

F. A. DORSEY & M. E. KEYSER.  
FIRE ALARM BOX ATTACHMENT.  
APPLICATION FILED JUNE 16, 1908.

919,702.

Patented Apr. 27, 1909.

4 SHEETS—SHEET 1.

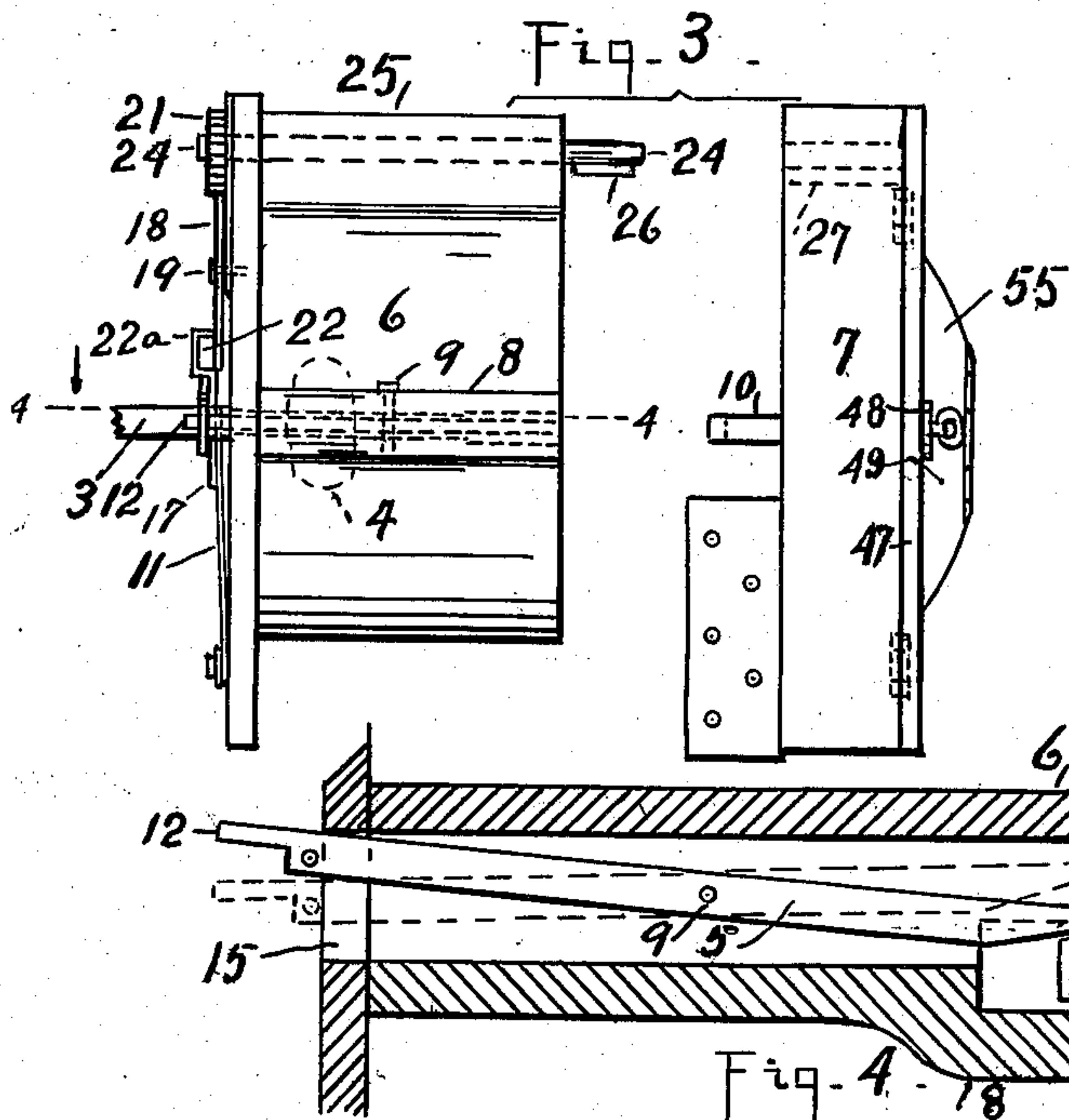
