Nov. 16, 1926. 1,607,038

J. BARON

CLOSURE LOCK

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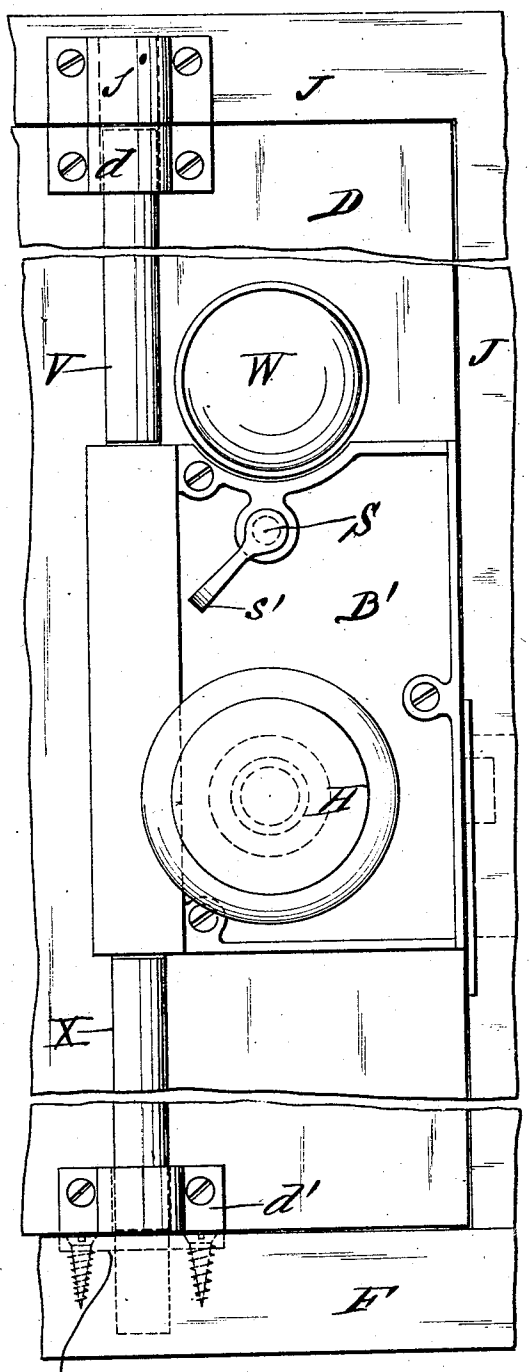


Fig. 1.

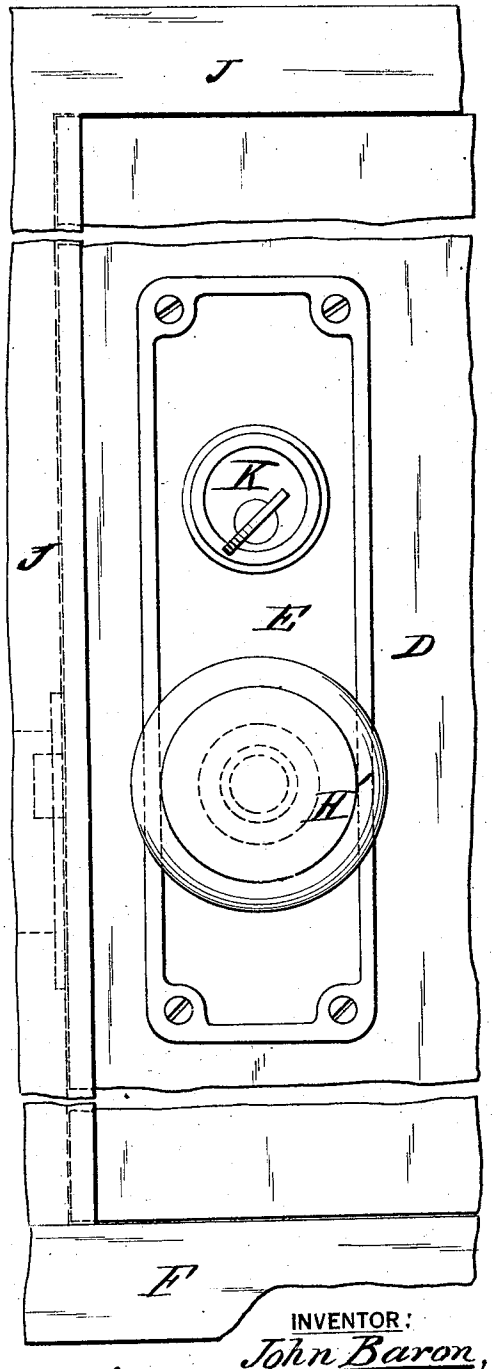


Fig. 2.

