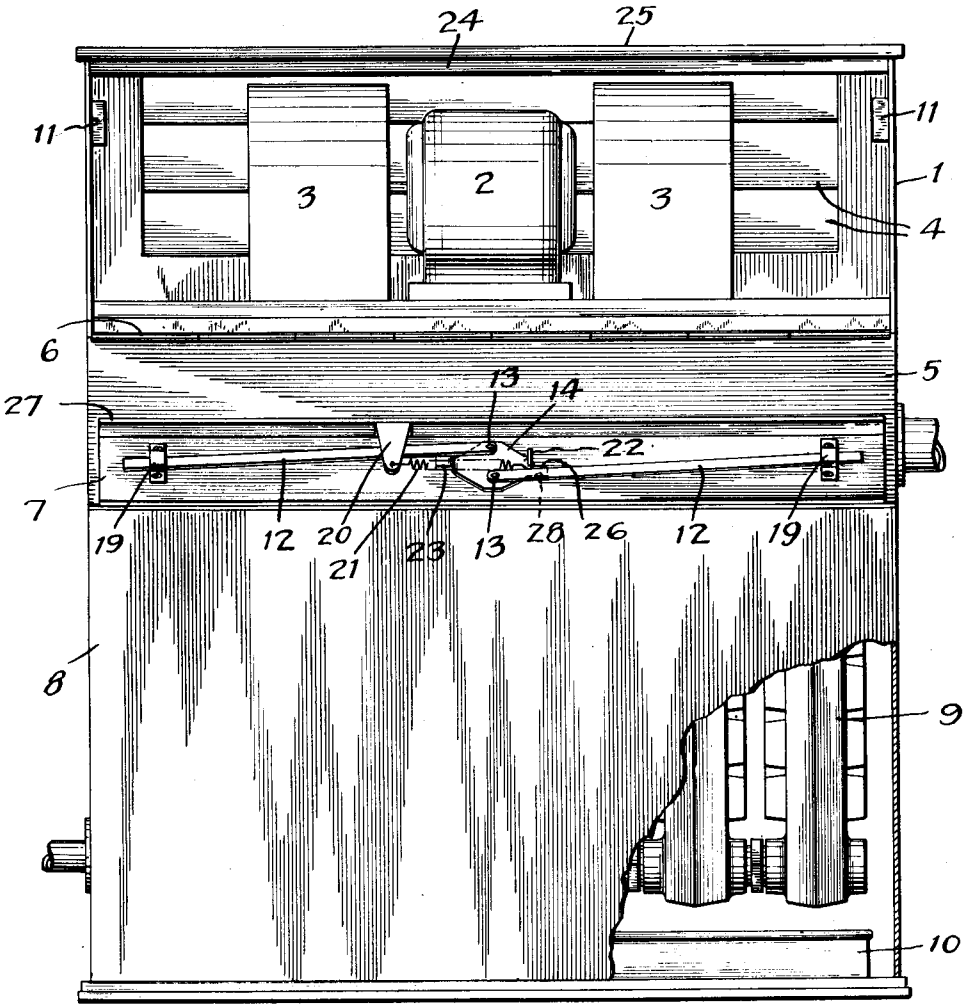
April 16, 1929. M. J. CALLAHAN 1,709,459

LOCKING MECHANISM FOR CLOSURES

Filed Sept. 26, 1925 5 Sheets-Sheet 1

Fig. 1.



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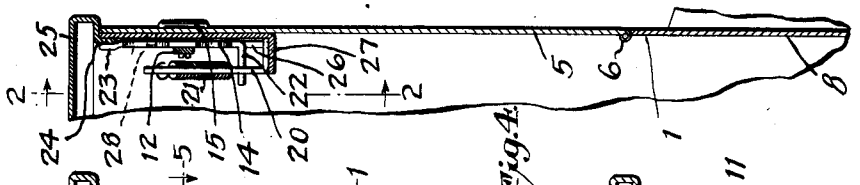


Fig.4.

