No. 849,678. PATENTED APR. 9, 1907.

N. S. V. HAMEL.

FORCE DRAFT.

APPLICATION FILED NOV. 20, 1905.

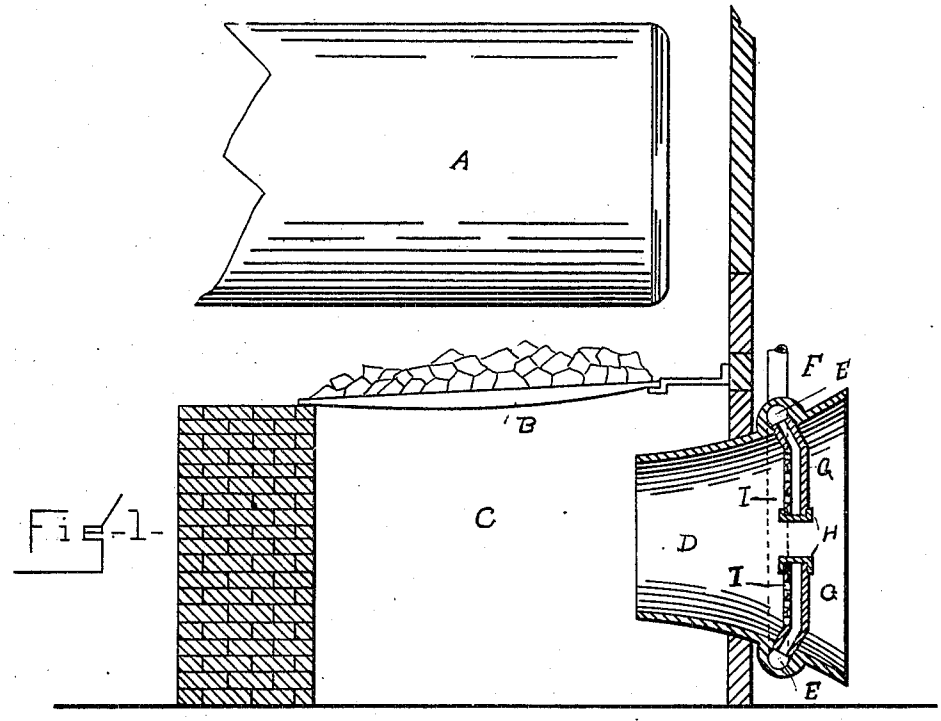

Fig-1-

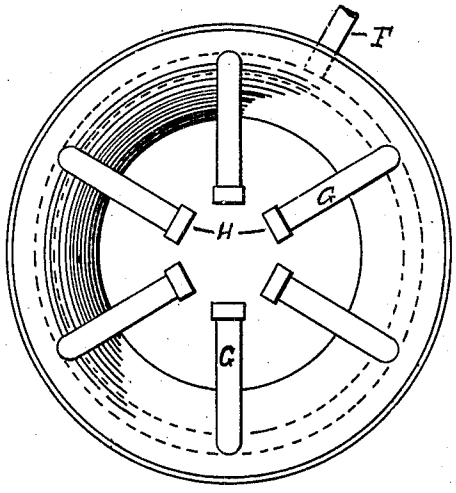

Fig-2-

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UNITED STATES PATENT OFFICE.

NATHAN S. V. HAMEL, OF PORTLAND, MAINE.

FORCE DRAFT.

No. 849,678. Specification of Letters Patent. Patented April 9, 1907.

Application filed November 20, 1905. Serial No. 288,106.

To all whom it may concern:

Be it known that I, NATHAN S. V. HAMEL, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented new and useful Improvements in Force Drafts, of which the following is a specification.

This invention relates to improvements in force drafts to be used in connection with stoves, furnaces, &c. Its object is to provide means by which low-grade coal and coal-screenings can be used.

In the drawings herewith accompanying and making a part of this application, Figure 1 is a sectional view of so much of a furnace as is required to illustrate the application of my invention thereto, some of the distributing-arms in the funnel-shaped draft-pipe being omitted; and Fig. 2 is a front elevation of the funnel-shaped draft-pipe.

Same letters of reference refer to like parts.

In said drawings, A represents the boiler, B the grate, and C the ash-pit. Entering the ash-pit in any convenient manner, as through the door or foundation, is a draft-opening consisting of a tubular pipe D, which is preferably funnel or cone shaped, tapering inwardly, as seen in Fig. 1. Formed integral with said draft-pipe and extending circumferentially around it is a tubular distributing-conduit E for steam, air, or other fluid under pressure. Steam or air or other fluid under pressure is supplied to conduit E from a source of supply (not shown) through a supply-pipe F entering the conduit E. Within the draft-pipe tube is mounted a series of service-pipes G, opening into conduit E and extending toward a common center, as seen in Fig. 2. Any convenient number of these service-pipes may be arranged within the draft-pipe. For convenience in milling the pipes G are adapted to screwinto tap-holes made through the inside wall of the draft-pipe either with a threaded or driven joint. If desired, when the pipes G are inserted in the flaring part of the draft-pipe they may be bent so as to extend in the same vertical plane, as seen in Fig. 1, whereby the steam-jets are projected parallel with the diameter of the pipe D. Pipes G are provided with caps H over their ends and on the insides with perforations I, through which the steam or other fluid passes under pressure, whence it passes through the draft-pipe under the grate.

The advantages of my improved force draft is that the supply-pipe and the distributing-conduit are located outside the draft-pipe, the service-pipes being within the draft-pipe, thus reducing to a minimum the obstruction to the free passage of air through the draft-pipe. It is also easily and cheaply constructed and is not liable to get out of order.

Having thus described my invention and its use, I claim—

1. In a device of the class described, a draft-pipe, a conduit formed integral therewith and extending circumferentially around it, a supply-pipe opening into said conduit and service-pipes within the draft-pipe and leading out of said conduit, said service-pipes being each provided with a series of perforations on the inside thereof, whereby the steam-jets are projected at varying distances from the center of the draft-pipe.

2. In a device of the class described, a tapering draft-pipe, a conduit formed integral therewith and extending circumferentially around it, a supply-pipe opening into said conduit and service-pipes within the draft-pipe and leading out of said conduit, said service-pipes being provided with a series of perforations on the inside thereof and bent to lie in a vertical plane, whereby the steam-jets are projected parallel with the center of the draft-pipe.

In testimony whereof I have signed my name to this specification, in presence of two subscribing witnesses, this 18th day of November, 1905.

NATHAN S. V. HAMEL.

In presence of—
ELGIN C. VERRILL,
MARION RICHARDS.