

A SHORT BACKSET MORTICE LOCK ASSEMBLY OPERABLE IN AN ANTI LOCKOUT CONDITION

TECHNICAL FIELD

[0001] This invention relates to a short backset mortice lock assembly for use with a door, and a lockset including a short backset mortice lock assembly. The short backset mortice lock assembly is of the kind including an actuator for retracting a latchbolt, and a lock means for controlling operation of the actuator.

BACKGROUND OF INVENTION

[0002] A short backset mortice lock assembly is one type of lock assembly that is located in a mortice cavity formed in a side edge of a door panel. Openings are made from the inner side and outer side of the door to the mortice cavity, so that inner door furniture and outer door furniture can connect to the lock assembly. The door furniture may include hand operable lever handle or turn knob for operating the actuator. A cylinder lock(s) may also be included for controlling operation of the lock means.

[0003] A latchbolt is one type of bolt that is spring actuated to adopt a latching condition when, for example, the door is in a closed position. The actuator may include an inner hub and outer hub, either of which can be rotated to retract the latchbolt from the latched condition. The rotation of either the inner hub or outer hub can be prevented when the lock means is in an active condition.

[0004] The latchbolt may have a bevelled or bull nosed head which slides over a strike located in the door jamb, as the door moves towards the closed position. The latchbolt may move to the retracted position in this way irrespective of the condition of the lock means. Accordingly the lock means may be in an active condition and yet the door may be moved to a closed position. This can result in users being inadvertently locked in or out, which is not critical if the user has a key to operate the cylinder lock. However the lock can be installed in an environment where not all the users may carry keys, or at least not carry keys all of the time.

[0005] One such environment is a store room where it is desirable that the lock means is active when the store facility is unattended, and not necessarily active when

attended. A user may access the store room, have to door inadvertently close behind them, and be locked in if the lock means is in the active condition. This is considered generally as undesirable.

[0006] It is also generally undesirable for lock suppliers and installers to hold any more stock than they need to operate their business profitably. They generally prefer to stock locks that are suitable for multiple environments. Providing adjustability in the function of the lock assembly can be difficult if there is limited space within the housing. This is particularly the case for short backset mortice locks as the space between the front wall and rear wall is generally less than 50mm.

[0007] A reference herein to a patent document or other matter which is given as prior art is not to be taken as an admission that that document or matter was, in Australia, known or that the information it contains was part of the common general knowledge as at the priority date of any of the claims.

SUMMARY OF INVENTION

[0008] According to one aspect of this invention there is provided a short backset mortice lock assembly for use with a door including a housing having a front wall and a rear wall with the front wall spaced from the rear wall by less than 50mm, a latchbolt including a head that is movable relative to the housing between an extended position whereby the head extends out a from the front wall and a retracted position where the head is substantially retracted within the housing, an actuator that is operable to move the latchbolt from the extended position to the retracted position, a lock means for controlling operation of the actuator which is adjustable between an active condition whereby the actuator is rendered inoperable to an inactive condition whereby the actuator is rendered operable, the lock means including a slide detent that slides relative to the housing between a first position and a second position when the lock means adjusts between the inactive condition and the active condition, a selector means that is adjustable between an operable condition and an inoperable condition at the front wall, when the selector means is operable movement of the latchbolt to the retracted position prevents the lock means remaining in the active condition, the selector means being associated with the slide detent so that the selector means includes a selector member that engages the slide detent when the selector means is

operable and the latchbolt is moved to the retracted position and the selector member moves in substantially the same direction as the latchbolt moves when the selector means adjusts between the operable condition and the inoperable condition.

[0009] The selector member may interact with the slide detent in any suitable manner and the slide detent may include a lug which the selector member engages to move the slide detent between the second position and the first position and the selector member does not engage the lug when the selector means is inoperable. It is further preferred that the selector means includes a selector axis about which the selector member pivots when the latchbolt moves from the extended position to the retracted position. The selector axis is preferably substantially perpendicular to the direction of movement of the latchbolt. It is further preferred that the selector axis moves relative to the housing when the selector means adjusts between the operable condition and the inoperable condition.

