

(No Model.)

E. BOILEAU.
BOILER FURNACE.

No. 335,207.

Patented Feb. 2, 1886.

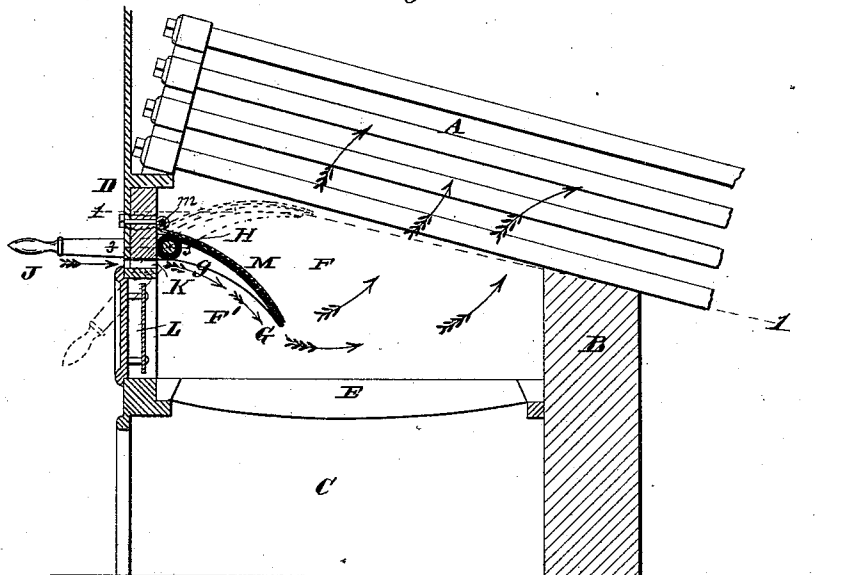
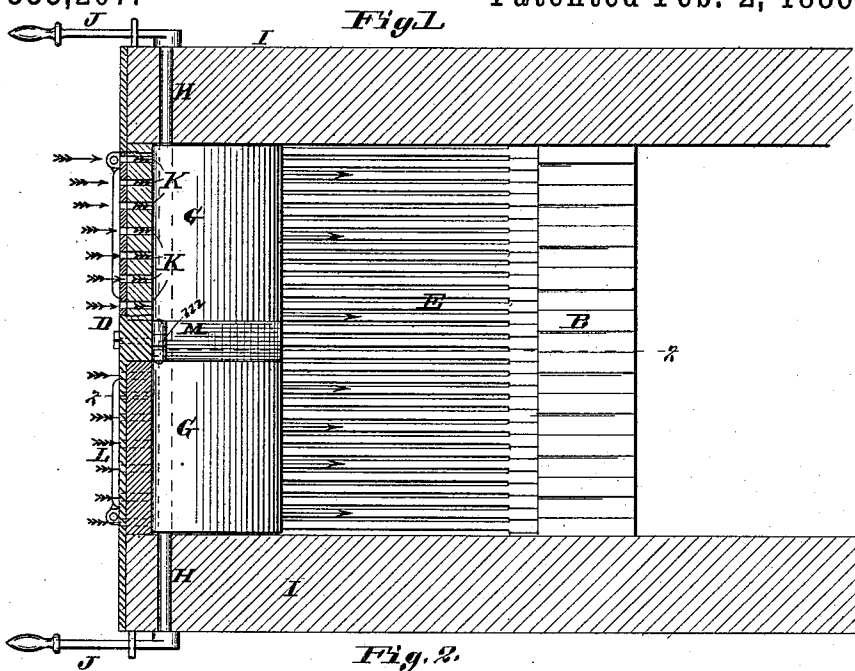
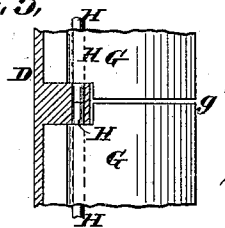


Fig. 3



Attest:

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UNITED STATES PATENT OFFICE.