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CLOSURE LOCK

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Fig. 3.

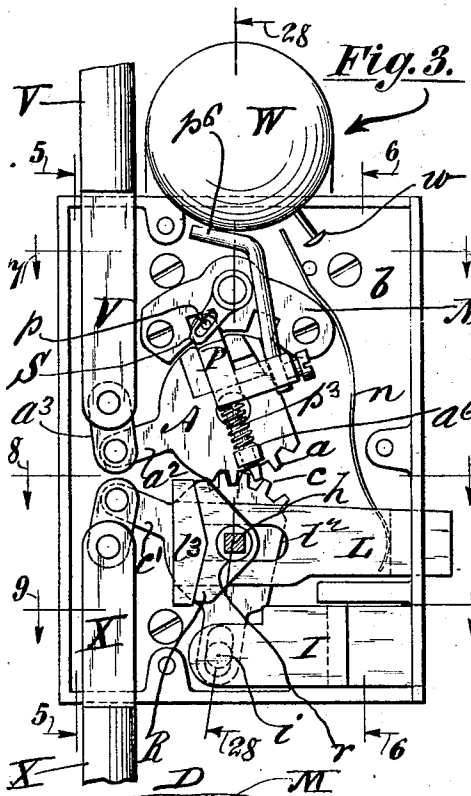


Fig. 4.

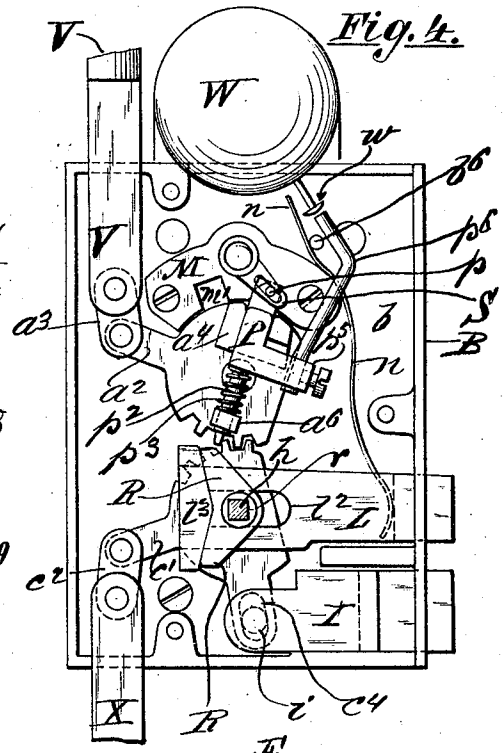


Fig. 5.

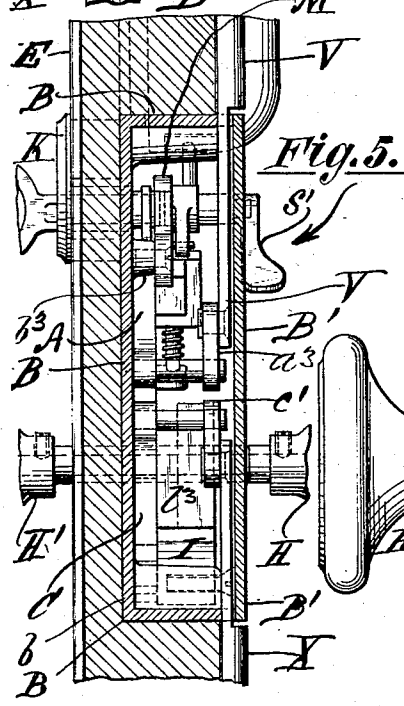
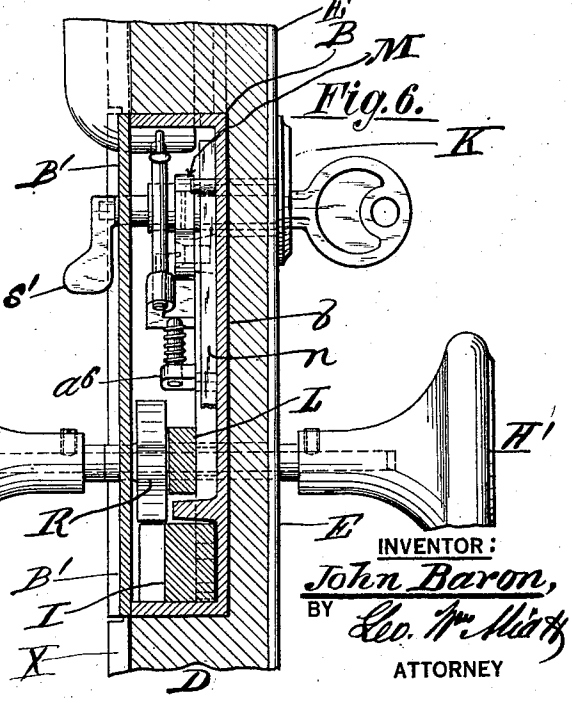


