No. 874,127. PATENTED DEC. 17, 1907.

L. D. SMITH.

REGISTER.

APPLICATION FILED MAY 11, 1906.

3 SHEETS—SHEET 1

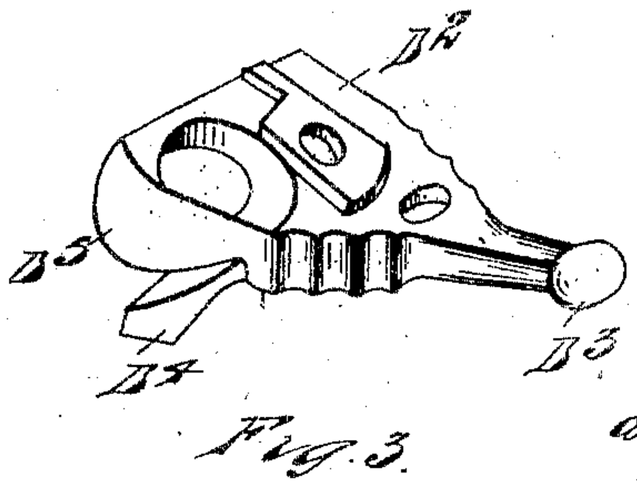

Fig. 3.

Fig. 2.

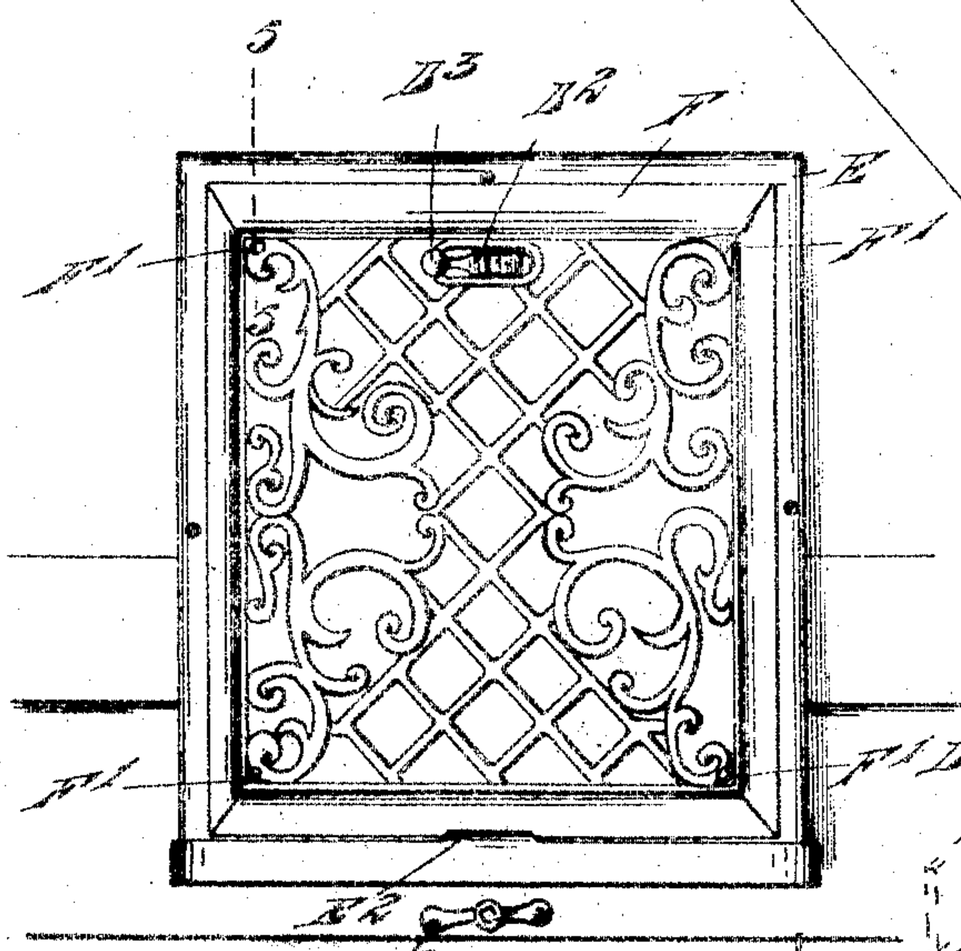

Fig. 1.

