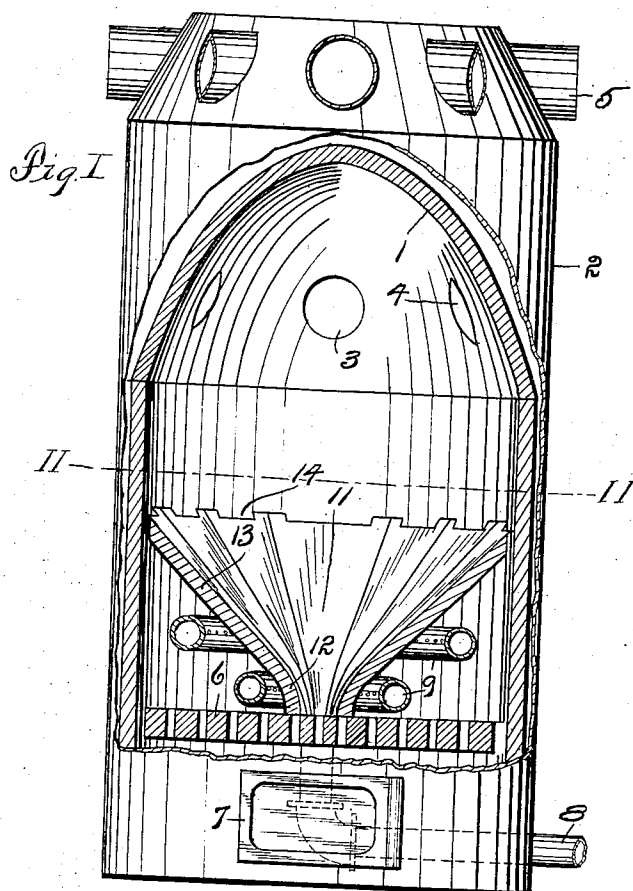
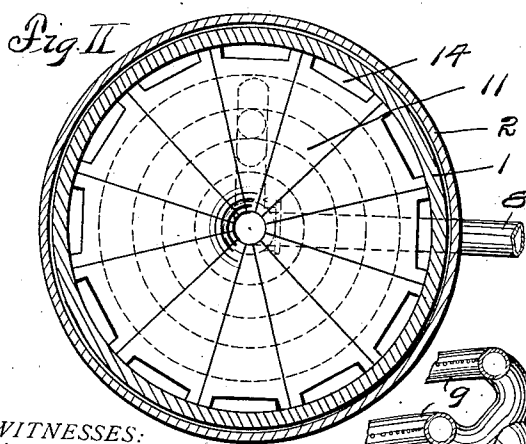
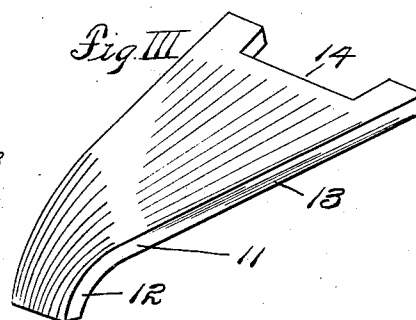


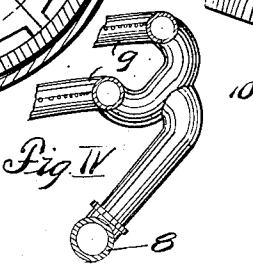
No. 884,309.

PATENTED APR. 7, 1908.

F. R. BIGLER.
HEAT DEFLECTOR.
APPLICATION FILED NOV. 9, 1907.



WITNESSES:
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FRANK R. BIGLER, OF KANSAS CITY, MISSOURI.

HEAT-DEFLECTOR.

No. 884,309.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed November 9, 1907. Serial No. 401,409.