Fig. 6.



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Fig. 7.

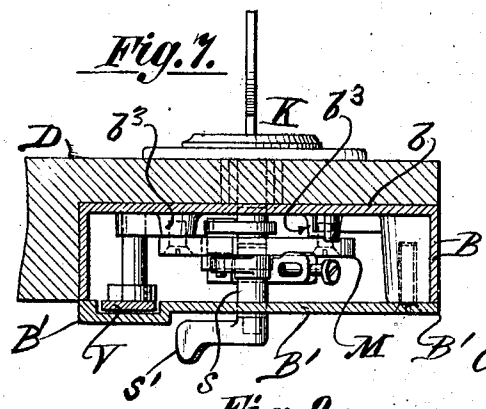


Fig. 8.

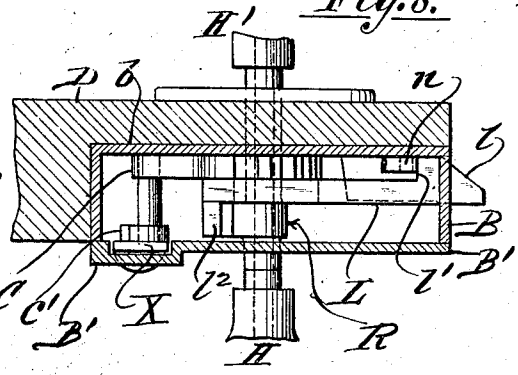


Fig. 9.

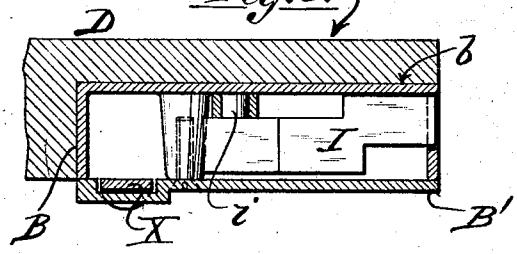


Fig. 10.

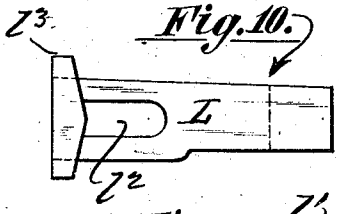


Fig. 16.

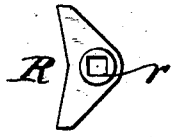


Fig. 17.

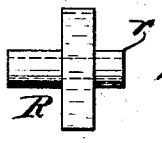


Fig. 20.



Fig. 11.

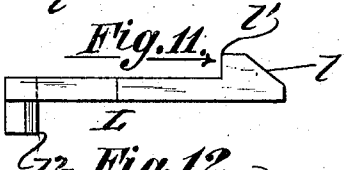


Fig. 12.

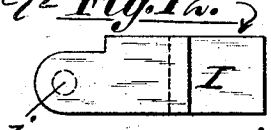


Fig. 18.

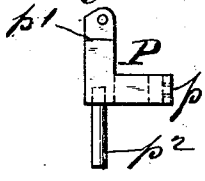


Fig. 19.

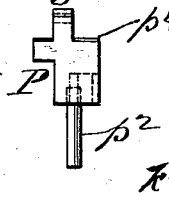


Fig. 21.

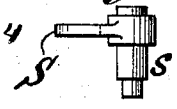


Fig. 13.



Fig. 22.



Fig. 14.

