

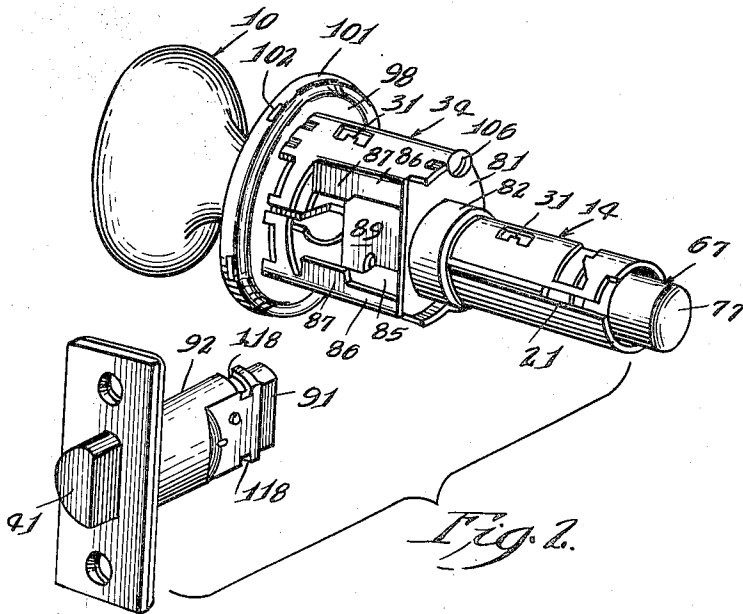
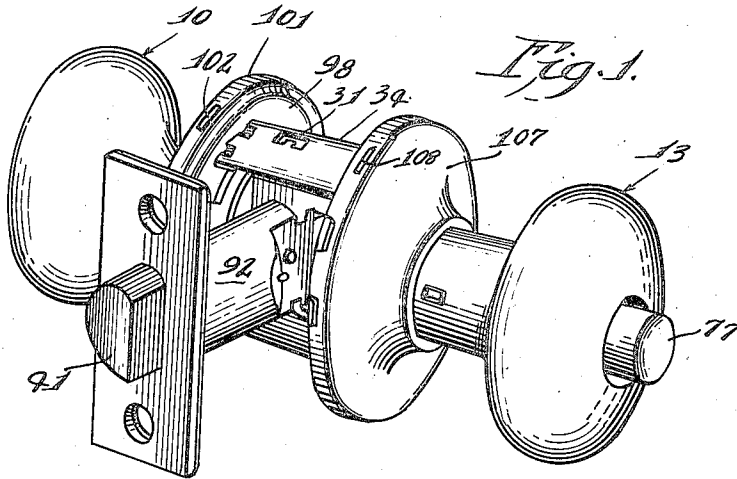
April 8, 1958

E. W. NORTH ET AL
PRIVACY DOOR LOCK ASSEMBLY

2,829,913

Filed June 18, 1954

4 Sheets-Sheet 1



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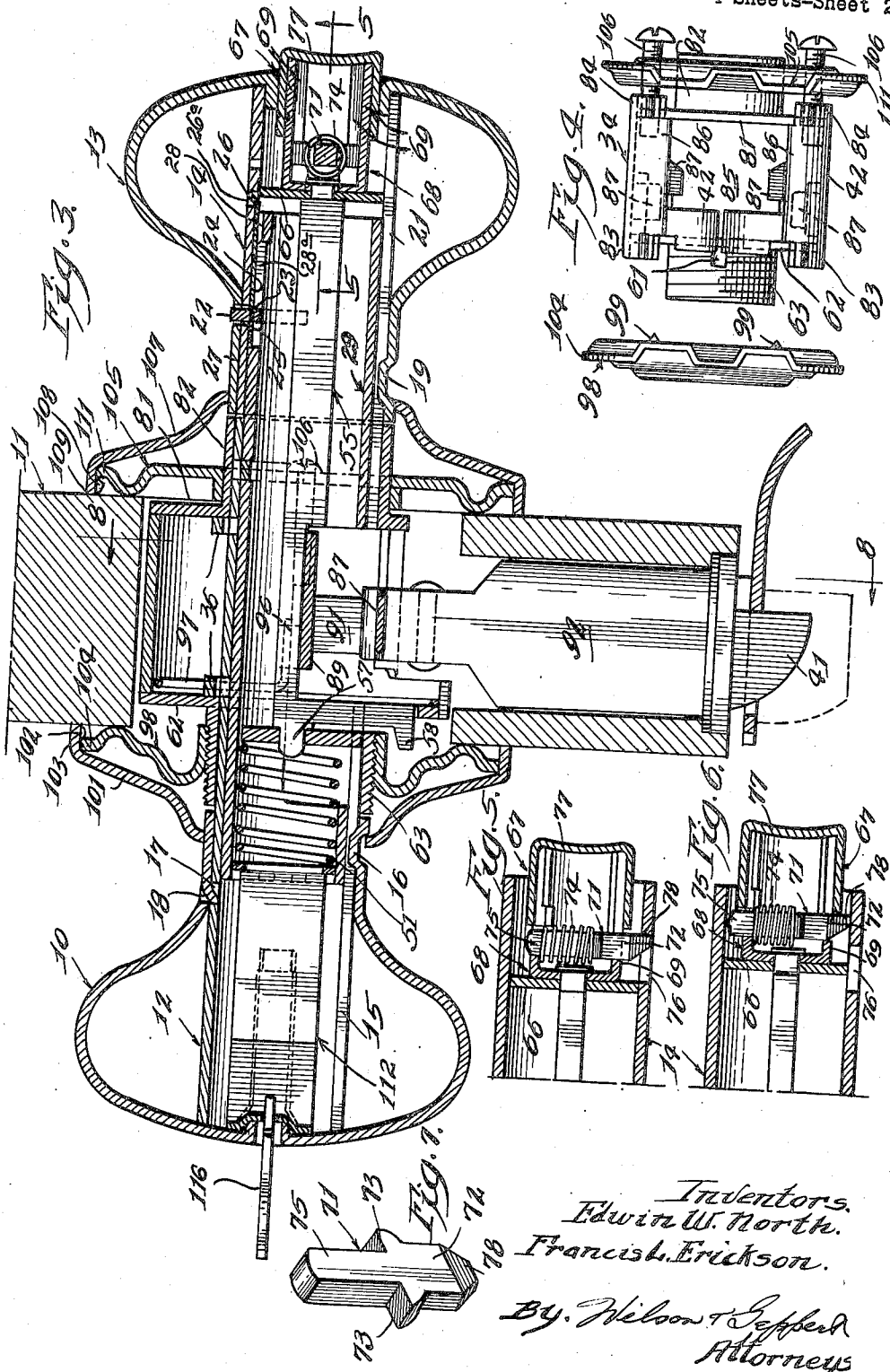
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4 Sheets-Sheet 2



