferably divided on line *x x*, so that this section, that will be soonest wasted away by heat from the burner, can be renewed without renewing the entire heater.

The outer section or shell of the heater has three or more lugs *d* for attaching legs *d'* for supporting the structure, and this ring has usually a re-enforcing band *d<sup>2</sup>*, from whence the lugs project to give the necessary strain.

The device thus far described may be used by itself as a heater, or, if more capacity is required, an upper section or auxiliary heater is added, comprising rings H I J K, &c., shaped approximately as shown, so that the discharge is laterally, these rings being arranged in concentric order and being usually halved onto the rings below, as shown at F. The upper sections of rings H I J K are provided with wings *j j*, set radially, so that the air-spaces between the different rings and near the discharge are divided into radial air-ducts, by means of which a lateral current of air would not materially affect the discharge of the heated air from the heater, whereas without such wings a lateral current of air would cause the heated air to discharge mostly at the one side of the heater.

The overhanging sections of the upper part of the heater may be cut away on line *l l* when it is desired to set the heater close to a wall, or these members may be cut away on lines *o p o p* when it is desired to set the heater in a corner.

After the heater has been operation for a time, so that the entire body of metal has become heated, there will be a constant uniform discharge of heated air therefrom that will not be materially affected by fluctuations of the burner, and as the heated air is discharged laterally it is likely to be diffused evenly throughout the room.

M is a hood that is located as shown and confines the heated air arising from the burner, so that it discharges into the air-spaces at the bottom of the heater.

What I claim is—

1. A heater comprising a conical-pointed

bar at the center, inclosed by a series of conical concentric rings or shells, these shells having thin edges at the bottom and presenting a concaved or inverted-cup shape at the  
5 bottom for concentrating the heat from the burner, and air-spaces between the rings, discharging upward and more or less laterally, substantially as set forth.

2. The combination, with the lower or primary heater, substantially as indicated, of an  
10 auxiliary heater located next above, the latter comprising a series of conical concentric

rings or shells flaring outward at the top, so as to discharge laterally, and wings between the outer sections of the rings, arranged to  
15 divide the air-spaces into a series of radial air-ducts, substantially as set forth. •

In testimony whereof I sign this specification, in the presence of two witnesses, this 28th day of April, 1891.

ALLISON J. THOMPSON.

Witnesses:

C. H. DORER,  
WARD HOOVER.