

(No Model.)

2 Sheets—Sheet 1.

T. J. SUTTON.
BURGLAR ALARM.

No. 587,377.

Patented Aug. 3, 1897.

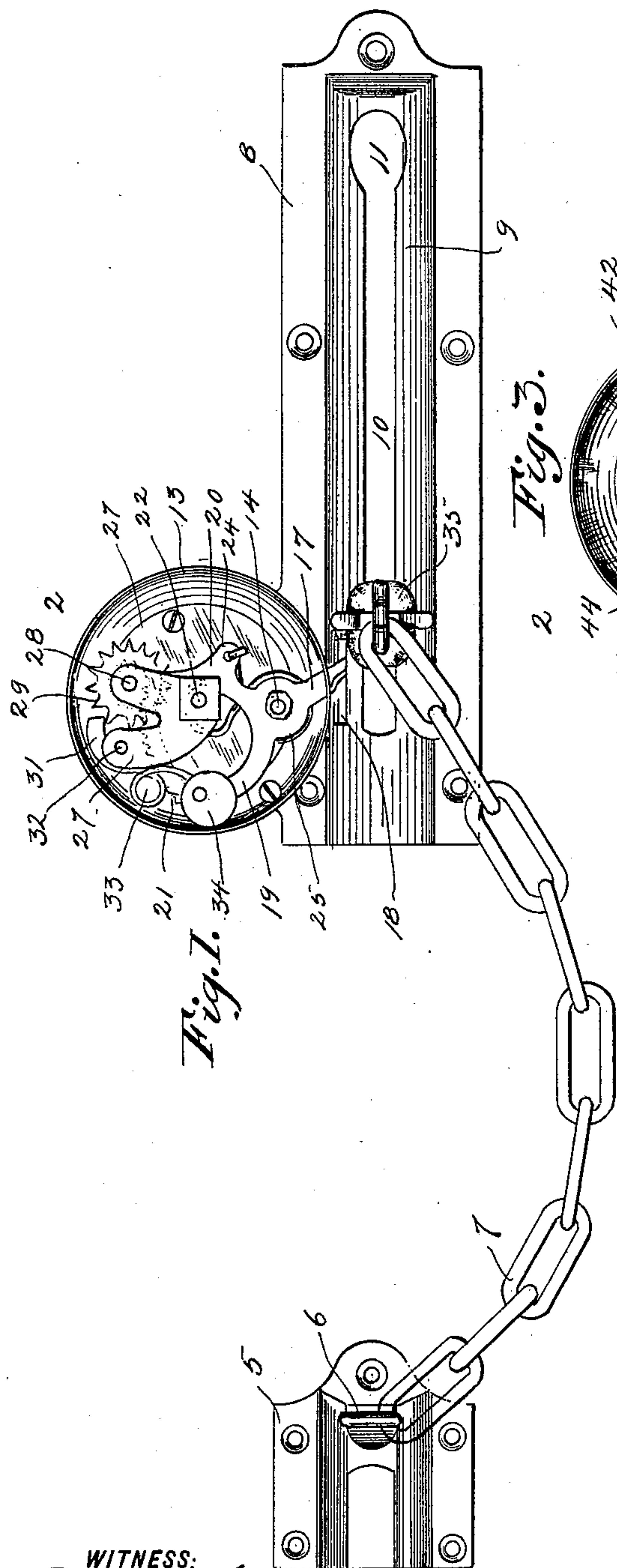


Fig. 7.

