G. B. FOLLETT
Heating-Drum

No. 205,953. Patented July 16, 1878.

Fig 1.

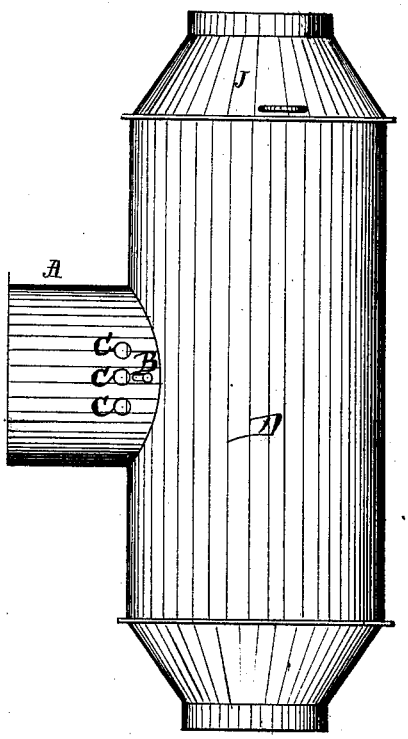


Fig. 2.

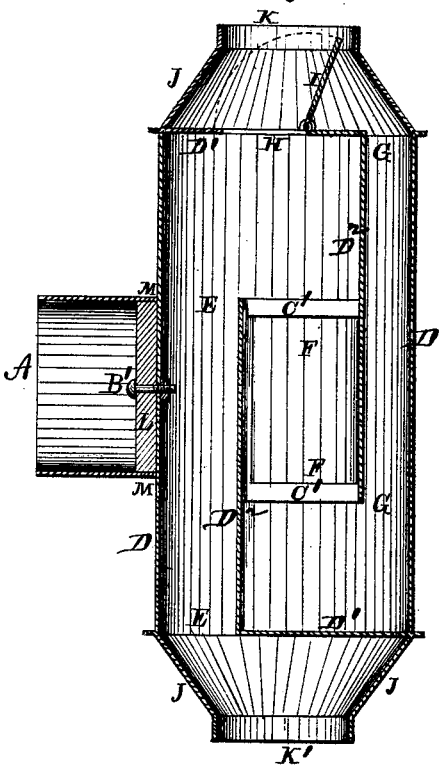


Fig. 4.

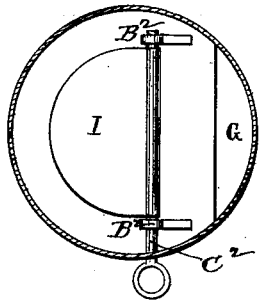
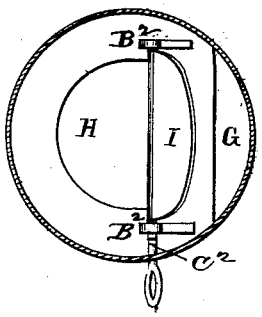


Fig. 3.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

GEORGE B. FOLLETT, OF GREEN BAY, WISCONSIN.

IMPROVEMENT IN HEATING-DRUMS.

Specification forming part of Letters Patent No. **205,953**, dated July 16, 1878; application filed December 29, 1877.

To all whom it may concern:

Be it known that I, GEORGE B. FOLLETT, of the city of Green Bay, in the county of Brown and State of Wisconsin, have invented a new and useful Improvement in Drums for Heating Purposes, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a perspective view of my drum-damper. Fig. 2 is a perpendicular section of the drum-damper. Fig. 3 is a section showing the damper when open at top of drum. Fig. 4 is a section showing the damper when shut.

The object of my invention is to furnish a drum that will utilize all the heat generated in a stove, furnace, boiler, or fire-box of any kind before passing out of the chimney, stove-pipe, smoke-stack, or flue of any kind for conducting smoke or heat; also, to guard against fire from defective chimneys; also, to give a direct draft when wanted, or to check it within the drum itself and not in the stove-pipe; also, to heat water when desired, and to check the water from boiling away when it is not needed so hot.

