G. A. WEHNER.

LOCK.

APPLICATION FILED MAY 25, 1915.

1,168,132.

Patented Jan. 11, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

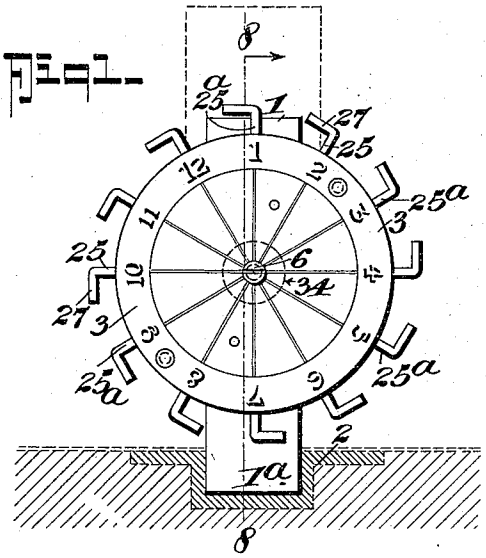


Fig. 3.

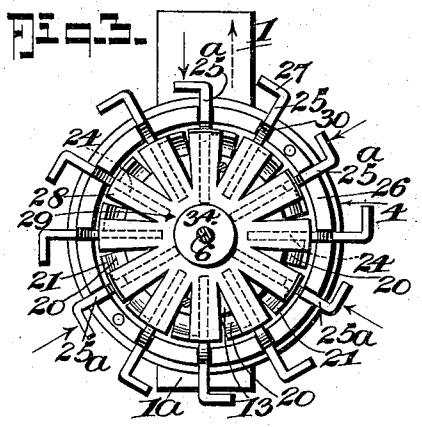


Fig. 2.

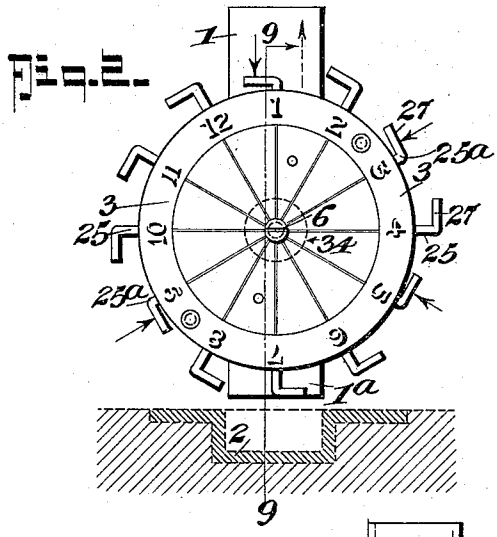


Fig. 4.

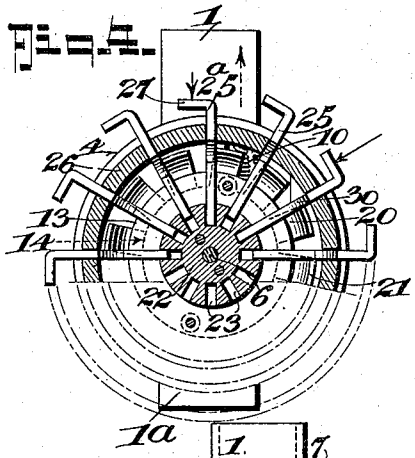


Fig. 5.

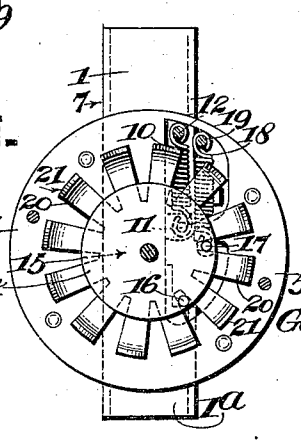
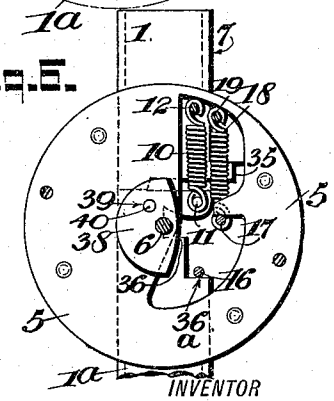


Fig. 6.