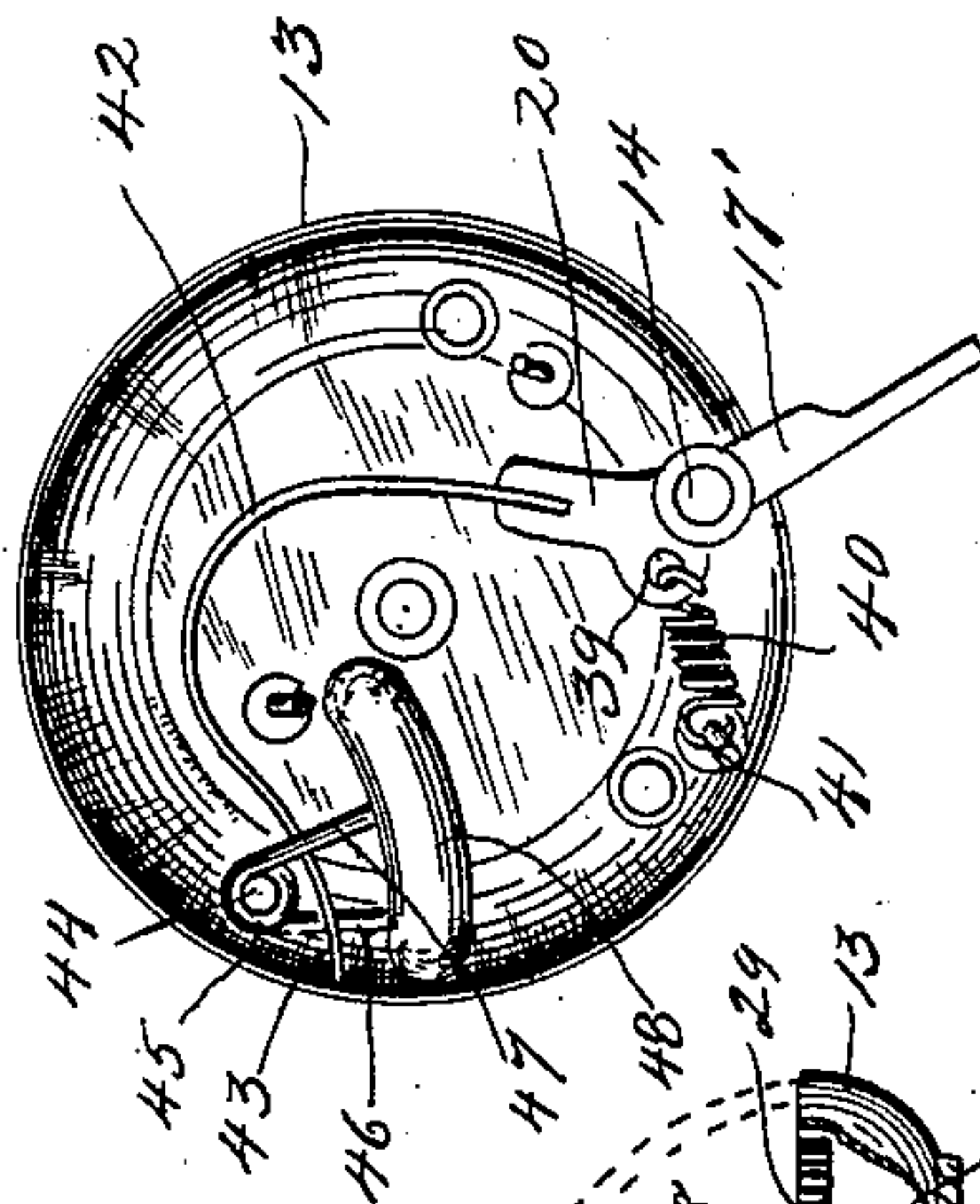


Fig. 3.

