

(No Model.)

2 Sheets—Sheet 1.

L. H. FISHER.
HEAT OR DRAFT REGULATOR.

No. 569,186.

Patented Oct. 13, 1896.

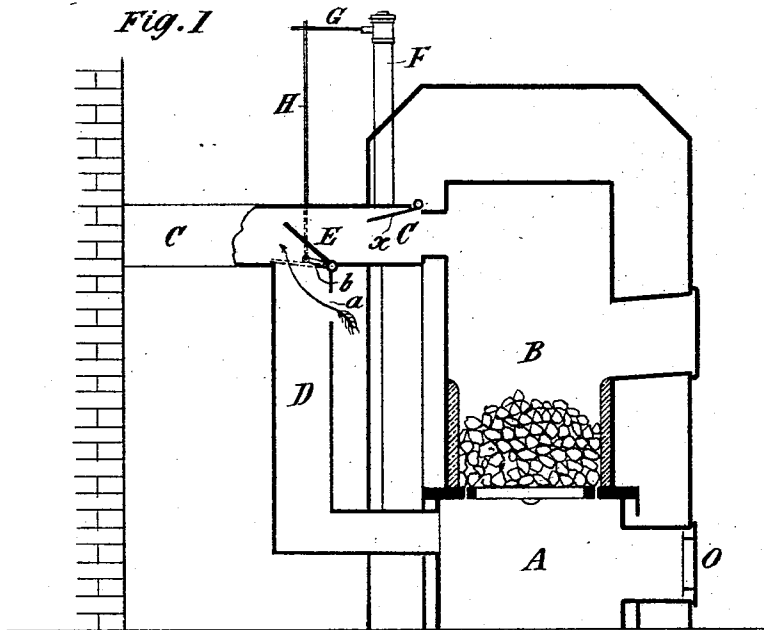
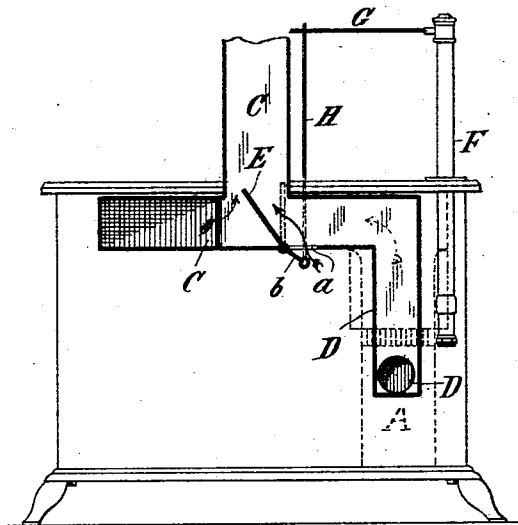


Fig. 2



Witnesses:
Raphael Vetter
James M. Catlow.

Lewis H. Fisher, Inventor

by John J. Halden, for Attorneys

(No Model.)

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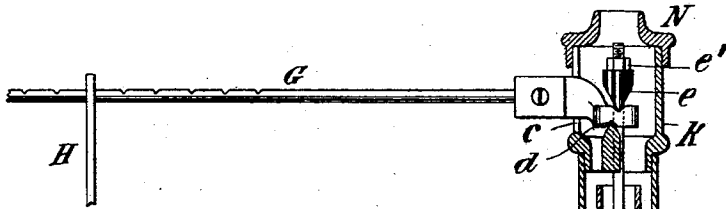


Fig. 4.

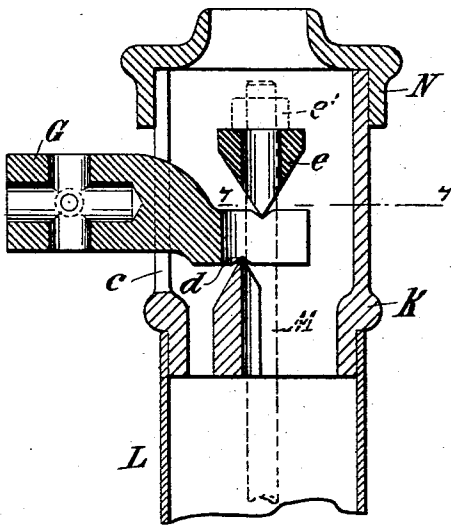


Fig. 5.

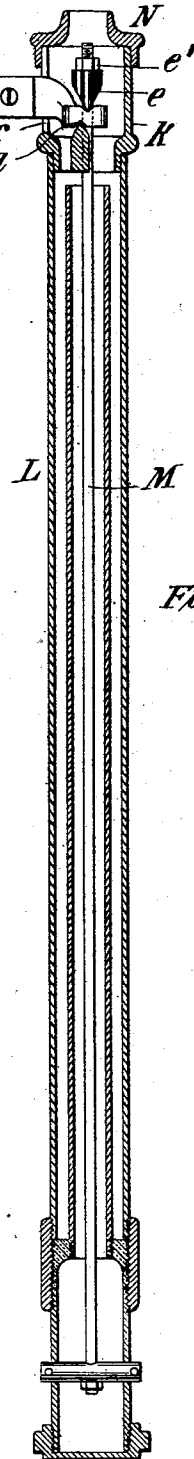
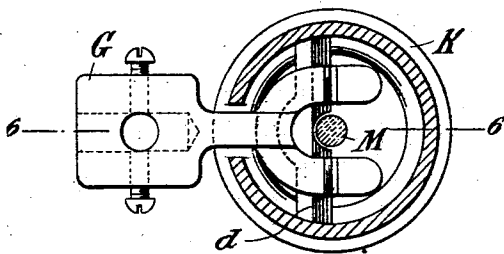


Fig. 3.

