

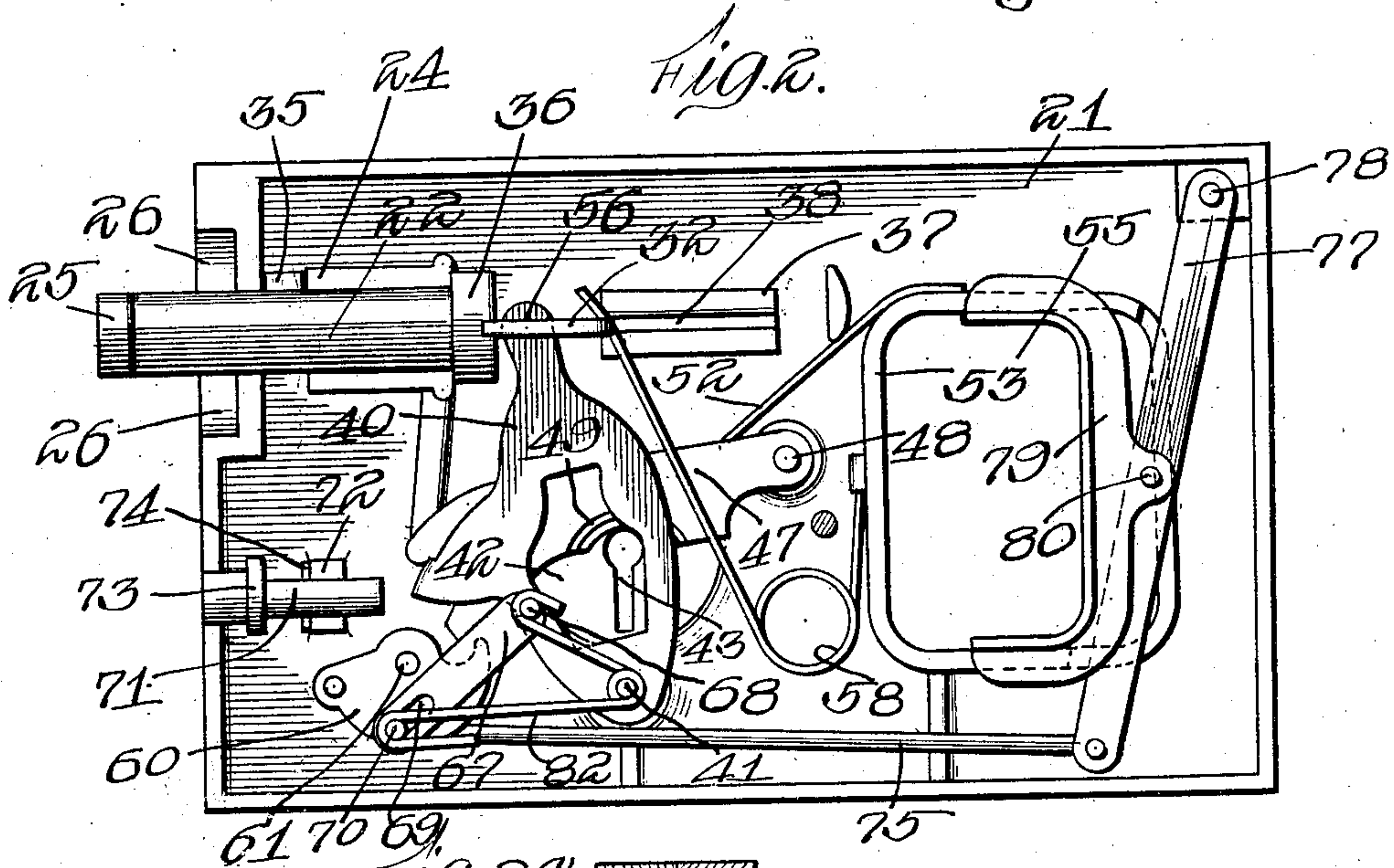
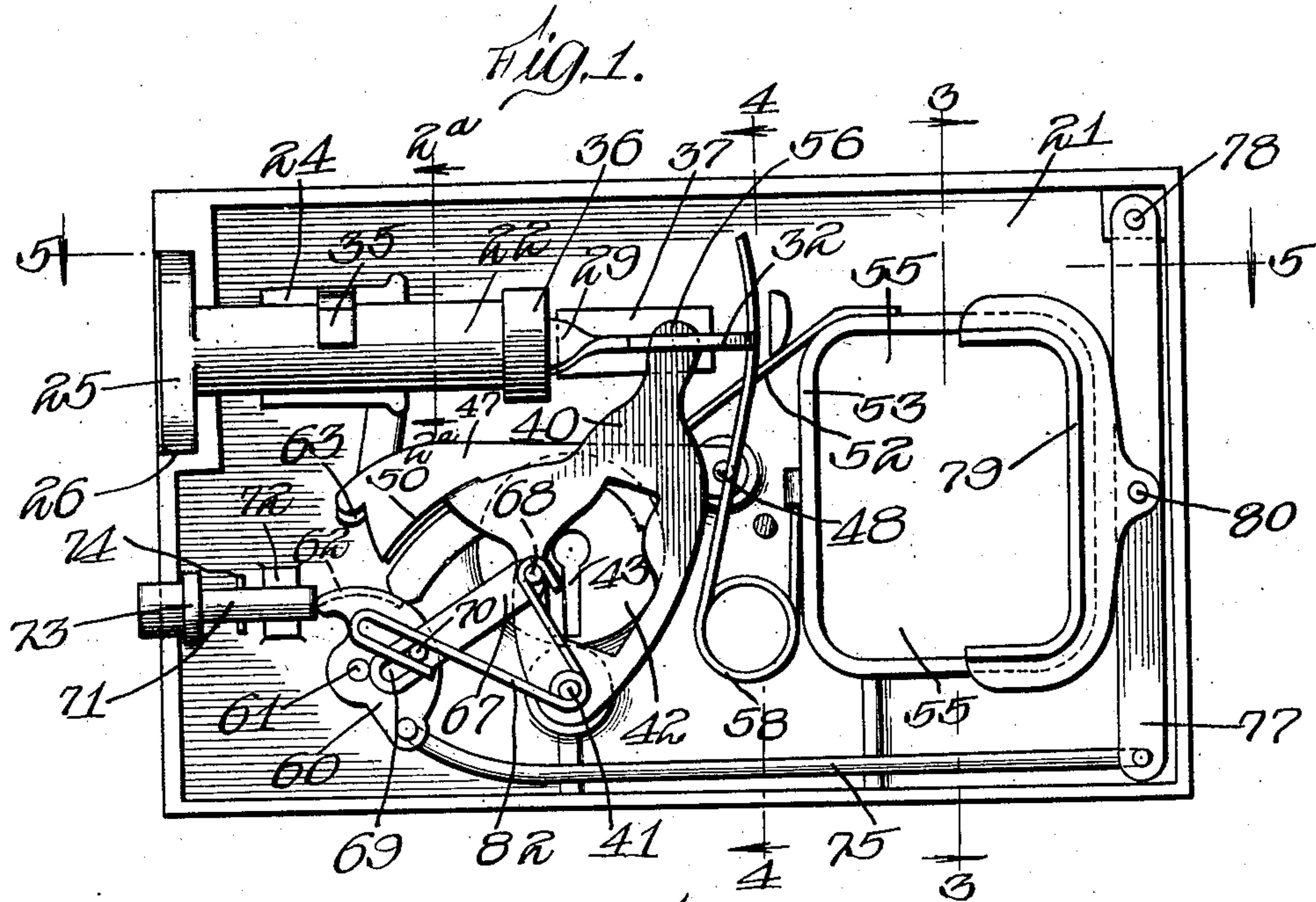
No. 897,924.

