

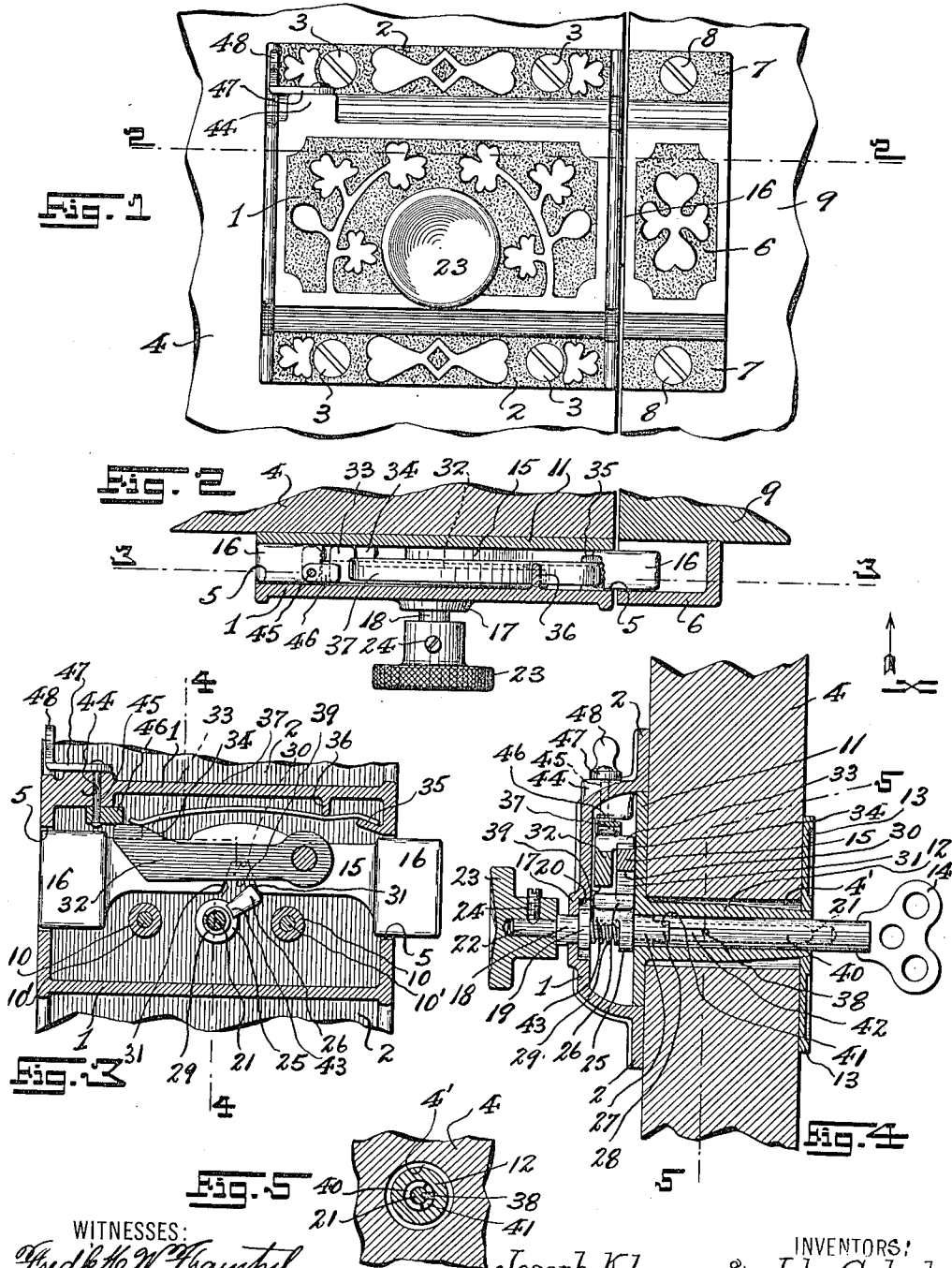
J. KOLESZAR & J. GABOSH.  
LOCK.

APPLICATION FILED MAR. 28, 1918.

Patented Nov. 26, 1918.

2 SHEETS—SHEET 1.

1,286,026.