[0010] It is preferred that the selector means includes a switch that engages the selector member, the switch that is adjustable relative to the housing when adjusting the selector means between the operable condition and the inoperable condition. It is further preferred that the selector means includes a switch biasing means so as to render the switch bi-stable, whereby the selector means is urged to adopt either the operable condition or inoperable condition.

[0011] It is preferred that the housing includes a side wall with the switch being substantially aligned with said side wall. The housing preferably includes a base and a cover attached to the base, said side wall forming part of the base. The housing preferably includes a base plate and the side wall of the base includes an aperture to accommodate the switch, the base plate being attached to the base so as to occlude the aperture in the side wall of the base. The base is preferably formed with a rebate to accommodate the base plate. The housing preferably includes a cover plate which is attached to the cover, the cover being formed with a rebate to accommodate the cover plate. It is preferred that the rebate of the cover and base occupy no less than 30% of an outer surface of the cover and base respectively. It is preferred that the base and cover are formed from a cast zinc alloy, and the base plate and cover plate are formed from stainless steel. The use of stainless steel provides greater resistance to attack on the housing from drilling than with the cast zinc alloy.

[00012] It is preferred that the front wall forms part of the base and includes at least one aperture through which the switch can be adjusted. It is preferred that said at least one aperture includes a first aperture and a second aperture whereby depressing the switch through the first aperture renders the selector means operable, and depressing the switch through the second aperture renders the selector means inoperable. It is further preferred that the short backset mortice lock assembly include a face plate that attaches to the front wall of the housing hindering access to the switch. This use of the face plate hinders unauthorised access to the switch.

[00013] It is preferred that the latchbolt includes a body to which the head is attached, the body engaging with the selector means when adjusting between the operative condition and the inoperative condition. The body preferably includes a surface over which the selector means slides when the latchbolt moves from the extended position to the retracted position.

[00014] It is further preferred that the rear wall includes a pair of recesses, the slide detent having a sprung detent which locates in either one of said recess when the slide detent adopts the first position or second position.

[00015] According to another aspect of this invention there is provided a lock set for use with a door including a short backset mortice lock assembly as herein before defined, outer door furniture and inner door furniture for installation on an inner side of the door and an outer side of the door which interacts with the actuator when installed, and at least one cylinder lock assembly which interacts with the lock means.

BRIEF DESCRIPTION OF DRAWINGS

[00016] It will be convenient to hereinafter describe the invention with greater detail by reference to the attached illustrations. The attached illustrations show a preferred embodiment of the invention. The drawings, and the following detailed description, are merely illustrative of how the invention might be put into effect. The specific form and arrangement of the various features as shown is not to be understood as limiting on the invention.

[00017] Figure 1 is an isometric partly exploded view of a lockset incorporating a preferred embodiment of the short backset mortice lock assembly incorporating the invention prior to installation in a door.

[00018] Figure 2 is an isometric view of the short backset mortice lock assembly from Figure 1 with a cover removed, and an outer cylinder lock assembly fixed to a base of the housing.

[00019] Figure 3 is a rear isometric view of the short backset mortice lock assembly from Figure 1 with the cover attached to the base, a base plate removed from the base and an inner cylinder lock assembly fixed to the housing.

[00020] Figure 4 is a detailed exploded view of the face plate, latchbolt, auxiliary bolt, dead latch mechanism, selector means and slide detent from the short backset mortice lock assembly.

[00021] Figure 5 is a rear elevation view of the short backset mortice lock assembly from Figure 3 with a side wall of the base shown in ghost line, with the latchbolt extended, the lock means in an active condition and the selector means in an inoperable condition.

[00022] Figure 6 is a rear elevation view of the short backset mortice lock assembly from Figure 5 with the latchbolt in a retracted position.

[00023] Figure 7 is a rear elevation view of the short backset mortice lock assembly from Figure 3 with a side wall of the base shown in ghost line, the latchbolt in an extended position, the lock means in an active condition, and the selector means in an operable condition.

[00024] Figure 8 is a rear elevation view of the short backset mortice lock assembly from Figure 7 with the latchbolt retracted and the lock means in an inactive condition.

