(No Model.)

R. M. HERMANCE.

DAMPER.

No. 522,521. Patented July 3, 1894.

Fig. 1.

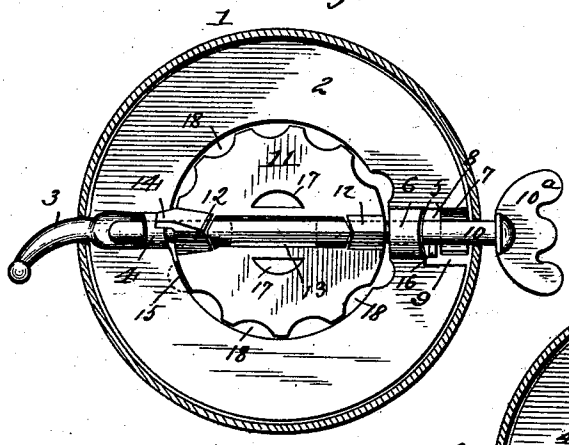


Fig. 2.

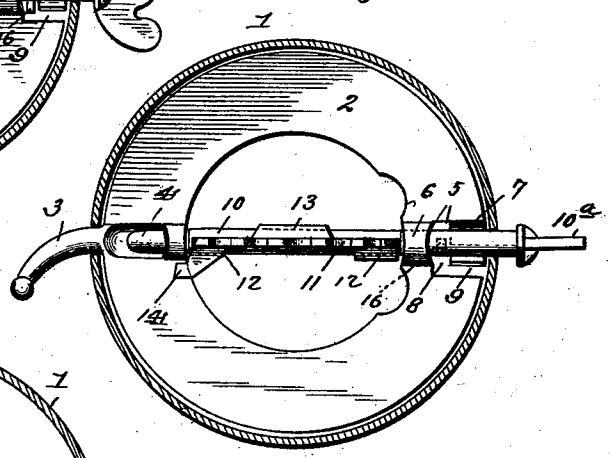


Fig. 3.

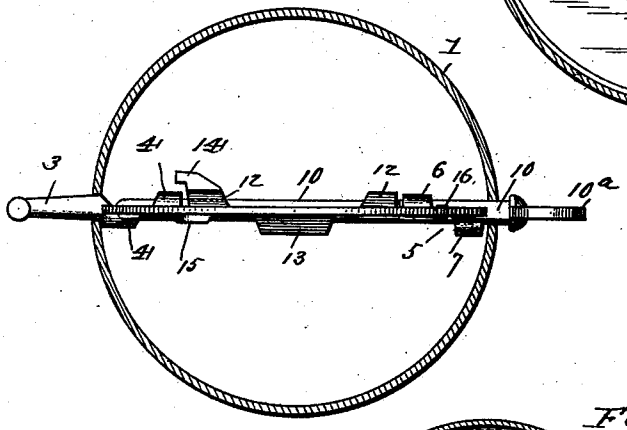
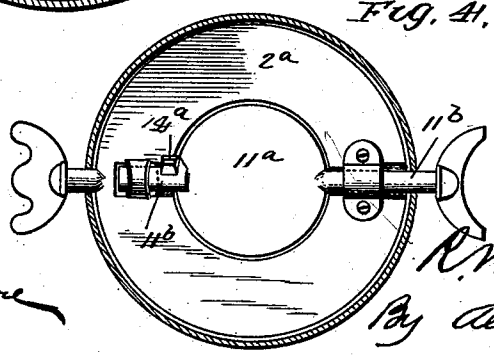


Fig. 4.



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DAMPER.

SPECIFICATION forming part of Letters Patent No. 522,521, dated July 3, 1894.

Application filed April 26, 1894. Serial No. 509,091. (No model.)

To all whom it may concern:

Be it known that I, RICHARD M. HERMANCE, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Dampers, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a plan view of my improved damper; Fig. 2 a similar view showing the central disk open; Fig. 3 a similar view showing the central disk and the outer-ring operating together and the damper open; and Fig. 4 is a plan of a slight modification.

The invention relates to a new and improved damper or regulator adapted for use on stoves, ranges, &c., and it has for its object to provide a device of simple construction which may be applied to stove pipes in place of the old form of damper which required holes to be made in the pipe for the reception of the journals of the damper, or it may be applied to the pipe at the joints thereof by forming in the pipe vertical slots for the reception of the journals, as is manifest.

The invention consists of a central disk and an outer ring adapted to be operated independently of each other or simultaneously as desired; the novel means for removably supporting the disk within the ring, and for operating said central disk and the ring; and other novel features of construction which will be fully hereinafter set forth and particularly described in the claims appended.