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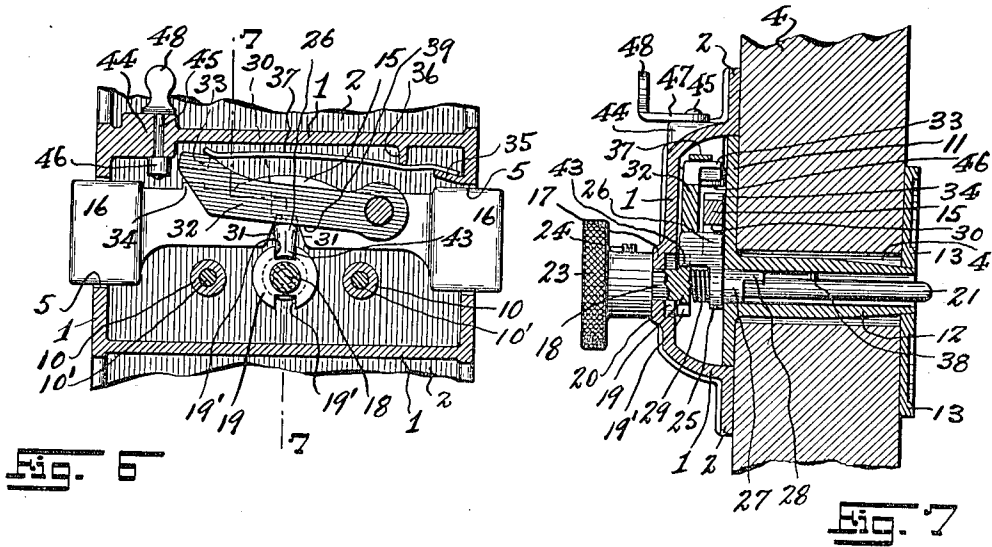


Fig. 6

Fig. 7

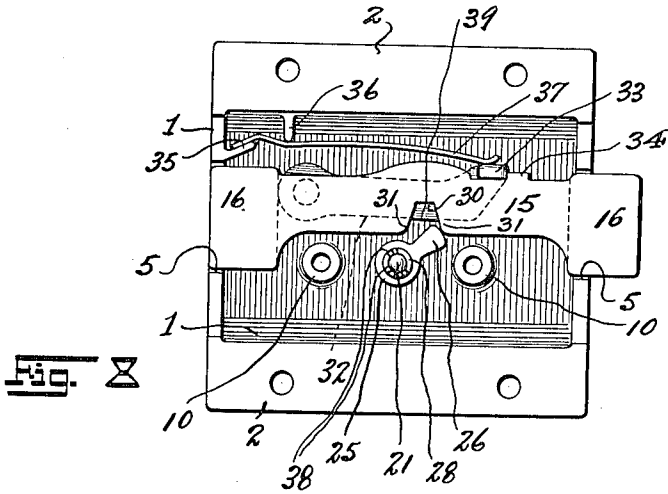


Fig. 8

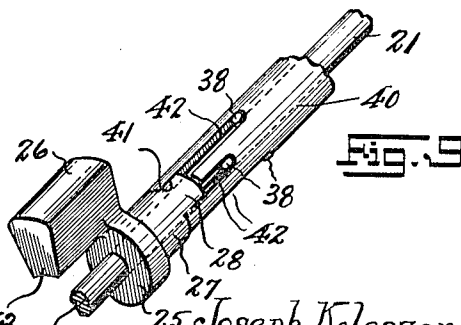


Fig. 9

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# UNITED STATES PATENT OFFICE.

JOSEPH KOLESZAR AND JOHN GABOSH, OF NEWARK, NEW JERSEY.

## LOCK.

1,286,026.

Specification of Letters Patent.

Patented Nov. 26, 1918.

Application filed March 28, 1918. Serial No. 225,198.

*To all whom it may concern:*

Be it known that we, JOSEPH KOLESZAR, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, and JOHN GABOSH, a subject of the Emperor of Austria, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Locks, and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

The present invention has reference, generally, to improvements in locks; and the invention has reference, more particularly, to a simple and novel construction of sliding bolt lock.

The invention has for its principal object to provide a novel construction of sliding bolt lock, having a very simple tumbler mechanism, which may be easily operated by either a knob from the inside of the door upon which it is arranged, or from the outside by a key.

