Jan. 5, 1926. 1,568,545

L. J. COLGAN

REGISTER CONSTANT LOCK OPERATING ATTACHMENT

Filed April 12, 1924

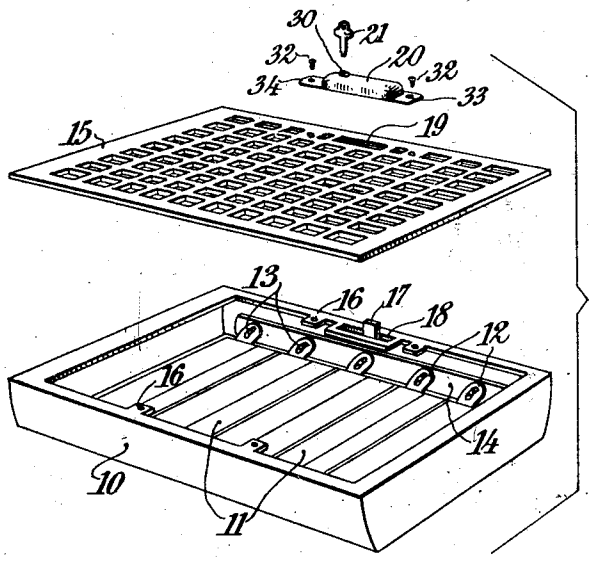


Fig. 1.

Fig. 6.

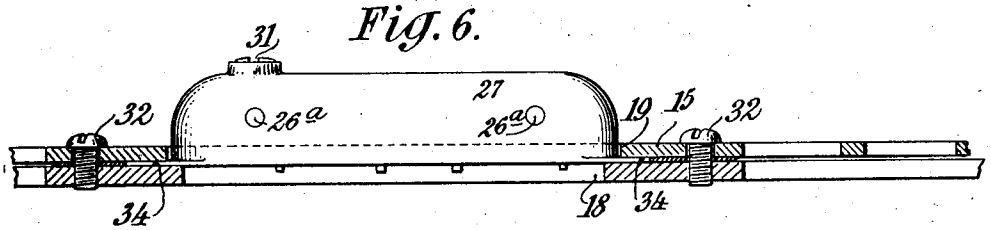


Fig. 2.

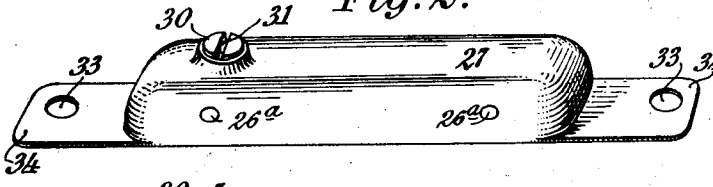


Fig. 4.

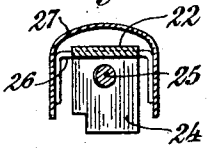


Fig. 3.

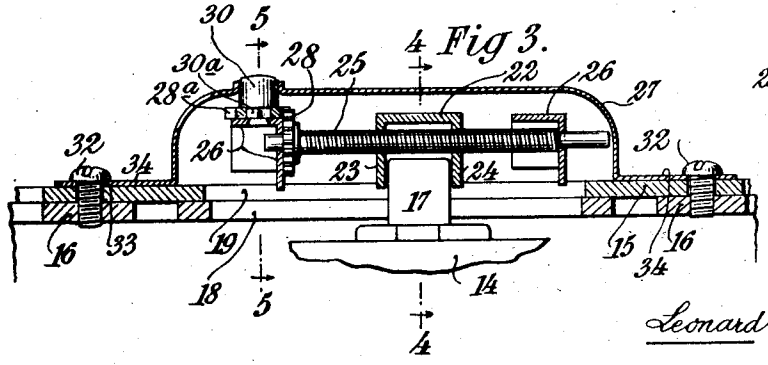
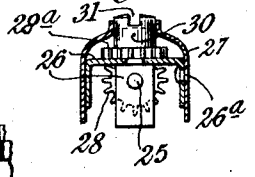


Fig. 5.



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UNITED STATES PATENT OFFICE.

LEONARD J. COLGAN, OF NEW YORK, N. Y., ASSIGNOR TO TUTTLE & BAILEY MANUFACTURING COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

REGISTER CONSTANT-LOCK-OPERATING ATTACHMENT.

Application filed April 12, 1924. Serial No. 706,220.

To all whom it may concern:

Be it known that I, LEONARD J. COLGAN, a subject of Great Britain, residing in the county of Queens, city and State of New York, have invented certain new and useful Improvements in Register Constant-Lock-Operating Attachments, of which the following is a specification.

This invention relates to improvements in heating and ventilating registers and more particularly to an operating attachment of the constant-lock type for a register of the non-lock type.