PATENTED SEPT. 8, 1908.

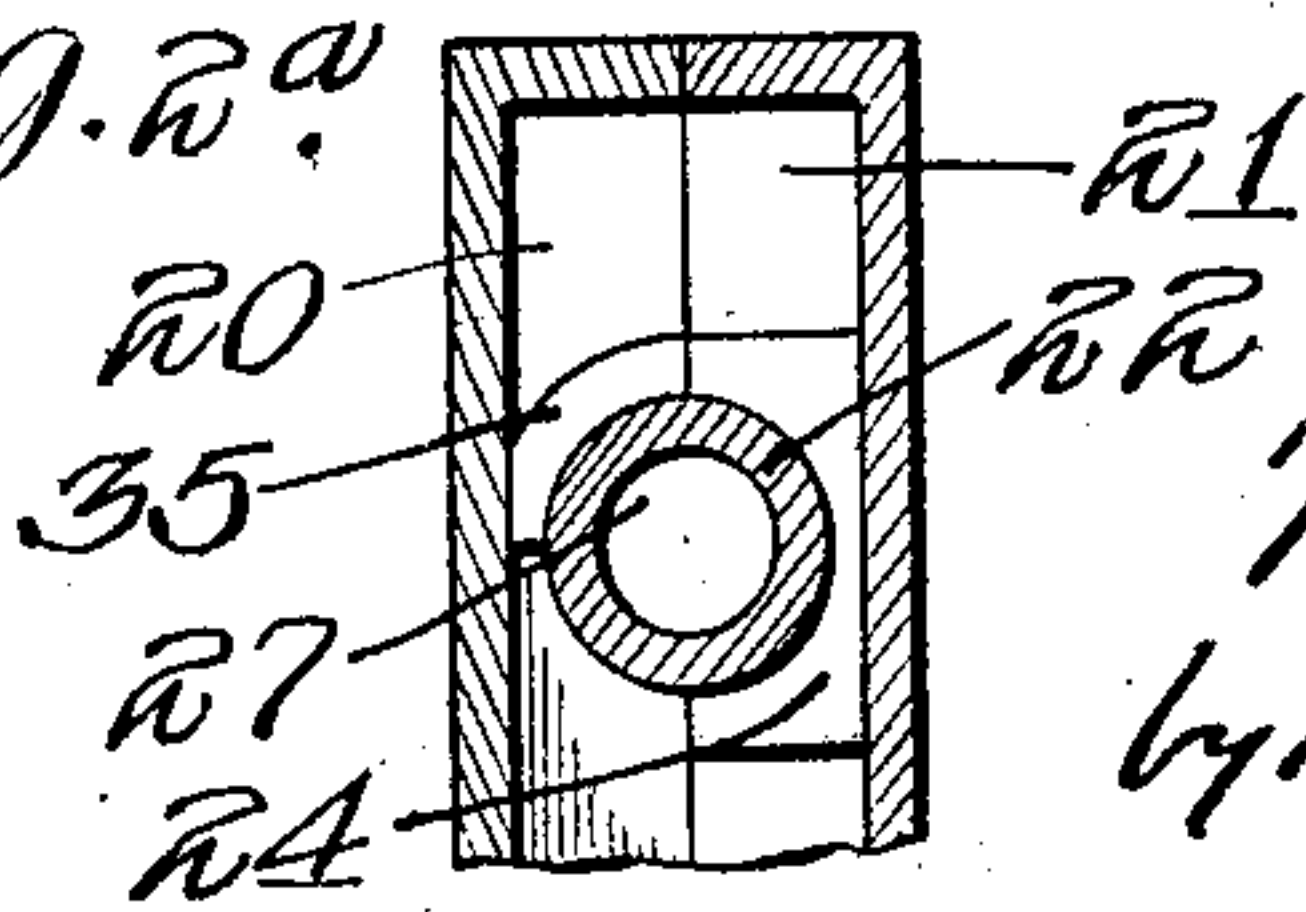
T. C. PROUTY.  
LOCK.

