

(No Model.)

E. D. NELLIS.
STOVE DAMPER.

No. 470,439.

Patented Mar. 8, 1892.

Fig. 1.

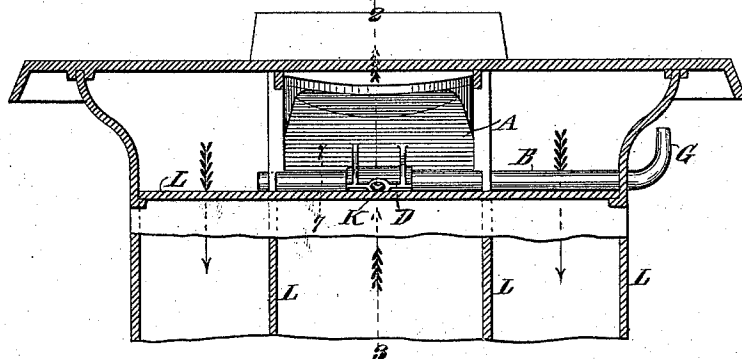


Fig. 2.

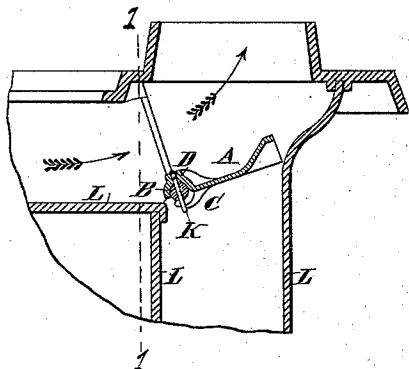


Fig. 3.

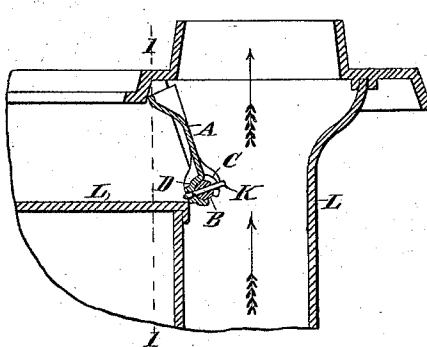


Fig. 4.

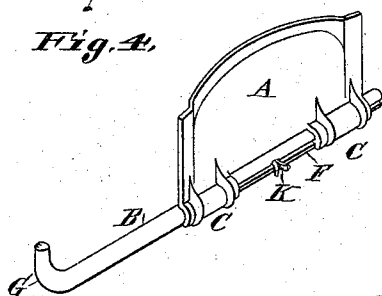


Fig. 5.

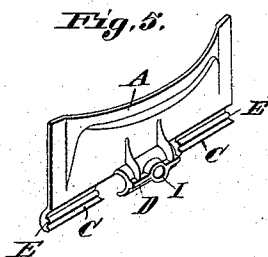


Fig. 6.

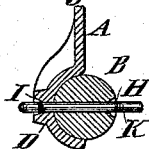
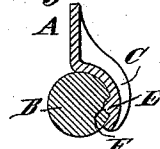


Fig. 7.



Attest:

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UNITED STATES PATENT OFFICE.

EMERY D. NELLIS, OF ST. LOUIS, MISSOURI.

STOVE-DAMPER.

SPECIFICATION forming part of Letters Patent No. 470,439, dated March 8, 1892.

Application filed August 18, 1891. Serial No. 402,997. (No model.)

To all whom it may concern:

Be it known that I, EMERY D. NELLIS, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Stove-Dampers, of which the following is a full, clear, and exact description.

My invention relates to devices for deflecting the direction of the flame or currents of heated air or regulating the draft in stoves and has for its object the construction of a damper adapted to be conveniently removable and replaceable without dismounting the rest of the stove.

It consists in the novel features of construction and means of application in stove-dampers hereinafter described.

In the accompanying drawings, in which like letters of reference denote like parts in the several figures, I have illustrated my improved form of damper as applied to an ordinary cooking-stove.

It is obvious that the essential features of invention hereinafter described and claimed apply alike to dampers in general, and I do not desire to be understood as confining myself to this specific application.

