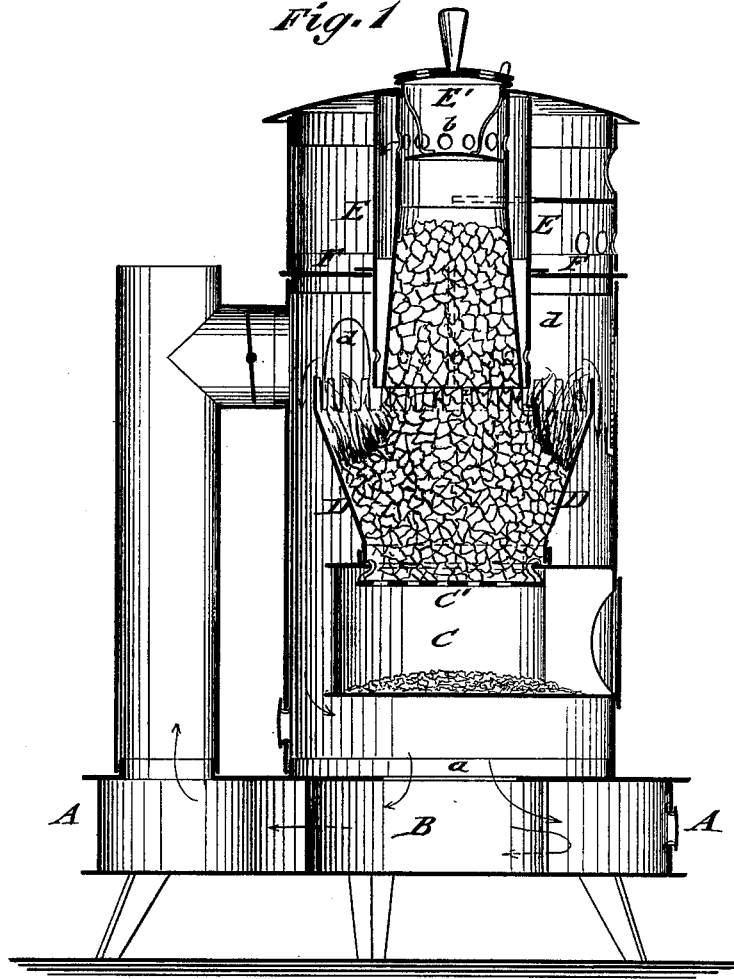


F. J. GOULD.  
Heating-Stove.

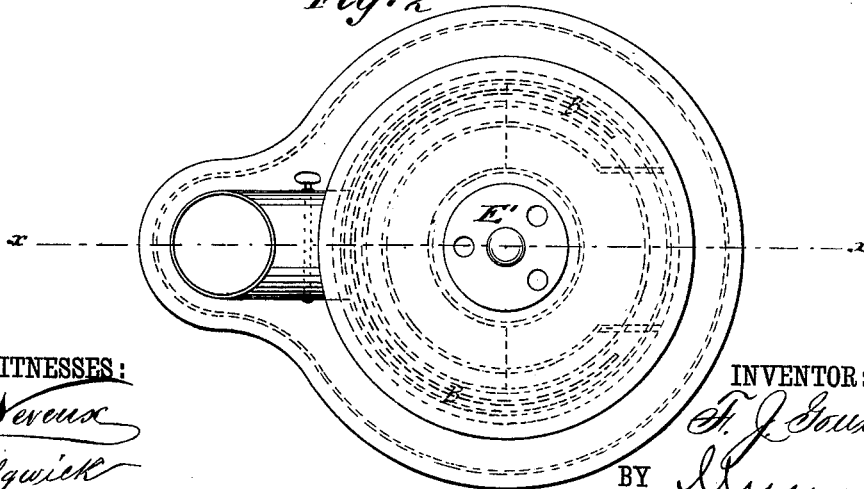
No. 202,718.

Patented April 23, 1878.

*Fig. 1*



*Fig. 2*



WITNESSES:  
*C. Xeroux*  
*C. Sedgwick*

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BY *[Signature]*

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# UNITED STATES PATENT OFFICE.

FRANK J. GOULD, OF SIDNEY, OHIO.

## IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **202,718**, dated April 23, 1878; application filed December 21, 1877.

*To all whom it may concern:*

Be it known that I, FRANK J. GOULD, of Sidney, county of Shelby and State of Ohio, have invented a new and Improved Heating-Stove, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section on line *x x*, Fig. 2, of my improved heating-stove, and Fig. 2 a top view of the same.