APPLICATION FILED OCT. 17, 1906.

3 SHEETS—SHEET 1.



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W. H. DeBuse.



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3 SHEETS-SHEET 2.

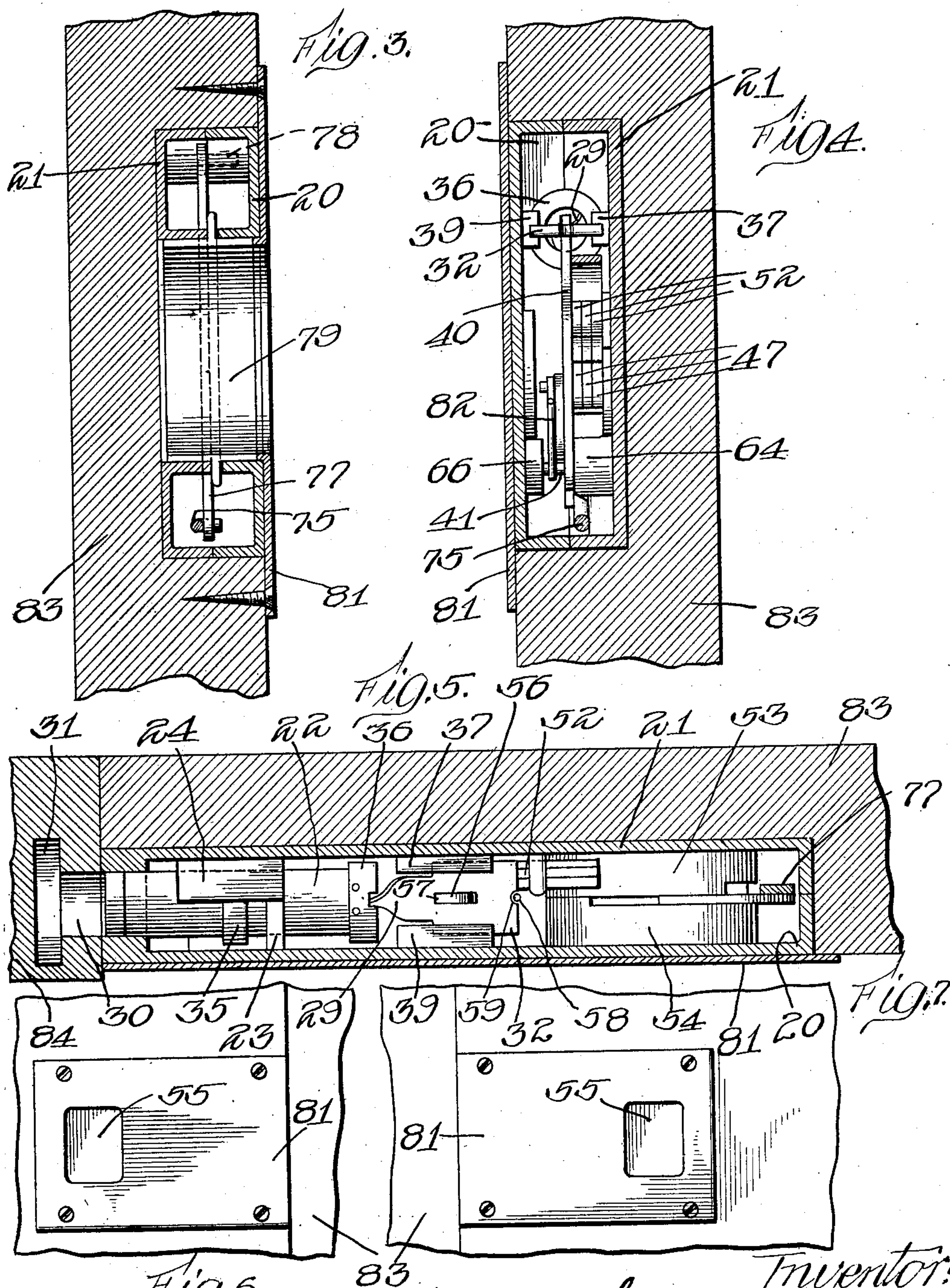


Fig. 6.  
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E. V. Domarus.  
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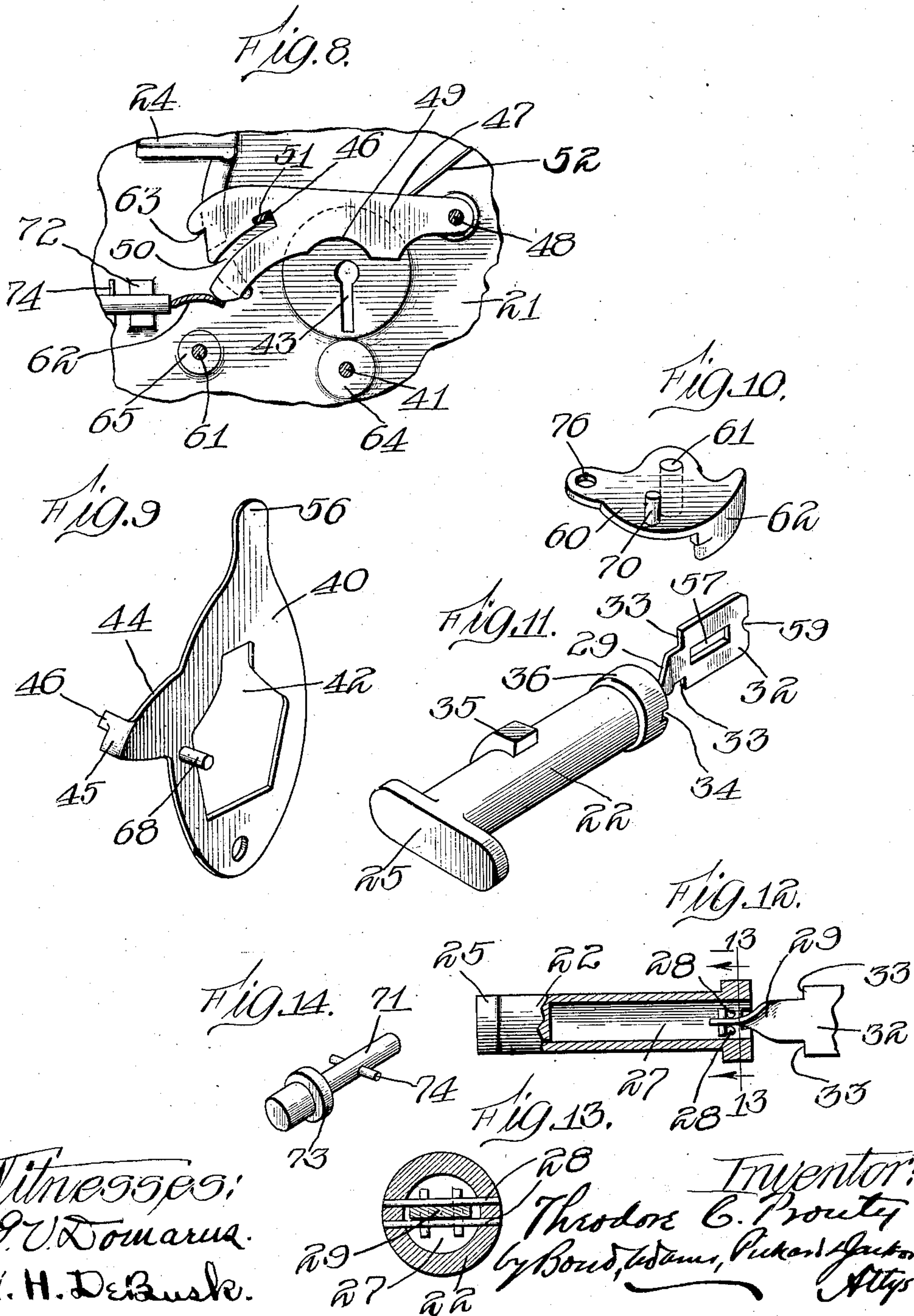
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3 SHEETS—SHEET 3.





# UNITED STATES PATENT OFFICE.

THEODORE C. PROUTY, OF AURORA, ILLINOIS, ASSIGNOR TO WILCOX MANUFACTURING COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

## LOCK.

No. 897,924.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed October 17, 1906. Serial No. 339,385.

*To all whom it may concern:*

Be it known that I, THEODORE C. PROUTY, a resident of Aurora, county of Kane, State of Illinois, have invented certain new and useful  
5 Improvements in Locks, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to locks, and has for its leading object to provide a lock with a rotatable bolt adapted to be shot or projected  
10 into its keeper when the door or other object to which the lock is applied is closed, and, immediately after such bolt has been shot forward or projected into its keeper, automatically giving to the same a partial axial revolution—preferably a quarter turn—so that an  
15 engaging device carried on the end of the bolt, and preferably in the form of an elongated head formed integral with the bolt, will be turned into such position as to prevent withdrawal of the bolt from its keeper until the  
20 bolt has been reversely rotated to bring it into position to permit the engaging device on the end of the bolt to be retracted through the slot in the keeper.

Another object of my invention is to provide means for automatically effecting the shooting forward of the bolt and its partial revolution at the instant of contact of the  
30 door or other moving object that carries the lock against the door jamb or other device that carries the keeper for the lock.

The devices by which these objects are attained are illustrated in the drawings and  
35 will be specifically described hereinafter.

In the drawings:—Figure 1 is a side elevation of the operating parts of my improved lock, with such parts in the position assumed when the locking bolt is retracted within the  