A further object of the invention is to provide a novel key-mechanism, which may be easily varied to accommodate changes in the wards governing the action of a proper key.

A still further object of the present invention is to provide a novel safety mechanism which may be utilized to render the lock inoperative by either key or knob.

Other objects of the present invention, not at this time more particularly enumerated, will be clearly understood from the following detailed description of the same.

With the various objects of the present invention in view, the same comprises the novel sliding bolt-mechanism hereinafter set forth; and the invention consists furthermore, in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the same, all of which will be more fully described in the following specification, and then finally embodied in the claims appended thereto.

The invention is clearly illustrated in the accompanying drawings, in which:

Figure 1 is a face view of the lock

mechanism as applied upon the inside of a door or the like, the novel safety catch mechanism being moved to its operative position to prevent manipulation of the lock mechanism by either key or finger knob.

Fig. 2 is a detail horizontal section of the same, taken on line 2—2 in said Fig. 1, looking downward; Fig. 3 is a detail longitudinal section through the casing, showing the interior mechanism, the bolt receiving socket being omitted, the same being taken on line 3—3 in said Fig. 2 looking in the direction of the arrow *a*; Fig. 4 is a vertical cross section taken on lines 4—4 in said Fig. 3, looking toward the left; and Fig. 5 is a detail vertical cross section taken on line 5—5 in said Fig. 4 looking toward the right, the end of the key shown in Fig. 4 being in this view shown in end elevation; Fig. 6 is a view similar to that shown in Fig. 3, but illustrating the safety catch thrown off to permit manipulation of the lock mechanism, and further illustrating the movement of the lock mechanism by the agency of the knob device; and Fig. 7 is a vertical cross section taken on line 7—7 in said Fig. 6 looking to the left.

Fig. 8 is a back view of a slightly modified construction of the novel lock mechanism constructed without the safety catch, the back-plate being removed to illustrate the arrangement of the interior mechanism; and Fig. 9 is a perspective view on a large scale, illustrating a variation of the key devices, as operatively associated with the lock tumbler.

Similar characters of reference are employed in all of the hereinabove described views, to indicate corresponding parts.

Referring now to said drawings, the reference character 1 indicates a suitable casing for inclosing the lock mechanism, the same having flanges 2 at its longitudinal edges, through which fastening screws 3 may be passed to attach said casing to a door 4, or the like. Said casing is provided at each end with suitably arranged openings 5, through which the bolt of the mechanism may be projected. The reference character 6 indicates a bolt receiving socket-piece, also having flanges 7 through which fastening screws 8 may be passed to secure the socket-piece to a door-frame 9, or the like, in proper position to receive the bolt of the mechanism, when the latter is projected from the casing 1. Projecting interiorly

through said casing, from the front wall thereof, are posts 10, adapted to receive the fastening screws 10' by means of which a back-plate 11 is secured in connection with said casing. Formed integrally with said back-plate 11 is a suitably located rearwardly projecting sleeve 12. Said sleeve extends outwardly through the body of said door 4, or the like, through an opening 4' provided therein for the purpose, the same terminating in an escutcheon plate 13 fixed upon the outer side of said door. The open extremity of said sleeve provides a key hole into which a proper key 14 may be inserted for the purpose of manipulating the lock mechanism.

Arranged within said casing, so as to be capable of sliding longitudinally back and forth therein is a bolt body 15, the same being provided at each end with bolt-portion 16, said bolt-portions being adapted to be respectively projected through the bolt openings 5 of the casing. The relation of said bolt-body 15 to said casing is such, that when one bolt-portion 16 is projected outwardly from one end of the casing, the opposite bolt-portion 16 is withdrawn into the casing. This arrangement renders the bolt-mechanism reversible, that is capable of being used upon either a right or left door, or the like.

Formed in the front wall of said casing, is a bearing portion 17, in which is journaled a spindle 18 having formed in connection therewith an annular coupling member 19, normally inclosed within a depressed seat 20 formed on the inside of said front wall of the casing 1, said coupling member having notches 19' formed in its periphery. Connected with said spindle, beyond said coupling member 19, is a stem 21 which extends transversely through the interior of said casing beneath the bolt body 15, and thence centrally through said sleeve 12 of the back-plate 11. The outwardly projecting end of said spindle 18 is provided with a reduced extension 22 upon which is secured a finger-piece or knob 23, by means of a set-screw 24.

