

No. 791,349.

PATENTED MAY 30, 1905.

J. LYON.

BURGLAR ALARM HOUSE PROTECTOR.

APPLICATION FILED AUG. 14, 1901.

3 SHEETS—SHEET 1.

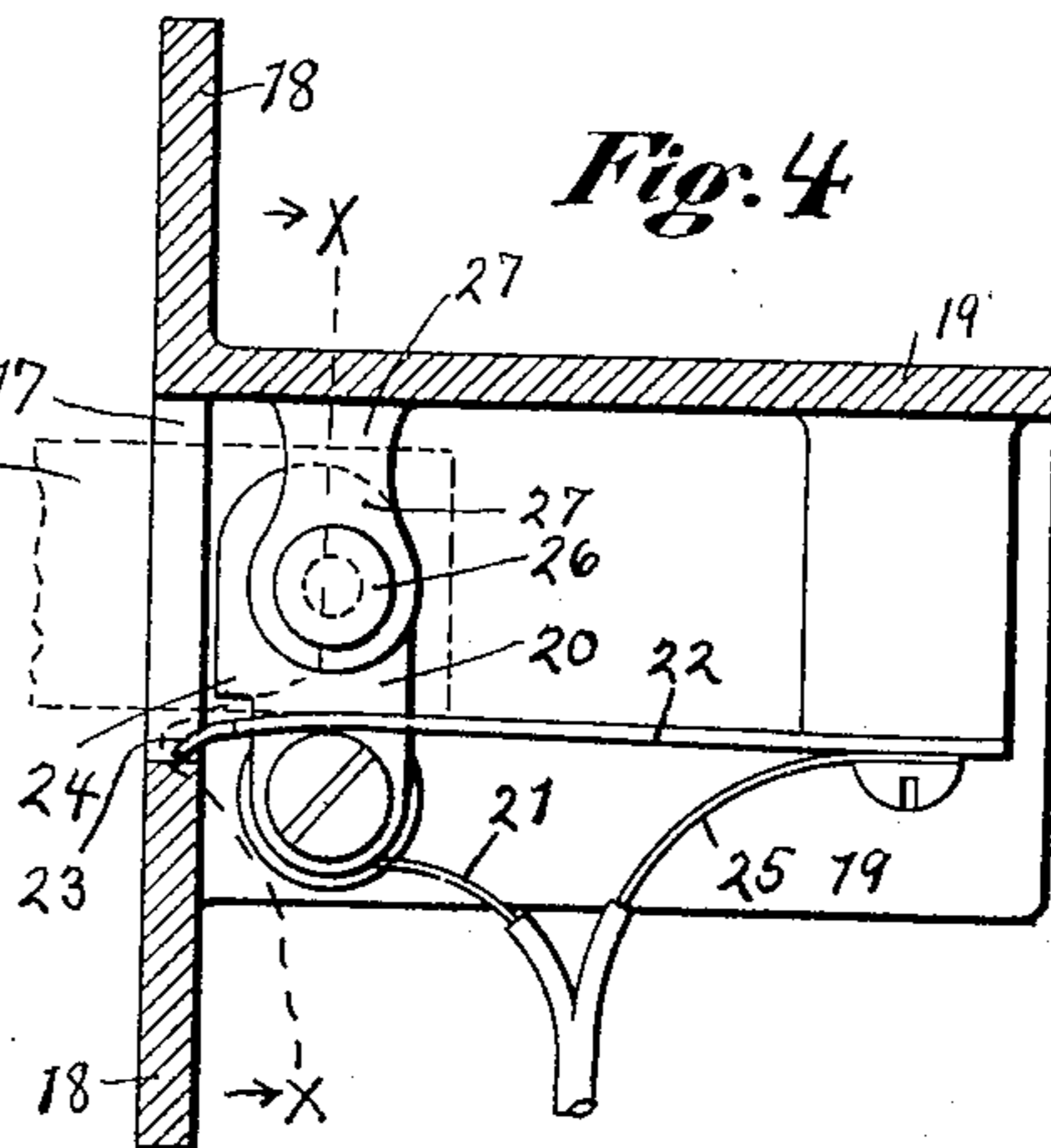
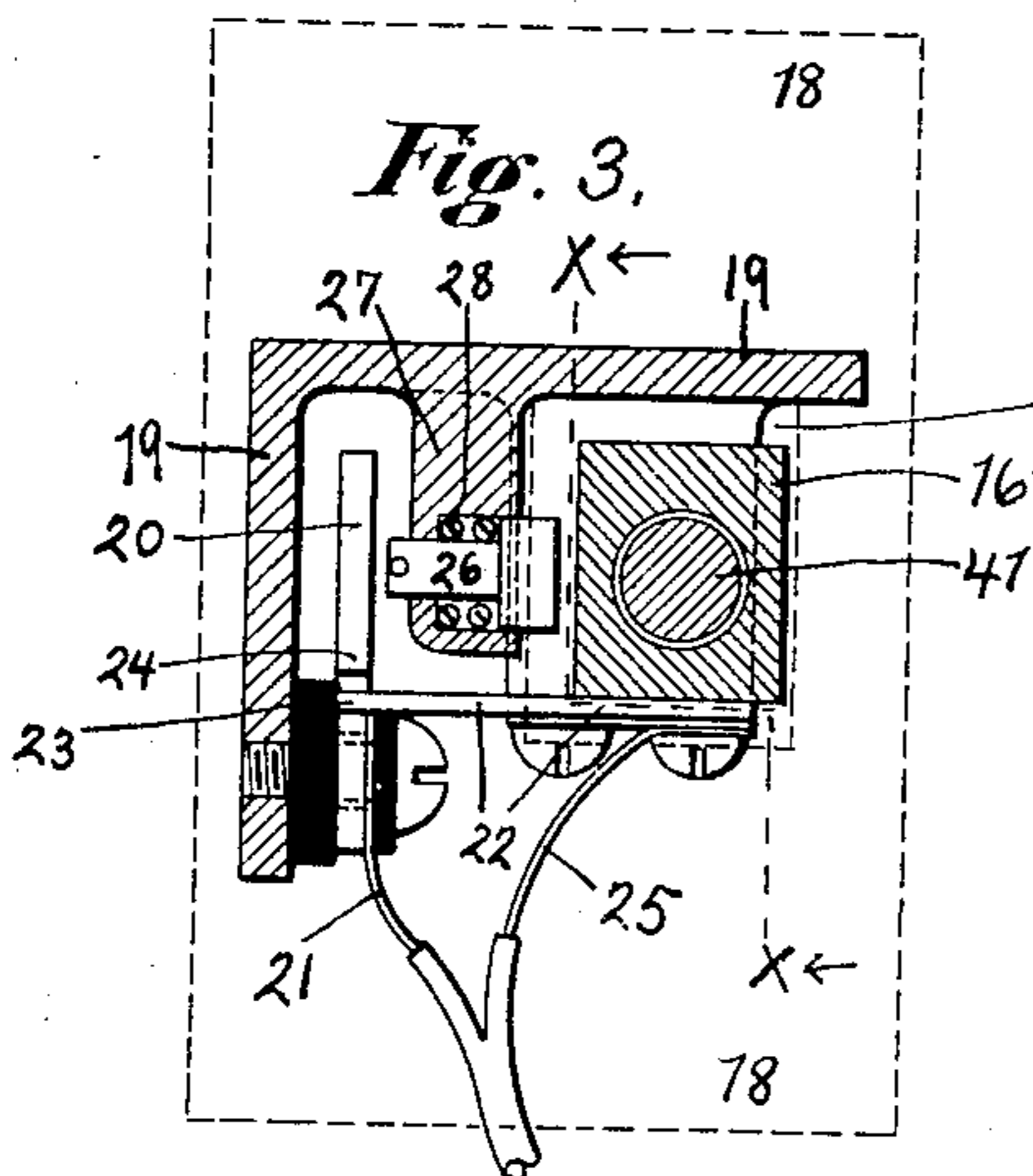


Fig. 5.

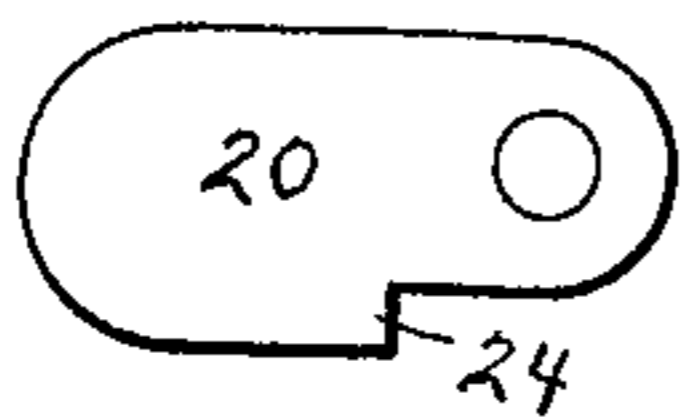


Fig. 6.

