N. M. MANN.

COLD-AIR DUCTS FOR HOT-AIR FURNACES.

No. 173,129. Patented Feb. 8, 1876.

Fig. 1.

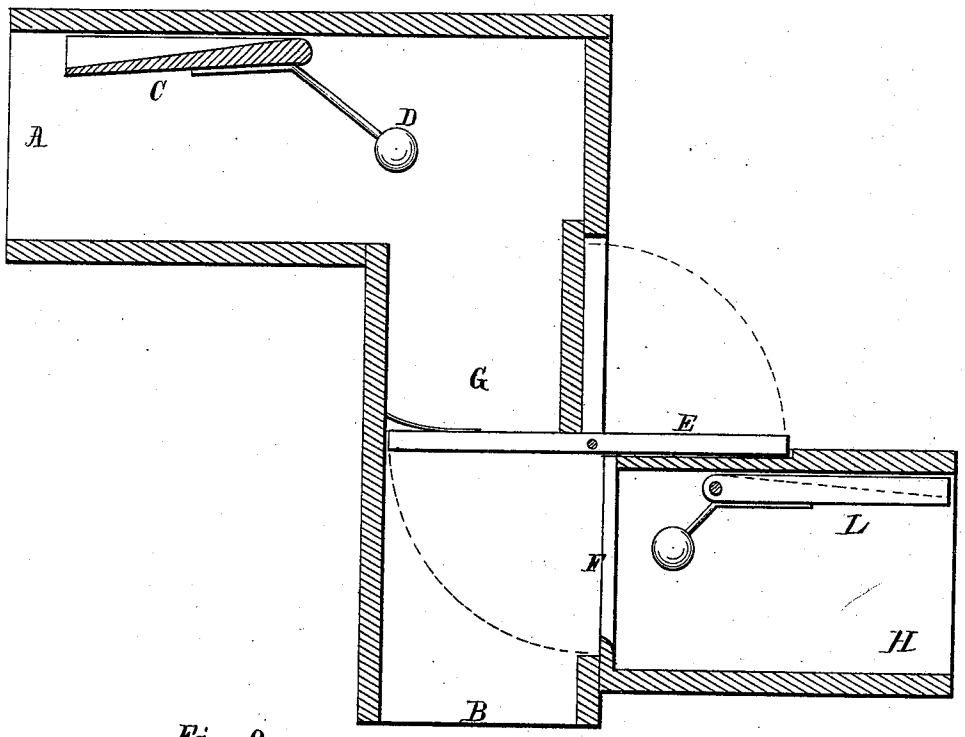


Fig. 2.

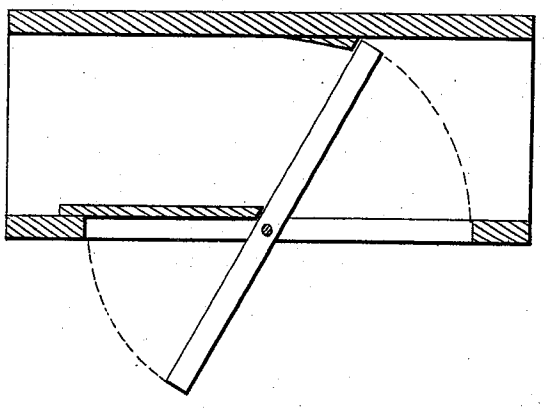
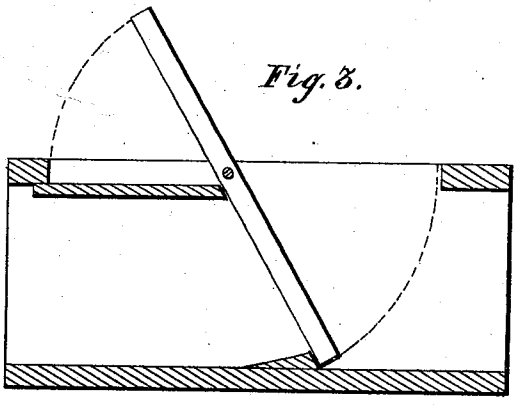


Fig. 3.



Witnesses:

De L. Lattenden

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UNITED STATES PATENT OFFICE.

NEWTON M. MANN, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN COLD-AIR DUCTS FOR HOT-AIR FURNACES.

Specification forming part of Letters Patent No. **173,129**, dated February 8, 1876; application filed November 29, 1875.

To all whom it may concern:

Be it known that I, NEWTON M. MANN, of Rochester, county of Monroe, State of New York, have invented Cold-Air Ducts of Heaters and Furnaces, of which the following is a specification:

The device referred to is to be known as "The King of the Winds," an automatic regulator of the drafts of furnaces and other heaters.

The opening A represents the mouth of the duct, at which the air is ordinarily received; B, the continuation of the duct to the furnace. It is commonly found that when the wind blows from a direction opposite that in which the mouth of the duct is turned the action of the furnace is more or less reversed and hot air drawn out through the duct. The prompt arrest of this tendency by a self-acting valve, which closes the outward passage and at the same time opens another passage, through which the furnace can be supplied with air, is the original feature of this invention. This valve E is hung on pivots near its center, so that, when at rest, it just drops of its own weight and forms a part of the side of the duct. The half toward the mouth of the duct serves only for equipoise, and the duct behind this part is ceiled up. The outward suction of a wind blowing from a direction opposite that to which the mouth of the duct is turned draws this valve up so as to entirely cut off the outward passage G, and, by the same movement, opens another passage, F, through which the supply of air may be freely kept up to the furnace.

This valve is shown in different positions, and its application to ducts of different construction illustrated in the drawings.

A branch duct, H, may be attached at F to receive air from the opposite side of the house, or from a room above. On this additional duct no claim of novelty is made.

To complete the regulation of the draft in the cold-air duct the valve C is added. It is nearly balanced by the weight D suspended on a bent rod, and equalizes the supply of air by partially closing the duct under pressure of the wind blowing in.

The principle of this valve is not new, and the claim of originality is made only on its combination with the valve E, for the purpose herein set forth.

I disclaim any application of this appliance to a stove-pipe or fire-draft of any sort.

I claim as my invention—

1. The self-acting valve E, substantially as described, in combination with the duct B, to prevent an outward and provide for an inward current of air when the draft of the wind is outward.

2. The combination of the self-acting valve E with the self-acting valve C and the duct A B, for the purpose of regulating the supply of air to the heating-chamber of furnaces, steam or other heaters, as above set forth.

NEWTON M. MANN.

In presence of—
DE L. CRITTENDEN,
EDWARD LINE.