(No Model.)

W. E. PUFFER.

FURNACE DAMPER.

No. 245,560. Patented Aug. 9, 1881.

Fig: 1.

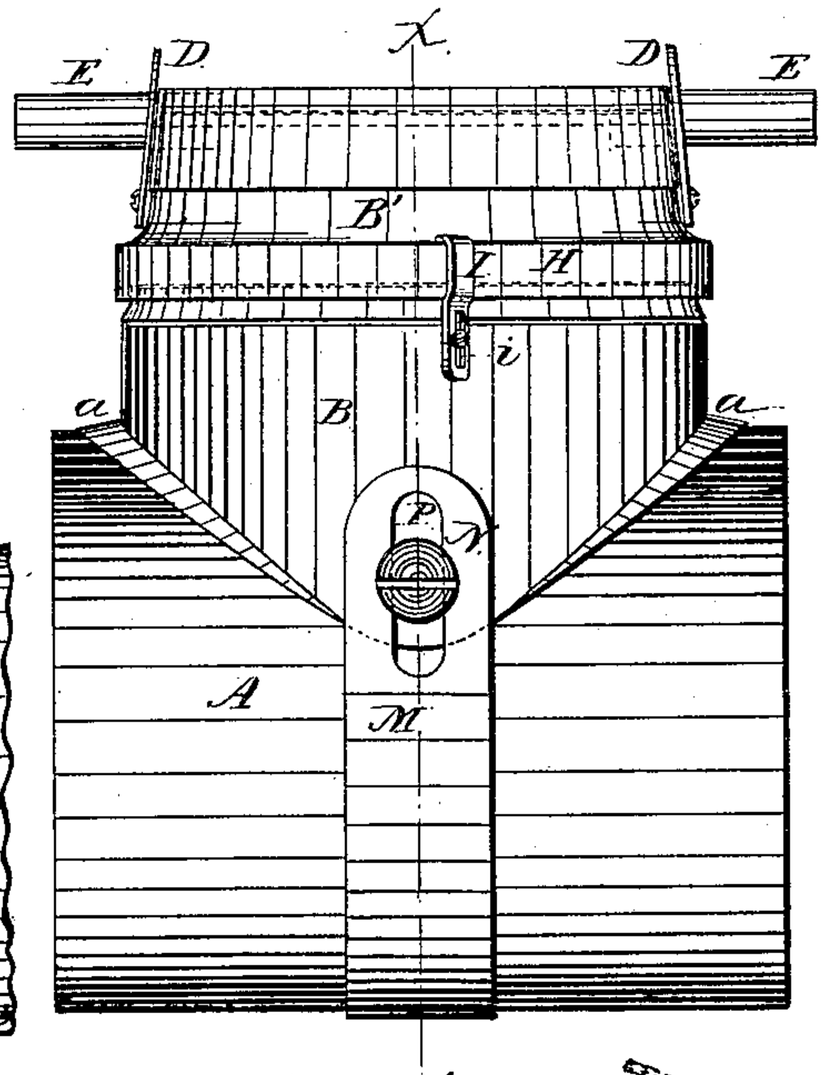


Fig: 5

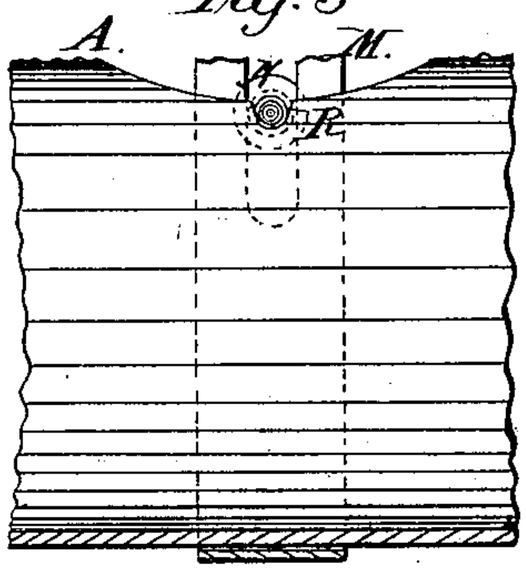


Fig: 2.