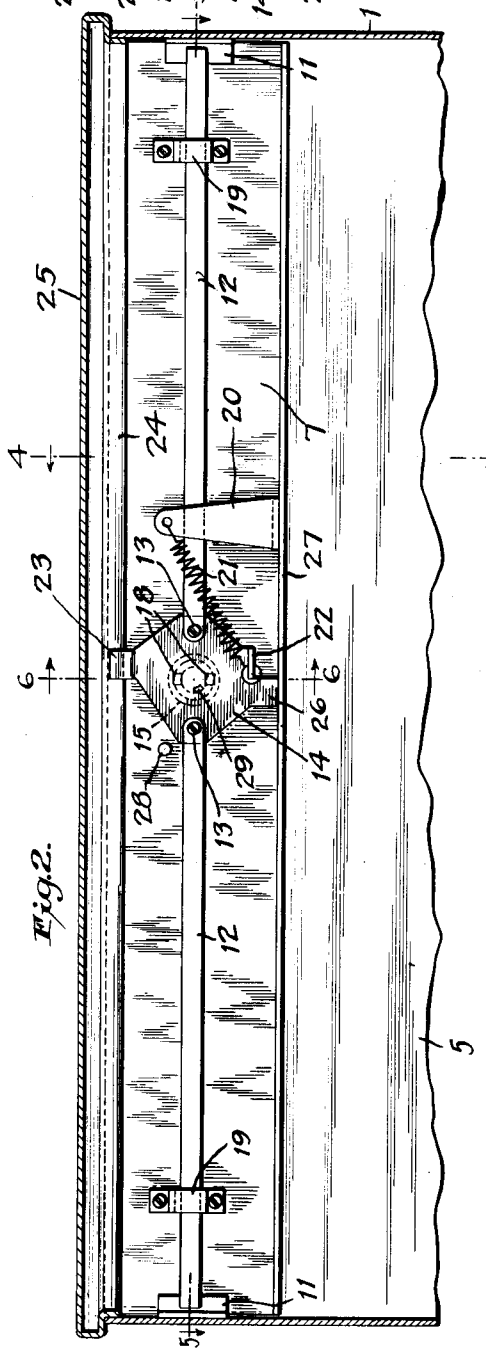


Fig.2.

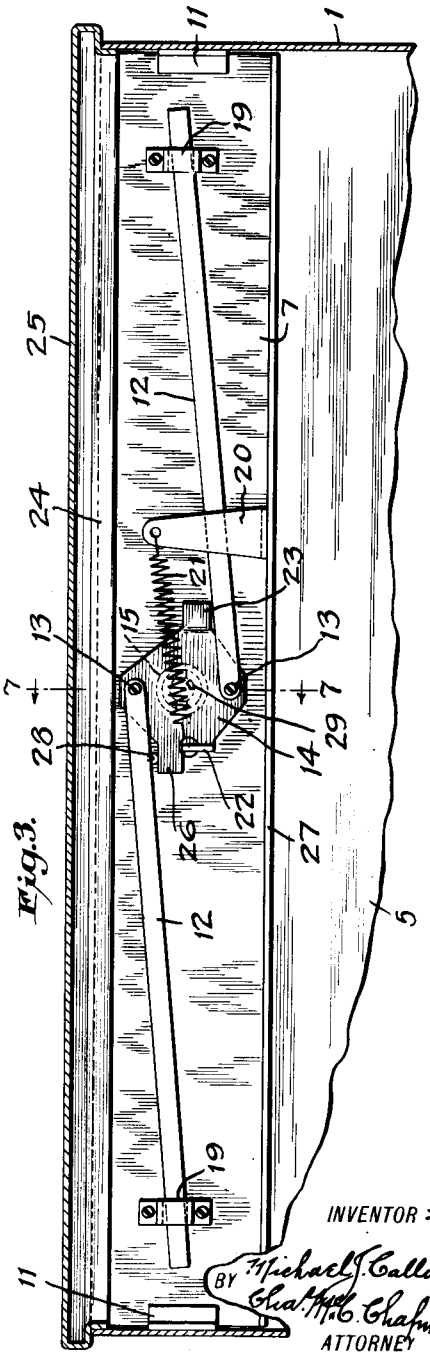


Fig.3.

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LOCKING MECHANISM FOR CLOSURES

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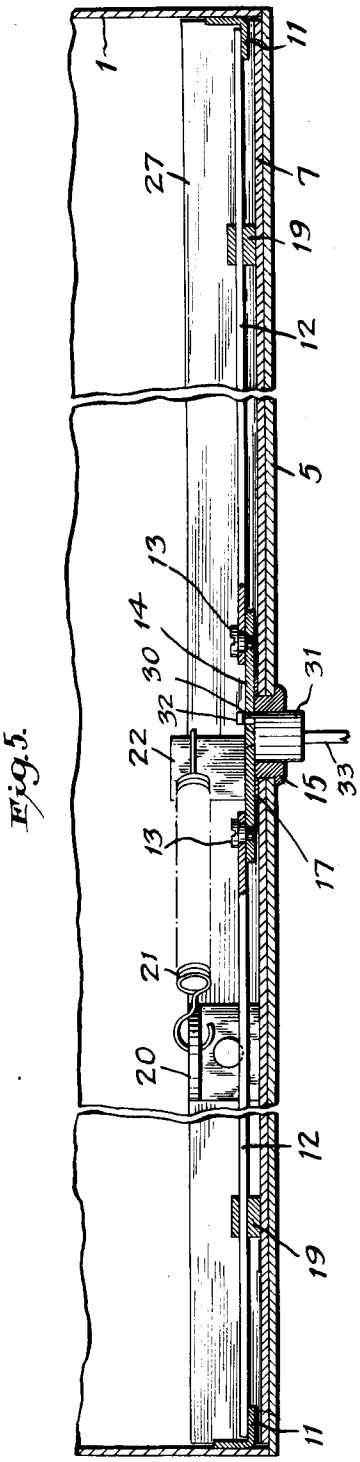


Fig. 5.

