(No Model.)

J. J. READER.

STOVE SHELF, HEATER, AND DAMPER.

No. 302,284. Patented July 22, 1884.

Fig. 1.

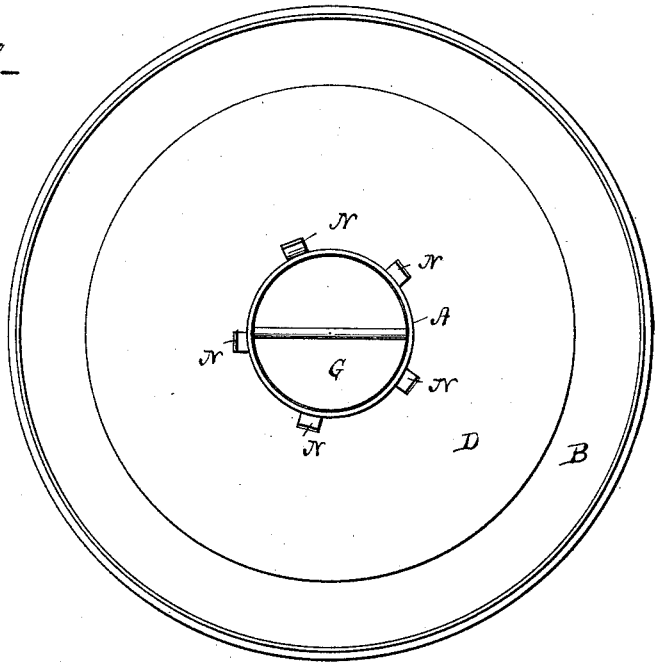


Fig. 2.

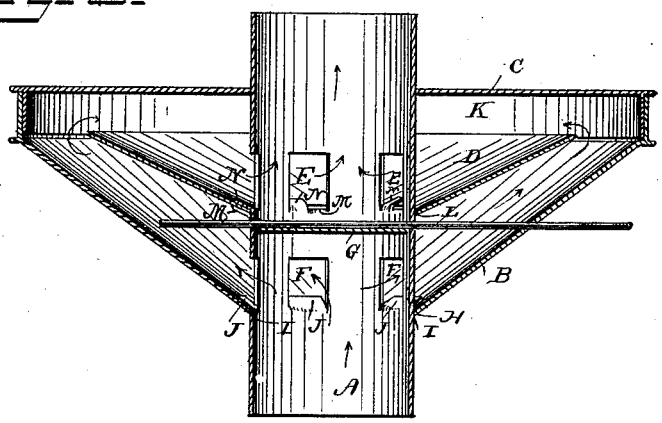
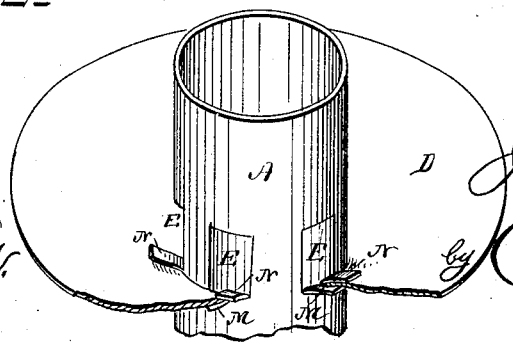


Fig. 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN J. READER, OF DELAWARE, WISCONSIN, ASSIGNOR OF ONE-HALF TO CHARLES A. H. BETTS, OF SAME PLACE.

STOVE SHELF, HEATER, AND DAMPER.

SPECIFICATION forming part of Letters Patent No. 302,284, dated July 22, 1884.

Application filed November 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. READER, a citizen of the United States, residing at Delaware, in the county of Walworth and State of Wisconsin, have invented a new and useful Stove Shelf, Heater, and Damper, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to combined stove-pipe shelves, heaters, and dampers; and it consists in certain improvements on my Patent No. 102,114, granted to Hall and Searl, whereby its construction is simplified, the interior shelf or deflector is conveniently secured in position, the heat is deflected back from the top of the shelf to effect more rapid heating of the device, and the efficiency of the latter is generally increased.

In the drawings, Figure 1 is a top view of the improved device with the top shelf or cover removed. Fig. 2 is a vertical sectional view. Fig. 3 is a detail perspective view showing the manner of securing the interior deflector to the stove-pipe.

Referring to the drawings, A designates the stove-pipe, on which is arranged a funnel-shaped cylindrical drum, B, supporting a shelf, C, under which, and inside the chamber formed by the said drum, is arranged a deflector, D, openings E and F being formed, respectively, above and below the deflector in the stove-pipe, and a damper, G, being arranged in the latter between the top and bottom series of openings or flues, this arrangement being substantially that shown in the above-mentioned patent.

In the above-described patent the flues or openings F are formed some distance above the bottom H of the drum B; but in this invention these openings are formed down at the very edge, I, of the bottom H, where the latter is connected to the stove-pipe. By reason of this relative arrangement, soot and the like is prevented from accumulating on the bottom H, whereby the efficiency of the device would be impaired, as it will slide down the said inclined bottom and off at the said flues. Besides serving this function, the position of the flues F enables a portion of the metal that is cut away from the stove-pipe to form the said flues to be bent down and form a flange, J, by which the drum B is secured to the pipe A.

In the present invention the interior deflector, D, is formed with a funnel shape corresponding to the shape of the bottom H, so that the said deflector will be parallel with the said bottom to form a greater space, K, between the said deflector and the top shelf, C, the purpose of which will be presently described. The flues E, above the deflector D, are formed down at the very edge, L, where the latter is secured on the stove-pipe, which prevents the accumulation of soot and the like on the deflector, and enables the latter to be secured to the pipe A in the following manner: The metal cut away from the pipe to form the said flues E is divided into two parts, M and N, the former of which is bent down to form a flange on which the deflector is supported, while the other part, N, is bent over onto the said deflector, to prevent vertical displacement of the same and to secure the deflector firmly in place. By reason of having these flues E down at the very bottom of the deflector, the products of combustion, which, when the damper is closed, are caused to pass through the flues F, under and around the deflector, as indicated by the arrows, Fig. 2 of the drawings, are thrown back down to the deflector before they can pass out through the flues E into the stove-pipe. The heat is thus utilized more completely than when the flues E are near the top shelf, C, so that it would pass out the same without being deflected back, as just described.

I claim as my invention—

1. The combination, with a stove-pipe having the flues E, and surrounded by a drum forming a heat-chamber, into which the products of combustion are adapted to pass, the top of said drum being some distance above the said flues E, of an interior deflector inclined down to the under edge of the said flues E, so that the products of combustion in the said chamber are deflected back and down from the top thereof before they can escape through the flues E, as set forth.

2. The combination, with the stove-pipe having the two series of flues or openings, E and F, of the funnel-shaped drum having its bottom extending down to the under edge of

the inlet-openings F, to prevent accumulation of soot and the like, and the deflector corresponding in shape to the bottom of the drum and parallel therewith, the said deflector arranged to extend down to the lower edge of the outlet-openings E, to deflect the products of combustion down from the top of the drum to the said escape-openings, as set forth.

3. The combination, with the stove-pipe having the flues E, and having the flanges M and N bent down from the metal cut away from the pipe to form the flues, said metal being divided into two parts to form the said flanges, and with the outer casing, B, of the deflector secured on the pipe by resting on the flange M, and secured from vertical displacement by the flange N, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN J. READER.

Witnesses:

EDWARD F. WILLIAMS,

CHAS. B. TALLMAN.