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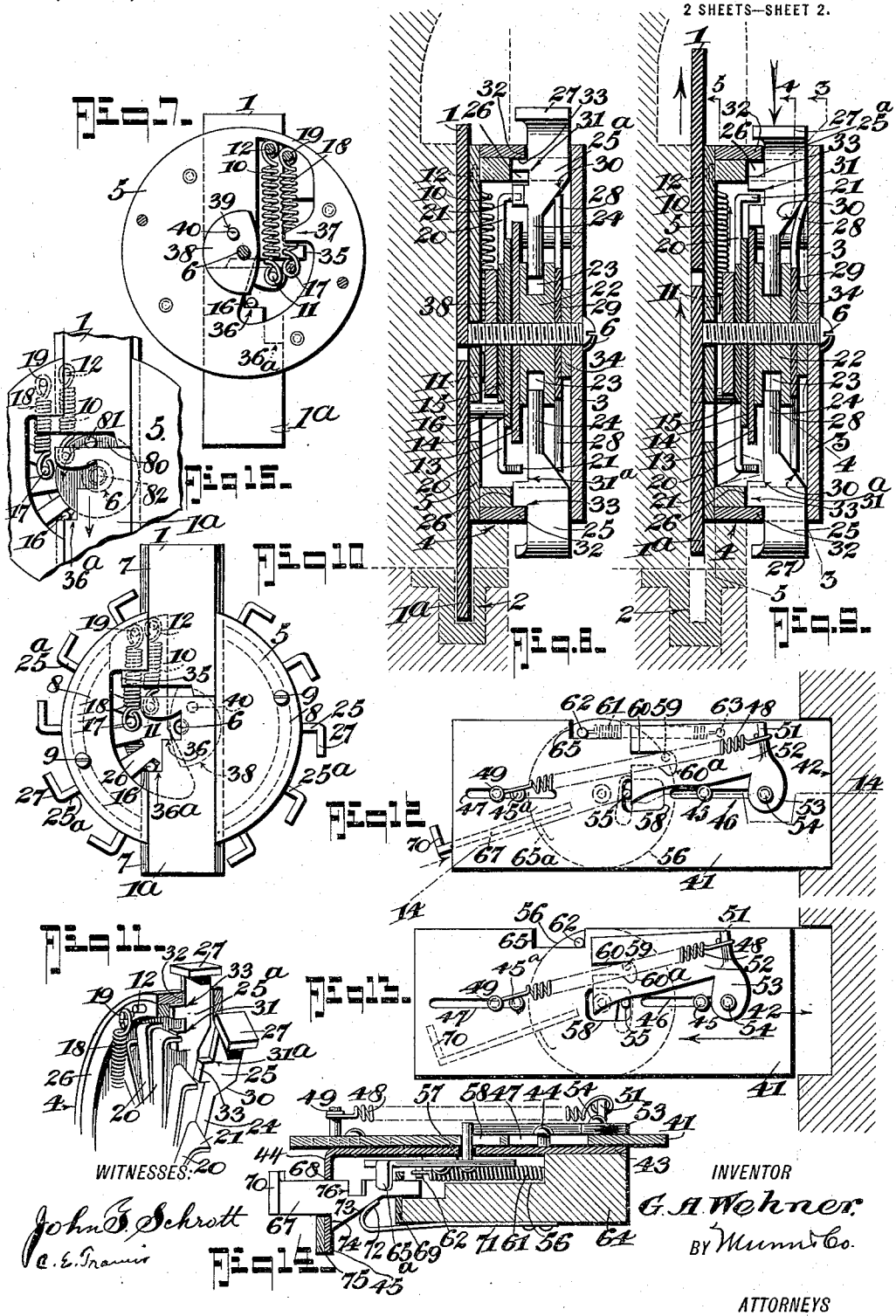
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2 SHEETS—SHEET 2.



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GEORGE ANTHONY WEHNER, OF SAVANNAH, GEORGIA.

LOCK.

1,168,132. Specification of Letters Patent. Patented Jan. 11, 1916.

Application filed May 25, 1915. Serial No. 30,264.

To all whom it may concern:

Be it known that I, GEORGE A. WEHNER, a citizen of the United States, and a resident of Savannah, in the county of Chatham and State of Georgia, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention is an improvement in locks, and has for its object to provide a lock of the permutation type, wherein a bolt is provided, and a casing upon which the bolt is mounted to move diametrically thereof, the casing having a rotatable member provided with means for locking the bolt in locking position, the bolt being normally spring released and the lock member being also normally spring released, and wherein a series of push buttons is provided in connection with the casing, normally spring held in outward position and capable of being depressed, sundry of the buttons being positive and others negative in their action, and the arrangement being such that when the positive buttons are simultaneously depressed the locking mechanism for the bolt will be released, while when any negative button is depressed it will impede and prevent any release of the locking mechanism for the bolt.

In the drawings, Figure 1 is a front view of the improved lock with the bolt in locking position; Fig. 2 is a similar view with the bolt in a position of release; Figs. 3, 4, and 5 are sections on the lines 3—3, 4—4 and 5—5, respectively, of Fig. 9, each view looking in the direction of the arrow adjacent to the line; Fig. 6 is a front view of the lock cover, with the parts in the position of Fig. 2; Fig. 7 is a similar view, with the parts in the position of Fig. 1; Fig. 8 is a section on the line 8—8 of Fig. 1 looking in the direction of the arrow adjacent to the line; Fig. 9 is a section on the line 9—9 of Fig. 2 looking in the direction of the arrow adjacent to the line; Fig. 10 is a rear view of the lock with the parts in the position of Fig. 2; Fig. 11 is a partial perspective view showing the arrangement of the push buttons; Figs. 12 and 13 are front views of a modified construction, Fig. 14 is a section on the line 14—14 of Fig. 12, and Fig. 15 is a sectional view showing a means for moving the bolt into locking position.

