No. 619,993. Patented Feb. 21, 1899.

L. REASER.

DAMPER REGULATOR.

(Application filed July 1, 1898.)

(No Model.)

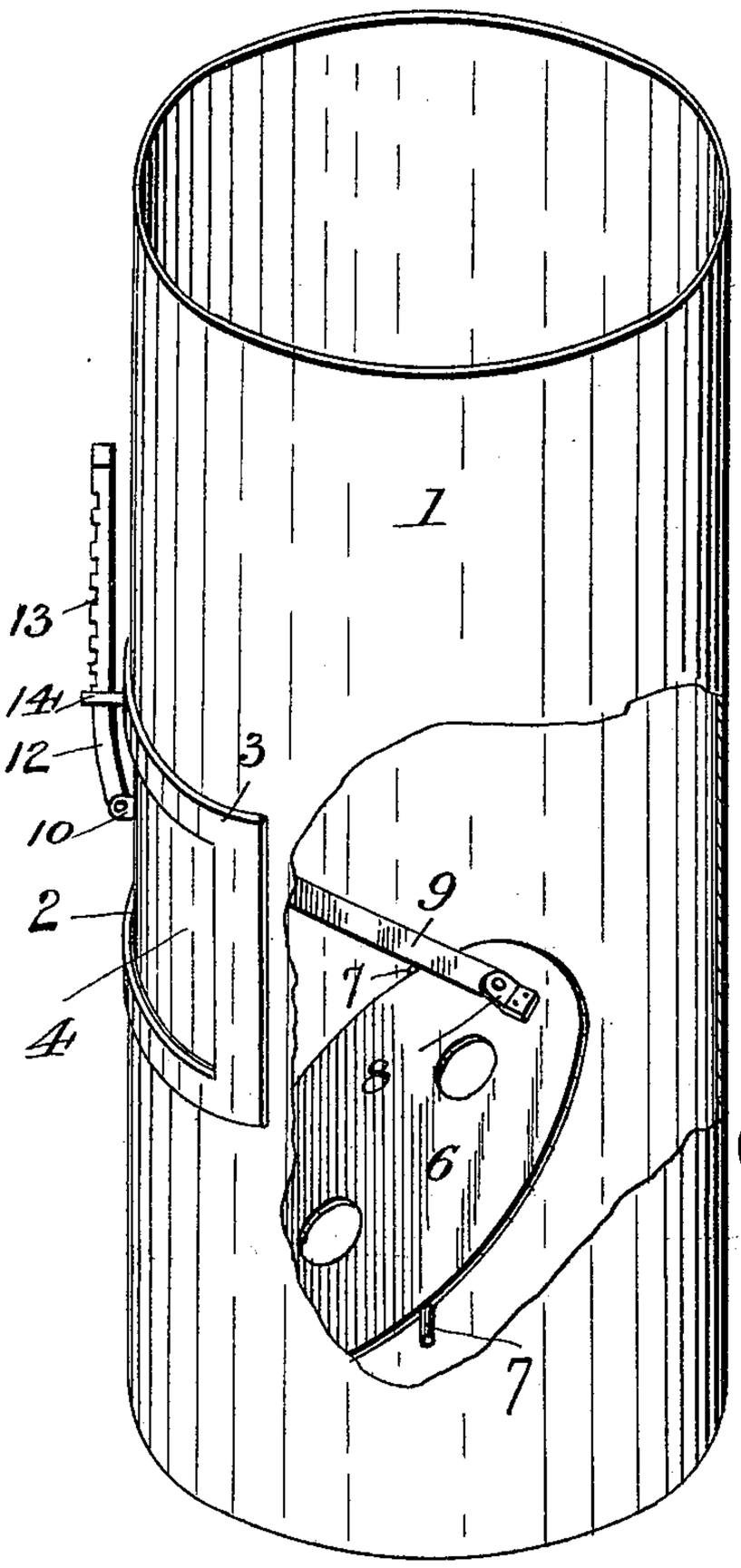

