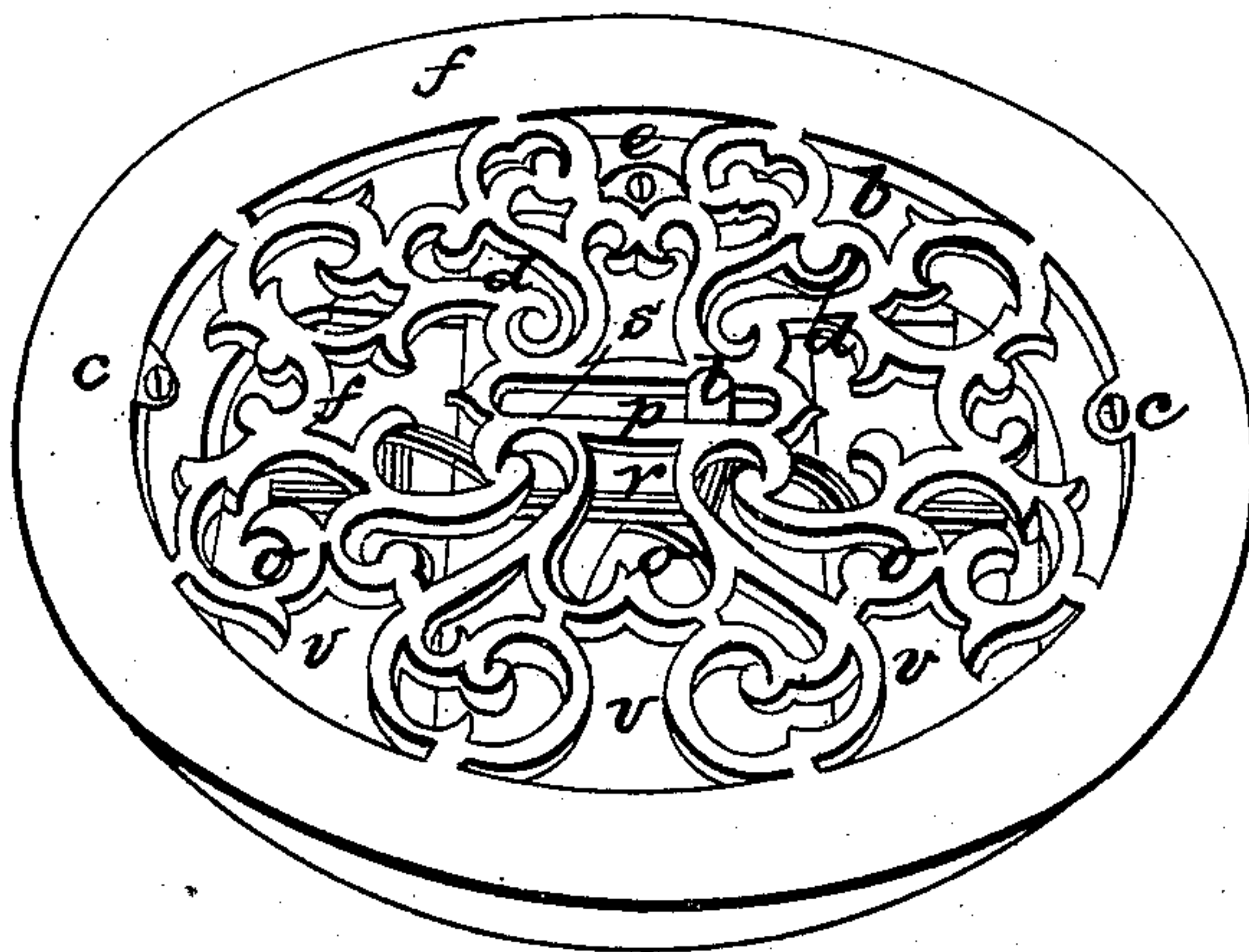


E. A. TUTTLE.  
Hot-Air Register.

No. 10,371.

