J. SPEAR.

Coal Stove.

No. 49,165. Patented Aug. 1, 1865.

Fig: 1.

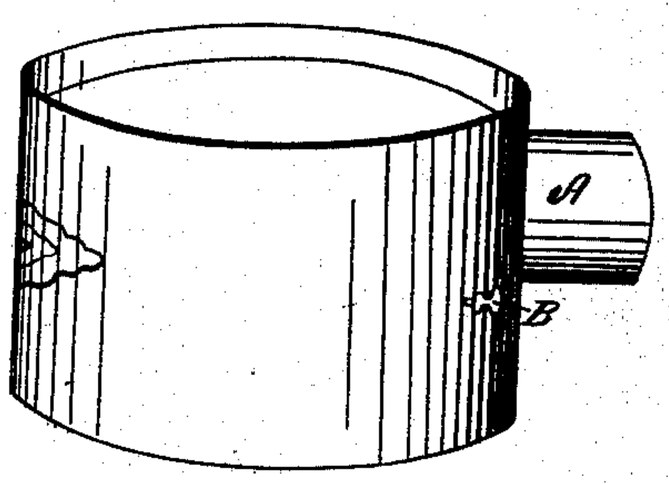


Fig: 2.

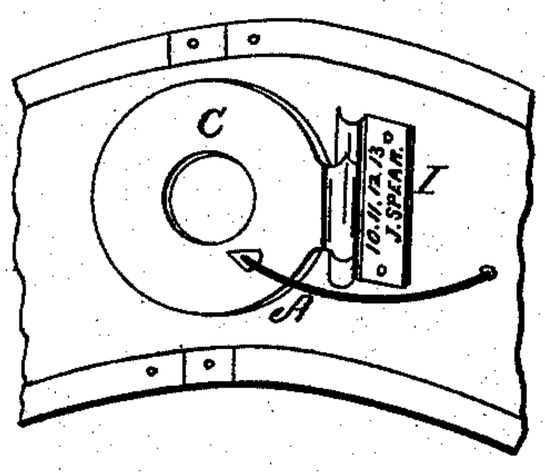


Fig: 4

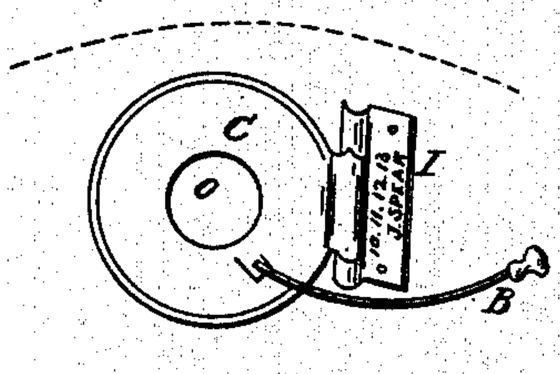
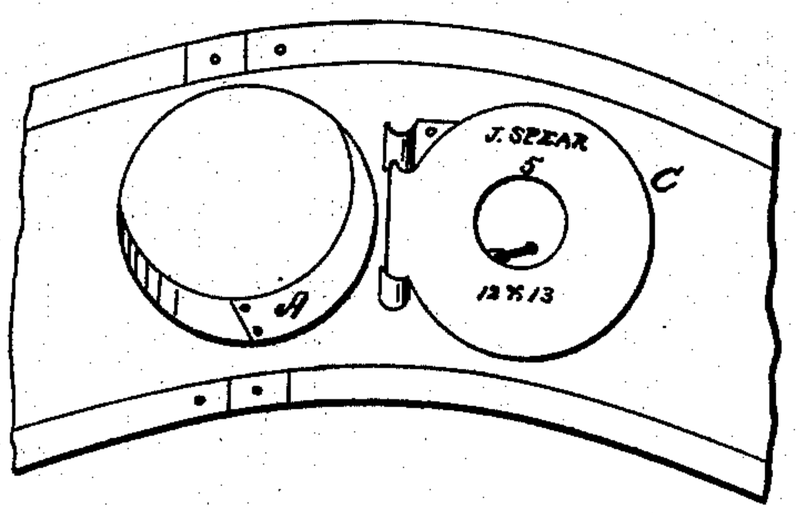


Fig: 3.