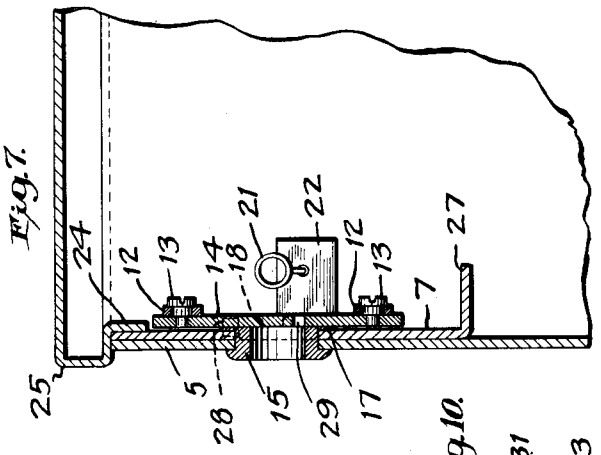


Fig. 7.

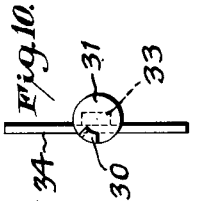


Fig. 10.

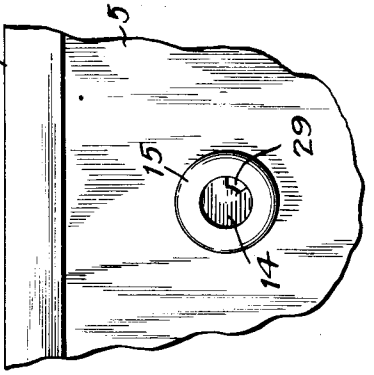


Fig. 8.

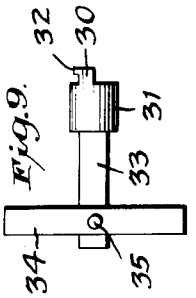


Fig. 9.

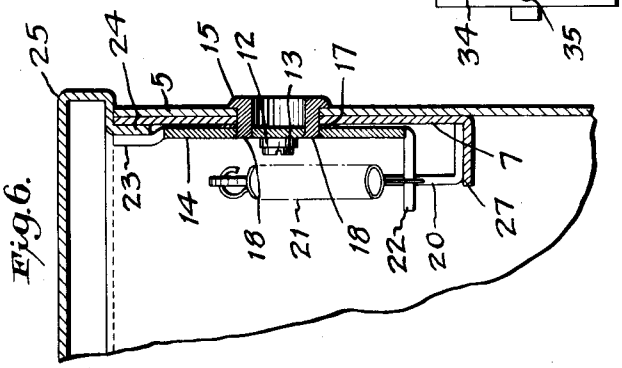


Fig. 6.

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LOCKING MECHANISM FOR CLOSURES

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Fig. 11.

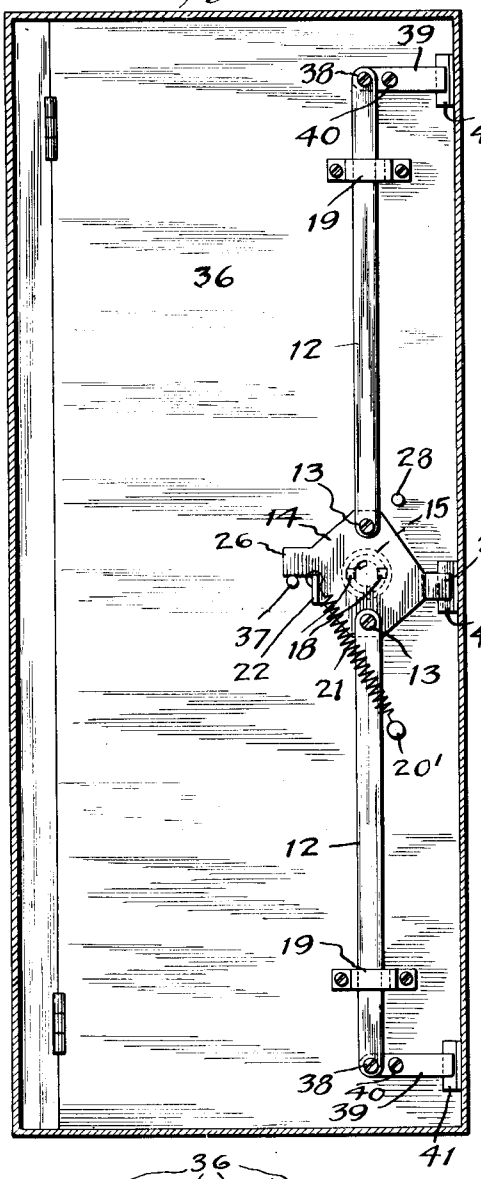
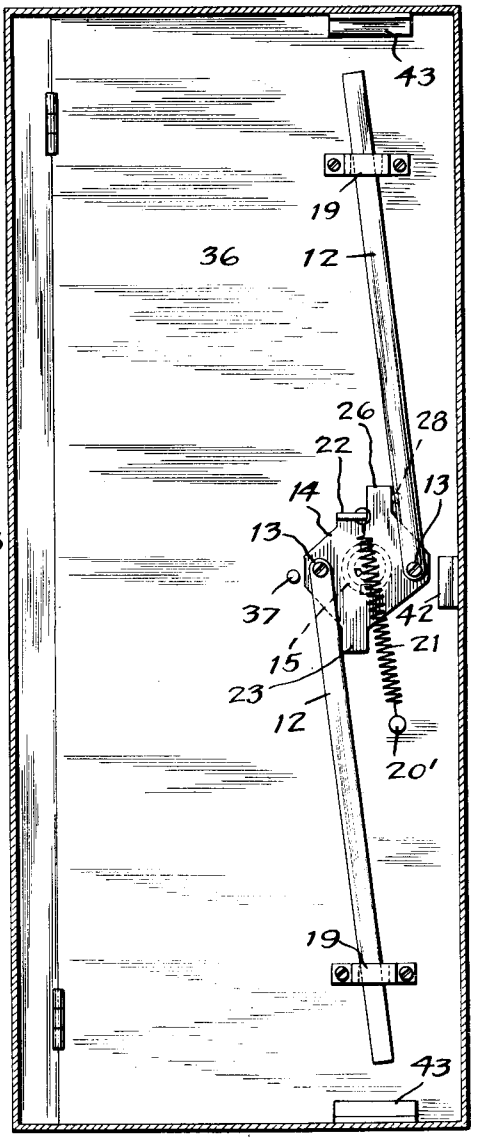