In the embodiment of the invention shown in Figs. 1 to 11 inclusive, the improved lock comprises a cylindrical casing and a longitudinally movable sectional bolt 1—1ª, which is adapted to coöperate with a catch 2, in the form of a reinforced recess into which one end of the bolt is adapted to extend to lock the parts which it is desired to lock together.

The cylindrical casing comprises a cup-shaped body comprising a disk 3 and a lateral marginal flange 4, and a cover plate 5, which is secured to the cup-shaped body by means of a central or axial screw 6. This screw is passed through the center of the disk 3 into engagement with a threaded opening in the cover 5, and the bolt 1—1ª moves diametrically of the cover. The said bolt has its side edges undercut, as shown at 7, in Fig. 10, and the bolt moves between segmental guide plates 8 secured to the rear face of the cover plate 5, and having their inner straight edges undercut. The plates are held to the cover plate by screws 9.

The spring 10, which moves the bolt into release position, and which normally holds the bolt in such position, is connected with the section 1ª of the bolt, the said section having a laterally extending pin 11 to which one end of the spring 10 is connected, and the other end of the spring is connected to a pin 12 extending rearwardly from the flange 4 of the cup-shaped body of the casing.

A species of wheel is mounted to rotate on the screw 6 within the casing, said wheel consisting of disks 13, 14 and 15, superposed, the disks gradually decreasing in size rearwardly, and the disk 14 is provided with laterally extending pins 16 and 17, the former pin being the locking pin for the bolt, while a coiled spring 18 is connected with the latter pin, the said spring acting normally to hold the wheel in a position of release.

The spring 18 is connected at its outer end to a pin 19 connected with the flange 4 of the casing, adjacent to the pin 12, before mentioned. The disk 15 is provided with a series of radial arms 20, and each arm has at its outer end an angular lock 21, the said lock extending toward the body 3 of the casing.

A disk 22 is journaled on the screw 6 in front of the disk 13 of the wheel, and the said disk 22 is provided with a series of radial openings or recesses 23 in its periphery. The push buttons 25 and 25ª are movable in these openings. Each of these buttons, to be later described, has its inner end rounded as shown at 24, to engage the

adjacent recess, and the disk 22 supports and guides the buttons in their movement. The bodies of the buttons 25 and 25ª extend through slots 26 in the flange 4 of the cover, and each button has a head 27 at its outer end for engagement by the finger of the operator when it is desired to depress the button. The buttons are normally held in outward position by spring arms 28 on a disk 29 held on the screw 6 in front of the disk 22. These arms 28 are resilient, and the said arms extend radially from the disk.

Each arm engages at its outer end an inclined or cam surface 30 on the front edge of the adjacent button, between the rounded portion 24 of the button and the body thereof. When the buttons are depressed, as shown in Fig. 9, the resilient arms 28 are pressed forwardly or outwardly toward the body 3 of the cover of the casing, and it will be evident that as soon as the buttons are released the resilience of the arms will force them again outward.

The angular portions 21 of the arms 20 are locking members for engaging the push buttons, and the said buttons are adapted to engage the wheel 13—14—15 to permit release of the bolt. Each of the positive push buttons 25ª is provided in its rear edge with a notch or recess 31, which, when the button is depressed, will register with the locks 21 of the disk 15. When the buttons 25 are in outward position, however, these locks 21 will engage just within the notches 31, thus preventing the angular movement of the said disk with respect to the buttons and their supports. The negative buttons 25 when in outward position do not engage the locks 21, each button being cut away, as indicated at 31ª, to pass the locks. When the buttons are depressed, however, they will block the movement of the disk 15.

All of the buttons are held in place in the casing, and are limited as to their outward movement, by means of a retaining ring 32, which is slipped onto the flange 4 in rear of the buttons, as shown more particularly in Figs. 8, 9 and 11. Each of the buttons has a shoulder 33 on the rear edge and just outside the cam surface 30, the said shoulder being formed by reducing the body from the shoulder outward, and these shoulders 33 engage the retaining ring, as shown in Fig. 11, to limit the outward movement of the buttons.

A washer 34 is arranged between the disk 29 and the cup-shaped body of the casing, to properly space the disks 13, 14, 15, 22 and 29, the said washer encircling the screw 6. The spring 18 normally holds the locking wheel constituted by the disks 13—14—15 in a position of release as regards the bolt 1—1ª, and the said wheel is moved into engaging position, by an angular lug 35 on the inner end of the section 1 of the bolt. This lug 35 when the bolt 1—1ª is moved into locking position, engages the pin 17 before mentioned, of the disk 14 and swings or oscillates the disk in a direction to cause the pin 16 to engage a recess or rabbet 36 at the inner end of the bolt section 1ª.