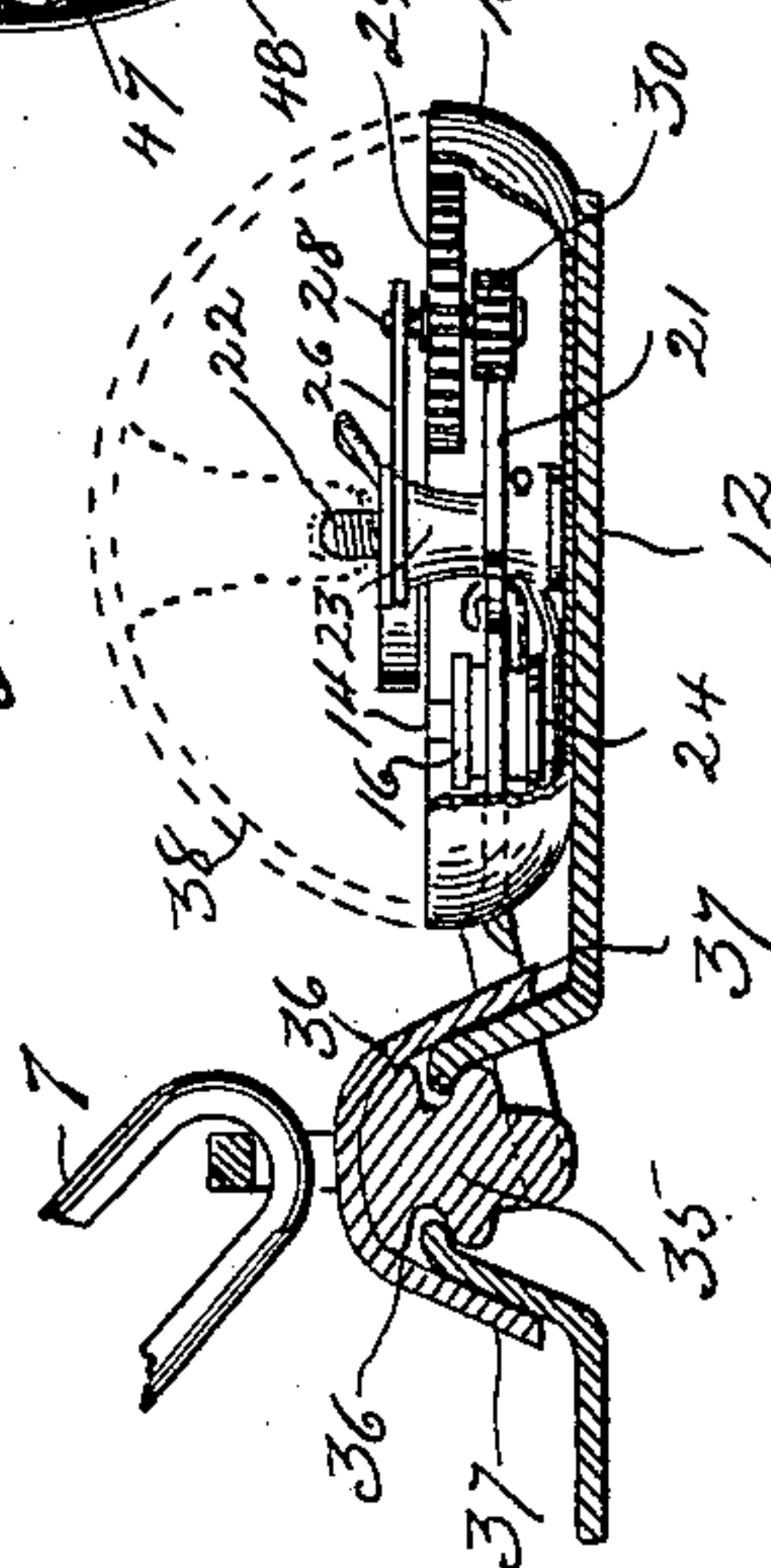


Fig. 2.

WITNESS:

WITNESS:

Charles F. Hayward

Christ

INVENTOR

INVENTOR
Thomas J. Sutton
BY
Edgar Tate & Co.
ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

