

J. Murdock, Farmer's Boiler furnace.

No. 120,894.

Patented Nov. 14, 1871.

Fig:1. y

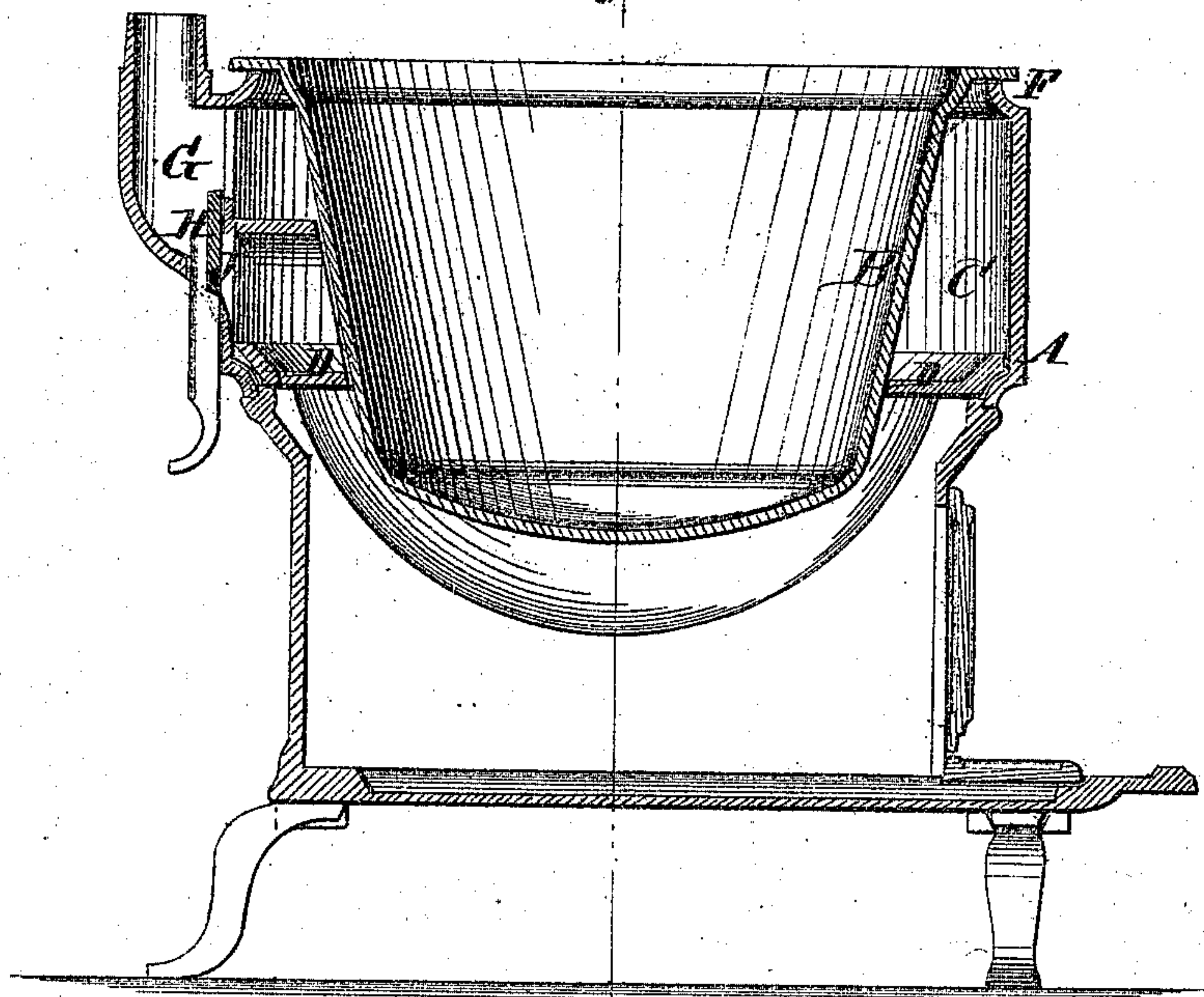
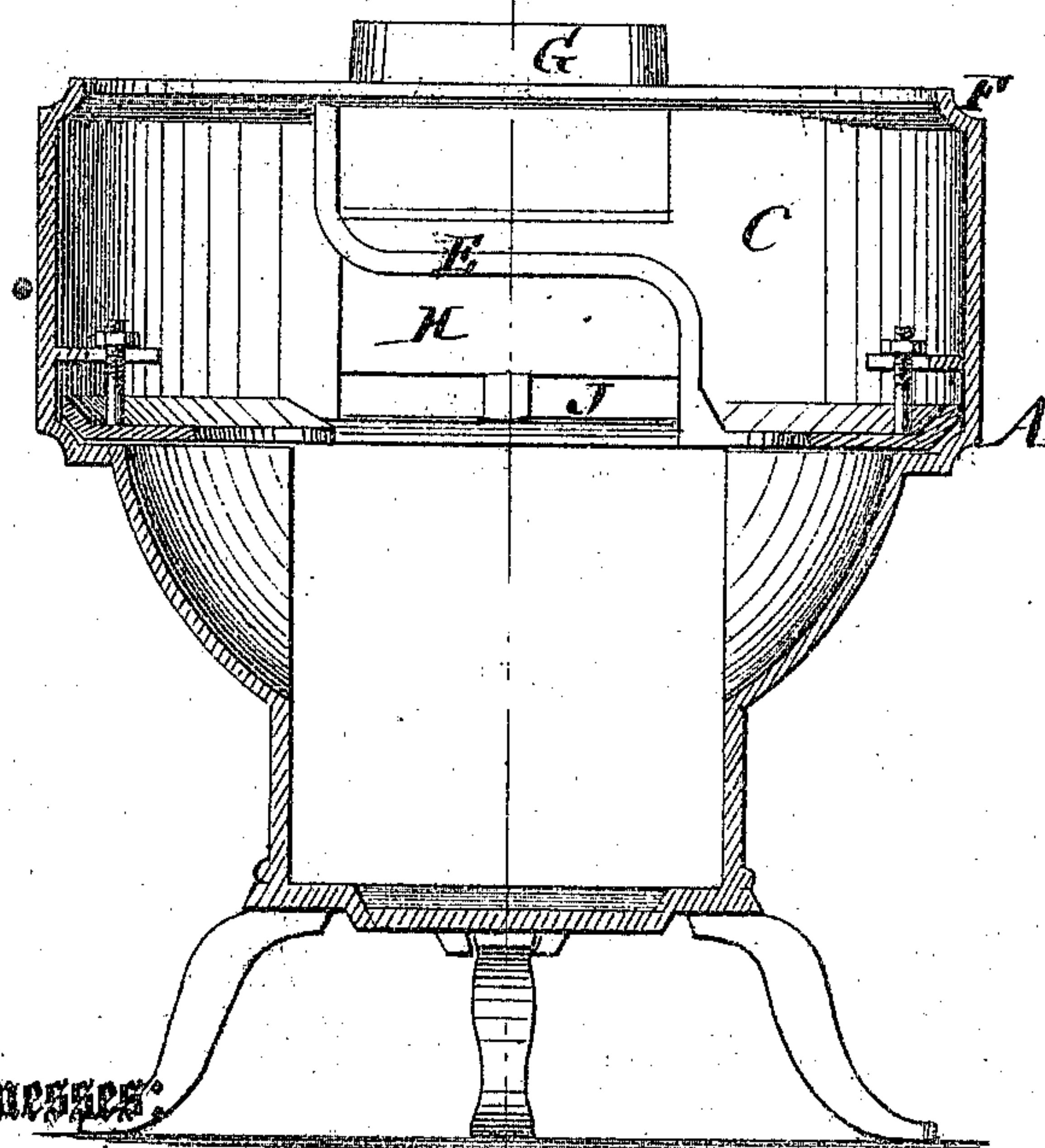