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4 Sheets-Sheet 3

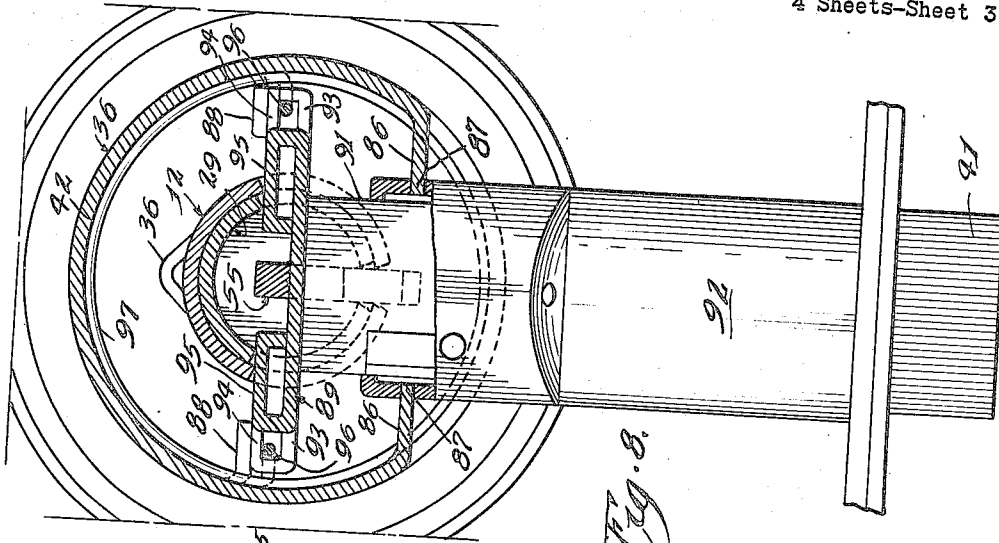


Fig. 8.

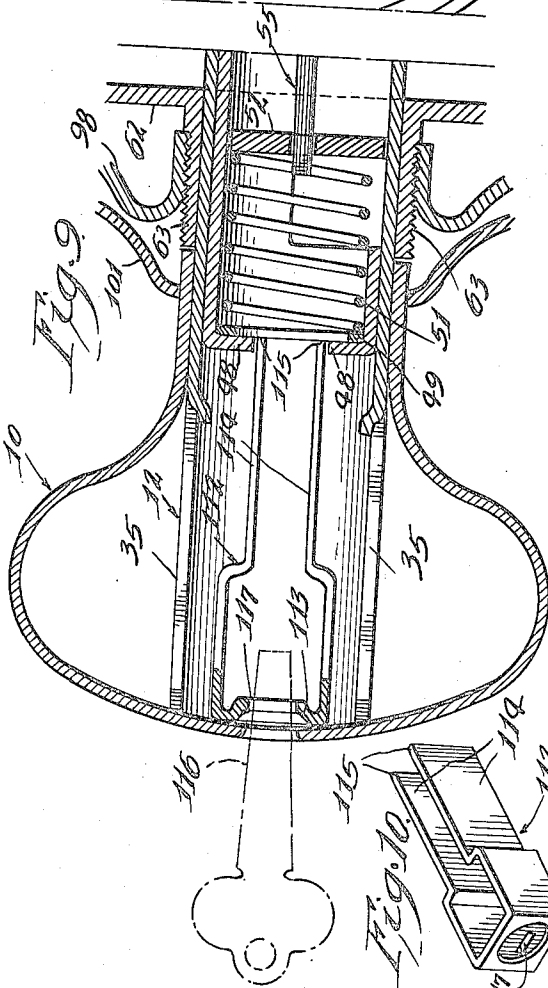


Fig. 9.

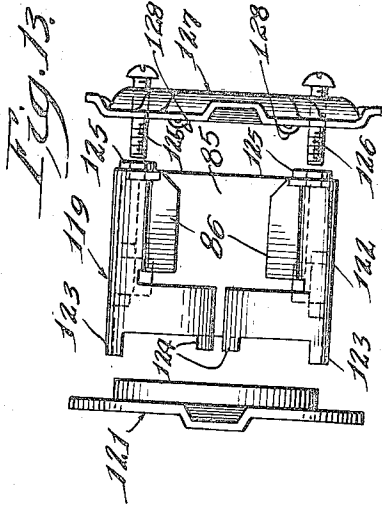


Fig. 13.

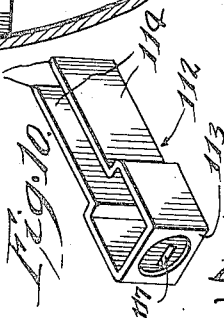


Fig. 10.