Fig. 1

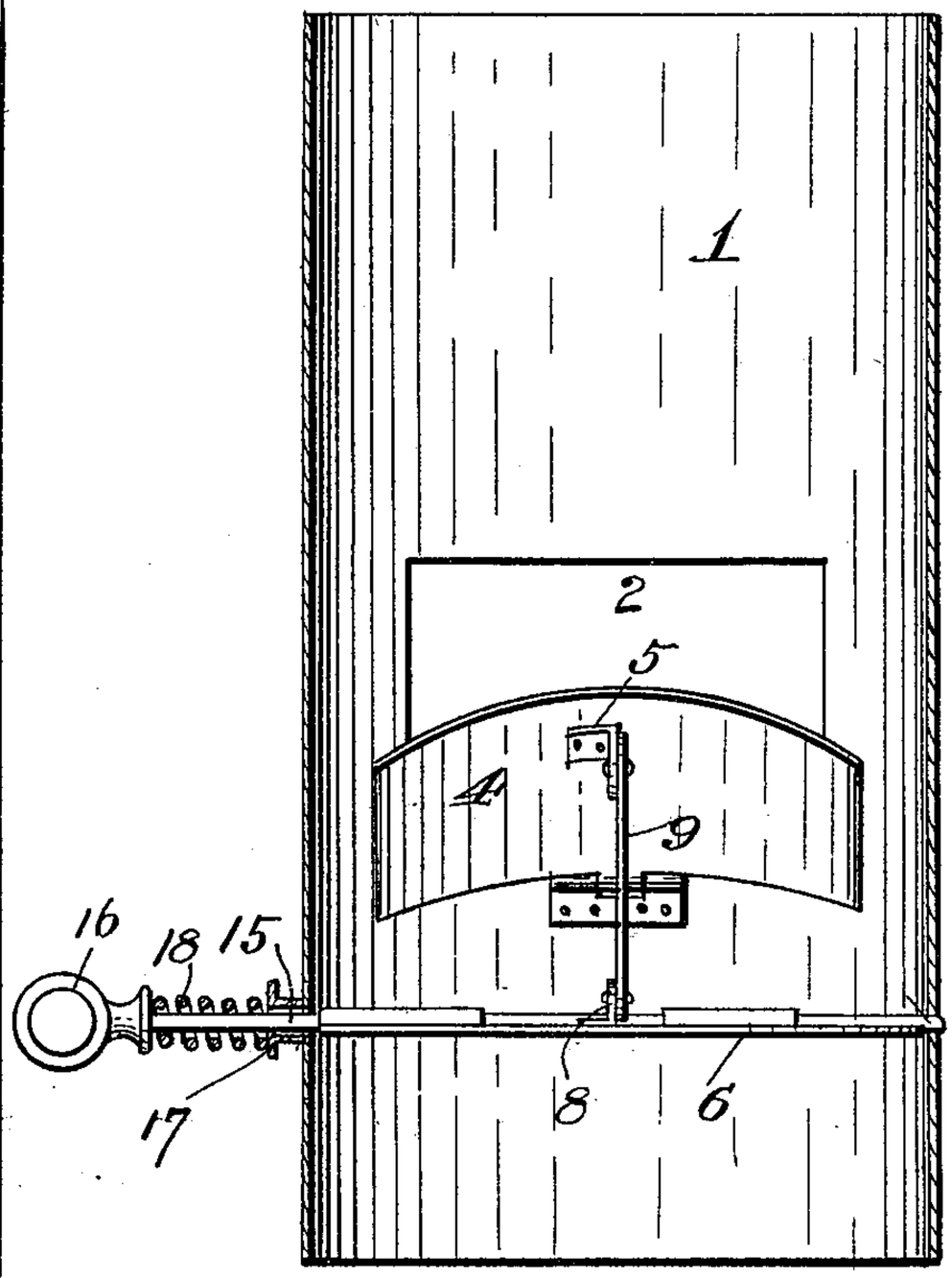

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

LEWIS REASER, OF READING, PENNSYLVANIA.