Witnesses:
Geo Taber
Geo. W. Fox.

Inventor:
James Spear

UNITED STATES PATENT OFFICE.

JAMES SPEAR, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN COAL-STOVES.

Specification forming part of Letters Patent No. **49,165,** dated August 1, 1865.

To all whom it may concern:

Be it known that I, JAMES SPEAR, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Stoves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 represents a section of the body of a stove, showing the pipe-collar A and the knob of the damper-rod B. Fig. 2 represents the section with the front part removed, showing the damper C covering the mouth of the pipe-collar A. Fig. 3 represents the section with the damper C open, showing the mouth of the pipe-collar A. Fig. 4 represents the damper C, hinge I, damper-rod B, and hole O in the damper.

It is a well-known fact that ordinary stoves with a direct draft will burn too rapidly during cold weather, unless some means is provided to check the draft, and particularly in that class of stoves which are not constructed entirely air-tight at the bottom. In this case a damper in the pipe is resorted to in order to check the draft. This cannot be put in the pipe without taking it down and having a damper made to suit the pipe. These dampers are generally put in the pipe in such a manner that when closed they frequently shut off the draft of the pipe entirely, leaving no escape of the gas up the chimney, consequently all the gas is thrown into the room, to the great annoyance of those occupying it, and if the damper was left in this condition for a length of time would deaden the fire out. Again, there are dampers used in pipes which dampers are so badly constructed that when the said dampers are open they fill up one-half the capacity of the pipe, and prevent the stove from drawing when a fresh fire is required to be kindled. Such dampers cannot be used in pipes in connection with stoves burning bituminous coal, as these stoves require a very large pipe to carry off the great volume of smoke while the fire is in the process of kindling or when fresh fuel is added to the fire. But with my improved damper I overcome all these objections, and my damper can be used to a great advantage in stoves used for burning bituminous coal—as, for example, when my damper is opened, I give the pipe the full benefit of its capacity in carrying off the great volume of smoke when kindling a fire, and after the smoke has passed off the damper can be closed, thus retaining a great portion of the heat in the stove that otherwise would pass up the chimney; at the same time the hole in the center of the damper allows the stove sufficient draft to keep the fire burning, thus lessening the consumption of fuel and making a more regular and uniform heat than a stove not provided with such a damper. This will apply to all stoves having simply a direct draft.

To enable those skilled in the art to make and use my damper and apply it to use, take any of the well-known direct-draft stoves, such as the various kinds of egg-shaped cast-iron stoves, or any of the sheet-iron stoves with clay-cylinders, such as the base-stoves or sheet-iron air-tight gas-burners, place a round piece of metal over the mouth of the pipe-collar inside of the stove. This round piece of metal is to be provided with a hole in the center in proportion to the size of the stove in which it is used, and the size of the pipe-collar over which it covers. This damper may be provided with perforations or notches around its edge which would be equivalent to one large hole, and would answer the same purpose. It is also to be provided with a rod to open and shut it at pleasure; also with a hinge, a portion of which is riveted to the inside of the stove, near the mouth of the pipe-collar. This damper is shown in Fig. 4, and when the rod is drawn out it opens the damper, giving the mouth of the pipe-collar its full capacity of draft, and when closed the stove has sufficient draft through the center of the damper.

I am aware that dampers have been used in stoves for the purpose of changing the current of the draft and throwing it around other portions of the stove; but this simply I do not claim; but

What I do claim, and wish to secure by Letters Patent, is—

The damper C, with a hole in the center, or its equivalent, placed inside a stove having a direct draft, and arranged and operated in the manner and for the purpose herein set forth.

JAMES SPEAR.

Witnesses:

GEO. FABER,

GEO. W. FOX.