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H. F. GEORGE

2,425,239

LATCHING MECHANISM

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3 Sheets-Sheet 2

Fig. 5

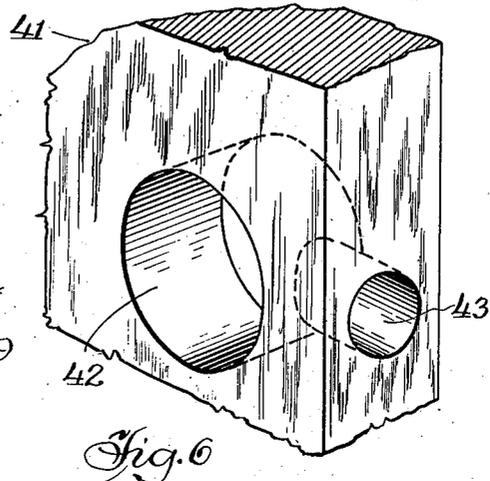
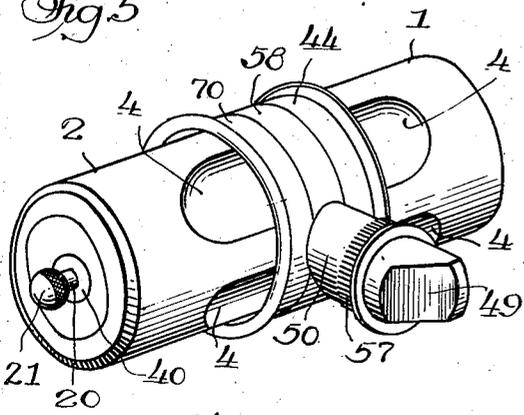


Fig. 6

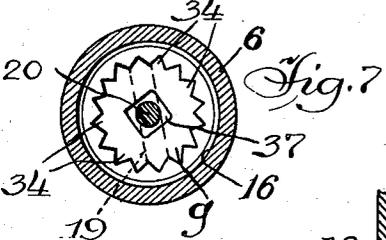
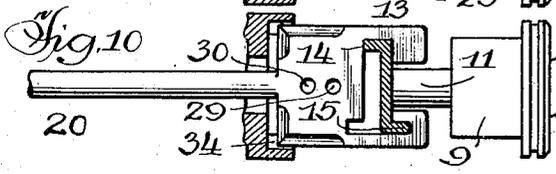
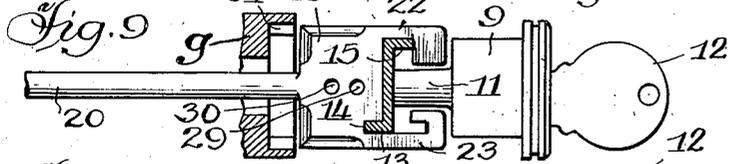
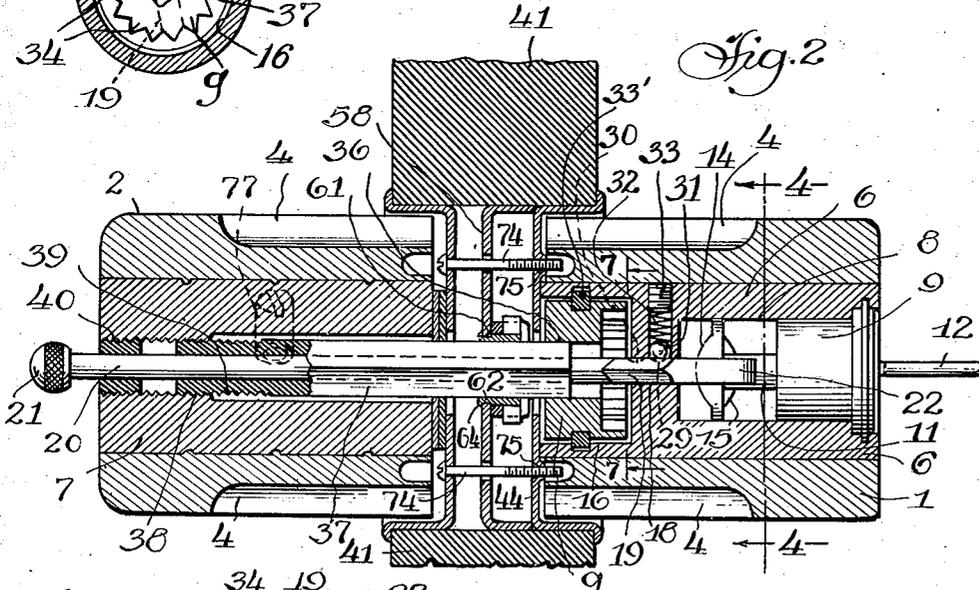


Fig. 7

Fig. 2



INVENTOR.
Harry F. George
BY
Parkinson + Lane
Attys

Aug. 5, 1947.