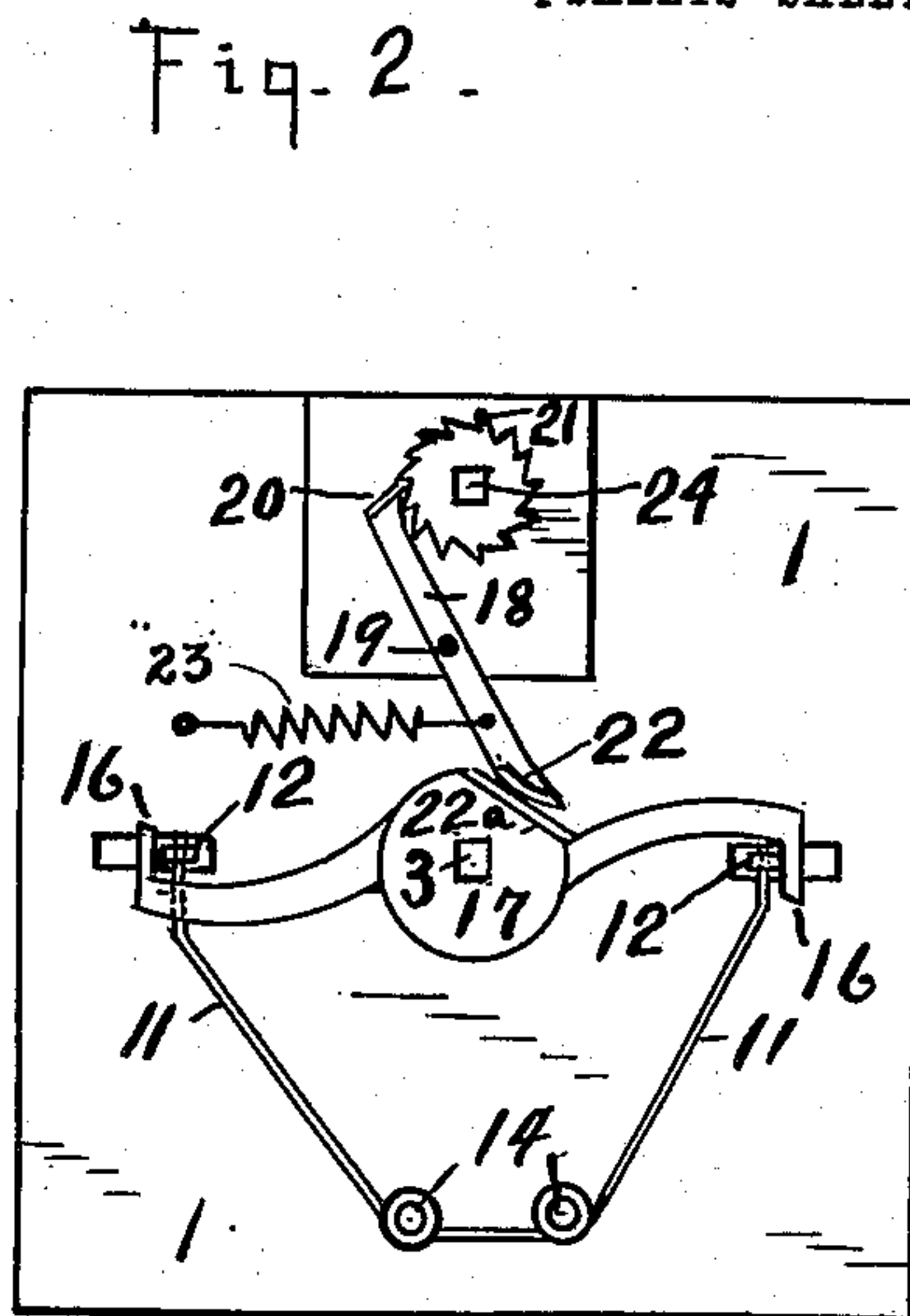
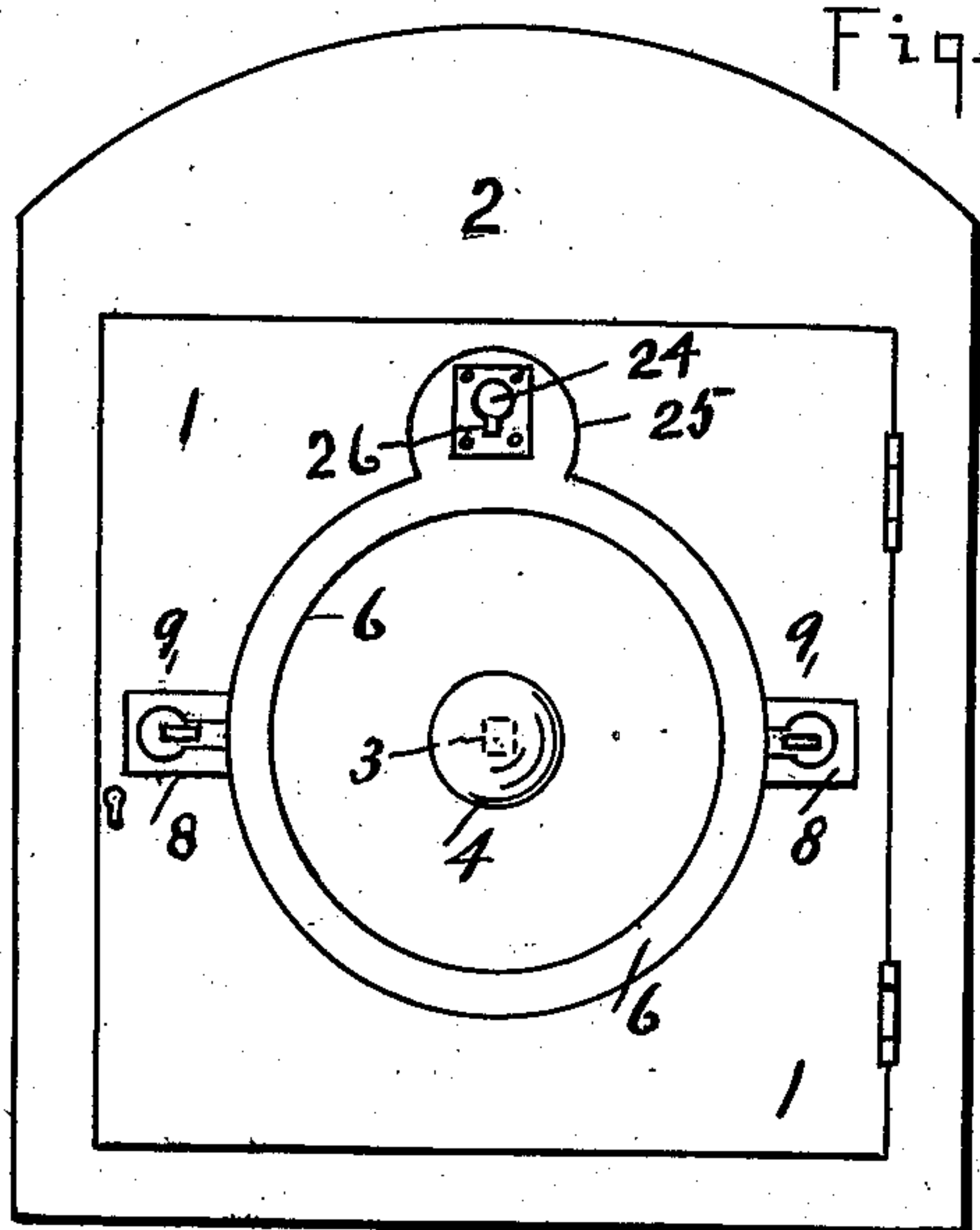


