S. J. SHERMAN.

Hot Air Register.

No. 18,356. Patented Oct. 6, 1857.

Fig. 2.

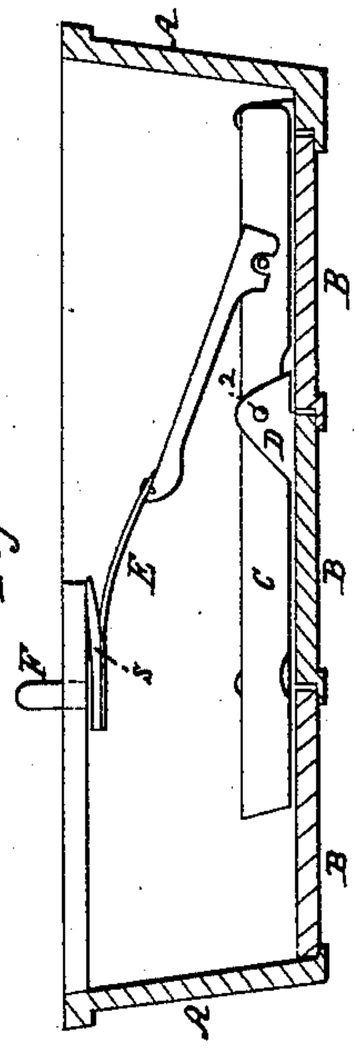



Fig. 3.

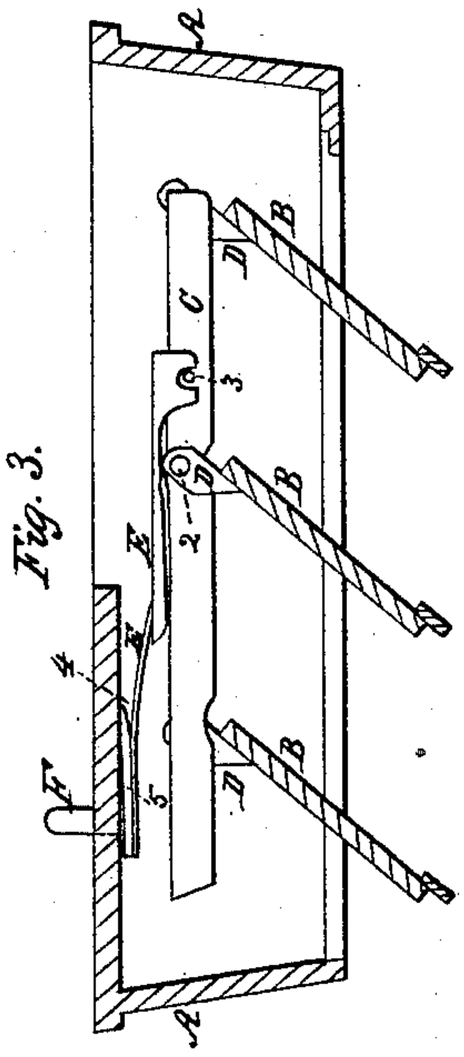
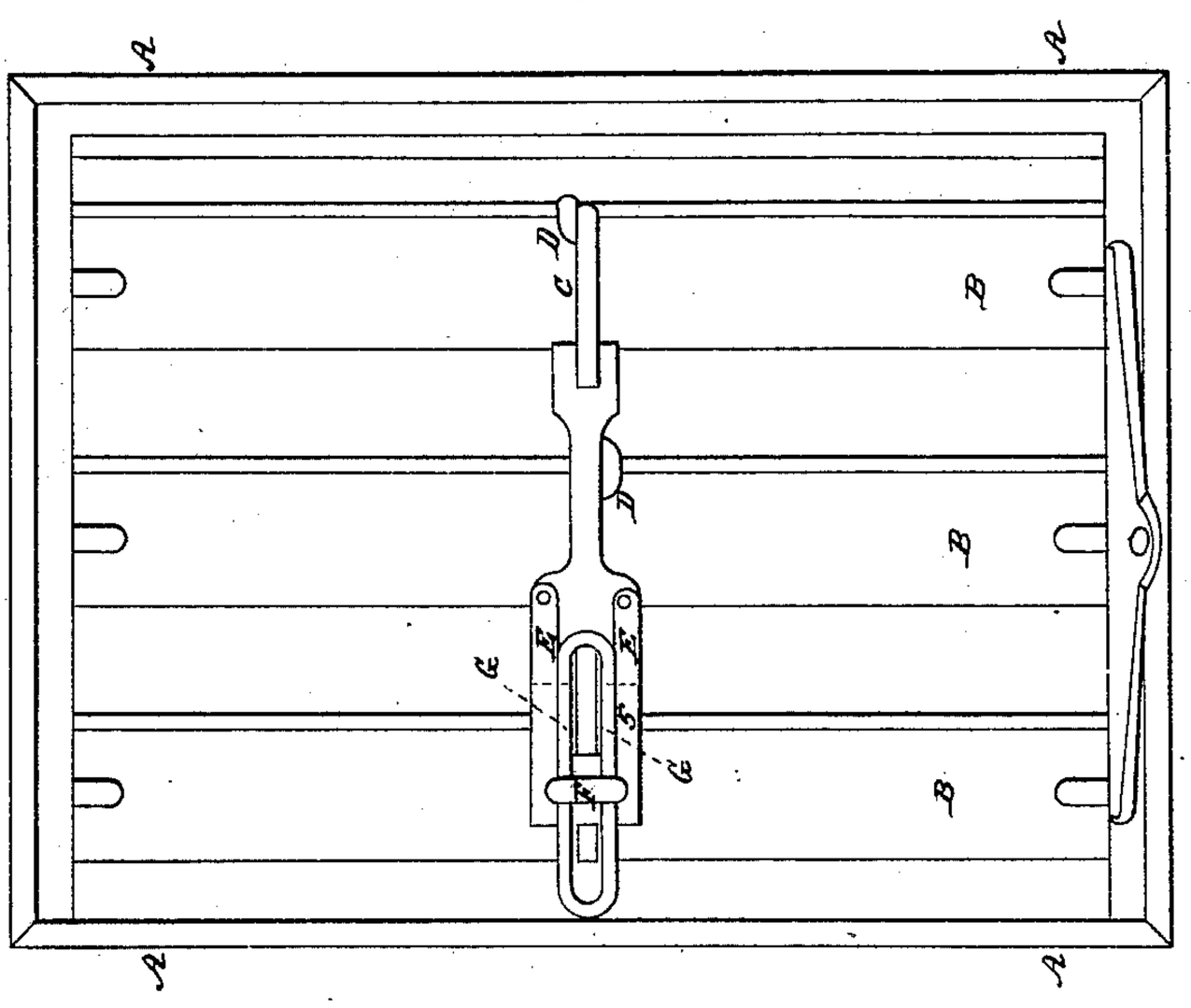



