April 13, 1926. 1,580,106

L. J. ALLIE

DAMPER

Filed June 25, 1923

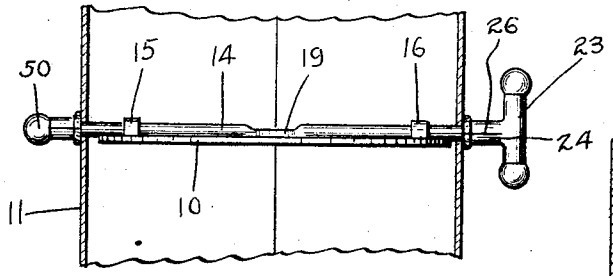


Fig. 2

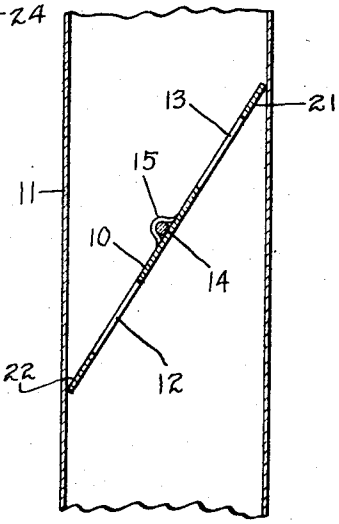


Fig. 4

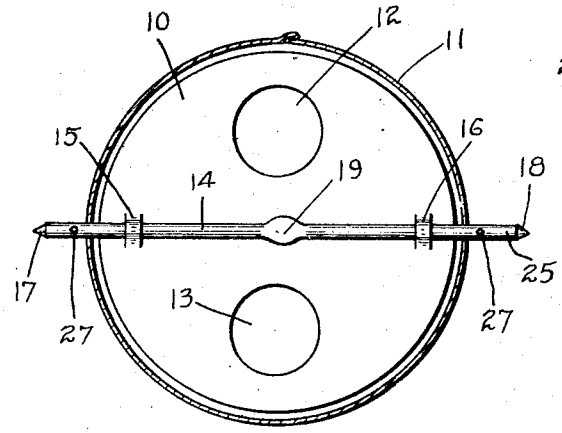


Fig. 1

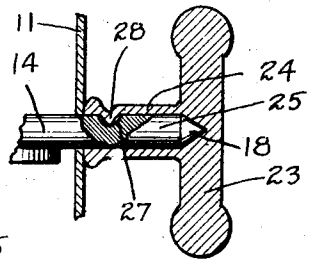


Fig 5

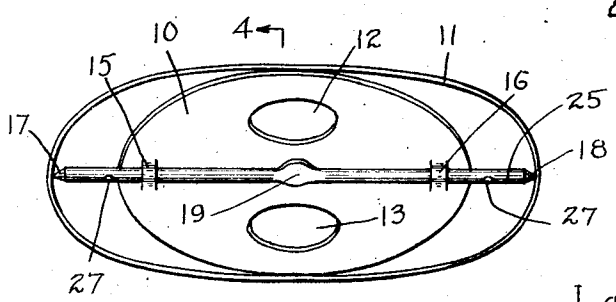


Fig. 3

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UNITED STATES PATENT OFFICE.

LAFAYETTE J. ALLIE, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF TO VALENTINE G. ALLIE, OF ST. PAUL, MINNESOTA.

DAMPER.

Application filed June 25, 1923. Serial No. 647,634.

To all whom it may concern:

Be it known that I, LAFAYETTE J. ALLIE, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Dampers, of which the following is a specification.

My invention relates to dampers and has for its object to provide a damper which may readily be attached to an ordinary stovepipe in a simple and convenient manner without the requirement of any tools.

Another object of the invention is to provide a damper having a spindle secured to the same, which spindle passes through two loops pressed out of the body of the said damper and is rigidly secured at its center to said damper.

Another object is to form said spindle with two pointed ends which project outwardly beyond the edge of the said damper and which are adapted to simultaneously pierce holes through the stovepipe when the same has been flattened and the damper inserted within the same and moved into its transverse position.

A still further object is to provide a detachable handle adapted to be secured to one end of said spindle for rotating the damper.

The full objects and advantages of my invention will be found in the detailed description thereof and are particularly pointed out in the claims:

In the drawings forming part of this specification:

Figure 1 is a plan view of a stovepipe showing my invention installed within the same having the handle therefor removed.

Figure 2 is a sectional view of the stovepipe shown in Figure 1 with the handle attached to the same.

Figure 3 is a plan view of a stovepipe having my invention positioned within the same prior to the forming of the holes through the stovepipe for the pivoting of the damper.

Figure 4 is a sectional view taken on line 4—4 of Figure 3.

