2 Sheets—Sheet 1.

C. F. TUTTLE.

Hot Air Register.

No. 6,060. Patented Jan'y 23, 1849.

Fig. 1

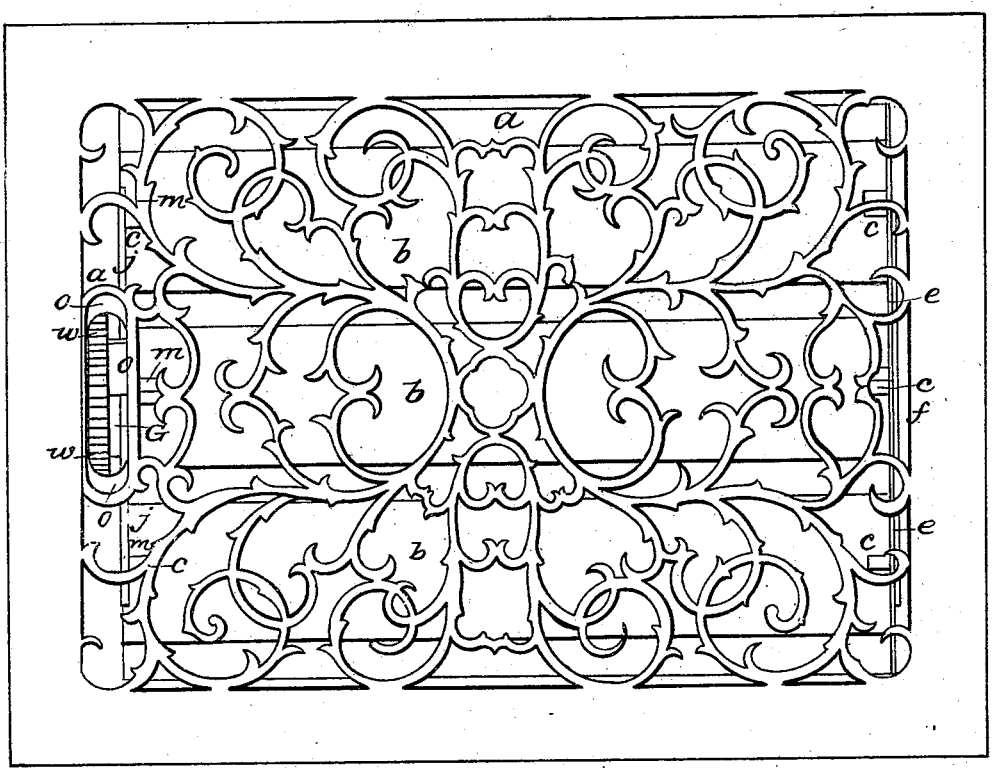
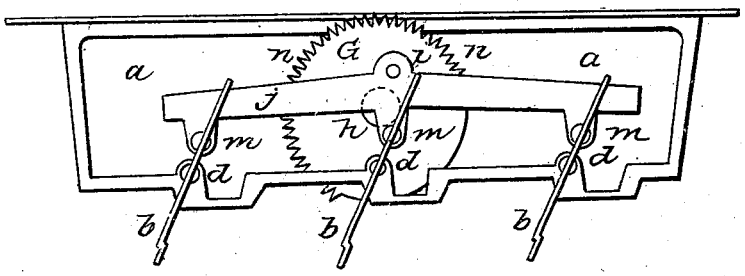


Fig. 2



Inventor
Charles F. Tuttle

2 Sheets—Sheet 2.

C. F. TUTTLE.

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Fig. 3

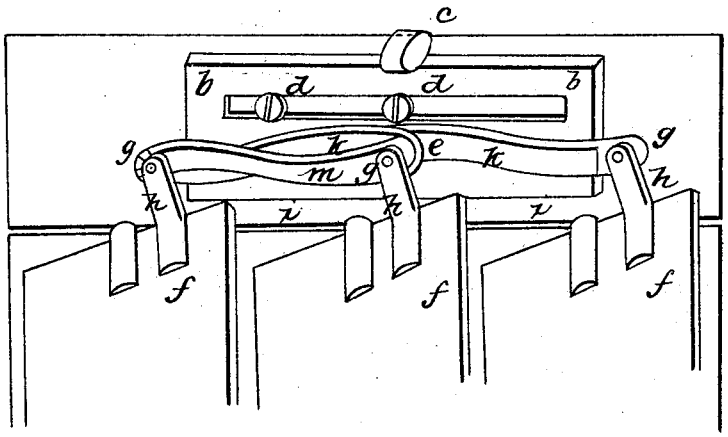
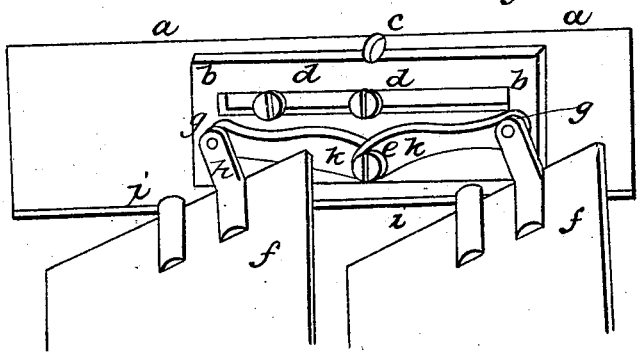


Fig. 4



6,060

Inventor

Charles F. Tuttle

UNITED STATES PATENT OFFICE.