The spring 10, which tends to draw the bolt 1—1ª into a position of release, holds the rabbet or recess in contact with the pin 16, thus preventing release of the said pin until the wheel is released by the movement of the push buttons.

Referring to Figs. 8 and 9, it will be seen that the locks of the disk 15 when the buttons 25 and 25ª are in normal position, cannot move angularly because the said locks will engage the positive buttons 25ª. The buttons 25, however, do not interfere with the locks 21 when the said buttons 25 are in normal position, and it is only when the said buttons 25 are moved inwardly that they come into position to interfere with the locks.

Certain predetermined buttons are positive buttons, being similar to the buttons 25ª, and normally standing in position to block the angular movement of the disk 15, and these positive buttons must be pressed inward to release the disk 15. If any other button than the positive buttons is pressed inward, the release of the disk 15 will be again blocked by the movement of the negative buttons. Hence, the positive buttons and the positive buttons only must be depressed to release the lock.

A stop 37 is provided for limiting the movement of the disk 14 in one direction, that is, toward a position of release, and the engagement of the pin 16 with the inner surface of the rabbet or notch 36 would limit the movement of the disk in the opposite direction. A filling washer 38 is arranged between the disk 15 and the cover plate 5, the washer encircling the screw 6, and being cut away at the side adjacent to the springs 10 and 18 to prevent interference therewith. This washer has an eccentric opening 39 which is engaged by a pin 40 on the cover plate 5 to prevent angular movement of the washer.

In operation, when it is desired to lock the receptacle, or whatever is to be locked, the bolt 1—1ª will move against the resistance of the spring 10 in a direction to cause one end thereof to engage the recess. As the bolt moves, the lug 35 on the section 1 of the bolt engages the pin 17 of the disk 14, and swings or oscillates the wheel 13—14—15 in a direction to cause the pin 16 to engage the shoulder or rabbet 36 of the section 1ª of the bolt, thus locking the bolt in locked position, as shown in Figs. 1 and 8.

Whenever it is desired to release the bolt, the positive or predetermined series of push buttons is depressed. These positive but-

tons normally stand—as shown at the top of Fig. 8, and it will be evident that as long as they do stand in this position, the disk 15 cannot be rotated, that is, the locking wheel will stand in the position of Fig. 7, holding the bolt in locked position. Whenever these buttons are depressed, however, as indicated in Fig. 9, they offer no impediment to the angular movement of the wheel 13—14—15, and as soon as the wheel is released, the spring 18 will return the wheel to normal position, that is, with the pin 17 in engagement with the stop 37, and with the pin 16 out of position to interfere with the movement of the bolt. The bolt is immediately moved into open position by the spring 10. Should one of the negative buttons be depressed, the said buttons will interfere with the movement of the locking wheel, and it cannot return to normal position under the influence of the spring.

It will be evident from the description that to release the bolt the combination must be known, and only the positive buttons must be depressed. The depression of a single negative button will prevent the release of the bolt.

The improved lock is designed for use with any character of receptacle or door, wherein a straight moving bolt is required.

It is obvious that by slight changes in the form of the bolt, evident to any one skilled in the art, the bolt might be modified to provide a chest lock or the like.

The section 1 of the bolt is entirely detached and independent of the section 1^a. This section is in fact a push button or slide for operating the bolt proper. It is obvious that this section might be made detachable if desired, since it has no function in the combination other than as an actuating member during the locking of the bolt, and as an actuating member for the locking mechanism for the bolt.

The section 1^a of the bolt is provided with two shoulders, one the shoulder 36 before mentioned and the other a shoulder 36^a at the outer side of the shoulder 36. In a position of release, the pin 16 engages the shoulder 36^a, while in locking position the pin engages the shoulder 36. These shoulders are so arranged as to not interfere with the movement of the locking wheel. It will be noted that the pin 16 extends between two arms 20 of the disk 15, thus constraining the disks 14 and 15 to move together. The disks 14 and 15 are the only portions of the lock that are necessarily rotatable, and the disk 13 is a filling or spacing disk, as are also the washers 34 and 38.

In the embodiment of the invention shown in Figs. 12 to 14, the lock comprises a bolt 41 in the form of a plate, one end of the bolt being adapted to engage a reinforced recess like that shown in Figs. 8 and 9, to lock the parts which are to be locked. The bolt is slidably mounted on the body portion 43 of a plate having an angular portion 44 at the outer end of the bolt, and the bolt is guided on the plate by means of headed pins or screws 45 and 45^a, on the plate 43, and engaging longitudinally extending slots 46 and 47 in the bolt. The bolt is normally moved into release position by means of a coiled spring 48, which engages at one end a headed pin or screw 49 on the plate 43 and extending through the slot 47, and at the other end the spring engages a laterally and upwardly extending lug 51 on a latch plate 52 at the front end of the bolt. This latch plate has an angular lug 53 at its forward end, extending inwardly and transversely of the front end of the slot 47, and the said lug is pivoted to the bolt by a screw 54. The rear end of the latch is free to swing laterally, into and out of position to engage a pin 55 on a locking disk 56 which is mounted to rotate on the plate 43, on the opposite side from the bolt. This pin extends through an arc-shaped slot 57 in the plate 43 and through an opening 58 in the bolt, and the spring 48 normally acts to move the latch plate into engagement with the pin. This spring, however, normally holds the bolt in a position of release, and the bolt must be moved into locking position before the latch plate can engage with the pin 55. As soon as the rear end of the latch plate moves past the pin 55, the spring 48 swings the latch plate to cause the rear end to move in front of the pin, thus preventing release movement of the bolt.

