

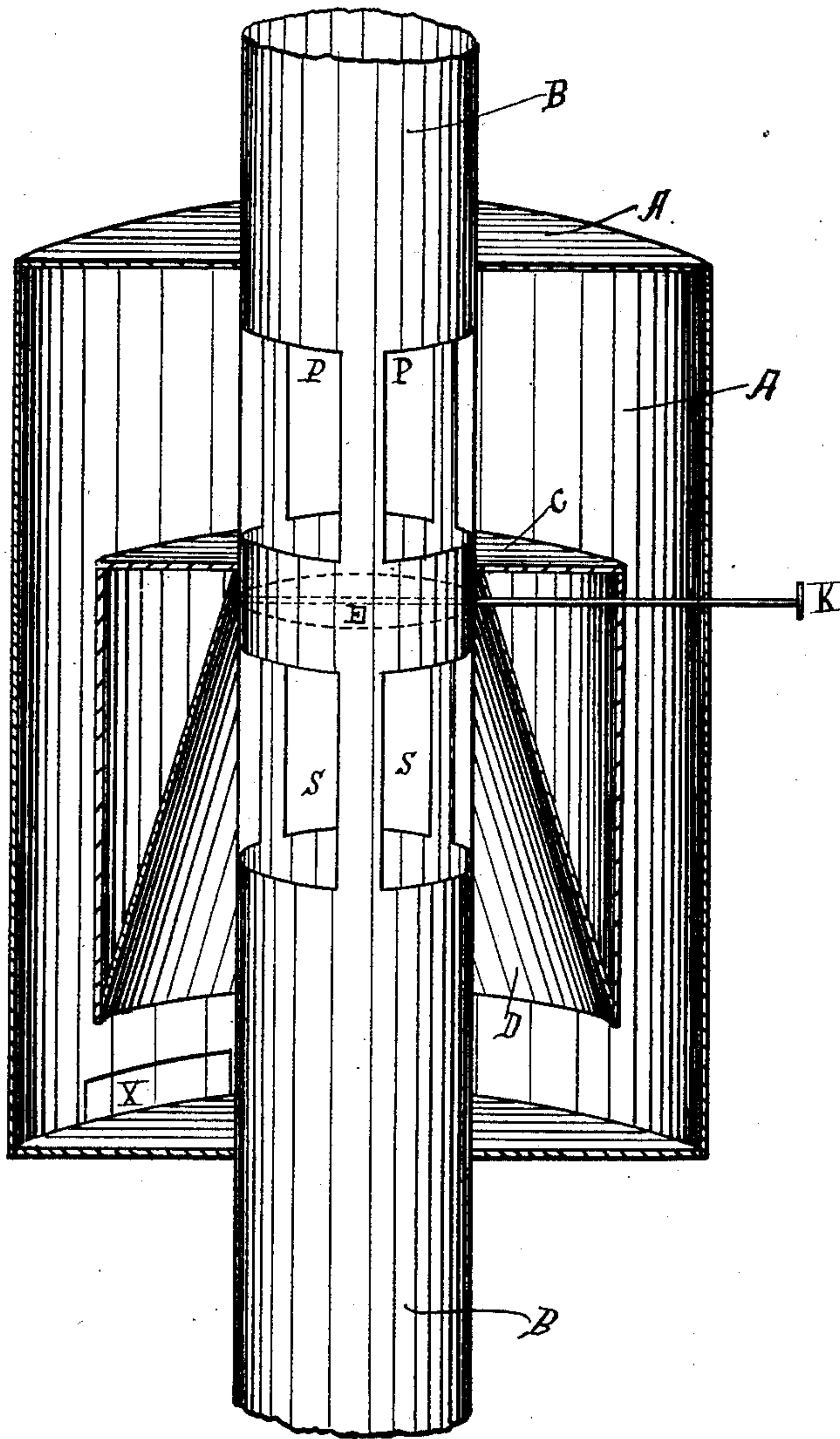
(No Model.)

C. W. YODER & S. L. HAMILTON.

STOVE PIPE DRUM.

No. 360,549.

Patented Apr. 5, 1887.



WITNESSES

*R. E. Kennedy.*  
*A. M. Paxton*

INVENTORS.

*Chas. W. Yoder*  
*S. L. Hamilton*  
By *Silas H. Porter and*  
*Frank Quincy* Attorneys.

# UNITED STATES PATENT OFFICE.

CHARLES W. YODER AND SAMUEL L. HAMILTON, OF MONMOUTH, ILL.