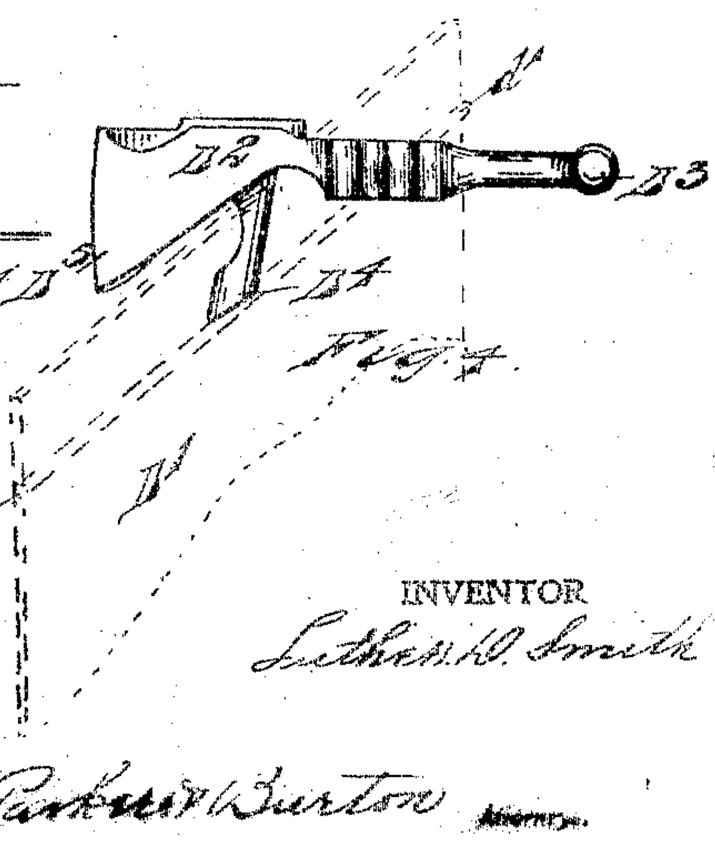

Fig. 4.

WITNESSES

C. E. May

C. C. Tinsley

INVENTOR

Luther D. Smith

By Parker & Burton

Attorneys.

No. 874,127. PATENTED DEC. 17, 1907.

L. D. SMITH.

REGISTER.

APPLICATION FILED MAY 11, 1906.