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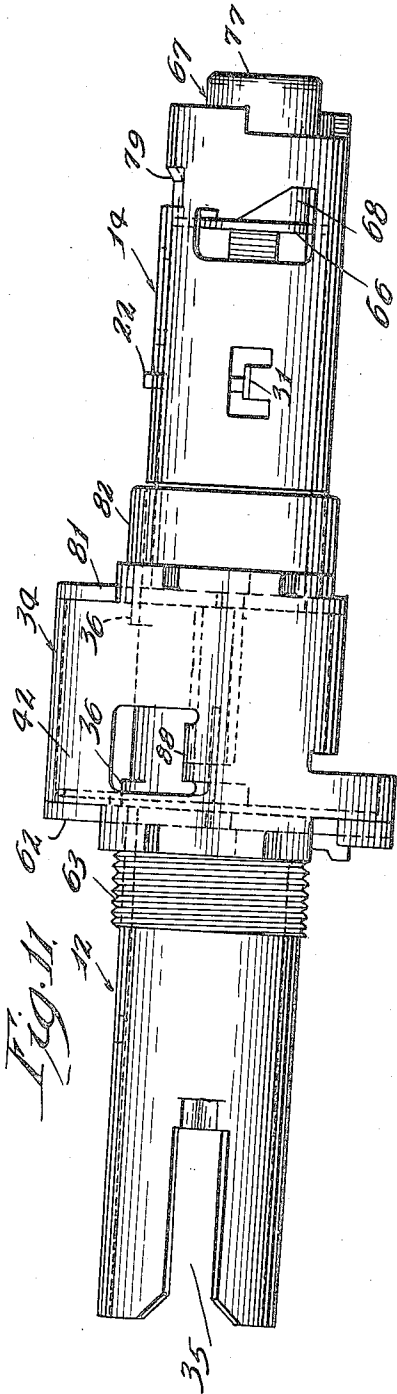


Fig. 11

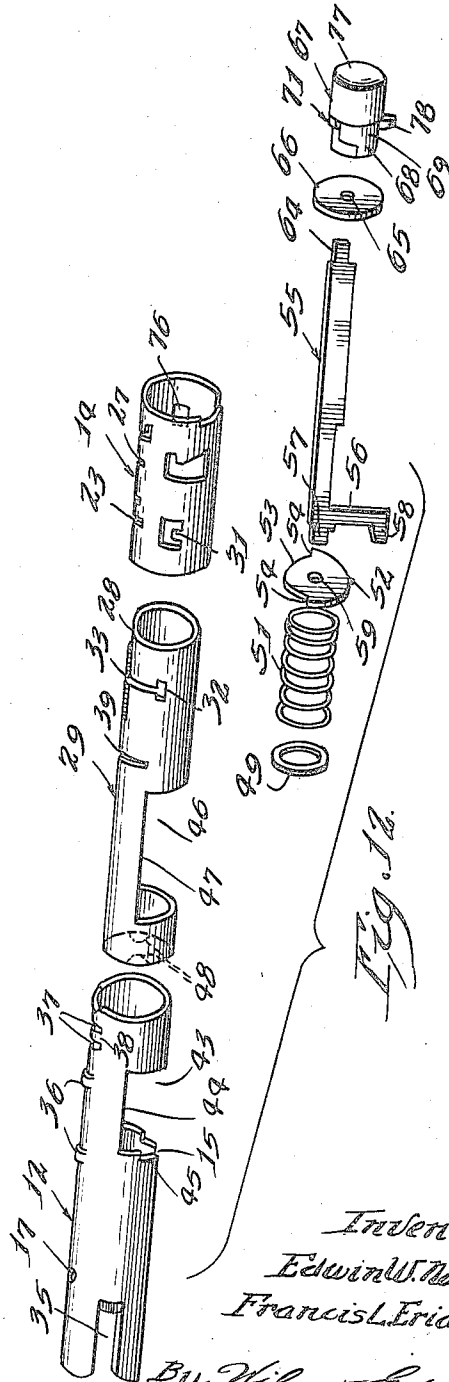


Fig. 12

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2,829,913

PRIVACY DOOR LOCK ASSEMBLY

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Application June 18, 1954, Serial No. 437,659

10 Claims. (Cl. 292—169)

The present invention relates to a builder's lock and more particularly to a novel privacy door lock for use in the door of a bathroom, bedroom or other room or enclosure where privacy is desired and whereby the door may be locked from the interior upon depressing a push button.

An important object of the present invention is the provision of a novel privacy door lock so constructed and arranged that the occupant of a room or other enclosure may lock the door against entry from the exterior by merely depressing a push button and upon turning the inner knob as when leaving the room, the push button is automatically released.

Another object of the present invention is the provision of a novel means and manner of locking the outer knob against rotation and retraction of the latch bolt when the occupant of a room desires privacy and depresses a push button on the inner knob.

In the present novel embodiment there is provided in a door lock having a retractable latch bolt a novel cam tube, sleeve and inner tube assembly including a cam tube on which the outer knob is mounted and by which this cam tube is rotated, a sleeve upon which the inner knob is mounted and rotated by turning of this inner knob, an inner concentric tube encompassed by the cam tube and sleeve and to which the outer end of the inner tube is staked or connected for rotation therewith, the inner tube being also connected to the encompassing cam tube but in such manner as to permit limited rotation therebetween, whereby the inner tube may be rotated to unlock the latch bolt while the cam tube and the outer knob are locked against rotation, camming means on the cam tube and on the inner tube for retracting the latch bolt by turning either knob when the outer knob and cam tube are unlocked, and a push button and locking bar actuated by the push button for locking the cam tube and outer knob and retaining them stationary.

