

(No Model.)

A. C. GREENLEE.
FUEL SAVING DEVICE.

No. 404,702.

Patented June 4, 1889.

Fig. 1.

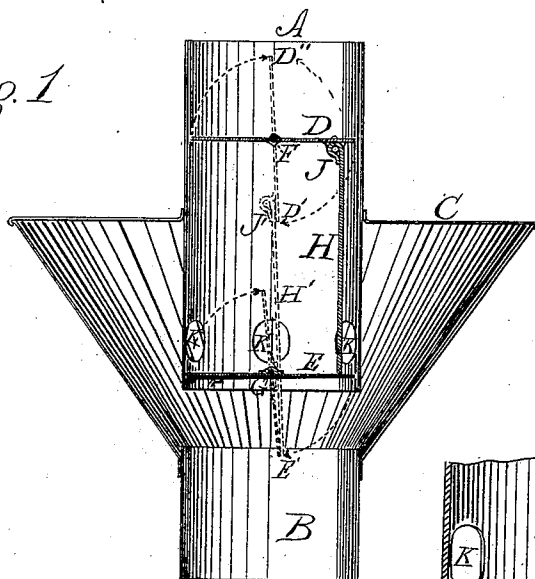


Fig. 2.

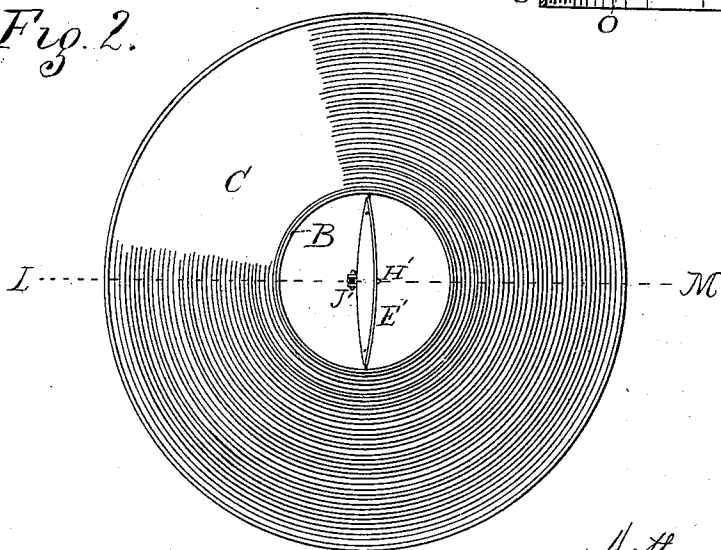
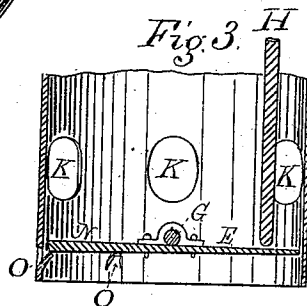


Fig. 3.



Witnesses

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ARTHUR C. GREENLEE, OF FERGUS FALLS, MINNESOTA.

FUEL-SAVING DEVICE.

SPECIFICATION forming part of Letters Patent No. 404,702, dated June 4, 1889.

Application filed June 18, 1888. Serial No. 277,451. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR C. GREENLEE, a citizen of the United States, residing at Fergus Falls, in the county of Otter Tail and State of Minnesota, have invented a new and useful Fuel-Saving Device, viz: a Combination Damper and Radiator, of which the following is a specification.

My invention relates to an improvement in the regulation and distribution of the heat passing out through the escape-flue of the ordinary wood or coal stove used for heating purposes; and the objects of my invention are, first, to control the draft of the stove, and, second, to cause the heated air and gases to be retarded in their passage through the escape-flue and to give off all the heat possible while so detained. I attain these objects by means of the following mechanism, of which—

Figure 1 is a vertical section of the entire appliance, taken in the plane indicated by dotted lines L M of Fig. 2. Fig. 2 is an end view, looking through flues in the direction of the escaping air and gases; and Fig. 3 is a section of the lower end of the escape-pipe, connecting-rod, and secondary damper.

A represents escape-flue; B, entrance-flue; C, conical radiator; D, principal damper; E, secondary damper; F, axle of principal damper; G, axle of secondary damper; H, connecting-rod for revolving secondary damper; J, joint by which H is attached to D; K, circular openings in escape-flue above secondary damper; N, heavy side of secondary damper; O, stop for secondary damper, being a piece or pieces of the escape-flue or pipe cut and bent inward, so that when in a horizontal position the heavy side N of the damper E is supported thereon.

The heated air and gases escaping from the stove enter the flue B, and pass upward, when the dampers are in the position shown in Fig. 1 by full lines, into the conical radiator C, whence they escape through the openings K into the escape-flue A, and, passing the damper D and the continuation of flue A,

escape to the outer air. This explanation refers to the check-draft. In order to allow a perfectly free draft, the damper-vane D is turned in the direction indicated by the curved arrows to position D'. This causes the connecting-rod H to be forced downward and revolves the secondary damper E to position E', as shown by the dotted lines in Fig. 1, thus allowing gases to pass directly from flue B to make their exit into the outer air. This revolution of the dampers clears the fuel of all deposits of soot or ashes which may have collected when dampers were in closed position. Should it be desired to give a free draft, and yet cause the heated air to circulate through all parts of the radiating-chamber and to escape through the circular openings K into and through escape-flue A, the principal damper D is revolved in direction shown by curved arrows D'', connecting-rod H is lifted clear of secondary damper, which, by its arrangement in flue, remains in a horizontal position, and a free or modified draft given according to the position in which damper D is secured.

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

1. The combination of an entrance-flue B, a radiating-chamber C, escape-flue A, with openings K from radiating-chamber, primary damper D, hung on shaft F, joint J, connecting-rod H, secondary damper E, hung on shaft G, counterpoised on side N, and stops O, all substantially as described.

2. The combination of an escape-flue having lateral openings near one end, a radiating-chamber surrounding the laterally-open portion of the said flue, dampers arranged in the flue above and below the lateral openings, respectively, and a rod connecting the said dampers, whereby both may be operated together, substantially as specified.

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Witnesses:

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