Fig. 4.

Witnesses  
C. M. Catlin

H. L. Gould

Inventors

F. A. Dorsey & M. E. Keyser,

By

Bay. R. Catlin

Attorney

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4 SHEETS—SHEET 2.

Fig. 5.

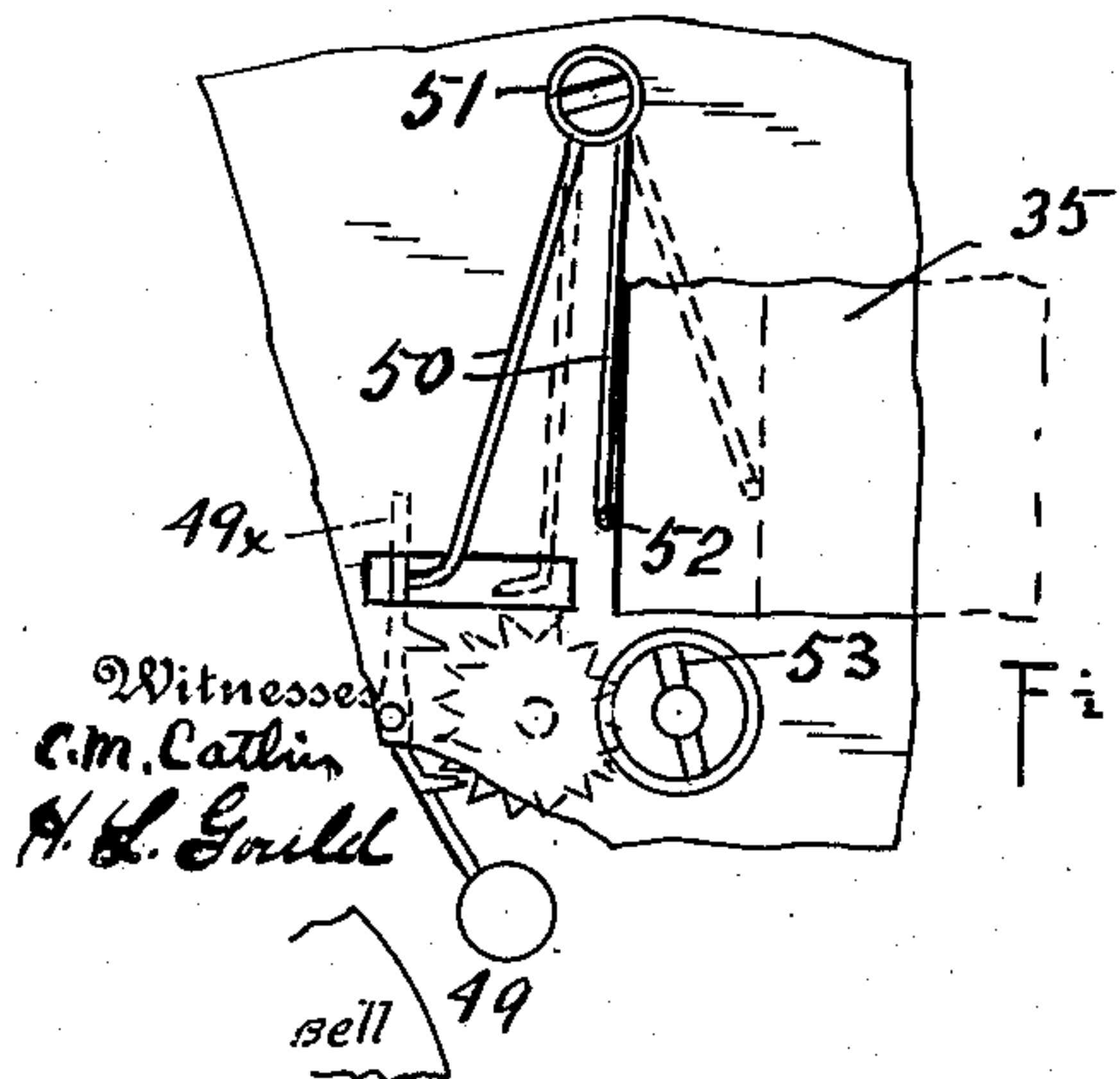
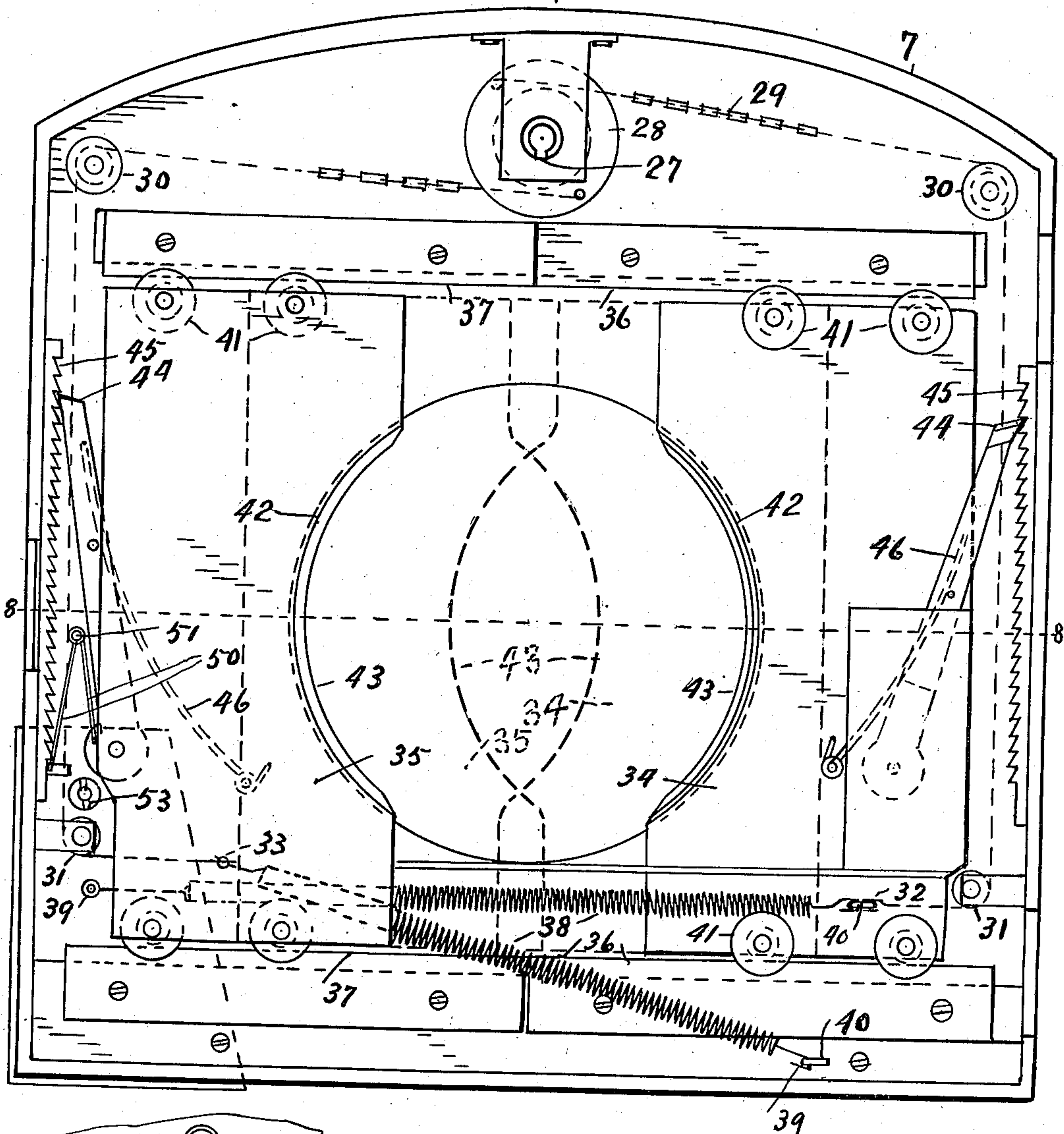