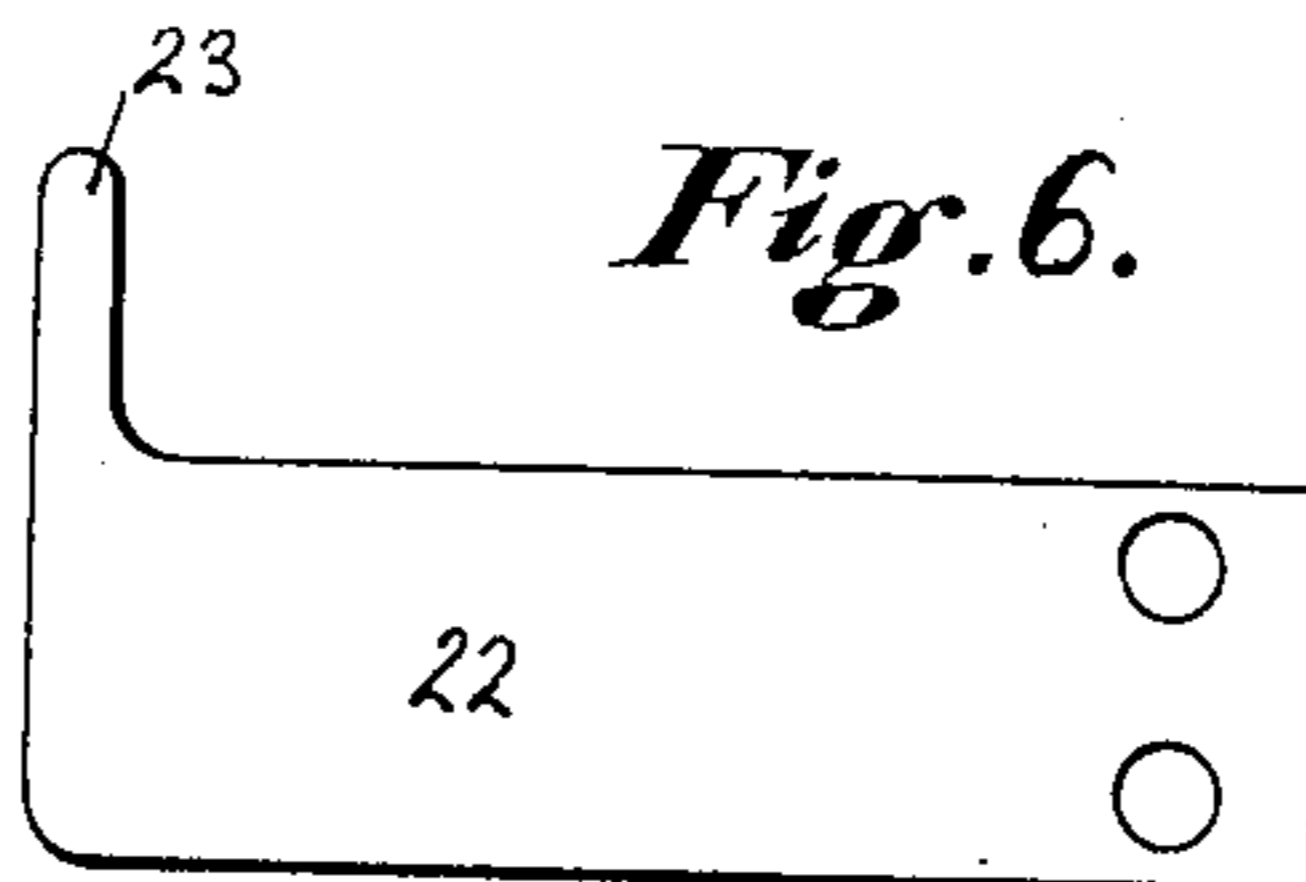
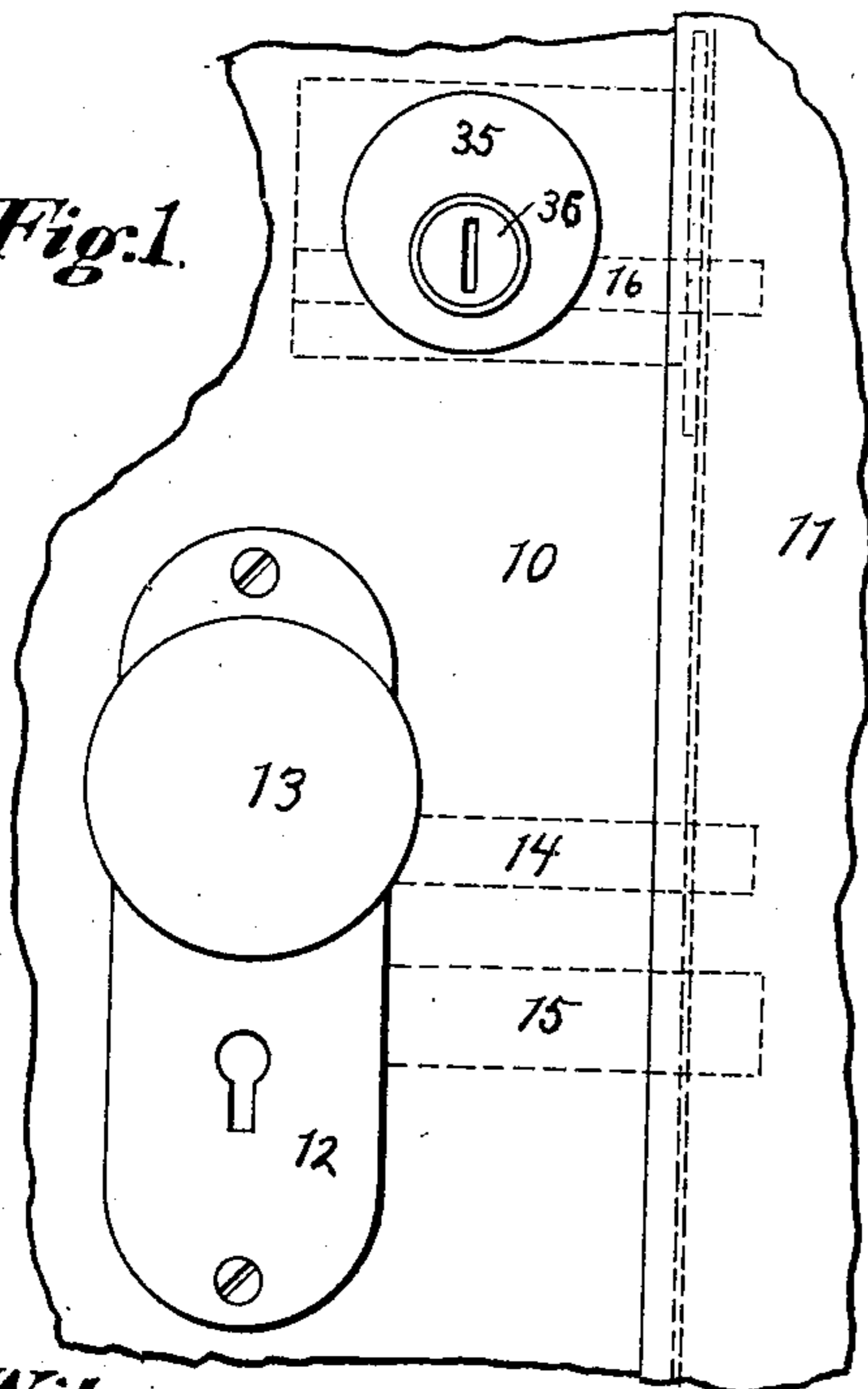
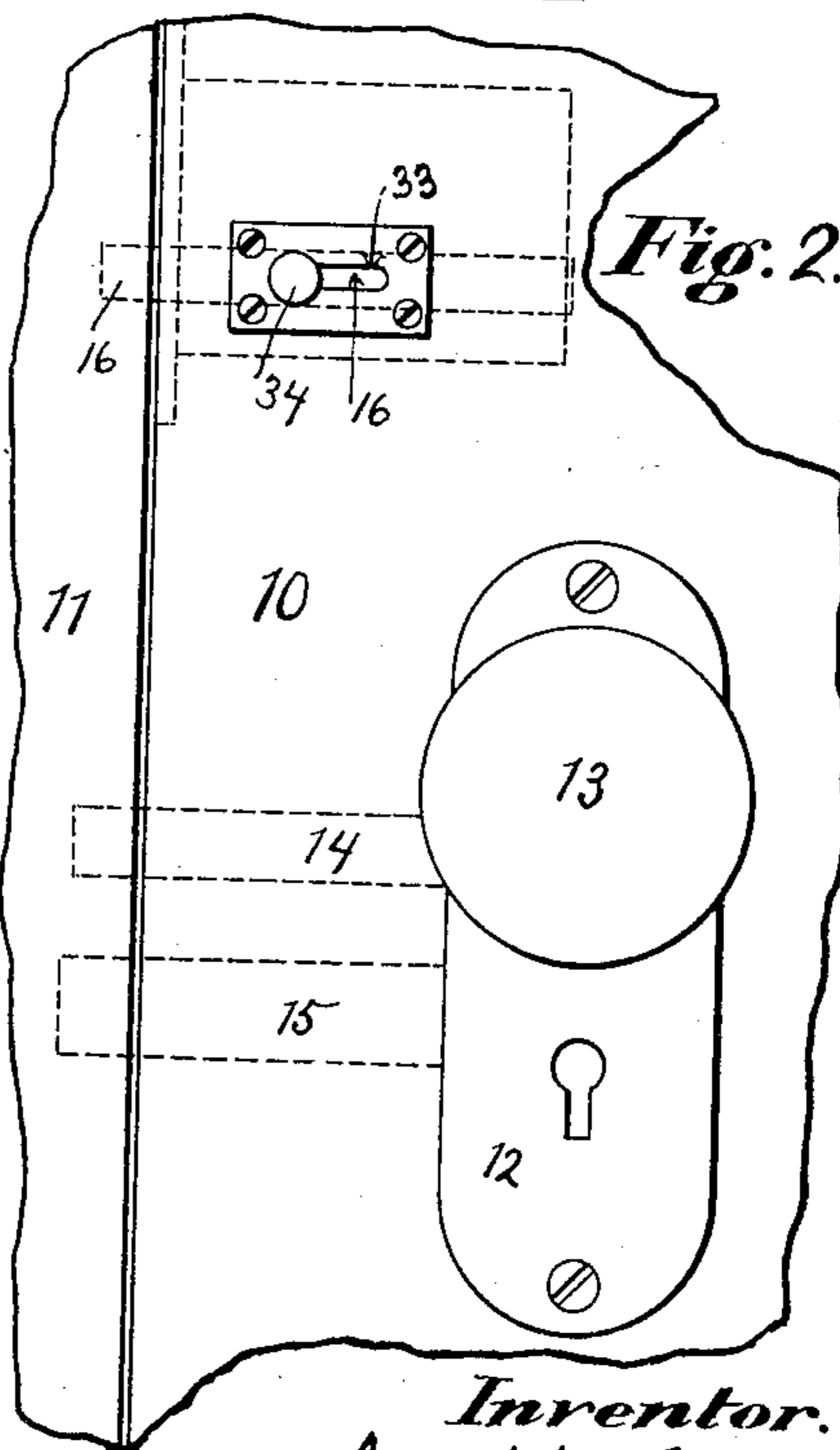