DETAILED DESCRIPTION OF DRAWINGS

[00025] Referring now to Figure 1 which illustrates an example of a lockset 1 including in summary a short backset mortice lock assembly 2, inner door furniture 3 and outer door furniture 4. The short backset mortice lock assembly 2 includes a

housing 5 which is formed by a base 6, a cover 7, a base plate 8 and a cover plate 9. When the short backset mortice lock assembly is installed, the housing 5 is located in a mortice cavity 10 formed in a side edge of a door 11. The inner door furniture 3 is positioned adjacent an inner side of the door 11 and the outer door furniture 4 is positioned adjacent an outer side of the door 11. It should be noted that the short backset mortice lock assembly 2 is being described with reference to its in use orientation and turns such as "inner" and "outer" should be construed in light of this orientation. However, it is to be appreciated that other orientations are equally possible and that consequential changes in turn such as those above that may be required in light of the other orientations for proper understanding of the invention.

[00026] The inner door furniture 3 illustrated in Figure 1 includes a rectangular shaped inner escutcheon 12, an inner lever handle 13 and an inner cylinder lock assembly 14. When the inner door furniture is installed, the inner cylinder lock 14 is aligned with an opening 15 formed in the inner escutcheon 12. Similarly the outer door furniture 4 includes an outer rectangular shaped escutcheon 16, an outer lever handle 17 and an outer cylinder lock assembly 18. Again, when the outer door furniture 4 is installed the outer cylinder lock assembly 18 is located in an opening 19 formed in the outer escutcheon 16.

[00027] The inner lever handle 13 and outer lever handle 17 are each rotatable about an actuator axis XX so as to rotate an inner spindle 20 and outer spindle 21 respectively. The inner spindle 20 and outer spindle 21 interact with an actuator 22 of the short backset mortice lock assembly 2, only a portion of which is visible in Figure 1. The actuator 22 will be described in greater detail with reference to later illustrations. It should be appreciated that the inner handle 13 and outer handle 17 illustrated are merely one preferred form of hand operable member suitable for rotating the inner spindle 20 and outer spindle 21 respectively. The inner handle 13 and outer handle 17 may be replaced by a turn knob or the like.

[00028] The inner cylinder lock assembly 18 and outer cylinder lock assembly 14 each include a casing 23, and a barrel 24 (only the barrel 24 associated with the inner cylinder lock assembly 14 is visible in Figure 1) which is rotatable within the casing 23 by inserting the appropriate key (not shown). A cam 25 (only a cam 25 on the outer cylinder lock 18 is visible in Figure 1) is attachable to the rear of the barrel 24 so as to

rotate with the barrel 24. The cam 25 interacts with features of the short backset mortice lock assembly 2 in a manner which will be described in greater detail by reference to later illustrations. It should be appreciated however that the shape of the cam 25 may vary from that illustrated in Figure 1 depending on features within the short backset mortice lock assembly 2 that are to be interacted with. Furthermore, whilst Figure 1 suggests pin tumbler cylinder lock assemblies 14, 18, the invention may also be suitable with other forms of cylinder lock assembly.

[00029] The housing illustrated in Figure 1 has the cover 7 and cover plate 9 to be attached to the base 6 by four screw fasteners 26. The base plate 8 is also intended to be attached to the base 6 by four screw fasteners (not shown). A face plate 27 is attachable to the base 6 by three screw fasteners 28. It should be noted in Figure 1 that the cover 7 is formed with a rebate 29 to receive the cover plate 9. An equivalent rebate 30 (see Figure 3) is provided in the base 6 for accommodating the base plate 8. This enables the base plate 8 and cover plate 9 to be attached to the base 6 and cover 7 respectively without increasing the overall thickness of the short backset mortice lock housing 5. Whilst the size of the rebates 29, 30 illustrated in Figure 1 occupies well over 95% of the outer surface area of the cover 7 and base 6, it is preferred that the rebate occupy at least 30% of the outer surface area of the cover 7 and base 6.

