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REGISTER.

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1,143,802.

Patented June 22, 1915.

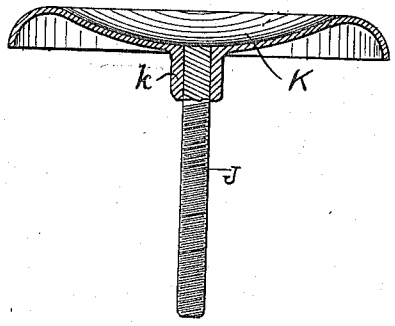


Fig. 3.

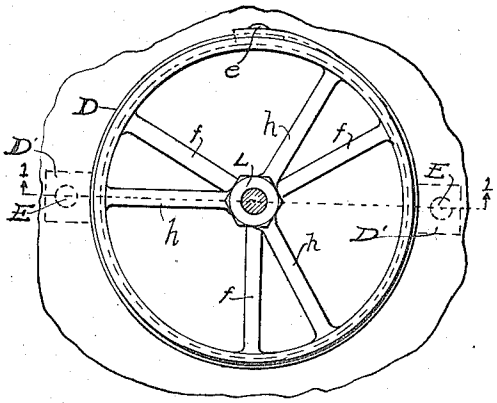


Fig. 2.

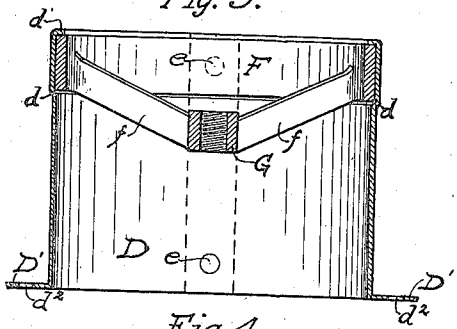


Fig. 4.

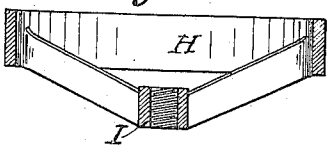


Fig. 5.

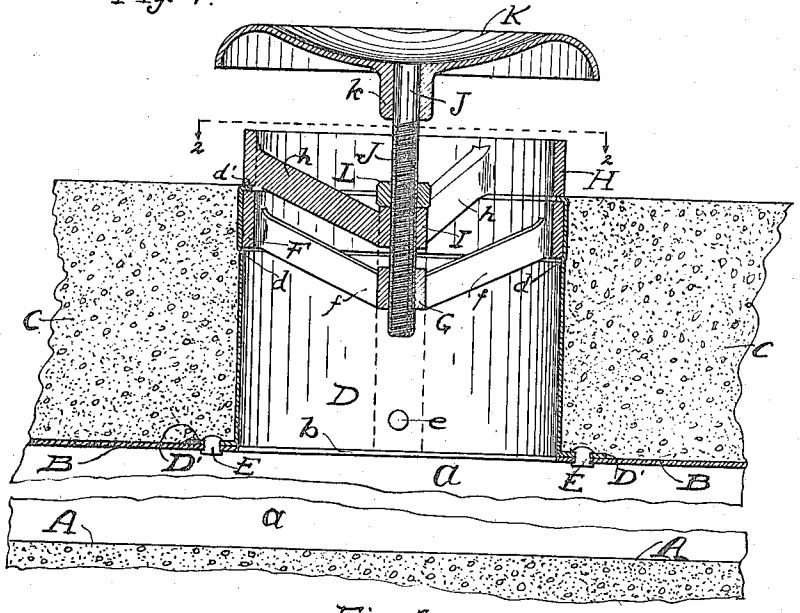


Fig. 1.

WITNESSES

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To all whom it may concern:

Be it known that I, HERMAN E. BATTERMAN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Register, of which the following is a specification.

This invention relates to devices which are used, principally, for heating buildings, churches, theaters, and halls wherein are arranged a large number of seats which are permanently attached in a determined position, by means of heated air.

The objects of the invention are to obtain a device which is easily duplicated, readily installed by ordinary mechanics; which is durable, not liable to break or be broken, or to get out of order, and which is economically made; and a device which may be grouped, when large numbers thereof are used, as is required by the exigencies of a given construction to give desired results and to be combined with a duct or ducts designed therefor and forming a part of the complete device sought.

An additional object is to obtain a device which may be used for admitting cooled or washed air, as well as heated air, to a room or chamber.

In the drawing illustrating a portion of an air duct and one of a number of duplicate devices joined thereto forming a part of an installation embodying this invention, Figure 1 is a vertical section of a concrete floor, showing a small portion thereof, a short length of an air duct in said floor, and a vertical section of one of said duplicate devices. Fig. 2 is a horizontal section, on line 2—2 of Fig. 1, viewed in the direction indicated by the arrows. Fig. 3 is a vertical section of a disk, a hub to said disk and a bolt in the hub of said disk. Fig. 4 is a vertical section of the cylindrical portion of said duplicate device and of a ring secured in the upper end thereof. And Fig. 5 is a vertical section of the ring, duplicates whereof are used in each of the duplicate devices forming elements of an installation embodying the invention.

A reference character applied to designate a given part indicates said part throughout the several figures of the drawing, wherever the same appears.

A is the bottom of a hot air conduit or duct, and *a* one of the sides of said duct.