3 SHEETS—SHEET 2.

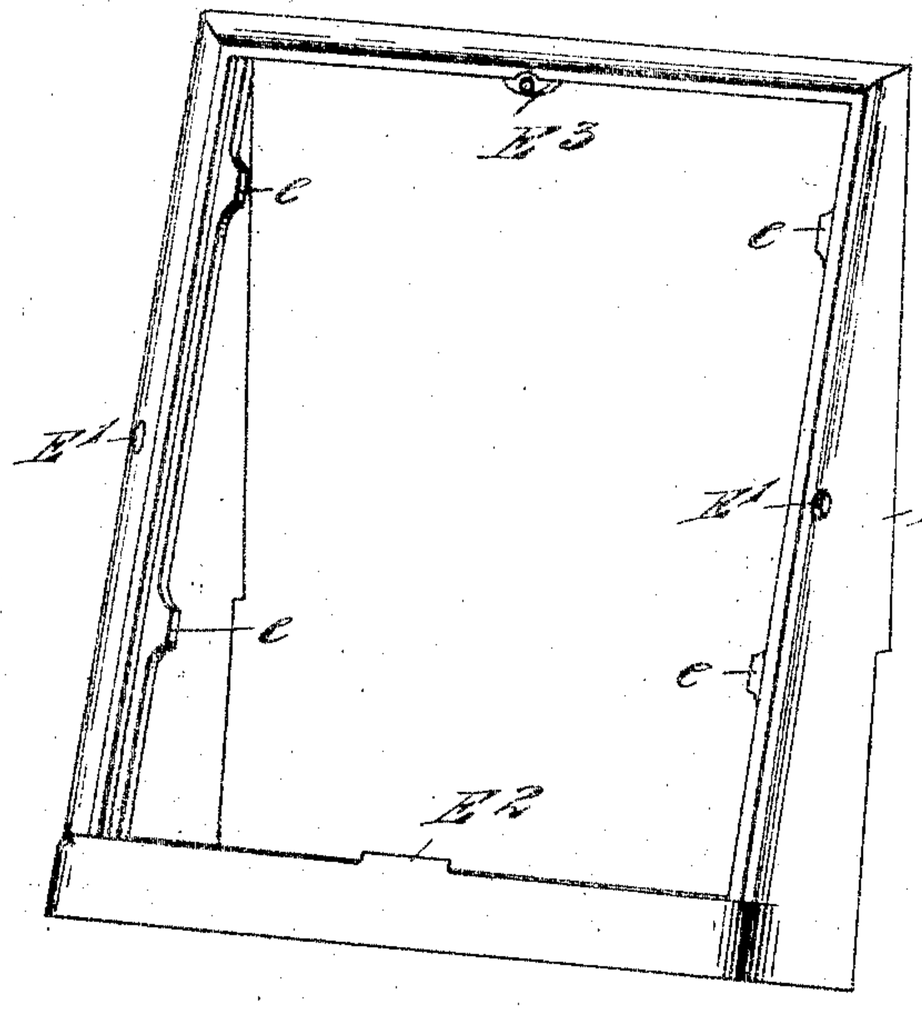

Fig. 9.

