J. HARMON.

HOT AIR REGISTER.

APPLICATION FILED MAR. 20, 1911.

1,067,245.

Patented July 15, 1913.

2 SHEETS—SHEET 1.

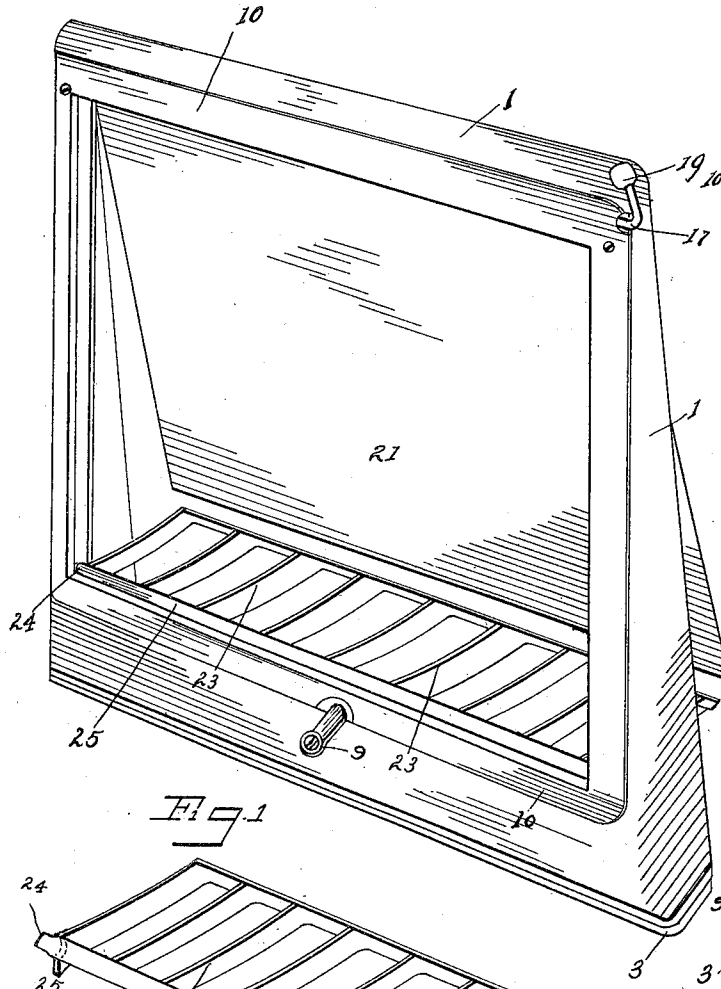


Fig. 1

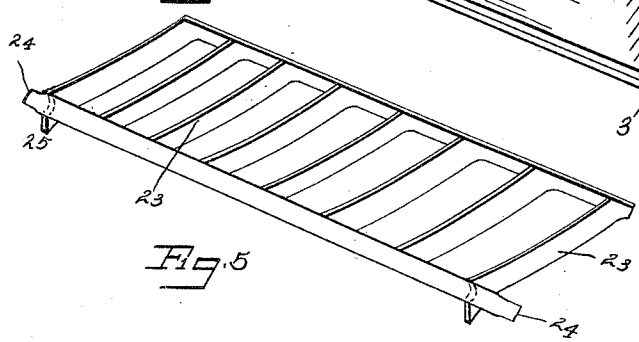


Fig. 5

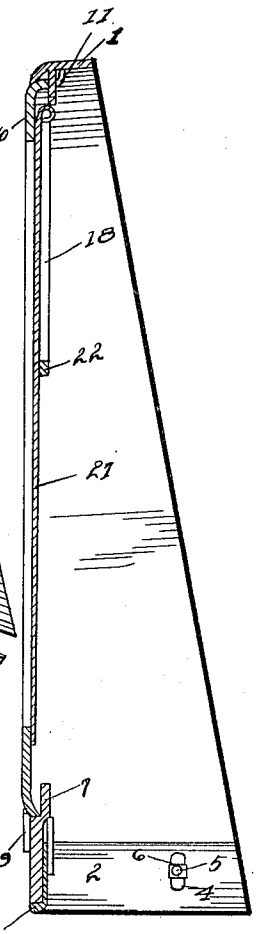


Fig. 2

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Witnesses

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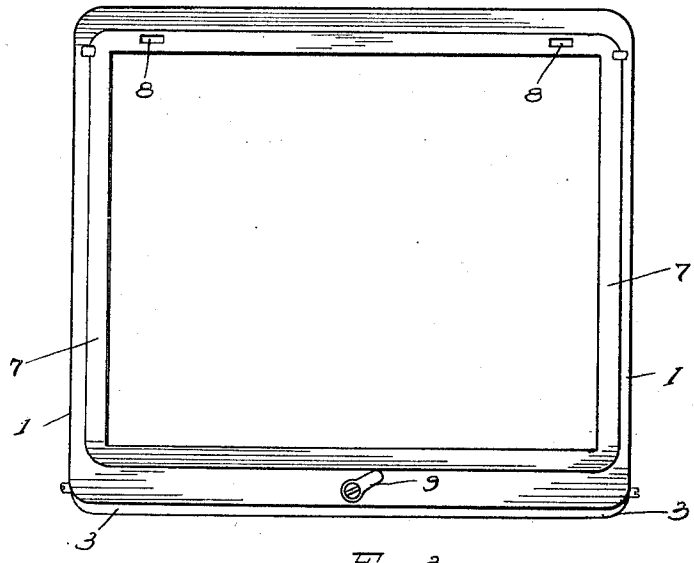


Fig. 3

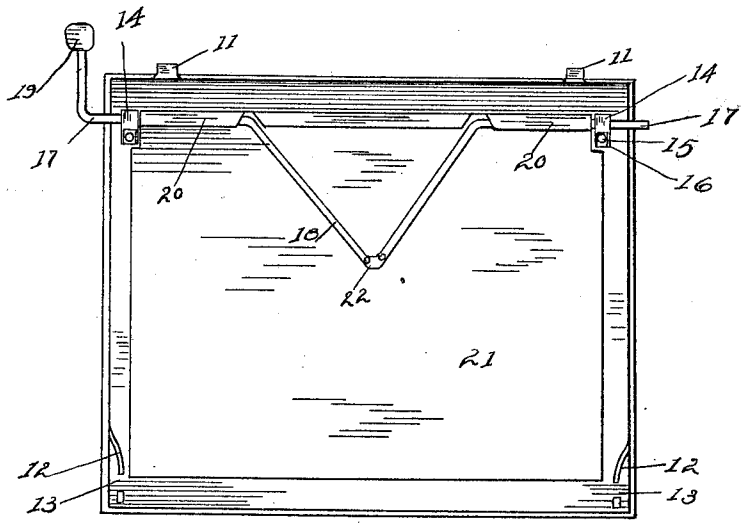


Fig. 4

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UNITED STATES PATENT OFFICE.

JOSEPH HARMON, OF DULUTH, MINNESOTA.

HOT-AIR REGISTER.

1,067,245. Specification of Letters Patent. Patented July 15, 1913.

Application filed March 20, 1911. Serial No. 615,457.

To all whom it may concern:

Be it known that I, JOSEPH HARMON, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Hot-Air Registers, of which the following is a specification.

My invention pertains to an improvement in hot-air registers and is particularly designed to provide a register of this type, which may be readily and completely shut off by a damper provided therefor, but which may nevertheless be maintained open in varying degrees at will.

It is further aimed to provide an auxiliary grate structure in coöperative relation with the damper and of such form that the register may readily serve as a foot warmer.

A further object of my invention is to utilize such a structure of damper and operating means therefor, that the operator may freely manipulate the said operating means, because of its relative position upon the register, without any discomfort frequently resulting from the heating of the damper operating means.

In furtherance of the aim to provide a damper which may be maintained open in varying degrees, a frictional pivotal bearing for said damper is desirably utilized.

The preferred form of my invention is disclosed in the accompanying drawings, in which—

Figure 1 is a perspective view of my register assembled, Fig. 2 is a vertical sectional view showing the damper closed and the grating in its horizontal position, Fig. 3 is a front elevation of my register with the damper carrying structure and grating removed, Fig. 4 is a rear elevation of the damper carrying structure, and, Fig. 5 is a perspective view of the detachable grating used in my invention as a foot rest.