Fig. 1.



Witnesses  
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Fig. 2.



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3 SHEETS—SHEET 2.

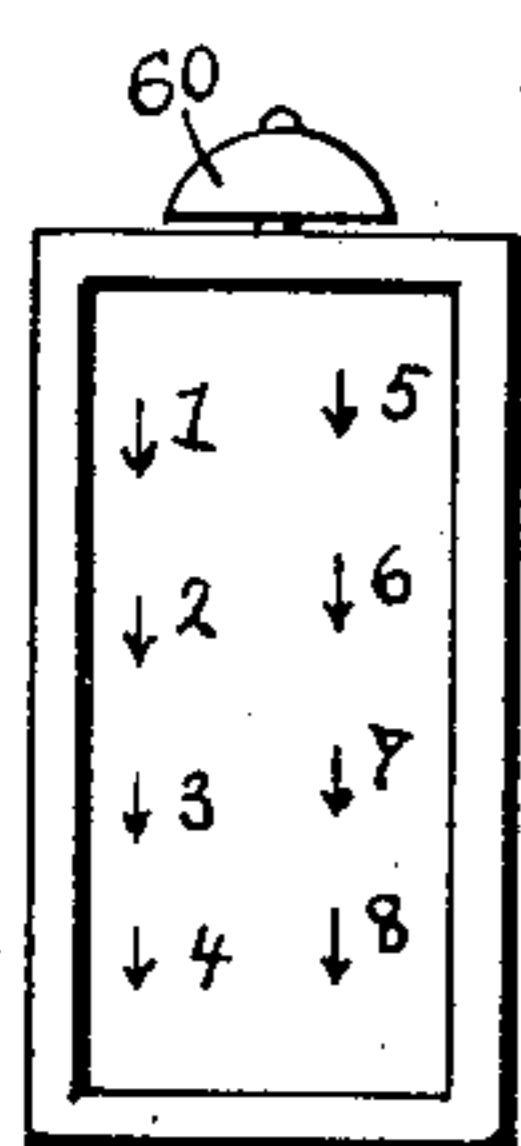
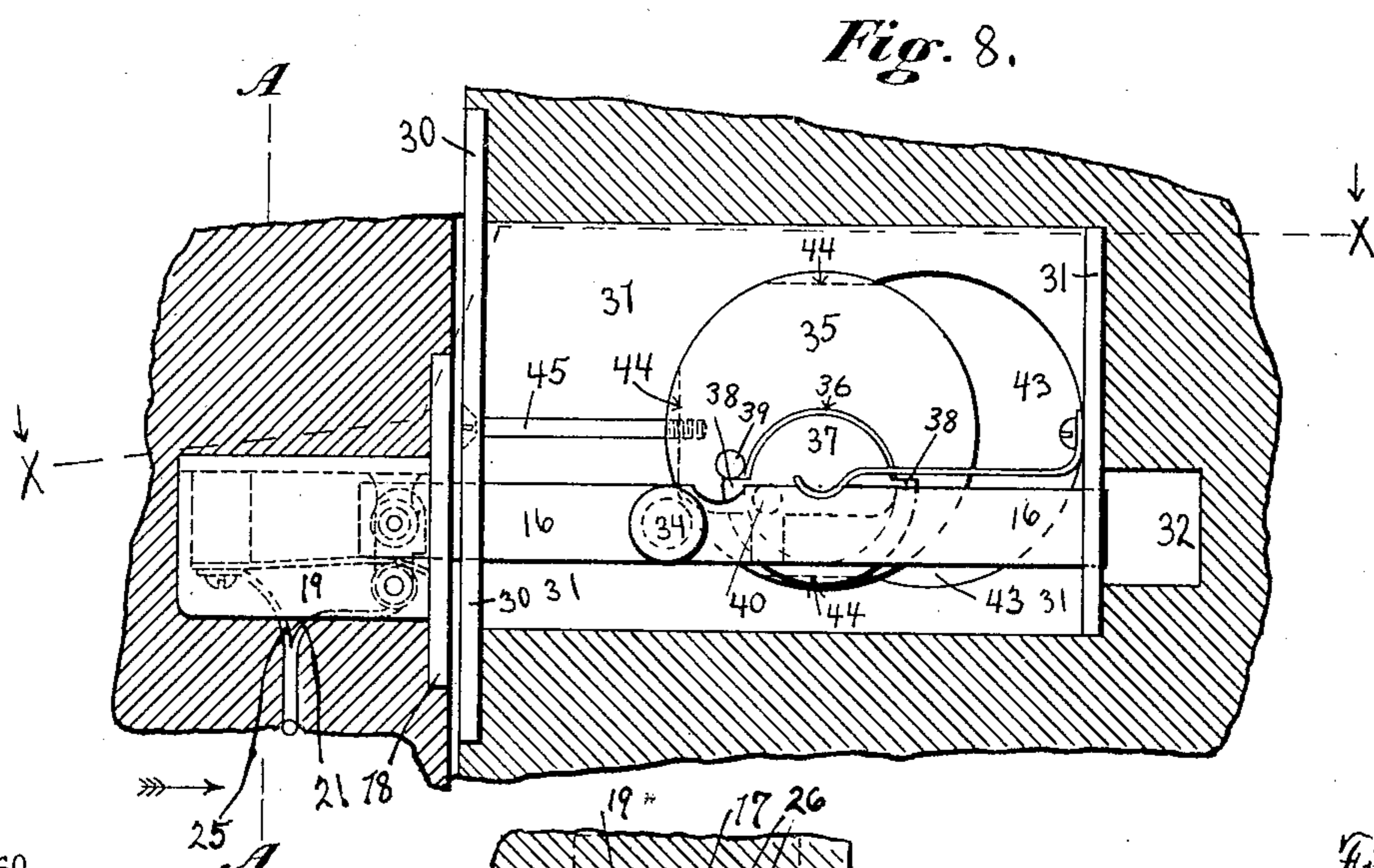
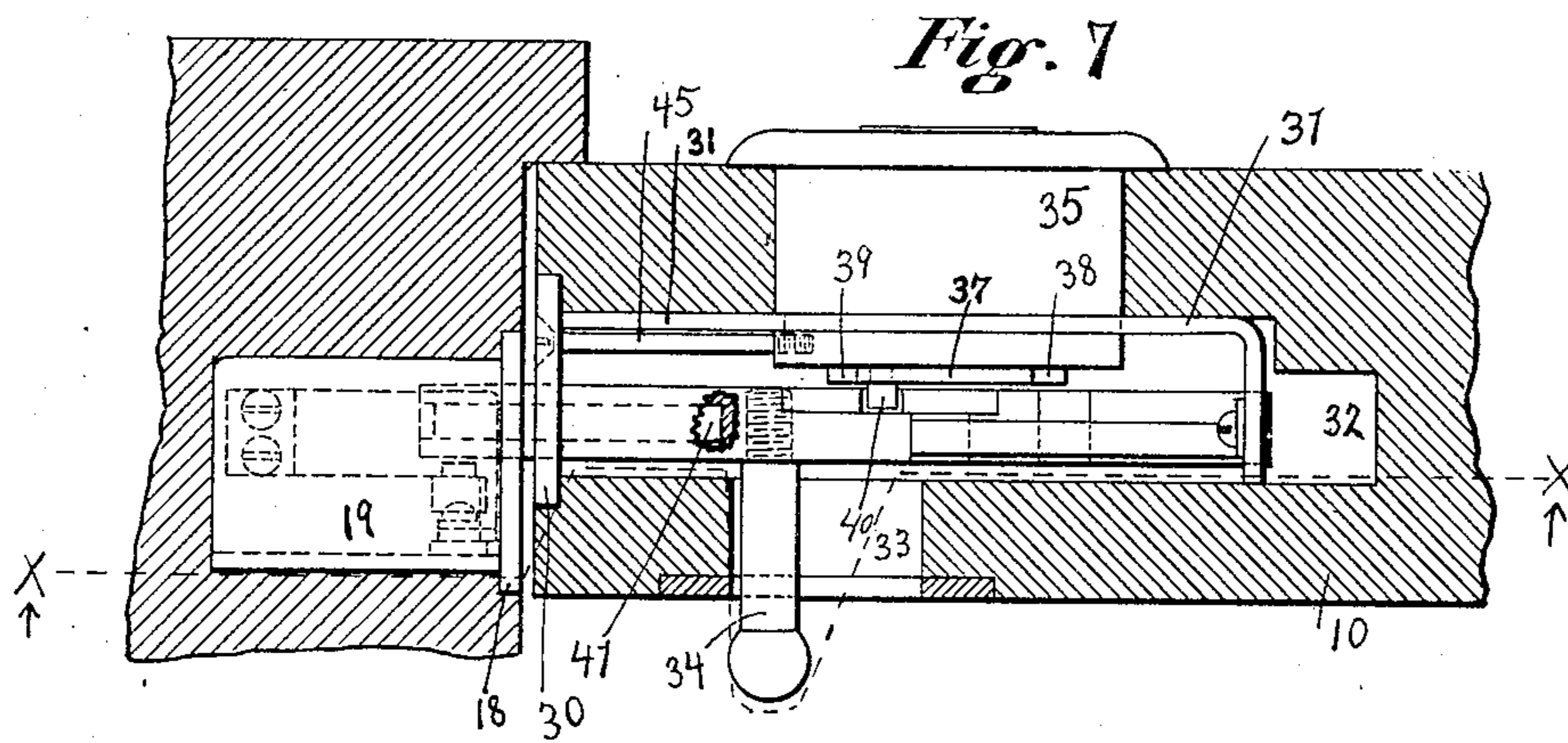