Fig. 6.

Inventor

F. A. Dorsey & M. E. Keyser,

By

Amj. R. Bailin

Attorney

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4 SHEETS—SHEET 3.

Fig. 7.

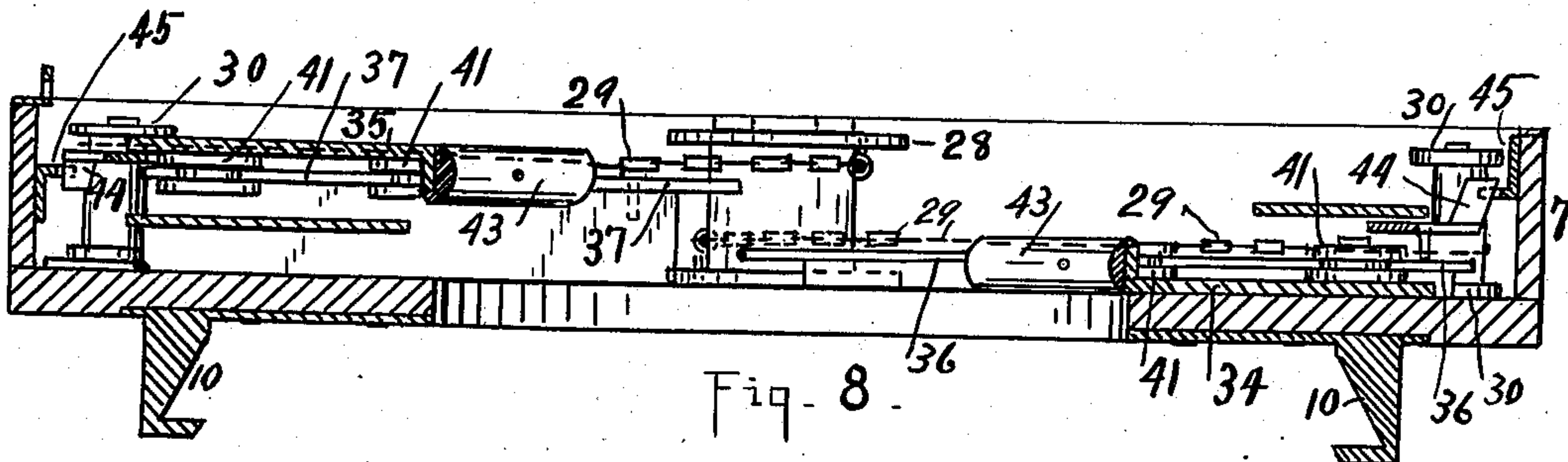
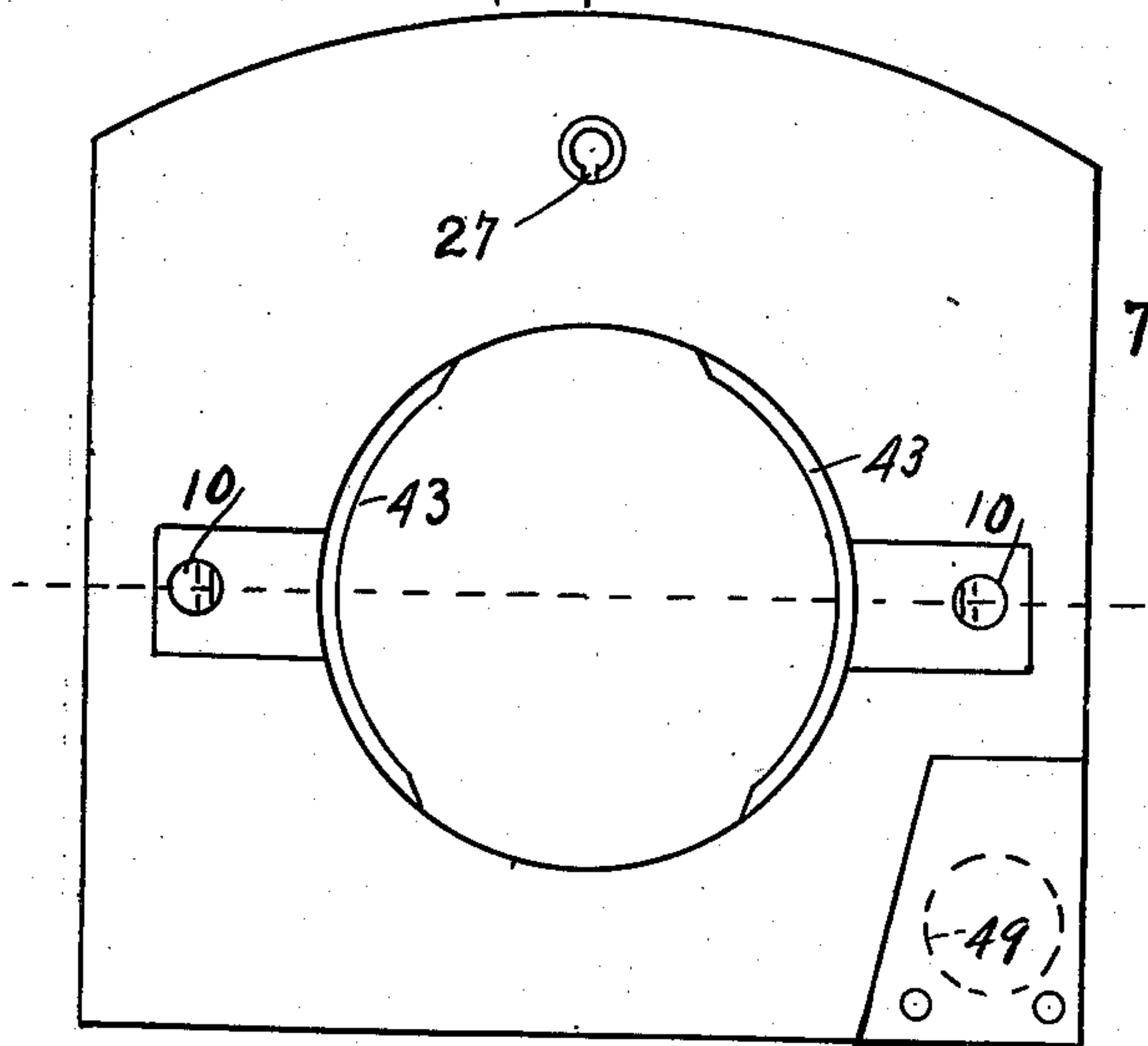


Fig. 8.