[00030] Whilst the housing 5 may be formed from any suitable material, it is preferred that the base 6 and cover 7 be formed as a casting, most preferably from a zinc alloy. A zinc casting is preferred as it allows for various structural features to be relatively easily formed to accurately locate and accommodate internal elements of the short backset mortice lock assembly 2. Furthermore, it is preferred that the base plate 8 and cover plate 9 be formed from a relatively hard metal, most preferably stainless steel, as this is more difficult to penetrate if the lock comes under attack by a drill. This enhances the security rating of the short backset mortice lock assembly. Still furthermore, it is preferred that the face plate be formed from stainless steel also for the same reasons.

[00031] It is a preferred aspect of the invention that a front wall 31 of the base 6 include at least one aperture 32 therein for adjusting a condition of a selector means 33. The selector means 33 will be described in greater detail with reference to later

illustrations. However it can be appreciated from Figure 1 that the front wall 31 of the base 6 includes a pair of apertures 32 adjacent a side wall 34 of the base 6. Access to these apertures 32 will be prevented once the face plate 27 is attached to the housing 5, thereby hindering access to the selector means 33.

[00032] The invention includes a latchbolt 35 including a head 36 that is moveable relative to the housing 5 between an extended position whereby the head extends out from the front wall 27 of the housing and a retracted position whereby the head 36 is substantially retracted within the housing 5. The latchbolt 35 may take any form and Figure 2 illustrates a preferred form of latchbolt assembly 35 having bevelled head 36 and body 37. The shape of the head 36 may vary from that illustrated, as for example, the head 36 may instead have a bullnose shape. The latchbolt assembly 35 also includes a latchbolt biasing means 38 in the form of a spring which acts between a rear wall 39 of the base 6 and the body 37. Figure 2 illustrates the latchbolt 35 in an extended position whereby the head 36 is extending out through the front wall 31. The latchbolt 35 can be moved to a retracted position, as illustrated for example in Figure 6, whereby the head 36 is substantially retracted within the housing 5.

[00033] Figure 2 also illustrates the actuator 22, that according to the invention, is operable to move the latchbolt 35 from the extend position to the retracted position. The actuator 22 may take any form, and the embodiment illustrated in Figure 2, the actuator includes an inner hub 40 and outer hub 41 that are each rotatable about the actuator axis XX (see Figure 1). Each of the inner hub 40 and outer hub 41 include a spindle recess 42 (see Figure 3 for spindle recess of outer hub 41) which interact with the inner spindle 20 and outer spindle 21 respectively. Rotation of either the inner hub 40 or outer hub 41 will result in rotation of an actuator arm 43 positioned between the inner hub 40 and outer hub 41, again rotatable about the actuator axis XX. The actuator arm 43 engages the body 37 of the latchbolt 35, and further rotation of either the inner hub 40 or outer hub 41 results in movement of the body 47 towards the rear wall 39. The actuator 22 also includes an actuator biasing means 44, which is illustrated in Figure 2 in the preferred form of a spring, for urging the inner hub 40, outer hub 41 and actuator arm 43 to return the position illustrated in Figure 2.

[00034] Figure 2 also illustrates an auxiliary bolt 45 having a wedge shaped head 46 extending out through the front wall 31 of the housing 5. A body 47 of the auxiliary

bolt 45 is positioned within the housing 5, and an auxiliary bolt biasing means 48 acts between the rear wall 39 and the body 47 of the auxiliary bolt 45 for urging it towards the extended position illustrated in Figure 2. The auxiliary bolt 45 interacts with a dead latching mechanism 49. The dead latching mechanism 49 is illustrated more clearly in Figure 4 as including the dead latch member 50 and a dead latch biasing means 51 which interacts between the dead latch member 50 and a shelf 52 formed on the body 37 of the latchbolt 35. The dead latch member 50 seats in, and is slidable relative to, the body 37 of the latchbolt 35. When the dead latch mechanism 49 is in an inactive condition, a foot 53 of the dead latch member 50 locates within a recess 54 formed in the side wall of the base 6 (see Figure 3). Figure 3 illustrates the dead latch mechanism in an inactive condition whereby the foot 53 can slide horizontally within the slot 54. Movement of the dead latch member 50 up from the position illustrated in Figure 3 locates the foot 53 against abutment 55 in the side wall 34 of the base 6, preventing retraction of the latchbolt 35. The dead latching mechanism 49 can be adjusted to an inactive condition by either the auxiliary bolt 45 being in the extended position, the actuator 22 operating to retract the latchbolt 35, or the cam 25 rotating relative to the cylinder lock assembly 18 to retract the latchbolt 35. The form of dead latching mechanism 49 illustrated is merely preferred, and the invention is not limited to the form of dead latching mechanism 49 as illustrated.

