(No Model.)

E. WAUGH.

FURNACE ATTACHMENT.

No. 469,877. Patented Mar. 1, 1892.

Fig. 1.

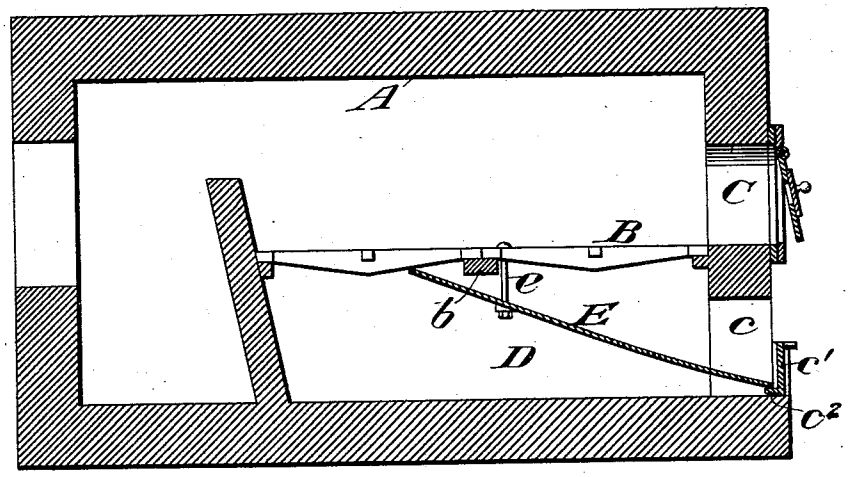

Fig. 2.

Witnesses:-
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UNITED STATES PATENT OFFICE.

EDWARD WAUGH, OF BROOKLYN, NEW YORK.

FURNACE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 469,877, dated March 1, 1892.

Application filed November 7, 1891. Serial No. 411,150. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WAUGH, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Furnace Attachments, of which the following is a specification.

My invention relates to an improvement in furnace attachments with a view to materially aiding the combustion of the fuel and thereby increasing the heat and economizing fuel.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a furnace in longitudinal vertical section, showing the attachment in position for use; and Fig. 2 represents a view of the attachment in detail, showing a modified form of support.

A represents the furnace-wall, and B the grate, the latter shown in the present instance as consisting of a double set of grate-bars resting at their adjacent edges upon a common support *b* and at their opposite edges upon lugs at the front and bridge walls of the furnace.

C represents the opening for feeding the fuel to the furnace, and *c* the opening leading to the ash-pit D beneath the grate.

The attachment consists of a sheet or plate E, of metal or other suitable material, adapted to rest with its front or lower end at the bottom of the ash-pit, preferably at the entrance *c*, and with its rear or upper end in proximity to the under side of the grate B, the said sheet extending transversely across the ash-pit from side to side and separating it substantially into two chambers, the one in connection with the draft-opening and front and central portions of the grate and the latter with the rear portion of the grate.

As a support for the rear end of the plate E, I either provide bolts *e*, which may be inserted downwardly between the grate-bars, the heads being sufficiently large to catch upon the tops of the bars and their lower ends provided with nuts adapted to be screwed thereon underneath the plates E, or one or more standards *e'* may be secured to the under side of the plate E at or near its rear end, the lower ends of said standard resting upon the floor of the ash-pit. When the standards *e'* are employed, I prefer to secure them pivotally to the plate E in order that the rear end of the said plate may be elevated or depressed at pleasure by the swinging of the standard *e'* into or away from a vertical position. The opening *c*, through which the air is admitted to the under side of the grate, is provided with a damper *c'* of any well-known or approved construction, which may be elevated or depressed at different intervals to admit more or less air to the ash-pit above the plate E, as may be required. In the present instance the damper is shown as provided with lugs c^2, on which the front end of the plate E rests.

I have found in actual practice that the above-described attachment when applied in the manner substantially as shown in Fig. 1 to a furnace of ordinary construction has increased the heating capacity of the furnace from eighteen per cent. to thirty per cent. without increasing the amount of fuel fed to the furnace.

The attachment is exceedingly simple and inexpensive and may readily be attached to furnaces in common use, either by the bolts *e* or by the supporting-standards *e'*, as may be found most expedient. It will be obvious that the rear end of the plate *e* may be elevated or depressed to adjust it nearer to or farther from the grate either by the nut on the lower end of the bolt or by the swinging of the standard *e'*.

What I claim is—

The herein-described furnace attachment, comprising a plate adapted to extend from the draft-opening at the front of the ash-pit upwardly and rearwardly to a point in proximity to the under side of the grate and means for sustaining the rear end of the plate in vertical adjustment toward and away from the under side of the grate, substantially as set forth.

EDWARD WAUGH.

Witnesses:
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