Referring specifically to the drawings, in which similar characters of reference designate corresponding parts, 1 designates the base structure of my register, which is of substantially rectangular form in elevation and which is provided with an upper and side edges, which side edges desirably increase in width toward their bottom.

Carried upon the lower edge of the body 1 and preferably within the same is provided a shallow U-shaped base 2 having a rim 3 extending around its lower edge and having slots 4 formed therein and co-acting with bolts 5 and nuts 6 to permit vertical adjustment of said U-shaped member to facilitate compensation for the customary inaccuracies in the size of the openings into which the register is adapted to fit. This body 1 is provided with an opening in its face and with a surrounding ledge 7 having spaced slots 8 formed in the upper horizontal portion thereof. Mounted upon the body portion just below the lower horizontal portion of the ledge 1, I provide a pivoted latch 9, the purpose of which will be hereinafter explained. Adapted to fit upon said ledge 7 is a supplemental frame 10 having inwardly and upwardly extending lugs 11 properly spaced to register with the openings 8 and having an indentation in its lower edge into which the latch 9 is adapted to pass to maintain the super-structure 10 locked to the body 1. The super-structure 10 is provided with an opening in its face and with the surrounding walls concaved slightly on their rear surfaces. These surfaces are provided at their lower corners with curved ledges 12 interrupted as at 13, for a purpose to be hereinafter explained. On the upper wall of this super-structure 10 are provided spaced loop members 14 having their ends clamped together by bolts 15 and nuts 16, which bolts extend through the walls of the super-structure. It will be understood that a tightening of these bolts will narrow and reduce the size of the loops 14. Mounted in said loops is a shaft 17 having alining ends, but having its central portion extended downwardly into V-form as at 18. Preferably formed integrally upon one end of the shaft 17 is provided a handle 19 extending at right angles therefrom at a point outside of the body of the register. The alining ends of the shaft 17 support the curled upper edge 20 of a damper 21 and the said damper 21 is likewise fastened at an approximately central point to the V-shaped structure 18 as at 22.

Adapted to fit between the body 1 and the super-structure 10 at the lower end of said super-structure, I provide a removable grating 23 having one edge provided with pintles 24 constructed to fit within the interrupted portions 13 of the ledges 12. This grating 23 is likewise provided upon the undersides of its lateral edges with in-

tegral bracing formations 25 which serve to maintain the grating against movement below a horizontal line.

In assembling, the grating is placed in position with its pintles 24 resting in the interrupted portions of the ledges 12 upon the super-structure 10 and the said super-structure is then placed with its lugs 11 in the apertures 8 and swung into position, whereupon the pivoted latch 9 is moved into operative position. The register may then be fitted to the aperture in the wall and this is effectively accomplished by means of the U-shaped piece 3 which is, as before stated, vertically adjustable.

In operation, the handle 19 being without the range of the major portion of the dispensing heat, may be operated without discomfort to open the damper to any required position, which is maintained there owing to the frictional engagement of the loop members 14 upon the shaft ends 17. If desired to warm the feet, it is only necessary to press the damper inwardly with the feet, whereupon they may be rested upon the grating 23 and extended as far into the register as may be desired in order to submit them to a complete and rapid warming action.

What I claim, is—

1. A hot air register comprising a body portion, a super-structure mounted thereon, a damper carried by said super-structure, a pivot bearing rod for said damper, a V-shaped center for said bearing rod fastened at a central point on said damper, and an angularly disposed handle on the extremity of said bearing rod and entirely without and beside said body.

2. A hot air register comprising a body portion, a super-structure removably mounted thereon and having an opening therein, a grating pivotally clamped beneath said super-structure in journals formed by the coactive structure of said body portion and super-structure when in superimposed relation, and a damper for closing the opening in said super-structure.

3. A hot air register comprising a body portion, a super-structure removably mounted thereon, bearings formed by lugs on said super-structure coacting with said body portion, a grating pivotally supported in said bearings, a damper having a regulably frictional pivot for holding said damper in adjusted position, and a handle extending to a point entirely without and beside said body portion and out of the path of the issuing heat.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH HARMON.

Witnesses:
C. S. PALMER,
H. P. CURREN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."