[00035] The short backset mortice lock assembly 2 according to the invention includes a lock means 56 for controlling operation of the actuator 22 which is adjustable between an active condition whereby the actuator 22 is rendered inoperable, and an inactive condition whereby the actuator 22 is rendered operable. The lock means 56 includes a slide detent 57 that slides relative to the housing 5 between a first position and a second position when the lock means adjusts between the inactive condition and the active condition. The lock means 56 may take any form and Figure 2 illustrates the slide detent 57 of the lock means 56 positioned adjacent the rear wall 39. Figure 2 illustrates the slide detent in a first position. The slide detent 57 may be moved from the first position by rotation of the cam 25 of the outer cylinder lock assembly 18 (or the cam 25 of the inner cylinder lock assembly 14, see Figure 3) to lower the slide detent 57 to the second position as illustrated in Figure 6. Whilst the slide detent 57 could interact directly with the actuator 22, it is preferred that the slide detent 57 interact indirectly with the actuator 22 by way of an inner pawl

58 and an outer pawl 59. Each of the inner pawl 58 and outer pawl 59 are independently rotatable about a pawl shaft 60 to adopt a latch condition (see Figure 5) and a release position (see Figure 8).

[00036] The short backset mortice lock assembly 2 according to the invention includes the selector means 33 that is adjustable between an operable condition and inoperable condition at the front wall 31. When the selector means 33 is operable, movement of the latchbolt 35 to the retracted position prevents the lock means 56 remaining in the active condition, and the selector means 33 is associated with the slide detent 57. The selector means 33 may take any form to achieve this function and Figure 4 illustrates a preferred form of selector means 33. In summary, the selector means 33 illustrated in Figure 4 includes a selector member 61, a switch 62, and a switch biasing means 63. Figure 3 illustrates the side wall 34 of the base being formed with an opening 64 to accommodate the switch 62. The position of the switch 62 within the opening 64 is adjustable so as to adjust the selector means 33 between the operable and inoperable conditions. The switch biasing means 63 is also located within the opening 64 so as to render the switch bistable.

[00037] It is preferred that the selector member 61 be pivotably attached to the switch 62 about a selector axis SS (see Figure 4). Furthermore, adjustment of the switch 62 causes adjustment of the position of the selector axis SS within the housing 5. It should also be noted from Figure 4 that the body of the latchbolt 37 includes a shoulder 65, and the slide detent 57 includes a lug 66, both of which interact with the selector member 61 in a manner that will be described in detail by reference to the later illustrations.

[00038] The manner in which the short backset mortice lock assembly 2 operates, or more specific operation of the lock means 56 while the selector means 33 is in an inoperable condition, will be described with reference to Figures 5 and 6. Figure 5 illustrates the latchbolt 35 in the extended position and the lock means 56 in the active condition. When the lock means 56 is in the active condition, the slide detent 57 engages and causes rotation of the pawl 59 about the pawl shaft 60 so as to adopt a latched position. In the latched position, the pawl 59 engages the outer hub 41 so as to prevent their rotation about the actuator axis XX. However, provided that the auxiliary bolt 45 is in the extended position (as illustrated), the latchbolt 35 can still be

moved towards the retracted position as would occur when the door 11 is moved from an open to a closed condition. Figure 6 illustrates the latchbolt 35 in the retracted position and it should be noted that the selector member 61 has pivoted about the selector axis SS as the shoulder 65 slides along an under surface of the selector member 61. It should also be noted that a free end 67 of the selector member 61 is not engaging the lug 61 from the slide detent.