The present invention further comprehends a novel push button lock assembly for locking the outer knob against rotation and retraction of the latch bolt whereby to assure privacy to the occupant of a room or other enclosure but permitting the door to be opened from the interior by merely turning of the inner knob to thereby release the locking means.

Another important feature of the present invention is the provision of a novel emergency release in the outer knob for releasing the locking means to unlock the outer knob and permit this outer knob to be rotated to retract the latch bolt.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

In the drawings:

Figure 1 is a perspective view of a novel privacy lock assembly as it appears when completely assembled for use in a door or other closure.

Fig. 2 is a disassembled view of the separate latch bolt unit disconnected from the remainder of the assembly, with the inner clamping plate, its escutcheon and inner knob removed whereby the assemblies are ready for insertion into their respective bores in a door or other enclosure, after which the inner clamping plate, inner escutcheon and inner knob are assembled in operative position.

Fig. 3 is an enlarged view in horizontal cross section taken longitudinally through the completely assembled privacy lock construction of Fig. 1 but showing the latch bolt unit in plan.

Fig. 4 is a view in front elevation of the housing assembly and its disassembled outer and inner clamping plates.

Fig. 5 is a fragmentary view in vertical cross section taken in a plane represented by the line 5—5 of Fig. 3 and viewed in the direction of the arrows, and the view showing the push button moved or pressed inwardly into locking engagement and the end of the transverse latching bar extended to its locking position for retaining the longitudinally movable locking bar in its locked position.

Fig. 6 is a view similar to Fig. 5 but with the push button and its latching bar retracted to inoperative position upon release by turning the inner knob.

Fig. 7 is an enlarged view in perspective of the latching bar for the push button.

Fig. 8 is a view in vertical cross section taken in a plane represented by the line 8—8 of Fig. 3, and viewed in the direction of the arrows.

Fig. 9 is a fragmentary enlarged view in vertical cross section taken longitudinally through the outer knob, cam tube and contained mechanism, and showing the manner in which the latch bolt may be released when an emergency arises and the door is to be opened from the exterior for access to the interior of the locked room or enclosure.

Fig. 10 is a view in perspective of the release bracket mounted within the outer knob to permit rotation of the inner tube to release the push button and locking mechanism and permit retraction of the latch bolt by turning of the outer knob when an emergency arises.

Fig. 11 is a top plan view of the housing, cam tube, sleeve and inner tube assembly including the push button for locking the outer knob against rotation.

Fig. 12 is an exploded or disassembled view in perspective of the component parts of the cam tube, sleeve and inner tube assembly shown in Fig. 11, and the component parts of the slidable locking bar and the push button housed therein for actuating this locking bar to lock the cam tube and the outer knob against rotation but automatically releasing the cam tube and the outer knob when the inner knob is rotated.

Fig. 13 is a view in front elevation of an alternate embodiment of the housing assembly with its outer and inner clamping plates disassembled.

Referring to the disclosure in the drawings and more particularly to the novel illustrative embodiment shown in Figs. 1 to 12, inclusive, the present novel privacy lock construction is adapted for use with a door or closure for a bathroom, bedroom or other room or enclosure where privacy is desired, and having an outer knob and cam tube adapted to be locked or unlocked from the interior of the room by depressing a push button on the inner knob. When the push button on the inner knob is manually depressed, the outer knob is locked against turning movement but the inner knob may be turned to retract the latch bolt and permit opening of the door from the interior. Such turning of the inner knob automatically releases the push button and the locking means so that the door may be freely opened from the interior as well

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as from the exterior by mere turning of either knob, which in turn retracts the latch bolt.

Although the latch bolt is retained locked so long as the door is closed and the push button is depressed, the present invention comprehends means for releasing the locking mechanism from the exterior in an emergency such as might happen if a child is locked in a bathroom or the occupant is ill or injured and unable to turn the inner knob, in which event provision is made for permitting one from the exterior of the bathroom to retract the latch bolt upon insertion of a release key or other instrument suitable for the purpose and turning such instrument to rotate the release bracket and the inner tube to release the locking mechanism.

In the drawings and referring more particularly to the disclosure of the embodiment in Figs. 1 to 12, inclusive, the novel privacy lock assembly includes an outer knob 10 mounted at the exterior of the door or other closure 11 upon the outer end of a split cam tube 12 and an inner knob 13 mounted at the interior of the door or closure upon a split sleeve 14. The cam tube is split longitudinally to provide an elongated slot 15 adapted to receive a detent 16 on the knob 10 fitting conformably within the slot 15 and thereby aligning the knob 10 upon the cam tube and permitting its ready assembly by sliding the knob onto the cam tube. To connect the outer knob 10 in anchored position, the cam tube 12 at a point diametrically opposite to the longitudinal slot 15 is provided with a recess or opening 17 adapted to receive a projection 18 whereby to stake or secure the outer knob onto the cam tube 12.

The inner knob 13 is adapted to be mounted upon and detachably anchored to the longitudinally split sleeve member 14 by means of a detent 19 adapted to be conformably received in the longitudinal slot 21 in the sleeve member and the knob held in place by means of a spring-pressed knob holder 22, the projecting end of which extends through a transverse slot 23 in the sleeve member 14. A leaf spring 24 has one end 25 anchored in the knob holder 22 and the other end 26 bent outwardly and received and anchored in a transverse slot 26^a spaced inwardly or rearwardly from the transverse slot 23 whereby the projecting end of the knob holder 22 is spring-biased to elevated or extended position, and when so elevated or extended being adapted to be received in an aligned transverse slot in the neck 27 of the knob 13 whereby this inner knob is detachably locked to the sleeve 14.