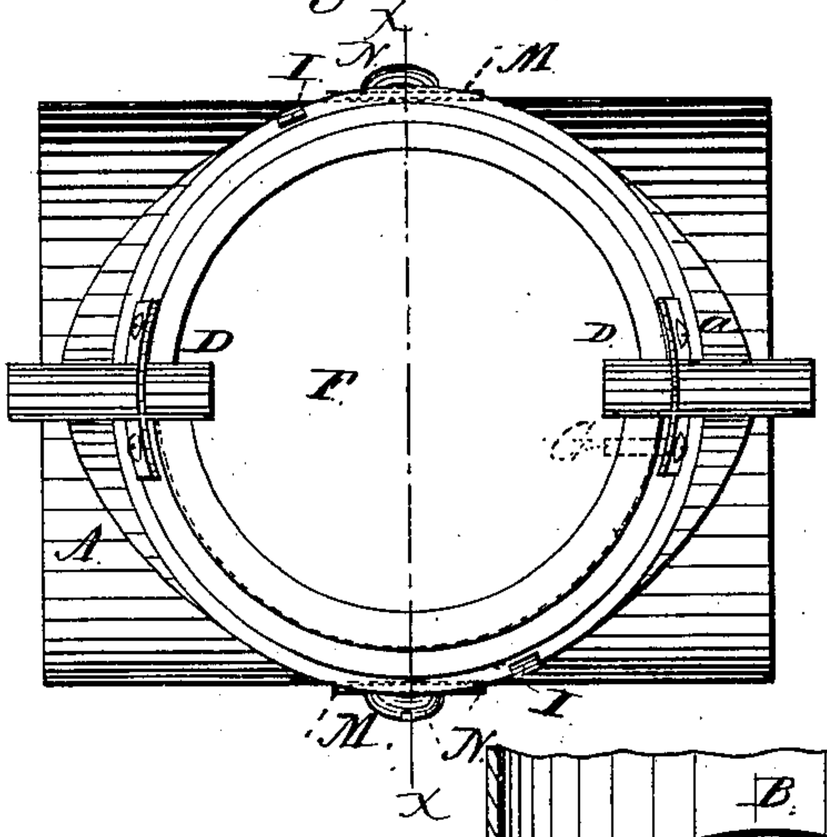


Fig: 3.