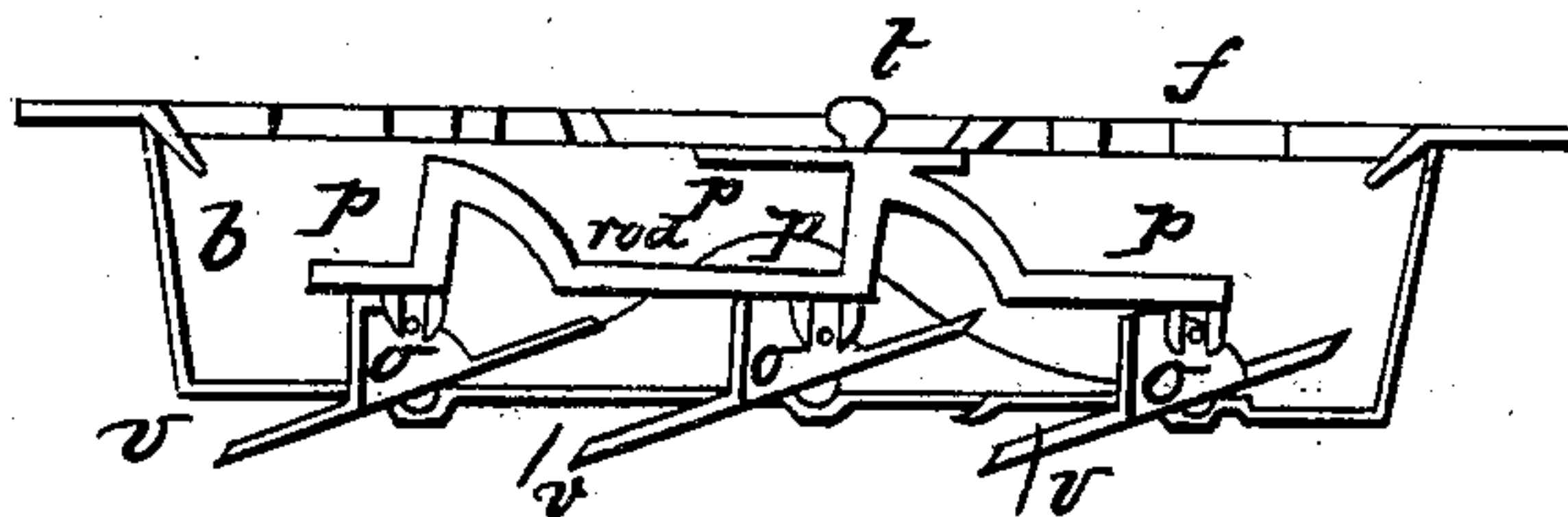
Patented Jan. 3, 1854.