## STOVE-PIPE DRUM.

SPECIFICATION forming part of Letters Patent No. 360,549, dated April 5, 1887.

Application filed February 8, 1886. Serial No. 191,245. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES W. YODER and SAMUEL L. HAMILTON, citizens of the United States, and residents of the city of Monmouth, in the county of Warren, State of Illinois, have invented a new and useful Improvement in Stove-Pipe Drums, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, which illustrates a perspective view of our invention, with parts cut away to show the interior construction.

The object of our invention is to retain the heat passing with the draft from a stove and to utilize the same for heating purposes, and the saving of fuel; also, to check the draft in a stove-pipe drum and furnish the means of cleaning stove-pipe drums from accumulations of soot by a slide-door, used also as a damper.

The means employed consist of a section of stove-pipe, B, in which are an upper and a lower set of openings, P and S, and a damper, E, operated by means of the rod K; also, a flaring deflector, D, within a cylindrical drum, C, and an outside cylindrical drum, A, inclosing the whole of the above-specified apparatus, except the handle K and a slide-door, X.

The section of stove-pipe B passes through the bottom of the outside drum, A, thence through the flaring deflector D, thence through the top of the inside drum, C, thence through the top of the outside drum, A. The flaring deflector D is the frustum of a cone, with the smaller circumference at the top, and jointed there to the pipe B. Its larger and lower circumference joins with and is identical with the lower circumference of the inside drum, C. The head of the inside drum, C, is jointed around the pipe B, and rests on the upper circumference of the flaring deflector D. The bottom of the inside drum, C, and the bottom of the flaring deflector D are one and the same, and open. The lower set of openings, S, in the pipe B are directly below the upper circumference of the flaring deflector D, and open into the flaring deflector D. The damper E, operated by the handle K, is in the pipe B, directly above the lower set of openings, S, and above the top of the inside drum, C. The upper set of openings, P, in the pipe B are directly above the damper E and below the top

of the outside drum, A, and open out of the drum A. The outside drum, A, is jointed to the pipe B above and below, and incloses all the apparatus, except the handle K of the damper E and the slide-door X. The slide-door X is on the outside of the drum A, and opens into the drum A at the bottom.

The object of our invention is attained by checking the draft from the stove as it passes through the pipe B by the damper E and conducting it through the lower openings, S, downward through the flaring deflector D to the bottom of the drum A, thence upward through the space between the inside drum, C, and the outside drum, A, to the upper set of openings, P, where it is discharged through the pipe B. The damper E is operated at the handle K. The inside drum, C, forces the draft against the sides of the outside drum, A, equally and aids in retarding the draft and in distributing the heat. The flaring deflector D conducts the draft downward to the bottom of the drum A directly.

The saving of fuel is accomplished by utilizing a larger amount of heat from a given quantity of fuel in a stove than could be done by a pipe with a direct draft, and in retaining it a sufficient length of time within the drum A to allow it to assist in heating the surrounding atmosphere by radiation.

The combination of the flaring deflector D and inside drum, C, and the combination of the two drums C and A are such that the heat is driven first against the bottom of the outside drum, A, the consequence being that the heat radiates downward from the bottom of the drum A and is utilized in the direction most needed—namely, toward the floor of the room where the stove is placed.

The slide-door X in the drum A is used to remove the accumulations of soot from within the drum A, and as a check-draft.

We are aware that prior to our invention stove-pipe drums have been used for the purpose of utilizing heat. We therefore do not claim the use of stove-pipe drums for that purpose, broadly; but

What we do claim as our invention, and desire to secure by Letters Patent, is—

1. In a stove-pipe drum, the combination, with a pipe provided with perforations, as de-



scribed, of an inside drum, and a flaring deflector secured to the pipe, and an outside drum inclosing said inside drum and deflector, substantially as described.

5 2. The combination, with a pipe provided with an upper and a lower set of perforations, of an inside drum and a flaring deflector joined together, said inside drum and flaring deflector joined to the pipe at a point between the sets  
10 of perforations, and an outside cylindrical drum, substantially as described.

3. The combination, with a pipe provided with an upper and a lower set of perforations and a damper, of an inside drum, a flaring de-

flector, and an outside drum, substantially as 15 described.

4. The combination, with a pipe provided with an upper and a lower set of perforations, and a damper placed between the sets of perforations, of an inside drum and a flaring de- 20 flector, and an outside drum inclosing said inside drum and flaring deflector, substantially as described.

CHARLES W. YODER.

SAMUEL L. HAMILTON.

Witnesses:

EDGAR MACDILL,

CHARLES H. PORTER.