

(No Model.)

H. D. BABCOCK.
HOT AIR FURNACE.

No. 476,775.

Patented June 14, 1892.

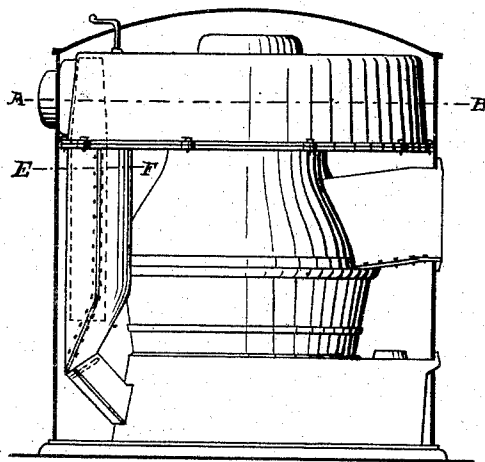


Fig. 1.

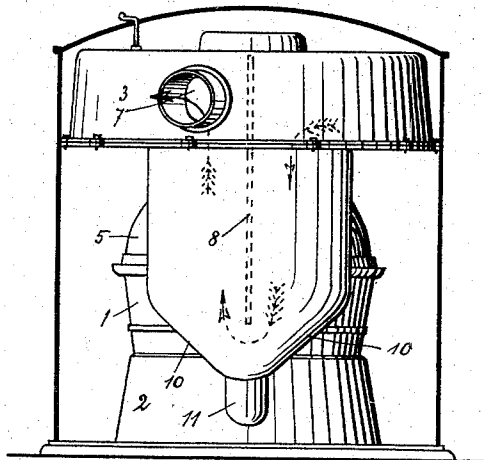


Fig. 2.

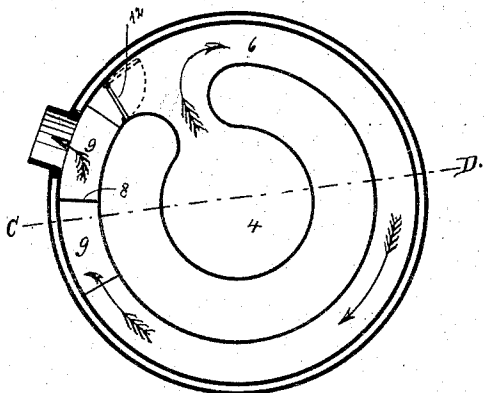


Fig. 3.

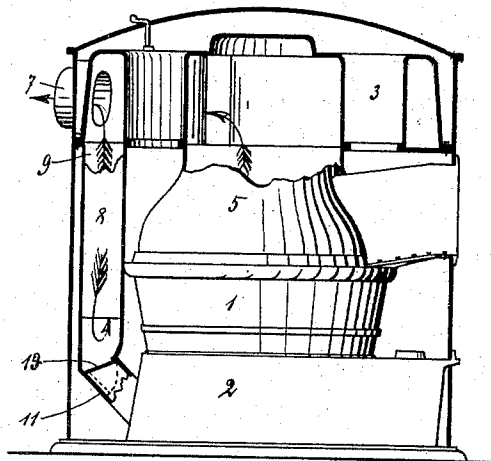


Fig. 4.

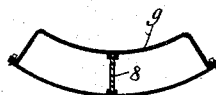


Fig. 5.

WITNESSES.

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HOT-AIR FURNACE.

SPECIFICATION forming part of Letters Patent No. 476,775, dated June 14, 1892.

Application filed May 14, 1891. Serial No. 392,694. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. BABCOCK, of Leonardsville, in the county of Madison and State of New York, have invented certain new and useful Improvements in Hot-Air Furnaces; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in hot-air furnaces.

In the drawings which accompany and form a part of this specification, and in which similar numerals of reference refer to corresponding parts in the several views, Figure 1 shows a side elevation of the furnace with outline of casing. Fig. 2 shows a rear elevation of the same with outline of casing. Fig. 3 shows a cross-section taken on line A B of Fig. 1. Fig. 4 shows a partial cross-section taken substantially on a line C D of Fig. 3 and a partial elevation. Fig. 5 shows a section on line E F of Fig. 1.

The furnace is provided with a fire-pot 1, ash-pit 2, and circular radiator 3, having central opening 4 from the dome 5. The radiator is provided with a flue 6, encircling the radiator and connected by cross-flue 6^a with the central dome of the radiator and extending from flue 6^a to the smoke-exit 7. Adjacent to the smoke-exit is provided a partition 8, closing the flue 6 and extending down into the reverse flue 9. The reverse flue 9 is segmental in shape in cross-section to conform to the circle of the radiator and provided with a doubly-inclined bottom 10, centering to dust-flue 11, which dust-flue is inclined and communicates with the rear of the ash-pit 2. A damper 12 is provided in the flue 6 of the radiator adjacent to the smoke-exit and between it and the cross-flue 6^a. A check-draft damper 13 is provided in flue 11. When the damper 12 is open, as shown in dotted lines in Fig. 3, the draft is direct, the products of combustion

passing from the passage 6^a through the opening closed by the damper to the smoke-exit. When the damper 12 is closed, the circulation of the products of combustion are, as shown by the arrows, from the furnace-dome, through the flues 6^a and 6, down one side of the partition 8 in reverse flue 9, under the lower end of the partition, and up the other side to the smoke-exit 7. It will be observed that the radiating-surface of the reverse draft-flue 9 is comparatively extensive and that it is also within the casing, so that the radiator may be effective. The inclined bottoms 10 in the reverse draft-flue and inclined dust-flues 11 operate to conduct the accumulation of dust into the ash-pit base. The draft is checked by opening damper 13, and the flues 9 and 11 also become a dust-escape flue when the damper 13 is open.

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

1. In a hot-air furnace, the combination of a fire-pot, ash-pit, furnace-dome, circular radiator, a reverse draft-flue secured to the radiator and extending downward inside of furnace-casing, the partition in the reverse flue extending from the top of radiator nearly to bottom of reverse flue, and dust-flue connecting lower end of reverse flue with ash-pit, substantially as set forth.

2. In a hot-air furnace, the combination of a fire-pot, ash-pit, furnace-dome, and circular radiator having an opening from the dome to the radiator and an exit-opening, of a reverse draft-flue secured to the radiator and extending downward therefrom between the inlet and the exit to the radiator, a partition in the reverse flue extending from near the bottom thereof up through and cutting off the flue of the radiator, and a damper on the opposite side of the exit-opening from the partition and between the inlet and exit openings of the radiator, substantially as set forth.

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Witnesses:

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