One of the well recognized heating and ventilating registers now on the market comprises a register body in which is mounted a number of pivoted dampers or valves, the operating mechanism of which is provided with a button or other appropriate manipulating device readily accessible through a slot in the register face plate which is usually secured to the register body by screws or other appropriate fastening means. It is characteristic of this type of register, known as the non-lock type, that it may be readily opened or closed by grasping the button between the finger and thumb and moving the same endwise in the slot in the face plate.

For use in public buildings, such as schools, libraries, asylums, and the like, requiring uniform temperature regulation, it has been found desirable to make use of a different type of register known as the constant-lock type, in which the valve operating mechanism is controlled by the use of a key, the removal of which renders it difficult for the adjustment of the register to be tampered with by others than those in care of the heating and ventilating apparatus of the building. The mechanism of such register is of such character as to lock the valves or dampers in any position in which they are moved by the use of the key, and their adjustment to any desired position cannot be altered by one who is not provided with a key or its equivalent.

It is an object of the present invention to provide a simple operating attachment of the constant-lock type which may be constructed as an independent unit adapted to be readily applied to a stock register of the non-lock type without modification, whereby it may readily be converted into a register of the constant-lock type, the dampers of which may be adjusted only by one in possession of a key. The attachment may be so proportioned that it may be readily applied to registers already in use by merely removing two of the screws by which the face plate is secured to the register body, placing the attachment over the slot in the face plate with its operating element in engagement with the manipulating button and then replacing the screws. The attachment may be applied directly to the surface of the face plate, or, if desired, the face plate may be removed and the fastening device secured between the face plate and the register body with the operating mechanism and its housing projecting through the usual slot in the face plate provided for the movement of the manipulating button.

Referring to the accompanying drawings illustrating the preferred form of the invention:

Fig. 1 is a perspective view illustrating a register of the non-lock type with the face plate removed, said view illustrating the manner in which the operating attachment may be secured to the register by two of the screws normally used to secure the face plate to the register body;

Fig. 2 is a perspective view of the operating attachment ready to be applied to a register;

Fig. 3 is a longitudinal view in cross-section illustrating the operating attachment as applied directly to the outer surface of the register face plate;

Fig. 4 is a view in cross-section through the operating attachment, the section being taken on the line 4—4, of Fig. 3;

Fig. 5 is a view in cross-section through the operating attachment, the section being taken on the line 5—5, of Fig. 3;

Fig. 6 is a view partly in section, indicating the operating attachment as being secured between the register face plate and the register body, the housing of the attachment projecting through and filling the slot provided in the face plate for movement of the manipulating button.

Referring first to Fig 1, 10 represents the body or frame member of a register of the non-lock type having dampers 11 pivoted in said body member and provided with operating mechanism comprising slotted

lugs 12 engaged by pins 13 on a slide bar 14 whereby endwise movement of the slot bar causes the dampers to be readily moved from a closed position to an open position and vice versa.

A register of the type referred to is provided with a grill or face plate 15 which may be secured by screws or other suitable fastening devices to lugs 16 forming part of the register body. A manipulating finger or button 17, secured to the slide 14, projects through slotted portions 18 and 19, respectively, of the register body and face plate whereby it is rendered accessible from the face of the register.

It will be readily apparent that a register of the character thus far described may be readily opened or closed at any time by merely grasping the button 17 between the finger and the thumb and moving it endwise in the slot.

The present invention comprises an operating attachment designated generally in Fig. 1 by reference character 20 adapted to be attached to the register heretofore described and operated by the key 21.

Referring more particularly to Figs. 3, 4, and 5, of the drawing, the operating attachment comprises a socket-like element 22 having spaced portions 23, 24, adapted to straddle the manipulating button. This operating element is mounted for endwise movement as a nut upon a screw 25 journalled in bearings 26, 26, secured by rivets or other appropriate fastening devices 26a, within a mounting member 27, of such form as to constitute a housing for the various elements of the operating mechanism.

In the form of operating mechanism herein disclosed, the screw 25 is provided with a gear wheel 28, in mesh with a gear wheel 28a, secured at one end of a slotted shaft or spindle 30, one end of which is journalled in the bearing 26, and the other end of which is rotatably mounted in a circular opening in the housing 27. The gear 28a may be non-rotatably secured to the shaft 30 in any appropriate manner as by providing the shaft with a square portion 30a, to receive a square hole in the gear wheel. The mechanism is operated by inserting the end of a key 21 in the slot 31 in the end of the shaft 30, and rotating the same. Rotation in one direction will cause the button to be moved in the proper direction to close the dampers. Vice versa, rotation of the shaft in the opposite direction will cause the button to be moved in the proper direction to open the dampers. It will be observed that the character of the mechanism is such as to lock the dampers in any position to which they may be moved. It will also be observed that the housing completely closes or covers the slot 19 in the register face plate and conceals the manipulating button and all of the operating mechanism of the attachment so as to prevent interference with the adjustment of the register without the use of the key or its equivalent.