H. F. GEORGE

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3 Sheets-Sheet 3

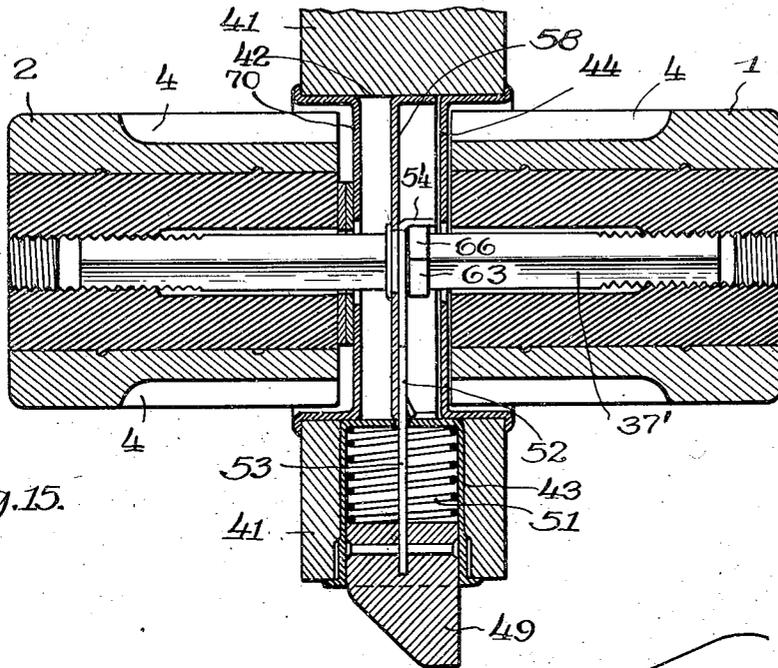


Fig. 15.

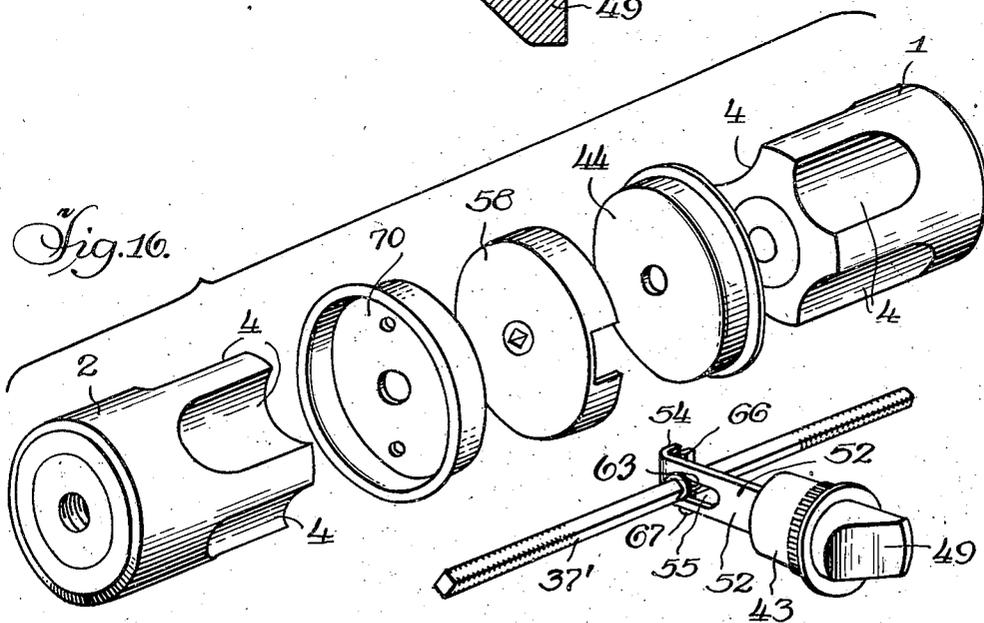


Fig. 16.

INVENTOR.
Harry F. George
BY
Parkinson & Lane
Atlys.

UNITED STATES PATENT OFFICE

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LATCHING MECHANISM

Harry F. George, Chicago, Ill.

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19 Claims. (Cl. 70—149)

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This invention relates to the provision of, and method of assembling, detent means, and while of general applicability, it is particularly adapted for use in connection with door knob operated detent means and door locks.

While I have for illustrative purposes shown and described my invention as applied to doors, both with and without a locking means, I wish it understood that it is not limited thereto but is capable of use in any connection, and for any purpose, to which it may be adapted.

Among the objects of my invention is to provide a detent means which is capable of quick and easy installation in one of two parts to be held together, is of economical construction, is pleasing in appearance, and efficient in operation.