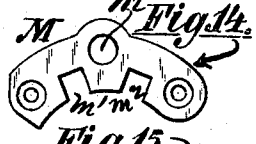


Fig. 24.

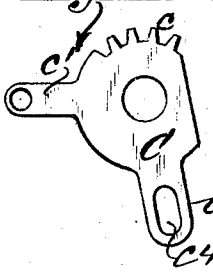


Fig. 25.

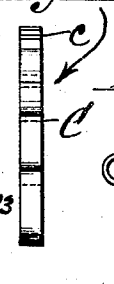


Fig. 23.



Fig. 26.

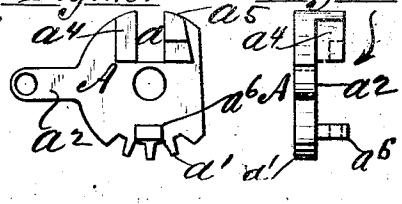
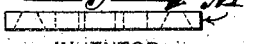


Fig. 27.

Fig. 15.



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CLOSURE LOCK

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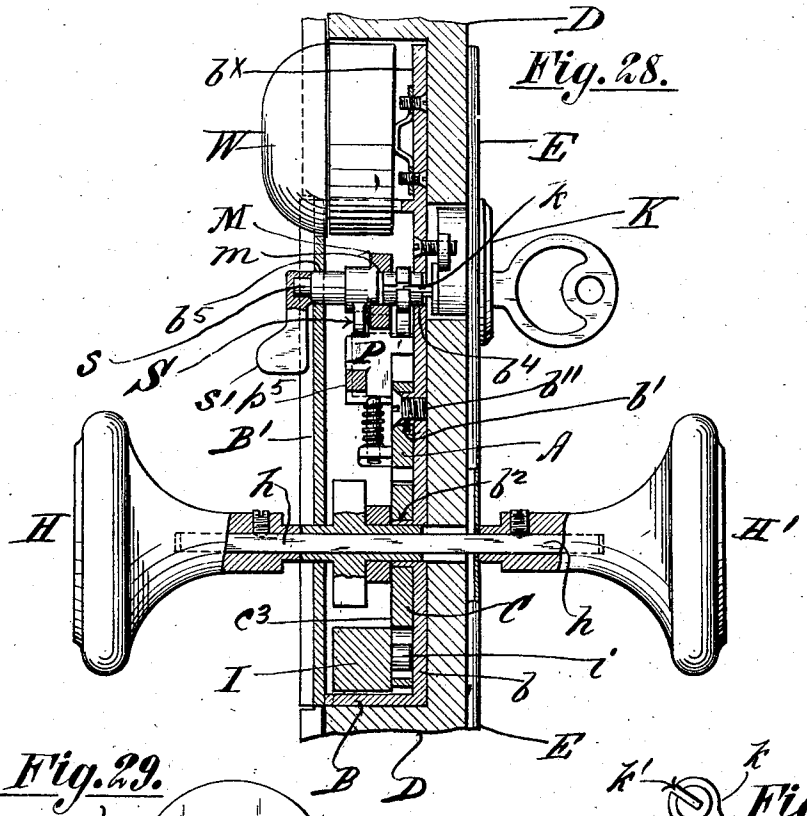


Fig. 28.

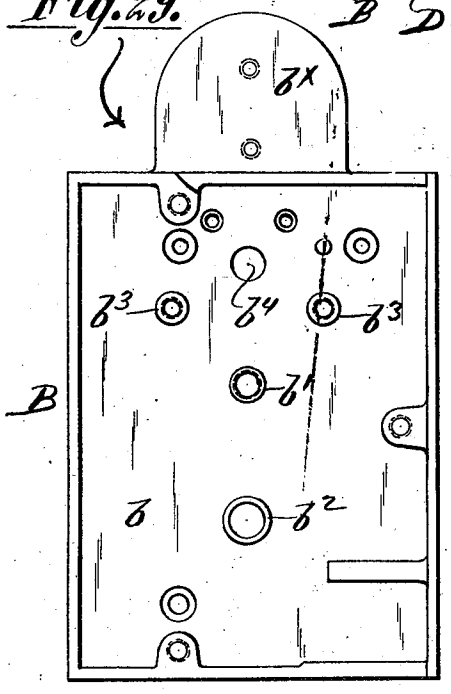


Fig. 29.