The latch plate is limited in its swinging movement by means of a pin 59 connected with the bolt and extending upwardly through a longitudinal recess or notch 60 in the rear end of the plate. It will be noticed that this recess or notch has an extension 60^a at its inner end and extending toward the pin 55, the arrangement being such that the latch plate may swing outward far enough to release the pin 55. The locking disk 56 is normally moved into a position of release by a coiled spring 61 arranged on the opposite side of the disk from the plate 43, between a pin 62 on the disk and a pin 63 on the support 64 for the lock. This pin 62 extends outwardly through registering notches 65 in the plate 43 and the bolt, and it will be evident that the engagement of the pin with the ends of the notches would limit the movement of the disk with respect to the bolt, as shown in Fig. 13.

The latch plate 52 has its inner side inclined or cam shaped to cause the latch plate to be moved outwardly when it engages the pin 55, in order that the pin may pass beyond the outer end of the latch plate to

engage the same. The locking disk 56 is provided with an angular lug 66 at its periphery, the lug extending in the opposite direction to the bolt, and this lug is adapted to engage push buttons, to prevent the release of the locking mechanism. These buttons 67, but one of which is shown, are arranged in positive and negative series. Each button moves through a slot 68 in the angular portion 44 of the plate, and through a guide 69 on the support 64, the buttons being guided by the guide and the angular portion 44 of the plate, 43. Each button has a head 70 at its outer end, and a plate spring 71 is provided for each button to normally hold the button in outward position.

As shown, the springs 71 are secured to the support 64 at their inner ends and at its outer end each has a return bend portion 72 which engages a cam surface 73 on the push button. At the outer end of each cam surface a shoulder 74 is provided for engaging the angular portion 44 of the plate to limit the outward movement of the button. A retaining plate or ring 75 is arranged outside of the angular portion 44 of the plate 43, to hold the buttons in place, and each button has a notch or recess 76 at the edge adjacent to the locking disk 56 for engagement by the lug 65 of the disk to prevent angular movement of the disk in a direction to release the bolt.

The buttons are arranged in the same manner as those shown in Figs. 1 to 11, that is, in such manner that when a positive button is pressed inward the notch 76 will register with the lug 65, while when a negative button is pressed inward the notch 76 will be out of register with the lug 65. The negative buttons normally stand with their notches 76 in register with the lug 65.

It will be obvious that as many buttons may be provided as may be necessary or thought advisable, the buttons being arranged as shown for a single button.

In each construction the lock comprises in its simplest form a bolt spring pressed normally into a position of release, a lock for the bolt normally spring pressed into a position of release, together with positive buttons arranged to hold the locking mechanism in locking position and release the same when depressed, and with negative buttons normally in position of release, but arranged to block the movement of the locking mechanism when the said buttons are depressed.

It will be noted from an inspection of Figs. 1 and 2, that the front of the casing, that is, the outer face of the lock casing is provided with an annular series of numerals consecutively arranged, and running in the present instance, from 1 to 12. The numerals are arranged in an annular series, at the periphery of the casing, and at the respective push buttons. The lock shown is arranged to be operated by the buttons adjacent to the numerals 1, 3, 5 and 9, and these positive buttons are shown depressed in Figs. 2, 4 and 9, and in position to release the locking wheel.

It is obvious that the buttons might be designated in any other desired manner, or they may be without designations if desired. The combination may be easily changed by changing the buttons.

Since all of the positive buttons are alike, and the negative buttons are alike, and since any button may be arranged in any one of the radial slots of the casing, the buttons may be arranged precisely as desired. The buttons are similar in all respects with the single exception of the notch 31 and cut away portion 31^a, and any button of either series will fit in the place of any other button of the same series or of the other series.

In order to change the combination, the sections are released by removing the cover plate 5. When now, the retaining ring is slipped off the flange 4 of the casing, any one or all of the buttons may be detached. They are held in place solely by the retaining ring and if this ring is removed, any or all of the buttons may be taken out and they may be replaced in any desired order.

It will be evident from the above that the combination is easily and quickly changed, and it may be changed as often as desired.

In the construction of Figs. 12 to 14, in practice the buttons will be held in precisely the same manner and may be varied as to arrangement whenever desired.