Fig. 12B.

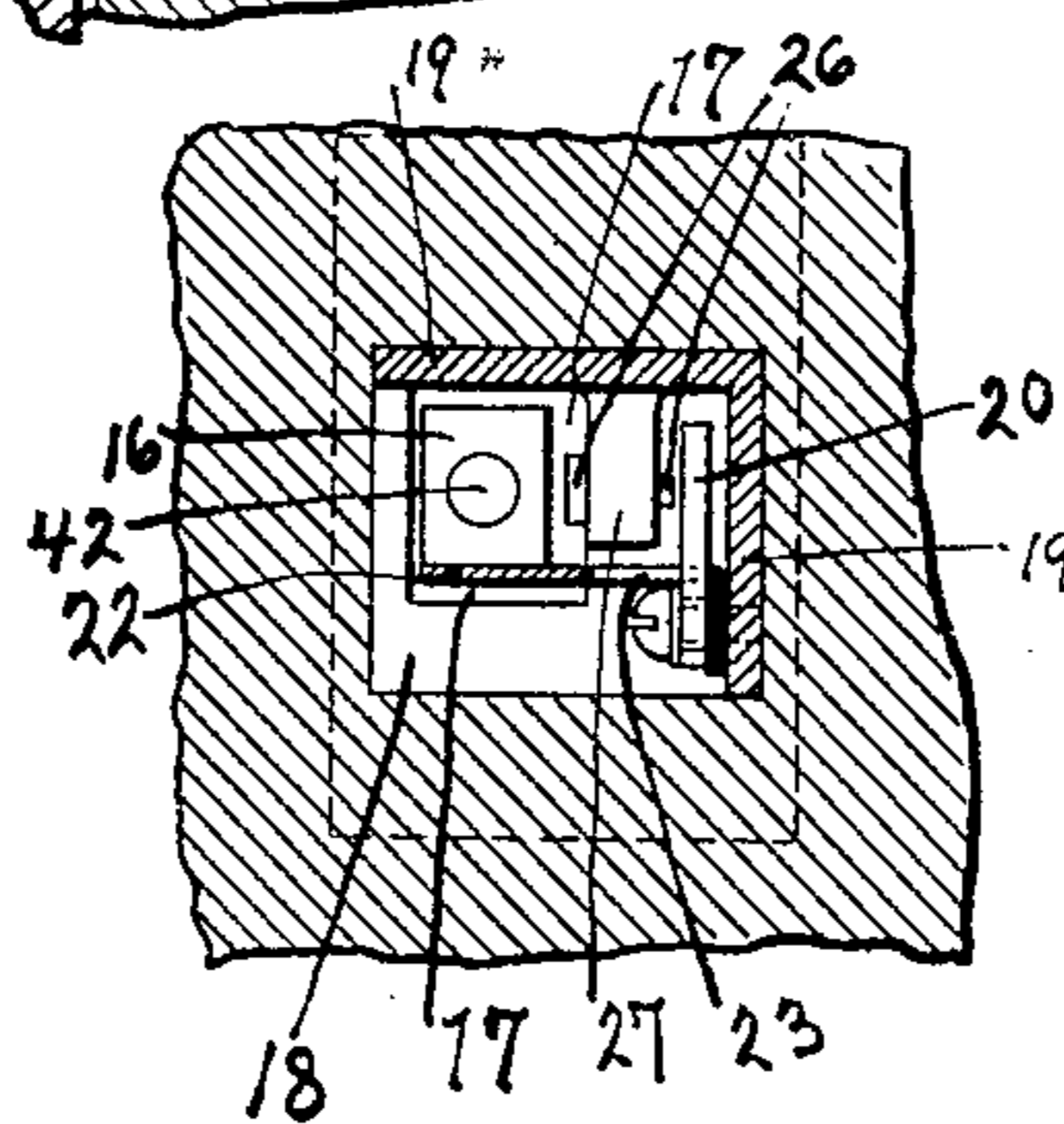


Fig. 9.