Rotatably mounted upon said stem 21 is the hub 25 of a rollback or cam 26, and connected with said hub 25 is a tubular extension 27 which projects into the inner end of said sleeve 12, and which is cut away at its free end to provide a male bit or clutch portion 28, adapted to be engaged by a proper key, as will be subsequently described.

A coiled spring 29 arranged about said stem between said coupling member 19 and said hub 25 of the tumbler 26, by its compression tends to normally thrust outward said spindle 18, and thereby normally maintain said coupling-member inclosed or countersunk within said seat 20, and the knob 23 normally maintained in an outwardly moved position.

The underside of said bolt-body 15 is provided with a suitably located notch 30, the respective sides 31 of which are adapted to receive the engagement of the rollback or cam 26, when the latter is rotated in one direction or the other, thereby imparting a longitudinal thrust or movement, in one direction or the other, to said bolt devices.

Pivotaly mounted upon a fixed post projecting inwardly from the front wall of said casing 1 is a detent arm 32 which extends along one side of the bolt body 15, and which is provided at its upper free end with a transverse detent-lug 33, adapted to project laterally over the upper edge of said bolt body 15. The upper edge of said bolt body 15 is provided with an upwardly projecting stop-lug 34, subject to the engagement, upon one side or the other, of said detent-lug 33, whereby the bolt device is maintained against longitudinal movement in either direction, when in either of its projected positions. Said detent-arm is so positioned that its lower marginal edge 32' crosses the notch 30 of the bolt body 15.

Connected with said casing 1, within its interior, is an anchor lug 35, and a tension producing lug 36, with which one end of a leaf spring 37 is engaged and thereby held, so that the free end of said spring will exert a downward yieldable pressure upon said detent-arm 32, to normally hold its detent-lug 33 in operative relation to said bolt body and its stop-lug 34.

The said stem 21 may be provided with one or more ward pins 38, adapted to be positioned in radial extension anywhere about the circumference thereof beyond the tubular extension 27 of said tumbler device.

The key 14 for operating the lock mechanism from the exterior of the door 4, or the like is provided with a tubular key-stem 40, adapted to be inserted through the exterior end of said tubular sleeve 12 so as to telescope over said stem 21. Said tubular key-stem 40 is cut away at its end to provide a female bit or clutch portion 41, adapted to correspond with and to receive the male bit or clutch portion 28 of the tumbler device when the key is fully and completely inserted. In order to guard against the manipulation of the lock mechanism by an improper key, the ward pin or pins 38 are provided, and the tubular key-stem 40 is slotted as at 42 to straddle said ward pin or pins 38, in such a manner as to permit the complete insertion of the key and the mutual operative engagement of the same with the rollback or cam devices.

When a proper key is thus inserted so that its female bit or clutch portion 41 operatively embraces the male bit or clutch portion 28 of the tumbler devices, the key may be turned. The turning of the key produces a rotary movement of the hub 25 upon the

stem 21, and consequently swings the roll-back or cam 26 upwardly into the notch 30. The upward swinging movement of said rollback or cam 26 as it enters the notch 30, also carries a portion of the free end of said rollback or cam into lifting engagement with said lower edge 39 of the detent-arm 32 (as shown in Fig. 6), causing the latter to swing upwardly against the yielding tension of said spring 37, whereby the obstruction to the longitudinal movement of the bolt devices afforded by the engagement of said detent lug 33 with said stop-lug 34 of the bolt-body 15 is removed, whereupon a continued rotation of said rollback or cam 26 carries the same into retracting engagement with a side 31 of the notch 30, thereby pressing back or retracting the bolt 16 from its projected position. As the rollback or cam 26 moves on it passes away from the detent arm 32, so that the spring returns the same to engagement with the opposite side of said stop-lug 34, thereupon holding the bolt device against accidental or undesired projection at the side whence it was retracted.

