(No Model.)

# S. INGLING.

## HEATING STOVE.

No. 289,840. Patented Dec. 11, 1883.

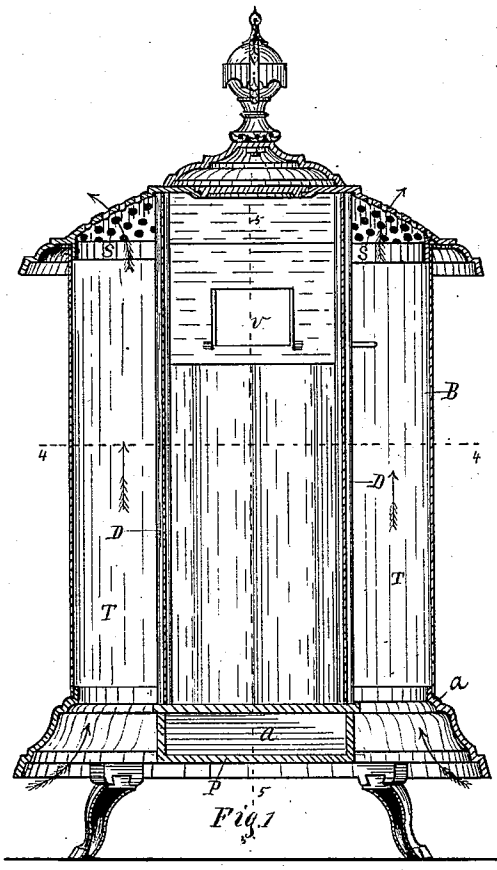



Fig. 1

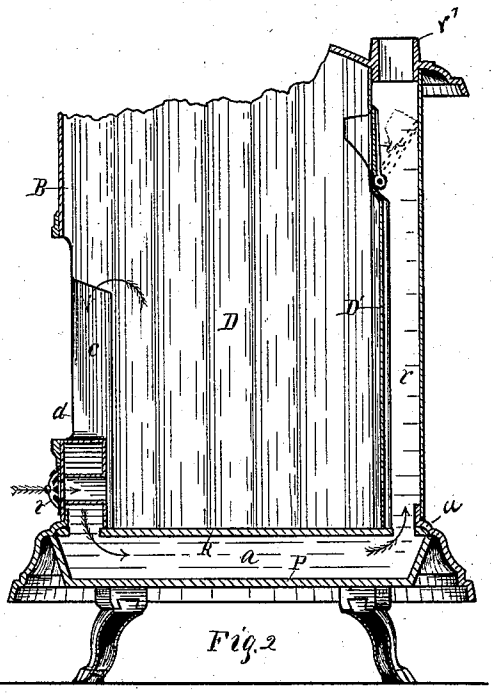



Fig. 2

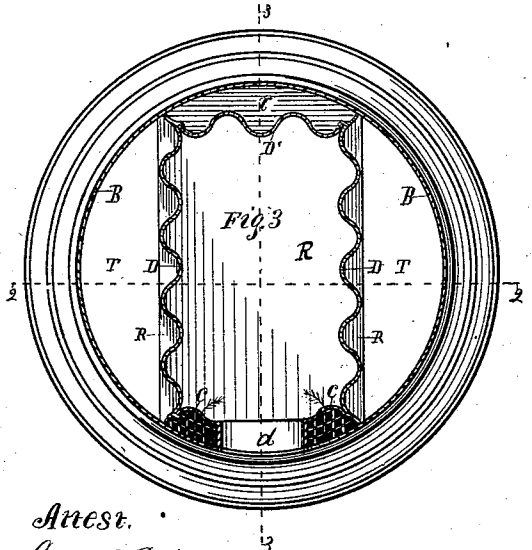



Fig. 3

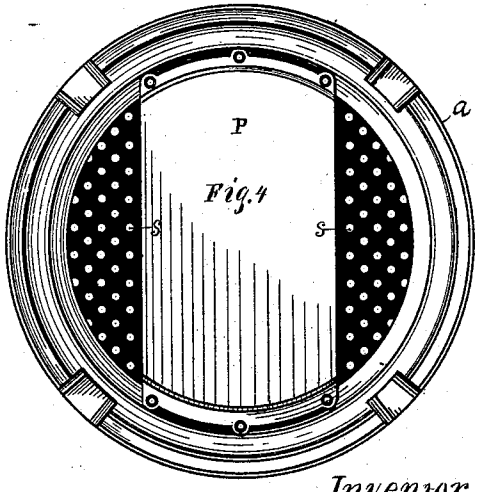



Fig. 4

Attest.

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# UNITED STATES PATENT OFFICE.

SAMUEL INGLING, OF DOWAGIAC, MICHIGAN.

## HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 289,840, dated December 11, 1883.

Application filed April 7, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL INGLING, of the city of Dowagiac, county of Cass, and State of Michigan, have invented a certain Improvement in Heating-Stoves, of which the following is a specification.

My invention relates to that class of stoves known as "heating-stoves;" and it consists in the general construction of parts, as hereinafter set forth.

The object of my invention is to construct a cheap stove, and so arranged that the heated air passing into the room will be drawn up through the vertical heating-chambers from the openings through the bottom of the stove, thus drawing the cold air from the floor and passing it out into the room through the perforated top in a heated condition; also in providing the stove with an independent draft for combustion, so arranged by means of a damper and flues having a central return-bottom connecting a back chamber of the stove that a return draft may be obtained, for the purposes hereinafter set forth.