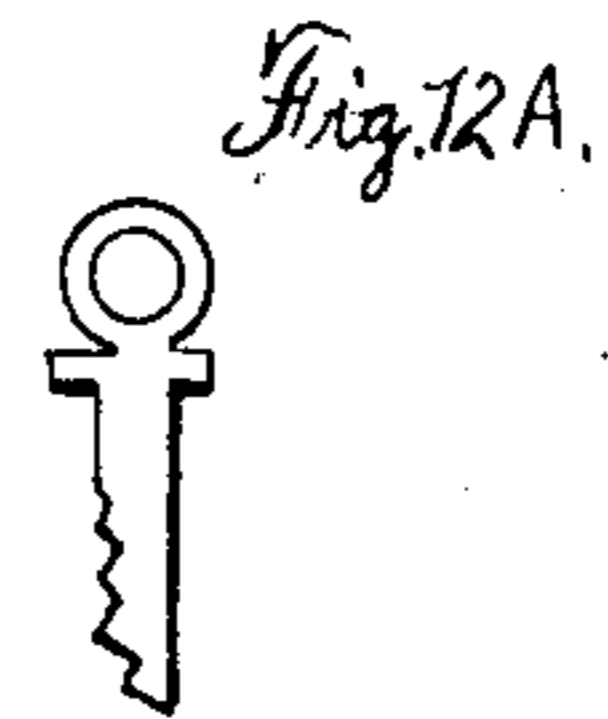


Fig. 12A.

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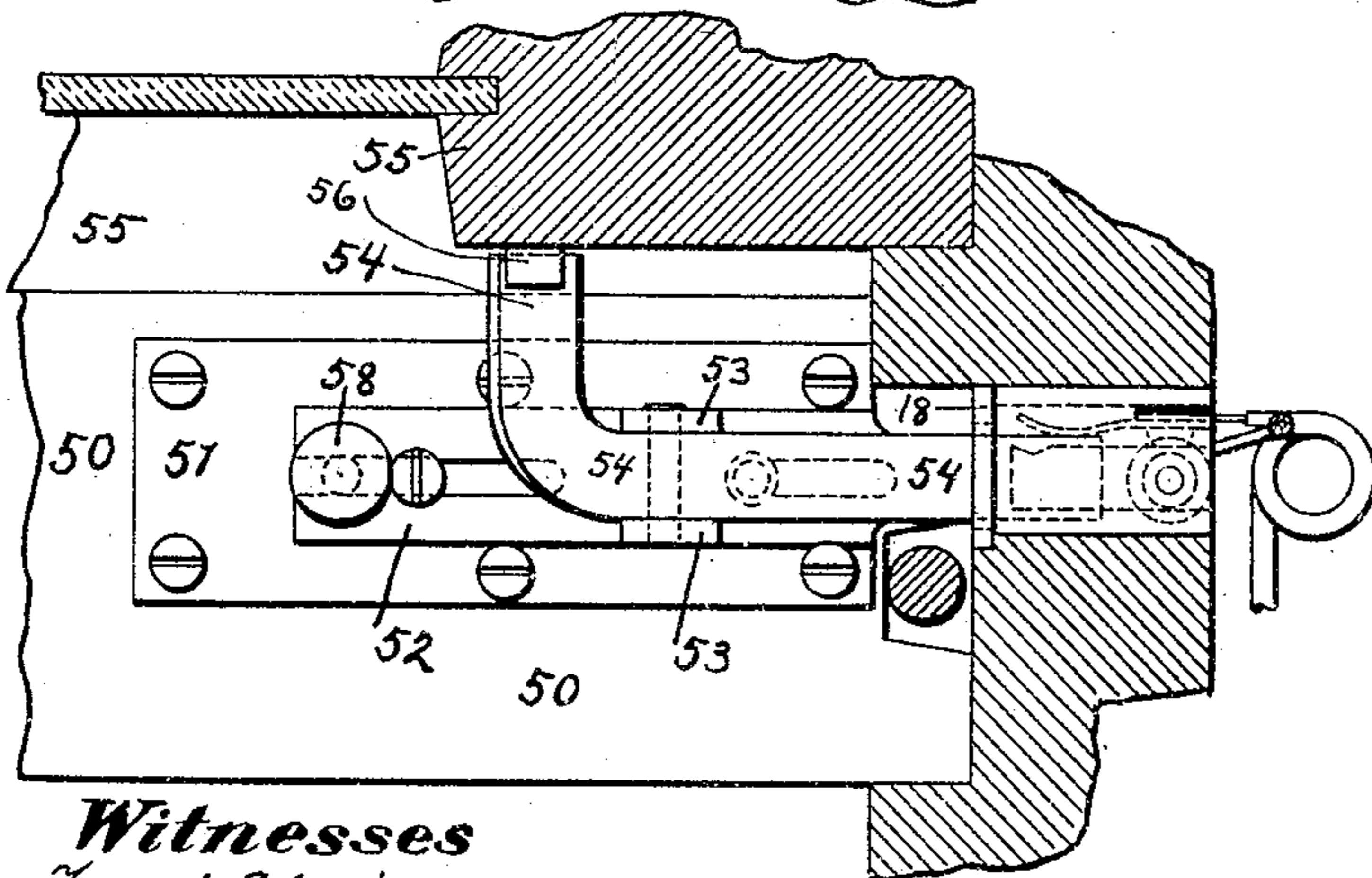
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J. LYON.

BURGLAR ALARM HOUSE PROTECTOR.

APPLICATION FILED AUG. 14, 1901.

3 SHEETS—SHEET 3.



**Witnesses**  
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# UNITED STATES PATENT OFFICE.

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## BURGLAR-ALARM HOUSE-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 791,349, dated May 30, 1905.

Application filed August 14, 1901. Serial No. 71,877.

*To all whom it may concern:*

Be it known that I, JOSEPH LYON, a citizen of the United States, residing at Dayton, Montgomery county, Ohio, have invented a certain  
5 new and useful Burglar-Alarm House-Protector, of which the following is a specification, reference being had to the annexed drawings, forming part hereof.

My invention relates to improvements in  
10 burglar-alarm house-protectors; and it consists of the means, combinations, and arrangements and subcombinations of the various parts and means, all as hereinafter described, and set forth in the claims.

15 The means best known to me at this time for accomplishing the objects of my invention are illustrated in the accompanying drawings, in which—

Figure 1 is an exterior view of a portion of  
20 a door embodying a portion of my invention. Fig. 2 is an interior view thereof. Fig. 3 is a sectional view of one of the bolt-keepers on line X X of Fig. 4. Fig. 4 is a sectional side view on line X X of Fig. 3. Figs. 5 and 6  
25 are detail views. Fig. 7 is an enlarged sectional plan view substantially on line X X of Fig. 8. Fig. 8 is a sectional elevation view substantially on line X X of Fig. 7. Fig. 9  
30 is a sectional end view substantially on line A A of Fig. 8. Fig. 10 is an elevation view of a further portion of my invention, parts thereof being broken away for clearness. Fig. 11 is a plan view of the parts shown in Fig. 10, the section being taken substantially upon  
35 line X X of Fig. 10. Fig. 12 is a detail view of one of the sliding bolts. Fig. 12<sup>A</sup> is a view of the key for unlocking said lock from the outside. Fig. 12<sup>B</sup> is a front elevation view of an annunciator and alarm.

40 In said drawings, 10 represents the door, and 11 its jamb. In said door 10 are slidingly mounted three bolts 14, 15, and 16, the bolt 14 being operated by the knob 13 and bolt 15 by a key adapted to be inserted in the lock  
45 12, while bolt 16 is the night or alarm bolt. All of said bolts are provided with keepers located in the jamb 11, those for bolts 14 and 15 being preferably of the usual form and that for the bolt 16 being shown in Figs. 3, 4,

7, 8, and 9 and having a keeping-opening 17 50 larger than the bolt 16, so that when only the bolt 16 is obstructing the opening of the door said door may be moved open the extent of the play of said bolt 16 in its keeping-open-  
55 ing 17. This limited opening of the door is adapted to send in an alarm in the manner hereinafter set forth, and to provide a substitute for an electric call-bell, a night-lock, and to at all times prevent the accidental send-  
60 ing of an alarm said three bolts are employed in combination when desired. For instance, should a neighbor mistake the house and turn the knob 13 and withdraw the knob-controlled bolt 14 and press inward upon the door 10  
65 the bolt 15 when in its keeper would prevent the limited movement of the door and the sounding of an alarm, and when bolt 15 is left out of its keeper in anticipation of call-  
70 ers who from prevailing darkness, defective vision, or other causes might not be able to find the ordinary call-bell button such callers may readily grasp and turn the knob and press inward upon the door to cause bolt 16  
75 to sound a notification of their arrival through the instrumentalities hereinafter specified.