To operate the bolt mechanism by means of the knob 23 from within the door 4, or the like, the knob 23 is first thrust inward and turned slightly, this inward thrusting and turning movement forcing the coupling member 19 out of its seat 20, and causing one or the other of its notches 19', to find and straddle the lower free end 43 of the rollback or cam 26, this movement compressing the spring 29. When the coupling member 19 is thus engaged with the rollback or cam 26, the rotation of the knob 23 is transmitted to the rollback or cam so that the same may readily be caused to actuate the bolt mechanism to either project or retract the bolt as may be desired (as will be understood from an inspection of Figs. 6 and 7 of the drawings).

In order to prevent the actuation of the bolt mechanism, by either knob or key, the following safety device is provided:

Connected with the upper side wall of said casing 1, in a proper location, is a bearing-portion 44 in which is journaled a vertical shaft 45. Connected with the inner or lower end of said shaft 45 is a lock-block 46, and connected with the upper or outer end of said shaft 45 is a crank-arm 47 terminating in an upturned finger-piece 48. When desired the crank-arm 47 is swung inwardly to turn said shaft 45, thereby turning the free end of said lock-block 46 over the end of said detent-arm 32, thus obstructing any lifting movement of the latter, and thereby preventing the disengagement of said detent-lug 33 from the stop-lug 34, thus rendering the bolt mechanism inoperative (as will be understood from an inspection of Figs. 1 to 4 inclusive of the drawings). By turning the crank-arm 47 outward, the shaft 45 is ro-

tated to turn the free end of said lock-block 46 away from the end of the detent-arm 32, leaving the latter, and consequently the whole bolt mechanism, free to be actuated (as will be understood from an inspection of Figs. 6 and 7 of the drawings).

In Figs. 8 and 9 of the drawings there is illustrated a slightly modified construction of the lock mechanism, the same being substantially similar to the construction above described, except for the omission of the safety device, and the illustration therein of the provision of a plurality of the key wards 38 on the stem 21. The parts of this construction are identified by the same reference characters hereinabove employed, so that further description is unnecessary.

It will be apparent that the present invention provides a very simple, cheap and complete lock mechanism, which has few parts, and yet which can be easily varied to provide for alterations in the operating keys, and which may also be provided with a simple safety device for preventing actuation of the mechanism when desired.

We claim:—

1. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing, a pivoted spring pressed detent, means on said bolt engaged by said detent, said bolt having a cam receiving notch in one marginal edge, a key receiving means, a stem extending through said casing and said key receiving means, a cam having a hub rotatably mounted on said stem, the hub of said cam having a tubular extension entering said key-receiving means, a male clutch bit at the free end of said tubular extension, a tubular key for insertion through said key receiving means telescopically over said stem, said key having at its free end a female clutch bit for mutual engagement with said male clutch bit, a bearing portion connected with said casing, a vertical shaft journaled in said bearing portion, a lock-block fixed on the inner end of said shaft so as to be capable of being turned into obstructing engagement with said detent, and means connected with the outer end of said shaft for rotating the same.

2. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing, a pivoted spring pressed detent, means on said bolt engaged by said detent, said bolt having a cam receiving notch in one marginal edge, a key receiving means, a stem extending through said casing and said key receiving means, a cam having a hub rotatably mounted on said stem, the hub of said cam having a tubular extension entering said key-receiving means, a male clutch bit at the free end of said tubular extension, a tubular key for insertion through said key receiving means telescopically over said stem, said key having at its free end a female clutch bit for

mutual engagement with said male clutch bit, a ward pin connected with said stem, said key having a slot adapted to straddle said ward pin, a bearing portion connected  
5 with said casing, a vertical shaft journaled in said bearing portion, a lock-block fixed on the inner end of said shaft so as to be capable of being turned into obstructing engagement with said detent, and means connected with the outer end of said shaft for  
10 rotating the same.

3. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and provided with a cam receiving notch in its  
15 lower marginal edge, a pivoted spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent arm adapted to extend across the upper marginal edge of the  
20 bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a cam mechanism for releasing said detent and actuating said bolt, means for actuating said cam mechanism, and a safety device movable  
25 to engage the free end of said detent arm to prevent movement thereof by said cam mechanism.

4. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and  
30 provided with a cam receiving notch in its lower marginal edge, a pivoted spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent-arm adapted  
35 to extend across the upper marginal edge of the bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a cam mechanism for releasing said detent and actuating said bolt, means  
40 for actuating said cam mechanism, and a safety device movable to engage the free end of said detent arm to prevent movement thereof by said cam mechanism, comprising a bearing portion connected with said casing,  
45 a vertical shaft journaled in said bearing portion, a lock-block fixed on the inner end of said shaft, and a crank arm having a finger-piece fixed on the outer end of said shaft.

5. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and provided with a cam receiving notch in its  
50 lower marginal edge, a pivoted spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent arm adapted to extend across the upper marginal edge of the  
55 bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a spindle journaled in the front wall of said casing, a tubular key receiving means connected with the rear wall of said casing,  
60 a stem connected with the inner end of said spindle to extend through said casing and into and through said key receiving means,

a cam having a free portion at its lower forward end, a hub-portion connected with the lower rearward end of said cam rotatably  
70 mounted on said spindle, an annular coupling member connected with said spindle having a notch in its periphery, a depressed seat in the front wall of said casing normally inclosing said coupling member, a compression spring coiled about said stem between said cam hub and said coupling  
75 member adapted to normally thrust the latter into its seat, a knob on the exterior end of said spindle adapted upon manipulation to impart an inward longitudinal movement and a rotary movement to said spindle to  
80 move said coupling member out of its seat to cause its peripheral notch to straddle said free lower forward end portion of said cam, and means connected with said cam hub for receiving the engagement of a proper key  
85 inserted in said key receiving means.

6. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and provided with a cam receiving notch in its  
90 lower marginal edge, a spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent-arm adapted to extend across the upper marginal edge of the  
95 bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a spindle journaled in the front wall of said casing, a tubular key receiving means connected with the rear wall of said casing, a stem connected with the inner end of said  
100 spindle to extend through said casing and into and through said key receiving means, a cam having a free portion at its lower forward end, a hub-portion connected with the lower rearward end of said cam rotatably  
105 mounted on said spindle, an annular coupling member connected with said spindle having a notch in its periphery, a depressed seat in the front wall of said casing normally inclosing said coupling member,  
110 a compression spring coiled about said stem between said cam hub and said coupling member adapted to normally thrust the latter into its seat, a knob on the exterior end of said spindle adapted upon manipulation to impart an inward longitudinal  
115 movement and a rotary movement to said spindle to move said coupling member out of its seat to cause its peripheral notch to straddle said free lower forward end portion of said cam, means connected with said  
120 cam hub for receiving the engagement of a proper key inserted in said key receiving means, and a safety device movable to engage the free end of said detent arm to prevent movement thereof by said cam mechanism.

7. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and provided with a cam receiving notch in its  
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lower marginal edge, a pivoted spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent arm adapted  
 5 to extend across the upper marginal edge of the bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a spindle journaled in the front wall of said casing, a tubular key receiving means  
 10 connected with the rear wall of said casing, a stem connected with the inner end of said spindle to extend through said casing and into and through said key receiving means, a cam having a free portion at its lower forward end, a hub portion connected with the  
 15 lower rearward end of said cam rotatably mounted on said spindle, an annular coupling member connected with said spindle having a notch in its periphery, a depressed seat in the front wall of said casing normally inclosing said coupling-member, a compression spring coiled about said stem between said cam hub and said coupling member adapted to normally thrust the latter into its seat, a knob on the exterior end  
 25 of said spindle adapted upon manipulation to impart an inward longitudinal movement and a rotary movement to said spindle to move said coupling member out of its seat to cause its peripheral notch to straddle said free lower forward end portion of said cam, means connected with said cam hub for receiving the engagement of a proper key inserted in said key receiving means, and a safety device movable to engage the free end of said detent arm to prevent movement thereof by said cam mechanism, comprising a bearing portion connected with said casing, a vertical shaft journaled in said bearing  
 35 portion, a lock-block fixed on the inner end of said shaft, and a crank arm having a finger-piece fixed on the outer end of said shaft.

8. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and provided with a cam receiving notch in its lower marginal edge, a pivoted spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent arm adapted to extend across the upper marginal edge of the bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a spindle journaled in the front wall of said casing, a tubular key receiving means connected with the rear wall of said casing, a stem connected with the inner end of said spindle to extend through said casing and into and through said key receiving means, a cam having a free portion at its lower forward end, a hub portion connected with the lower rearward end of said cam rotatably mounted on said spindle, an annular coupling member connected with said spindle having a notch in its periphery, a depressed seat in the front wall of said casing normally

inclosing said coupling member, a compression spring coiled about said stem between said cam hub and said coupling member adapted to normally thrust the latter into its seat, a knob on the exterior end of said spindle adapted upon manipulation to impart an inward longitudinal movement and a rotary movement to said spindle to move said coupling member out of its seat to cause its peripheral notch to straddle said free  
 70 lower forward end portion of said cam, a tubular extension connected with said cam hub and entering said key receiving means, a male clutch bit at the free end of said tubular extension, a ward pin extending  
 75 radially from the side of said stem, a tubular key for insertion into said key receiving means telescopically over said stem a female clutch bit at the free end of said key for mutual engagement with said male clutch  
 80 bit, and said key having a slot adapted to straddle said ward pin.

9. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and provided with a cam receiving notch in its lower marginal edge, a pivoted spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent-arm adapted to extend across the upper marginal edge of the bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a spindle journaled in the front wall of said casing, a tubular key receiving means connected with the rear wall of said casing, a stem connected with the inner end of said spindle to extend through said casing and into and through said key receiving means, a cam having a free portion at its lower forward end, a hub-portion connected with the lower rearward end of said cam rotatably mounted on said spindle, an annular coupling member connected with said spindle having a notch in its periphery, a depressed seat in the front wall of said casing normally inclosing said coupling member, a compression spring coiled about said stem between said cam hub and said coupling member adapted to normally thrust the latter into its seat, a knob on the exterior end  
 90 of said spindle adapted upon manipulation to impart an inward longitudinal movement and a rotary movement to said spindle to move said coupling member out of its seat to cause its peripheral notch to straddle said free lower forward end portion of said cam, a tubular extension connected with said cam hub and entering said key receiving means, a male clutch bit at the free end of said tubular extension, a ward pin extending  
 95 radially from the side of said stem, a tubular key for insertion into said key receiving means telescopically over said stem, a female clutch bit at the free end of said key for mutual engagement with said male  
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clutch bit, said key having a slot adapted to straddle said ward pin, and a safety device movable to engage the free end of said detent arm to prevent movement thereof by said cam mechanism.

10. In a lock mechanism, a casing, a bolt slidable longitudinally in said casing and provided with a cam receiving notch in its lower marginal edge, a pivoted spring pressed detent arm paralleling said bolt and crossing said notch, a transverse detent-lug at the free end of said detent-arm adapted to extend across the upper marginal edge of the bolt, a stop-lug on the upper marginal edge of said bolt engageable by said detent-lug, a spindle journaled in the front wall of said casing, a tubular key receiving means connected with the rear wall of said casing, a stem connected with the inner end of said spindle to extend through said casing and into and through said key receiving means, a cam having a free portion at its lower forward end, a hub-portion connected with the lower rearward end of said cam rotatably mounted on said spindle, an annular coupling member connected with said spindle having a notch in its periphery, a depressed seat in the front wall of said casing normally inclosing said coupling member, a compression spring coiled about said stem between said cam hub and said coupling member adapted to normally thrust the latter into its seat, a knob on the exterior end

of said spindle adapted upon manipulation to impart an inward longitudinal movement and a rotary movement to said spindle to move said coupling member out of its seat to cause its peripheral notch to straddle said free lower forward end portion of said cam, a tubular extension connected with said cam hub and entering said key receiving means, a male clutch bit at the free end of said tubular extension, a ward pin extending radially from the side of said stem, a tubular key for insertion into said key receiving means telescopically over said stem, a female clutch bit at the free end of said key for mutual engagement with said male clutch bit, said key having a slot adapted to straddle said ward pin, and a safety device movable to engage the free end of said detent arm to prevent movement thereof by said cam mechanism, comprising a bearing portion connected with said casing, a vertical shaft journaled in said bearing portion, a lock-block fixed on the inner end of said shaft, and a crank arm having a finger-piece fixed on the outer end of said shaft.

In testimony, that we claim the invention set forth above we have hereunto set our hands this 26th day of March, 1918.

JOSEPH KOLESZAR.  
JOHN GABOSH.

Witnesses:

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FRED'K H. W. FRAENTZEL.