A further object is to provide means in which a door knob on one side of a door may be so manipulated as to cause the door to be locked or unlocked at will to anyone on the other side of the door without a key.

A still further object is to provide novel means whereby a door knob on one side of a door will be always operable from that side to enable opening of the door, and so controllable from said one side without a key that the door knob on the other side of the door can be made to rotate idly to prevent ability to open the door or to have ability to open the door from said other side, as desired.

Another object is to provide a door locking means in which one of a pair of door knobs is provided with a longitudinally slidable rod, capable of throwing into or out of engagement a pair of elements that control ability to open the door by rotating the other knob.

An additional object is to provide novel means whereby a door or the like may be locked or unlocked by a key from one side and without a key from the other side.

A further object is to provide an improved latching means for doors and the like, for use with many different kinds of door knob sets, both conventional types and otherwise, and both with and without locking means.

Other objects, advantages and capabilities, inherently possessed by my invention, will later more fully appear.

My invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawings, and while I have shown therein for illustrative purposes preferred embodiments, I wish it understood that the same are susceptible of modification

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without departing from the spirit of my invention.

In the drawings:

Fig. 1 is a horizontal section through a pair of door knobs having my improved latching and locking means applied thereto, and a fragmentary portion of a door to which the same is applied.

Fig. 2 is a view similar to Fig. 1, but taken in a vertical plane passing through the longitudinal axis of the door knob set.

Fig. 3 is a fragmentary vertical section looking toward the latch and latch operating mechanism.

Fig. 4 is a transverse vertical section taken on the line 4—4 of Fig. 2.

Fig. 5 is a perspective view, on a reduced scale, of a pair of door knobs with my improved latching and locking means in assembled position, but separate from the door or other part within which they are to be mounted.

Fig. 6 is a fragmentary, perspective view of the portion of a door, or other part, within which the parts of Fig. 5 are to be mounted.

Fig. 7 is a vertical transverse section on the line 7—7 of Fig. 2 and looking toward the female clutch member.

Fig. 8 is a fragmentary perspective view of the longitudinally slidable male clutch member.

Fig. 9 is a fragmentary longitudinal section of the two clutch members in disengaged position such that the adjacent door knob will be in locked condition for idly rotating without moving the latch.

Fig. 10 is a view similar to Fig. 9, but showing the two clutch member in engaged position such that the adjacent knob will be in unlocked condition so that when rotated it will operate the latch.

Fig. 11 is a perspective view of the middle plate upon which the flat latch plate and latch operating mechanism are to be mounted.

Fig. 12 is a perspective view of the cam for causing longitudinal movement of the male clutch member, and showing in dotted lines the locking plug shaft and a portion of the locking plug.

Fig. 13 is a perspective view of the cam for causing longitudinal movement of the latch plate.

Fig. 14 is a perspective view of the latch plate.

Fig. 15 is a horizontal section of a modified form of my invention in which the locking means is omitted.

Fig. 16 is a distended view of the parts of Fig. 15 (the door being omitted with the main parts separated from each other and the shaft and

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latch parts being positioned to one side for the sake of clearness).

Referring more in detail to the drawings, in Figs. 1 and 2, the two door knobs 1 and 2 are shown for illustrative purposes only, as having their outer portions 3 of cylindrical formation and their inner end portions formed with depressions 4 (also see Figs. 5 and 16) for conveniently receiving the operator's fingers. The outer portions of the knobs are preferably formed of ornamental resinous plastic material, although any other suitable material, may be used if desired. Knobs 1 and 2 each have a concentric cylindrical bore or opening 5 extending longitudinally therethrough in which are fixed to rotate therewith, inserts 6 and 7 respectively which may be of brass or any other suitable material.

Insert 6 is formed with an opening 8 within which is mounted the cylinder locking plug 9 containing locking tumblers 10 and having extending inwardly the locking plug shaft 11 which rotates when the key 12 is inserted in the lock and turned. Fixed to the inner end of the shaft 11 is a cam 13 having two upstanding cam projections 14 and 15 whose centers are positioned 180 degrees apart on opposite sides of the cam body and at the circumferential portions as seen in Fig. 12.

The inner end portion of the knob insert 6 is formed with a bore 16 stopping short of the inner end of bore 8 so as to provide a partition 17 between the two bores 8 and 16 the latter of which bores is preferably somewhat larger in diameter than the former. Partition 17 is provided with a slot 18 which receives the male clutch member 19 for longitudinal sliding movement therethrough when cam 13 is rotated by the key 12. Clutch member 19 has fixedly mounted thereon, or integral therewith as desired, and in axial alignment therewith, the longitudinally extending rod 20 which at its free end is formed with an enlargement 21, or other suitable grasping member, and protrudes a slight distance out of the knob 2 to enable the male clutch member to be selectively moved longitudinally by hand when desired, as later more fully explained.