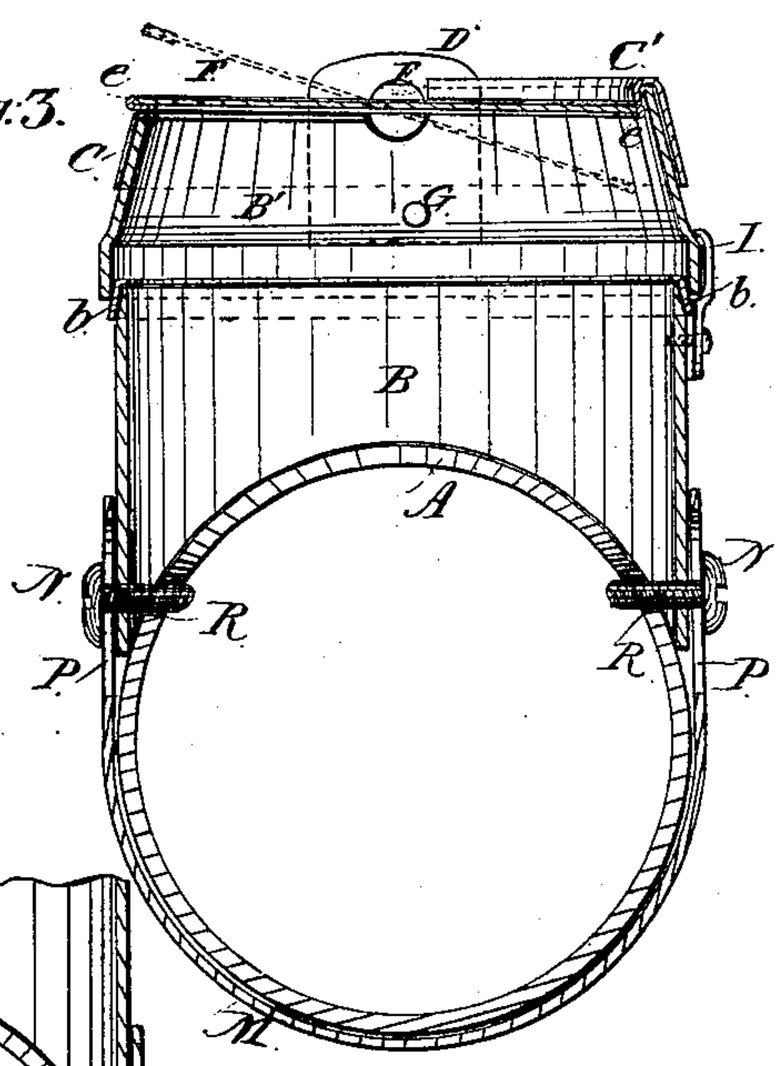
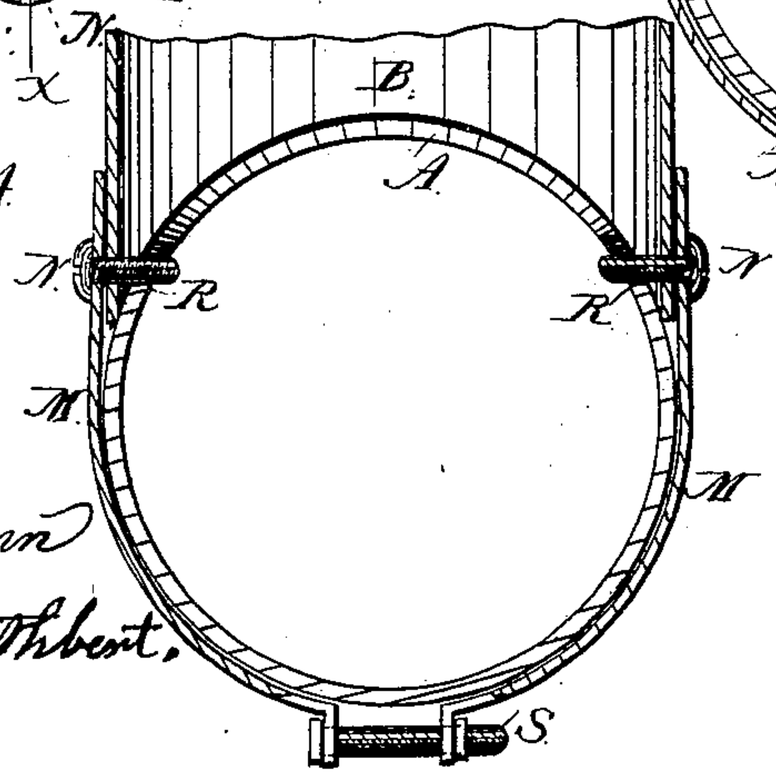


Fig: 4



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FURNACE-DAMPER.

SPECIFICATION forming part of Letters Patent No. 245,560, dated August 9, 1881.

Application filed October 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. PUFFER, of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Furnace-Dampers, which improvements are fully described in the following specification and the drawings forming a part thereof.

The object of my invention is twofold, first, to prevent the accumulation of soot on the edges of the damper-wing and its seat, and also to prevent the rusting of the said parts and of other joints of the damper; second, a damper which may be quickly and easily attached and adjusted to any furnace or stove pipe by other than skilled workman. This I accomplish; and the invention consists in binding the edges of the damper-wing and other joints with copper, and in forming the pivots on which the wing turns and the journals of the same metal; also, in attaching the barrel of the damper to the main pipe by means of a band, having a slot in one or both ends, which passes around the pipe, and connects by set-screws which pass through said slots into the damper-barrel, the points of the screws entering notches in the main pipe, so as to prevent the damper moving from its seat on the pipe when adjusted to it, all of which is shown in detail in the accompanying drawings, in which similar letters of reference indicate like parts in all the figures.