In Fig. 15 mechanism is shown for permitting the bolt to be moved into locking position from the front of the casing of the lock. This mechanism is desirable when for any reason the section 1 of the bolt is not accessible to close the bolt. The said mechanism comprises an eccentric pin 81 on one face of a disk 80 and secured to a shaft 82, the shaft being axial to the disk. With this arrangement the screw 6 will be tubular, and the shaft 82 will be journaled in the screw, with the disk 80 between the disk 38 and the bolt, and with the pin 81 extending between the sections of the bolt, in a recess provided for this purpose in the inner end of the section 1. The pin engages the inner end of the section 1^a, and it will be evident that when the disk is oscillated by means of the shaft in the direction of the arrow shown in Fig. 15, the section 1^a will be moved into locking position by the pin 81. The outer end of the shaft 82 will be provided with a knob or head to facilitate the rotation of the shaft.

I claim:

1. A lock comprising a substantially cylindrical casing, a guideway extending dia-

metrically of the casing on the rear face thereof, a sectional bolt held in the guideway, one of the sections of the bolt being adapted to engage a catch, a spring normally pressing the said section into inoperative position, the other section abutting the first named section at its inner end and extending beyond the casing at its outer end to permit the first-named section to be moved into engagement with the catch, a locking wheel mounted to rotate in the casing, said wheel having a plurality of laterally extending pins, the first named section of the bolt having a shoulder for engagement by one of the pins to hold the bolt section in engagement with the catch, the other bolt section having a lateral lug for engaging the other pin of the locking wheel to partially rotate the wheel when the bolt section is moved to engage the other section with the catch, a spring normally holding the locking wheel in inoperative position, a plurality of series of push buttons mounted radially of the casing and movable radially thereof, springs normally pressing the buttons outward, said buttons being positive and negative, the negative buttons when in outward position offering no impediment to the movement of the wheel, and the positive buttons when in outward position preventing movement of the wheel, and when in inward position permitting the free movement of the wheel, said wheel having radial arms provided with laterally extending lugs adapted to engage the positive buttons when in outward position to prevent angular movement of the wheel, each positive button having a notch for registering with the lugs when the button is depressed.

2. A lock comprising a substantially cylindrical casing, a guideway extending diametrically of the casing on the rear face thereof, a sectional bolt held in the guideway, one of the sections of the bolt being adapted to engage a catch, a spring normally pressing the said section into inoperative position, the other section abutting the first named section at its inner end and extending beyond the casing at its outer end to permit the first named section to be moved into engagement with the catch, a locking wheel mounted to rotate in the casing, said wheel having a plurality of laterally extending pins, the first named section of the bolt having a shoulder for engagement by one of the pins to hold the bolt section in engagement with the catch, the other bolt section having a lateral lug for engaging the other pin of the locking wheel to partially rotate the wheel when the bolt section is moved to engage the other section with the catch, a spring normally holding the locking wheel in inoperative position, a series of radial push buttons mounted in the casing, springs normally holding the buttons outward, the locking wheel having angular lugs extending between the buttons, sundry of the buttons having portions extending into the path of movement of the lugs when the buttons are in normal position to prevent angular movement of the locking wheel in a direction to release the bolt and having notches or recesses for registering with the lugs to permit the passage thereof when the buttons are depressed, others of the buttons having portions adapted to extend into the path of movement of the lugs when the buttons are depressed.

3. A lock comprising a casing having a guideway extending transversely of one face thereof, a bolt movable in the guideway and adapted to engage a catch at one end, and extending beyond the casing at the other end to permit the bolt to be moved manually, a spring normally holding the bolt in inoperative position, a locking wheel mounted to rotate in the casing and having a pin for engaging the bolt to hold the bolt in locked position, said wheel having a second pin and the bolt having a lug for engaging the pin to swing the wheel when the bolt is moved toward the catch to cause the first named pin to engage and lock the bolt, a spring normally holding the locking wheel in inoperative position, a series of radially movable push buttons in connection with the casing, springs pressing the buttons outward, the locking wheel having anugular lugs extending between the buttons, and sundry of the buttons having openings for permitting the passage of the lugs when the buttons are in normal position, and adapted to be moved out of register with the lugs when the buttons are depressed, other of the buttons having recesses normally out of register with the lugs.

4. A lock comprising a casing having a guideway extending transverselv of one face thereof, a bolt movable in the guideway and adapted to engage a catch at one end, and extending beyond the casing at the other end to permit the bolt to be moved manually, a spring normally holding the bolt in inoperative position, a locking wheel mounted to rotate in the casing and having a pin for engaging the bolt to hold the bolt in locked position, said wheel having a second pin, and the bolt having a lug for engaging the pin to swing the wheel when the bolt is moved toward the catch to cause the first named pin to engage and lock the bolt, a spring normally holding the locking wheel in inoperative position, a series of radially movable push buttons in connection with the casing, springs pressing the buttons outward, the locking wheel having angular lugs extending between the buttons, each button having a recess for registering with the lugs to permit the passage thereof past said push buttons, the recesses of sundry of the buttons

being normally in register with the lugs, and the recesses of other of the buttons being normally out of register with the lugs.