In order to aid others skilled in the art to which my invention belongs to make and use it, I will proceed to describe its construction and operation with reference to the several drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal sectional view of my invention on line 2 of Fig. 3. Fig. 2 is a view of the same having the top broken away, being a sectional view on line 3 of Fig. 3. Fig. 3 is a top view of Fig. 1 below the line 4, being a horizontal section. Fig. 4 is an inverted perspective of my invention.

The interior side walls of my stove are of cast metal, and are corrugated, as shown in Fig. 3. The walls D D extend across the bottom of the stove or fire-box R, parallel with each other and join two transverse walls, D'. The walls D D D' extend from the stove-bottom R to the top of the stove, forming the fire-box, as shown in Figs. 1 and 3. The front end wall is cut away to admit the common feed-door, as shown at *d* in Figs. 2 and 3, and within the chamber formed by these walls the fuel is consumed. Passing around these walls is a cylinder or jacket, B, of sheet metal, which joins the open rim *a* at the base of the stove, and, extending upward, meets the top of the stove, as shown in Figs. 1, 2, and 3. I make the side walls, D D, long enough to admit a proper length of wood. The front and back end walls are shorter, thus forming an oblong interior box-stove. The jacket B is made sufficiently large to encircle the fire-pot, joining it at the corners, as shown in Figs. 1 and 3. The rim or bottom support of the stove is open, as shown in Figs. 3 and 4, thus forming two vertical air-chambers, T T, between the vertical side walls, D D, of the fire-box and the jacket B, through which the air is drawn from the floor passing upward, as indicated by the arrows in Fig. 1, and out into the room again through the openings S in the top of the stove. By this arrangement the cold air is taken up from the floor and passed out into the room in a heated condition, thus rapidly warming the room. Below the fire-bottom R, I attach an air chamber or box, P, which is bolted or riveted to the rim *a* of the stove, which passes across the rim at the center, (see Fig. 4,) being fitted at its ends to the circle of the rim *a*. (See Figs. 3 and 4.)

I locate the common stove-door at the front end of the fire-box. An opening in the jacket B is also made, into which it is inserted. (See letter *d* in Figs. 2 and 3.) Below the door, passing through the jacket and the end wall of the fire-pot, I insert a tube or cylinder, placing over the opening upon the jacket B a common damper or register, *t*, as shown in Fig. 2. When the register is open, the air passes through the tube, thus feeding the fire within the fire-box, and closing the register cuts off the draft. The register is the same as now in common use and need not be described here.

At each side of the door *d*, I locate a diving-flue, C. (See Figs. 2 and 3.) These flues are formed by the opening between the fire-box wall and the jacket B of the stove. The flues extend upward to near the top of the stove-door, being a continuation of the end wall, (see Fig. 2,) and are provided with a screen or grating, (see Fig. 3,) thus preventing cinders and the like from falling down into the flues, to obstruct the air-passage. The flues C C, below the damper *t*, merge into one, and are arranged to meet the flue-box P, attached

across the stove below the fire-bottom R, as clearly shown in Figs. 2 and 4. The rear end of the flue-box P joins the chamber *r*, formed in the angle of the fire-box wall D′ and the jacket B. (See Figs. 2 and 3.) Over the upper end of this chamber I locate the stove-pipe thimble *r*′. In the back wall, D′, of the fire-box I locate a common damper, *v*. (See Figs. 1 and 2.) When the damper is turned back, as shown by dotted lines in Fig. 2, I have a direct draft through the fire and the register *t* and up through the damper opening into the pipe, and, to obtain an increase of heat with a slow draft, the damper *v* is closed, as shown in Figs. 1 and 2, when the air passing through the register *t* rises through the fire, then passes down the flues C C into the air-box P, crossing under the fire-bottom R, then up through the back chamber, *r*, out at the pipe, as shown by the arrows in Figs. 2 and 3. It is obvious by this arrangement of parts I have a direct current of heated air passing up through the vertical side chambers, T T, and the current of air passing up the back chamber, *r*, increases the heating capacity of the back portion of the stove-jacket B, and by this arrangement a current of hot air is driven around, crossing the center, and up the back portion of the stove, while at the same time two currents of hot air are passing up and out into the room through the side chambers, T T, thus making a rapidly-heating stove. A damper may be located over the bottom openings or the perforated top of the stove, to regulate the draft of air up the chambers T T, and that portion of the jacket B encircling the air-passages T T may be made of spun metal, the same being plated, as the air passing up between the jacket and the fire-box sides D D will prevent the plated-metal portion of the jacket from coloring from undue heat.

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

1. In a heating-stove, the combination of the open base-rim *a*, having the air-box P attached thereto, being located parallel with and below the fire-box bottom R, said air-box joining two vertical flues, C C, having a grated open top, said air-box P joining a rear air-chamber, *r*, formed between the corrugated fire-box end D′ and the jacket B, with the damper *v*, and draft-cylinder having register *t*, when arranged and combined substantially as and for the purposes set forth.

2. In a heating-stove having the open rim base *a*, with air-box P, crossing the same and being located below the fire-box bottom R, said air-box joining the vertical flues C C, having screened upper ends, with the air-flue *r* formed in the back of the stove between the corrugated fire-box wall D′ and the sheet-metal jacket B, the interior oblong fire-box inclosed within a circular jacket, said jacket joining the rim *a* and the stove-top, said top having perforations or openings S over the vertical side openings, T T, formed between the corrugated side walls, D D, of the fire-box and the jacket B, whereby a current of air is taken up from the floor, being discharged in a heated condition into the room through the perforated top, the whole being arranged and combined substantially as and for the purposes specified.

SAMUEL INGLING.

Witnesses:
JANE D. INGLING,
SARAH STANARD.