The manner in which the attachment may be applied to the register should be apparent in view of the foregoing description. If applied to the outer surface of the face plate, it is merely necessary to remove two of the screws 32 by which the face plate is secured to the register body, place the attachment over the slot 19 in the face plate, after first locating the operating element 22 in proper position to receive the button 17, after which the screws 32 may be passed through openings 33, in flanges 34, extending from the housing portion of the mounting member, thence through the openings in the register face plate to the threaded openings in the lugs 16 of the register body. It will thus be apparent that the attachment may be applied to the register without the use of additional fastening devices.

If desired, the housing portion of the attachment may be made of such dimensions as to pass through the slot 19 in the register face plate. When so constructed, the attachment may be applied by first removing the face plate, then inserting the attachment in the slot in the face plate from its underside and replacing the face plate with the inserted attaching device upon the register body to which the face plate and attachment may be secured by the usual fastening screws as clearly indicated in Fig. 6.

The various parts of the operating attachment may be constructed of steel, brass, aluminum, or other appropriate metals, and may be finished to correspond with the register face plate, thereby presenting a neat and attractive appearance.

It will be apparent from the foregoing description that the invention provides a very simple and practical means, whereby stock registers, including registers which have already been installed, may be readily converted from registers of the non-lock type to registers of the lock-type. The attachment is a complete independent unit which may be applied or removed to conform with the conditions of service required at the pleasure of the owner or occupant of the building in which the apparatus is installed.

It is to be understood that the invention is not limited to the specific form herein selected for the purpose of illustration, but is intended to include modifications and variations within the scope of the appended claims.

What I claim is:

1. The combination with a register of the non-lock type, comprising valves and valve manipulating means, of an operating attachment of the constant-lock type, said attach-

ment comprising a key-operated extension of said manipulating means and being readily attachable to and detachable from said register as a unit.

2. The combination with a register of the non-lock type, having the usual valves and valve operating mechanism, including the usual manipulating button, of an operating attachment of the constant-lock type comprising a button reciprocating element, key operated means to reciprocate said element, and means whereby said button reciprocating means may be readily attached to and detached from said register as a unit.

3. An operating attachment of the constant-lock type for a register of the non-lock type having a reciprocating manipulating button extending through a slotted face plate, said attachment comprising a socket-like reciprocating element to receive said button, key operated means to reciprocate said element, a mounting member comprising a housing for said reciprocating element and its operating means, and means whereby said mounting member may be detachably attached to said register in a position such as to close the slot in said face plate and maintain said reciprocating element and said button in cooperative engagement.

4. An operating attachment of the constant-lock type for a register of the non-lock type having a face plate and a manipulating button accessible through a slot in said plate, said attachment comprising an operating member having spaced portions to straddle said button, a screw in threaded engagement with said operating member, key operated means whereby said screw may be rotated to cause said operating member to be advanced as a nut, a mounting member for said operating member, said screw and said screw rotating means, and means whereby said mounting member may be readily attached to said register in a position such as to close the slot in the face plate and maintain the operating member in cooperative engagement with the said button.

5. An operating attachment of the constant-lock type for a register of the non-lock type having a face plate attached by appropriate fastening elements to a register body and a manipulating button accessible through a slot in said plate, said attachment comprising a socket like operating element to receive said button, key operated means to reciprocate said operating element, a mounting member comprising a housing for said reciprocating element and its operating means, and lugs extending from said housing in properly spaced relation to cooperate with the fastening elements whereby the register face plate is secured to the register body whereby said attachment may be detachably attached to said register in a position such as to close said slot and maintain said operating element and said manipulating button in cooperative engagement.

6. An operating attachment of the constant-lock type adapted for application to a register of the non-lock type having the usual cover plate provided with a slot to permit access to the usual damper manipulator, said attachment comprising a reciprocating element to be connected to the damper operating mechanism, key-operated means to reciprocate said element, and a housing and mounting element for said reciprocating element and its operating means, said housing and mounting element being of appropriate form and dimensions to be mounted in said register in a position such as to extend into and close the slot in the face plate.

7. The combination with a register comprising a casing, valves, a valve operating bar, and a slotted cover plate of the type commonly used as a part of a non-lock register having a manipulator extending through the slot in the cover plate by which the valves may be operated, of an operating attachment of the constant-lock type comprising a key-operated reciprocating mechanism connected in driving relation with said valve operating bar and a housing and mounting member therefor supported by said casing, the relative form and location of said housing being such as to effectively close the slot in the cover plate and render the valve operating mechanism inaccessible for operation otherwise than by the use of a key.

In witness whereof, I have hereunto signed my name.

LEONARD J. COLGAN.