5. A lock comprising a casing having a guideway extending transversely thereof, a bolt movable in the guideway and adapted to engage a catch at one end, a spring normally holding the bolt in inoperative position, a locking wheel mounted to rotate in the casing and having means for engaging the bolt to hold it in locked position when the wheel is oscillated in one direction, means on the bolt for engaging the wheel to oscillate the same into locking position when the bolt is moved into engagement with the catch, a spring normally holding the wheel in inoperative position, push buttons mounted for radial movement in the casing, the locking wheel having angular lugs extending toward the buttons, and spaced apart at equal distances from the center of the wheel, the push buttons being arranged in annular series and coaxial with the wheel, each button having an opening for permitting the passage of the lugs, the recesses of sundry of the buttons being normally in register with the lugs, and the recesses of the other buttons being normally out of register with the lugs, and springs normally holding the buttons in outward position.

6. A lock comprising a casing having a guideway extending transversely thereof, a bolt movable in the guideway and adapted to engage a catch at one end, a spring normally holding the bolt in inoperative position, a locking wheel mounted to rotate in the casing and having means for engaging the bolt to hold it in locked position, when the wheel is oscillated in one direction, means on the bolt for engaging the wheel to oscillate the same into locking position when the bolt is moved into engagement with the catch, a spring normally holding the wheel in inoperative position, a series of push buttons arranged coaxial with the wheel and mounted for radial movement toward and from the axis of the wheel, springs normally pressing the buttons outward, means in connection with each button for preventing angular movement of the wheel in either direction, the said means in sundry of the buttons being normally in inoperative position and movable into operative position when the buttons are depressed, and the said means in the other buttons being normally in operative position, and movable into inoperative position when the buttons are depressed.

7. A lock comprising a substantially cylindrical casing having a guideway extending transversely thereof, a bolt slidable in the guideway and adapted to engage a catch at one end of the bolt, a rotatable locking means journaled in the casing and having means for engaging the bolt to lock it in engagement with the catch, means in connection with the bolt and the said rotatable means for oscillating the said means into operative position when the bolt is moved toward the catch, a spring normally acting to hold the rotatable means in a position of release, a series of push buttons arranged coaxial with the said rotatable means, springs holding the buttons in outward position, the buttons and the rotatable means having interengaging means for preventing angular movement of the said rotatable means, said interengaging means being normally out of register with sundry of the buttons and normally in register with the other buttons.

8. A lock comprising a longitudinally movable bolt, a locking wheel journaled adjacent to the bolt and having means for engaging the bolt to hold it in locked position, said bolt and wheel having interengaging means for oscillating the wheel in a direction to cause the wheel to engage and lock the bolt when the bolt is moved into locking position, a series of push buttons arranged adjacent to the wheel, springs normally pressing the buttons outward, said wheel having an angular lug adapted to engage the buttons to prevent angular movement of the wheel in a direction to release the bolt, each button having a recess or opening for permitting the passage of the lug, sundry of the buttons having their openings normally in register with the lug, and the other buttons having their openings normally out of register with the lug, and springs normally holding the bolt and the locking wheel in inoperative position.

9. A lock comprising a longitudinally movable bolt, a locking wheel journaled adjacent to the bolt and having means for engaging the bolt to hold it in locked position, said bolt and wheel having interengaging means for oscillating the wheel in a direction to cause the wheel to engage and lock the bolt when the bolt is moved into locking position, a series of push buttons arranged adjacent to the wheel, springs normally pressing the buttons outward, said wheel having an angular lug adapted to engage the buttons to prevent angular movement of the wheel in a direction to release the bolt, each button having a recess or opening for permitting the passage of the lugs sundry of the buttons having their openings normally in register with the lug, and the other buttons having their openings normally out of register with the lug.

10. A lock comprising a longitudinally movable bolt, a locking wheel journaled adjacent to the bolt and having means for engaging the bolt to hold it in locked position, said bolt and wheel having interengaging means for oscillating the wheel in a direction to cause the wheel to engage and lock the bolt when the bolt is moved into locking

position, a series of push buttons arranged adjacent to the wheel, springs normally pressing the buttons outward, said wheel and buttons having interengaging means for preventing angular movement of the wheel, the said means being out of register normally with sundry of the buttons and normally in register with the other buttons.

11. A lock comprising a longitudinally movable bolt, means normally acting to move the bolt into a position of release, rotatable locking means arranged adjacent to the bolt for locking the bolt in engaging position, means in connection with the bolt and locking means for operating the said locking means to lock the bolt when the bolt is moved into engaging position, means acting normally to move the locking means into a position of release, a plurality of series of push buttons arranged adjacent to the locking means, said locking means and buttons having interengaging means to prevent angular movement of the locking means, means for normally holding the push buttons in outward position, sundry of the buttons being normally out of position to interfere with the movement of the locking means and other of the buttons being normally in position to interfere with the movement of said means.