Similar letters of reference indicate corresponding parts.

The invention has reference to an improved base-burning magazine-stove for burning soft or bituminous coal, by which a perfect and superior combustion and a thorough utilization of the heat of the fuel is obtained.

By referring to the drawing, A represents the base of my improved heating-stove, to which the heat and draft are delivered by a round opening, *a*, in the center of the top base-plate. In the base A a circular collar, B, is arranged, that extends from the bottom to the top base-plate, and is open at the front, so as to permit the draft and heat to escape and pass through the flue formed by the collar and outside rim of the base, at both sides of the center space, to the pipe at the rear of the upper base-plate, and thence into the chimney by means of the stove-pipe. The ash-pit C is arranged above the base and closed at the inside, being only open at the front for taking out the ashes. The ash-pit supports the grate C' and the fire-pot D, which is so constructed and placed within the stove, that it is entirely independent of the same, and touches at no place the outside body of the stove. The fire-pot is smaller than the stove, so as to allow a sufficient space for the draft and smoke to pass down between the fire-pot and the body of the stove, and then around the ash-pit and below the bottom of the same to the round opening in the base-plate, and thence to the exit-pipe. The fire-pot is placed directly below the mouth of the magazine E, which is made with double walls, as heretofore in use, but changed in such a manner as to conduct the upper or magazine draft down into the fire. This is accomplished by providing the inner magazine with a number of holes or perfora-

tions, *b*, at the upper part, through which the draft passes into the circular space formed by the inner and outer magazines, and then down into the fire below. The inside magazine is cylindrical at the upper part, and flaring or conical at the lower part until it reaches the bottom. This is for the purpose of keeping up a regular feed, and prevent the choking of the coal at the lower part of the magazine. The inner magazine is closed by a double cover, E', of which the upper or outside part contains a register, by which the supply of air or draft can be regulated. The inner or lower part of the cover is fastened to the upper part by stays at such a distance below the same as to pass into the inner magazine below the row of holes *b* of the same. The lower part of the cover nearly closes the magazine tightly, but allows a small space for the gas generated in the magazine to escape into the open space between the upper and lower parts of the cover, where it is taken up by the current or draft of air entering through the holes of the top cover and carried with it through the holes of the inner magazine into the space between the two magazines, and thence into the fire, where it is consumed. The stove is also provided with a false top or diaphragm, F, at suitable distance below the top, which serves to hold the magazine, by a central opening, firmly in place, and admits also the use of the stove as a double heater, by having entrance and exit holes for the outer air and an intermediate semicircular diaphragm. The outside magazine is also arranged with openings or holes *d* above or level with the mouth of the inner magazine and below the diaphragm. These holes may be opened or closed by a suitable regulating device. The object and use of these holes is to connect the open space between the two magazines with the open space outside of them and within the body of the stove, and allow a current of air or draft to pass continually through the stove unimpeded by the coal, which will coke and fill the mouths of the magazines so tightly that there will be no draft through them.

In the old styles of double magazines the gas generated in the inner magazine had no other escape but the top of the stove, so as to

pass into the room and vitiate the air to some extent. This is entirely prevented by the draft-holes of the outer magazine.

When the fire is fairly burning the direct connection of the stove with the chimney is closed by the damper, and then all the draft and heat drawn down to the base, and through the flue of the same to the chimney, producing, by the entrance of air through the double magazine, a complete combustion of the fuel and fire-gases, and by the circuitous passage of the draft and heat the more perfect utilization of the latter.

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

1. In a magazine-stove the combination of the fire-pot with a double-walled magazine, having a double cover, the inner wall of the magazine having holes near the upper part, and the cover-holes in the upper or top part, while the lower part or bottom of said cover

is fitted to the inner wall of the magazine below the holes of the same, substantially as and for the purpose described.

2. In a magazine-stove, the combination of the fire-pot with a double-walled magazine, of which the inner wall has draft-holes at the upper part, and the outer wall draft-holes at the lower part, and with a double perforated cover, to admit the passage of a continuous current of air through the stove, substantially as specified.

3. In a magazine-stove, the combination of the fire-pot, double-walled magazine, having interior draft-holes at upper part and exterior draft-holes at lower part, and double cover, having upper air-register, substantially as described, and for the purpose specified.

FRANK J. GOULD.

Witnesses:

F. M. THORNTON,  
F. P. FRUCHEY.