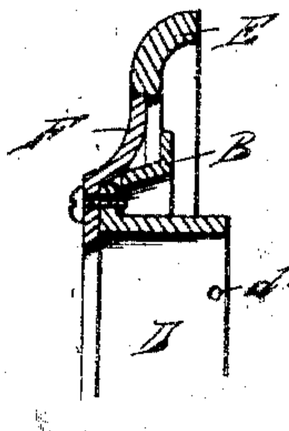

Fig. 5

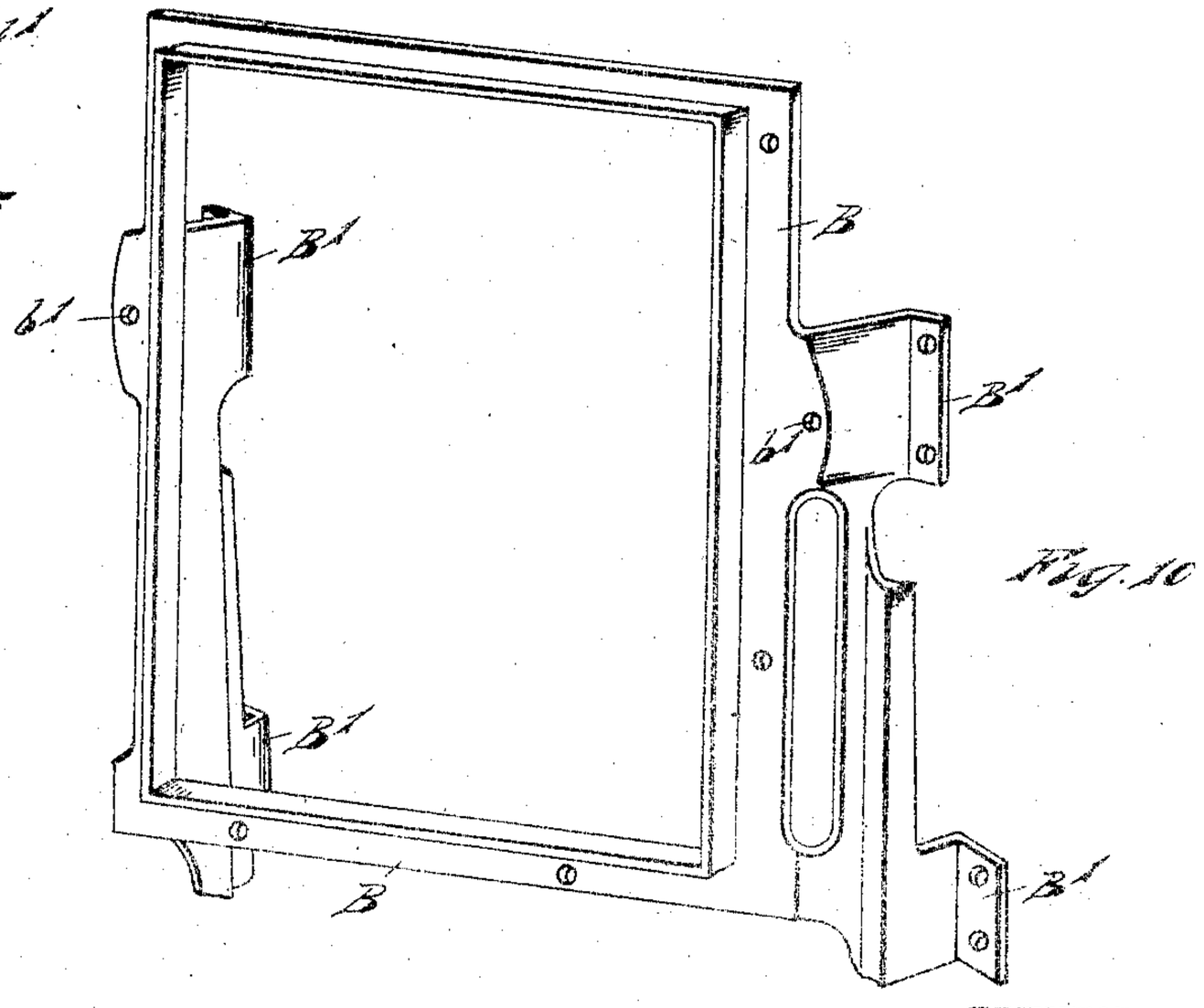

Fig. 10.

WITNESSES

C. E. Kay

W. G. Jennings

INVENTOR

Luther D. Smith

Parker & Burton Attorneys.

No. 874,127. PATENTED DEC. 17, 1907.

L. D. SMITH.

REGISTER.

APPLICATION FILED MAY 11, 1906.