ETIENNE BOILEAU, OF ST. LOUIS, MISSOURI.

BOILER-FURNACE.

SPECIFICATION forming part of Letters Patent No. 335,207, dated February 2, 1886.

Application filed April 6, 1885. Serial No. 161,354. (No model.)

To all whom it may concern:

Be it known that I, ETIENNE BOILEAU, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Boiler-Furnaces, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a section at 1 1, Fig. 2. Fig. 2 is a longitudinal vertical section at 2 2, Fig. 1. Fig. 3 is a detail section at 3 3, Fig. 2.

The boiler A may be of any desired construction.

B is the bridge-wall, C the ash-pit, D the fire-front, E the fire-grate, and F the furnace-chamber.

G G are plates or tiles, of fire-clay, metal, or other suitable substance, which are hinged at the front edge, so that the other edge may be raised and lowered at will. These plates or tiles are secured to the pintle-bars H, which extend through the boiler-setting or furnace-wall I, and carry arms J, by which they may be turned to raise or lower the plates. These plates or tiles G are shown of curved form, (the convex side being at top,) and having ribs upon the under side, to stiffen the plates and to at once heat the entering air and cool the plate. The air enters beneath the plates G through holes K, passing through the fire-front over the furnace-doors L, the air-current taking the course shown by the arrows, being deflected downward by the plates, (when they are in their normal or lower position, as shown by full lines in the drawings.)

The plates or tiles G may be made with corrugations, if preferred.

There are two of the plates or tiles shown, which have independent movement, and the space at *g'* between them is covered by a lap-plate, M, forming a break-joint, this plate being hinged to the fire-front at *m*, so that it is capable of being lifted with either of the plates G. The upper position of the plates G and M is indicated by dotted lines, the position of the arm J at such time being indicated in the same manner. A hook or other means may be provided for holding the arm J down, and thus keeping the plate G elevated.

The purpose of the plates or tiles G is to enable the dividing the furnace-chamber into two divisions, the main division being marked F, and the other F'. The coal is fed into the front division, F', where it becomes more or less coked, the gas escaping beneath the rear edge of the plates G, and being brought in direct contact with the burning fuel in division F. The gas is mixed with air that enters through the holes K, and which has become heated in passing through the chamber F'. When the coal has become coked in the chamber F', it may be pushed backward into the chamber F.

To allow access to be gained to the chamber F for the purpose of stirring the fire, or for any other purpose, the inner edges of the plates G are thrown up by the depression of the arm or handle J.

I have shown two of the plates G in the furnace; but it is obvious that a single plate or tile may be used in place of the two, or that more than two may be used.

The plates G may have the parts which are subjected to the greatest heat formed of or covered with fire-tile in cases where the rest of the plate is of metal.

The ribs may be made of any preferred form or size.

I am aware that it has been proposed to provide a furnace with an opening for the admission of atmospheric air to the fire-box, and to place on the inside of said fire-box opposite said opening a hinged deflector for directing the current of air to any desired part of the furnace, or for closing said opening entirely when the atmospheric air is not needed to aid combustion; but this is not the equivalent of my invention.

I claim—

1. A partition extending transversely in a boiler-furnace from side to side thereof, hinged at the front edge, so that the free edge may be thrown upward, for the purpose set forth.

2. A partition extending transversely in a boiler-furnace from side to side thereof, secured to a pintle-bar turned by an arm extending from the boiler-setting.

3. A partition extending transversely in a

boiler-furnace from side to side thereof, with aperture between the partition and the furnace bottom or grate, and having ribs upon its frontside, substantially as and for the purposes set forth.

4. The combination of two hinged partition-plates extending transversely in a boiler-fur-

nace and an overlapping hinged plate breaking the joint or gap between the plates, substantially as and for the purpose set forth.

ETIENNE BOILEAU.

Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.