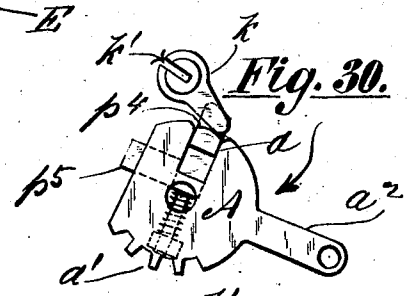


Fig. 30.

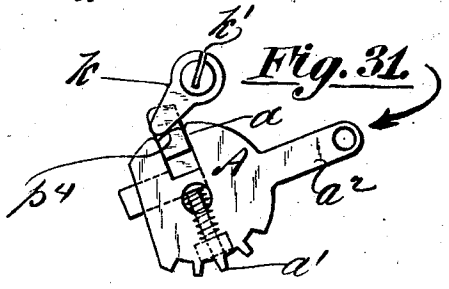


Fig. 31.

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Patented Nov. 16, 1926. 1,607,038

UNITED STATES PATENT OFFICE.

JOHN BARON, OF NEW YORK, N. Y., ASSIGNOR TO LOUIS LAXER AND CHARLES YOUNG.

CLOSURE LOCK.

Application filed June 4, 1925. Serial No. 34,773.

The object of my invention is to afford substantial and effective locking means for doors and analogous closures, said locking means being practically burglar proof in character, as hereinafter fully set forth, my improvements consisting in the specific combination, construction and arrangement of component parts and appurtenances described and claimed whereby these and other advantageous results are attained.

In the accompanying drawings I illustrate a practical embodiment of the essential features of my invention in what may be designated as door mortise lock mechanism, although I do not restrict myself to the identical form and construction of parts shown herein by way of exemplification, since changes may be made in minor details, and equivalent mechanical expedients resorted to with like results, and without departing from the spirit and intent of my invention in this respect.

With this understanding:—

Fig. 1, represents an elevation of the inner side of my new mortise lock and adjacent portions of the door and jamb;

Fig. 2, is a similar view, taken on the outer side of the door, etc.;

Fig. 3, is an elevation of the operative parts of the lock mechanism, as seen after removal of the cover plate, the parts being shown in open or unlocked relative positions;

Fig. 4, is a like view, showing the parts in closed or locked relationship;

Fig. 5, is a sectional elevation taken upon the plane of line 5—5, Fig. 3, looking in the direction indicated by the arrows;

Fig. 6, is a sectional elevation taken upon the plane of line 6—6, Fig. 3, looking in the direction indicated by the arrows;

Fig. 7, is a sectional elevation taken upon plane of line 7—7, Fig. 3, looking in the direction indicated by the arrows;

Fig. 8, is a sectional elevation taken upon the plane of line 8—8, Fig. 3, looking in the direction indicated by the arrows;

Fig. 9, is a sectional elevation taken upon the plane of line 9—9, Fig. 3, looking in the direction indicated by the arrows;

Fig. 10, is a side elevation of the snap latch;

Fig. 11, an edge elevation thereof;

Fig. 12, is a side elevation of the jamb bolt;

Fig. 13, a top view thereof;

Fig. 14, is a side elevation of the key lock plate;

Fig. 15, is an edge view thereof;

Fig. 16, is an elevation of the snap latch cam;

Fig. 17, is a view thereof, taken at right angles to Fig. 16;

Fig. 18, is an elevation of the key spring bolt;

Fig. 19, is an elevation thereof, taken at right angles to Fig. 18;

Fig. 20, is an elevation of the hand shift arm;

Fig. 21, an elevation thereof taken at right angles to Fig. 20;

Fig. 22, is an elevation of the key thrust arm;

Fig. 23, an elevation thereof taken at right angles to Fig. 22;

Fig. 24, is a side elevation of the bottom-bolt thrust plate;

Fig. 25, is an edge view thereof;

Fig. 26, is a side elevation of the upper-bolt thrust rocker plate;

Fig. 27, an elevation thereof taken at right angles to Fig. 26.

Fig. 28, is a sectional elevation taken upon plane of line 28—28, Fig. 3;

Fig. 29, is an elevation of the lock casing without the cover plate, and without the operative parts;

Figs. 30 and 31, are detail views taken upon a plane coincident with the inner surface of the back plate of the casing, illustrating the co-relation and cooperation of the upper bolt thrust rocker plate and the key-actuated shift arm.