In Fig. 1, A is the attachment or receiver to take in boiler for heating water; B, slide or damper; C C C, holes to allow the surplus heat to escape when not required to heat the water in the boiler.

In Fig. 2, A is the receiver. L L is a perpendicular brace, with a hole in the center to admit of the bolt B^1. The brace L L is riveted at the upper and lower ends M M to the receiver A. The bolt B^1 passes through the brace L L and drum D, with nut on inside of drum, which can be screwed on from either end of the drum. D^1 D^1 are the heads of the drum D. E E is the entering-flue from the stove. F F is the diving-flue in the center of the drum. G G is the flue that leads up into the pipe. The partitions D^2 D^2, which form the flues E F G, extend alternately from the heads D^1 D^1 at the ends of the drum to near the opposite head, making the smoke and heat circulate the entire length of the drum D^2. H is the damper-hole in the top of drum, to make draft direct when needed. I is the damper of the drum, by shutting of which it causes the draft to circulate through the drum. J J is the flaring end piece on each end of the drum. K is the collar on top of drum to put pipe on. K′ is the collar at the bottom of drum, made round or oval, as required to fit stoves or pipes. C^1 C^1 are braces riveted to the partitions to hold them in their places.

In Fig. 3, I is the damper, which is open and half-round in shape.

In Fig. 4, I is the damper when closed. B^2 B^2 are hinges on each side of the damper A to keep the damper over the hole. The rod C^2 is flat, and is driven through the damper, and prevents it from turning in the damper.

The drum-damper is a combination of drum and damper. When open, you have a direct draft from the stove to the pipe. When shut, it causes the draft to go up perpendicularly, and then down and up again.

It will be seen from the foregoing that the drum-damper will give out much more heat than the common drum, which circulates horizontally both ways and then out into the pipe.

The two front flues of the drum-damper are the hottest. The back flue, in most cases, will be next to the wall leading up to the pipe.

The drum-damper is self-supporting. It requires no legs, as the pipe and collar will hold it in place. It is a great auxiliary in economizing fuel, in giving additional security against fire from defective chimneys, and in adding greatly to the comfort of those who use it.

The drum-damper is well calculated to radiate heat generated from whatever source—coal, wood, oil, steam, &c. It can be constructed from sheet-iron, cast-iron, or any substance that will radiate heat without being materially affected by it.

The drum-damper is peculiarly adapted for saw-mills, steam-tugs, &c., when there is a very strong draft and where very light fuel is used, such as sawdust, shavings, edgings, &c., causing live sparks to pass through the smoke-pipes, and liable to create fires.

The operation of my drum is very perfect. It will save from one-third to one-half of the fuel, according to the draft. It will radiate much more heat with much less fuel than any drum that I know of. It can be placed on any kind of a stove, or in rooms above, with a pipe leading from the stove to the drum. It can be furnished, when wanted, with a damper (form-

ing the base of the returning-flue F F and exit-flue G G) turning on its center, for the purpose of dropping into the stove or fire-place all accumulation of ashes, soot, dead sparks, &c., which rapidly deposits from certain kinds of fuel. With ordinary hard fuel this would be unnecessary. It will cause a greater heat to radiate from the stove itself when used in connection with it. It can be used in any case of weak draft where other drums cannot be used, as this drum has a damper to make draft direct when required, to avoid smoking when starting a fire. After the fire is well agoing the damper can be shut. It throws out more heat than a horizontal drum without the damper attachment, as the flues in my drum are perpendicular, with returning-flue to the bottom of the drum, and thence up to the top of the drum and into the pipe or chimney.

A boiler may be attached to the extension or receiver A in such a manner that by opening the damper B water may be heated in said boiler.

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

The combination of the drum D with heads D^1 D^1 and the partitions D^2 D^2, connected by braces C^1 C^1, and forming the flues E F G, the double-acting damper I and conical end pieces J J, with collars K K′, all constructed substantially as and for the purposes herein set forth.

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

GEORGE B. FOLLETT.

Witnesses:

DANIEL LEE,

EDM. P. BOLAND.