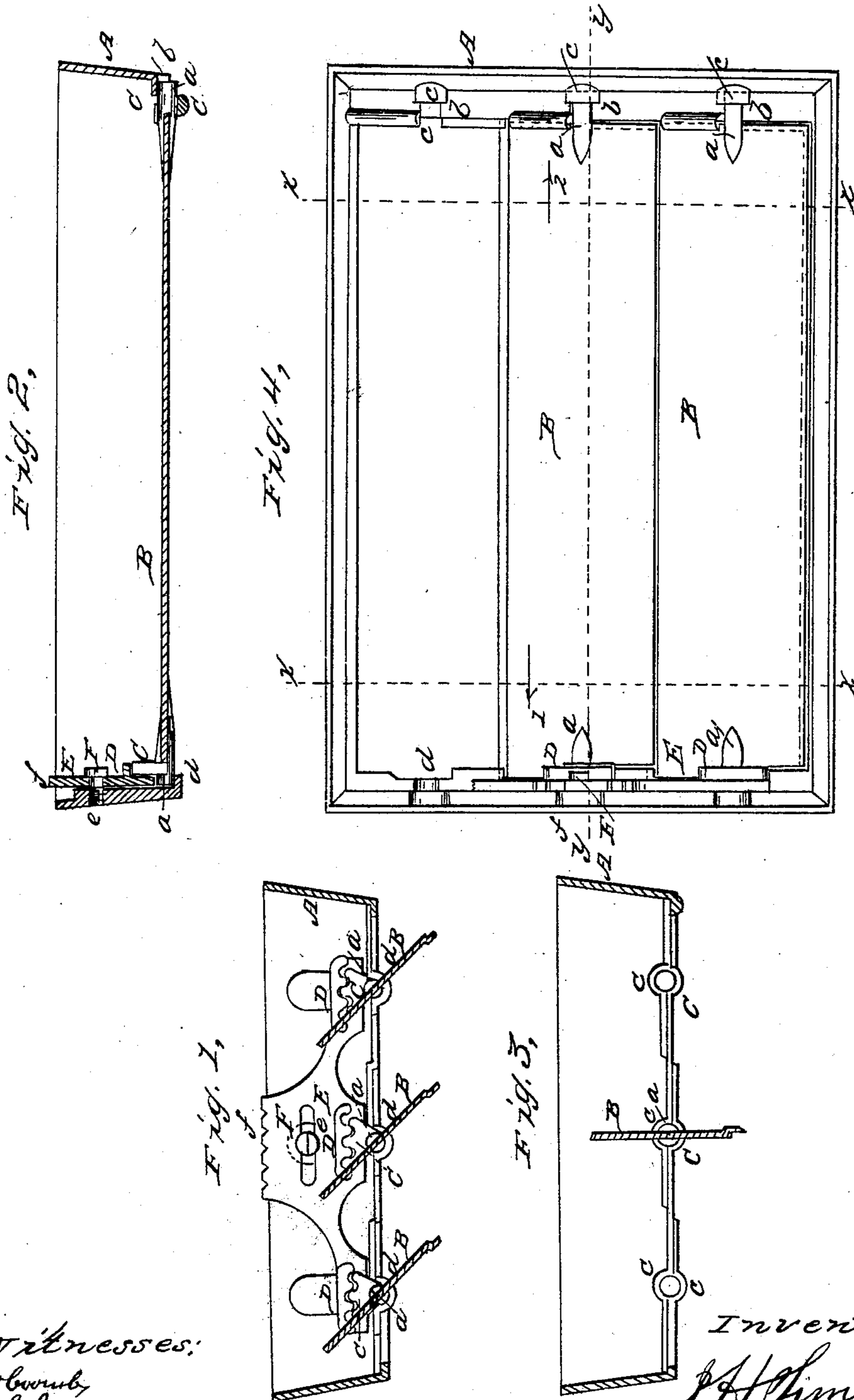


J. H. SIMONDS.

Register.

No. 31,485.

Patented Feb. 19, 1861.



Witnesses:
Hobbs,
R. S. Spinn.

Inventor:

J. H. Simonds

UNITED STATES PATENT OFFICE.

JEHIAL H. SIMONDS, OF NEW YORK, N. Y.

HOT-AIR REGISTER.

Specification of Letters Patent No. 31,485, dated February 19, 1861.

To all whom it may concern:

Be it known that I, JEHIAL H. SIMONDS, of No. 52 Cliff street, in the city, county, and State of New York, have invented a new and Improved Register for Hot Air and Ventiducts; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a transverse section of my invention taken in the line *x, x*, Fig. 4, and looking in the direction indicated by arrow 1. Fig. 2, a longitudinal section of the same, taken in the line *y, y*, Fig. 4. Fig. 3, a transverse section of the same, taken in the line *z, z*, Fig. 4, and looking in the direction indicated by arrow 2. Fig. 4 a face view of the same, the open cover of the box being removed.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates, first, to an improved means employed for operating or adjusting the valves of the register, and, second, to a novel and improved manner of fitting the valves in the box thereof.

The object of the invention is to obtain a register which may be economically constructed, readily adjusted and one that will not be liable to get out of repair, or rendered inoperative by use.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a cast-metal box of quadrilateral form and having its inner side formed of a series of valves B, three being represented in the drawings, but more being used if necessary.

The valves B, are of rectangular form and each is provided with a journal *a*, at each end, the journals being at the centers of the valves.

The box A, has bearings *b*, cast with it at one end. The bearings *b*, have both inner and outer bearing surfaces as shown at *c, c*,

in Fig. 2. The bearings *d*, at the opposite end of the box A, have outer bearing surfaces only.

Each valve B, has a toothed sector C, on it at one end, said sectors projecting from the faces of the valves and gearing into racks D, on the side of a slide E, which is secured to the side of the box A, by a screw F, which passes through a slot *e*, in the slide and into the side of the box A.

The inner edge of the slide E, bears against the journals *a*, of the valves directly over the outer bearings *d*, and serve as inner bearings for said journals. This will be fully understood by referring to Figs. 1 and 2, in which it will be seen that the racks D, are not flush with the inner edge of the slide E.

The sectors C, all engage with the racks D, at corresponding points so that when the slide E, is moved the valves B, will turn parallelly with each other, all the valves moving or turning simultaneously and the outer part *f*, of the slide projects rather farther out than the edges of the box A, and may be corrugated or milled so that it may be readily actuated by the foot or hand. This arrangement of the toothed sectors C, and the racks D, attached to slide E, admits of the valves B, being very readily turned or adjusted in whatever position the valves may be. The lever arrangements which are frequently employed for this purpose frequently "stick" or bind and do not in many cases operate freely and are liable to move casually when the valves are in certain positions.

In my improvement the slide E, may be prevented from casually moving by adjusting screw F, so that sufficient friction will be produced to cause the slide to bind a little against the side of the box A.

The slide E, while serving as an inner bearing for the journals *a*, at one end obviates the necessity of screwing caps or inner bearings to the box A, which have been heretofore used, and which add to the ex-

pense of the register and also cause considerable time to be consumed in fitting them up.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is,—

The attaching of the racks D, to the slide E, at points substantially as shown so as to admit of the sectors C, gearing into the

racks D, and at the same time admit of the inner edge of the slide serving as inner bearings for the journals *a*, at one end of the valves as set forth.

JEHIAL H. SIMONDS.

Witnesses:

M. M. LIVINGSTON,
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