40 casing. One of the halves of the lock casing is removed in this view. Fig. 2 is a view similar to Fig. 1, but with the parts shown in the position that they assume when the locking bolt has been shot or projected. Fig. 2<sup>a</sup>  
45 is a detail, being a vertical section at line 2<sup>a</sup> 2<sup>a</sup> of Fig. 1. Fig. 3 is a vertical section through the device taken at line 3 3 of Fig. 1. Fig. 4 is a vertical section through the device taken at line 4 4 of Fig. 1. Fig. 5 is  
50 a horizontal section through the lock casing taken at line 5 5 of Fig. 1, and showing a plan of the operating devices within the casing. In Figs. 3, 4 and 5, the lock casing is shown set into one face of a door. Figs. 6 and 7 are

views reduced in size to show how, by merely  
55 turning the lock as a whole, end for end, the lock may be equally well adapted for use as a left-hand or a right-hand lock, and illustrating also how the same escutcheon plate may be used in either case. Fig. 8 is a detail of  
60 one of the several tumblers employed, the tumbler shown being the one that locks the lever connected with the locking bolt and prevents the bolt from being shot forward until such tumbler is raised or tripped—the  
65 means employed for tripping or raising such tumbler being also shown in part. Fig. 9 is a perspective view of the lever that is connected with the locking bolt, and that, when in its retracted position, is locked by the  
70 tumbler shown in Fig. 8. Fig. 10 is a perspective view of the pivoted dog employed to move the tumbler shown in Fig. 8 into position to be engaged by the lever shown in Fig. 9, and then move such lever into position to  
75 interlock with said tumbler. Fig. 11 is a perspective view of the locking bolt and the spiral stem or shank through which it is moved forward and partially rotated. Fig. 12 is a longitudinal section through the lock-  
80 ing bolt, and showing the spiral stem or shank that is connected therewith. Fig. 13 is an enlarged detail, being a cross section at line 13 13 of Fig. 12. Fig. 14 is a detail, being a perspective view of the short stem employed to rock the dog shown in Fig. 10 to  
85 effect a disengagement of the lever shown in Fig. 9 from the tumbler shown in Fig. 8.