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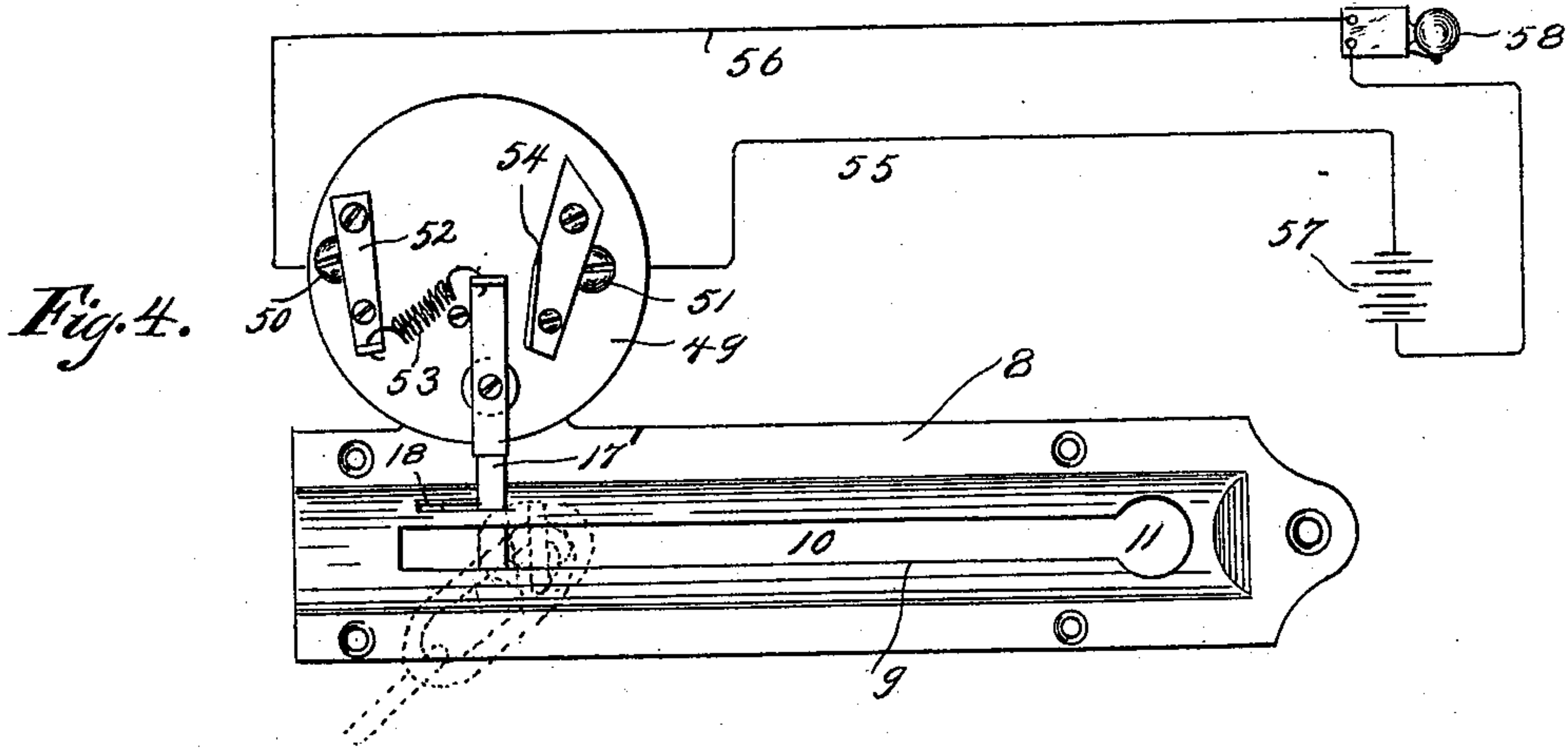


Fig. 6.

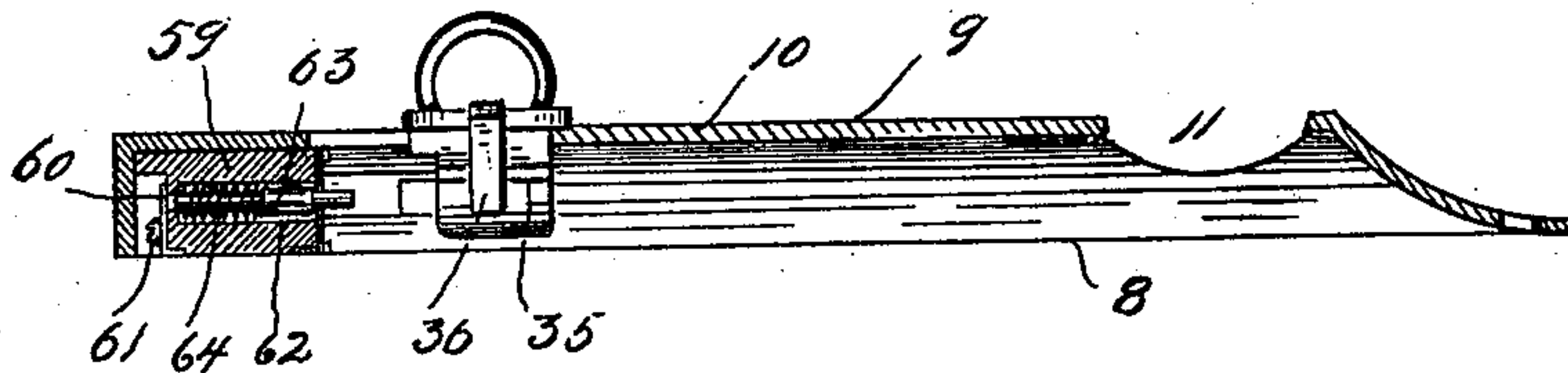


Fig. 7.

