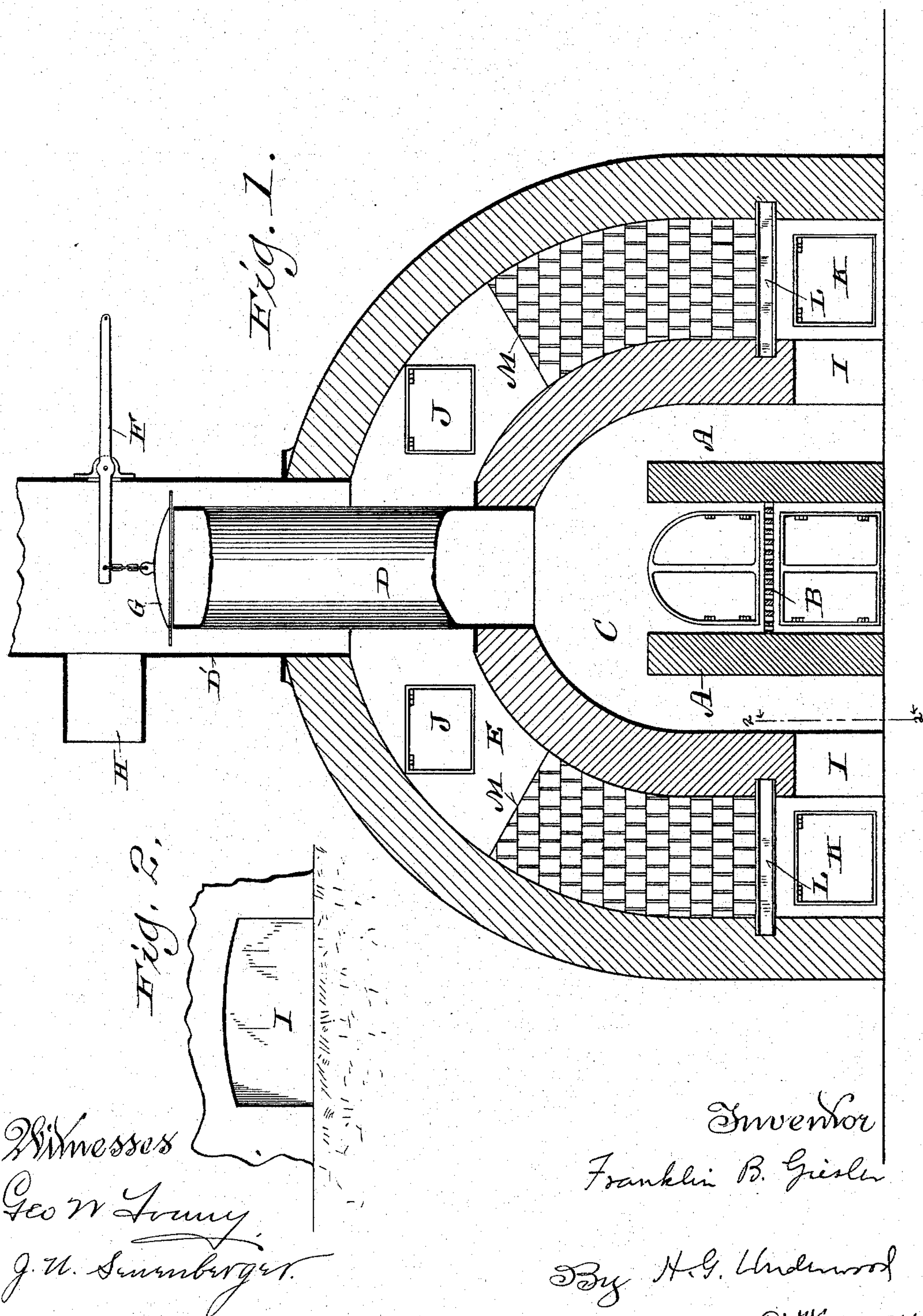


(No Model.)

F. B. GIESLER.
FURNACE.

No. 526,524.

Patented Sept. 25, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANKLIN B. GIESLER, OF MILWAUKEE, WISCONSIN.

FURNACE.

SPECIFICATION forming part of Letters Patent No. 526,524, dated September 25, 1894.

Application filed October 9, 1893. Serial No. 487,625. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN B. GIESLER, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Furnaces; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide a furnace particularly adapted for the use of malsters; and it consists in certain peculiarities of construction and combination of parts hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a vertical transverse section of a furnace constructed according to my invention, and Fig. 2, a detail elevation of a portion of the furnace viewed on line 2—2 of the preceding figure.

Referring by letter to the drawings, A A represent parallel walls and B a grate supported by the same. The space between the walls above the grate constitutes the fire-box of my furnace and the space below said grate the ash-pit, these compartments being respectively provided with suitable doors at either or both ends of said furnace. The grate-supporting walls are inclosed within a preferably arch-like compartment C provided with a flue D that extends up into a main flue leading from another preferably arch-like compartment E, and fulcrumed to the latter flue is a lever F from which I hang a cover G for the former flue.

The main flue D' is provided with a lateral branch H for pipe-connection with a malting-apparatus having an air-exhaust, as is common in the art.

The walls of the furnace are of any suitable non-conducting material, and at the base of said furnace, passages I connect the inner and outer compartments C, E, above specified. These compartments have upper and lower air-inlets and the latter are controlled by suitable doors J, K, at the front and rear of the furnace. Above the passages I and lower air-inlets, the outer compartment E is provided with suitable gratings each of the latter

being preferably a series of parallel I-beams L set transversely in the longitudinal walls bounding said outer compartment. Each of the gratings just specified is for the support of a mass of fire-brick M or other suitable heat absorbing material.

The flue D being closed by its lever controlled cover G, air primarily admitted to the furnace through the ash-pit will be heated and escape out of the inner compartment C through the passages I into the outer compartment E from whence it is drawn away through the flue D' and its lateral branch. A certain amount of the heat is absorbed by the material M in the outer compartment C of the furnace, and if air be admitted through the lower inlets to said compartment it will be warmed by contact with said heated material.

If at any time it is desirable to check the heat, the upper air-inlets to the outer compartment of the furnace are opened, and whenever the greatest possible heat is needed the flue cover G is lifted to permit of direct draft from the fire-box.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A furnace comprising a fire-box and ash-pit, a compartment inclosing the same, a flue leading from this compartment, a movable closure for the flue, another compartment inclosing the one aforesaid and communicating with the lower portion of the same, a flue leading from the outer compartment and surrounding the former flue, upper and lower air-inlets to said outer compartment, suitable means for controlling the air-inlets, gratings in the aforesaid outer compartment above the lower air-inlets, and heat-absorbing material arranged on the gratings, substantially as set forth.

2. A furnace comprising a fire-box and ash-pit, a compartment inclosing the same, a flue leading from this compartment, another compartment inclosing the one aforesaid and communicating with the lower portion of the same, a flue leading from the outer compartment and surrounding the former flue, a lever fulcrumed to the outer flue, a cover for the inner flue hung from the lever, upper and

lower air-inlets to said outer compartment,
suitable means for controlling the air-inlets,
gratings in the aforesaid outer compartment
above the lower air-inlets, and heat absorbing
5 material arranged on the gratings, substan-
tially as set forth.

In testimony that I claim the foregoing I

have hereunto set my hand, at Milwaukee, in
the county of Milwaukee and State of Wiscon-
sin, in the presence of two witnesses.

FRANKLIN B. GIESLER.

Witnesses:

N. E. OLIPHANT,
HENRY DANKERT.