

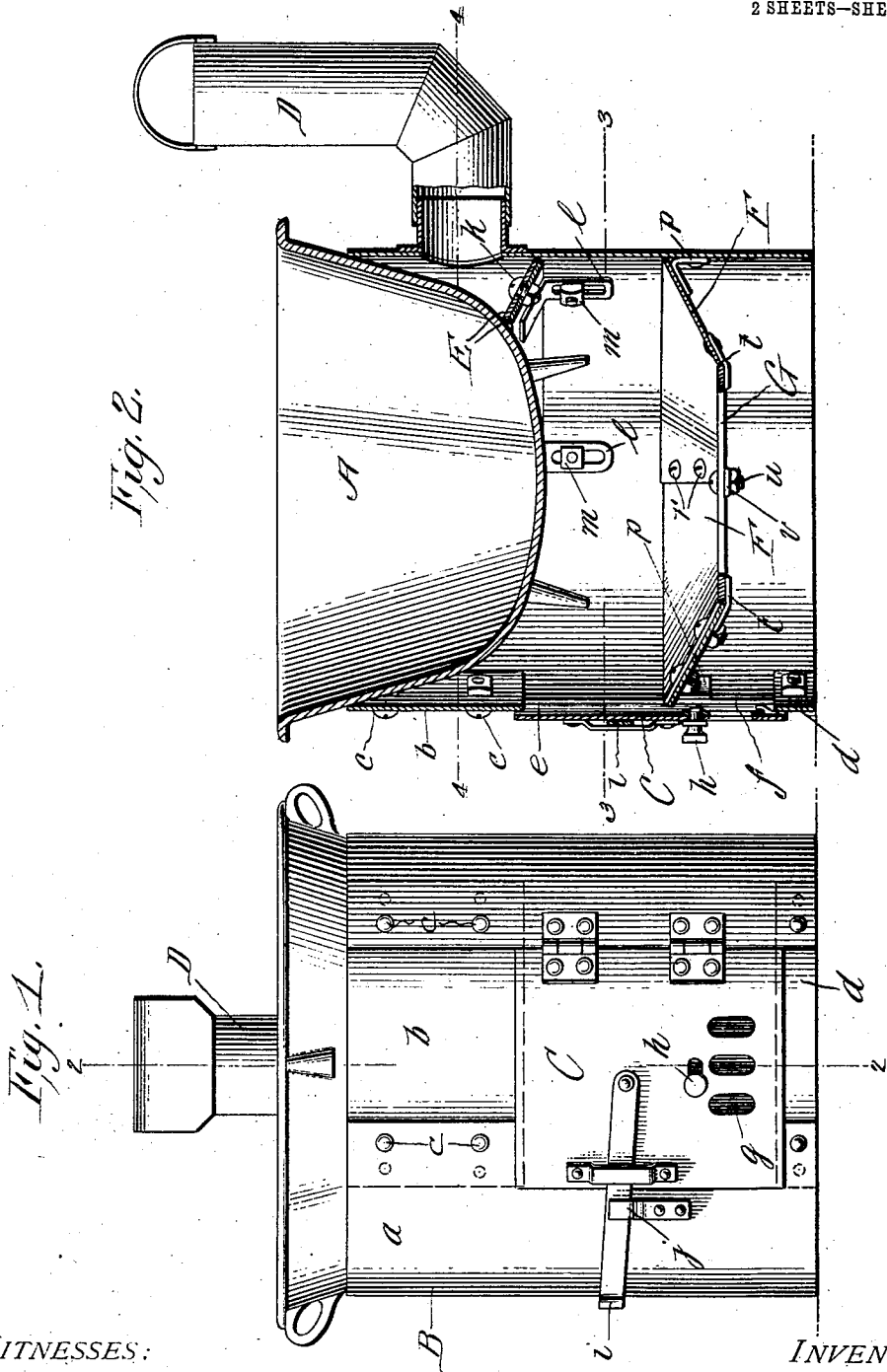
No. 895,688.

PATENTED AUG. 11, 1908.

G. E. RUHMANN.
PORTABLE FURNACE.

APPLICATION FILED APR. 11, 1908.

