No Model.)

G. E. RUST & J. J. PHELAN.

HEATING ATTACHMENT FOR ILLUMINATING BURNERS.

No. 590,337. Patented Sept. 21, 1897.

FIG. 1.

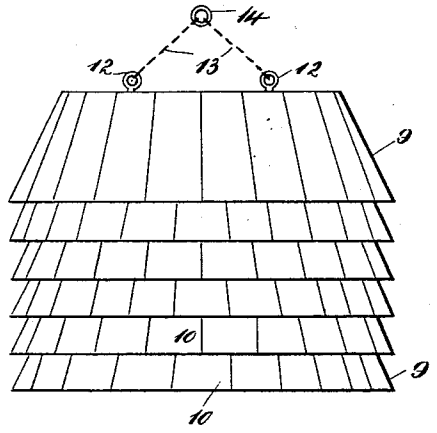


FIG. 2.

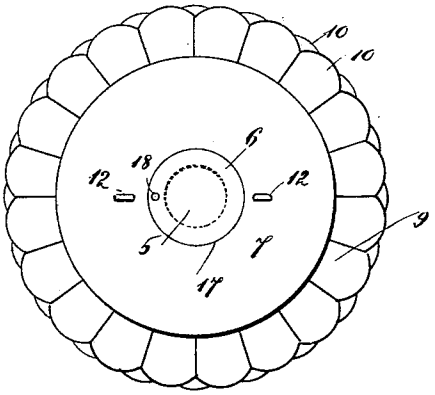
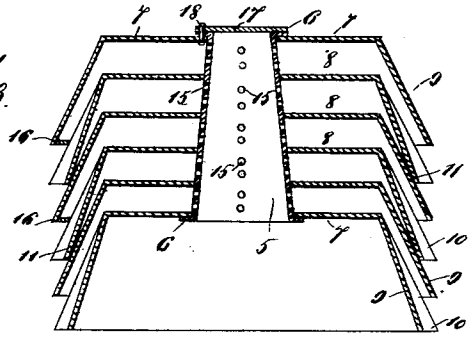


FIG. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE E. RUST AND JOHN J. PHELAN, OF UNION HILL, NEW JERSEY.

HEATING ATTACHMENT FOR ILLUMINATING-BURNERS.

SPECIFICATION forming part of Letters Patent No. 590,337, dated September 21, 1897.

Application filed January 5, 1897. Serial No. 618,052. (No model.)

To all whom it may concern:

Be it known that we, GEORGE E. RUST and JOHN J. PHELAN, citizens of the United States, residing at Union Hill, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Heating Attachments for Illuminating-Burners, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to heating attachments for gas-burners, lamps, and other illuminating devices; and the object thereof is to provide an improved device of this class which is designed to be connected with or suspended over a gas-burner, lamp, or other device of this class.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of our improved heating attachment; Fig. 2, a plan view thereof, and Fig. 3 a central vertical section.

In the drawings forming part of this specification the separate parts of our improvement are designated by the same numerals of reference throughout the several views, and in the practice of our invention we provide a heating attachment which comprises a central vertical tube 5, which is preferably slightly conical in form, the walls thereof being tapered from the base to the top, and each end of said tube is provided with an annular outwardly-directed flange or rim 6. We also provide a plurality of annular plates or disks 7, which are mounted on the tube 5, as clearly shown in Fig. 3, and are separated by substantially similar spaces 8, and said disks or plates are secured to the tube 5 in any desired manner, and each is provided with an annular depending rim or flange 9, which may be of any desired width in vertical section, and said rims or flanges overlap each other, as shown in Figs. 1 and 3, and each extends downwardly over the one directly below it for about two-thirds of the length of the latter. Our invention, however, is not limited to the number of the disks or plates 7 nor to the width of the flanges or rims 9, and each of said flanges or rims is preferably corrugated, as shown at 10, and these corrugations are so arranged that they overlap each other, as shown in Figs. 1 and 2, and the inwardly-directed portions of the corrugations on one of said flanges or rims extend to the central convex portions of the corrugations on the flange or rim beneath it, as is shown at 11, and by this arrangement the spaces between said flanges or rims are divided vertically, as will be readily understood and as shown in Fig. 2.

As shown in the drawings, the upper disk or plate 7 is provided with two rings or eyes 12, and we also connect therewith by means of chains or wires 13 another ring 14, by means of which the heating device may be suspended over a gas-burner, lamp, or other illuminator, but this means of suspension is not necessary and the heating device may be supported by brackets or in any preferred manner.

The central tube 5 of the heating attachment is perforated between each of the disks or plates 7, as shown at 15, and the operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

The heating device is suspended over or connected with a burner so that the tube 5 will be directly over the flame and serve as a chimney or escape-flue for the heated gases and products of combustion, and in this operation the heated air flows into said tube from the bottom thereof and passes out through the perforations 15, formed therein, into the annular spaces between the disks or plates 7 and downwardly between the flanges or rims formed on said plates, and said disks and said flanges or rims are highly heated and by radiation heat the compartment in which the device is placed.

We may also, if desired, close a portion of the space between the bottom of each of the rims or flanges 9 and the corresponding rim or flange, so as to interrupt the discharge of the heated air at the bottom of said rims or flanges at certain points, thereby retaining said heated air in contact with the disks or plates 7 and the flanges or rims 9 for a greater length of time, and this closing of the spaces between the rims or flanges is indicated at 16 in Fig. 3, and any desired portion of said

spaces may be thus closed, and we also provide a damper or draft-regulator, which preferably consists of a disk or plate 17, which is designed to cover the upper end of the central tube 5 and which is pivoted at 18 and adapted to be turned so as to close or partially close the said upper end of said tube, and this device also serves to retain the heated air and gaseous products of combustion within the heating attachment, and it will be apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of our invention or sacrificing its advantages.

Having fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The herein-described heating attachment for gas-burners and other illuminating devices, the same consisting of a central vertical tube which is perforated throughout its length, and a plurality of disks or plates mounted thereon, and separated by corresponding spaces, each of said disks or plates being provided with a depending rim or flange, and said depending rims or flanges being so formed as to overlap each other, while permitting air and products of combustion to pass between them, substantially as shown and described.

2. The herein-described heating device for gas and other burners, the same consisting of a central vertical perforated tube, a plurality of disks or plates mounted thereon and separated by corresponding spaces, said disks or plates being provided with depending flanges or rims which overlap each other, so as to form spaces between them, and said flanges or rims being vertically corrugated, substantially as shown and described.

3. The herein-described heating device for gas and other burners, the same consisting of a central vertical perforated tube, a plurality of disks or plates mounted thereon and separated by corresponding spaces, said disks or plates being provided with depending flanges or rims which overlap each other, so as to form spaces between them, and said flanges or rims being vertically corrugated, and a portion of the space between said flanges or rims being closed, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 2d day of January, 1896.

GEORGE E. RUST.
JOHN J. PHELAN.

Witnesses:
CHARLES S. ROGERS,
A. L. PICKARD.