Figure 5 is an enlarged sectional detail view of the end of the spindle and handle of the damper showing the attachment of the handle to the spindle.

In the installation of dampers in stovepipes, considerable difficulty has been found in installing the damper on account of forming the holes in the stovepipe through which the axis of the damper extends and then of mounting the damper upon the spindle after the holes have been made. My invention provides a device which may be readily and quickly installed and in which the holes are automatically punched to properly position the damper within the stovepipe. In addition, my invention includes a detachable handle which may be secured to one end of the operating spindle so that the damper may easily be manipulated.

My invention, as best shown in Figure 1, 2 and 3, comprises a plate 10 formed of sheet metal which may be mounted in an ordinary stovepipe 11, as will presently be described. This plate 10 has two holes 12 and 13 formed in it and has attached to it a spindle 14. Spindle 14 passes through two loops 15 and 16 formed on the said plate 10, which loops are constructed by severing a portion of the material of the body of the plate 10 and forcing the same outwardly, as best indicated in Figure 4. Spindle 14, as shown in Figure 1, is considerably longer than the plate 10 and, when first constructed, is formed out of a single piece of wire or a rod sharpened at the two ends as indicated at 17 and 18. In mounting the spindle 14 upon the plate 10, the said spindle is inserted through the two loops 15 and 16 and positioned centrally relative to the plate 10. When in this position, said spindle is welded to the center of the plate 10 at 19 by means of an electrical welding apparatus or an oxy-acetylene blow torch as desired. The same may be riveted at the point 19, however, if desired.

In installing the damper in the stovepipe 11, the following procedure is employed: Stovepipe 11 is first flattened until it takes the shape indicated at 20 in Figure 3, in which the diameter of the said stovepipe becomes lengthened in one direction and shortened in the other. The length of the spindle 14 is such that the said spindle and the damper plate 10 may be inserted into the stovepipe when in its flattened condition, as indicated at 20, to take the position shown in Figures 4 and 3. When in this position, as the stovepipe is released, the same holds the damper temporarily in place. If now the plate 10 be rotated from the position shown in Figure 4 to that shown in Figure 2

causing the edges 21 and 22 of the said damper to engage the interior of the stovepipe 11, the pointed ends 17 and 18 of spindle 14 are caused to be forced through the walls of the stovepipe 11 when the same again resumes its normal circular formation. In this manner, the stovepipe is easily pierced and the damper plate caused to be quickly and readily installed in the stovepipe.

For operating the damper after the same has been installed, I provide a handle 23 which has a hollow stem 24 secured to the same, which stem fits over the protruding end 25 of the spindle 14. The end 25 of the spindle 14 is formed with a notch or depression 27 in which is adapted to be seated a tit 28 formed on the interior of the stem 24. The stem 24 is split at 26 so that the tit 28 may readily be forced over the end of the spindle 14 as the handle 23 is being pressed upon the said spindle. As soon as the tit 28 becomes lodged in the recess or cavity 27, the stem 24 again springs together to clamp the handle 23 firmly upon the end 25 of spindle 14 so that the damper plate 10 may be easily rotated by rotating the handle 23. Although I have shown in the drawings but one form of attaching the handle 23 to the spindle 14, it is obvious that the same result can be accomplished in different ways. In a similar manner, a cap 50 may be attached to the other end 17 of the spindle 14 to cover the sharp point of the same.

The advantages of my invention are manifest. A device is provided which may be readily and easily installed in a stovepipe which does not require the forming and aligning of the holes for pivoting the damper spindle and which does not require the subsequent assembling of the damper parts within the stovepipe. My damper will operate to simultaneously pierce both of the holes and does not require any additional tools. Furthermore, the spindle is rigidly attached to the damper so that the same can never become loosened from the damper plate to render the device inoperable. The handle is readily attached to the spindle after which the damper operates effectively and positively as required.

In accordance with the patent statutes, I have described the principles of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the construction shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those set forth within the scope of the following claims.

I claim:

1. In combination with a stovepipe adapted to be sprung into an ovular formation of a damper having a spindle attached thereto of a length equal to the longer diameter of said stovepipe, formed with pointed ends, said damper being of a diameter slightly less than the circular diameter of said stovepipe and adapted to engage the edges of said stovepipe across its shorter diameter and to force said edges outwardly as said damper is rotated to force the wall of said stovepipe into its normally circular formation to cause the said pointed ends of said damper spindle to penetrate through the walls of said stovepipe.

2. A damper comprising a damper plate, a spindle, said spindle projecting outwardly beyond the edge of said damper plate at both ends thereof and being formed with piercing points and a handle detachably mounted upon one of said protruding ends.

LAFAYETTE J. ALLIE.