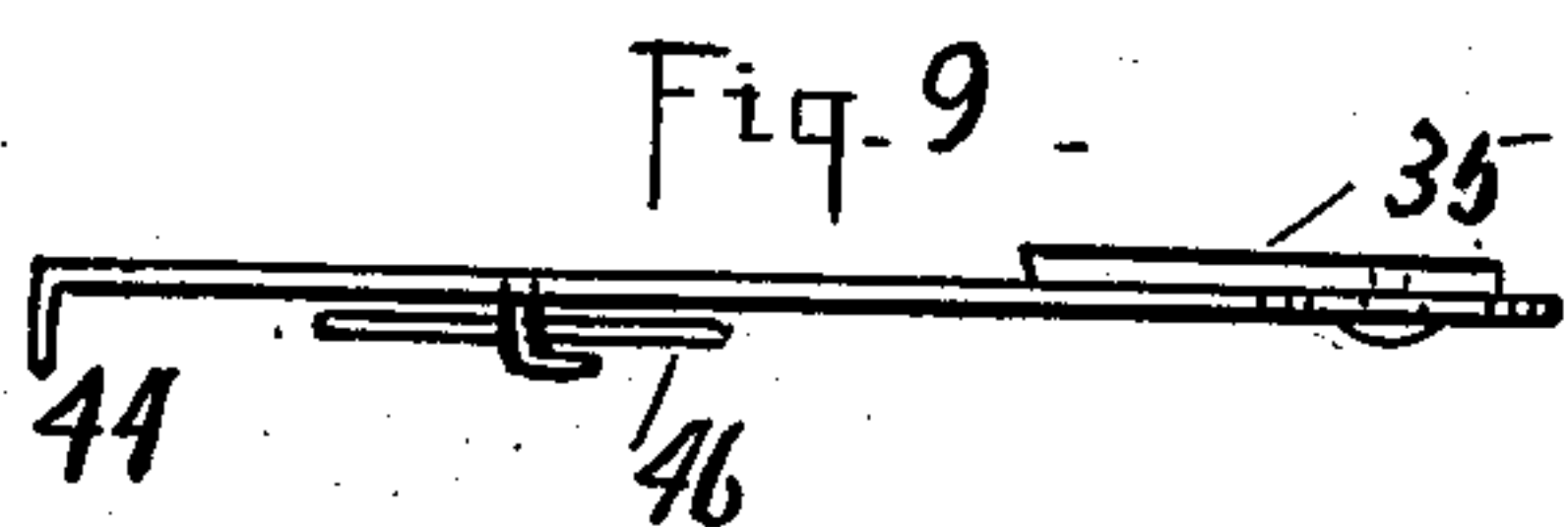


Fig. 9.