Figure 1 is a vertical cross-section, taken as on the line 1 1 in Figs. 2 and 3, of an ordinary cooking stove with my improved damper attached for deflecting the current of heated air under the oven or allowing it to go direct to the flue. Figs. 2 and 3 are part vertical sections taken from front to back of the stove or as on the line 2 2 in Fig. 1; Fig. 2 showing the damper open, as allowing a direct air-passage to the flue, and Fig. 3 with the damper closed or as forcing the current of heated air through the under oven side flues around under the oven. Figs. 4 and 5 are perspective detail views of my improved damper, showing in Fig. 4 the damper assembled, and in Fig. 5 the parts separately. Figs. 6 and 7 are enlarged cross-sections of the damper alone, taken as in Figs. 2 and 3, Fig. 6 being taken as on line 2 2 in Fig. 1 and Fig. 7 as on the line 7 7 in Fig. 1.

I construct my improved damper in two separate parts, the damper-plate A and the operating-rod B, (see Fig. 5) with the means for securing them together. The damper-plate

A is of course formed in outline of a shape corresponding to the flue-space in which it is intended to operate. In one edge of the plate A are formed the oppositely-projecting curved lips C and D, which are adapted to embrace the body of the rod B, the intermediate space between them corresponding to the size and shape of the body of the rod B. To prevent the plate A from turning on the rod B about the axis of the same when the damper is assembled, as shown in Fig. 4, I form a longitudinal tongue E (see Figs. 5 and 7) in the concave surface of the lips C and a longitudinal groove F in one side of the rod B, adapted to engage with each other and rotate the plate A when the rod B is rotated by the handle G on the end of the rod B about the axis of the rod as a center of rotation.

The aforesaid construction enables the connection between the damper leaf or plate A and its journal-rod B to be made without materially increasing the metal in either rod or damper and gives to both a simple form readily cast—a material advantage to the manufacturer. It also enables the damper-rod or journal-rod to be readily inserted endwise through the framing-plates and damper, which facilitates the insertion of the damper when the stove is set up or in case of repairs.

To prevent the rod B from being withdrawn when the damper is assembled, as shown in Fig. 4, I form a diametrical perforation H (see Figs. 5 and 6) in the rod B at a position in the length of the rod B corresponding with a similar perforation I, formed in the lip D, when the parts are assembled. Through these perforations H and I in the rod B and the lip D, respectively, when the parts have been assembled, I pass the split spring-key K.

The principles of operation are quite fully described in the foregoing description of the several parts.

The method of application, a description of which will make plain the inherent features of advantage of my improved damper, is as follows: The damper-plate A is placed in the flue-space, through which passes the current it is intended to regulate by the same, as shown in Figs. 1, 2, and 3. Then the rod B is thrust through the groove formed in the edge of the plate A by the lips C and D pass-

ing it through the perforations formed there-
for in the framing-plates L of the stove, let-
ting the groove F engage with the tongue E
until the perforation H coincides with the per-
foration I, when the pin K is inserted therein,
locking the parts A and B together. When
from breakage or other reason it is desired to
remove the damper, the pin K is simply re-
moved, when the rod may be withdrawn and
the damper taken out from the stove without
dismounting the rest of the stove.

I claim—

1. In a stove-damper, the combination of
a leaf or plate having at one edge a series of
curved lips, the intermediate lip being re-
versely concaved to form a socket for the
damper journal-rod and one or more of said
lips having a rib on its concave face, and a
detachable damper journal-rod of general cy-
lindrical form having a longitudinal groove
for the reception of the rib of the concave

face of the damper-lips, substantially as and
for the purposes specified.

2. In a stove-damper, the combination, with
a leaf or plate having on one edge a series of
concaved lips, the intermediate lip being re-
versely curved and one or more of said lips
having a longitudinal rib on its concave face,
of a detachable damper journal-rod of general
cylindrical form having a longitudinal groove
to receive the rib on the concave face of the
damper-lip, and a transverse locking-pin for
preventing the longitudinal movement of the
plate or leaf on the journal-rod, substantially
as and for the purposes specified.

In testimony whereof I have affixed my sig-
nature, in presence of two witnesses, this 30th
day of July, 1891.

EMERY D. NELLIS.

Witnesses:

J. W. CROOKES,
W. M. BYRNE.