3 SHEETS—SHEET 3.

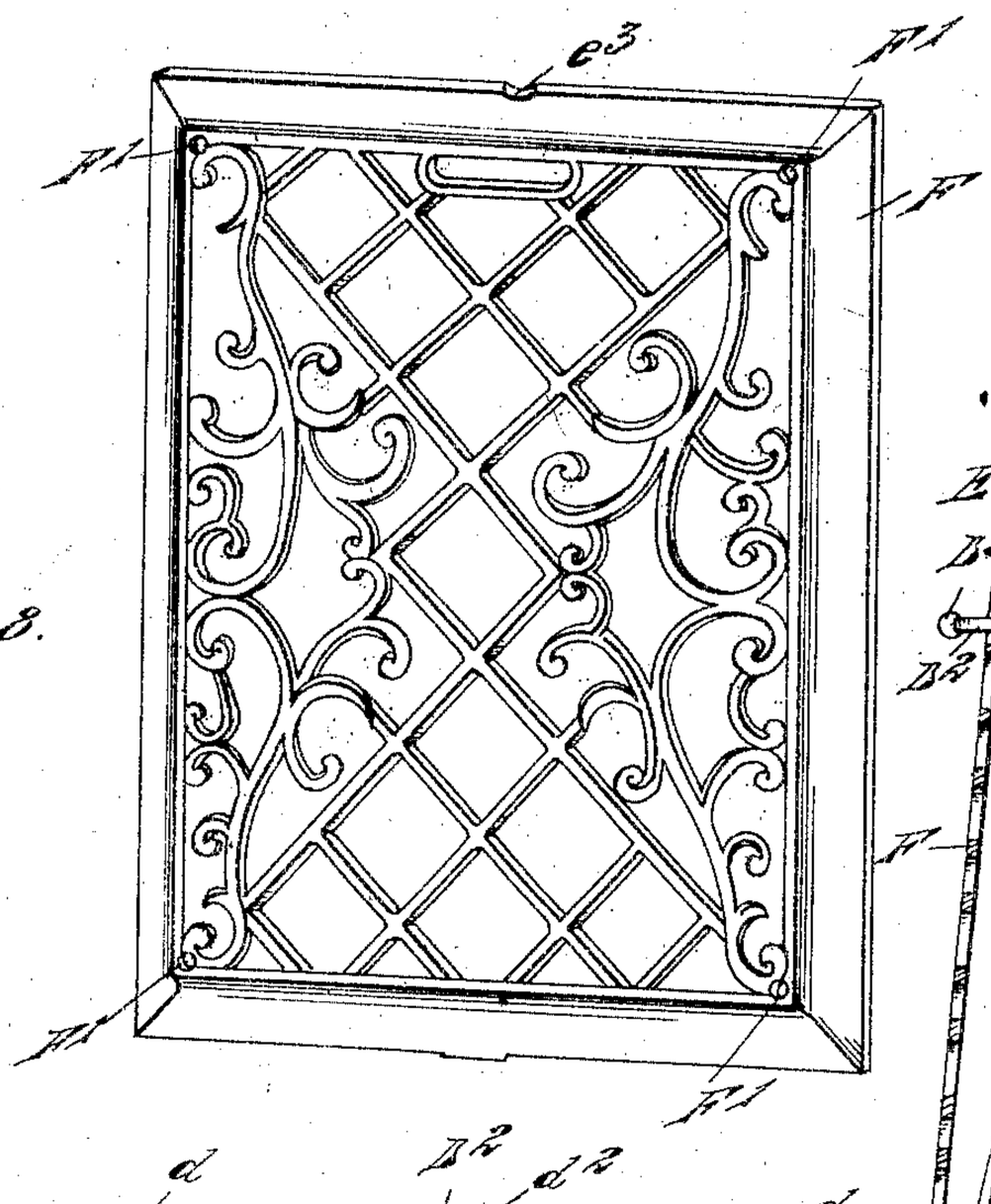

Fig. 8.