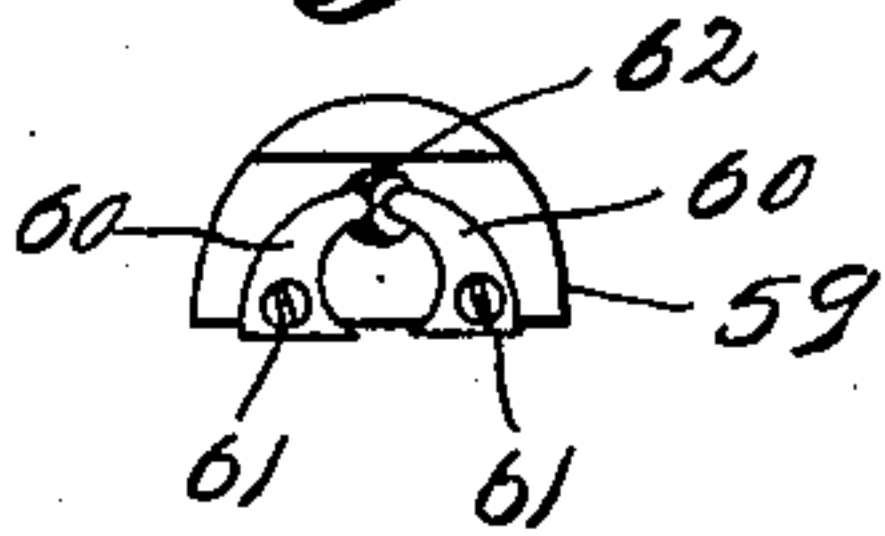
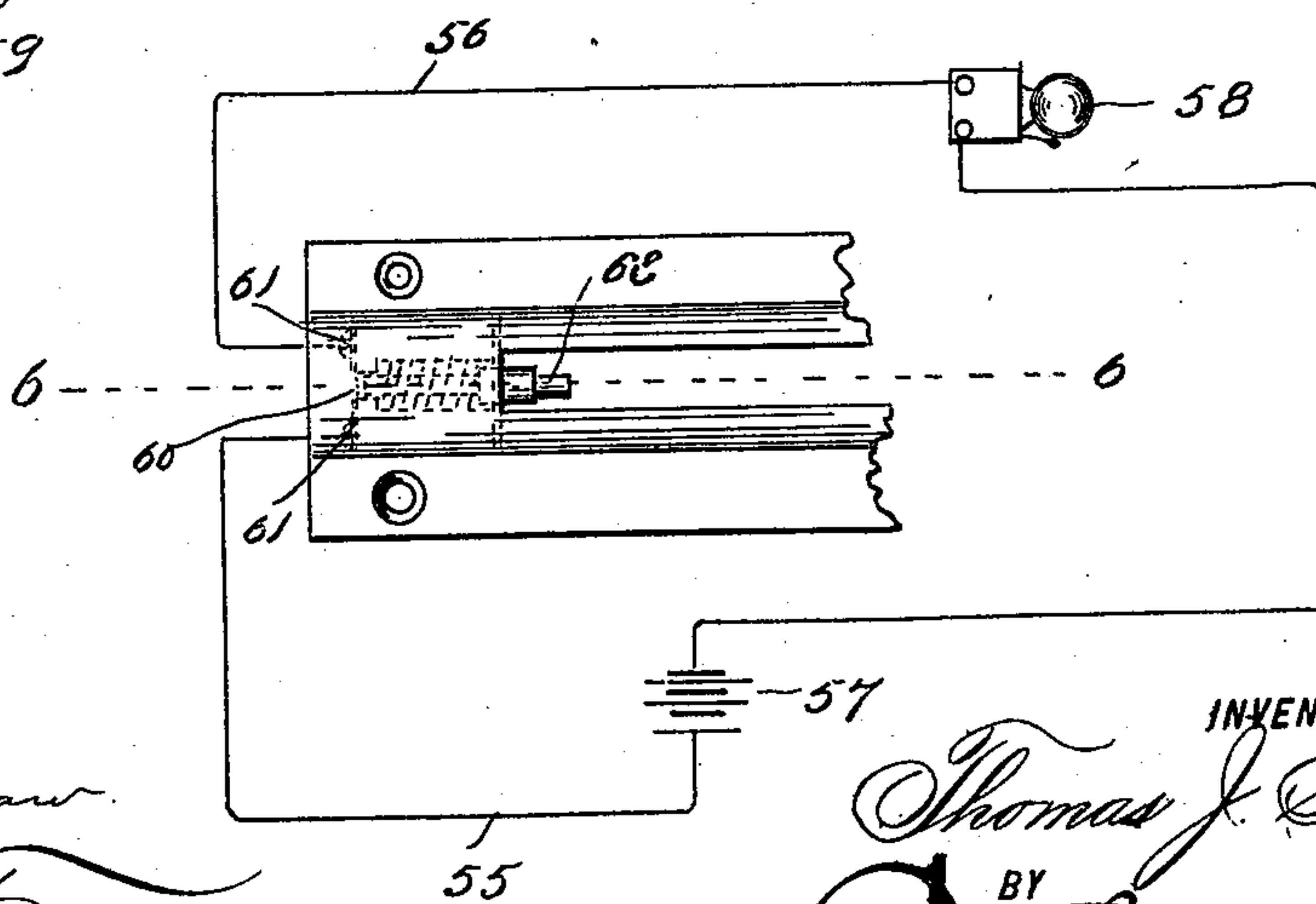


