(No Model.)

G. E. WRIGHT.

OPEN GAS BURNER.

No. 417,765. Patented Dec. 24, 1889.

FIG 1

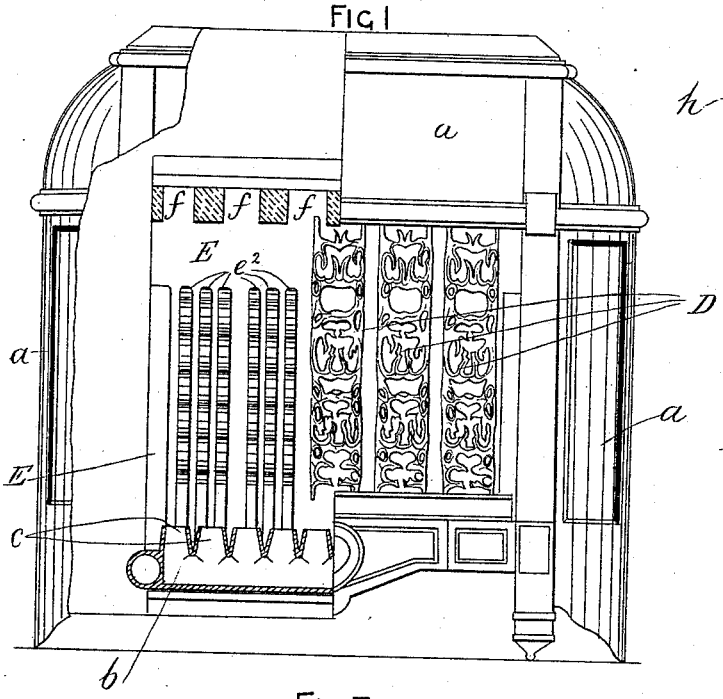


FIG 2

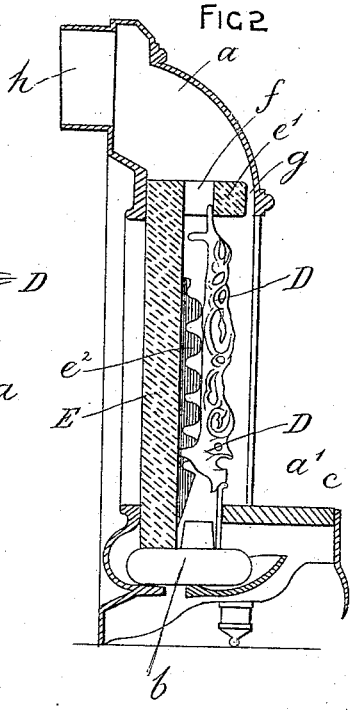


FIG 3

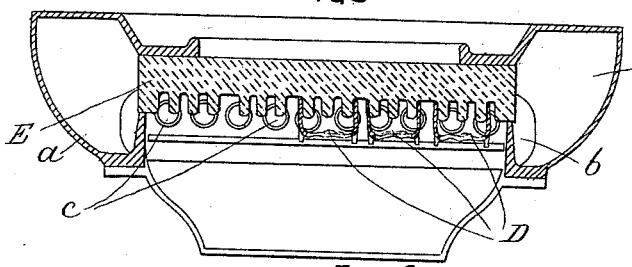


FIG 4

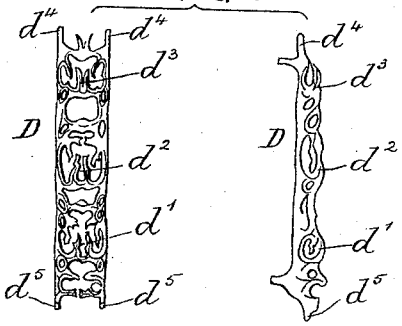
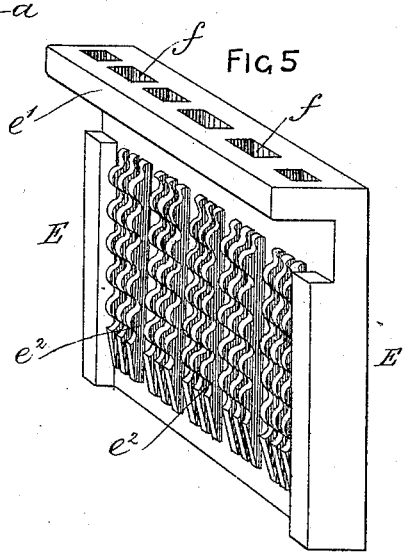


FIG 5



WITNESSES

Charles Bosworth Kelley.