The male clutch member 19, at its forward end, is formed with a pair of spaced apart arms 22 and 23 having projections 24 and 25 extending inwardly toward each other but spaced apart laterally a sufficient distance to freely and rotatably receive therebetween the locking plug shaft 11. Projection 25 is formed with a slot 26, and the clutch member 19 opposite slot 26, and in longitudinal alignment therewith, is formed with a slot 27. Arm 22 and projection 24 are so formed as to provide the lateral notch 28. As seen in Figs. 9 and 10, the cam 13 is rotatably mounted between arms 22 and 23 of the male clutch member, behind the projections 24 and 25, so that as the cam 13 is rotated, the cam projection 14 will bear against the rear face of notch 28 and cam projection 15 will freely pass into slot 26 when, by means of the key the cam is rotated into the position shown in Fig. 10, and the cam projection 15 will bear against front face of slot 28 and cam projection 14 will pass freely into slot 27 when, by means of the key, the cam is rotated into the position shown in Fig. 9. From this it will be seen that the male clutch member 19 is moved rearwardly (to the left as viewed in Fig. 10) by cam projection 14, and is moved forwardly (to the right as viewed in Fig. 9) by cam projections 15 bearing against the forward face

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of slot 28. In other words, the male clutch member is moved rearwardly and forwardly by action of cam projections 14 and 15 alternately bearing against the rearward and forward faces of slot 28, depending upon the direction or amount, of rotation of the locking plug shaft 11 by key 12.

When the outermost portion of cam projection 15 is contacting the forward face of slot 28, the cam projection 14 will for clearance be in slot 27, and when the outermost portion of cam projection 14 bears against the rear face of slot 28 the cam projections 15 will for clearance be in slot 26. This arrangement permits rotation of the cam 13 in either direction to move the clutch member 19 longitudinally in one direction or the other for purposes to be later explained. Formed in one of the side faces of clutch member 19 are a pair of spaced apart recesses 29 and 30 (see Fig. 8) to receive a spring pressed ball 31 urged forwardly by spring 32 held in place by a screw plug 33 threaded into an appropriate opening in the knob insert 6 (see Fig. 2). When the male clutch member 19 is in clutching engagement, ball 31 will be seated in recess 29 as shown in Fig. 2, and when this clutch member is disengaged or de-clutched, ball 31 will be seated in recess 30 as shown in Fig. 1. This spring urged ball detent will insure against inadvertent longitudinal movement of the male clutch member and yet permit such longitudinal movement by application of a slight force occasioned either by turning the key 12 to rotate cam 13, or by pushing or pulling upon the handle enlargement 21 to move rod 20 longitudinally.

Rotatably mounted within bore 16 in the knob insert 6, is a female clutch member *g* rotatably held in place against longitudinal movement by the spring ring 33' fitting within registered complementary grooves within the insert 6 and the clutch member *g*. The clutch member *g* in its forward face is formed with a circumferentially spaced series of V-shaped notches 34 to receive correspondingly shaped clutch dogs 35 on the male clutch member when the male clutch member is moved longitudinally into engagement with the female clutch member. To facilitate positive and easy entry of dogs 35 (there being one on each of the side edges of the male clutch member) into recesses 34, these dogs are formed of V-shape on both their side and end edges as seen in Figs. 1, 2 and 8.

Female clutch member *g* is formed at its longitudinal center just to the rear of the V-shaped notches 34 with a square (or other non-circular shape) opening 36 to non-rotatably receive one end of a square shaft 37, which in turn is provided with a longitudinal cylindrical opening to slidably receive rod 20. It will thus be seen that rotation of female clutch member *g* will cause rotation of square shaft 37 for purposes later explained. Knob insert 7, in its outer end, is formed with threads 38 to threadably receive corresponding threads 39 formed on the corners of the adjacent end portion of square shaft 37. Also a filling plug 40, having a tubular opening to slidably receive rod 20, is threaded into the outer end of knob 2 to close the central opening and form a support for rod 20.

The door 41, or other part to which the detent means is attached is formed near one vertical edge with an opening 42 extending entirely through the door and intersecting which opening, and positioned at right angles thereto, is an opening 43 through the edge face of the door, as seen in Fig. 6.

