

H. L. WOOD.
FURNACE DAMPER.
APPLICATION FILED JUNE 27, 1921.

1,402,824.

Patented Jan. 10, 1922.

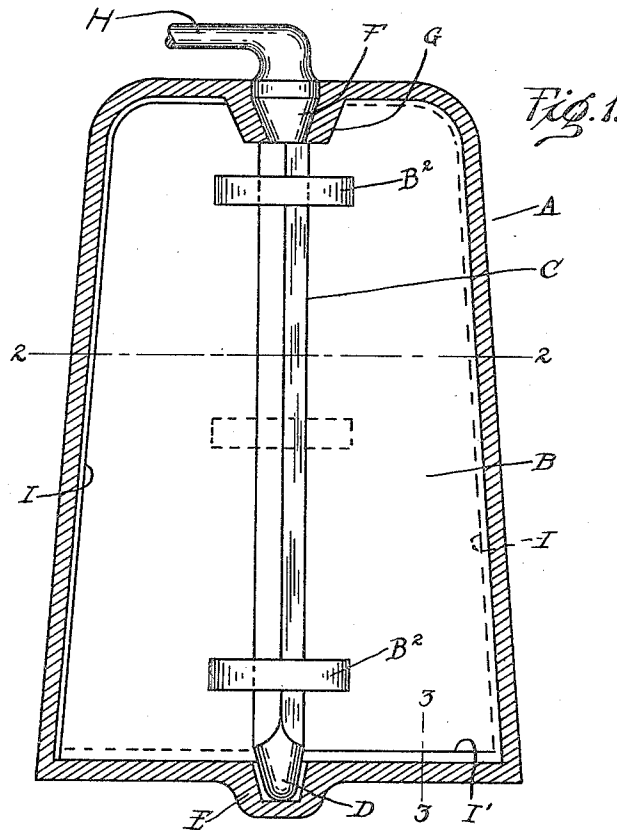


Fig. 1.

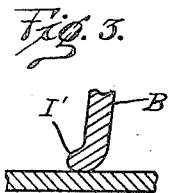


Fig. 3.

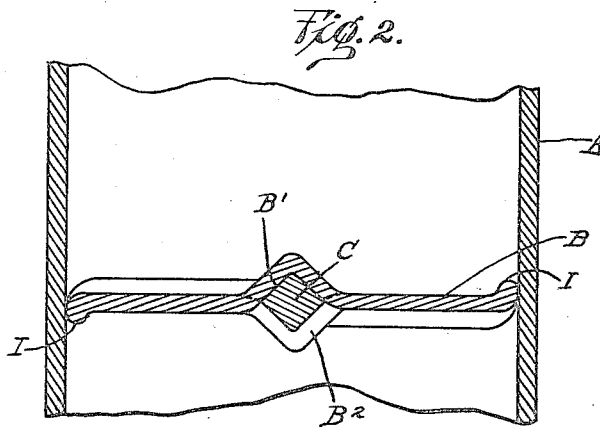


Fig. 2.

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HARRY L. WOOD, OF DOWAGIAC, MICHIGAN, ASSIGNOR TO PREMIER WARM AIR HEATER COMPANY, OF DOWAGIAC, MICHIGAN, A CORPORATION OF MICHIGAN.

FURNACE DAMPER.

1,402,824.

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To all whom it may concern:

Be it known that I, HARRY L. WOOD, a citizen of the United States of America, residing at Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Furnace Dampers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to furnace dampers, and the invention consists in the structural features and arrangement of parts hereinafter fully described.

In the drawing:

Fig. 1 is a cross-section view of a furnace flue wherein the improved damper is installed;

Fig. 2 is a cross-section view of the same taken on line 2—2 of Fig. 1;

Fig. 3 is a detail vertical section showing one of the horizontal edges of the damper, the section being taken on line 3—3 of Fig. 1.

In these views, the reference character A designates a furnace flue, and B a damper pivoted in said flue to control the flow of gases and combustion products through the same. To pivotally mount said damper there is employed a vertical stem C of square cross-section for the major portion of its length, the damper being centrally vertically channeled as indicated at B' for engagement by said stem, and being formed with a pair of struck-out spaced strips B² coacting with the channel portion B' to embrace the stem C. The lower extremity of the stem C is tapered as indicated at D to loosely engage in a socket bearing E formed in the bottom of the flue A, and a tapering journal portion F formed upon the upper end of said stem engages in a correspondingly shaped bearing G in the top of the flue. Above the flue A the stem C is bent at substantially a right angle to form an actuating member H which may itself constitute a handle, or which may be engaged by some actuating mechanism not shown. It is preferred to form oppositely projecting round flanges I upon the respective vertical edges of the damper to increase the width of the edge faces of the damper forming a seal in the closed position of the damper in conjunction with the flue walls,

and similar flanges I' are formed upon the top and bottom edges of the damper. The weight of the damper and its stem acts to seat the tapered journal member F firmly in the corresponding bearing G so as to insure against any leakage of gases at this point, and the relatively loose engagement of the terminal bearing D in the socket E minimizes friction.

What I claim as my invention is:

1. In a device of the character described, the combination with a flue and a damper controlling the same, of a vertical stem carrying said damper having journal portions engaging the top and bottom of the flue, the upper journal portion being tapered inwardly and the corresponding bearing being similarly shaped to form a seal against leakage from the flue.

2. In a device of the character described, the combination with a flue and a damper controlling the same, of a vertical stem carrying said damper loosely engaging at its lower end a bearing provided by the flue bottom, the upper portion of said stem being formed with an inwardly tapered journal portion engaging a correspondingly shaped bearing provided by the top of the flue, the weight of the damper and stem acting to seat said tapered journal portion in the corresponding bearing to establish a seal.

3. A furnace damper having oppositely projecting marginal flanges formed upon its opposed edges to increase the sealing effect in the closed position of the damper.

4. In a device of the class described, the combination with a flue, of a pair of aligned socket bearings extending downwardly from the upper and lower ends of the flue, a stem in the flue having an inwardly tapering journal portion engaging the socket bearing at the upper end of the flue and having a tapered lower end engaging loosely the socket bearing at the lower end of the flue, a damper having a longitudinally extending channeled portion engaging said stem, and means coacting with the channeled portion of the damper for securing the same to said stem.

In testimony whereof I affix my signature.

HARRY L. WOOD.