[00039] The manner in which the short backset mortice lock assembly 2 operates when the selector means 33 is in an operable condition will now be described with reference to Figures 7 and 8. Comparing Figures 5 and 7, we note that the switch 62 has been adjusted to move the selector axis towards the rear wall 39. This locates the free end 67 of the selector member 61 underneath the lug 66 on the slide detent 57. As the latchbolt 35 moves towards the retracted position, the shoulder 65 on the body 37 slides on the under surface of the selector member 61 causing the selector member 61 to pivot about the selector axis SS. The free end 67 of the selector member 61 engages the lug 66 on the slide detent 57 so rotation of the selector member 61 about the selector axis SS lifts the slide detent 57 from the first position illustrated in Figure 7 to the second position illustrated in Figure 8. This allows the position of the pawl 59 to be adjusted from the latch position illustrated in Figure 7 to a release position as illustrated in Figure 8 under the influence of pawl biasing means 68.

[00040] Figures 7 and 8 illustrate the example of the latchbolt 35 moving to the retracted position through end pressure applied to the head 36, as may occur when the door 11 is moved to a closed position. The inner pawl 58 or outer pawl 59 may be rotated in an anticlockwise direction from the release position illustrated in figure 8, to a deactivated position (not shown). If the inner pawl 58 or outer pawl 59 is in the deactivated position this leaves the respective inner hub 40 or outer hub 41 free to rotate to retract the latchbolt 35. Accordingly with the selector means 33 in the operable condition as illustrated in Figure 7, if the inner pawl 58 (obscured in Fig 7) was in the deactivated position, the inner hub 40 (obscured in Fig 7) would be free to retract the latchbolt 35. This would raise the slide detent 57 allowing the outer pawl 59 to move to the release position as illustrated in figure 8, and freeing the outer hub 41.

[00041] It should also be noted from Figure 8 that the slide detent 57 includes a ball detent 69 which interacts with a pair of recesses 70 formed in the rear wall 39. Figure 8 illustrates the ball detent 69 in the upper of the two recesses 70 so as to retain the slide detent 57 in the first position. It ought to be appreciated that once the door 11 is in the closed position, the latchbolt 35 and auxiliary bolt 45 will return to the extended position as illustrated in Figure 7 whilst the lock means 56 will remain in the inactive condition as illustrated in Figure 8.

[00042] The invention relates to a short backset mortice lock assembly and the figures illustrate an example of that. A short backset mortice lock assembly will include a housing that is less than 50mm from the front wall 31 to the rear wall 39, and more generally within the range of 20mm to 50mm. A short backset housing is more suited for location within a door 11 having limited capacity for developing a mortice cavity 10. In the example illustrated in figure 1 the portion of door 11 for forming the cavity may be an extruded metal sections often used in security screen doors, or sliding doors. These metal sections forming the frame of the door 11 often have a smaller depth than for example timber doors, which makes the short backset mortice lock assembly 2 more suited to this type of door 11.

[00043] It ought to be appreciated from the foregoing that the short backset mortice lock assembly 2 according to the invention provides a relatively simple anti-lockout function within the confines of a short backset mortice lock assembly. The utilisation of an opening in the side wall of the base for the selector means provides a unique space saving advantage.

[00044] Various alterations and/or additions may be introduced to the short backset mortice lock assembly, and lockset as hereinbefore described without departing from the spirit or ambit of the invention.