Figure 1 is a front view of a section of pipe provided with one of my improved dampers. Fig. 2 is a plan view of the damper. Fig. 3 is a cross-section of the damper and pipe, taken at lines *x x* of Figs. 1 and 2. Fig. 4 is a cross-section of the same, the upper part of the damper being removed, and shows another form of the band M, hereinafter described. Fig. 5 is a sectional side elevation of the pipe, showing the arrangement of the screw N and notch R, as hereinafter set forth.

A is a furnace or stove pipe; B and B′, damper-barrel, made in two sections. The edge of the lower end of section B is cut out so as to conform to the periphery of pipe A, and has the flanges *a a*. The upper edge of this section B enters the lower end of section B′, so as to make or form a slip-joint, and is bound with copper, as shown at *b*. The upper section, B′, has its upper edge also bound with copper and notched at two points for the reception of the pivots of the wing, said notches being directly opposite each other, at which points are attached the pivot-journals D D, also made of copper. E E are the pivots, which are of copper and attached firmly to the damper-wing F. Said wing is formed in the usual way, and so as to conform to the contour of the mouth of the damper-barrel, and its edges are bound with copper, as shown at *e e*, Fig. 3. The front of the wing F, when closed, bears on the copper-bound edge of section B′, (see letter C in Fig. 3,) and the rear edge on the copper seat C′, which is formed by increasing the thickness of the copper binding of section B′ at this point on the inside of its mouth, so as to make an internal projection.

G is a small pin, which projects internally from section B′, and forms a stop to prevent the wing F opening too wide. A ring, H, surrounds the lower end of section B′, and is firmly attached to it, the top of which is flat to give bearing to the clamping-hooks I I, which, hooking on said ring or projection H, extend down over the upper part of section B. Said hooks have slots *i* in their lower portion, through which pass the set-screws which screw into section B.

M is a strap or band of metal, having the slots P P near the ends, through which pass the set-screws N N, which screw into the lower end of section B, and are of such length that they will take bearing in notches R R, cut in the edge of the opening in pipe A, which opening is covered by the damper. This strap M passes around the periphery of the pipe, as shown in Fig. 3. In Fig. 4 another form of this strap M is shown. It is divided into two parts and connected by the clamping-bolt S, as shown in said figure.

Operation: All the contact edges of the damper being bound with copper, the soot does not attach, as it does to other metal; and as copper is not subject to rust or corrosion, like iron or other metals, the moving parts, being of that metal, will not stick or cut away when the furnace and damper are out of use during the warm season; and, further, it will be seen that by the operation of the strap M the damper can be applied to a pipe by other than skilled workmen, by cutting a hole in the pipe, placing the damper over it, and attaching the strap, as before described. The operation of the sectional barrel is such that by loosening the set-

screws section B′ may be turned on section B so as to bring the wing of the damper into horizontal position, whatever may be the position of the pipe A—*i. e.*, whether horizontal or upright.

I am aware that a band or strap of metal has been used to connect pipes together at right angles to each other. Therefore I do not wish to be understood as broadly claiming such; but,

Having thus described my invention and its operation, what I claim, and desire Letters Patent for, is—

1. In a furnace or stove damper, a wing provided with copper pivots and journals, as and for the object set forth.

2. In a furnace or stove, a damper having the contact edges and joints bound or protected with copper, substantially as and for the object set forth.

3. In combination with a stove or furnace pipe, a damper-barrel composed of fixed section B and the axially-adjustable section B′, provided with the damper F, the sections being connected together by suitable clamps, so as to permit the damper-section to be adjusted for the purpose of keeping the damper-shaft in a horizontal position, substantially as herein shown and described.

4. The device for attaching the damper-barrel, which consists of a U-shaped strap which embraces the main pipe, having its ends adjustably attached to opposite sides of the damper-barrel, and in combination with the barrel and the main pipe, as herein shown and set forth.

5. The combination, in a furnace or stove damper attaching device, of an adjustable U-shaped strap which embraces the main pipe and has its ends attached to the damper-barrel, the main pipe, and the damper-barrel, all as herein shown and described.

6. The main pipe, provided with notches R R, the damper-barrel, and the screws N N, all combined and as herein shown and described, for the purpose set forth.

7. The damper-section B′, provided with the ring H, in combination with the adjustable clamping-hooks I, attached to section B.

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Witnesses:
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