As shown in Figs. 1, 2 and 15, there is fitted into the opening 42 on one side of the door a cup 44 which extends partway into the door opening and is provided with cylindrical side walls 45 and a flat bottom wall, which latter is formed with an opening 47 to rotatable receive a square shaft 37. The outer circumferential edges of side walls 45 are crimped or bent laterally to form a flange 48 to position the cup within the hole. This cup is of a diameter to be pushed into the opening in the door and fit snugly therein. As seen in the views of the drawing noted above, the knob 1 is seated within cup 44 which conceals the inner end of this knob from sight thus rendering a neat and finished job. Inserted into opening 43 is a latch assembly comprising the latch 49, latch housing 50, spring 51, and latch plate 52 fixed to the latch 49 by a pin 53 or other suitable fastening means. Latch plate 52 at its inner end is formed with a flange 54 and in its flat body portion with an elongated slot 55. The latch housing 50 is of cup shape and is formed at its outer edge with a circumferential flange 56 which bears against the edge of the door. The latch housing is formed with a roughened or corrugated portion 57 adapted to bite into the wood of the door when the housing cup 50 is forced thereinto. The latch plate slides through a suitable opening in the bottom wall of the cup.

When the latch assembly is forced into the position shown in Figs. 1 and 15, the latch plate 52 will be back of the bottom of the cup member 44.

An intermediate cup member 58 (see Fig. 11) is provided, having circumferential side walls 59 within which is cut a slot 60 of a width and depth to slidably receive the latch plate 52. Cup 58 is formed with a central round opening 61 to rotatably receive the cylindrical neck 62 of the latch cam 63, the outer edge of cylindrical neck 62 being flanged over by spinning or otherwise, to form flange 64 to hold the latch cam in proper position with relationship to cup member 58.

Latch cam 63 is formed with the hub 65 and outstanding cam arms 66 and 67 which are curved on one side to provide cam surfaces for operating against flange 54 of the latch plate. Cam 63 is rotatably mounted with relation to the cup member 58. The cup member 58 with its rotatable cam is then pushed into the opening 42 from the open side opposite to that within which the cup member 44 is secured. As the cup member 58 with its rotatable cams 63 approaches the latch plate, the latter is pushed rearwardly by a push on latch 49 and the cam arms 66 and 67 rotated to be parallel with the slot 55. When the cam arms and the slot 55 are thus brought in registry, the cam arms are pushed through the slot 55 and rotated at right angles thereto and the latch released to cause it under action of spring 51 to move the latch outwardly and bring the flange 54 into contact with the cam member 63 as will be understood in Fig. 3. The cup member 58 is of such diameter as to have a snug contact with the sides of hole 42 so as to be retained in position when pushed into its final position just described.

Latch plate 52 has a tongue 68 struck up therefrom as shown in Figs. 1 and 14, the free end of which tongue bears against the inner wall 69 of latch cup 50 to hold the latch plate in approximately correct position during assembly of the apparatus as described above.

The cam member 63 as seen in Fig. 13 has a square hole therethrough of a size to slidably receive the square shaft 37 whereby the cam may be slidably moved along the square shaft during

assembly and be rotated thereby during the operation of the latch as the square shaft is rotated by either of the door knob 1 and 2.

Cup members 44 and 58 having been assembled as described above, with the latch assembly in place, the cup member 70 is next positioned in hole 42 as shown in Fig. 1. The flat bottom of cup 70 is formed with a round opening 71 of a size to permit rotation of the square shaft 37 therein. Cup member 70 is provided with cylindrical side walls 72 of a size to be snugly positioned in the side walls of hole 42, and is also formed with an outer flange 73 to bear against the outer marginal edges of this door hole.

Cup members 44, 58 and 70 are provided with registering openings to receive the screw bolts 74 which as seen in Fig. 2 each have a screw head at one end and threads at the opposite end to be threaded into threaded openings 75 in the bottom portion of cup member 44 in order to anchor cup members 44 and 70 together, with the cup member 58 positioned therebetween, the latter being held against any possible rotation by screw bolts 74 and in proper position to insure free sliding movement of latch plate 52 through notch 60 of cup 58.

With the three cup members secured together as described above, the knob 2 is next slipped over the square shaft 37 and threads 38 of the insert 7 screwed onto the threads 39 of the square shaft after which the finishing insert 40 is screwed into threads 38 and the ball or enlargement 21 fastened to the end of longitudinally slidable rod 20.

It is to be understood that any number of washers 76 may be added as desired between the inner end of knob insert 7 and the bottom of cup 70, to prevent looseness between the parts, as seen in Fig. 1. Also as seen in dotted lines in Fig. 2, a set screw 77 may be mounted in the knob 2 and insert 7 to bear against the square shaft to fix these parts for rotation together.