To all whom it may concern:

Be it known that I, FRANK R. BIGLER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Heat-Deflectors; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to heat deflectors, and more particularly to a device of that class for use in stoves and furnaces adapted for burning fuel gas; the object of my invention being to provide a deflector with which a substantially perfect combustion may be secured, and by which the heat from the burning fuel is so directed as to secure the greatest efficiency therefrom.

A further object is to provide the improved details of structure which I will presently describe and claim, the same being illustrated in the accompanying drawings, in which:—

Figure I is a view, in front elevation, of a furnace equipped with a deflector constructed according to my invention, part of the casing and fire pot being broken away to better show the burner and deflector parts. Fig. II is a view in a cross section on the line II—II, Fig. I. Fig. III is an enlarged detail view of one of the deflector pieces. Fig. IV is a detail view of the connection between the supply pipe and burner coils.

Referring more in detail to the parts:—1 designates the fire pot and 2 the outer casing of an ordinary hot air furnace; the former being provided with the customary flue 3 and heat coil openings 4, and the latter being provided with the air pipes 5, which lead to the apartments to be heated.

In the fire pot 1 is the grate 6, and in the casing, below the grate, is the ash door 7.

Entering the furnace, through casing 2 or door 7, as may be desired, is the fuel supply pipe 8, which extends upwardly through grate 6 and is connected with the perforated burner coils 9 by a Y union 10; said coils being suitably supported in the fire pot and preferably comprising rings of different diameter, set one above the other.

Supported on grate 6 is a heat deflector,

preferably made up of individual pieces 11, having narrow, curved base portions 12, adapted to seat in a circle near the center of the grate, and having the flaring end portions 13, which extend over the burner coils 9 to the inner surface of the fire pot, with which they contact; the outer end of each piece 11 being provided with a recess 14, through which the smoke and fumes from the burners may rise.

In assembling the parts, the burner coils are set in substantially the position shown, these coils being preferably two in number and formed in circles, although the number of coils may be varied to meet different requirements, and the contour of the burners varied according to the style of the furnace. After being set, the coils are connected with the supply pipe by any suitable union, the construction shown being preferable where one coil is set above and to one side of the other.

When the burners have been installed, the deflector is set in place thereover, so that the heat rising from the burners, when the furnace is in operation, will rise against its under surface and be conducted upwardly and outwardly, to contact with the fire pot, from which the heat is radiated to the chamber between the fire pot and casing, and from thence is conducted through pipes 5 to the apartments.

By having a covering over the burners, the air coming in through the burners and grate openings is carried upwardly to the periphery of the deflector, and then passes upwardly through the deflector recesses 14 to the top of the fire pot, where the smoke and fumes pass out through the flue.

By placing one of the burner coils slightly over the other, the heat, rising from the lower coil, will heat the upper, and the gas from the upper coil is delivered in a highly combustible condition; and by inclosing the coils, the fuel particles are spread when they contact with the deflector and a substantially perfect combustion secured.

While I have described the deflector as being formed in sections, it may be in a single piece, if desired, with the recesses 14 cut from its periphery; the sectional construction being preferable however, owing to the greater facility with which it may be installed; and while I prefer to construct the deflector of fire clay, it may be of cast or sheet metal, if desired.

While I have described my invention in combination with a furnace it relates solely to the deflector described, which may be used in combination with any stove or furnace, and particularly to those adapted for burning fuel gas.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent is:—

10 1. A deflector unit comprising a body member that is narrow at one end and flares toward the other end, the flared end of said member being provided with a recess and the narrow end with a curved leg portion, substantially as and for the purpose set forth.

15 2. The combination with a suitable fire

pot and grate, of a burner located in said fire pot, and a deflector located in said fire pot over said burner, said deflector comprising individual units having flared outer ends 20 resting against the fire pot and narrow inner ends terminating in downwardly curved legs which support said units at the center of said grate, the flared ends of said units being recessed, substantially as and for the purpose 25 set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK R. BIGLER.

Witnesses:

GEO. HORN,
HAROLD E. RICHARDS.