The leaf spring 24 is retained or seated in a longitudinally extending slot 28^a and a depression or flattened portion 28 at the inner end of an inner concentric tube 29 whereby to locate this leaf spring between the inner end of the inner tube 29 and its encompassing sleeve 14. This inner tube extends through a substantial portion of the length of the cam tube 12 and the sleeve 14, the outer end of the latter terminating adjacent the inner end of the cam tube 12, and is rigidly connected to the sleeve 14 by oppositely located and spaced tongues 31 bent in from the body of the sleeve and indented or depressed into a longitudinally extending slot 32 on the inner tube with a slot 32 disposed at each end of the opposite ends of a circumferential slot 33 in this tube.

The cam tube 12, inner concentric tube 29 and sleeve 14 and contained parts are shown disassembled in Fig. 12 and assembled in a stationary substantially cylindrical housing 34 in Fig. 11. As shown in Fig. 3, this housing fits conformably in a transverse opening or bore in the door 11. The cam tube at its outer end is provided with diametrically arranged slots 35 and intermediate its length with outwardly extending projections 36 providing spaced stops or abutments for locating the cam tube 12 in the housing (Figs. 3, 11 and 12). Adjacent its inner end the cam tube is provided with spaced circumferential slots 37 with the intermediate strip 38 adapted to be indented

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into a circumferential slot 39 in the inner tube 29 whereby these tubes are connected together but permitted limited rotation therebetween whereby the outer knob 10 and the cam tube 12, and the inner tube 29, sleeve 14 and inner knob 13 may be separately rotated through an arc sufficient to retract a latch bolt 41.

The housing 34 comprises a substantially cylindrical part 42 adapted to receive and enclose camming means on intermediate portions of the cam tube 12 and the inner tube 29. As shown in Fig. 12, the cam tube 12 is slotted or cut away at 43 to provide spaced longitudinally extending camming edges 44 and is also cut away at 45 to receive and permit limited rotation about a locking bar, to be hereinafter described. The inner tube 29 is also slotted or cut away as at 46 to provide spaced longitudinally extending camming edges 47 with the slots 43 and 46 aligned to align the camming edges 44 and 47 within the housing 34.

The outer end of the inner tube 29 is provided with inwardly bent spaced lugs or flanges 43 (Figs. 11 and 3) to partially close this end, and in the inner tube there are received in sequence a guide ring 49 disposed adjacent the lugs or flanges 48, a guide coil spring 51, a guide washer 52 having its periphery 53 cut away to provide spaced shoulders 54 seating or bearing against the camming edges 47 of the inner tube 29, and a slidable locking member or slide bar 55.

This slidable locking bar 55 is provided at its outer end where it projects into the slot 46 in the inner tube 29 and extending into the housing 34 with a laterally projecting leg 56 having spaced projections 57 and 58, the projection 57 extending into and remaining centered in an opening 59 in the guide washer 52 and the projection 58 adapted to project into a slot 61 in the end wall or end plate 62 and its externally threaded hub 63 of the stationary housing 34 (Figs. 3 and 4). Intermediate its length, the leg 56 is received within the longitudinal slot 15 of the cam tube 12 when the locking bar is moved to its locked position against the compression spring 51. When the locking bar is released and spring-biased toward the inner knob 13, this leg 56 moves out of the slot 15 of the cam tube 12, permitting the cam tube 12 and its knob 10 to be rotated to release the latch bolt.

The locking lever or slide bar 55 is reduced at its inner end 64 to provide a longitudinal projection adapted to be received within an opening 65 in a washer 66 of a push button assembly 67.

The push button assembly 67 in addition to the attached washer 66 includes a bushing 68 (Figs. 3, 5, 6 and 12) having spaced longitudinally extending arcuate projections 69 projecting into the push button or cap 77 so spaced apart and notched as to receive and guide a transversely extending latching bar 71 (Fig. 7) provided with an enlarged latching end 72 and offset shoulders or projections 73 adapted to retain this latching bar within the bushing 68. A coil spring 74 encompasses the stem 75 of the latching bar and spring-biases the enlarged end 72 outwardly through a slot 76 in the sleeve 14 when the push button 77 and the push button assembly 67 are moved inwardly to move the locking bar 55 to locked position. This push button is hollow and is staked or otherwise rigidly affixed to the bushing 68.

The latching bar 71 will retain the locking bar 55 in its locking position so long as its projecting end 78 seats within the slot 76. However, in order to release the locking lever 55 and the push button assembly when the inner knob is turned, this end 78 of the latching bar is tapered to provide camming surfaces whereby when the knob 13 and its attached sleeve 14 are rotated to retract the latch bolt by an occupant within the room or enclosure desiring privacy, the edge of the sleeve 14 defining the slot 76 rides over the camming surface on the end 78 of the latching bar 71, and thereby depresses the latching bar 71 and removes it from the slot 76. There-

upon the spring 51 moves the released locking bar 55 and push button assembly 67 to their extended, released position. An inwardly bent or indented tongue or projection 79 (Fig. 11) on the sleeve 14 is adapted to engage a face of the washer 66 whereby to retain the push button assembly 67 within the sleeve 14.

The housing 34 is provided with an inner end plate or end wall 81 having a hub 82 with the hub 63 of the outer end plate 62 and the hub 82 of the end plate 81 providing spaced bearings for receiving and journaling the cam tube 12 within the housing. The inner end of this cam tube projects to adjacent the outer end of the sleeve 14 as shown in Fig. 3, and these end plates are located by the spaced projections 36 on the cam tube 12 (Figs. 3 and 11). The outer substantially cylindrical part 42 of the housing 34 is rigidly affixed to the end plates 62 and 81 by overhanging flanges 83 and 84 (Fig. 4) that are crimped over the adjacent edges of the end plates, and the cylindrical part 42 is notched or cut away to provide an opening 85 defined by inturned and opposed flanges 86 each provided or formed with a projecting lip 87, and is further provided with a pair of opposed, inturned flanges 88 bent or formed inwardly with each forming a fulcrum about which a floating push plate or follower 89 within the housing 34 is adapted to rock or pivot (Figs. 3, 4 and 11).