Referring more particularly to Figs. 1 and 2, of the drawings, D, represents portions of a door to which my new mortise lock is applied, and J, adjacent portions of the jamb or frame work of the door, F, indicating the floor. Thus Fig. 1, shows an inside elevation of the parts named, and Fig 2, an elevation of the outer side thereof, in which latter view E, is the escutcheon plate on which a cylinder latch key lock K, of the Yale or equivalent type is mounted, the spindle end thereof extending through the base plate *b*, of the casing box B, and into a slot *k'*, in the hub of the key thrust arm K, the end of which projects into the notch *a*, formed in the upper portion of the primary segmental rocker A, as will be seen by reference more particularly to Figs. 30 and 31. The said segmental rocker A, is pivotally

supported on the base plate b, of the casing box B, by means of a hollow boss b', and retaining screw b^{11}, (see Figs. 28 and 29) and is formed with rack teeth a', which engage with corresponding rack teeth c, on the opposed edge of the lower or secondary segmental rocker C, which is likewise pivotally supported on the base plate b, in this case on a hollow studs b^2, (see Figs. 28 and 29) through which the handle spindle h, extends.

The upper primary segmental rocker A, is formed with a lateral arm a^2, which is pivotally connected with a link a^3, which in turn is pivotally connected with the lower extremity of the upper auxiliary brace bolt V, which extends through the top flange of the casing box B, and to a guide cap d, on the top of the door D, as shown in Fig. 1, of the drawings, said guide cap d, when the door is closed, being in alignment with the socket plate j, on the upper member of the door jamb J, so that when the said auxiliary brace bolt V, is shot upward it will engage with said socket plate j, thereby reinforcing and securing the upper portion of the door against external pressure.

In like manner the lower segmental rocker C, is formed with a lateral arm c', which is pivotally connected with a link c^2, which in turn is pivotally connected with the upper extremity of the lower auxiliary brace bolt X, which extends through the lower side flange of the casing box B, and to a guide cap d', on the bottom of the door D, also as shown in said Fig. 1, of the drawings, said guide cap d', when the door is closed, being in alignment with the mortise plate and socket f, countersunk in the floor, so that when the said auxiliary brace bolt X, is shot downward it will engage with said mortise plate and socket f, thereby reinforcing and securing the lower portion of the door against external pressure.

Thus the two auxiliary brace bolts V, and X, are adapted to positively secure the door D, in closed and bolted position independent of although controlled by the other bolt lock mechanism. In the accompanying drawings these auxiliary brace bolts V, and X, are shown as positioned and operating vertically, although they may be otherwise positioned and operated with substantially like results in adapting them to special requirements, as may be found most expedient.

The key lock plate M, is rigidly attached to bosses b^3, b^3, (see Fig. 29) integral with the base plate b, of the casing by means of screws, shown in Figs. 3 and 4, of the drawings, said bosses b^3, b^3, (see Figs. 3, 7 and 27, of the drawings) supporting said key lock plate M, a sufficient distance away from the base plate b, to afford accommodation for the key-actuated shift arm k', the hub flanges of which are journalled respectively in a bearing hole b^4, formed for the purpose in the base plate b, and in the bearing hole m, in said key lock plate M, as will be understood by reference more particularly to Fig. 28, of the drawings, which also shows the spindle tongue k, of the latch lock K, protruding into the slot k, of said key-actuated shift arm k'. Thus in Fig. 30, said key-actuated shift arm k', is shown as in engagement with the notch a, of the primary segmental rocker A, and as having rocked it in to position shown in Fig. 3, of the drawings, whereas Fig. 31, shows said primary segmental rocker A, as rocked into position shown in Fig. 4, thereof.

Fulcrumed on and between the said fixed lock plate M, and the cover plate B', of the box casing B, is the hand shift lever S, the shaft s, of which is in axial alignment with the key lock spindle terminal k, and the hub of the key-actuated shift arm k', the inner end of the rock shaft s, on which said hand shift lever S, is rigidly mounted being journalled in the aforesaid bearing hole m, in the key lock plate M, and the outer end of said rock shaft s, being journalled in the bearing hole b^5, formed for the purpose in the cover plate B', as clearly shown in Fig. 28, of the drawings, the protuberant outer end of said rock shaft s, having rigidly attached thereto the finger switch s', by means of which said shaft s, and its switch lever S, may be rocked alternately in opposite directions to shift the spring pawl P, from one mortise notch m', in the key lock plate M, to the other mortise notch m^2, therein and vice versa,—said spring pawl P, being connected with the hand shift lever S, by means of a coupling pin p, on the pawl P, which pin p, protrudes into the longitudinal slot s', formed for the purpose in the shift lever S, as will be understood by reference more particularly to Figs. 3, 4, 5 and 20, of the drawings.