The same general construction is shown in Fig. 15 except that the lock and lock operating parts are omitted. In other words I have, in Fig. 15, shown my invention as applied to a pair of knobs and associated latch, for ordinary latch operation without the locking means described in the preceding views. In Figs. 15 and 16 the square shaft 37' is longer than the square shaft 37 of the preceding views, and it may be solid or tubular as desired but the longitudinal rod 20 and clutch means are omitted. As will be understood, the knobs in Fig. 15 may be secured to the square shaft by set screws (not shown) or any other fastening means desired so that the knobs and shaft will rotate together. The latch and latch operating means in Fig. 15 are the same in construction and operation as those of the preceding views. Also in the form of Fig. 15 screw bolts, similar to screw bolts 74 in Fig. 2, will be used to keep the three cup shaped members 44, 58 and 70 properly assembled in the hole 42.

It is to be understood that, in the form shown in Figs. 1-14, the end of the square shaft 37 which fits into the square hole 35 of female clutch member *g*, is tightly held therein by any means desired, such as a press fit, a set screw, or other suitable means, to prevent knob 1 from being loose on the shaft in a longitudinal direction. The non-circular shaft 37 and correspondingly shaped hole 36 will cause clutch member *g* and this shaft to rotate together when the clutch is engaged.

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The construction and operation of my improved detent means, and method of assembling the parts, will be understood from the foregoing. The knob 2 will preferably be positioned on the inside of a room, such as a bath room, bed room, or other place desired, and while the latch can always be operated by the occupant of the room to open the door, such occupant can lock the door against being opened by anyone on the other side, unless such other person has a key 12 that will fit the lock, simply by pushing rod 20 to the right as viewed in Fig. 2 which will push the male clutch member 19 out of engagement with the female clutch member *g* to cause the knob 1 to turn idly without moving the latch. If however, the occupant of the room wishes the knob on the other side of the door to have operative connection with the latch, all he has to do is to pull the rod 20 toward him, which will move clutch member 19 into clutch member *g*, and enable the latch to be operated by turning knob 1. Also, if the outside party has a proper key 12, he can insert it into lock 9 and by turning the key rotate cam 13 into the position shown in Fig. 10 to engage the clutch members 19 and *g*, and connect the latch for movement by rotating the knob 1.

Also if the occupant of the room wishes to lock the door when leaving the room he can insert the key as described above and turn the cam 13 into the position shown in Fig. 9 and thus disengage the clutch members to cause the knob 1 to turn idly without operating the latch. Then no one can open the door without a key, or having some one on the inside of the door to turn the knob 2 or pull outwardly on rod 20.

It is also to be understood that, if desired, a locking means such as that located within knob 1, can be installed within knob 2 so that the door, or other part to be locked, can be locked or unlocked from either side by using a key in either knob.

The locking plug 9 and the key slot will be so arranged with relation to each other and to the tumblers, that when the key is pulled out of the slot the cam projections 14 and 15 will be in neutral position with relation to the male clutch 19, so that the rod 20 and male clutch 19 can be moved longitudinally to enable engagement or disengagement of the clutch by longitudinal movement of the rod.

The assembly of the parts in knob 1 will be clear from the above description, it being understood that the cam 13 will be inserted laterally into the slot 28 of the male clutch member, and the rod 20, male clutch member 19, cam 13, locking plug shaft 11 and lock 9 will be longitudinally introduced together from the right hand side of Fig. 2 and the parts then operatively mounted, fixed or positioned as the case may be. The clutch member 19 will be slidably mounted in slot 18. The female clutch member *g* will be rotatable with relation to knob 1 and insert 6 by reason of the spring ring 33' except when clutch member 19 engages clutch member *g* at which time they will be fixed to rotate together. The knob inserts 6 and 7 are fixed to rotate with their respective knobs.

Having thus described my invention, I claim:

1. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means permanently connecting said latch with one of the clutch members and with the other knob, said means including a tubular non-circular shaft

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fixed to rotate with one of the knobs and with the clutch member connected to the latch, and a rod connected to the other clutch member and longitudinally slidable in the non-circular shaft to selectively cause engagement and disengagement of the clutch when desired by movement of the rod.

2. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, and means in each handle for positively engaging and disengaging the clutch members, one of said knobs being operatively connected to the latch at all times, and a rod longitudinally mounted in the last mentioned knob for longitudinal sliding movement therein and having a projection extending outwardly from the last mentioned knob, said rod being connected to one of the clutch members so that said projection can be pushed inwardly for disengaging the clutch members to prevent operation of the latch by the knob having the clutch members, and the projection pulled outwardly for engaging the clutch members to connect the last mentioned knob for operation of the latch.

3. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, and means in each handle for positively engaging and disengaging the clutch members, one of said knobs being operatively connected to the latch at all times, a rod longitudinally mounted in the last mentioned knob for longitudinal sliding movement therein and having a projection extending outwardly from the last mentioned knob, said rod being connected to one of the clutch members so that said projection can be pushed inwardly for disengaging the clutch members to prevent operation of the latch by the knob having the clutch members, and the projection pulled outwardly for engaging the clutch members to connect the last mentioned knob for operation of the latch, and resilient detent means for releasably holding the rod in either of its extreme positions of longitudinal movement.

4. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, said means comprising a non-circular shaft having a longitudinal bore, and a rod longitudinally slidable in said bore, said rod at one end being permanently connected to the other clutch member and at the other end projecting outwardly beyond the other knob so that the projecting end of the rod may be grasped by the operator and moved in either direction to selectively engage and disengage the clutch members as desired, the clutch member which is permanently connected to the rod having a flattened head formed with a cam slot, and a key-operated cam rotatably mounted in said slot.

5. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, said means comprising a non-circular shaft having a longitudinal bore, and a rod longitudinally slidable in said bore, said rod at one end being permanently connected to the other clutch member and at the other end projecting outwardly beyond the other knob so that the pro-

jecting end of the rod may be grasped by the operator and moved in either direction to selectively engage and disengage the clutch members as desired, and key-controlled means in the knob having the clutch members and connected to the clutch member which is connected to the rod for moving it into and out of engagement with the other clutch member, said key-controlled means including a cam co-acting with slots in said rod-connected clutch member.

6. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, and means in each handle for positively engaging and disengaging the clutch members, said means in the knob having the clutch members comprising key-controlled mechanism, and said means in the other knob comprising a push and pull rod extending outside the outer face thereof, one of said clutch members having opposed cam slots and said key-controlled mechanism having a cam provided with opposed cam surfaces engaging said cam slots.

7. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, a key-controlled lock and cam in the knob having the clutch members, said cam being rotatable by the key and connected to one of the clutch members for moving it into and out of engagement with the other clutch member upon rotation of the key, and a longitudinally slidable rod in the other knob, said rod at one end being connected to the cam operated clutch member and at its other end extending outside of the last mentioned knob for manual manipulation, said cam having diametrically opposite and oppositely extending cam surfaces, and the cam operated clutch having opposed slots within which said cam surfaces operate.

8. Latching means comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, a key-controlled lock and cam in the knob having the clutch members, said cam being rotatable by the key and connected to one of the clutch members for moving it into and out of engagement with the other clutch member upon rotation of the key, and a longitudinally slidable rod in the other knob, said rod at one end being connected to the cam operated clutch member and at its other end extending outside of the last mentioned knob for manual manipulation, said cam having diametrically opposed and oppositely extending cam surfaces and the cam operated clutch having opposed slots within which said cam surfaces operate and resilient detent means for releasably holding the rod in either of its extreme positions of longitudinal movement.

9. Latching mechanism comprising a knob having a hollow interior, a pair of clutch members and a cam in said hollow interior, said cam being connected to one of said clutch members for engaging and disengaging it with the other clutch member, key-operated means in said knob for operating said cam to cause said engagement and disengagement, a latch, means connecting said latch with one of said clutch members, a second knob having a rod slidably mounted therein, said rod at one end being connected to one of said clutch members and at its other end

extending outside of the outer face of said second knob for manual manipulation, whereby the clutch members may be selectively engaged and disengaged by both the key-operated means and the rod, said rod-connected clutch member comprising a flattened longitudinally extending head having opposed slots receiving said cam.

10. Latching mechanism comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, key-operated means in the knob having the clutch members, and manually operated means in the other knob, said key-operated means and said manually operated means being operatively connected to the same clutch member, one of said clutch members having annular internal teeth, and the other clutch member having a pair of opposed teeth engageable and disengageable with said internal teeth upon selective operation of the key and said manually operated means.

11. Latching mechanism comprising a pair of oppositely positioned knobs, a pair of clutch members in one of said knobs, a latch, means connecting said latch with one of said clutch members, key-operated means in the knob having the clutch members, and manually operated means in the other knob, said key-operated means and said manually operated means being operatively connected to the same clutch member, said manually operated means comprising a longitudinally slidable rod having one end extending outside of the outside face of its knob for pushing and pulling by the hand of the operator, one of said clutch members having annular internal teeth, and the other clutch member having a pair of opposed teeth engageable and disengageable with said internal teeth upon selective operation of the key and said manually operated means.

12. Latching mechanism comprising a knob having a longitudinal opening therein, a pair of clutch members in said opening, a latch, means connecting the latch to one of the clutch members, the other clutch member having a flattened head formed with a cam slot, a cam rotatably mounted in said slot, and key operated means in said knob for rotating the cam to engage and disengage said clutch members.