2 SHEETS—SHEET 1.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 3.

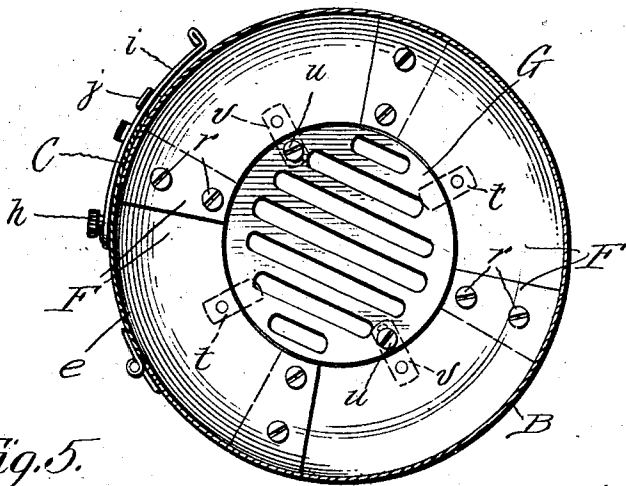


Fig. 5.

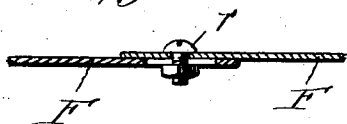


Fig. 6.

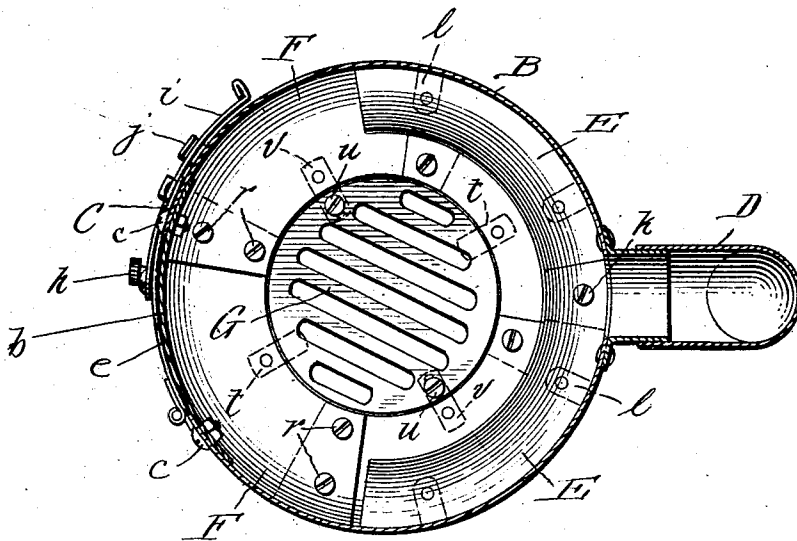
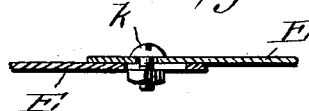


Fig. 4.

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UNITED STATES PATENT OFFICE.

GUSTAV E. RUHMANN, OF SCHULENBURG, TEXAS.

PORTABLE FURNACE.

No. 895,688.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed April 11, 1908. Serial No. 426,491.

To all whom it may concern:

Be it known that I, GUSTAV E. RUHMANN, citizen of the United States, residing at Schulenburg, in the county of Fayette and State of Texas, have invented new and useful Improvements in Portable Furnaces, of which the following is a specification.

My invention pertains to furnaces and more particularly to portable furnaces such as are designed to burn coal and are for use in combination with pots and kettles; and it contemplates the provision of a furnace of the character stated constructed with a view of being increased or diminished in diameter so as to fit pots or kettles of various sizes.

The invention also contemplates the provision of a coal burning furnace which apart from its adaptability to be adjusted as to diameter is simple and durable in construction and at the same time highly efficient.

With the foregoing in mind the invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a front elevation illustrative of the furnace, constituting the best embodiment of my invention of which I am aware, and showing a kettle as properly positioned in and supported by the furnace. Fig. 2 is a vertical, cross-section taken in the plane indicated by the line 2—2 of Fig. 1. Fig. 3 is a horizontal section of the furnace taken in the plane indicated by the line 3—3 of Fig. 2, looking downward, and illustrating the inclined segmental plates surrounding and carrying the grate. Fig. 4 is a horizontal section taken in the plane indicated by the line 4—4 of Fig. 2, with the kettle omitted, and illustrating in plan the sectional flue strip. Fig. 5 is a detail section illustrative of the adjustable connection between the lapped portions of the said segmental plates. Fig. 6 is a similar detail view showing the manner in which the sections of the flue strip are adjustably connected together.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is a kettle which forms no part of my invention and may therefore be of any suitable construction, and B is the casing of the improved furnace. The said casing B is made of sheet-steel or other suitable sheet-metal, is cylindrical in form, and is made up of a