The outer flat face of a push plate or follower 89 (Figs. 2, 3 and 8) bears against a spring-biased pusher or slide member 91 projecting from the inner end of a latch bolt housing 92, the outer end of which carries the latch bolt 41. This pusher or slide member 91 when depressed upon pivotal movement of the push plate or follower 89, retracts the latch bolt 41 through retracting mechanism within the housing 92.

The push plate or follower 89 is of greater width at one end 93 (Fig. 8) and is thereat provided with inturned flanges 94. At its other or narrower end it also is provided with similar flanges 95 each bent inwardly to form enclosures, with the enclosures formed by the flanges 94 adapted to receive the ends 96 of a coil spring 97 suitably anchored in the housing 34. These ends 96 of the coil spring spring-bias the floating push plate or follower 89 to its neutral position as shown in Fig. 8, with rocking of this floating push plate or follower 89 being effected about either inturned tongue or flange 88 either of which provides a fulcrum on the interior of the housing.

The hub 63 of the end wall or end plate 62 being externally threaded is adapted to detachably and adjustably receive a clamping plate 98. This clamping plate is adapted to be adjusted and bear against the exterior of the door 11 in the manner shown in Fig. 3, with the projections 99 on the inner face of the clamping plate 98 being adapted to be embedded in the wood or material of the door. After the clamping plate 98 is threadedly adjusted and bears against the exterior of the door, this clamping plate is enclosed by an escutcheon 101 which is preferably detachably fixed thereto by indentations 102 on its peripheral edge 103 interlocking with the peripheral edge 104 on the clamping plate 98.

Mounted on the hub 82 of the inner end wall or plate 81 is a detachably and adjustably mounted inner clamping plate 105 which is detachably and adjustably secured to the inner end plate 81 by a pair of spaced machine screws 106 (Figs. 3 and 4) projecting from the end plate 81 and adapted to project through aligned keyhole slots in the inner clamping plate 105 so that when the heads of the screws are projected through the keyhole slots and the inner clamping plate 105 is rotated so that these heads are disposed in the narrow ends of the keyhole slots and the screws 106 are tightened, the inner clamping plate 105 bears against the inside of the door 11 and the lock assembly is held in fixed position.

An escutcheon 107 is mounted over this inner clamping plate 105 and is detachably held thereon in assem-

bled relation by the spaced snaps or detents 108 in its peripheral flange or edge 109 detachably interlocking the escutcheon 107 to the peripheral flange or edge 111 of the inner clamping plate 105. After this escutcheon has been assembled on the inner clamping plate, the inner knob 13 is then assembled and locked in position by the knob holder 22.

In order to release the latch bolt 41 when the door 11 is locked from the interior of the room by depressing the push button 77 and thereby locking the cam tube 12 and the outer knob 10 against rotation, the present invention comprehends novel means for releasing the latch bolt 41 to open the door 11 (Figs. 3, 9 and 10). This permits access to the room in an emergency such as when a child or adult should enter the room and upon closing the door depresses the push button 77, and then becomes ill or panicky and not able to rotate the inner knob 13 to release the latch bolt 41. To permit retraction of the latch bolt 41 to permit opening of the locked door from the exterior, there is provided release mechanism shown in the form of bracket 112 (Figs. 9 and 10) having a slotted head or end wall 113 disposed adjacent an opening in the knob 10 and inwardly projecting legs 114 the inner ends 115 of which are adapted to be received in the outer end of the inner tube 29 between its lugs or flanges 48, and when this release bracket is rotated by the insertion of a suitable instrument 116, such as a key, screw-driver or the like adapted to be received in a slot 117 in the head or end wall 113, the inner ends 115 of the legs 114 engage the projections 48 on the outer end of the inner tube 29 and when the instrument is turned the inner tube 29 and its connected sleeve 14 are rotated to release the latching bar 71 and the locking bar 55 of the locking mechanism and permit turning of the outer knob 10 to retract the latch bolt 41.

Although the present lock has been shown with an emergency release in the form of a bracket 112, this same assembly is so constructed and designed that a tumbler lock, such as shown in our co-pending application Serial No. 437,658, filed June 18, 1954, now Patent Number 2,739,472, issued March 27, 1956, may be substituted for the bracket in the outer knob to release the locking mechanism upon turning of its key. Or, if desired, the emergency release bracket or tumbler lock may be omitted and the present lock assembly employed as a patio lock having no means at the exterior for releasing the locking mechanism when the push button on the inner knob is depressed.

To assemble the latch bolt unit to the unit assembly including the cam tube 12, sleeve 14, inner tube 29 and housing 34 carrying the outer knob 10, as shown in Fig. 2, the flanges 87 in the open front of the housing are received in oppositely opening slots 118 adjacent the inner end of the latch bolt housing 92, whereby the two units may be readily assembled in the door 11.

Fig. 13 discloses an alternate embodiment of a housing 119 which eliminates the use of separate end walls or plates and clamping plates as in the embodiment of Figs. 1 to 12, inclusive. In this embodiment, a clamping or end plate 121 is secured to the outer end of the arcuate or substantially cylindrical part 122 of the housing 119 by spaced, longitudinally extending end flanges 123 and 124 adapted to project through aligned slots in the clamp or end plate 121, with the projecting ends of these flanges deformed to lock the clamp or end plate 121 to the housing part 122.

