

J. S. TOAN.

Automatic Stove-Register.

No. 109,689.

Patented Nov. 29, 1870.

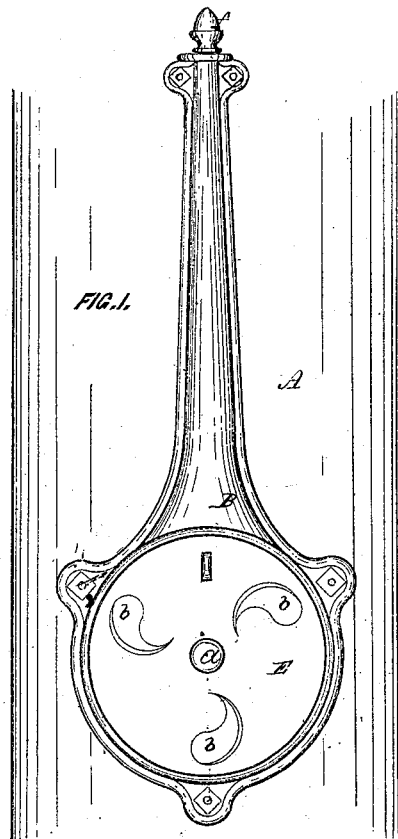


FIG. II.

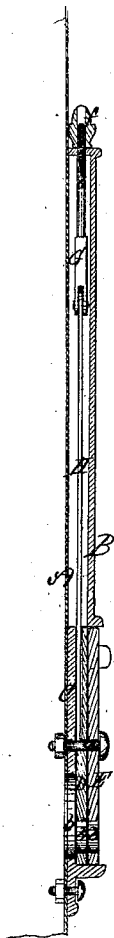
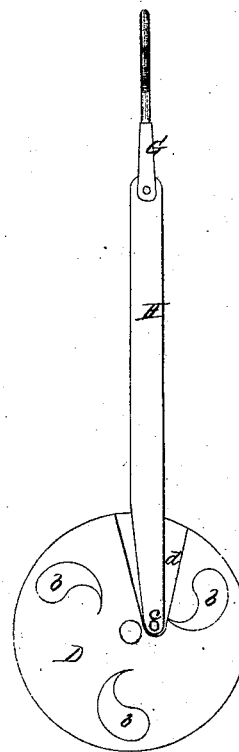


FIG. III.



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United States Patent Office.

JOHN S. TOAN, OF ROCHESTER, NEW YORK.

Letters Patent No. 109,689, dated November 29, 1870.

IMPROVEMENT IN AUTOMATIC STOVE-REGISTERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN S. TOAN, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Automatic Stove-Registers, of which the following is a specification.

Nature of the Invention.

This improvement is of that class where the register is operated by the expansion and contraction of a rod by the heat.

The invention consists in the employment of two register-disks, one of which connects with the expanding-rod, whereby it closes of its own gravity under the expansion, while the other has an independent adjustment for fixing the size of the register openings or cutting them off altogether.

General Description.

Figure 1 is an elevation of my device applied to a stove-pipe.

Figure 2, a vertical section of the same.

Figure 3, a view of the automatic register-disk and its operating-rod detached.

A is the stove-pipe, and

B the casing of the register and expanding-rod.

This casing is circular at the bottom and elongated at the top, and is secured to the stove-pipe in any desired position by simply bolting on.

The rear side of the circular part of the casing forms the fixed register-plate C.

Over this fits the automatic register-disk D, and outside this is situated the independent register E.

These are all situated on the same axial center *a*, and have the usual register-holes *b b b* to admit the air.

The expanding-rod H is pivoted to the automatic register-disk at *c*, one side the center, its lower end resting in a cavity or bearing, *d*, of sufficient extent to allow the necessary turning action of the disk.

Its upper end is jointed to a screw-rod, G, which passes up through the top of the casing, and has a nut, *f*, screwed thereon, by which its adjustment is made.

The disk on that side to which the expanding-rod is pivoted is weighted, or made heavier than the opposite side, so that when the rod expands the disk will fall of its own weight and open the register-holes.

It will be understood that this device is to be placed on the stove-pipe above the fire, so that the admission of cold air will have the effect to deaden the fire.

The operation is as follows:

As the rod expands under the heat the automatic

disk-register D falls and opens the register-holes, which lets in cold air to deaden the fire.

As it contracts under the loss of heat it shuts the holes to cut off the passage of air, by which means the fire is again revived. It thus produces an equilibrium, which keeps a steady and uniform fire.

The outer disk E is turned by hand, by which means any desired gauge of the openings *b b* may be made independent of the action of the automatic disk beneath, or they may be cut off altogether.

This use of the outside register-disk has a special relation to the automatic one, as thereby regulation or gauge of the action of the latter is attained by opening or closing the holes more or less, in addition to the ordinary adjustment, by the action of the heat on the expanding-rod.

This combination of the two disks (one automatic in its action and the other independent in its movement) constitutes the first feature of my invention.

In addition to the above, I believe the combination and arrangement of the expanding-rod with an ordinary circular register, D, whereby the latter falls of its own weight, to open the holes when the expanding action takes place, to be new.

I am aware that automatic registers have before been known, but have been in the form of a clapper-valve, which under the expansion covered the draught opening in front of the stove.

My device works in the reverse manner, by opening instead of closing the holes, and is placed on the pipe instead of the front of the stove.

I also use the ordinary form of circular register, which I believe has not been done before.

Claims.

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

1. The combination of the two register-disks D E, the first automatic in its action through the medium of expanding-rod H, and the latter adjustable by hand, the whole arranged as described, and operating in the manner and for the purpose specified.

2. An automatic register for attaching to stove-pipes, &c., consisting of an ordinary circular register-disk, weighted or made heavier on one side, and connected with an expanding-rod, the whole arrangement being such that when the rod expands the register will open of its own weight, as herein described.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

Witnesses:

R. F. OSGOOD,
G. WILLM. MIATT.

JOHN S. TOAN.