Fig. 12.



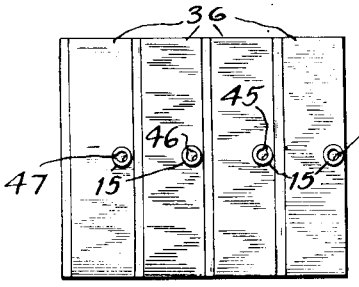


Fig. 13.

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LOCKING MECHANISM FOR CLOSURES

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Fig. 14.

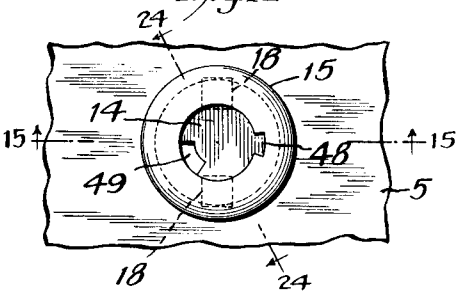


Fig. 18.

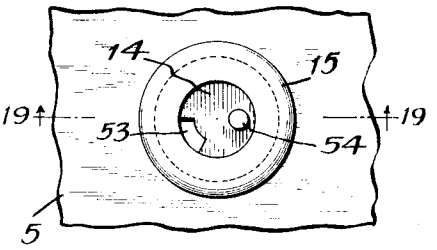


Fig. 15.

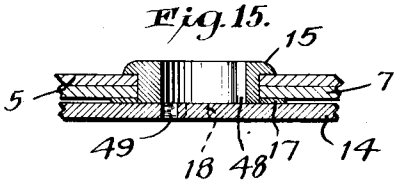


Fig. 19.

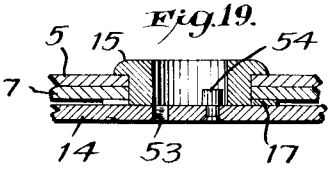


Fig. 16.

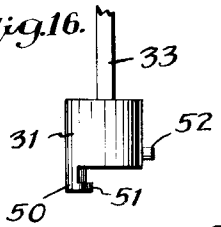


Fig. 24.

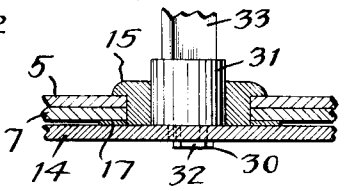


Fig. 20.

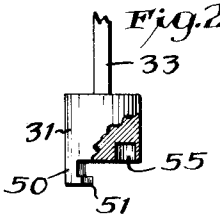


Fig. 17.

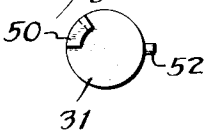


Fig. 21.

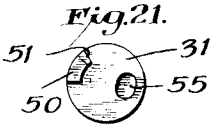


Fig. 22.

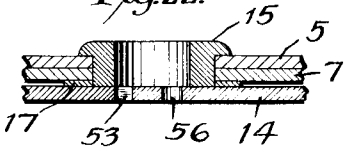


Fig. 25.

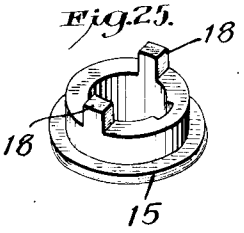


Fig. 26.

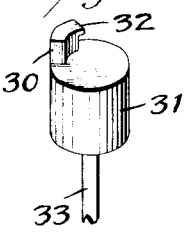
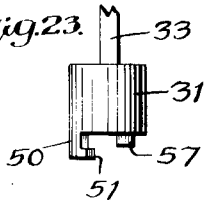


Fig. 23.



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Patented Apr. 16, 1929. 1,709,459

UNITED STATES PATENT OFFICE.

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LOCKING MECHANISM FOR CLOSURES.

Application filed September 26, 1925. Serial No. 58,916.

This invention has reference to locking mechanism and particularly relates to mechanism adapted to operate automatically to lock closures such as cupboard doors, doors to gymnasium and similar "lockers", doors or drops or closures for heating and ventilating units, and to unlock said closures through the medium of a key which operates also as a handle.