The keeper of bolt 16 is in the instance shown formed of a face-plate 18, from the rear side of which projects an angle-plate 19, said opening 17 on plate 18 being within the angle formed by plate 19. (See Figs. 3, 4, and 9.)  
80 Insulated from and secured to said keeper for bolt 16 is a plate 20, adjacent said opening 17 and electrically connected by wire 21 with an electric circuit. Also mounted in said keeper is a plate 22, projecting toward and substan-  
85 tially into said opening 17 and at right angles with said plate 20, electrical connection being normally maintained between plates 20 and 22 when bolt 16 is not in its keeper by  
90 projection 23 of plate 22 contacting with projection 24 of plate 20, Figs. 3 to 6, said plate 22 being electrically connected by wire 25 in the same circuit with wire 21. When bolt 16 enters its keeper, it contacts with plate 22 and separates said projections 23 and 24 and  
95 breaks said electrical circuit. Intermediate and normally free from contact with bolt 16 and plate 20 is a yielding member or pin 26,

Figs. 3, 4, and 9, and in the instance there shown is slidably mounted in projection 27 of plate 19 and is normally held out of contact with plate 20 by spring 28, said pin 26 projecting into the path of the limited lateral movement of bolt 16 in opening 17 of its keeper, (see Fig. 9,) so that upon such lateral movement of said door carrying said bolt 16 said pin 26 will be pressed into contact with plate 20 and the electrical circuit completed from wire 25 through plate 19, projection 27, pin 26, plate 20, to wire 21, and the alarm thus sounded, spring 28 having sufficient tension, when desired, to resist the movement of the door and bolt 16, due to slight pressures, and prevent the sounding of an alarm by a slight movement of the door caused by light pressure upon the door, while when bolt 16 is withdrawn, either by the picking of the lock or otherwise, said plate 22 assumes its normal position, with projection 23 in contact with projection 24 of plate 20, and the alarm thus sounded by the completing of said electrical circuit. Said bolt 16 is slidably mounted at one end in a face-plate 30 and at its opposite end in a projection of plate 31, secured to face-plate 30. Said bolt 16 and plate 31 are in the instance shown mortised into the door 10, as shown in Figs. 7 and 8, a recess 32 being formed for the accommodation of bolt 16 when it is withdrawn from its keeper. In the inner face of the door 10 is formed a slot 33, communicating with the mortised opening for said bolts, and through said slot 33 projects a pin 34, removably secured to bolt 16 by screw-threads, Fig. 7, or otherwise, whereby said bolt 16 may be readily operated from within. To enable said bolt 16 to be operated from the outside of the door when said bolt 16 is in certain positions, a T-shaped slot is formed in the outer side of said bolt 16, the horizontal branch of said T-shaped slot being open at the top. Projecting from the outer face of said door and seated in said plate 31 adjacent said T-shaped slot is a key-barrel 35, having mounted therein the member 36, revolved by means of the proper key, Fig. 12<sup>A</sup>, as is well known in locks of the Yale type. Upon the inner end of this revoluble member 36 is rigidly secured a plate 37, having projecting from substantially opposite portions of its periphery the shoulders 38, adapted alternately to be brought into contact with pin 39 as said member 36 is revolved, by means of a key, a half-revolution in one direction or the other. From plate 37 projects a pin 40 normally into the horizontal branch of said T-shaped slot, the normal position of said member 36 being, with one of said shoulders 38, in contact with said pin 39.

The position shown in Figs. 7 and 8 is such that bolt 16 may be withdrawn from its keeper by the turning of member 36 with a suitable key, pin 40 engaging in the vertical member of said T-shaped slot by reason of the revolu-

ble movement of member 36, which member carried said pin 40, and when bolt 16 is completely withdrawn from its keeper said pin 40 is by the arc-shaped path of its movement again brought into the path of said horizontal member of said T-shaped slot. The member of the household can then open door 10 after having withdrawn the bolt 15 by a key in the ordinary manner and the withdrawal of latch-bolt 14 by the turning of the knob 13. When inside the door, it is shut, and latch-bolt 14 enters its keeper automatically in the customary way, and bolt 15 is moved into its keeper by a key from the inside in the usual manner. If such member of the household is the last one in, he slides the bolt 16 into its keeper by means of the pin 34, which brings the vertical member of said T-shaped slot in the outer face of bolt 16 out of the path of movement of said pin 40, so that said member 36 cannot be operated in either direction, it being locked from movement in one direction by pin 40 engaging with the wall of said horizontal member of said T-shaped slot and in the opposite direction by pin 39 contacting with a shoulder 38. Thus said night-lock is transformed into a non-pickable lock, which could only be entered by sawing through the bolt 16, to prevent which said bolt 16 is provided with a cylindrical longitudinal cavity in which is loosely mounted a hardened steel pin 41, Figs. 3 and 4. Should said bolt 16 be sawed into, the saw will strike said pin 41, upon which it can take no hold, as said pin 41 is harder than the saw, or said pin 41 revolves and turns the saw even should it happen to take hold of said pin 41. To prevent pin 41 from coming out of its cavity in bolt 16, a plug 42, Fig. 9, closes the end of said cavity.

The key-barrel 35 is mounted in plate 31 as follows: A circular opening 43 is formed in plate 31, its diameter being slightly larger than that of barrel 35. In one side of said opening 43 is formed a recess having a plurality of flat faces 44 adapted to engage in correspondingly shaped recesses in the periphery of said barrel 35, said engagement being effected by inserting barrel 35 through opening 43 and registering its recesses with their engaging faces 44 and then relatively moving said barrel 35 and plate 31 until said barrel 35 is seated with its recesses engaging said faces 44. A screw 45 is then inserted through face-plate 30 and threaded into the portion of said barrel 35 projecting through said plate 31, which screw 45 retains said barrel 35 in normal position.

Every hinged door and window is provided with the bolt 16 and its keeper, while the sliding windows are provided with the following alarm means: Upon the top of the lower sash 50 is secured a bearing-plate 51, upon which is slidably mounted in any suitable manner a plate 52, provided with projections 53, to which is pivotally connected a bolt 54,

having its branch upon one side of said fulcrum-point projecting toward the upper sash 55 in the path of a plurality of pins 56. The opposite arm of said bolt 54 projects toward the window-casing, which is provided with a plurality of keepers for said bolt, which may be the same as the keeper for bolt 16, hereinbefore described, and is shown in Figs. 10 and 11 to be the same in construction, the contact-spring 57, Fig. 10, being substituted for the spring-pressed plunger-pin 26. The bolt 54 is slid into one of its keepers by sliding the plate 52, carrying said bolt 54, and said plate 52 is held in positions of adjustment by clamp-screw 58.

When bolt 54 is withdrawn from or moved vertically in its keeper, an electrical circuit is formed and an alarm sounded, as has been heretofore described for bolt 16. The two keepers for bolt 54, arranged a slight distance apart, permit the lower sash 50 to be locked in a ventilating position, and when in either keeper said bolt 54 will be adapted to be operated by any movement of the upper sash 55 by means of said pins 56, while said upper sash 55 can also be locked in a ventilating position by the arrangement of said pins 56. Said bolt 54 is provided with a pin 41 in the same manner and for the same purpose as said bolt 16.

Electrical connections are made with the bolt-keepers and their contacting devices of each separate door or window, with an annunciator of the usual or any desirable form, (shown in Fig. 12<sup>B</sup> having bell 60,) said connections being made in the usual manner for annunciator systems, and at each place where the circuit is completed an alarm will be sounded and the corresponding indication made, and said alarm will continue to be sounded as long as the electrical circuit is maintained at any place or places.