Referring to the several figures of the drawings, in which corresponding parts are  
90 indicated by the same reference characters, 20 21 indicate the two halves of a casing within which are located the operating parts of the lock, the various pivoted parts being, in the construction shown, carried by that half  
95 of the casing numbered 21.

22 indicates the locking bolt, which, in the construction shown, is movable in bearings  
100 23 and 24 formed upon the inner faces of the two parts 20 and 21 respectively of the casing, the bearing 24 being, as shown, (see Fig. 5) considerably longer than the bearing 23.

25 indicates an elongated head on the end of the bolt 22, such head extending at both  
105 sides of the bolt, the bolt with its head being much in the form of a letter T. The flanges of the casing portions 20 21, where this bolt projects, are, for a distance equal to the length



of the head 25, set back so as to form a recess 26 in which the head 25 will rest when the bolt is retracted, such recess being of a depth substantially equal to the width of the head, so that the outer face of the head will be flush with the end face of the casing.

As clearly shown in Fig. 12, the locking bolt 22 is provided in its rear end with a long socket 27, and, near the open end of this socket, are two cross strips 28 28, spaced a slight distance apart so as to leave a slot between them, and which, in the construction shown, are formed of short pieces of heavy wire. It is evident, of course, that instead of using these two pieces of wire spaced apart to form a slot between them, such slot might be otherwise formed, but the wires, being round in cross section, form good anti-friction walls for the slot, so that the device hereinafter mentioned that moves in said slot will move easily. The device that is entered in the slot formed by the space between these two wires 28 consists of a stem or shank 29, which is given a spiral twist sufficient, when forced to its full extent into the socket 27, to give the desired axial rotation to the locking bolt 22—the amount of such rotation preferred being one-quarter of a revolution, inasmuch as that amount of rotation brings the head 25 on the end of the bolt at right angles to the slot in the keeper in which it is to be entered. In Fig. 5, is represented a vertical slot in a door jamb, which slot is indicated by 30, and the space in the rear of such slot in which the head 25 is turned and held is indicated by 31.

32 indicates a flat head on the twisted stem or shank 29, such head being preferably made integral with the stem or shank. 33 indicates shoulders at the forward end of the head 32, which, when the stem or shank 29 has fully entered the socket 27, will enter notches 34 on the inner end of the locking bolt, as clearly shown in Fig. 11, and thus lock the bolt and head 32 together.

35 indicates a lug on the face of the locking bolt 22, and, when the locking bolt is retracted, one end of such lug bears against one of the edges of the long bearing 24, and, by reason of such lug resting against the edge of the bearing 24, the tendency of the bolt to rotate, caused by an attempt to push the curved shank 29 into the socket 27, will be resisted and the shank cannot be forced into the socket until the bolt has been pushed forward sufficiently to carry the lug 35 beyond the end of the long bearing 24. When the lug has reached this position, the further outward movement of the bolt will be stopped by a collar or band 36 around its inner end coming in contact with the inner face of the bearings 23 and 24 (see Figs. 2 and 5). When the bolt has been thus driven to the outward limit, it will have passed through the slot 30 in the jamb or

other object to which the member carrying the lock is to be secured, and, upon continued pressure tending to force the shank 29 into the socket 27 of the bolt, the bolt will, as will be readily understood, necessarily be turned—as the curved shank continues to pass into the slot between the cross pieces 28. This turning of the bolt, which, as before stated, is a quarter revolution, turns the head of the bolt 25 at right angles to its former position, such turning being permitted by the recess 31 back of the entering slot 30, and hence the moving member that carries the lock will be firmly secured in place until the bolt be turned back into position to permit the withdrawal of its head through the entering slot 30. When the bolt is revolved into locking position, the lug 35 that is fast on the outer face of the bolt, is turned to lie between the outer end of the long bearing 24 and the end wall of the half 21 of the casing, and in that position it aids in locking the bolt against any possible end play or rattling.

37 indicates a small plate on the inner face of the part 21 of the casing in rear of and in line with the bolt 22, in longitudinal grooves 38 in which plate, and in the correspondingly grooved plate 39 (see Fig. 5) on the inner face of the portion 20 of the casing, the edges of the head 32 of the shank 29 slide. These guiding grooves in the two plates 37 39, keep said head and shank from turning.

Turning now to the devices by which the locking bolt is projected from and drawn back into the casing, in the form of construction shown, 40 indicates a lever pivoted at 41 to the face of the portion 21 of the casing near the lower portion of such casing. This lever is quite wide at its central portion, where it is provided with a large opening 42 to permit the passage of a key through a key-hole 43 and permit the key to be turned to raise the tumblers of the lock as hereinafter described.

At one side of the lever 40 is formed a lateral projection 44, with which is formed at its edge an inwardly turned curved lip 45 that is shouldered, as best shown in Fig. 9, so as to form a small tooth 46.

47 indicates a series of tumblers, three of such tumblers being employed, and each tumbler being made from a thin but stiff piece of sheet metal. These tumblers lie in contact with each other, and are pivoted on a common pivot 48. Each of the tumblers has on its lower edge a curved portion 49 with which one of the usual grooves in the key employed in connection with the lock are adapted to coact to raise the tumblers, as will be well understood. Each of the tumblers has, at its forward or free end, a curved slot 50, into which the inwardly-turned parts 45 and 46 carried by the lever 40 are adapted to enter. The lip 45 is of such width as, when in the slot



50, to extend across but two of the tumblers, while the small tooth 46 extends into it far enough to reach across all three of the tumblers, and, in the third tumbler—or that one lying nearest to the casing,—there is formed, at the end of its curved slot 50, a notch 51 into which the small tooth 46 is adapted to enter.