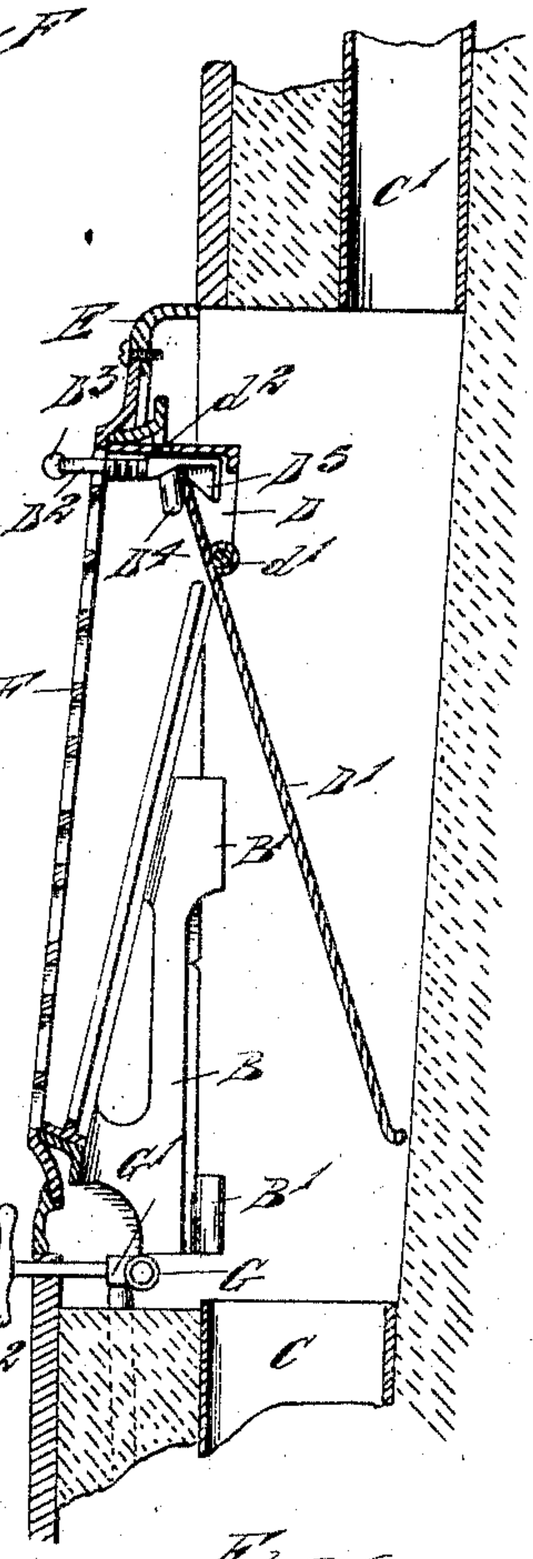

Fig 6

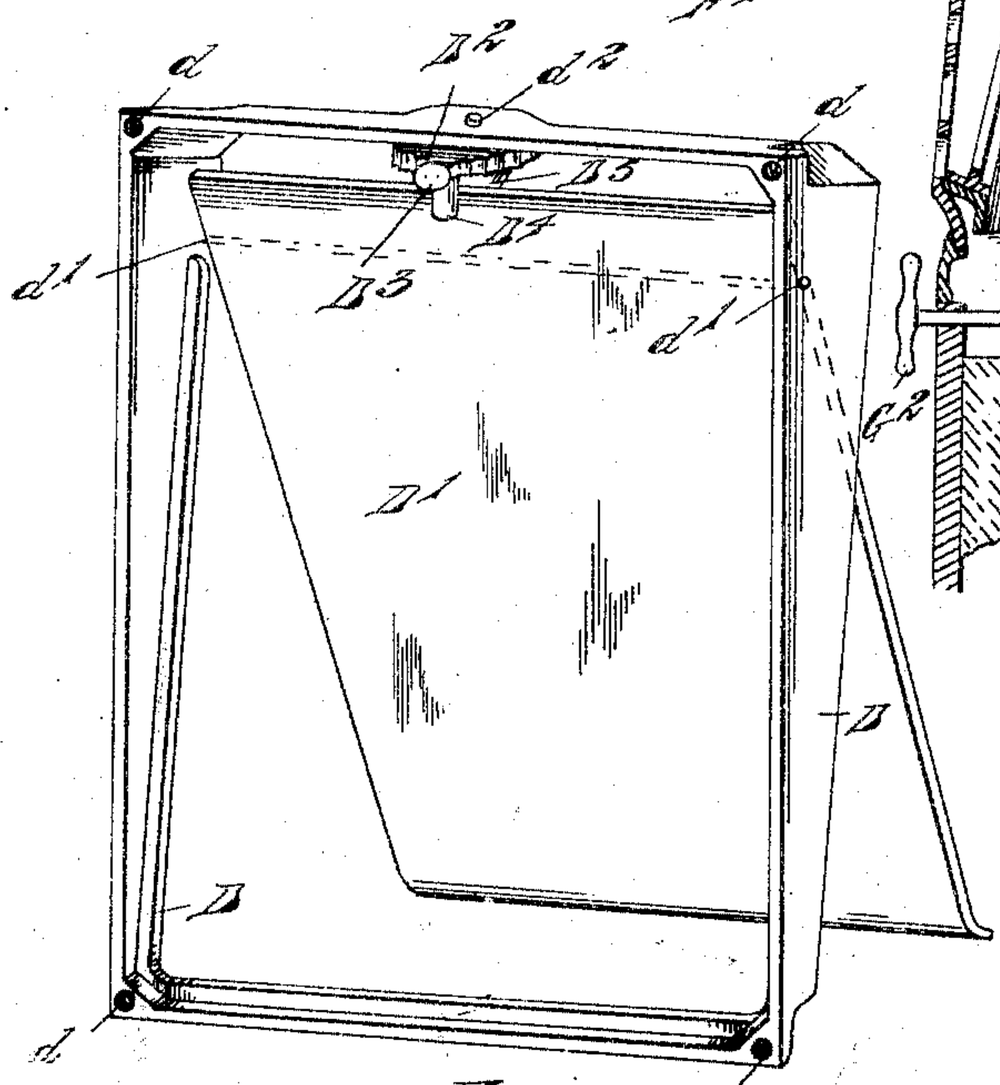

Fig. 7

WITNESSES

C E Day

W C Jennings

INVENTOR

Luther D. Smith

By Parker & Burton Attorneys.

UNITED STATES PATENT OFFICE.

LUTHER D. SMITH, OF DETROIT, MICHIGAN.

REGISTER.

No. 874,127. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed May 11, 1906. Serial No. 316,257.

To all whom it may concern:

Be it known that I, LUTHER D. SMITH, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Registers, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to registers, and consists in the improvements hereinafter described and set forth in the claims.

In the accompanying drawings:—Figure 1, is an elevation of a register embodying my invention and parts adjacent thereto. Fig. 2, is a perspective view of the same, the ornamental openwork frame being removed. Fig. 3, is a detail perspective view of the cam-lever operating the valve. Fig. 4, is a perspective view of the lever shown in Fig. 3 from a different point of view, the relative position of the valve being shown in dotted lines. Fig. 5, is a detail sectional view upon the line 5—5, Fig. 1. Fig. 6, is a cross section of the register in place in the wall, showing the flues and adjacent parts. Fig. 7, is a perspective view of the valve and containing frame. Fig. 8, is a perspective view of the openwork frame. Fig. 9, is a perspective view of the finishing-frame. Fig. 10, is a perspective view of the supporting-frame.

A, A, are portions of two of the studs of a building.

B is the supporting frame secured by lugs B^1 to the studs A, A. This frame is usually rough and unfinished, and is put on during the construction of the building. It stands out some distance in the room, held there by the lugs B^1.

E, is an ornamental finishing frame, which is placed over the frame B, and secured thereto by screws passing through holes E^1, E^1, in the frame E (Fig. 9), and engaging threads in holes b^1 in the frame B. The frame E is provided with inwardly extending lugs *e* at the sides thereof, the upper surfaces of which extend in the same plane as the bottom of a rabbet running around the interior edge of said frame.

E^2, is a lug extending inward from the lower part of the frame E above the lower part of said rabbet.

E^3, is a lug extending inward from the center and upper portion of the frame E, and provided with a screw threaded hole.

F (Fig. 8) is a frame including ornamental openwork. When the frame E has been secured to the supporting frame B, as above described, the frame F is placed with its lower edge inside of the lug E^2, and lying upon the lower surface of the rabbet in the frame E and on the lug E^2. A screw is then inserted in the hole in the lug E^3, its shank coming partly within a groove e^3 (Fig. 8) in the frame F, and its head resting upon the surface of said frame to hold it in position.