Heretofore, closures of the type indicated have been provided with a locking device in the form of a plurality of bolts or bars which, when set in locking position, are held by an independent lock of more or less complicated pattern or type requiring the use of a key, in addition to a device operating as a key, and a handle for manipulating the bolts or bars. Such locking mechanisms are expensive, cumbersome, complicated, and objectionable because of requiring a combined handle and key which is always in the way and cannot be removed from the closure, and also requiring an independent key which must be carried or secreted, and which is necessary to manipulate the special lock for locking the first-named mechanism against opening or release.

It is among the objects of my invention to provide a locking mechanism for closures of various types, which is simple in construction, economical to produce and install, easily manipulated, and requiring but one key which also operates as a handle and which is removable from the closure; to provide a three-point lock for closures which may be manipulated for releasing purposes by a combined key and handle, and which, when completely released, is yieldingly held in released condition; to provide a three-point lock for closures which, when the closure is swung to position to close the opening, will automatically lock the closure; to provide a three-point lock of character such that it is susceptible of an indefinite number of combinations rendering it effective as a lock for a plurality of lockers in a gymnasium, club house or other similar institution where it is desirable to have an indefinite number of lockers each provided with a distinctly different lock; to provide means by which the last stated results can be obtained by either changing the form of the escutcheon or socket, or the form of the handle-key, or both; and to provide means or a construction such as to enable the three-point lock to be applied quickly, economically and with facility to the closure which is to be locked in a predetermined position.

With the foregoing objects in view and others which will be detailed during the course of this description, my invention consists in the parts, features, elements and mechanisms, and combinations thereof as hereinafter described and claimed.

In order that my invention may be clearly understood, I have provided drawings wherein:

Figure 1 is a view showing a heating and ventilating unit in front elevation,—part broken away,—having my locking mechanism in one of its forms applied to the closure for the top part of the unit casing, this being merely an example of an embodiment and use of my invention;

Figure 2 is a view in sectional elevation on the line 2—2 of Figure 4, looking at the inside of the closure, shown open in Figure 1, my locking mechanism being applied thereto and holding the closure in locked or closed position;

Figure 3 is a view similar to Figure 2, showing the locking mechanism in unlocked position, and set and yieldingly held so that the closure can be thrown open, as in Figure 1, by the handle-key without further manipulation of the latter or the locking mechanism;

Figure 4 is a view in sectional elevation of the structure shown in Figure 2 and taken on the line 4—4 of Figure 2;

Figure 5 is a view in sectional elevation showing the mechanism of Figure 2 and taken on the line 5—5 of the latter figure, the view being on a larger scale than that of Figure 2;

Figure 6 is a view in sectional elevation on the line 6—6 of Figure 2;

Figure 7 is a view in sectional elevation on the line 7—7 of Figure 3;

Figure 8 is an enlarged view in front elevation of a portion of the closure, showing the escutcheon, socket or bushing connected to my locking mechanism;

Figure 9 is a view showing one form of my handle-key in side elevation;

Figure 10 is a view in end elevation of Figure 9;

Figures 11 and 12 are similar views showing, in sectional elevation, two different forms of my locking mechanism applied to the closures of lockers, cabinets or similar structures, the locking mechanism of Figure 12 being similar to that of Figures 1 to 8, inclusive;

Figure 13 is a composite view showing in front elevation a plurality of lockers or cabinets or closets, the view being on a much reduced scale and showing four different variations of escutcheons or sockets;

Figure 14 is an enlarged detail showing in front elevation the socket or escutcheon combined with my locking mechanism;

Figure 15 is a sectional view taken on the line 15—15 of Figure 14;

Figure 16 is a view in side elevation of a portion of a handle-key adapted to interact with the socket of Figure 14;

Figure 17 is a view in end elevation of Figure 16;

Figure 18 is a view similar to Figure 14 showing a different form of escutcheon;

Figure 19 is a sectional view on the line 19—19 of Figure 18;

Figure 20 is a view in sectional elevation of a portion of the handle-key adapted to cooperate with the socket of Figure 18;

Figure 21 is a view in end elevation of Figure 20;

Figure 22 is a sectional view similar to Figure 15, but showing a different form of locking means;

Figure 23 is a view in elevation of a portion of a handle-key adapted to cooperate with the mechanism of Figure 22;

Figure 24 is a view similar to Figure 15 showing the key in position in the escutcheon and the manner in which the structure of the key operates to enable the closure to be manipulated;

Figure 25 is a perspective view of the escutcheon showing its details of construction; and

Figure 26 is a perspective view of one form of handle-key showing its details of construction.

Referring to Figures 1 to 10 of the drawings and, first, to Figure 1, wherein I have shown my invention applied to a heating and ventilating unit adapted for installation in a room, the temperature of which is to be regulated, the numeral 1 indicates the top portion of the unit in which the motor 2 and two fans and drums 3 are located, and the back portion of which is provided with louvers or dampers 4, and the front portion of which is provided with a closure 5 hinged along its lower edge 6 and adapted to be swung up and down to either seal the opening or uncover and expose the motor and other devices in the said top portion 1. According to my invention, the closure 5, at its free edge or top portion, is provided with a carrying plate 7, for the locking mechanism, the same also strengthening or reinforcing the closure 5, said plate being flanged at one edge to impart rigidity and strength. The lower portion 8 of the unit carries, as usual, the heating element 9 and water-pan or humidifying and air cleaning element 10. The side walls of the upper portion 1 of the unit are each provided with an outstanding lug or catch-plate 11 adapted to receive behind it one of the locking bars of my locking mechanism.