DAMPER-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 619,993, dated February 21, 1899.

Application filed July 1, 1898. Serial No. 684,947. (No model.)

To all whom it may concern:

Be it known that I, LEWIS REASER, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented new and useful Improvements in Damper-Regulators, of which the following is a specification.

My invention relates to damper and draft regulators for stoves and furnaces; and its object is to provide an improved connection between the same whereby when the damper is turned to retard the draft a pivoted plate will be operated to uncover an opening in the pipe or flue above the damper, so as to allow air to enter the pipe and decrease the draft.

It is also an object to provide other improvements whereby I secure important advantages with respect to efficiency in use.

The invention consists, essentially, in the combination, with a stove or furnace pipe having an opening, a frame surrounding the opening and a plate hinged to the pipe, a rotatable damper located below said opening, and a connecting-rod pivotally connected with said damper and plate.

It also consists in providing said frame with a number of removable arms or brackets, as hereinafter fully described.

In the accompanying drawings, Figure 1 is a perspective view, partly broken away, provided with my improvements. Fig. 2 is a longitudinal sectional elevation, the outside arm connected with the plate being dispensed with in this instance.

In the said drawings, referring now to Fig. 1, the reference-numeral 1 designates a furnace pipe or flue having an opening 2 therein, the edges of which are surrounded by an outside frame 3, secured to the pipe and curved to correspond with the contour thereof. Hinged to said pipe below the lower edge of the opening is a curved plate 4, adapted to close the latter, which is provided with a lug 5 on its inner side. Located within the pipe, below said plate, is a rotatable damper 6, provided with journals 7, which have their bearings in holes in the pipe. This damper is provided with a lug 8, with which is pivotally connected a rod or bar 9, also connected with the lug 5, so that the damper and plate will move in unison, one closing as the other opens. Pivoted to a lug 10 on the outside of said plate is an arm 12, provided with a series of notches 13, which engage with a catch 14 on the frame 3. This construction is preferably employed with furnaces which are located in the cellars or basements of buildings. By operating the arm 12 the curved plate can be turned on its hinge, so as to uncover the opening in the pipe, and through the medium of the connecting-bar the damper will be correspondingly closed. This will allow air to enter the pipe above the damper, so as to decrease the draft therein. The notches in the arm, engaging with the catch of the frame, will hold the plate and damper in any position to which they may be turned.

In Fig. 2 the arm 12 is dispensed with and the damper is rotated by a handle and the plate correspondingly operated. The damper in this case is connected with a rotatable shaft 15, provided with a handle 16. A collar or bearing 17 is secured to the pipe, and a coiled spring 18 is interposed between the same and the handle to hold the damper in any position to which it may be turned. This construction is intended to be used with ordinary stoves.

By locating the circular damper below the opening in the pipe and hinging the approximately rectangular plate at its lower edge to the lower edge of the opening and connecting said damper and plate by means of the rod when said plate is turned inwardly to uncover the opening the circular damper will be correspondingly turned, so as to occupy an inclined position in the pipe, whereby the products of combustion are directed to the side of the pipe opposite the opening. At the same time any products of combustion escaping around the edge of the damper will strike the inwardly-opened inclined plate and be deflected away from the opening and be prevented from escaping into the room. It should also be noted that while said plate is being opened the damper is being closed, thus gradually closing the space between the lower end of the damper and the pipe, and thereby reducing the escape of gases to the room to a minimum.

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

The combination with a stovepipe having an opening in one side, and the circular ro-

tatable damper located below said opening, of the approximately rectangular inwardly-opening plate hinged at its lower end to the lower edge of said opening and curved to conform to the contour of the pipe, and the connecting-bar pivoted to said damper and plate, the construction being such that as the damper is being closed it will occupy an inclined position so as to deflect the products of combustion to the opposite side of said opening while the plate will be correspondingly inclined so as to deflect any of the products of combustion escaping above the lower end of the damper away from said opening, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEWIS REASER.

Witnesses:
HENRY WEAND,
JACOB D. FRITH.