Jan. 12 , 1926. 1,569,113

A. BLUMLEIN

DAMPER MECHANISM

Filed July 8, 1924

Fig 1

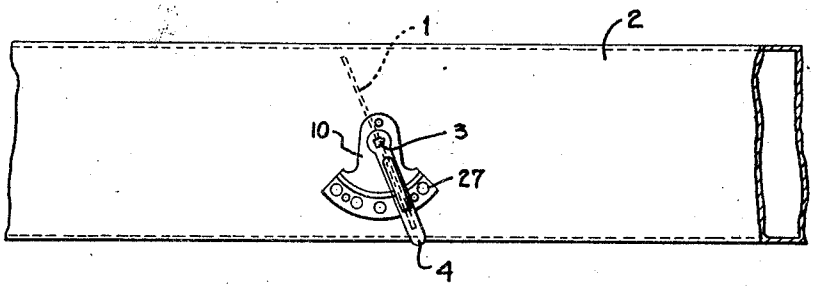


Fig 2

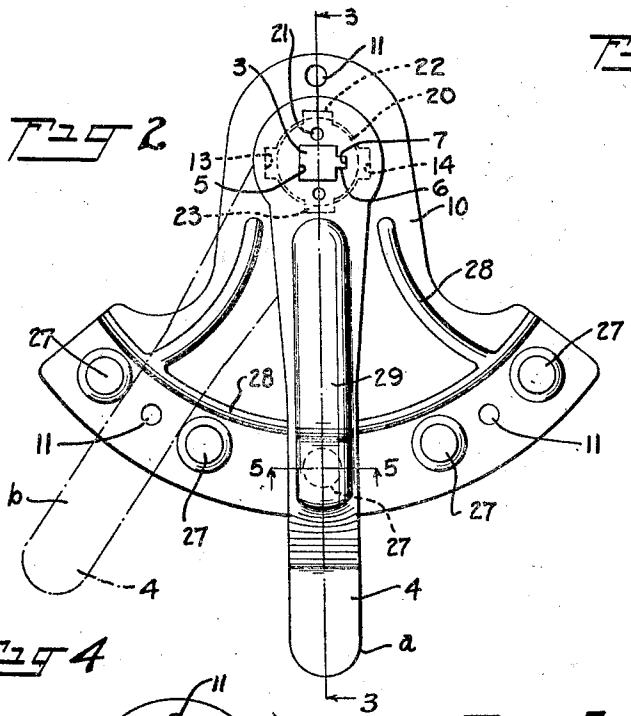


Fig 3

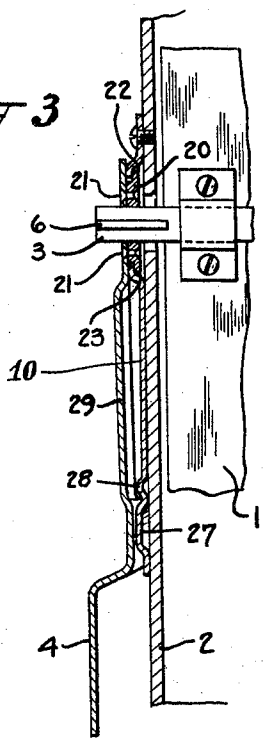


Fig 4

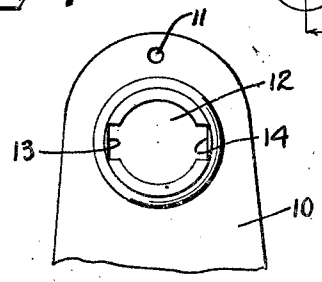
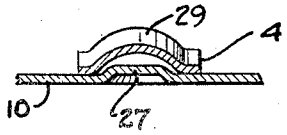


Fig 5



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UNITED STATES PATENT OFFICE.

ALBERT BLUMLEIN, OF NEW YORK, N. Y., ASSIGNOR TO PARKER VENTILATION COMPANY, INC., A CORPORATION OF NEW YORK.

DAMPER MECHANISM.

Application filed July 8, 1924. Serial No. 724,761.

To all whom it may concern:

Be it known that I, ALBERT BLUMLEIN, a citizen of the United States, residing at New York, in the county and State of New York, have made certain new and useful Improvements in Damper Mechanism, of which the following is a specification.

The invention relates to a novel damper mechanism and more particularly in certain aspects thereof to devices for variably positioning the damper and holding it in position.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein and constituting a part hereof, illustrate one embodiment of the invention, and together with the description, serve to explain the principles of the invention.

Of the drawings:—

Fig. 1 is a side elevation of a damper mechanism embodying the invention, installed in a conduit;

Fig. 2 is a greatly enlarged elevation of the damper positioning mechanism shown near the center of Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 2;

Fig. 4 is a detached fragmentary view corresponding to the top part of Fig. 2; and

Fig. 5 is a section taken on line 5—5 of Fig. 2.

Referring in detail to the accompanying drawings, illustrating by way of example one embodiment of the invention, it is shown exemplarily applied to a damper 1, of rectangular form, mounted and fitting in a conduit 2 of corresponding cross section, such as is in common use in ventilating systems. The damper is mounted on a shaft 3 or upon equivalent pintles or trunnions projecting from either side edge of the damper, and journaled in the side walls of the conduit, to provide a pivotal support for the damper 1.

One end of the shaft or one of the pintles or trunnions 3 projects through the wall of the conduit (Fig. 3), and the positioning and holding means for the damper is attached thereto. In the embodied form of such means, the end of shaft 3 is squared or otherwise shaped to receive a handle 4, which handle has a correspondingly shaped aperture 5 near one end thereof, which passes on to the shaft in definite or specific position, so that the damper will be both rotated and held in a definite relation to the handle.