*Fig. 1*

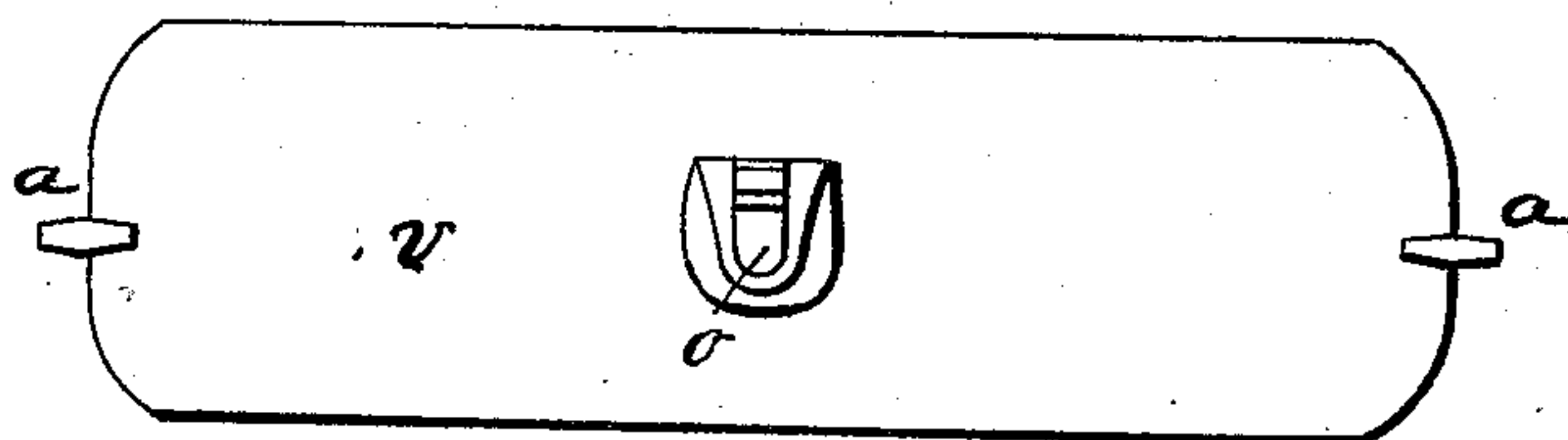


*Fig. 2*

*Section*



*Fig. 3*



*Inventor*  
*Edward A. Tuttle*

# UNITED STATES PATENT OFFICE.

EDWARD A. TUTTLE, OF WILLIAMSBURGH, NEW YORK.

## HOT-AIR REGISTER.

Specification forming part of Letters Patent No. 10,371, dated January 3, 1854; Reissued February 17, 1863, No. 1,412.

*To all whom it may concern:*

Be it known that I, EDWARD A. TUTTLE, of the city of Williamsburgh, county of Kings, State of New York, have invented a new and Improved Mode of Closing and Opening the Valves of Hot-Air Registers and Ventilators; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in the new and improved method of operating the valves of said registers and ventilators by an entirely new arrangement of the connecting rod and its method of connection with the fans or valves which greatly simplifies and cheapens the construction of the register while it is at these points more secure and equally strong.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation, reference being had to the accompanying drawings, like letters referring to like parts.

I construct my register in any convenient shape, round, square or otherwise, and having the more usual component parts.

In the drawings Figure 1 is a perspective view of the whole register. Fig. 2 is a transverse sectional view. Fig. 3 shows the construction of a single fan.

*b* is the frame or body of the register to which the ornamental top is fastened and in which the fans are suspended and freely turn.

*f* is the ornamental top or front which is of open work to admit the air to pass through freely. It is fastened to the frame by the screws *c c*. The fans *v v v* are suspended at the bottom or back side of the frame and are secured in their place in some suitable manner which will allow them to turn freely on their axis *a*. In this instance they are secured by the end piece *d* which is held in its place by the screw *e*. The fans are cast with raised openings upon them *o o o*, (the particular form of which is better seen on Fig. 3). They are hollow on the under side; see sectional view Fig. 2. The connecting rod *r*, is made in the shape (see Fig. 2) crooked, so that the fans can open to a right angle with the surface of the register. The rod has the prongs at *p p p*, which

play into the openings *o o o*, on the fans. It may be constructed with one prong instead of two and work in the single opening *o*. The rod is also supported in its proper position by the thumb piece *t*, sliding in the slot *s* in the top of the register. A straight bar may be substituted for the slot *s* and a forked thumb piece play astride of it. The rod is held in its place by the slide plate *p*. A shoulder or pin on the rod at the under side of the top will answer this purpose. The manner in which the motion is imparted to the fans by moving the thumb piece *t*, is seen on Fig. 2.

The improvement consists in the great simplicity of the arrangement of the rod and fans, 2d in its perfect security, 3d its cheapness of construction. It will be perceived that there is no drilling, millering, riveting or screwing about the rod, neither of the fans at the place of connection. The rod is cast smooth, slightly fitted, and dropped in its place. It is secured there when the top or front comes to be screwed on.

I am aware of the patent of William Turton issued to him in 1852 whose plan of opening registers is by a crown wheel with cogs on the under side of the same which meshes into corresponding cogs formed on raised segments on the top or front of the fans similar to a rack and pinion movement.

I do not claim the rack and pinion movement or the crown wheel and segments but

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

The improvement upon said William Turton's patent register which consists in the improved method of maintaining the connecting rod in its proper position substantially as described, namely at the bottom by a prong or prongs of the rod inserted into and working in cast raised openings on the fans or valves, and at the top by a slot or otherwise in the register front together with the slide plate *p*; by which arrangement the register is greatly simplified and cheapened in its cost.

EDWARD A. TUTTLE.

Witnessed by—

JAS. W. PITTMAN,  
JAMES M. AYMAR.