52 indicates three flat springs, one for each of the tumblers employed, each spring at its forward or free end bearing upon the upper edge of one of the tumblers and being secured at its rear end, as shown in Figs. 2 and 5, to an inwardly-extending flange 53 formed on the part 21 of the casing, which flange, with a corresponding flange 54 on the other part 20 of the casing, form the walls of a large opening 55 through the casing as a whole, in which opening is secured the operating handle hereinafter referred to. The upper portion of the wide lever 40 is provided with a head portion 56 that fits within a longitudinal slot 57 formed in the head 32 of the stem or shank 29.

58 indicates a spring secured at one end to the inwardly-projecting flange 53 surrounding the large opening 55, and bearing, at its free end, against the rear end of the head 32 of the stem or shank 29, the end of such head 32 being provided with a slight recess 59 (see Figs. 5 and 11) for the spring to rest in. The tendency of this spring is to force the stem or shank 29 into the locking bolt 22, as will be readily understood.

60 indicates a dog pivoted at 61 to the part 21 of the casing, such dog having formed with it a curved flange 62, which, when the dog is moved inward, will come in contact with the lower edge of the forward end of that one of the tumblers that has the notch 51 that receives the tooth 46, and will raise such tumblers sufficiently to disengage such tooth 46 from the notch 51 and thereupon, immediately upon such disengagement, the pressure of the spring 58 upon the head 32 of the stem or shank 29 will force such head and its stem or shank and the bolt 22 forward, and, as the lever 40 is connected with the head 32, such lever 40 will be swung on its pivot 41, the lever swinging sufficiently to carry the inwardly-turned lip 45 entirely out of the slots 50 of the several tumblers, and, upon such lip 45 passing clear of the curved slots 50, the action of the springs 52, that bear upon the upper edges of the tumblers 47, will cause such tumblers to drop, their downward movement being arrested by shoulders 63 formed thereon striking against the edge of the lip 45 on the arm 40.

The lever 40 and dog 60 lie in substantially the same vertical plane, and are held sufficiently away from the inner face of the part 21 of the casing so that the lever 40 will move freely over the tumblers by means of bosses 64 and 65, respectively, in which the pivots 41 and 61 are set. In the face of the part 20

of the casing is another boss 66 with a central opening therein, into which the projecting end of the pivot 41 projects.

67 indicates a link pivoted at its upper end to a pin 68 on the face of the lever 40 and having at its other end a short slot 69 through which passes a pin 70 that projects from the face of the dog 60.

71 indicates a short rod supported at its inner end in bearings formed at opposite points on the two parts 20 21 of the casing, the bearing on the part 21 of the casing being shown and being indicated by 72. This rod, at its forward end, projects through the end-wall of the casing, as clearly shown in Figs. 1 and 2. It is permitted a limited longitudinal movement, the stop for its forward movement, in the construction shown, being a collar 73, and the stop for its rearward movement being a pin 74. When the rod is pushed in, its inner end will come in contact with the projecting upper end of the dog 60, moving such dog sufficiently to release the tooth 46 from engagement with the notch 51 in the tumbler, and thus allow the spring 58 to shoot the bolt 22, as hereinbefore briefly described.

75 indicates a rod extending from near the rear end of the casing forward to the dog 60, it being connected to such dog by having its forward end up-turned and passing through a hole 76 in the dog. The rear end of the rod 75 is connected in a similar manner to the lower end of a bar 77 that is pivoted at 78 to the part 21 of the casing near the upper inner end of such part 21.

79 indicates a handle fitting within the opening 55 that extends through both parts of the casing, said handle having a horizontal flange that rests upon the inner edges of the flanges 53 that surround said opening so that such handle is guided in its movements back and forth by such flanges 53. The handle 79 is pivotally connected at 80 to the central portion of the bar 77.

81 indicates an escutcheon plate designed to be placed over the lock and secured to the face of the door or other object in which the lock is inset. This escutcheon plate is provided with an opening corresponding in size and shape to the opening 55 through the casing 20 21, and, as indicated in Figs. 6 and 7, the lock can be made for either a right-hand or a left-hand door by merely turning it end for end and the same escutcheon plate can be used with the lock in either position.

82 indicates a light spring coiled around the pivot pin 41 and having two looped arms, one of which engages the pivot pin 68 on the arm 40, and the other of which engages the pin 70 on the face of the dog 60, such spring serving to insure the dog 60 being turned to the full extent when the locking bolt 22 is shot from the casing and so carry the pin 70 to the lower end of the short slot 69.

In the construction of my improved lock



as illustrated in the drawings, it is shown as adapted for use in connection with a sliding door, a part of such door being shown and indicated by 83, and the jamb of such door, which is properly slotted and recessed to receive the head 25 of the bolt, is indicated by 84, but, while so shown and described, it is to be understood that my improvements are adapted to be incorporated in locks designed for many other conditions of use, and I desire it further understood that many changes in the mechanism for shooting the bolt can be made in order to accommodate a lock employing a rotatable bolt to different uses than that herein specifically set forth without departing from my invention.