major portion *a* and a connecting section *b*. The said connecting section *b* laps the ends of the major portion *a* and is connected to the said ends by bolts *c*. It will also be noticed that the connecting section *b* is provided with a plurality of apertures for use in connection with each bolt *c*, and from this it follows that the ends of the major portion *a* may be moved away from each other to increase the diameter of the casing or may be moved toward each other to diminish the diameter of the casing, as occasion demands. In its front portion and between the connecting section *b* and a lower connecting section *d* the casing B is provided with an opening for the introduction of fuel and for the removal of ashes and the like. The said opening is controlled by a door C, and the said door is provided in its lower portion with draft openings *g* and is equipped with a suitable damper *h* for controlling the said draft openings. The said door C is further provided with a comparatively long, pivoted latch *i* which is designed to be swung into and out of engagement with a fixed keeper *j* and this irrespective of whether the diameter of the casing is increased or is diminished.

Leading from the upper portion of the casing B at a point diametrically opposite the openings *g* is an uptake D which may be of any construction consonant with the purpose of my invention.

E E are the sections of the flue strip, which strip extends through more than half of a circle and is arranged on the inner side of the casing between the fire pot and the uptake D. The said sections E are adjustably connected by a bolt *k* which takes through an aperture in one and a slot in the other, and the sections are provided with depending and slotted brackets *l* which are connected to the major portion of the casing by bolts *m*. By virtue of this construction it will be manifest that the flue strip may be increased or diminished in length to suit the diameter of the casing B, and that said flue strip may be adjusted up or down according to the size of a kettle and the position the same occupies in the casing B.

F F are segmental, inclined plates which are supported upon but, by preference, are not connected to angular brackets *p* fixed to the inner side of the casing B. The end portions of the adjoining segmental plates are lapped, and are connected through bolts *r* which extend through apertures in one end

portion and slots in the other. Thus it will be manifest that the diameter of the annulus formed by the said segmental plates may be increased or diminished in accordance with the diameter of the casing B. The segmental sections F are preferably formed of cast-iron as is also the circular grate G. This latter is merely arranged upon two supporting arms *t* extending inward from opposite segmental plates F, but is connected by bolts *u* to slotted arms *v* extending inward from the other segmental plates, the slots in the arms *v*, see dotted lines in Figs. 3 and 4, being provided in order that the connections between the plates and the grate may be accommodated to the adjustment of the several segmental plates.

As will be readily understood one of the plates F divides the opening in the casing B into an upper portion *e* and a lower portion *f*.

In the practical use of the furnace, a coal fire is built and maintained in the fire pot formed by the plates F and the grate G, when, as will be readily understood, the products of combustion will pass rearward and upward and bringing up against the flue strip formed by the sections E will be deflected inward against the kettle A, and will then pass upward between the flue strip and the kettle to the smoke pipe or uptake D.

As before stated the construction herein illustrated and described is the best practical embodiment of my invention of which I am aware, but it is obvious that in the future practice of the invention such changes in the form, construction and relative arrangement of parts may be made as fairly fall within the scope of my invention as defined in the claims appended.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

1. In a furnace, the combination with a cylindrical casing comprising a major portion and a connecting section extending between and adjustably connected with the

ends of the major portion; said casing having an opening, of means for controlling the said opening, a smoke conduit leading from the upper portion of the casing at a point opposite the opening, segmental plates supported in the casing and inclined downwardly and inwardly and having lapped ends adjustably connected together and forming an annulus capable of being increased or diminished in size, a circular grate arranged within and supported by the annulus formed by the said segmental plates, and a flue strip arranged in the casing, below the smoke conduit, and comprising sections the adjacent portions of which are adjustably connected together.

2. In a furnace, the combination with a cylindrical casing comprising a major portion and a connecting section extending between and adjustably connected with the ends of the major portion; said casing having an opening, of means for controlling the said opening, a smoke conduit leading from the upper portion of the casing at a point opposite the opening, segmental plates supported in the casing and inclined downwardly and inwardly and having lapped ends adjustably connected together and forming an annulus capable of being increased or diminished in size, a circular grate arranged within and supported by the annulus formed by the said segmental plates, vertically adjustable angular brackets having slotted depending portions adjustably connected to the casing, and a flue strip arranged in the casing, below the smoke conduit and comprising sections arranged on and connected to the angular brackets, the adjacent portions of which sections are adjustably connected together.

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

GUSTAV E. RUHMANN.

Witnesses:

E. R. VOGT,
CH. BAUMGARTEN.