Referring to the various parts by numerals, 1 designates a stove pipe, which is shown in section. 2 is the outer ring of a flat damper located within said pipe, said ring being of a diameter nearly equal to the diameter of the pipe, and being formed at one of its sides with an integral curved cylindrical lug 3. This lug projects outwardly from the outer edge of the ring and passes through an aperture in the stove pipe and forms a bearing or journal for the outer ring and also forms a button or handle by which said ring may be operated independently of the central disk. On the inner edge of the ring 2 adjacent to the lug 3 is formed an open bearing 4, and diametrically opposite this bearing, on the other side of the ring, is formed the open bearing 5. This bearing 5 is formed of an upper part or guard 6 located at the inner edge of the ring and a lower part or support 7, formed at the outer edge of the ring, a transverse slot 8 being formed in the ring 2 between the two parts of the bearing. From the outer edge of the ring and along the edge of the support 7 is formed an inwardly extending slot 9, which slot connects with one end of slot 8, the two slots forming a bayonet slot as shown in Figs. 1 and 2.

A removable rod 10 is passed through an aperture in the stove pipe and is journaled in the bearings 4 and 5 of the ring 2 the inner end of said rod resting in the bearing 4. This rod 10 forms a support and journal for the ring 2 at a point diametrically opposite the lug 3, on which bearing said ring may freely revolve, said rod being formed cylindrical where it bears on the pipe 1 and on the bearings 4 and 5 for this purpose. That portion of the rod which extends across the central opening of the ring 2 is formed angular and on this angular portion is mounted, so as to turn with the rod, the central disk 11, which disk entirely closes the opening in the ring when in the same plane with said ring.

The disk 11 is removably mounted on the rod 10 by means of the open angular bearings or sockets 12 and 13 formed on said disk and within which the angular portion of the rod 10 fits. On the bearing or socket 12 near the bearing 4 is formed an outwardly extending lug 14 whose outer end extends over the inner edge of the ring 2, and said lug is so located on the bearing 12 that when the disk 11 is turned at right-angles to the ring 2 said lug will contact with said ring and prevent any further movement of the disk in that direction, as clearly shown in Fig. 2 of the drawings. On the opposite side of the disk 11 from that on which the lug 14 is formed and on the opposite side of the journal of the disk from said lug, is formed an outwardly extending lug 15 whose outer end extends over the inner edge of the ring 2 and contacts with said ring when the disk 11 is in the same plane with it.

It will be readily seen from the construction and location of the lugs 14 and 15 on the

disk 11 that when the ring and the disk are in the same plane the damper may be operated as an ordinary flat damper, the disk and ring moving together, by turning the rod 10 in the direction necessary to cause the lug 15 to bear against the ring 2 as shown in Fig. 3, and it will also be seen that by turning said rod in the reverse direction the disk may be operated independently of the ring.

In order to provide as far as possible against the accidental withdrawal of the rod 10 from the damper, I insert in said rod at a suitable point near its outer end a pin 16, which when the rod is in position in the damper moves in the slot 8. The pin is so located on the rod 10 that when the disk and ring are in the same plane it will register with the slot 9 in the ring and the rod 10 may then be readily removed from or inserted in the damper.

The disk 11 may be formed solid or it may be formed with the central openings 17 and the recesses 18 formed in its outer edges for the escape of gases if desired.

The outer end of the rod 10 is formed with a suitable operating handle 10^a as shown.

In Fig. 4 of the drawings is shown a slight modification. In this construction the disk 11^a is formed with integral journals 11^b which are mounted in bearings on the ring 2^a. On one of the journals 11^b is formed a lug 14^a which when the disk 11^a is at right-angles to the ring 2^a, engages with said ring and prevents any further movement of the disk in that direction.

Having thus fully described my invention, what I claim is—

1. A damper for flues consisting of an outer ring, an inner disk, a rod supporting the ring and the disk within the flue, and a lug on the disk adapted to engage the ring and limit the independent movement of the disk in one direction, substantially as described.

2. A damper for flues consisting of an outer ring, an inner disk, means for revolving them, and a lug or lugs formed on the disk and adapted to contact with the ring and cause the ring and disk to move together when the disk is revolved in one direction and to permit the disk to move independently when revolved in the other direction, substantially as described.

3. A damper consisting of an outer ring provided with bearings on opposite sides of the central opening, a removable rod journaled in these bearings, a central disk removably secured on said rod and adapted to revolve with it, and lugs formed on opposite sides of the central disk and adapted to contact with the outer ring and limit the movement of the disk in either direction, substantially as described.

4. A damper consisting of an outer ring formed with the arm 3, and the bearings 4 and 5, a removable rod journaled in said bearings said rod being formed angular for a portion of its length, a central disk removably mounted on this angular portion of the rod, and lugs 14 and 15 formed on the disk, substantially as described and for the purpose set forth.

5. A damper consisting of an outer ring formed with the arm 3 and the bearings 4 and 5, the bearing 5 being formed with the parts 6 and 7 and the slots 8 and 9, a removable rod 10, mounted in said bearings and formed with the central angular portion and the pin 16, a central disk 11 removably mounted on the angular portion of the rod 10 and formed with the lugs 14 and 15, substantially as described and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD M. HERMANCE.

Witnesses:

OGDEN SEDGE,

WALTER C. HULL.