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UNITED STATES PATENT OFFICE.

GEORGE ERNEST WRIGHT, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND.

OPEN GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 417,765, dated December 24, 1889.

Application filed July 16, 1889. Serial No. 317,744. (No model.) Patented in England September 29, 1887, No. 13,222.

To all whom it may concern:

Be it known that I, GEORGE ERNEST WRIGHT, a subject of Her Majesty the Queen of Great Britain, residing at Birmingham, in the county of Warwick, England, have invented certain new and useful Improvements in Open Gas-Fires, (for which I and my brother, John Frederic Wright, have obtained a patent in Great Britain, No. 13,222, bearing date September 29, 1887,) of which the following is a specification.

This invention of improvements in open gas-fires has reference to improved means for collecting and radiating the heat from the fire, and my said invention is illustrated by the accompanying drawings, of which—

Figure 1 represents in front elevation partly in section, Fig. 2 in sectional side elevation, and Fig. 3 in sectional plan, an open gas fire or stove constructed according to this invention. Fig. 4 shows in front and side elevation one of the special gratings or flues of the said gas-fire separately, and Fig. 5 is a perspective view of the brick or other back of the same separately.

The same letters of reference indicate corresponding parts in all the figures.

a is the outside metal casing of the gas fire or stove, which may be of any suitable shape or design, and in the one shown there is nothing new, as my invention does not consist in this portion.

b is the atmospheric gas-burner, the flame from which issues at the nozzles *c* at the upper side thereof and heats the perforated vertical flues or gratings D and the brick or other back E of the stove, and then passes up through the holes *f* and passage *g* and out through the usual outlet *h*. These flues or gratings D form an important part of this invention. They are by preference made of cast-iron; but they may be made of plumbago or other suitable substance. I prefer to make them of or about the form illustrated on the drawings, which is roughly a trough shape in cross-section, and it is important that the corrugated portions or hollow swells d' d^2 d^3 should be present; but the exact outline or number of corrugations may be varied, as may also the amount of curve in cross-section, as seen in Fig. 3, even so far as to a straight plate in horizontal section with in all cases the perforated corrugations or swells, of which there may be any convenient number. I use one or more gratings D, according to the width of fire required.

The gratings D may be placed in position and there secured by means of two pins d^4, cast or formed in one piece with the parts D. The pins d^4 enter the holes *f* in the brick or other back E, and are sufficiently long to allow of the grating being lifted up when the lower end d^5 is dropped behind the front a' of the frame *a;* but I do not confine myself to the use of these pins, as other means of fastening the gratings D are available. I have found the parts D to give the best effect when made slightly smaller at the top than at the bottom, and I prefer the variegated surface both in regard to configuration, general outline, and perforations. The effect of the flame as it passes upwardly is to make the grating D red-hot. The several sections D may, if preferred, be combined into a less number of parts than shown, or even into one piece or casting. The brick or other back E is made to agree in width with the required number of gratings D, and I form upon the top of this brick a flange or top e', which has perforations *f*, in which the upper ends of the gratings D engage. The object of this flange or top e' is to arrest the heated gases as they pass from the perforated parts D to the outlet-pipe *h*, and to deflect the heat downwardly onto the gratings D, and thus increase the efficiency of the fire. The heating-surface of the brick or other back E is increased by the corrugated ribs e^2, formed in the front thereof, and which are covered by the gratings D.

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

1. In an open gas-stove, the combination of the burner, the vertical trough-like flues D above the same, the fire-brick E, constituting the rear wall of each of the flues, said brick

having a flange e' at its upper end, the said flues engaging said flange, substantially as described.

2. In combination, the burner, the vertical flues D, and the fire-brick formed with the lip e' and the ribs e^2, the said flues fitting over said ribs and engaging the lip e' at their upper ends, substantially as described.

In testimony whereof I have signed in the presence of two subscribing witnesses.

GEORGE ERNEST WRIGHT.

Witnesses:
CHARLES BOSWORTH KELLEY,
HERBERT WHITEHOUSE.