Briefly described, the operation of the lock as a whole when it is employed in connection with a sliding door, is as follows:—With the parts in position within the casing as indicated in Fig. 1, the door, when closed to bring its edge against the jamb 84, will, by the contact of the door with the jamb, cause the short longitudinally-movable rod 71 to be pushed in, and this rod will turn the dog 60 slightly upon its pivot 61, the effect of which will be, as before described, to move that one of the tumblers 47 with which the tooth 46 is engaged, thereby permitting the spring 58 to move forward the head 32 and its attached spirally curved stem or shank 29, such forward movement of these parts also moving forward the locking bolt 22. Owing to the lug 35 carried by the bolt 22 being in engagement with the edge of the long bearing 24, the bolt is prevented from being turned until the said lug moves out of engagement with this long bearing 24. As such lug passes beyond the bearing, continued pressure of the spring on the curved shank forces such shank into the bolt through the slot formed by the wires 28 and instantly turns the bolt which, at this time, has had its enlarged head 25 advanced through the vertical slot in the door jamb, and, as the bolt is turned, the head, turning in the recess 31 behind the slot in the jamb, is thrown directly across or at right angles to the slot, and hence, while the head is held in that position, the door is very securely locked in place.

In order to open the door, the tumblers 47 must be raised until their curved slots 50 are in the right position to admit of the lip 45 entering them, and the lever 40 must be turned back until its tooth 46 enters the notch 51 in the outer one of the tumblers—namely, that tumbler nearest the face of the part 21 of the casing. The swinging back of this lever 40 causes, in the first instance, such a turning of the bolt as will bring the head 25 to a position to be withdrawn through the vertical slot in the jamb, and then will cause a direct backward pull on the bolt until it reaches the position shown in Fig. 1. This raising of the tumblers and turning of the

lever 40 to effect such withdrawal of the bolt can be accomplished by a proper key entered through the key-hole 43 from the outside of the door, which will first raise the tumblers and then by a continued turning will come in contact with the rear edge of the opening 42 and push back the lever. Or it can be accomplished from the inside of the door by the user pressing back on the handle 79, which pressure will be transmitted through the pivoted bar 77 and connecting rod 75 to the dog 60 causing such dog to turn on its pivot 61. The turning of the dog forces up the series of tumblers into position to have the lip 45 and tooth 46 come opposite the curved slots in such tumblers, and, by the time that this movement of the tumblers has been accomplished, the pin 70 on the face of the dog will have traveled the length of the short slot 69 in the link 67, and then, by the pressure of such pin 70 upon the upper end of such slot, the movement of the dog 60 will be transmitted through said link 67 to the lever 40 and such lever be forced to turn on its pivot 41 and of course moving the lip 45 and tooth 46 to the end of the curved slots 50 where said tooth 46 will enter the notch in one of the tumblers, as before described—the engagement of this tooth and notch being caused by the pressure of that one of the small springs 52 that bears upon the upper edge of the tumbler in which is formed the said notch 51.

By my invention I provide very simple mechanism for very effectively locking a door or other movable device to another object, and, while I have described in detail the construction illustrated in the accompanying drawings, it will be understood that my invention is not restricted specifically to the construction shown and described, except in so far as is particularly claimed, but includes generically the subject-matter of the broader claims.

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

1. In a lock, the combination with a casing, of a bolt, means for projecting the bolt, and a sliding spiral device for causing an axial rotation of the bolt.

2. In a lock, the combination with a casing, of a bolt, means for projecting the bolt, and a sliding spiral device connected with said projecting means and with said bolt for causing an axial rotation of the bolt.

3. In a lock, the combination with a casing, of a bolt having a socket in its rear or inner end, a spiral device entering said socket in the bolt, and means for projecting said bolt and moving said spiral device forward in said socket.

4. In a lock, the combination with a casing, of a bolt having a socket in its rear or inner end, a spiral device entering said socket in the bolt, means for projecting said bolt



and moving said spiral device forward in said socket, and means for locking said spiral device to said bolt.

5 5. In a lock, the combination with a casing, of a bolt, a spiral device connected with said bolt, means for longitudinally moving said bolt and spiral device, and means for holding said bolt against rotation until it has been projected.

10 6. In a lock, the combination with a casing, of a bolt, a sliding spiral device loosely connected with the bolt, means for simultaneously moving the bolt and said spiral device until the bolt is projected and then imparting an additional movement to said spiral device.

20 7. In a lock, the combination with a casing, of a bolt, a fixed bearing in which the bolt rests, means for moving said bolt longitudinally, a lug on the bolt abutting against said fixed bearing, and sliding means for axially turning the bolt when the said lug passes beyond the bearing.

25 8. In a lock, the combination with a casing, of a bolt, a fixed bearing in which the bolt rests, a lug on the bolt abutting against said fixed bearing, a sliding spiral device connected with said bolt, and means for moving said bolt and spiral device longitudinally until the bolt is projected and the said lug is freed from said bearing and then moving the spiral device forward to turn said bolt.

30 9. In a lock, the combination with a casing, of a bolt, a device connected with said bolt for exerting a pressure thereon adapted to axially turn the bolt when such bolt is being moved longitudinally, means for restraining such turning of the bolt until the bolt has been projected, and means for projecting the bolt.

40 10. In a lock, the combination with a casing, of a bolt having a socket in its rear or inner end, a spiral device entering said socket, means for moving said spiral device and bolt longitudinally, and means for holding said bolt against rotation during such movement and at the completion of such movement of the bolt permitting it to be turned by the continued longitudinal movement of said spiral device.

50 11. In a lock, the combination with a casing, of a bolt having a socket in its inner or rear end, a spiral device entering said opening in the bolt and provided with a head at its rear end, a guide for such head to slide in, and means for projecting said bolt and moving said spiral device forward in said socket.

60 12. In a lock, the combination with a casing, of a bolt, a longitudinally-movable spiral device movably connected with the bolt, a pivoted lever connected with the spiral device, a tumbler adapted to lock the lever in its retracted position, means for disengaging the tumbler and lever, and means for projecting the bolt when such disengagement is effected.