12. A lock comprising a longitudinally movable bolt, means normally acting to move the bolt into a position of release, rotatable locking means arranged adjacent to the bolt for locking the bolt in engaging position, means in connection with the bolt and locking means for operating the said locking means to lock the bolt when the bolt is moved into engaging position, means acting normally to move the locking means into a position of release, and a plurality of means for preventing movement of the locking means, said means being negative and positive, the negative means being normally out of engaging position and being movable into engaging position, and the positive means being normally in engaging position and movable out of engaging position.

13. A lock comprising a bolt, means normally acting to move the bolt into a position of release, locking means arranged adjacent to the bolt for locking the bolt in engaging position, means in connection with the bolt and locking means for operating the said locking means to lock the bolt when the bolt is moved into engaging position, means acting normally to move the locking means into a position of release, means for holding the locking means in locked position, and means for releasing said holding means.

14. A lock comprising a bolt, means normally acting to move the bolt into a position of release, locking means arranged adjacent to the bolt for locking the bolt in engaging position, means in connection with the bolt and locking means for operating the said locking means to lock the bolt when the bolt is moved into engaging position, means acting normally to move the locking means into a position of release, and releasable means for holding the locking means in locking position.

15. A lock comprising a bolt, means normally acting to move the bolt into a position of release, locking means arranged adjacent to the bolt for locking the bolt in engaging position, means in connection with the bolt and locking means for operating the said locking means to lock the bolt when the bolt is moved into engaging position, means acting normally to move the locking means into a position of release, a series of movable members for preventing the release of the locking means and normally in position to prevent such release, and movable out of engaging position.

16. A lock comprising a bolt, means normally acting to move the bolt into a position of release, locking means arranged adjacent to the bolt for locking the bolt in engaging position, means in connection with the bolt and locking means for operating the said locking means to lock the bolt when the bolt is moved into engaging position, means acting normally to move the locking means into a position of release, a plurality of series of means for preventing movement of the locking means into a position of release, each of the said means being movable, the means of one series being normally in engaging position, the means of the other series being normally out of engaging position, and all of the said means being movable to move them into and out of engaging position.

17. A lock comprising a bolt, means acting normally to move the bolt into a position of release, locking means arranged adjacent to the bolt for locking the bolt in engaging position, said locking means being moved into engaging position by the movement of the bolt into locking position, means acting normally to move the locking means into a position of release, and means for preventing the movement of the said locking means, said preventing means being releasable.

18. A lock comprising a bolt adapted to be engaged with a catch by moving the bolt manually, means acting normally to move the bolt into a position of release, locking means adjacent to the bolt for locking the bolt in engaging position and controlled by the moving of the bolt into locking position, means acting normally to move the locking means into a position of release, a series of means for preventing the movement of the locking means from locked position, said means being movable into and out of engaging position, sundry of the said means

being normally in engaging position, and the other of the said means being normally out of engaging position.

19. A lock comprising a bolt adapted to be engaged with a catch by moving the bolt manually, means acting normally to move the bolt into a position of release, locking means adjacent to the bolt for locking the bolt in engaging position and controlled by the moving of the bolt into locking position, means acting normally to move the locking means into a position of release, and means movable into and out of engaging position for preventing the movement of the said locking means toward a position of release.

20. A lock comprising a bolt adapted to be engaged with a catch by moving the bolt manually, means acting normally to move the bolt into a position of release, locking means adjacent to the bolt for locking the bolt in engaging position and controlled by the moving of the bolt into locking position, means acting normally to move the locking means into a position of release, and releasable means for preventing the movement of the locking means into a position of release.

21. A lock comprising a longitudinal movable bolt, locking means adjacent to the bolt for locking it in engaged position, means in connection with the bolt and the locking means for operating said means to lock the bolt when the bolt is moved into engaging position, means acting normally to release the locking means, and releasable means for holding the locking means against release, said means comprising spring supported negative and positive push buttons, each negative button being normally out of engagement with the locking means and movable into engagement therewith to restrain the operation thereof, and each positive button being normally in position to engage the releasing means to prevent the operation thereof, and movable into operative position.

22. A lock comprising a longitudinally movable bolt, locking means adjacent to the bolt for locking it in engaging position, means in connection with the bolt and the locking means for operating said means to lock the bolt when the bolt is moved into engaging position, means acting normally to release the locking means, and releasable means for holding the locking means against release.

23. A lock comprising a bolt adapted to be engaged by moving the bolt longitudinally, locking means adjacent to the bolt for locking the bolt in engaging position, and controlled by the movement of the bolt into locking position, means acting normally to release the locking means, and means for restraining the movement of the locking means to a position of release, said means comprising negative and positive spring supported push buttons, each negative button being normally out of engaging position, and movable into engaging position, and each positive button being normally in engaging position and movable out of said position.

24. A lock comprising a bolt adapted to be engaged by moving the bolt longitudinally, locking means adjacent to the bolt for locking the bolt in engaging position, and controlled by the movement of the bolt into locking position, means acting normally to release the locking means, and means for restraining the movement of the locking means to a position of release.

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