As is illustrated by the foregoing exemplification of my invention, its prime or fundamental object, as well as the greatest benefits and advantages of its accomplishments, is the great security to person and property and the peace of mind derivable from the use of my invention, such security and peace of mind being almost wholly derivable from the structural fact that an alarm or notice is given of an attempted intrusion at a time when the alarm-bolt bars the intrusion of the intruder, and which great benefit and advantage is due solely to the structural fact that the alarm-bolt and its keeper have a relative lateral movement, and the alarm mechanism is such that an alarm is sounded or notice given upon such relative lateral movement. This accomplishment may be said to be the step between the perfect and the imperfect—between success and failure—for otherwise an alarm would only be sounded as the intruder was intruding—that is, after all bars to his intrusion had

been removed—and an alarm or notice of such intrusion would be practically as bad as no notice or warning at all, for the intruder would have great advantage over those intruded upon by reason of their being taken by surprise by the simultaneous intrusion and notice thereof and without time to prepare to resist such intrusion. Further than this, my invention is such that in its embodiment shown and described it will acquaint those within of the character of the intrusion—that is, whether it is an attempted intrusion or an actual intrusion. Where the intruder is still barred by the alarm-bolt, every attempt to intrude will result in a relative lateral movement of the alarm-bolt and its keeper, and intermittent notices or alarms of such attempts at intrusion will result, whereas when the intruder has gained entrance the alarm-bolt will have been removed from its keeper, and a continuous notice or alarm will result.

Inasmuch as I could not claim the hereinbefore-described door-locking mechanism independent of the alarm or electric circuit forming mechanism, I have set forth and claimed said door-locking mechanism in another application, filed January 13, 1902, Serial No. 89,623, entitled "Locks." Since I cannot claim the hereinbefore-described mechanism for fastening the windows with as well as independent of the alarm mechanism, I have set forth and claimed said mechanism independent of the alarm in another application filed January 13, 1902, Serial No. 89,624, entitled "Ventilating window-fastener," and said mechanism in combination with said alarm in another application, filed July, 1902, entitled "Burglar-alarm window-fastener."

Having now described my invention, so that others skilled in the art may make and use the same when this exclusive grant shall cease to operate, what I claim, and pray to secure by Letters Patent, is—

1. The combination with relatively movable members, forming parts of a removable barrier or closure, of a locking-bolt carried by one of said members and movable thereon to engage the other member, the latter provided with interlocking devices permitting a limited degree of lateral motion to the bolt, and a circuit-controller disposed in such relation to the bolt as to be actuated thereby by the lateral movement of the bolt while thus interlocked with the opposing member, whereby upon the application of pressure in a direction to remove the barrier or open the closure the signal devices in the circuit will be operated.

2. The combination of a movable member, a relatively stationary member, an alarm-bolt slidably carried by one of said members and a keeper therefor carried by said other member, said keeper having its bolt-keeping recess larger than said bolt in a direction in which said movable member may be moved, the di-

recession of movement of said movable member being at an angle to the length of said bolt, means for sounding an alarm when said bolt is moved in its keeping-recess in the plane of movement of said movable member, and means including said first means for sounding an alarm when said bolt is withdrawn from its keeping-recess, substantially as specified.

3. The combination of a movable member, a relatively stationary member, an alarm-bolt slidably carried by one of said members and a keeper therefor carried by said other member, said keeper having its bolt-keeping recess larger than said bolt in a direction in which said movable member may be moved, means for sounding an alarm when said bolt is moved in its keeping-recess in the direction in which said movable member is moved and substantially at right angles to the direction in which said bolt is adapted to be shot, a second bolt carried by one of said members and a second keeper for said second bolt carried by said other member, said second keeper confining said second bolt therein to prevent the movement of said first bolt in its keeper in the plane of the movement of said movable member, and the sounding of an alarm, substantially as specified.

4. The combination of an alarm-bolt, a keeper therefor, having a receiving-recess for and larger than said bolt, separated electrical contact members adjacent said bolt and mounted relatively with said keeper, and means for moving said members into contact with each other by the lateral movement of said bolt in its receiving-recess in said keeper, substantially as specified.

5. The combination of a movable member, a relatively stationary member adjacent thereto, a key-actuated bolt carried by one of said members, a keeper therefor in the other one of said members, said keeper fitting snugly said bolt; an alarm-bolt carried by one of said members, a keeper for said alarm-bolt carried by the other one of said members, said last-named keeper being larger than said alarm-bolt in the direction in which said movable member may be moved, to permit a limited relative movement of said alarm-bolt and said last-named keeper, and a correspondingly-limited movement of said movable member all in a direction substantially at right angles to the length of said bolts; and means for sounding an alarm upon the movement of said alarm-bolt in its keeper in the direction in which said movable member is moved; whereby when said key-actuated bolt is in its keeper an alarm can be sounded upon the breaking of said key-actuated bolt, substantially as specified.

6. The combination of a movable member, a relatively stationary member, a knob-actuated latch or bolt mounted in one of said members and provided with a keeper in the other of said members; a key-actuated bolt mounted in one of said members, and provided with a

keeper carried by the other of said members, the aforesaid keepers snugly fitting their said bolts; an alarm-bolt carried by one of said members; a third keeper therefor carried by the other of said members, said third keeper being larger than said alarm-bolt in the direction of the relative movement of said movable member; and means for sounding an alarm by the movement of said alarm-bolt in said third keeper in the direction of said relative movement of said movable member; whereby an alarm can be sounded after withdrawing or breaking said knob and key actuated bolts and at a time when said alarm-bolt bars entrance, substantially as specified.

7. The combination of a movable member, a relatively stationary member, a knob-actuated latch or bolt mounted in one of said members and provided with a keeper in the other of said members; a key-actuated bolt mounted in one of said members, and provided with a keeper carried by the other of said members, the aforesaid keepers snugly fitting their said bolts; an alarm-bolt carried by one of said members, a third keeper therefor carried by the other of said members, said third keeper being larger than said alarm-bolt in the direction of the relative movement of said movable member; means for sounding an alarm by the movement of said alarm-bolt in said third keeper in the direction of movement of said movable member; and separate means for sounding an alarm upon the withdrawal of said alarm-bolt from said third keeper, whereby an alarm can be sounded by slightly moving the movable member after said knob and key actuated bolts are removed from their keepers or broken and at a time when said alarm-bolt bars entrance; and whereby an alarm is adapted to be sounded merely by withdrawing said alarm-bolt from said third keeper, substantially as specified.

8. The combination of a keeper, a keeping-opening therein, an enlarged recess communicating with said keeping-opening, a member yieldingly mounted in the keeping-recess of said keeper, and having a portion thereof extending into the plane of said keeping-opening, a second member mounted in said recess and out of the plane of said keeping-opening, said first member extending toward said keeping-opening and substantially parallel with the plane thereof and at substantially right angles to said second member, said second member extending in the direction of the yielding movement of said first member, and means including a bolt for sounding an alarm on the engagement of said members by said bolt moving into or out of said keeping-opening, substantially as specified.

9. The combination of a keeper, a keeping-opening therein, an enlarged recess communicating with said opening, a member yieldingly mounted and projecting into the keeping-opening of said keeper, a second member

mounted in said recess adjacent said keeping-opening, said keeper normally in engagement with said first member, a third member yieldingly mounted in said recess and projecting into the plane of the keeping-opening of said keeper and adapted to be moved into engagement with said second member, and means including a bolt for sounding an alarm by the engagement of said first and second members by said bolt moving out of said keeping-opening, and on the engagement of said second and third members by the lateral movement of said bolt in said keeping-opening, substantially as specified.

10. As a new article of manufacture, a keeper having a keeping-recess therein, a first and a third member yieldingly mounted and projecting into said keeping-recess at an angle to each other, and a second member normally in engagement with said first member and abnormally engaged by said third member, substantially as specified.

11. As a new article of manufacture, a keeper having a keeping-recess therein, a first and a third member yieldingly mounted and projecting into said keeping-recess at an angle to each other, a second member normally in engagement with said first member and abnormally in engagement with said third member, and means for sounding an alarm on the engagement of said first and second members, and on the engagement of said third and second members, substantially as specified.

12. As a new article of manufacture, a keeper having a keeping-recess therein, a first and a third member yieldingly mounted and projecting into said keeping-recess at an angle to each other, a second member adjacent said first and third members, and electrical connection with said members whereby an electrical circuit is formed on the engagement of said first and second members and on the engagement of said third and second members, substantially as specified.

13. As a new article of manufacture, a keeper having a keeping-opening larger than its bolt in the direction of the opening movement of the member to be bolted, and an alarm member mounted back of and projecting into the plane of said opening upon that side of said keeping-opening which would oppose the opening of the member to be bolted, substantially as specified.

14. As a new article of manufacture, a keeper having a keeping-opening larger than its bolt in the direction of the opening movement of the member to be bolted, and normally separated electrical contact members mounted back of said opening and one of which projects into the plane of said opening upon that side of said keeping-opening which would oppose the opening of the member to be bolted, substantially as specified.

