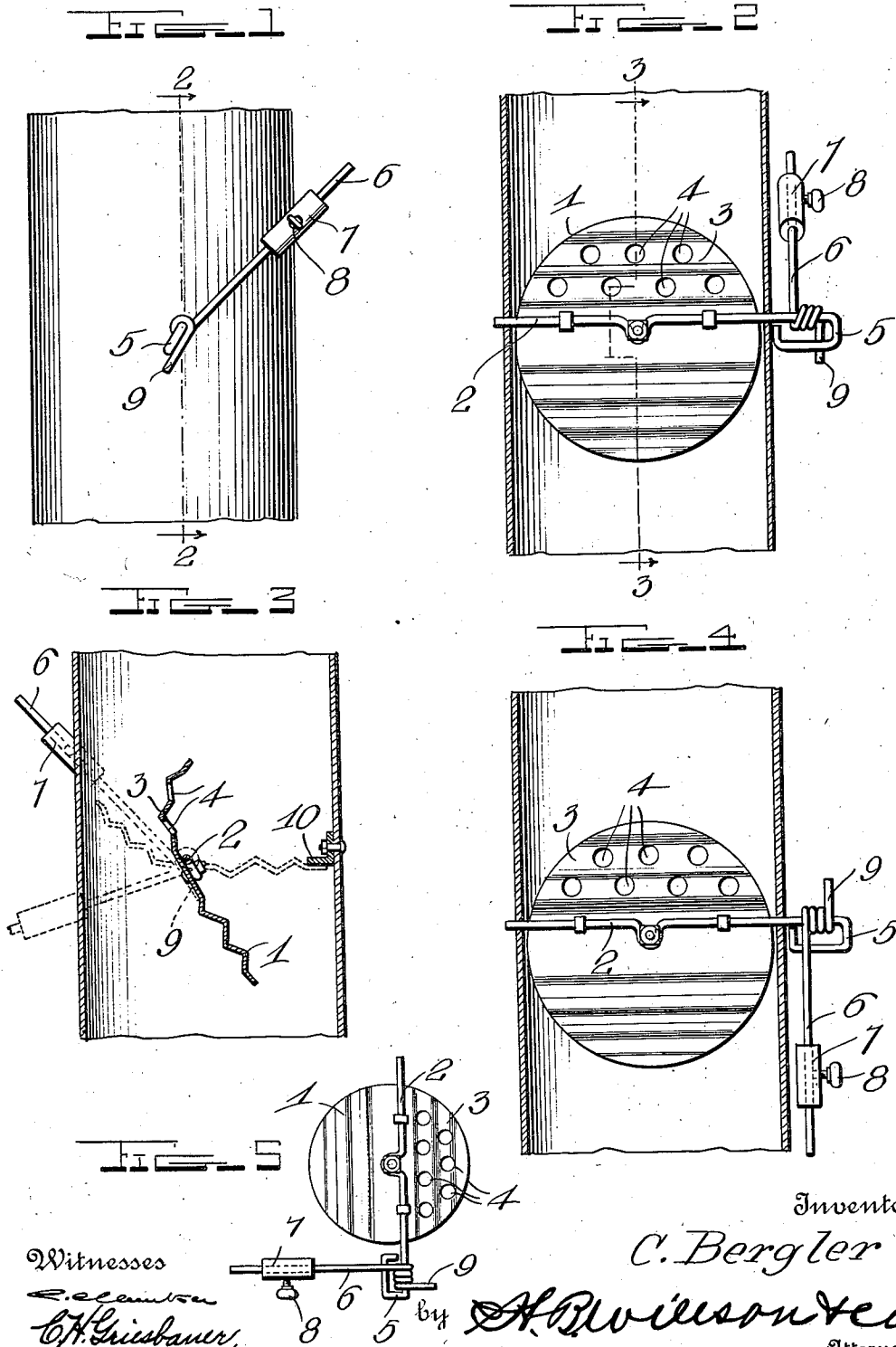


C. BERGLER.
 DAMPER FOR STOVEPIPES, FURNACES, SMOKE STACKS, CHIMNEYS, AND THE LIKE.
 APPLICATION FILED MAR. 21, 1910.

987,946.

Patented Mar. 28, 1911.



UNITED STATES PATENT OFFICE.

CHARLES BERGLER, OF PORTLAND, OREGON.

DAMPER FOR STOVEPIPES, FURNACES, SMOKE-STACKS, CHIMNEYS, AND THE LIKE.

987,946.

Specification of Letters Patent.

Patented Mar. 28, 1911.

Application filed March 21, 1910. Serial No. 550,705.