Fig. 5.



WITNESSES

Charles H. Brown
Edgar Tate

INVENTOR

Thomas J. Sutton

BY

Edgar Tate & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS J. SUTTON, OF NEW YORK, N. Y.

BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 587,377, dated August 3, 1897.

Application filed June 3, 1896. Serial No. 594,121. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. SUTTON, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Alarms for Doors, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which
10 similar numerals of reference indicate corresponding parts.

This invention relates to alarm devices which are adapted to be connected with a door, whereby when the door is opened or an attempt made to open it an alarm will be sounded; and the object of the invention is to provide a simple and effective device of this class which may be attached to or connected with a door and the frame thereof and
15 by means of which an alarm will be given whenever an attempt is made to open the door, a further object being to provide an alarm for the purpose above specified which may be secured to the entrance-door of a building and which is provided with an electrical attachment by means of which an alarm in any part of the building may be sounded.
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The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—
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Figure 1 is a plan view of my improved alarm, the alarm gong or bell being removed; Fig. 2, a section on the line 2 2; Fig. 3, a plan view showing a modified form of the alarm mechanism; Fig. 4, a plan view showing a modified form of construction in which an electrical alarm is employed; Fig. 5, a plan view of another modification in which an electrical alarm is employed; Fig. 6, a partial
35 section, and Fig. 7 a detail of this construction.

In the practice of my invention I provide an alarm device which consists of a plate 5, which is adapted to be secured to the frame
45 of a door and which is provided with a loop or other means of attachment 6, to which is secured a chain or cord 7, and I also provide another plate 8, which is oblong in form and which is provided with a central longitudinal raised portion 9, in the top of which is formed a longitudinal slot 10, having at one end thereof an enlarged circular opening 11, and

secured to the plate 8 opposite the circular opening 11 or to an extension or projection 12, formed thereon, is a cup-shaped attachment 13, forming a bell-base in which, adjacent to the inner edge thereof, is a standard 14, provided with a sleeve 16, and on which is mounted a lever 17, one end of which projects through a slot 18, formed in the central longitudinal raised portion 9, and said lever is provided with two arms 19 and 20, which are connected by a segmental gear or rack-bar 21.
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Arranged centrally of the cup-shaped attachment 13 is a standard 22, which is provided with a sleeve 23, and coiled around the standard 14 or the sleeve 16 thereon, below the lever 17, is a spring 24, one end of which is passed around the sleeve 23 on the standard 22 and the other end of which is connected with a shoulder or projection 24 on the arm 20 of the lever 17.
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Rigidly mounted on the standard 22 is a plate provided with two arms 26 and 27, and the arm 27 supports a shaft 28, on which is mounted a ratchet-wheel 29, below which is a pinion 30, in connection with which the segmental rack-bar 21 operates, and the arm 26 carries a dog 31, which is pivoted thereto at 32, and to which is secured a coiled spring-arm 33, to the end of which is secured a ball or clapper 34.
65