The spring pawl P, is slidably mounted upon the face of the segmental rocker A, its shank p', resting between fixed guide shoulders a^4, a^5, on the upper portion of said primary segmental rocker A, and its stem rod p^2, engaging with an eye lug a^6, on the lower portion of said primary segmental rocker A, adjacent to the gear teeth a', thereon, and a coiled spring p^3, being interposed on said stem rod p^2, between the eye lug a^6, and the shank p', of the pawl P, said spring tending constantly to maintain engagement of the nose of said pawl with the key lock plate M.

The spring pawl P, is formed, below the coupling pin p, with a bearing shoulder p^4, for contactual engagement with the end of the hand shift lever S, when the latter is moved in either direction to shift the pawl P, and the primary segmental rocker A, on which it is mounted, said hand shift lever S,

being of sufficient length to depress in transit the pawl P, against the resistance of the spring p^2, so that the nose of the pawl is released from the mortise notches m', m^2, in the key lock plate M, to admit of the shifting of said primary rocker A, from one position to the other.

A lateral extension p^5, of the spring pawl P, has rigidly secured to it a push rod or member p^6, the upper end of which, when the parts of the locking mechanism are in the relative positions shown in Fig. 4, of the drawings with the jamb mortise bolt I, and auxiliary brace bolts E, G, shot, is in operative alignment with the push button w, of an automatic alarm bell W, or equivalent sounding device, that indicated in the drawings being of a well known commercial spring motor type, and being fixedly mounted on an extension b^x, of the base plate b, of the casing B, as will be understood by reference more particularly to Figs. 28 and 29, of the drawings. Hence, under these conditions, any attempt to force back either of the aforesaid bolts, will result in sufficient movement and pressure exerted upon and through the medium of the meshed segmental rockers A, C, to actuate said alarm device W, and thus frustrate surreptitious entrance.

The jamb mortise bolt I, is connected with the lower extension c^3, of the secondary segmental rocker C, by means of a stud i, protruding into an elongate slot c^4, in said extension c^3, as indicated by dotted lines in Figs. 3 and 4, and in sectional elevation in Fig. 28, of the drawings.

L, is the spring snap latch formed with the usual bevelled outer end l, and held normally thrust outward by means of the leaf spring n, the lower end of which bears against the transverse shoulder l', formed for the purpose on the forward portion of said latch L, behind the snap bevel l, the rear portion of said latch L, being formed with the longitudinal slot l^2, which straddles the axial sleeve r, integral with the duplex cam R, the arms of which engage contactually with the transverse abutment l^3, on the inner extremity of said spring snap latch L, as shown more particularly in Figs. 3 and 4, of the drawings, and the said axial cam-sleeve r, being mounted on the handle spindle h, and conforming internally to the angular cross section thereof, so that the turning of either of the handles H, H', in either direction will retract said snap latch L, against the resistance of its spring n, the upper portion of which latter is held fixedly upon the base plate b, by binding contact with, and between the stud b^6, and one of the bosses b^3, on said base plate b.

What I claim as my invention and desire to secure by Letters Patent, is:—

1. In locking mechanism of the character designated, the combination of a cylinder lock, a primary segmental rocker actuated thereby, a secondary segmental rocker controlled and actuated by said primary segmental rocker, a jamb mortise bolt connected with and controlled by said secondary segmental rocker, an auxiliary brace bolt connected with and controlled by said primary segmental rocker, and an auxiliary brace bolt connected with and controlled by said secondary segmental rocker, for the purpose and substantially in the manner set forth.

2. In locking mechanism of the character designated, the combination of a cylinder lock, a primary segmental rocker actuated thereby, a secondary segmental rocker controlled and actuated by said primary segmental rocker, a jamb mortise bolt connected with and controlled by said secondary segmental rocker, an auxiliary brace bolt connected with and controlled by said primary segmental rocker, and a brace bolt connected with and controlled by said secondary segmental rocker, substantially in the manner and for the purpose set forth.