To all whom it may concern:

Be it known that I, CHARLES BERGLER, a citizen of the United States, residing at Portland, in the county of Multnomah, and State of Oregon, have invented certain new and useful Improvements in Dampers for Stovepipes, Furnaces, Smoke-Stacks, Chimneys, and the Like; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which appertains to make and use the same.

This invention relates to improvements in dampers for stove pipes, furnaces, smoke stacks, chimneys and the like.

One object of the invention is to provide a damper adapted to be automatically operated by the pressure of the draft passing through the pipe, stack or chimney.

Another object is to provide a damper having means whereby the same may be held in an inoperative position.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side view of a section of stove pipe showing the invention applied thereto; Fig. 2 is a central vertical section of the same; Fig. 3 is a similar view on the line 3-3 of Fig. 2, looking in the direction of the arrow; Fig. 4 is a view similar to Fig. 2 showing the damper in an inoperative position; Fig. 5 is a plan view of the damper removed from the pipe.

Referring more particularly to the drawings, 1 denotes the damper which is of suitable size and shape to fit the pipe or opening to which it is to be applied, said damper being here shown as of circular shape and having formed therein a series of corrugations whereby the strength and durability of the damper are greatly increased. The damper plate 1 is fixedly secured in any suitable manner to an operating shaft 2, said shaft being arranged to one side of the center of the damper as shown, whereby when the ends of the shaft are engaged with the pipe to hold the damper in position, the larger side of the damper will have a tendency to swing downwardly by reason of its greater weight thereby opening the same. The narrower side of the damper is preferably bent

upwardly, as shown at 3, and in said narrow upwardly bent portion is formed a series of holes or vent passages 4. The purpose of said passages and the upward bending of this portion of the damper will be hereinafter more fully described.

In one end of the shaft is formed a loop 5, with one side of which is pivotally connected a weight supporting arm 6 on which is adjustably secured a counterbalancing weight 7, said weight being preferably held in its adjusted position by a set screw 8. The inner end of the arm 6 is connected to one side of the loop 5, preferably by bending or coiling the arm around said side of the loop and continuing the coiled end of the arm to form a stop finger 9 which projects across the loop and engages the opposite side thereof, whereby the weighted arm 6 is held in operative engagement with the shaft of the damper. By connecting the weighted arm of the shaft of the damper in the manner described, the weight will tend to hold the lower portion of the damper swung up part way or past the vertical plane of the shaft, so that the draft in passing through the pipe may engage the lower portion of the damper and thus swing the same upwardly to a greater or less extent according to the amount of draft passing through the pipe. By adjusting the weight 7 on the arm 6, the amount of resistance offered to the draft by the damper plate may be regulated.

It will be noted that when the damper is in its normal open position, the curved upper portion thereof will be practically perpendicular and will offer no resistance to the draft passing through the pipe until the damper begins to close and, by providing the passages 4 in this curved portion of the damper, this resistance is decreased to a minimum after the damper is closed. The holes or passages 4 also serve to permit the escape of gases which may accumulate in the stove or pipe after the damper is closed.

When it is desired to throw the damper out of operation, the weighted arm 6 is swung around on its pivotal connection with the looped end of the shaft 2 until said arm and weight hang down in perpendicular position, in which position the weighted arm will hold the lower portion of the damper also in vertical or perpendicular position, thus permitting the draft to readily pass through the pipe on opposite sides of the damper. By means of the pivotal connec-

tion of the weighted arm with the shaft of the damper, it will be seen that the latter may be instantly thrown out of operation. The upward movement of the lower portion 5 of the damper is limited by a stop lug or bracket 10, with which said lower portion of the damper is engaged when the latter has been swung to a closed position by the pressure of the draft.

10 From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

15 Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

20 Having thus described my invention, what I claim is:—

25 1. In a damper of the character described, a plate, a supporting shaft secured to said plate to one side of the center thereof, a loop formed in one end of said shaft, a weighted arm pivotally engaged with one side of said loop, a finger formed on the pivoted

end of said arm to engage the other side of the loop whereby the arm is operatively connected with the shaft to hold the damper in a partly opened position and whereby said arm may be swung around on its pivotal connection with the loop the damper being held by the force of gravity in an open operative position, and a weight adjustably 30 secured to said arm. 35

2. In a damper of the class described, a plate, a supporting shaft secured on said plate to one side of the center thereof, a loop 40 on one end of said shaft, an arm having one end wound around one side of said loop to form a pivotal connection therewith with its terminal extended to form a finger to engage the other side of said loop to hold 45 said arm in operative position to support the damper in partly open position, and a weight adjustably mounted on said arm.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 50

CHARLES BERGLER.

Witnesses:

WM. C. BENBOW,
C. A. BENBOW.