The inner end of the cylindrical part 122 is open except for oppositely inturned flanges 125 each tapped to receive a machine screw 126 for receiving and adjustably mounting a clamp plate 127. This inner clamp plate 127 is provided with oppositely disposed bayonet slots each adapted to receive the head of a screw 126, and when the clamp plate is rotated to dispose the shank of each screw in the narrow end of its bayonet slot with

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the locating lugs 128 located in the transverse opening in the door and the screws are tightened, locks the clamp plate 127 to the interior of the door 11. Both the clamp plates 121 and 127 are provided with a hub in which the cam tube 12 is journaled.

In this form of housing relative adjustment to the thickness of the door 11 is accomplished by adjusting the inner clamp plate 127. Outer and inner escutcheons are mounted on these clamp plates 121 and 127 in the manner shown in Figs. 1 to 12, inclusive.

Having thus disclosed the invention, we claim:

1. In a privacy door lock including an inner and an outer door knob and a latch bolt, a split cam tube upon one end of which is anchored the outer knob, a split sleeve upon which is anchored the inner knob, an inner concentric tube joining the cam tube and the sleeve, means for anchoring the sleeve to the inner tube whereby the inner knob, sleeve and inner tube rotate together, means for connecting the cam tube to the inner tube whereby the inner tube has limited rotation within the cam tube, camming means on the cam tube and on the adjacent portion of the inner tube, a locking bar slidably mounted in the inner tube and movable into locking engagement with the cam tube to retain the cam tube and the outer knob against rotation, and a push button mounted in the sleeve which when depressed moves the locking bar into locking engagement.

2. In a privacy door lock including an inner and an outer door knob and a latch bolt, a cam tube upon one end of which is secured the outer knob, a sleeve upon which is detachably mounted the inner knob, an inner tube mounted within and joining the cam tube and the sleeve, a stationary housing having end walls in which the cam tube is journaled for rotation, means for anchoring the sleeve to the inner tube whereby the inner knob, sleeve and inner tube rotate together, means for anchoring the cam tube to the inner tube in such manner that the inner tube has limited rotation within the cam tube, concentric camming means on the cam tube and on the adjacent portion of the inner tube within the housing, a locking bar slidably mounted in the inner tube and movable into locking engagement with the cam tube and an end wall of the housing to retain the cam tube and the outer knob against rotation, and a push button mounted in the sleeve which when depressed moves the locking bar into locking engagement.

3. In a privacy passage door lock having a retractable latch bolt for opening of the door, a housing mounted within an opening in the door having an arcuate body part and spaced end plates each having a hub providing a bearing, a split cam tube extending to the exterior of the door and through and journaled in the hub of the end plates, an outer knob mounted on and affixed to the exterior end of the cam tube, a sleeve at the interior of the door at the inner end of the cam tube, an inner knob affixed to the sleeve, an inner tube mounted within and connecting the cam tube and the sleeve, means for connecting the inner tube to the encompassing sleeve whereby the inner tube, sleeve and inner knob rotate together, means for connecting the inner tube to the encompassing cam tube whereby the inner tube is mounted for limited rotation in the cam tube, locking means in the inner tube having a projecting part extending into the slot of the cam tube, a projection on said part adapted to be moved into locking engagement with a slot in an end plate of the stationary housing whereby to lock the cam tube and its outer knob against rotation and a push button connected to the locking means and mounted in the sleeve and projecting through the inner knob for actuating said locking means.

4. In a privacy passage door lock having a retractable latch bolt for opening of the door, a housing mounted within an opening in the door having an arcuate body part and spaced end plates each having a hub providing a bearing, a split cam tube extending to the exterior of

the door and through and journaled in the hub of the end plates, an outer knob mounted on and affixed to the exterior end of the cam tube, a sleeve at the interior of the door at the inner end of the cam tube, an inner knob affixed to the sleeve, an inner tube mounted within and connecting the cam tube and the sleeve, means for connecting the inner tube to the encompassing sleeve whereby the inner tube, sleeve and inner knob rotate together, means for connecting the inner tube to the encompassing cam tube whereby the inner tube is mounted for limited rotation in the cam tube, a locking bar slidably mounted in the inner tube with its one end projecting into the slot of the cam tube, a projection on the said end of the locking bar adapted to be moved into locking engagement with a slot in an end plate of the stationary housing whereby to lock the cam tube and its outer knob against rotation, a push button mounted on the other end of the locking bar and projecting through the inner knob, and a spring-biased latching bar carried by the push button and adapted to engage in a slot in the sleeve when the push button is depressed to retain the locking bar in locked position.

5. In a privacy passage door lock having a retractable latch bolt for opening of the door, a housing mounted within an opening in the door having an arcuate body part and spaced end plates each having a hub providing a bearing, a split cam tube extending to the exterior of the door and through and journaled in the hub of the end plates, an outer knob anchored to the exterior end of the cam tube, a sleeve at the interior of the door and having its outer end terminating adjacent the inner end of the cam tube, an inner knob detachably affixed to the sleeve, an inner tube concentric with and disposed within the adjacent end of the cam tube and the sleeve and connecting the cam tube and the sleeve, means for rigidly connecting the inner tube to the sleeve whereby the inner tube, sleeve and inner knob rotate together, means for connecting the inner tube to the cam tube whereby the inner tube is mounted for rotation through a predetermined arc in the cam tube, a locking bar slidably mounted in the inner tube with its one end projecting into the slot of the cam tube, a projection on the said end of the locking bar adapted to be moved into locking engagement in a slot in an end plate of the stationary housing whereby to lock the cam tube and its outer knob to the stationary housing, a push button slidably mounted in the sleeve and connected to the other end of the locking bar with the push button projecting through the inner knob, and a spring-biased latching bar carried by the push button and adapted to engage and be retained in a slot in the sleeve when the push button is depressed to move and retain the locking bar in locked position, said latching bar being automatically released when the inner knob is turned, and means for spring-biasing the locking bar whereby upon release of the latching bar, the locking bar is spring-actuated to withdraw the projection on the end of the locking bar from the slot in the end plate and permit the outer knob and cam tube to be rotated to release the latch bolt.