B is a cover to said hot air duct, and C is concrete forming part of the concrete floor of the hall or other place where the device is installed. To those familiar with concrete floors it is known that the upper surface forms the floor of one room and the under surface forms, or is adapted to form, the ceiling of the room thereunder, and that said concrete is in effect a horizontally disposed wall, and hence, the term wall, wherever it is hereinafter used is intended to include the body of concrete forming the floor and ceiling of a room, or other space. I make cover B of sheet metal. *b* is an aperture in said cover B.

D is a metal cylinder, which is illustrated as made of a strip of sheet metal with the ends joined by rivets *e*.

E are ears or lugs on the lower end of the cylinder D.

d is a bead near the upper end of cylinder D, and the effect of said bead is to make said cylinder larger, (of greater diameter) above said bead than it is below.

D′ are rivets by means of which cylinder D is secured in place on cover B to register with aperture *b*.

F is a metal ring, which is provided with the arms *f*, *f*, *f*, and hub G. Ring F is secured in place in cylinder D by inserting it in the enlarged end of said cylinder and turning or peening the extreme end of said cylinder over thereonto, as at *d*′. Hub G is provided with a screw threaded aperture. H is an additional ring, which is provided with arms *h* and hub I. Hub I is provided with a screw threaded aperture. Rings F and H are illustrated as duplicates.

J is a screw threaded bolt which fits in the screw threaded apertures in hubs G, I.

K is a disk which is provided with hub *k*, and the bolt J is rigidly secured in said hub.

L is a lock nut on the bolt J.

In a heating system duplicate ones of the device which is illustrated and described are installed. The present practice is to install said devices underneath some of the seats in the hall, room, or other place. It is necessary, therefore, to first determine where the seats are to be placed and then to construct the air ducts, so far as the bottom A and sides *a* are concerned; and these air ducts are made of concrete material. Covers B are then laid in place on the upper

edges of the side walls, and duplicate cylinders D are secured in place, to register with the apertures *b*, as hereinbefore described, by rivets E. The concrete C is then laid, together with the remainder of the concrete floor of the hall, room, or other place. It will be observed that the height of the cylinder D is the same as the depth of the concrete C, so that the upper end of said cylinder, and the upper edge of the ring F, secured therein, are substantially in the same plane as the upper face of said concrete. When so embedded the flushing of the floor will cause water to flow into said cylinder D and into the duct communicating therewith. The ring H is, therefore, put in place on the upper edge of ring F, and on the upper end of the cylinder D, and bolt J, with lock nut L thereon, is screwed into place in the screw threaded apertures in hubs G and I. As said bolt is so screwed in said hub the disk K is brought nearer to the upper face of concrete C. The quantity of heated air flowing from the several ducts is controlled, at a given place, by the position of said disk K, and hence said turning of bolt J is continued until the proper adjustment of the disk K is obtained, at said given place. The ring H is then turned while disk K is held stationary, until the lower end or edge of said ring H is forced firmly down on to the upper edge of ring F and turned over end of cylinder D. When this is accomplished but little, if any, water will flow between said edges into the cylinder, when the floor is flushed. The lock nut L is then tightened to place, to prevent accidental movement of said disk K and bolt J.

A large number of the above described devices are used in a large hall, and by adjusting the several disks K in the manner described the air admitted to the room, hall, or other place, is directed and controlled, as desired; and so that the room, etc., is properly heated in all parts thereof, without drafts; and all the heated air which is admitted is deflected on to the floor, (surface of concrete C).

I describe this invention as connected with the air ducts of an air heating device because it was designed and first constructed for that purpose; but it will be understood by those skilled in the art that cooled air, or washed air, may be forced through the duct described, and through the remainder of the device into the room, or other place, where the device is installed; and that cooling or ventilating of said room will be effected by this device, as well as heating thereof, when desired.

I claim:—

1. A concrete wall having an opening, in combination with a cylinder embedded in said concrete to register with said opening, and with the outer end of said cylinder and the corresponding surface of said concrete in substantially the same plane, a ring secured in said cylinder, said ring provided with arms and a hub having a screw threaded aperture, an additional ring to said cylinder, said additional ring provided with arms and with a hub having a screw threaded aperture, a disk and a screw threaded bolt secured in said disk, the threads on said bolt corresponding with the threads in said apertures in said hubs.

2. A concrete wall having openings, in combination with cylinders, means to attach said cylinders in said wall to register with said openings, said cylinders respectively embedded in said concrete with the outer ends of said cylinders and the corresponding surface of the concrete in substantially the same plane, rings secured in the outer ends of said cylinders, arms to said rings and hubs, said hubs provided with screw threaded apertures, additional rings, arms and a hub to said additional rings, and screw threaded apertures in said last named hubs, disks and screw threaded bolts secured to said disks, the threads on said bolts corresponding with the threads in the apertures in said hubs and in said additional hubs.

3. A register comprising the following elements in combination, a cylinder provided with a bead near one end and an enlarged portion between said bead and said end, a ring secured in said enlarged end, an additional ring, both said rings provided with arms and with a hub, and said hubs respectively provided with screw threaded apertures, a disk, a hub to said disk and a screw threaded bolt in said hub, the screw threads on said bolt and in said hubs adapted to correspond.

4. A cylinder, projecting lugs on one end of said cylinder, a ring secured in the opposite end of said cylinder, an additional ring, both said rings provided with arms and with a hub, and said hubs respectively provided with screw threaded apertures, a disk, a hub to said disk, and a screw threaded bolt secured in said hub of said disk, the threads corresponding with the threads in said first named hubs.

Signed at Chicago, Cook county, Illinois, this 21st day of November, 1913.

HERMAN E. BATTERMAN.

In the presence of—

CHARLES TURNER BROWN,
CHARLES B. HEBRON.