To insure the handle 4 being attached in definite desired position with reference to the damper, and as embodied, a projection 6 is formed on the shaft 3 and a corresponding recess 7 is formed in the opening 5 in the handle 4. Thus the handle will go on the shaft only in parallel position with damper 1, and the handle on the exterior is a visual indication of the position of the damper within the conduit.

Means are provided in cooperation with the foregoing whereby the handle may be readily attached and detached, but in meantime held securely in its proper position. Accordingly a plate 10 is provided, which also has other functions hereinafter described, this plate being fastened to the side of the conduit 2 by suitable means, such as screws passing through screw holes 11 in the plate.

This plate has in its upper end an opening 12 through which the shaft 3 projects. Plate 10 is made of sheet metal and is dished or struck up outwardly about the opening 12, to provide a space therebeneath and against the side of the conduit, to receive the cooperating attachable and detachable fastening means on the handle 4.

In the edge of the opening 12 are formed two diametrically opposite angled recesses 13 and 14 with which corresponding projections on the handle cooperate.

The handle 4 is also preferably made from sheet metal, in accordance with certain fea-

tures of the invention, and for certain purposes hereinafter described. Cooperating with the devices on plate 10 just described, there is fixed to the upper end of the handle an undercut disc 20, with its smaller diameter toward the handle, the disc being fastened thereto by rivets 21. Disc 20 has two diametrically-opposite, outwardly-extending projections 22 and 23, adapted to pass through the recesses 13 and 14 in the sides of the opening 12 and then to lock under the edge of aperture 12, while leaving the handle free to rotate.

The positioning and holding means, as embodied, further comprises cooperating devices on the plate 10 and handle 4. The resilient property of the sheet metal handle is preferably employed to effect the positioning and holding. An arcuate series of stops to cooperate with the handle are provided, and these are shown at 27, as approximately conoidal bosses struck up in the plate 10. The plate is also preferably provided with a struck-up reenforcing ridge 28.

The handle 4 is preferably provided with a longitudinally-disposed, outwardly-projecting and inwardly-concave portion 29, which cooperates with the stops 27 to position the damper 1 and to hold it in position, and also serves to reenforce the handle. The end of the handle 4 is preferably bent upwardly and then outwardly, as best shown in Fig. 3, for convenience in grasping and manipulating it.

By reason of the spring action of handle 4, it will snap down with its recess 29 upon a stop 27, and with either side of the handle 4 past the stop, and usually pressing against plate 10 (Fig. 5). This effectively locks the handle, until it is again grasped and forcefully pulled or pushed. Thereupon it will ride off from a stop 27 (position *a* in Fig. 2), and will snap down between two of the stops 27 (position *b* in Fig 2).

This provides an intermediate position and holding of the damper in position between each adjacent pair of stops 27 in the series. The handle is readily detachable by rotating it until its projections 22 and 23 are in register with recesses 13 and 14 in the plate 10, and then moving the handle outwardly along the shaft 3.

The invention in its broader aspects is not limited to the specific mechanisms shown and described but departures may be made therefrom within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

What I claim is:—

1. A damper mechanism including in combination a damper having a shaft, and positioning means therefor including a handle on the shaft and a series of spaced apart lever stops constructed and arranged to position and hold the lever either on or between the stops to correspondingly position the damper.

2. A damper mechanism including in combination a damper having a shaft, and positioning means therefor including a resilient handle on the shaft and a series of spaced apart lever stops, the resilient lever being adapted to engage upon and between the stops to position and to hold the damper in position.

3. A damper mechanism including in combination a damper having a shaft, and positioning means connected to the shaft and including a handle of spring metal having a recess and a series of spaced apart positioning stops, the resilient handle being adapted to engage on the stops and also in the intervening spaces to position the damper and hold it in position.

4. A damper positioning device comprising a plate struck up to form a series of spaced apart positioning stops and a sheet metal handle adapted to be fixed to the damper and struck up to cooperate with and between the stops to position the damper.

5. A damper positioning device comprising a sheet metal plate struck up to form a series of spaced apart positioning stops and a sheet metal handle adapted to be fixed to the damper and provided with a recess to resiliently cooperate with the stops to position the damper.

6. A damper positioning device comprising a sheet metal plate struck up to form a series of spaced apart positioning stops and a sheet metal handle adapted to be fixed to the damper and punched out to pass on to a damper shaft in specific position relative to the damper, and having a recess adapted to cooperate with said stops.

7. A damper positioning device comprising a sheet metal plate struck up to form a series of spaced apart positioning stops and a sheet metal handle adapted to be fixed to the damper and punched out to pass on to a damper shaft in specific position relative to the damper and having a recess to cooperate with the stops to position the damper.

8. A damper positioning device including in combination a series of spaced apart stops and a handle fixed to the damper and adapted to automatically engage upon or between the stops to position the damper and hold it in position.

9. A damper positioning device including in combination a series of spaced apart stops and a spring acting handle fixed to the damper and adapted to automatically engage by the spring action upon or between the stops to position the damper and hold it in position.

10. The combination with a rotatable

shaft of an actuating handle and a plurality of locating stops therefor, the handle cooperating resiliently with the stops to locate and hold the handle either at or between the stops.

11. The combination with a rotatable shaft of an actuating handle and a plurality of locating stops therefor, the handle cooperating with the stops to locate and hold the handle either at or between the stops.

In testimony whereof, I have signed my name to this specification.

ALBERT BLUMLEIN.