6. In a privacy door lock for bathrooms, bedrooms and wherever the occupant of a room desires privacy and including a retractable bolt, a housing mounted in fixed position in a transverse opening in the door and having a tubular end part extending to the exterior and another to the interior of the door upon each of which a knob is mounted, the tubular end part extending to the exterior of the door comprising a cam tube having camming means for retracting the latch bolt upon rotation of the outer knob and the cam tube, and the tubular end extending to the interior of the door comprising a sleeve carrying the inner knob, an inner concentric tube having one end extending within and attached to the cam tube for limited rotation therebetween, and its other end rigidly attached to and rotatable with the sleeve and inner knob, camming means on the inner tube for retracting the latch

bolt upon turning of the inner knob and sleeve, locking means carried in the inner tube and adapted to lock the cam tube against rotation when moved in one direction and to release the cam tube when moved in the other direction and permit it to rotate when the outer knob is turned, and a push button controlling the movement of the locking means from the inner knob.

7. In a privacy door lock for bathrooms, bedrooms and wherever the occupant of a room desires privacy and including a retractable bolt, a housing mounted in fixed position in a transverse opening in the door and having a tubular projection extending to the exterior and another to the interior of the door upon each of which a knob is mounted, the tubular projection extending to the exterior of the door comprising a cam tube journaled in the opposite end walls of the housing and having camming means for retracting the latch bolt upon rotation of the outer knob and the cam tube, the tubular projection extending to the interior of the door comprising a sleeve carrying the inner knob and terminating adjacent the inner end of the cam tube, an inner concentric tube having one end mounted within the cam tube for limited rotation therebetween, the other end of the inner tube being rigidly attached to and rotatable with the sleeve and inner knob, camming means on the inner tube adjacent to but disposed within the camming means of the cam tube for retracting the latch bolt upon turning of the inner knob and sleeve, slidably mounted locking means carried in the inner tube and adapted to lock the cam tube and outer knob against rotation when moved in one direction and to release the cam tube when moved in the other direction and permit the cam tube to rotate when the outer knob is turned, and a push button in the inner knob and sleeve controlling the movement of the locking means from the inner knob, said push button releasing said locking means upon rotation of the inner knob.

8. In a privacy lock construction having a retractable latch bolt, a stationary housing adapted to be mounted in a transverse opening in a door, a cam tube journaled in the opposite sides of the housing and having one end projecting to the exterior of the door, a knob mounted on the exterior end of the cam tube and adapted to turn the cam tube when the knob is rotated, camming means on the portion of the cam tube within the housing for retracting the latch bolt when its knob is rotated, a sleeve adjacent the inner end of the cam tube where the latter projects through the housing, a knob mounted on and adapted to rotate the sleeve, a concentric inner tube projecting into and attached to the sleeve and also projecting into and connected to the cam tube in the housing and thereat provided with camming means for retracting the latch bolt when the inner knob and its sleeve are rotated, said inner tube being mounted for limited rotation within and relative to the cam tube, locking means in the inner tube for locking the cam tube and the outer knob against rotation when in one position and unlocking the cam tube and the outer knob for rotation when in released position, and a push button in the inner knob for controlling the positioning of the locking means.

9. In a privacy lock construction having a retractable latch bolt, a stationary housing adapted to be mounted

in a transverse opening in a door, a split cam tube journaled in the opposite sides of the housing and having one end projecting to the exterior of the door, a knob slidably mounted on the exterior end of the cam tube and adapted to turn the cam tube when the knob is rotated, means for anchoring said knob to the cam tube when in adjusted, operative position, camming means on the portion of the cam tube within the housing for retracting the latch bolt when its knob is rotated, a split sleeve disposed adjacent the inner end of the cam tube at the exterior of the inner end of the housing, a knob slidably mounted on and adapted to rotate the sleeve, means for detachably mounting the last mentioned knob on the sleeve, a concentric inner tube projecting into and attached to the sleeve and also projecting into and connected to the cam tube in the housing and thereat provided with camming means for retracting the latch bolt when the inner knob and its sleeve are rotated, means for mounting said inner tube for limited rotation within the cam tube, spring-biased locking means in the inner tube for locking the cam tube and the outer knob to the stationary housing and against rotation when in one adjusted position and unlocking the cam tube and the outer knob for rotation when in released position, and a spring-biased push button in the inner knob adapted to be depressed to move the locking means to locked position and upon turning of the inner knob releasing the turn button and locking means to permit the outer knob and the cam tube to rotate for retracting the latch bolt.

10. In a lock construction for a door having a retractable latch bolt, an assembled unit including a stationary housing received in a transverse bore in the door, a cam tube projecting through and journaled in the opposite ends of the housing with its outer end projecting to the exterior of the door, a knob mounted on the exterior end of the cam tube and adapted to rotate the cam tube in the housing, camming means on said cam tube within the housing for retracting the latch bolt, a sleeve at the exterior of the housing but interior of the door and disposed adjacent the inner end of the cam tube, an inner tube located within the adjoining ends of the cam tube and the sleeve and projecting through the housing and thereat provided with camming means, means for securing the inner end of the inner tube to the sleeve to rotate therewith, means for attaching the outer end of the inner tube to the cam tube but permitting limited rotation therebetween, locking means slidably mounted in the inner tube for locking the cam tube and outer knob to the housing, a push button for controlling movement of the locking means, and a latching bar carried by the push button for retaining the locking means in locked position and upon turning of the inner knob releasing said locking means and push button.

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