Mounted in the longitudinal slot 10 of the raised portion 9 of the plate 8 is a sliding head 35, which is provided with grooves 36 at its opposite sides, in which the edges or walls of the slot fit, and said sliding head is provided with side arms 37, one of which projects below the slot 18, through which the lever 17 passes.
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The operation of this form of construction will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.
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It will be understood that either of the plates 5 and 8 may be secured to the frame of the door and the other to the door, and if an attempt be made to open the door the sliding head 35 will be pulled in the direction of the lever 17, and said lever will be operated against the pressure of the spring 24, and the pinion 30 will be operated by the segmental
80

gear 27, and the ratchet-wheel 29 will be rapidly revolved, and the dog 31, which operates in connection with said ratchet-wheel, will be operated, and the clapper or ball 34, which is connected therewith by the spring 33, will be caused to give the gong or bell, which is mounted on the central standard 22, a series of rapid strokes, and the alarm will thus be sounded.

The gong is shown at 38 in Fig. 2, and in Fig. 3 I have shown a modified form of construction in which the lever 17' is provided with but a single arm 20, on one side of which is a shoulder or projection 39, to which is secured a strong spiral spring 40, the opposite end of which is secured to the cup-shaped attachment 13 at 41, and said arm 20 of the lever 17' is provided with a curved plate-spring 42, the end of which at 43 is slotted, and mounted on a standard 44 is a coiled spring 45, which is provided with two arms 46 and 47. The arm 46 passes through the slotted end 43 of the spring 42, and both of said arms are connected with a curved or segmental clapper or knocker 48.

It will be understood that this device may be substituted for that shown in Fig. 1, in which event the lever 17' will project through the slot 18, and when the sliding head 35 is pulled in the direction of said lever the clapper or knocker will be thrown inwardly so as to describe a part of a circle, and it will strike the gong or bell 38, giving the same but one sharp blow, and when the pressure is removed from the sliding head 35 the spring 40 will draw the lever 17' back into the position shown in Fig. 3, when the clapper or knocker 48 will be thrown backwardly into the position shown in said figure and will again strike the gong or bell.

In Fig. 4 I have shown another modification in which I employ a disk or plate 49, which is substituted for the cup-shaped receptacle 13, and this disk or plate may be made of wood or any preferred material, and the lever 17' is pivoted thereto, and said disk or plate is also provided with two binding-posts 50 and 51, which are arranged on opposite sides thereof, and connected with the binding-post 50 is a plate 52, one end of which is provided with a spiral spring 53, which is connected with the inner end of the lever 17', and a plate 54 is secured in position in such manner that it connects or makes contact with the binding-post 51, and I also provide two conductors 55 and 56, one of which is connected with each binding-post, and said conductors 55 and 56 connect with a battery 57, and in the circuit thus formed is placed an alarm-bell 58, and this alarm-bell, as will be understood, may be placed in any room or compartment of a building.

The sliding head 35 and the chain 7, with which it is connected, are shown in dotted lines in Fig. 4, but the plate 5 is not shown. It will be understood, however, that when an attempt is made to open the door the lever

17' will be operated, as hereinbefore described, and the inner end thereof will be swung into contact with the plate 54, and the circuit will thus be completed through the binding-posts 50 and 51, the plates 52 and 54, and the spring 53, and the alarm at 58 will be operated.