CHS. F. TUTTLE, OF WILLIAMSBURG, NEW YORK.

REGISTER FOR HOT-AIR FURNACES.

Specification of Letters Patent No. 6,060, dated January 23, 1849.

To all whom it may concern:

Be it known that I, CHARLES F. TUTTLE, of Williamsburg, county of Kings, and State of New York, have invented a new and improved register used for the purpose of regulating the admission of heated air into rooms or dwellings from hot-air furnaces or other warming apparatus or for ventilating rooms and dwellings; and I do declare the following to be a full and exact description.

The nature of my invention consists in the new and improved method adopted in opening and closing the register or ventilator by means of an upright or vertical wheel which is connected with and gives motion to the valves by means of a movable connecting rod which is suspended on the side of the wheel on a pin projecting therefrom. And this connecting rod is attached to the valves by pins at their ends.

In order to enable others skilled in the art to make and use my invention I will proceed in aid of the accompanying drawings to describe its construction and operation.

I construct my register of metals as others usually are and in the usual forms. The top or surface is made open by scroll or fret work so as to admit the passage of warm air freely and at the same time to protect the valves as in case of a person walking over the register if placed in the floor.

My drawings and description describe my register when constructed in a square form. The valves *b b b* (Figure 1) three in number (sometimes a greater or lesser number are used) are suspended in the frame of the register at a sufficient depth or distance from its top or scroll work so that when they are open the edge of the fans or valves will not come in contact with the top of the register.

The pins or axles *c c c* upon which the valves are suspended and upon which they should turn freely are situated at the ends of the valves at or near their middle one end of the valves are secured in the frame by the pins *c c c* playing in the holes *d d d* (see Fig. 2) in the frame. The opposite ends of the valves are secured by the strip *e e* which is secured firmly and closely over the ends of the pins *c c c* by a screw at *f*.

At the end of the register, and playing freely upon its center is the wheel G attached to the register by the means of a screw or pin *h* (see Fig. 2). This screw or pin is firmly fixed in the frame and forms the axle of the wheel. The wheel is preserved on its axle by a head on this pin or axle which head must be flush with the surface of the wheel.

Upon the wheel situated at a distance from its center is the pin *i* (Fig. 2) this pin must be placed horizontal with the center of the wheel when the register is closed. Upon this pin *i* is suspended the connecting rod *j j* shaped nearly as in the drawing Fig. 2 and moving freely upon its axle *i*. This connecting rod raises or falls in a circular direction when the wheel is put in motion. This connecting rod is attached to the valves at *m m m* by pins on the ends of the valves. These pins are situated at the same distance from the centers of the axles at *d d d* (Fig. 2) that the pin *i* is from the center *h*. This is necessary in order that the register may work without binding at any stage of its opening or closing.

Now it will be perceived that when the wheel is moved for the purpose of opening the register the connecting rod *j j* is raised with it, and also that side of the valves to which the connecting rod is attached is raised and consequently opened in proportion to the distance which the wheel is moved. The opposite motion cannot fail to close the valves of the register.

The top of the wheel G is notched as at *n n* so that the foot will act upon it with more certainty. There is a recess around the wheel in the surface of the register as at *o o o* for the purpose of giving free access to the edge or notched surface of the wheel to turn it. The notched edge should be flush with the surface of the register.

Having thus briefly described the construction and operation of my register, I will briefly state what I believ to be new about it and what are some of the improvements made.

I regard as new the adoption of the upright or vertical wheel as a moving power together with the arrangement of the connecting rod which moves in a circular direction with the wheel, the said rod being attached to the valves as previously described. The improvements attained are some of them as follows: The vertical wheel by its position enables persons to impart motion to it with the foot (when placed in the floor as it more commonly is) without stooping down, thus being an improvement in point

of convenience. 2. The employment and correct use of the wheel and connecting rod very greatly diminishes friction giving it an advantage in opening with more ease than any register now in use. 3. From the nature of its construction it needs no holder, key, or other device which may or may not be at hand when needed to open the register being improvements in point of time in opening and also safety from burning the fingers. 4. My arrangement enables me to place my machinery for opening and working the register compactly in one end of the register. In this position they afford no obstruction to the free passage of warm air through it which is very desirable.

I do not claim the wheel itself as new or a thing by any means patentable. But

What I do claim and desire to secure by Letters Patent is the application of the upright or vertical wheel to the opening and closing of registers and ventilators, the edge or top of which is placed flush or nearly so with the top surface of the register and can be acted upon with the foot if desired. This wheel so placed and connected to the valves by means of a movable connecting rod, which rod is suspended upon a pin projecting from the side of the wheel and connected or attached to the valves by pins projecting from the ends of the valves at a distance from their centers substantially as described.

CHAS. F. TUTTLE.

Witnesses:
JAS. SMITH,
HENRY E. RIPLEY.