

(No Model.)

G. E. GAY.
SELF INDICATING REGISTER.

No. 595,876.

Patented Dec. 21, 1897.

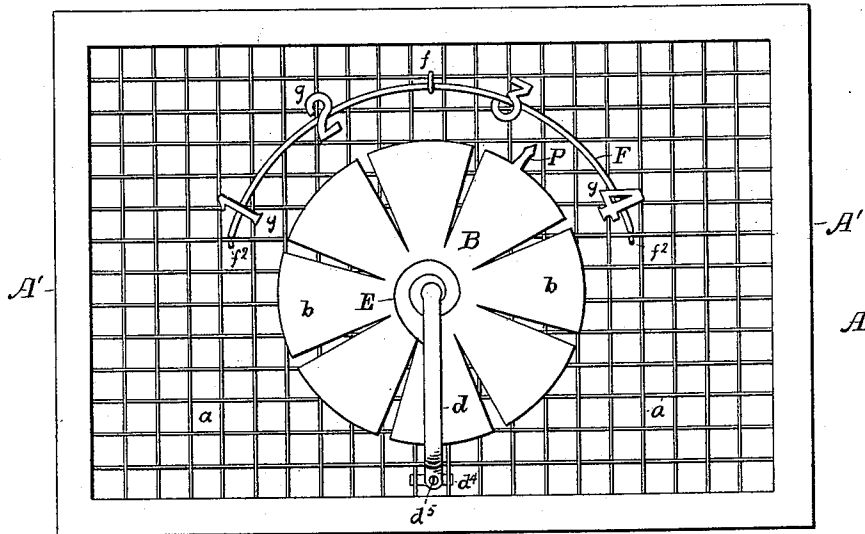


fig. 1.

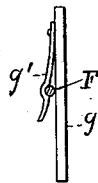


fig. 3.

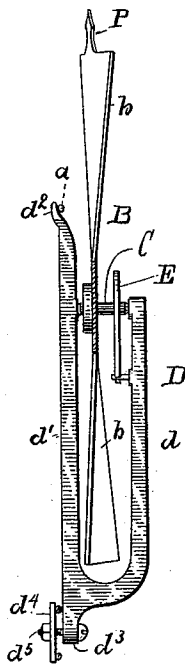


fig. 2.

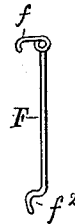


fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE E. GAY, OF MALDEN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
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SELF-INDICATING REGISTER.

SPECIFICATION forming part of Letters Patent No. 595,876, dated December 21, 1897.

Application filed April 5, 1897. Serial No. 630,690. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. GAY, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented a new and useful Self-Indicating Register, of which the following is a full, clear, and exact description.

In schools and other rooms wherein numbers of individuals are detained for several hours at a time it is customary to warm and ventilate the same by means of currents of fresh air forced into the apartments through suitable conduits, the terminals of which, or "registers," as they are called, can be opened to a greater or less extent for the purpose of admitting a corresponding supply of the warmed or unvitiated air. According, however, as the atmospheric conditions vary or the prevailing winds change in direction or velocity the quantities of air forced in do not remain constant and the teacher or other individual in charge is unable to know whether at any particular time the supply of fresh air is in fact equal to the requirements of the occupants. Furthermore, as the number of occupants in the apartment varies the supply of oxygen should be correspondingly adjusted. The quantity of fresh air which would be ample for twenty people is wholly insufficient when forty are occupying the room.

My invention has for its object the construction of a register which shall be so arranged that the influx of air shall automatically actuate a pointer and thereby indicate the volume of the supply at any desired moment.

In the drawings forming part of this specification, Figure 1 is an elevation of my self-indicating register. Fig. 2 is a side view of the indicating mechanism. Figs. 3 and 4 are details thereof.

In Fig. 1, A indicates the register-frame, provided with the usual coarse netting *a*, and D is a light frame secured to this netting. Said frame D comprises the two arms *d* and *d'*, provided with ear *d³* and finger *d²*. Through the ear *d³* passes the small bolt *d⁵*, engaging the cross-bar *d⁴*, which I design to be equal in length to the diagonal of one of the meshes of the netting and, of course, greater than

the vertical distance between the wires. The object is this: Having inserted the finger *d²* of the arm *d'* beneath one of the wires *a* of the netting, the cross-bar *d⁴* is passed through the proper mesh below and then turned around either vertically or horizontally to bring it behind the wires and the bolt *d⁵* tightened up. This holds the frame D securely in place.