65

13. In a lock, the combination with a casing, of a bolt, a longitudinally-movable spiral device movably connected with the bolt, a pivoted lever connected with the spiral device, a spring-actuated tumbler adapted to lock the lever in its retracted position, means for disengaging the tumbler and lever, and means for projecting the bolt when such disengagement is effected.

75 14. In a lock, the combination with a casing, of a bolt, a pivoted lever, a connection between said bolt and lever, a tumbler adapted to lock the lever in its retracted position, a pivoted dog adapted to engage said tumbler to force it out of locking engagement with said lever, a device projecting from the casing and adapted to be moved against the dog to turn said dog, and means for projecting said bolt upon the disengagement of the lever from the tumbler.

80 15. In a lock, the combination with a casing, of a bolt, a pivoted lever, a connection between said bolt and lever, a tumbler having a curved slot into which a projection on said lever enters, said tumbler also having a notch at the inner end of its slot, means for causing a locking engagement of said projection in said notch, means for breaking the locking engagement between said tumbler and lever, and means for projecting the bolt.

90 16. In a lock, the combination with a casing, a bolt therein, and means for projecting such bolt from the casing, of means for retracting the bolt, such retracting means comprising a pivoted lever, a connection between the bolt and lever, a tumbler adapted to have a locking engagement with said lever when said lever is in its retracted position, a pivoted dog, and means for turning such dog to move said tumbler into position to be engaged by said lever and then through a further movement of the dog forcing the lever into position to be interlocked with the tumbler.

105 17. In a lock, the combination with a casing, a bolt therein, and means for projecting such bolt from the casing, of means for retracting the bolt, such retracting means comprising a pivoted lever having a projection thereon, a connection between the bolt and lever, a tumbler having a slot into which the projection on the lever is adapted to enter, a pivoted dog, means for turning such dog to move said tumbler into position to permit its slot to be entered by said projection on the lever and then through a further movement of the dog turning the lever to force said projection into the slot, and means for locking the lever and tumbler together.

120 18. In a lock, the combination with a casing, a bolt therein, and means for projecting such bolt from the casing, of means for retracting the bolt, such retracting means comprising a pivoted lever, a connection between the bolt and lever, a tumbler adapted to lock the lever in its retracted position, means for disengaging the tumbler and lever, and means for projecting the bolt when such disengagement is effected.



prising a pivoted lever, a connection between the bolt and lever, a tumbler adapted to have a locking engagement with said lever when said lever is in its retracted position, a piv-  
 5 oted dog adapted to be brought in contact with said tumbler, a link connecting said lever and dog, and means for turning said dog to move the tumbler and lever into engaging position.

10 19. In a lock, the combination with a casing, a bolt therein, and means for projecting such bolt from the casing, of means for retracting the bolt, such retracting means comprising a pivoted lever, a connection between  
 15 the bolt and lever, a tumbler adapted to have a locking engagement with said lever when said lever is in its retracted position, a pivoted dog having a flange adapted to be brought in contact with said tumbler, a link connecting  
 20 said lever and dog, and means for turning said dog to move the tumbler and lever into engaging position.

20. In a lock, the combination with a casing, a bolt therein, and means for projecting  
 25 such bolt from the casing, of means for retracting the bolt, such retracting means comprising a pivoted lever, a connection between the bolt and lever, a tumbler adapted to have a locking engagement with said lever  
 30 when said lever is in its retracted position, a pivoted dog adapted to be brought in contact with said tumbler, a link connecting said lever and dog, the connection of said link with one of said parts being a loose connec-  
 35 tion to permit the turning of the dog to move the tumbler before any force is exerted through the link upon the lever, and means for turning the dog.

21. In a lock, the combination with a bolt  
 40 and means for projecting the bolt from the casing, of a pivoted lever having an opening therethrough, a connection between said bolt and lever, a pivoted tumbler adjacent to one face of the lever and provided with a  
 45 curved slot at one end adapted to receive a projection on said lever, said tumbler extending across the said opening in the lever when said bolt is projected from the casing, whereby such tumbler can be raised by turn-  
 50 ing a suitable key inserted through a key hole in the casing opposite the opening in the

lever and by the further turning of such key the lever can be turned to cause its said projection to pass into the slot of the tumbler.

22. In a lock, the combination with a cas- 55  
 ing, of a bolt, means for projecting and rotating the bolt, and a device extending through the end of the casing and adapted by an inward longitudinal movement to cause said  
 projecting and rotating means to project and 60  
 rotate said bolt.

23. In a lock, the combination with a casing, of a bolt, means for projecting and rotating the bolt, said means being adapted to be  
 operated by a key to rotate and retract the 65  
 bolt, and other means also adapted to operate said first-mentioned means to cause a rotation and retraction of the bolt.

24. In a lock, the combination with a casing, of a bolt, means for projecting and rotat- 70  
 ing the bolt, and other means adapted to automatically operate said projecting and rotating means when the door to which the lock is affixed is closed.

25. In a lock, the combination with a cas- 75  
 ing, of a bolt, spring-actuated means for projecting and rotating the bolt, and other means adapted to automatically operate the said projecting and rotating means when the  
 door to which the lock is affixed is closed. 80

26. In a lock, the combination with a casing, of a bolt, means for projecting and rotating the bolt, a device extending through the casing and adapted by an inward movement  
 to cause said projecting and rotating means 85  
 to project and rotate the bolt, and means for keeping said last-named device held partially out of the casing when said bolt is in its retracted position.

27. In a lock, the combination with a cas- 90  
 ing, of a bolt, means for projecting and rotating the bolt, and other means adapted to automatically operate said projecting and rotating means upon the closing of the door to  
 which the lock is affixed, a handle carried by 95  
 said casing and accessible from one side thereof, and means connecting said handle with the bolt-projecting means.

THEODORE C. PROUTY.

Witnesses:

A. M. SCOTT,  
 L. R. SIMPSON.