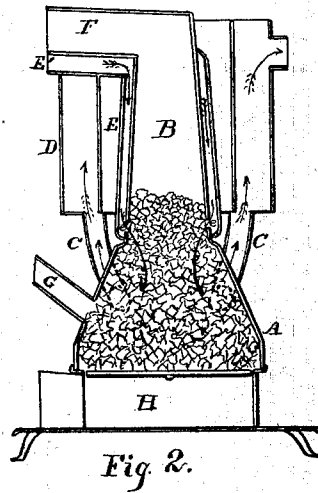
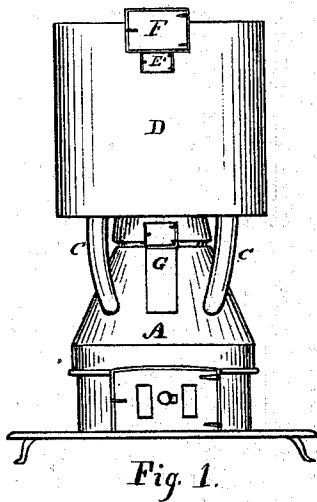


F. W. BORN.
Base-Burning Stoves.

No. 139,231.

Patented May 27, 1873.



Witnesses.
George F. Smith
Mr. Wilson

Inventor.
F. W. Born

UNITED STATES PATENT OFFICE.

FREDERICK W. BORN, OF CLEVELAND, OHIO.

IMPROVEMENT IN BASE-BURNING STOVES.

Specification forming part of Letters Patent No. **139,231**, dated May 27, 1873; application filed February 7, 1873.

To all whom it may concern:

Be it known that I, FREDERICK W. BORN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Heating-Furnace, of which the following is a specification:

This invention relates to that class of heaters in which the base of the column of fuel is consumed, and is so constructed and arranged that the draft is downward through the live fire, whereby the smoke is consumed and nothing but a heated gas passes off through the chimney.

This furnace is intended for soft coal, slack, or the cheapest article of fuel, and consists of a magazine for a supply of fuel, at the bottom of which is a fire-pot, made broadest at the base, from the sides of which fire-pot are pipes for conducting the heated gases to a drum, from which a pipe connects with a chimney. A cold-air draft-space surrounds the magazine, which air is admitted through perforations at the base of the magazine, whereby the smoke is drawn down through the fire and is burned.

The following is a description of its construction and operation:

In the accompanying drawing, Figure 1 is a front elevation of the aforementioned furnace. Fig. 2 is a vertical section of the same.

A is a fire-pot, which I make largest at the base, the sides slanting inward toward the top, the object of which is to prevent the lodgment of ashes or cinders on the sides, thus making it much easier for cleaning the grate. From the top of the fire-pot A rises a magazine, B, which also tapers, being smallest at the top. This form overcomes the liability of the fuel clogging in the cylinder, which is quite likely in using soft coal or slack. From

the sides of the fire-pot rise pipes C C, which connect it with a drum, D, which surrounds the magazine, the draft from the fire being through said pipes C C into the drum; thence to the chimney in the direction of the arrows. Surrounding the magazine is a jacket or case, E, having an outlet to the open air at E'. At the base of the magazine, and inside the jacket, are perforations *ee*, which admit air to the fire. A flue, F, closed by a door, arranged in connection with the top of the magazine, is used for filling the magazine with fuel. A flue, G, at the front of the fire-pot enables the fire to be examined when desired.

The operation is as follows: First, a fire is made in the fire-pot A, the draft-opening E being closed, the draft being made through the grate from the ash-pit H beneath. When a good bed of live coals is obtained, the magazine is filled with fuel and the draft from the ash-pit closed tight, and the draft through E' opened, when the smoke that is made from the burning fuel must pass through the live fire, and is entirely consumed, so that no smoke can be seen issuing into the chimney. The drum and the fire-pot both cast off a great amount of heat.

I claim—

A stove provided with a cone-shaped magazine, B, a fire-pot, A, of similar form, air-flue E, pipes C, and drum D, so constructed and arranged as to conduct the draft through the live fire, and thus consume the smoke, as described.

F. W. BORN.

Witnesses:

GEO. W. TIBBITTS,
GEO. A. KOLBE.