3. In locking mechanism of the character designated, the combination of a cylinder lock, a primary segmental rocker actuated thereby, a secondary segmental rocker controlled and actuated by said primary segmental rocker, and a jamb mortise bolt connected with and controlled by said secondary segmental rocker, substantially in the manner and for the purpose set forth.

4. In locking mechanism of the character designated, the combination of a cylinder lock, a primary segmental rocker actuated thereby, a secondary segmental rocker controlled and actuated by said primary segmental rocker, a jamb mortise bolt connected with and controlled by said secondary segmental rocker, and a spring latch bolt actuated by the handle spindle together with said handle spindle, substantially in the manner and for the purpose set forth.

5. In locking mechanism of the character designated, the combination of a cylinder lock, a primary segmental rocker actuated thereby, a secondary segmental rocker controlled and actuated by said primary segmental rocker, a jamb mortise bolt connected with and controlled by said secondary segmental rocker, an auxiliary brace bolt connected with and controlled by said primary segmental rocker, an auxiliary brace bolt connected with and controlled by said secondary segmental rocker, and a spring latch bolt actuated by the handle spindle together with said handle spindle, substantially in the manner and for the purpose set forth.

6. In locking mechanism of the character designated, the combination of a cylinder lock positioned on the exterior of the door, a primary segmental rocker actuated there-

by, a hand shift lever positioned on the inner side of the door and operatively connected with said primary segmental rocker, a secondary segmental rocker controlled and actuated by said primary segmental rocker, and a jamb mortise bolt connected with and controlled by said secondary segmental rocker, substantially in the manner and for the purpose set forth.

7. In locking mechanism of the character designated, the combination of a cylinder lock positioned on the exterior of the door, a primary segmental rocker actuated thereby, a hand shift lever positioned on the inner side of the door and operatively connected with said primary segmental rocker, a secondary segmental rocker controlled and actuated by said primary segmental rocker, a jamb mortise bolt connected with and controlled by said secondary segmental rocker, and a spring latch bolt actuated by the handle spindle together with said handle spindle, substantially in the manner and for the purpose set forth.

8. In locking mechanism of the character designated, the combination of a cylinder lock positioned on the exterior of the door, a primary segmental rocker actuated thereby, a hand shift lever positioned on the inner side of the door and operatively connected with said primary segmental rocker, a secondary segmental rocker controlled and actuated by said primary segmental rocker, a jamb mortise bolt connected with and controlled by said secondary segmental rocker, a spring latch bolt actuated by the handle spindle, an auxiliary brace bolt connected with and controlled by said primary segmental rocker, and an auxiliary brace bolt connected with and controlled by said secondary segmental rocker, substantially in the manner and for the purpose set forth.

9. In locking mechanism of the character designated, the combination of a cylinder lock, a primary segmental rocker actuated thereby, a spring pawl mounted on said primary segmental rocker, a fixed and mortised lock plate with which said spring pawl engages, a hand shift lever connected with said spring pawl, a secondary segmental rocker controlled and actuated by said primary segmental rocker, and a jamb mortise bolt connected with and controlled by said secondary segmental rocker, substantially in the manner and for the purpose set forth.

10. In locking mechanism of the character designated, the combination of a cylinder lock, a primary segmental rocker actuated thereby, a spring pawl mounted on said primary segmental rocker, a fixed and mortised lock plate with which said spring pawl engages, a hand shift lever connected with said spring pawl, a secondary segmental rocker controlled and actuated by said primary segmental rocker, a jamb mortise bolt connected with and controlled by said secondary segmental rocker, and a spring latch bolt actuated by the handle spindle, together with said spindle, substantially in the manner and for the purpose set forth.

11. In locking mechanism of the character designated, the combination of a fixed mortised lock plate, a bolt actuating rocker, a spring pawl mounted on said rocker and engaging with the mortises in the said fixed lock plate, and means for manually actuating said spring pawl and rocker, substantially in the manner and for the purpose set forth.

12. In locking mechanism of the character designated, the combination of a fixed mortised lock plate, a bolt actuating rocker, a spring pawl mounted on said rocker and engaging with the mortises in the said fixed lock plate, and key actuated means for operating said spring pawl and rocker, substantially in the manner and for the purpose set forth.

JOHN BARON