

No. 620,097.

Patented Feb. 28, 1899.

P. BOIMARE.  
MANUFACTURING OR OTHER FURNACE.

(Application filed Oct. 19, 1898.)

(No Model.)

FIG-2-

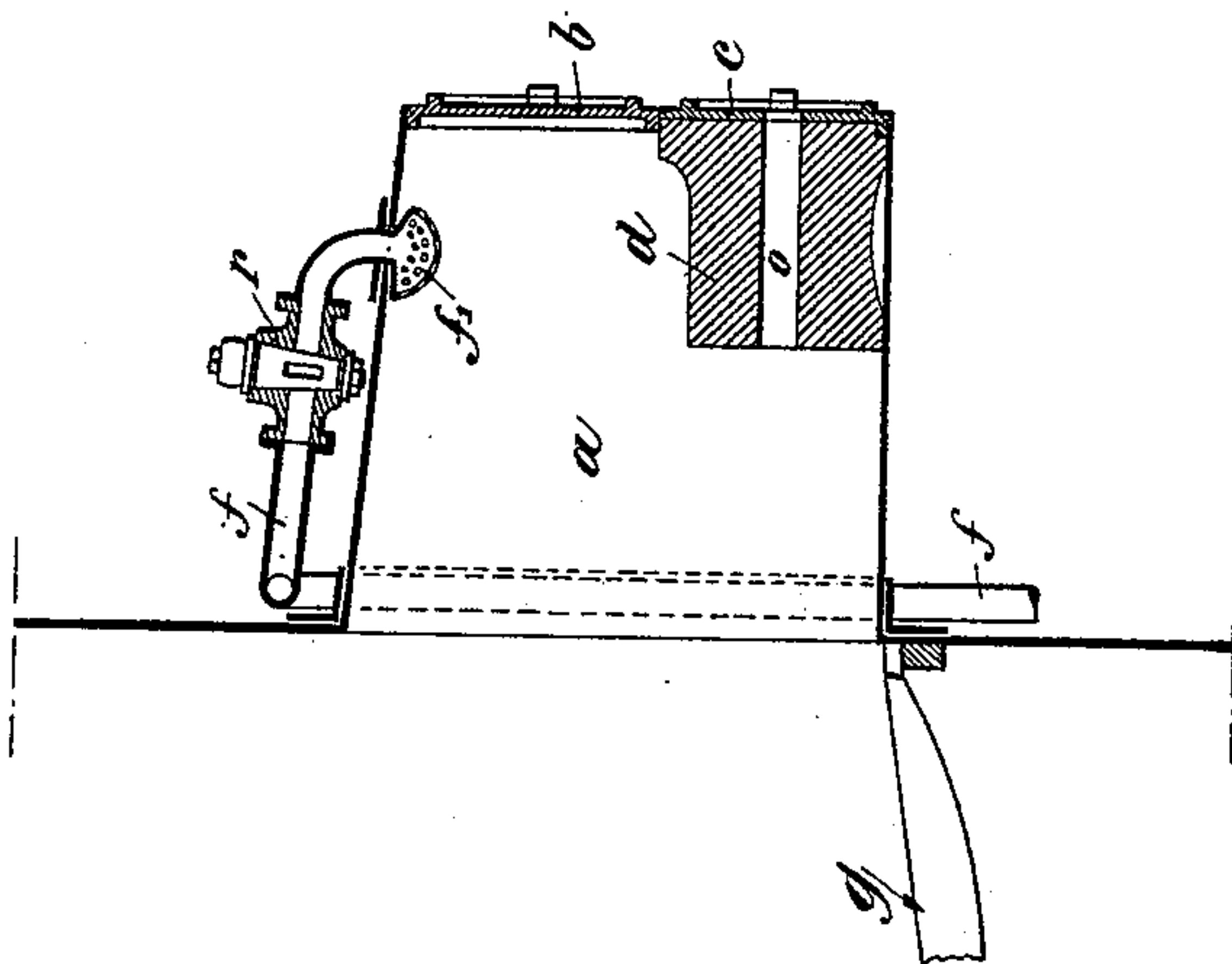
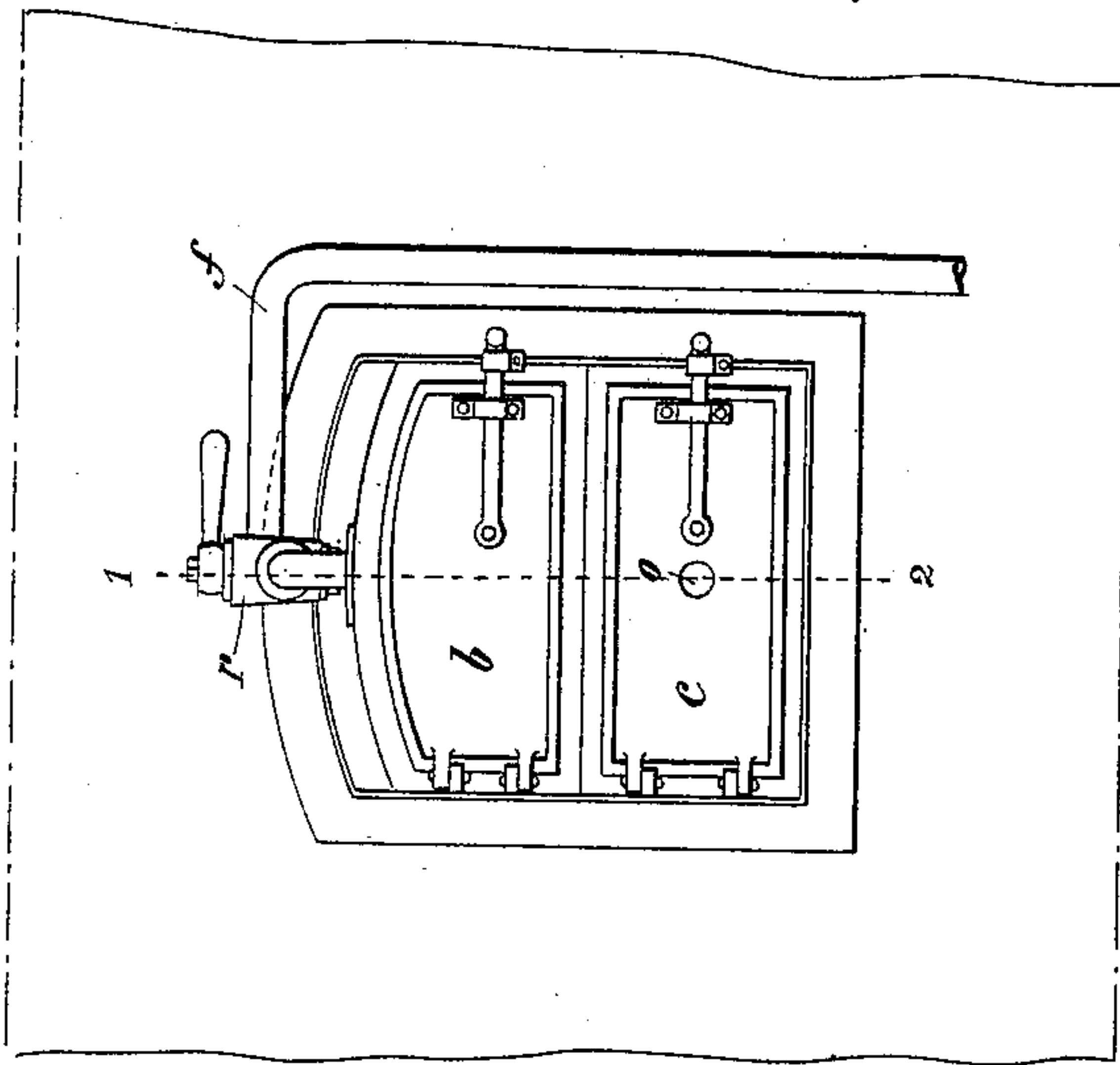


FIG-1-



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# UNITED STATES PATENT OFFICE.