[00045] Future patent applications may be filed in Australia or overseas on the basis of or claiming priority from the present application. It is to be understood that the following provisional claims are provided by way of example only, and are not intended to limit the scope of what may be claimed in any such future application. Features may be added to or omitted from the provisional claims at a later date so as to further define or re-define the invention.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A short backset mortice lock assembly for use with a door including a housing having a front wall and a rear wall with the front wall spaced from the rear wall by less than 50mm, a latchbolt including a head that is movable relative to the housing between an extended position whereby the head extends out from the front wall and a retracted position where the head is substantially retracted within the housing, an actuator that is operable to move the latchbolt from the extended position to the retracted position, a lock means for controlling operation of the actuator which is adjustable between an active condition whereby the actuator is rendered inoperable to an inactive condition whereby the actuator is rendered operable, the lock means including a slide detent that slides relative to the housing between a first position and a second position when the lock means adjusts between the inactive condition and the active condition, a selector means that is adjustable between an operable condition and an inoperable condition at the front wall, when the selector means is operable movement of the latchbolt to the retracted position prevents the lock means remaining in the active condition, the selector means being associated with the slide detent, so that the selector means includes a selector member that engages the slide detent when the selector means is operable and the latchbolt is moved to the retracted position and the selector member moves in substantially the same direction as the latchbolt moves when the selector means adjusts between the operable condition and the inoperable condition.
2. A short backset mortice lock assembly according to claim 1 wherein the slide detent includes a lug which the selector member engages to move the slide detent between the second position and the first position and the selector member does not engage the lug when the selector means is inoperable.
3. A short backset mortice lock assembly according to claim 1 or 2 wherein the

selector means includes a selector axis about which the selector member pivots when the latchbolt moves from the extended position to the retracted position.

4. A short backset mortice lock assembly according to claim 3 wherein the selector axis is substantially perpendicular to the direction of movement of the latchbolt.

5. A short backset mortice lock assembly according to claim 3 or 4, wherein the selector axis moves relative to the housing when the selector means adjusts between the operable condition and the inoperable condition.

6. A short backset mortice lock assembly according to any one of the preceding claims wherein the selector means includes a switch that engages the selector member, the switch is adjustable relative to the housing when adjusting the selector means between the operable condition and the inoperable condition.

7. A short backset mortice lock assembly according to claim 6 wherein the selector means includes a switch biasing means so as to render the switch bi-stable, whereby the selector means is urged to adopt either the operable condition or inoperable condition.

8. A short backset mortice lock assembly according to claim 6 or 7 wherein the housing includes a side wall with the switch being substantially aligned with said side wall.

9. A short backset mortice lock assembly according to claim 8 wherein the housing includes a base and a cover attached to the base, said side wall forming part of the base.

10. A short backset mortice lock assembly according to claim 9 wherein the housing includes a base plate and the side wall of the base includes an aperture to accommodate the switch, the base plate being attached to the base so as to occlude the aperture in the side wall of the base.

11. A short backset mortice lock assembly according to claim 10 wherein the base is formed with a rebate to accommodate the base plate.

12. A short backset mortice lock assembly according to any one of claims 9 to 11 wherein the housing includes a cover plate which is attached to the cover, the cover being formed with a rebate to accommodate the cover plate.

13. A short backset mortice lock assembly according to claim 12 wherein the rebate of the cover and base occupy no less than 30% of an outer surface of the cover and base respectively.

14. A short backset mortice lock assembly according to claim 13 wherein base and cover are formed from a cast zinc alloy, and the base plate and cover plate are formed from stainless steel.

15. A short backset mortice lock assembly according to any one of claims 9 to 12 wherein the front wall forms part of the base and includes at least one aperture through which the switch can be adjusted.

16. A short backset mortice lock assembly according to claim 15 wherein said at least one aperture includes a first aperture and a second aperture whereby depressing the switch through the first aperture renders the selector means operable, and depressing the switch through the second aperture renders the selector means inoperable.

17. A short backset mortice lock assembly according to any one of claims 6 to 16 including a face plate that attaches to the front wall of the housing hindering access to the switch.

18. A short backset mortice lock assembly according to any one of the preceding claims wherein the latchbolt includes a body to which the head is attached, the body engaging with the selector means when adjusting between the operative condition and the inoperative condition.

19. A short backset mortice lock assembly according to claim 18 wherein the body includes a surface over which the selector member slides when the latchbolt moves from the extended position to the retracted position.

20. A short backset mortice lock assembly according to any one of the preceding claims wherein the rear wall includes a pair of recesses, the slide detent having a sprung detent which locates in either one of said recess when the slide detent adopts the first position or second position.

21. A lock set for use with a door including a short backset mortice lock assembly according to any one of the preceding claims, outer door furniture and inner door furniture for installation on an inner side of the door and an outer side of the door which interacts with the actuator when installed, and at least one cylinder lock assembly which interacts with the lock means.