H. COOK.

Stove Pipe Drum.

No. 52,685. Patented Feb. 20, 1866.

FIG. 1.

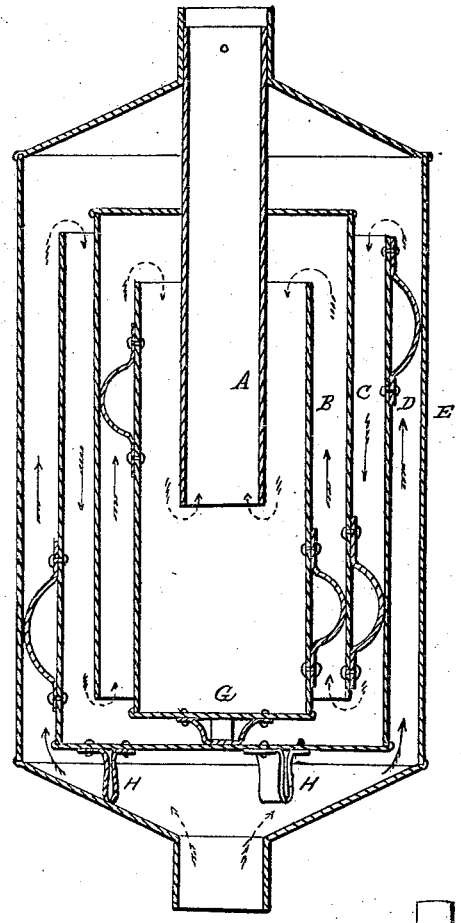


FIG. 2.

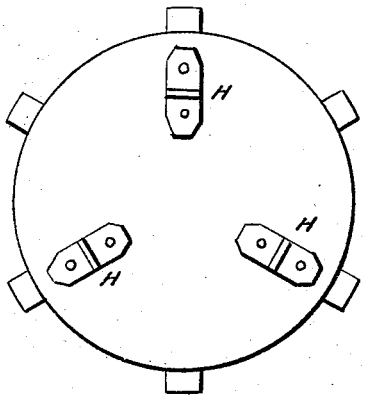


FIG. 3.

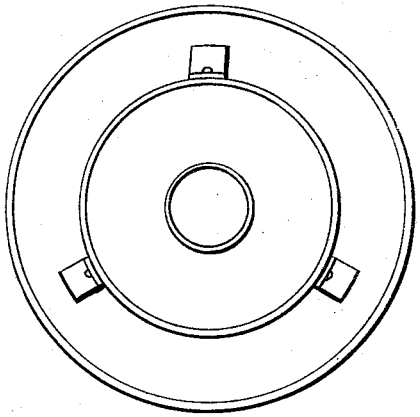
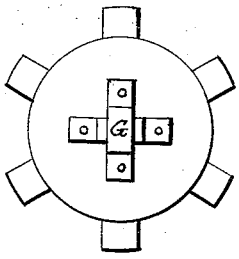


FIG. 4.



WITNESSES:

Hasbrouck
P. E. Blanc

INVENTOR.

Henry Cooke
by D & Somes & Co
his attys

UNITED STATES PATENT OFFICE.

HENRY COOK, OF BLUFFTON, ASSIGNOR TO HIMSELF AND JOHN H. WELCH, OF FORT WAYNE, INDIANA.

STOVE-PIPE DRUM.

Specification forming part of Letters Patent No. **52,685**, dated February 20, 1866.

To all whom it may concern:

Be it known that I, HENRY COOK, of Bluffton, in the county of Wells and State of Indiana, have invented a new and valuable Improvement in Stove-Drums; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

The object of my invention is to provide means for retaining caloric in an apartment, when a stove and pipe are used, which otherwise would pass into the chimney and be absorbed in the outer atmosphere.

To this end I construct a drum having a series of cylindrical compartments or chambers with openings from one to the other of sufficient capacity to allow the smoke to pass freely through the same.

The innermost chamber of my drum is formed by a cylinder (marked A) on Fig. 1. It is of the same size as the stove-pipe to which it is attached, and is usually made to extend to the longitudinal center of the drum. Each of this series of cylinders, except cylinder A, is closed at one end and left open at the other. Letter B is the second cylinder of the drum, and forms the second chamber thereof. Letter C is the third cylinder of the drum, and forms its third chamber. The fourth chamber is formed by the fourth cylinder, (marked D,) and the outermost chamber is formed by the outermost cylinder, (marked E.)

I may extend these chambers in number by adding additional cylinders, or I may decrease the number thereof by lessening the number of the cylinders; but I prefer to construct the drum with five chambers, as herein specified.

I usually construct the second, third, and fourth cylinders with ears or loops on their sides, respectively, as represented on all the figures of the drawings. These ears rest against the cylinders next outside thereof, respectively. They give permanence and strength to the drum and keep the cylinders in their proper places. The closed end of the second cylinder has raised loops or projections, (marked G on Figures 1 and 4,) and the closed end of the fourth cylinder has loops or projections (marked H on Figs. 1 and 2.) The offices of these projections are to form a rest for the cylinders, respectively, and secure a free passage for the smoke.

My device is operated as follows: Place the drum on the stove or pipe, as may be most convenient, with the cylinder A turned toward the chimney, and connect the opposite end of the drum with the pipe leading to the stove. The smoke from the stove enters the outermost chamber of the drum and traverses all the compartments thereof, as indicated by the arrows on Fig. 1, and passes off to the chimney through the interior chamber formed by the cylinder A.

By this device I secure the advantage of having the caloric drawn up with the smoke first arrested in its flight in the outermost chamber of the drum and spread over a large heating-surface. I find, by experiment, that a very large proportion of the heat which arises with the smoke is given off in this outermost chamber. As the smoke passes inward through the various compartments it yields up its heat in proportion to the length and breadth of the surface it traverses, and the caloric from the inner chambers thus saved is reflected outward to a considerable extent and adds to that already secured in the outermost chamber, and from which it is communicated to the apartment.

What I claim as my invention, and desire to secure by Letters Patent, is—

A stove-drum having a series of cylinders with loops and projections thereon constructed, combined, and arranged, substantially as herein specified, as a new article of manufacture.

HENRY COOK.

Witnesses:

J. C. SMITH,

P. E. BLAND.