PIERRE BOIMARE, OF PARIS, FRANCE.

## MANUFACTURING OR OTHER FURNACE.

SPECIFICATION forming part of Letters Patent No. 620,097, dated February 28, 1899.

Application filed October 19, 1898. Serial No. 693,961. (No model.)

*To all whom it may concern:*

Be it known that I, PIERRE BOIMARE, of 13 Rue Mansart, Paris, in the Republic of France, have invented certain new and useful Improvements in Manufacturing or other Furnaces, of which the following is a specification.

My invention relates to an improved device for feeding manufacturing and other furnaces whereby the smoke given off by combustion may be abolished. The said device consists, in principle, of a feeding and distilling chamber placed in front of the stoke-hole of the furnace of any kind, in which the coal previously fed in becomes gradually heated and the volatile matters which it contains distilled before being introduced into the combustion-chamber of the furnace, and certain devices calculated to facilitate the distillation and the feeding of the coal to render complete the efficiency of the said distilling-chamber and form by combination with the latter a new device by which complete smokelessness is secured, the fuel giving out at the same time a maximum amount of caloric.

I have shown in the accompanying drawings an improved device applied to an ordinary boiler-furnace.

Figure 1 is a front view of the furnace, and Fig. 2 is a section on line 1 2 of Fig. 1.

In front of the grate *g* of the furnace is arranged a casing or feeding and distilling chamber *a*, closed at the front by two doors *b* and *c*. The lower part or bottom of the casing *a* is situated on a level with or higher than grate *g*. On the said bottom and behind the door *c* is arranged a removable cast-iron block *d*, easy of removal and having either a central hole *o* or several holes for the ingress of air and the passage of a stoking-iron. One or several holes are pierced through the door *c* and in register with those of the removable block *d*.

The coal is introduced through the upper door *b* and rests on the bottom of the casing *a*, behind the removable block *d*. As the coal becomes heated under the effects of radiation of the furnace it is stirred by a stoking-iron entered through the hole *o*, so as to expose all the parts to the heat and to facilitate the emission of the gases.

For the purpose of stimulating the distilla-

tion of the coal it is sprinkled with water fed by a pipe *f* and which falls in showers through a watering-spout *f'*, placed under the top of the casing *a*. A cock *r* controls the feed of the water, which will preferably be taken from the feed-pipe of the boiler. When the distillation of the coal is considered sufficient, the fuel is pushed onto the grate *g* by means of the stoking-iron or in pushing forward the block *d*, the door *c* being then wide open.

I claim—

1. A fuel feeding and distilling chamber for manufacturing and other furnaces, comprising a casing for the combustible placed in front of the furnace and in direct communication with the combustion-chamber of the said furnace, and a pipe supplying water to the said feeding and distilling chamber above the fuel in order to water the same during its distillation, substantially as described.

2. A fuel feeding and distilling chamber for manufacturing and other furnaces, comprising a casing placed in front of the furnace, open at the back toward the furnace, closed in front by two superposed doors, and having its bottom at a level higher than or at least equal to that of the furnace-grate, in combination with a removable cast-iron block having one or several holes pierced through it for the ingress of air and the passage of a stoking-iron, and a feed-water pipe having on its end, within the said casing, a watering-spout full of small holes for watering the coal during distillation, substantially as described.

3. The combination with a furnace and its grate, of a fuel feeding and distilling chamber in communication with the combustion-chamber of the furnace and having its bottom on a level higher than or at least equal to that of the furnace-grate, and a removable block suitably perforated for the ingress of air and the passage of a stoking-iron and arranged within, and on the bottom of, the fuel feeding and distilling chamber, substantially as described.

Signed at Paris, in the Republic of France, this 7th day of October, 1898.

PIERRE BOIMARE.

Witnesses:

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