Fig:2. x



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN MURDOCK, OF SOUTH CARVER, MASSACHUSETTS.

IMPROVEMENT IN AGRICULTURAL BOILERS.

Specification forming part of Letters Patent No. 120,894, dated November 14, 1871.

To all whom it may concern:

Be it known that I, JOHN MURDOCK, of South Carver, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Farm Boiler-Furnace; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My improvement in boiler-furnaces consists in combining therewith a damper for direct draught, wherein the heat is carried completely around the kettle in one united flue. The advantage of my improvement is, that the damper is enabled to give a much larger opening than can be produced on my former invention, where the upper portion of the kettle becomes heated, while opening directly into the smoke-pipe and closing the flue around the kettle, all circulation is effectually arrested.

In the accompanying drawing, Figure 1 is a vertical section of the furnace and boiler taken on the line *x x* of Fig. 2. Fig. 2 is a vertical section of Fig. 1 taken on the line *y y*.

Similar letters of reference indicate corresponding parts.

A is the furnace, which does not differ (except in the matter hereinafter specified) from a farm-boiler furnace now in use and well known to the public. B is the boiler. C is the fire-flue. D is a horizontal flange projecting inward on the furnace, the inner edge of which the lower portion of the boiler fits, as seen in Fig. 1. As the furnaces have heretofore been made, this flange is broken away on one side a sufficient space to al-

low the smoke and heat to ascend and surround the upper portion of the boiler, the broken space being directly beneath the exit-flue. E is a continuation of the flange D, terminating in contact with the inwardly-projecting flange F, around the rim or top of the furnace. It will be seen that flange E covers the opening in the flange D. The products of combustion are thereby conducted through the opening around the boiler and upward into the discharge-flue, the discharge-orifice being directly above the part E. Now my improvement consists in making a discharge-orifice, J, below the part E, and arranging in the discharge-flue G a sliding damper, H, by means of which either the upper or the lower orifice may be closed while the other remains open. By this arrangement a direct draught is given to the furnace in starting a fire. The heat may be regulated as may be required by the contents of the boiler, as damage is frequently caused by allowing the full heat of the furnace to pass up around the boiler when the boiling is nearly or quite completed.

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

In a boiler-furnace, A B C D, the flange E having one outlet above and another below it into the discharge-flue G, combined with a sliding damper, H, as and for the purpose specified.

The above specification of my invention signed by me this 3d day of March, 1871.

JOHN MURDOCK.

Witnesses:

GEO. W. MABEE,
T. B. MOSHER.

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