Between the arms *d* and *d'* in suitable bearings is an easily-turning shaft C, upon which is fixed the wind-wheel B, and upon the same shaft is further affixed the hair-spring E, whose outer end is secured to the arm *d*. The vanes *b* of said wind-wheel are so set that the influx of air through the register A tends to turn the same in the direction to wind up the spring E, and affixed to one of the vanes is a pointer P. The index at which this pointer is directed is formed as follows:

A wire F, curved concentric with the wind-wheel, is adapted to be secured to the netting *a* by means of the recurved fingers *f²* at its ends and the latch *f* at its central portion. Said recurved fingers being caught behind the proper netting-wire, the latch *f* is then engaged upon a netting-wire just behind it. To this dial-wire F are secured the figures *g*, extending usually from "1" to "4" or "5." These figures are formed from cast metal and are provided with the spring-catches *g'* for removably engaging said dial-wire F, as shown in Fig. 3. By sliding these figures along upon the dial-wire they can be brought to the proper positions required. These figures represent ten times the numbers indicated, representing respectively ten, twenty, thirty, and forty, the ciphers being omitted for the sake of interfering as little as possible with the air influx. Said numbers ten, twenty, thirty, &c., indicate the number of people for whom the register is to supply fresh air. In other words, if the room contains thirty individuals the air-conduit must be opened or closed until the pressure of incoming air shall retain the pointer in the vicinity of the figure "3."

In using this self-indicating register the wind-wheel frame is first set up as previously described. The wire F is then set concentric therewith, and the figures *g* placed upon the

wire. Now, having estimated the volume of air which will enter through the particular sized register at various pressures, the figures *g* are moved along upon the wire *F* until their position is put in correspondence thereto, as will be indicated by the wind-wheel and its pointer *P*.

What I claim as my invention, and desire to secure by Letters Patent, is as follows, to wit:

1. In a self-indicating register, the combination with the frame adapted to be attached to an air-supply register, of a shaft journaled in said frame, the wind-wheel mounted on said shaft and formed with obliquely-bent vanes, the pointer fixed upon said shaft, figures in the field of said pointer arranged to indicate the number of individuals for whom the register is to furnish fresh air, and a spring connected to said shaft and frame and adapted to hold said shaft and wind-wheel against the pressure of the inflowing air, substantially as and for the purpose set forth.

2. The combination with an air-supply register, of a series of figures indicating different numbers of individuals who may occupy the room to which the register supplies air, a pointer movable in the field of said figures, and an actuating device for said pointer adapted to be operated by the pressure of the inflowing air and to bring said pointer to that particular figure which indicates the number of individuals for whom the register is at that instant supplying the proper quantity of

air, substantially as and for the purpose set forth.

3. In a self-indicating register, the combination of the bifurcated frame, *D*, having finger, *d*², and ear, *d*³, the bolt, *d*⁵ and cross-bar, *d*⁴, the shaft, *C*, revolvably mounted in said frame, and the wind-wheel fixed upon said shaft, substantially as and for the purpose set forth.

4. In a self-indicating register, the combination with the pointer, of the wire, *F*, secured to the register-netting, and the figures, *g*, having catches, *g*¹, substantially as and for the purpose set forth.

5. In a self-indicating register, the combination of the pointer, the air-actuated wheel carrying the same, and the dial having figures adjustably mounted thereon, substantially as and for the purpose set forth.

6. In a self-indicating register, the combination of the pointer and air-actuated wheel carrying the same, the wire, *F*, having recurved fingers, *f*², and the latch, *f*, for attaching said wire to the register-netting, and the figures mounted on said wire, as and for the purpose set forth.

In testimony that I claim the foregoing invention I have hereunto set my hand and seal this 1st day of April, in the year 1897.

GEORGE E. GAY. [L. S.]

Witnesses:

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