Referring, also, to the other figures of the drawings, viz, 2 to 10, inclusive, my locking mechanism will be seen to consist of two longitudinally sliding locking-bars 12, each of which, at its inner end, is pivotally connected at 13 to a rotary locking-plate 14 carried by a rotary escutcheon or socket 15 in the form of a bushing extending through the closure 5, the plate 7, and rigidly secured to the locking-plate 14, the outer circumferential flange of the socket embracing the closure and, by the connection of its shank to the locking-plate 14, firmly holding the locking-plate closely to the carrying plate 7. Interposed between the plate 7 and the plate 14, there is interposed a washer 17 which surrounds the socket 15 and provides a bearing and anti-frictional means between the plate 14 and the plate 7, to prevent the former from having extensive bearing against the latter, thus reducing friction between the two. The washer 17 is preferably composed of some soft metal, such as brass or copper which, when buffed smooth and polished, acts more or less as a lubricant for the operation of the locking-plate 14. As shown in Figures 2, 3, 6, the socket 15, at its inner end, is provided with angular lugs 18 extending through the locking-plate 14 and splayed over upon the latter to securely fasten the socket to the locking-plate. At their outer ends, the locking-bolts or bars 12 pass through guiding loops 19, which hold them in proper operative position and allow the necessary amount of freedom for the lateral movement of the locking-bars during the rotary movement of the plate 14. The plate 7 is provided with a bracket 20, to which is secured one end of a tension spring 21, the opposite end of which is hooked upon the lug 22 of the plate 14, the spring normally tending to hold the plate 14 in the position of Figure 2 with the locking-bars projected outwardly in opposite directions, so that their outer ends will pass behind or engage the catch plates 11, and so that the locking lug 23 on the locking plate will pass behind the downwardly depending flange 24 extending entirely across the front edge of the top 25 of the unit. In this position, also, the stop lug 26, on the locking-plate engages the flange 27 of the plate 7 and prevents the locking-plate from turning further in its rotary movement than is necessary to cause the locking lug 23 to pass fully behind the flange 24 at the top of the casing. In the opposite direction of movement of the plate 14, the stop lug 26 on the locking plate engages a stop-pin 28 on the plate 7, thus preventing the spring, when under tension, as shown in Figure 3, from turning the plate 14 too far

around. In this position, the spring extends from the lug 22 across the locking-plate 14 a little bit at one side of the axis of the locking-plate to the bracket 20, thus exerting tensional pull upon the locking-plate to temporarily hold the latter in unlocked position with its stop lug 26 against the stop pin 28 and the locking bars 12 in retracted position. If the closure 5 is not jarred or struck, as when it is lifted to seal the opening at the top of the casing, the spring will hold the parts in the unlocked position shown in Figure 3; but, when the closure 5 is forcibly closed against the flange 24 at the top of the casing, the jar will shift the locking-plate 14, and the spring will immediately rotate the locking-plate to position of Figure 2, thus shifting the three-point lock into locking position. That is to say, as shown in Figure 3, the spring extends only slightly to one side of the axis of the locking-plate so that it only requires a slight jar, jolt or blow upon the closure 5 to cause the plate to shift, thus enabling the spring to exert its tension upon the locking-plate and cause it to rotate and return to the locking position shown in Figure 2, with all three locking devices in proper position for locking purposes, viz, the ends of the bars 12 behind the plates 11 and the locking lug 23 behind the flange 24.

Referring particularly to Figures 5 to 10, inclusive, it will be seen that the socket or bushing has a large central aperture which is closed at its bottom by the central portion of the locking-plate 14, and that said central portion of the locking-plate is provided with an elongated aperture 29, through which passes the angular lug 30 at the outer end of the barrel 31 of the handle-key, which barrel enters the central aperture of the socket 15. The lateral extension 32 of the lug 30 is adapted to engage the inner surface of the locking plate when the handle is turned, so that the latter can, upon a slight pull, draw the closure 5 outwardly and thus open the top of the casing. The handle of the key is preferably made in two parts, the one 33 being rigidly connected to the barrel 31 and the part 34 being pivotally mounted at 35 upon the outer end of the part 33. The part 34 is beyond its pivot on opposite sides sufficiently long to engage the inner end of the barrel 31 and be retained by the latter frictionally, thus enabling the handle-key to be comfortably carried in the pocket. It will be understood that this device is a combination key and handle; that is to say, the barrel 31 fits in the socket 15, the lug 30 passes through the elongated aperture 29, and, by a slight turn of the handle, the extension 32 will overlap the locking plate 14, so that the handle cannot be withdrawn, and a further turn of the handle will cause the locking-plate 14 to be shifted against the tension of the spring 21 to remove the locking-bars and the locking lug 23 from locking engagement with their respective retainers, whereupon the handle is pulled upon, thus turning the closure upon its hinges 6.

Viewing Figures 2 and 3, it will be seen that the locking lug 23 and the stop lug 26 of the plate 14 are each off center; that is to say, locking lug 23 projects radially at one side of the axis of plate 14 and stop lug 26 projects radially at the opposite side of the axis of plate 14, the eccentricity being with reference to a line, such as 6—6, passing across the axis of the plate. This provides for the performance of the functions of the respective lugs with a comparatively short turning or rotary movement of the locking-plate 14, during the shifting movement of the locking-bars.