15. The combination of a bolt-keeper having a cavity therein for receiving the end of

the bolt, a keeping-opening in said keeper and constituting the mouth of said cavity, said cavity being larger than said bolt, a bolt adapted to project through said opening and extend into said cavity, a member normally engaging one side of said bolt when said bolt is in said opening and at a point near said opening, an independent member carried by said keeper and adapted to be abnormally engaged by said first-named member when said bolt is withdrawn from said cavity in said keeper, and means for sounding an alarm when said members engage with each other, substantially as specified.

16. The combination of a keeper, a bolt for said keeper, a cavity in said keeper larger than said bolt, a member normally engaging one side of said bolt when said bolt is in said cavity, a second member adapted to be engaged by said first-named member when said bolt is withdrawn from said cavity, a third member intermediate said bolt when in said cavity and said second member, said third member being normally disengaged from said second member, but adapted to be brought into engagement therewith by the lateral movement of said bolt in said cavity, and means for sounding an alarm when either of said first or third members engage said second member, substantially as specified.

17. The combination of a bolt, a member having an opening larger than said bolt, and means whereby an alarm may be sounded by the lateral movement of said bolt in said opening, whereby said member keeps said bolt and bars intrusion while said alarm means gives warning of an attempted intrusion, substantially as specified.

18. The combination of a bolt, a member having an opening larger than and receiving said bolt with limited lateral play in said opening, an electric-circuit closer mounted upon the opposite side of said member from said bolt and having a portion extending into the plane of said opening in said member, whereby the limited lateral movement of said bolt in said opening actuates said circuit-closer, substantially as specified.

19. The combination of a bolt, a member having an opening larger than and receiving said bolt, with limited lateral play in said opening, and a normally open electric circuit having its terminals mounted relatively with said member and adjacent to and in the path of said bolt and adapted to contact with the side of said bolt, whereby said circuit is closed by said lateral movement of said bolt, substantially as specified.

20. The combination of a member having a bolt mounted thereon, a keeper for said bolt and having a keeping-recess larger than said bolt in the direction of relative movement of said member and keeper, the cooperating locking-faces of said keeper and bolt being substantially at right angles to said direction of

relative movement of said member and keeper, whereby the bolt may remain in its keeper and the relative movement of said bolt and keeper may sound an alarm, substantially as specified.

21. The combination of a lock having a bolt, an electric circuit having one of its terminals provided with a plurality of contact members, and a means actuated by said bolt for electrically connecting either of said contact members with the other terminal of said circuit, substantially as specified.

22. The combination of a lock having a bolt, an electric circuit having one of its terminals provided with a plurality of contact members, said contact members terminating at an angle to each other, and a relatively movable member for electrically connecting either of said contact members with the other terminal of said circuit, substantially as specified.

23. The combination of a lock having a bolt, an electric circuit having a plurality of contact members connected to one of its terminals, a second contact member connected to said other circuit-terminal, and means actuated by said bolt for electrically connecting either of said first members with said second member, substantially as specified.

24. The combination of a lock, a plurality of contact members arranged at an angle to each other, an electrical-circuit terminal connected to said contact members, a second contact member, the other terminal of said circuit being connected to said second contact member, and a movable member carried by said lock for electrically connecting either of said first contact members with said second contact member, substantially as specified.

25. The combination of a lock having a bolt, a plurality of movable contact members, a relatively stationary contact member, an electric circuit having one of its terminals connected to said stationary contact member and having its other terminal connected to said movable contact members, and means including said bolt whereby either of said movable contact members may be moved relatively to said stationary contact member for making or breaking the electric circuit, substantially as specified.

26. The combination of three contact members, an electric circuit having one terminal connected to one of said contact members and its other terminal connected to the other two of said contact members, and means mounted for movement in two directions at an angle to each other for making and breaking an electric circuit including said three contact members at different times according to the direction of movement of said means, substantially as specified.

27. The combination of an alarm-bolt, a keeper therefor, said bolt having a limited lateral movement relative to said keeper and at an angle to the direction in which said bolt

is adapted to be shot into said keeper, means actuated by said bolt when laterally moved relatively to said keeper whereby an alarm may be sounded and obstructing means for normally preventing said relative lateral movement of said bolt and keeper and the sounding of said alarm, whereby said obstructing means must be removed to sound an alarm, substantially as specified.

28. The combination of an alarm-bolt, a keeper therefor, said bolt having a limited lateral movement relative to said keeper and at an angle to the direction in which said bolt is adapted to be shot into said keeper, an electric circuit contact members in said circuit adapted to be operated upon said relative lateral movement of said bolt and keeper, and means for normally preventing said relative lateral movement of said bolt and keeper and the operation of said contact members, substantially as specified.

29. The combination of an alarm-bolt, a stay-bolt, keeping-openings for said bolt, said keeping-opening for said alarm-bolt being larger than said alarm-bolt in a direction at an angle to that in which said bolts are adapted to be shot into their keeping-openings whereby said alarm-bolt may be laterally moved in its keeping-opening, and means whereby an alarm may be sounded upon said lateral movement of said alarm-bolt, whereby said alarm-bolt may be laterally moved in its keeping-opening and an alarm sounded when said stay-bolt is out of its keeping-opening, substantially as specified.

30. The combination of two bolts, separate means for operating said bolts, keeping-openings for said bolts, said first bolt and its keeper having a relative movement in a plurality of directions at an angle to each other, electrical connections, and means whereby said connections may be relatively moved upon relative movement of said first bolt and its keeper in any direction, substantially as specified.

31. The combination of a bolt, a keeper in which said bolt has a limited lateral movement, an annunciator, electrical connections with said annunciator and extending adjacent to said bolt, and means for making and breaking an electrical circuit through said connections and annunciator by the lateral movement of said bolt in said keeper, whereby notice may be given of attempted intrusions while they are resisted by said bolt, substantially as specified.

32. The combination of a bolt, a keeper therefor, a plurality of electrical contact members in the recess of said keeper and having portions at an angle to each other and projecting into the path of said bolt, said portions of said contact members being adapted to engage different sides of said bolt when in said keeper, and an electric circuit connected to said members, substantially as specified.

33. In a circuit-closer, the combination of a

member mounted for movement in a plurality of directions, separate means for operating said member from the inside and outside of a structure, means whereby when said member is operated by said inside operating means said operating outside means is locked, and means for making or breaking an electric circuit upon the movement of said member in any of said plurality of directions, substantially as specified.

34. In a circuit-closer, the combination of a member, separate means for operating said member from the inside and outside of a structure, means whereby when said member is operated by said inside operating means said outside operating means is locked, an electric circuit having contact-terminals upon one side of and one of which said terminals projects into the path of said member and is adapted to be operated by contact with the side of said member, whereby on the movement of said member said electric circuit is broken or closed, and whereby when said member has been operated by said inside means it cannot be operated by said outside means, substantially as specified.

35. In a circuit-closer, the combination of a member, separate means for operating said member from the inside and outside of a structure, means whereby when said member is operated by said inside operating means said outside means is locked, a separated member having an opening therein in which opening said first member has a longitudinal and a limited lateral movement, an electric circuit having contact-terminals mounted relatively with said separate member and adapted to be operated by said first member in its said longitudinal and lateral movements, and a third member for preventing said lateral movement

of said first member; whereby said contact-terminals cannot be operated by said lateral movement of said first member until said third member has been withdrawn, and whereby said contact-terminals cannot be operated by the operation of said first member until said first member is operated independent of said outside operating means, substantially as specified.

36. In a circuit-closer, the combination of a member, means for actuating said member, separate means adapted to be engaged by said member for sounding an alarm on the disengagement or engagement of said alarm means and member, a cavity extending longitudinally of said member, and adjacent the point of engagement of said alarm means with said member, and a pin loosely mounted in said cavity, whereby said alarm means cannot be disregarded by severing the end of said member near its point of engagement with said alarm means, substantially as specified.

37. In a circuit-closer, the combination of a member, means whereby said member may be actuated, an electric circuit having contact-terminals adapted to be engaged and operated by said member, said member having a cavity extending longitudinally thereof and past the point of engagement of said alarm means and member, and a cylindrical member loosely revoluble in said cavity, substantially as specified.

In testimony whereof I have hereunto affixed my name this 22d day of November, 1900.

JOSEPH LYON.

In presence of—

L. D. HELLER,  
IRA C. KOEHNE.