D, is a frame.

D^1 is a valve pivoted at d^1 to the frame D. The valve D^1 when closed is adapted to fill the frame D, and to open a passage through said frame when oscillated upon its pivot, as indicated in Figs. 2, 6, and 7.

D^2, is a cam-lever pivoted at d^2 at the center of the upper part of the frame D within said frame.

D^3, is a handle extending outward from the lever D^2. Upon said lever are two opposing cams D^4 and D^5, which extend upon opposite sides of and engaging the valve D^1. By oscillating the lever D^2 by means of the handle D^3, the upper edge of the valve D^1, is drawn outward or inward oscillating said valve about its pivots d^1. The frame D is placed within the frame B, and screws are inserted through holes F^1 at the corners of the frame F, which screws engage threads in the screw threaded hole *d* in the frame D to hold said frame in position (see Fig. 5).

C is a flue leading from the furnace into the aperture in the wall of the building closed by the register. C^1 is a flue leading from said register upward to another room in the building.

G is a burner, or manifold, to which gas may be supplied through a passage closed by a valve G^1.

G^2 is a handle by which the valve G^1 may be opened and closed. The burner G is located between the register and the outside wall of the flue C.

The operation of the above described device is as follows:—In the above description the method of adjusting the parts has been described. If there is a furnace supplying a current of hot air through the flue C by oscillating the valve D^1, this current of air may be turned entirely into the room upon the wall of which is the register shown, or by closing said valve the current of hot air may

be entirely shut off from said room, and directed up the flue C^1. In an intermediate position of said valve, a part of the current of hot air will take one direction, and a part the other. If the burner G is lighted, it will cause a current of air which may be directed, as above described with reference to the heated air from the furnace. The burner G may be used alone or with a furnace. In the latter case, it will assist to cause or maintain a current of air from the furnace, or upward into the flue C^1, as may be required.

It will be observed that the frame D may be omitted entirely, and still the register will have its usual appearance, and that said frame may be inserted or withdrawn at any time at little trouble.

The cam lever D^2 may be cast in one piece, and is of a form that may be easily drawn from the sand, and in its action it completely controls the movement of the valve throughout the extent of said movement.

What I claim is:—

1. In a register, the combination of a valve pivoted upon a horizontal axis, a cam lever adapted to swing in a horizontal plane, and having cam surfaces engaging both sides of said valve, and a hot air flue having a delivery opening in which said register is mounted, said delivery opening being controlled by said valve.

2. In a register, the combination of the valve D^1 pivoted at d^1, the cam lever D^2 engaging respectively against opposite sides thereof, and a hot air flue having a delivery opening in which said register is mounted, said delivery opening being controlled by said valve.

3. In a register, the combination of a valve pivoted to turn on an axis in one plane, a cam-lever adapted to swing in a plane at an angle with the plane of the axis of said valve and having cam surfaces engaging both sides of said valve, and a hot air flue having a delivery opening in which said register is mounted, said delivery opening being controlled by said valve.

4. The combination of the frame E provided with a lug E^2, a frame F, means on the frame E for limiting the inward motion of the frame F relative thereto, the frame F being adapted to engage inside of the lug E^2, a frame D located inside of the frame E, and means for securing the frame F to the frame D.

5. The combination of a frame B, the frame E adapted to cover the frame B and be secured thereto, the frame E being supplied with lugs *e*, and a lug E^2, a frame F inclosing ornamental openwork adapted to engage inside of the lug E^2 and outside of the lugs *e*, a frame D adapted to fit within the frame B, and means for securing the frame F to the frame D.

In testimony whereof, I sign this specification in the presence of two witnesses.

LUTHER D. SMITH.

Witnesses:

ALICE TOWNSEND,

ELLIOTT J. STODDARD.