In Figs. 5 and 6 I have shown another modification in which I dispense with the disk or plate 49 and the cup-shaped attachment 13, and in this form of construction I secure in the end of the plate 8 or in the end of the longitudinal raised portion 9 a block 59, which is preferably composed of insulating material, and the outer end thereof is provided with two metal arms 60, which are held in place by binding-posts 61, and said block is provided with a central longitudinal bore or passage 62, in which is mounted a spring-operated bolt or plunger 63, and the operation of the spring 64, which is mounted on said bolt or plunger, is to force the same inwardly in the direction of the movable head 35, and the outer end of said bolt or plunger, when pressed backwardly against the operation of said spring, is adapted to make contact with the ends of both of the metal arms 60, which project over the central longitudinal opening 62, formed in said block. In this form of construction the binding-posts 61 are each provided with conductors, one of which is designated by the reference-numeral 55 and the other by 56, and these conductors are in connection with the battery 57, and in the circuit thus formed is placed the alarm-bell 58, and said alarm-bell, as hereinbefore stated with reference to the construction shown in Fig. 4, may be placed in any room or compartment of a building. It will be seen that in this construction the lever 17 is also dispensed with, and when the sliding head 35 is pulled against the spring-operated bolt or plunger 63 said bolt or plunger will be forced into contact with the ends of the metal arms 60, and the circuit will thus be completed through said arms and through the conductors 55 and 56 and the battery 57, and the alarm-bell 58 will be sounded.

Each of these devices may be used as desired, and each, as will be seen, involves the same general plan of construction, and I thus provide a device which is simple in construction and operation and which is perfectly adapted to accomplish the result for which it is intended.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In an alarm device, the combination with two plates, one of which is adapted to be secured to the door, and the other to the frame adjacent thereto, one of said plates being provided with an oblong slot in which is mounted a sliding head, which is connected by means of a chain or other device with the other plate, an alarm-bell or similar device secured to a lateral extension of the first-mentioned plate, and provided with a lever which pro-

jects through the slot formed in the plate, and means with said lever to operate the ratchet-wheel which is in engagement with a spring-actuated dog, whereby when the door is opened, the sliding head will be moved under said slot to operate said lever to sound the alarm, substantially as described.

2. In an alarm device, the combination with two plates or attachments, one of which is adapted to be secured to a door, and the other to the frame thereof, one of said plates being also provided with a sliding head, and an alarm-bell connected with one of said plates, and provided with a lever which is adapted to be operated by said sliding head, said lever being also in operative connection with a dog, which is provided with a clapper or ball by which the bell is sounded, and connection between the head and the plate upon the frame, substantially as shown and described.

3. In an alarm device, the combination with two plates, one of which is adapted to be secured to a door, and the other to the frame thereof, one of said plates being also provided with a sliding head or attachment which is connected by means of a chain or other device with the other plate, and an alarm bell or gong provided with a lever which is adapted to be operated, by said sliding head, said lever being provided with a segmental gear, and with a spring by which it is held in its normal position, and said segmental gear being adapted to operate in connection with a pinion which is mounted on a shaft, provided with a ratchet-wheel, and a pivoted dog adapted to operate in connection with said ratchet-wheel, said dog being provided with a spring-arm, to which a clapper or ball is secured, substantially as shown and described.

4. In an alarm device the combination with two plates one of which is adapted to be secured to a door or window and the other to the frame adjacent thereto, one of said plates

being provided with an oblong slot in which is mounted a sliding head connected by means of a chain or other device with the other plate, and an alarm device connected with the first-mentioned plate and provided with a lever which projects through a slot formed in the plate, whereby when the door is opened the sliding head is moved along said slot and operates said lever, a segmental gear connected with one of the arms of said lever which is adapted to operate a pinion mounted on a shaft provided with a ratchet-wheel, a suitably-supported dog adapted to be operated by said ratchet-wheel said dog being provided with a spring-arm to which is secured a clapper.

5. In an alarm device, the combination with two plates, one of which is adapted to be secured to a door, and the other to the frame thereof, one of said plates being also provided with a sliding head or attachment which is connected by means of a chain or other device with the other plate and an alarm bell or gong provided with a lever which is adapted to be operated, by said sliding head, said lever being provided with a segmental gear, and with a spring by which it is held in its normal position, and said segmental gear being adapted to operate in connection with a pinion which is mounted on a shaft, provided with a ratchet-wheel, and a pivoted dog adapted to operate in connection with said ratchet-wheel, said dog being provided with a spring-arm, to which a clapper or ball is secured substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 1st day of June, 1896.

THOMAS J. SUTTON.

Witnesses:

CHARLES S. ROGERS,
C. GERST.