The foregoing shows the application of my invention to a heating and ventilating unit, and this application is of great importance, since it is essential to keep the closure tightly in engagement with the casing during the operation of the apparatus. The motor, when in operation, turns the fans very rapidly and the fans draw the air into the unit with a tendency to considerable vibration of loose parts. It is essential, therefore, that the closure should be very tightly held against the casing, and my three-point lock has been found in practice to perform the functions effectively. Furthermore, the units are frequently installed in schools and the children are prone to hang around and play with them, frequently endeavoring to open the closure in an effort to see the inside. By fastening the closure at the three points indicated, it is impossible for the edges of the closure to be shifted or pulled outwardly. Moreover, there is no handle or device which the children can lay hold of, because when the closure is once locked, the handle-key is removed, leaving nothing but the escutcheon 15 on the surface of the closure. This is important from another standpoint, since there are no projections upon which anything can be hung, or on which anything can be snagged or caught, or by which one may be injured.

In Figures 11, 12 and 13 I have shown other forms of my invention, and, with reference to Figure 11, it will be seen that the locking mechanism is arranged lengthwise vertically of a closure 36, which may be the door of a wardrobe locker such as used in club houses, gymnasiums and similar places. In this figure, the various parts of the locking mechanism which correspond to those of Figures 1 to 10 are indicated by the same reference numerals. In this form, however, the stop-lug 26 engages a pin 37 which limits the rotary movement of the locking-plate 14 in the direction of pull by the spring 21. The locking-bars 12 are each pivotally connected at 38 to the inner end of a short lever 39, pivoted between its ends at 40 to the inside of the closure near its end and front edge. The frame

of the locker or casing is provided with a catch-plate with which the lever 39 cooperates to hold the closure in locked position. The operation of this form of locking mechanism is the same as that shown in Figures 1 to 10, with the exception that the locking-bars 12, instead of having a locking function, operate the locking levers 39, and simultaneously with the movement of said levers into locking position, the locking-lug 23 on the locking-plate 14 moves into locking position behind a catch-plate 42 midway of the casing.

In Figure 12, the locking mechanism is the same as in Figures 1 to 10, with the exception that the stop pin 37 is employed to engage the stop lug 26, while the catch-plates 43 are on the top and bottom of the casing or wardrobe instead of on the side, as in Figure 11. In both instances, the spring is held at one end by pin 20'.

In Figure 13, I have shown a plurality of wardrobe lockers, such as shown in Figures 11 and 12; but, on a much reduced scale, the object being to illustrate the manner in which the wardrobe-lockers can be arranged in tiers, and each locker may have a separate lock incapable of being manipulated by the handle-key of the other lockers. This is shown clearly by the disposition of a longitudinal slot in the outer surface of the flange of the escutcheon 15; that is to say, the slot 44, in the escutcheon 15, at the extreme right of Figure 13, is at approximately the 90° point, while the slot 45 is approximately at the 45° point, the slot 46 is approximately at the 315° point, and the slot 47 is approximately at the 270° point. From this it will be seen that slight variations in the position of the slot will enable many variations in the characteristics of the lock, so as to prevent any one key from opening other than its own locker. Of course, the barrel 31 of the handle-key will be provided with a laterally extending lug, more particularly described presently in connection with Figures 14 to 17.

Referring now to Figures 14 to 26, details of variant forms of means for shifting the locking-plate will be described. In Figures 14 and 15, the escutcheon 15 is provided with a longitudinal slot 48 of angular form, and the locking plate 14 is provided with an elongated slot 49. The barrel 31 of the key is provided with a lug 50 corresponding in form to the slot 49, and with a lateral extension 51 adapted to overlap the locking plate on the inside, so as to engage the latter when a pull is exerted upon the handle to swing the closure. The barrel 31 is also provided with a lateral pin 52 adapted to enter the slot 48, and turn slightly in the latter to an extent sufficient to enable the extension 51 to overlap the plate 14. Thus, a key of particular form is enabled to cooperate with a correspondingly formed escutcheon.

In Figures 18 and 19, I have shown the locking-plate 14 as provided with an elongated slot 53 and an outwardly projecting pin 54, adapted to cooperate with a key of the form shown in Figure 20, which in the outer end of its barrel is provided with a socket 55 adapted to receive the pin 54. The lug 50 and extension 51 are the same as in Figures 16 and 17. Figure 21 shows the socket 55 to be slightly elongated, thus enabling the pin 54 to have a slight movement within the socket 55, enabling the barrel to be slightly shifted relatively to the plate 14, so as to enable the extension 51 of the key to overlap the plate as previously described.

In Figures 22 and 23, I have shown the locking-plate 14 as provided with an aperture elongated as in Figure 18 and correspondingly numbered, and with an elongated aperture 56. The key-barrel, at its outer end, is provided with a circular pin 57 adapted to enter the aperture 56 and move slightly therein for the purposes heretofore described, with reference to the lug 50 and extension 51.