Witnesses:
Raphael Netter
James M. Galloway

Lewis H. Fisher Inventor
by John J. Halsted, Jr. Attorneys.

UNITED STATES PATENT OFFICE.

LEWIS H. FISHER, OF WALPOLE, MASSACHUSETTS.

HEAT OR DRAFT REGULATOR.

SPECIFICATION forming part of Letters Patent No. 569,186, dated October 13, 1896.

Application filed July 23, 1895. Serial No. 556,910. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. FISHER, of Walpole, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Heat or Draft Regulators for Stoves and other Heaters, of which the following is a specification.

My invention is designed as an improvement on my Patent No. 509,153 of November 21, 1893; and it consists generally in applying a draft-regulating damper to a flue connecting the smoke-pipe with the ash-pit, whereby when the stove or heater is cold the damper will be closed, leaving a free passage for a draft through said flue, ash-pit, fire, and smoke-flue, avoiding the necessity of opening the ash-pit door, and when the stove gets hot the damper will be opened, causing a short draft directly through the smoke-flue from outside, and thus not only checking any draft from passing down to the ash-pit underneath the fire, but also causing a suction of air in the ash-pit flue up through the smoke-pipe.

My invention consists also of means whereby the draft-operating lever of the thermostat may be turned to adapt itself for connection to a check-draft damper at any angle with the thermostat.

In the accompanying drawings, Figure 1 is a vertical section of a furnace, showing my invention applied thereto. Fig. 2 illustrates my invention as applied to a cook-stove. Fig. 3 is a vertical section. Fig. 4 is a detailed vertical section, enlarged, of the thermostat and through the line 6 6 of Fig. 5. Fig. 5 is a cross-section through the line 7 7 of Fig. 4.

Similar letters represent like parts in all the figures.

A is the ash-pit, B the fire-pot, and C the smoke-pipe leading from the fire-pot to the chimney.

D is a flue or pipe connecting the smoke-pipe C with the ash-pit A, and having an opening *a* in its side for admitting outside air.

E is the draft-regulating damper, which is of the right proportions to close the communicating passage between the pipe C and the flue D, and which by means of its connecting thermostat F is made to close said passage when the stove or other heater is cold and to

open said passage when the stove or heater gets hot.

G is the operating-lever of the thermostat, and H is the rod connecting said lever with an arm *b*, extending out from the fulcrum of the damper E, by means of which arm and rod said damper is caused to operate.

Figs. 3, 4, and 5 illustrate just such a thermostat as is shown in Fig. 3 of my Patent No. 509,153 above named, with the exception of a few slight modifications. My improvement in the present application is designed to furnish means whereby the draft-operating lever may be turned to adapt itself for connection to a check-draft damper at any angle with the thermostat F.

K is the thimble, which fits on top of the expansible tube L and which has a vertical slot *c* in its side through which the lever G passes. This lever is held down and tightly fulcrumed by a knife-edge bearing on the bottom of the block *e*, which is held in place by a nut *e'*, screwed to the upper end of the non-expansible rod M, as shown in the said patent, and the other bearing *d* for said lever G is on the lower portion of the thimble K.

As the bearings of the lever G, consisting of the block *e* and thimble K, may be readily turned, it will be seen that said lever may be turned to any angle to adjust itself to attachment to a check-draft damper at any position.

N is a loose cap fitting over the thimble K for the protection of the lever-bearings.

The operation is as follows: The damper E and the thermostat F should be so adjusted relatively to each other that when the stove or heater is cold or without fire the damper is closed. If the ordinary draft-damper *x* (shown only in Fig. 1) be open, there will then be a free air-passage and draft through the opening *a*, flue D, ash-pit A, fire-pot B, and smoke-pipe C, giving a good draft to the fire after it has been started, the ash-pit door O not then requiring to be open. As the fire becomes hotter the thermostat F will cause the lever G, through the rod H, to open the damper E, making a passage-way for the outside air from the flue D to the smoke-flue C. The air will then take the direction of the arrows in Figs. 1 and 2, checking the draft down

the flue D to the ash-pit and causing a suction of the same up through the smoke-pipe C. This action will tend to cool off the stove or heater and cause the damper E to drop
5 somewhat. A partial opening of the passage between the flue D and pipe C by the damper E will tend to cool off the stove, while a partial closing of said passage by the damper E
10 will tend to heat up the stove by increasing the draft through the flue D and ash-pit A. After the fire has once been made it will be unnecessary to open the ash-pit door O, as the draft to the ash-pit will reach it through the passage *a* and flue D.

15 What I claim as new, and desire to secure by Letters Patent, is—

1. In a stove or other heater, the combination with the ash-pit and smoke-pipe, of a flue connecting said pipe and ash-pit, and having
20 a permanent opening to always admit outside air, a damper located at the junction of the

flue and smoke-pipe for closing and opening the passage between them and also for opening and closing or partly closing the passage
25 in the smoke-pipe for the products of combustion, all as and for the purposes set forth.

2. In combination with a check-draft damper of a stove or other heater, a thermostat having the expansible tube L, and the non-expansible rod M, the rotatable thimble K,
30 resting on the tube L and provided with a slot, the lever G, passing through such slot in the thimble and fulcrumed to said rod, and resting on a portion of said thimble, and the rod H for connecting the lever G and
35 check-draft damper, all as and for the purposes set forth.

LEWIS H. FISHER.

Witnesses:

ISAAC NEWTON LEWIS,
DARWIN BARNARD.