13. Latching mechanism comprising a knob having a longitudinal opening therein, a pair of clutch members in said opening, a latch, means connecting the latch to one of the clutch members, the other clutch member having a flattened head formed with a cam slot, a cam rotatably mounted in said slot, and key operated means in said knob for rotating the cam to engage and disengage said clutch members, a second knob having a rod longitudinally slidable therein, said rod extending outside of the outer face of the second knob at one end and being connected to the cam operated clutch member at the other end for positively moving the last mentioned clutch member by the rod in either longitudinal direction, whereby the clutch members may be engaged and disengaged by both the key operated means and the rod selectively.

14. Latching mechanism comprising an outside knob and an inside knob, a pair of clutch members in the outside knob, key operated means in the outside knob for engaging and disengaging the clutch members, an inside knob having a rod mounted therein for longitudinal sliding movement, said rod extending outside of the inside

knob at one end and into the outside knob at the other end and connected to one of the clutch members for positively moving it in either direction by a selective push and pull of the rod by the operator's fingers, one of said clutch members having annular teeth, and the other clutch member having a pair of opposed dogs engageable with said teeth and disengageable therefrom upon selective operation of the key and the rod.

15. Latching mechanism comprising an outside knob and an inside knob, a pair of clutch members in the outside knob, key operated means in the outside knob for engaging and disengaging the clutch members, an inside knob having a rod mounted therein for longitudinal sliding movement, said rod extending outside of the inside knob at one end and into the outside knob at the other end and connected to one of the clutch members for positively moving it in either direction by a selective push and pull of the rod by the operator's fingers, and a grasping member on the end of the rod extending out from the inside knob, so that the operator from the inside can positively move the rod in one direction to disengage the clutch members and prevent operation of the latch from the outside knob except by the use of a key in the outside knob, and can positively move the rod in the other direction to enable operation of the latch from both knobs.

16. Latching mechanism comprising a pair of oppositely positioned knobs, a pair of clutch members, a latch, means connecting the latch with one of the clutch members, one of the clutch members having a slot, a cam having cam projections extending in opposite directions on its diametrically opposite edges whereby rotation of the cam in one direction will move its clutch member in one direction and movement of the cam in the opposite direction or a greater amount in the same direction, will move its clutch member in the opposite direction, and a rod connected to and extending longitudinally from the cam operated clutch member to a point beyond one of the knobs, and key operated means in the other knob for operating the cam, whereby the operator's fingers may push or pull the projecting end of the rod to positively engage or disengage the clutch members from one knob, and the clutch members may be operated by a key from the other knob.

17. Latching mechanism comprising a pair of oppositely positioned knobs, a pair of clutch members, a latch having a slot and a lateral projection, a cam rotatably mounted in the slot of the latch, a hollow shaft extending through said cam and fixed to rotate the same, said hollow shaft extending into and fixed to rotate one of said clutch members, a rod extending longitudinally through said hollow shaft and slidable therein, said rod extending at its inner end to and fixed to the other clutch member, said rod at its other end extending outside of the outer face of one of the knobs to enable said rod to be positively pushed and pulled to selectively en-

gage and disengage the clutch members, and key-controlled means in the other knob for positively and selectively engaging and disengaging the clutch members.

18. Latching mechanism comprising a pair of oppositely positioned knobs, a pair of clutch members, a latch having an elongated slot and a lateral projection, a cam rotatably mounted in said slot, a hollow shaft fixed to rotate said cam and fixed to be rotated by one of said knobs, said hollow shaft extending into and being fixed to rotate with one of said clutch members, a rod longitudinally slidable in said hollow shaft and fixed at one end to one of said clutch members, said rod at the other end extending beyond the outer face of the adjacent knob, and key-controlled means in the other knob connected to operate the same clutch member to which said rod is connected, whereby the operator may move the latch from one of the knobs and at the same time prevent movement of the latch from the other knob except by use of a key.

19. In latching mechanism a supporting member having an opening extending laterally therethrough and a latch receiving hole extending inwardly from its edge and intersecting said opening, a pair of spaced apart cross members extending diametrically across said opening adjacent each side face of the supporting member each of said spaced apart cross members having a cylindrical depression extending into said opening, a third cup-shaped member extending diametrically across said opening in the space between the two first mentioned cross members, a cam member rotatably mounted in said third cup-shaped member, a latch longitudinally slidable in the latch receiving hole and having a slot and lateral projection whereby the latch may be operated by rotation of the cam member, a pair of oppositely positioned knobs, a hollow shaft fixed to said cam member to rotate the same, the other end of said hollow shaft being fixed to one of the knobs, a pair of clutch members in the other knob, the other end of said hollow shaft being fixed to rotate one of said clutch members, a second cam for moving the other of said clutch members, said rod at its outer end extending beyond the outer face of its knob whereby the rod may be positively and selectively pushed and pulled inwardly and outwardly to cause operation of the clutch members.

HARRY F. GEORGE.

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