Fig. 1.




Witnesses:

Melville T. Biggs

J. W. Bladens

Inventor:

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# UNITED STATES PATENT OFFICE.

SYLVESTER J. SHERMAN, OF NEW YORK, N. Y.

## HOT-AIR REGISTER.

Specification of Letters Patent No. 18,356, dated October 6, 1857.

*To all whom it may concern:*

Be it known that I, SYLVESTER J. SHERMAN, of the city, county, and State of New York, have invented new and useful Improvements in Hot-Air Registers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in all of which like letters and figures refer to like parts.

The nature of my invention consists in the peculiar construction and arrangement hereinafter described of a spring bar connecting the fans with the top plate of a hot air register.

One end of the spring is armed with a knob or handle which passes through and slides within a slot in the top plate. This slot is placed at or near the center of the top plate, and by this arrangement the spring bar acts upon the valves to far better advantage than it would if placed at either end. The knob or handle on being moved back or forth, the spring bar will open or close the fans, adapting itself readily to any change of position and hold with a proper degree of tension at any given inclination of said fans in relation to the plate. This I believe is a distinctive feature of my improved hot air register and the advantages arising therefrom are manifold. By this arrangement the spring is caused to act permanently, even when the register is closed and the fans or valves are kept tight shut by the constant strain exerted by the spring, thus preventing the hot air from escaping. In all other hot air registers known to me the spring bears directly against the top plate, the spring acts then by friction between itself and the top plate; the consequence is that it will soon wear out and become useless. I have obviated this by securing the upper end of the spring to a sleigh or sliding plate to which is fixed the knob. Cook & Garrett's registers as well as others in the market, having their working gear attached to the end by screws or bolts and nuts, are liable to work and come apart and fall to pieces by the working of the register, while my spring bar and connecting rod are so constructed as to hold themselves in place and cannot be displaced by the working or changing position of the register.

In the drawings, Figure 1 is a plan view of my improved register, with the top or face of the frame removed and with the fans partially open. Fig. 2, is a cross section of the register showing the spring bar with the fans closed. Fig. 3, is a cross section of the register showing the spring bar with the fans partly open.

A is the frame or case of the register.

B, B, B, are the fans of the register.

C is the connecting rod which connects the fans together.

D, D, are the ears cast on the fans.

2, 2, are pins projecting from the connecting rod and passing through holes in the ears of the fans.

E is the spring bar which connects at 3 with the connecting rod, and at 4 with the top or face of the register.

F is the knob or handle attached to the spring bar passing through and working in the slot G. The spring bar terminates at the upper end in the plate 5, so as to more evenly slide against the under side of the piece having the slot in it. This spring bar should be made of steel and thin enough so as to be quite elastic. The size of the several parts may be such as may be required.

The operation is as follows: Commencing with the fans closed as in Fig. 2, as the knob or handle is slid or moved through the slots the fans are drawn open, and as the fans open their connecting rod approaches nearer to the top of the register and thereby bends up and changes the position of the spring. As the knob or handle is moved back the connecting rod descends allowing the spring bar to gradually resume its original position. During the operation a constant impingement of the spring is kept so that the fans may be held thereby at any desirable position.

What I claim as my invention and desire to secure by Letters Patent is—

1. Interposing between the top plate of hot air registers and the spring bar to which the fans are attached either directly or by means of a connecting rod, a slide plate, to which the end of the spring bar nearest to said top plate, on one side and the knob or handle on the other side, are permanently fixed substantially as described.

2. I also claim locating the spring bar at or near the center of the top plate, whereby its action upon the fans of hot air registers is equally and uniformly distributed.

SYLVESTER J. SHERMAN.

In presence of—
MELVILLE V. BIGGS,
M. B. ANDRUS.