In Figure 24, I have shown the association of the key with the escutcheon and locking plate, so as to enable the cooperative action thereof to be readily understood.

In Figure 25 I have shown the details of the escutcheon, including the lugs 18 which are splayed upon the locking-plate 14, the other parts being the same as in Figure 14. Figure 26 shows the key portion of the handle in perspective, thus giving a better idea of the form of the lug and its extension.

From the foregoing it will be readily understood that many different combinations can be provided for the purpose of manipulating the locking mechanism which I have shown in various forms, and by changing the position of the slot 48 in the escutcheon, as shown in Figure 13, many different combinations can be obtained. This is also true with reference to the position of the slot 49, Figure 14, in the locking-plate relatively to the slot 48, in the escutcheon. By adding a pin such as 54 to the locking-plate at various points around the circle, or by providing the locking-plate with an additional slot 56 at various points around the circle relatively to the slot 53, or by combining several of the features just described, a myriad of locking combinations can be provided, so that many different wardrobes or wardrobe-lockers can be provided, each with its own key and opening handle.

It will be understood that my invention is not limited to the applications which I have chosen to show in the drawings for my locking mechanism, and that it can be applied anywhere it is desired to lock a door or closure or movable member.

It is noted that, in the forms of my invention shown in Figures 11 and 12, a reinforcing or carrier plate, such as 7, shown in Figures 2, 3 and others, is not employed. Such

plate is important in cases where the closure is light and flexible and may be readily bent, because it adds strength and rigidity, holds the locking mechanism in proper position at all times for accurate operation, prevents the closure from being marred by screws or rivets or other means securing the various parts thereto. The plate being a carrier and capable of being secured to any form of casing, gives to the locking mechanism an independence which characterizes it as an article of manufacture.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A locking mechanism comprising a rotary plate having a rigid lug projecting from the periphery thereof, a key-socket rigidly connected to said plate, locking bars pivotally connected to said plate at opposite sides of the lug, and means cooperating with the plate lug and bars operating as catch-plates therefor.

2. In combination with a casing having a closure and a catch-plate, a locking mechanism comprising an escutcheon journaled in the closure, and a locking plate rigidly secured to the escutcheon, said plate having a locking lug cooperative with the catch-plate, and means imposing tension on the locking-plate.

3. In combination with a closure, a three-point locking means for securing the closure, and means for yieldingly holding the locking means in unlocked position.

4. In combination with a closure, a three-point locking means for securing the closure, and means for holding the locking means yieldingly when in either locked or unlocked position.

5. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position.

6. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means for yieldingly holding the locking-plate in locking position.

7. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means for yieldingly holding the locking-plate in unlocked position.

8. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means for limiting the movement of the locking-plate in the direction for unlocking the same.

9. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means for yieldingly holding the locking plate.

10. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means for holding the locking-plate set in unlocked position.

11. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means for automatically setting and holding the locking-plate in unlocked position.

12. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking plate so

that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means for yieldingly holding the locking-plate in locking position.

13. As an article of manufacture, a locking mechanism comprising a supporting plate having a longitudinal flange; a locking-plate carrying a locking lug; an escutcheon journaled in the supporting plate and rigidly connected to the locking-plate so that the one may turn the other; said locking-plate having a stop lug adapted to cooperate with the flange of the supporting plate to limit the movement of the locking-plate into operative position; and means connected with the locking-plate and adapted to swing from one side of its axis to the other to hold the same in both locking and unlocked position.

14. In combination with a casing and a closure therefor, a locking means for the closure mounted on the latter, said locking means comprising two longitudinally reciprocating locking bolts; a rotary locking-plate; means for pivotally securing the locking bolts to the plate; an escutcheon journaled in the closure and rigidly secured to the locking plate; means holding the locking-plate under tension; and means for limiting the movement of the locking-plate at predetermined points in opposite directions.

15. In combination with a casing and a closure therefor, a locking means for the closure mounted on the latter, said locking means comprising two longitudinally reciprocating locking bolts; a rotary locking-plate; means for pivotally securing the locking bolts to the plate; an escutcheon journaled in the closure and rigidly secured to the locking-plate; means for holding the locking-plate under tension; and means for limiting the movement of the locking-plate at predetermined points in opposite directions; said closure having catch-plates for cooperation with the locking bolts, the locking-plate having a locking lug and the casing having a catch-plate for cooperation with the locking lug.

16. Means for creating a locking combination in locking mechanism comprising an escutcheon and a locking-plate rigidly connected together and both adapted to have rotary movement, the locking-plate being provided with an elongated slot, and a key having a lug adapted to enter the slot and provided with an extension for overlapping the plate.

17. Means for manipulating a locking mechanism comprising a rotary plate and a socket rigidly attached thereto, the plate having an elongated slot therein, in combination with a key having a barrel adapted to enter the socket and a lug adapted to pass through the said slot and having an extension for overlapping the plate, whereby the plate and socket may be rotated by the key and the said plate and socket may be shifted at a right angle to the plane of rotation of the latter.

18. Means for creating a locking combination in locking mechanism, comprising a cylindrical socket and a locking-plate rigidly connected together, the plate forming the bottom of the socket and closing the same, the structure being provided with means adapted to cooperate with a key of corresponding structure, whereby the socket and plate may be rotated.

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