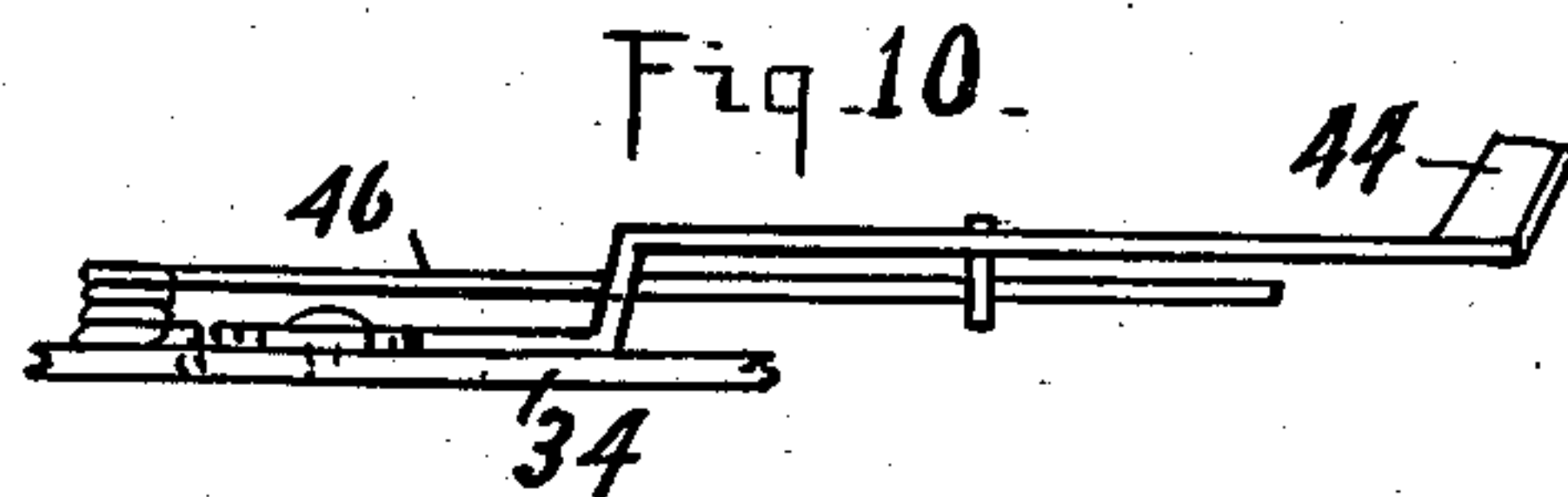


Fig. 10.

Witnesses  
C. M. Catlin.

H. L. Gould

Inventor

F. A. Dorsey & M. E. Keyser,

By

Benj. R. Berlin

Attorney

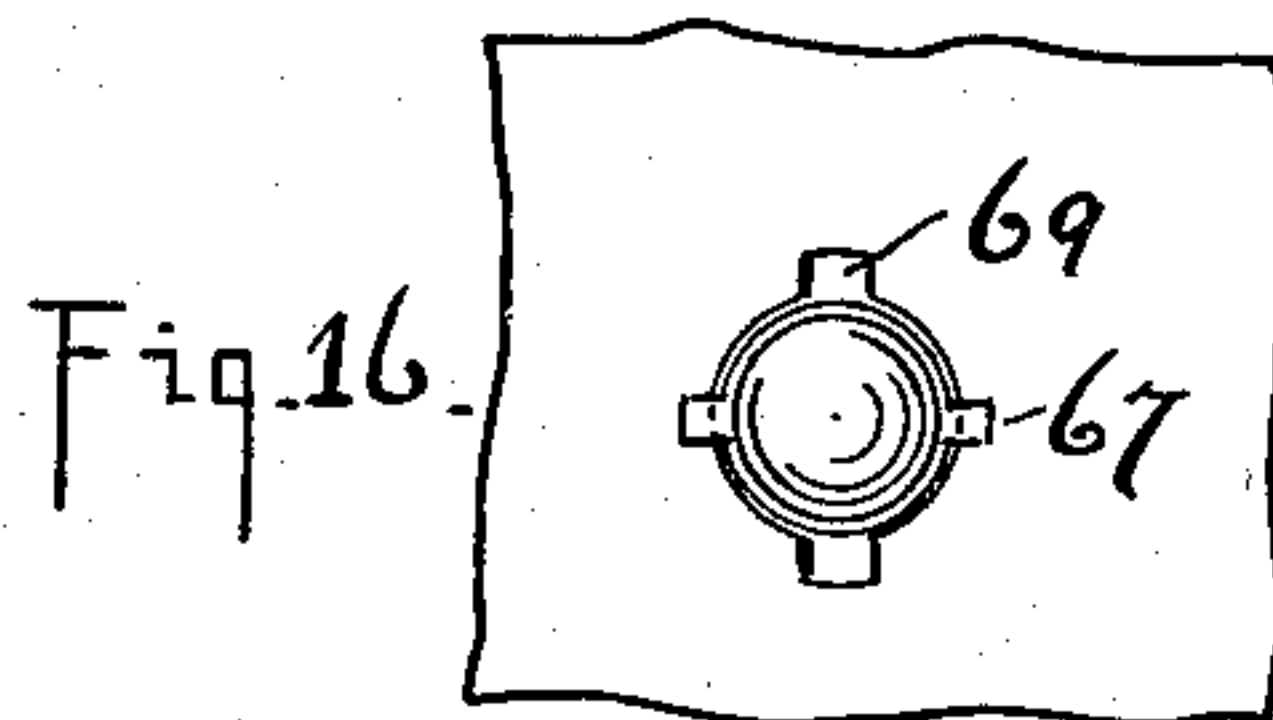
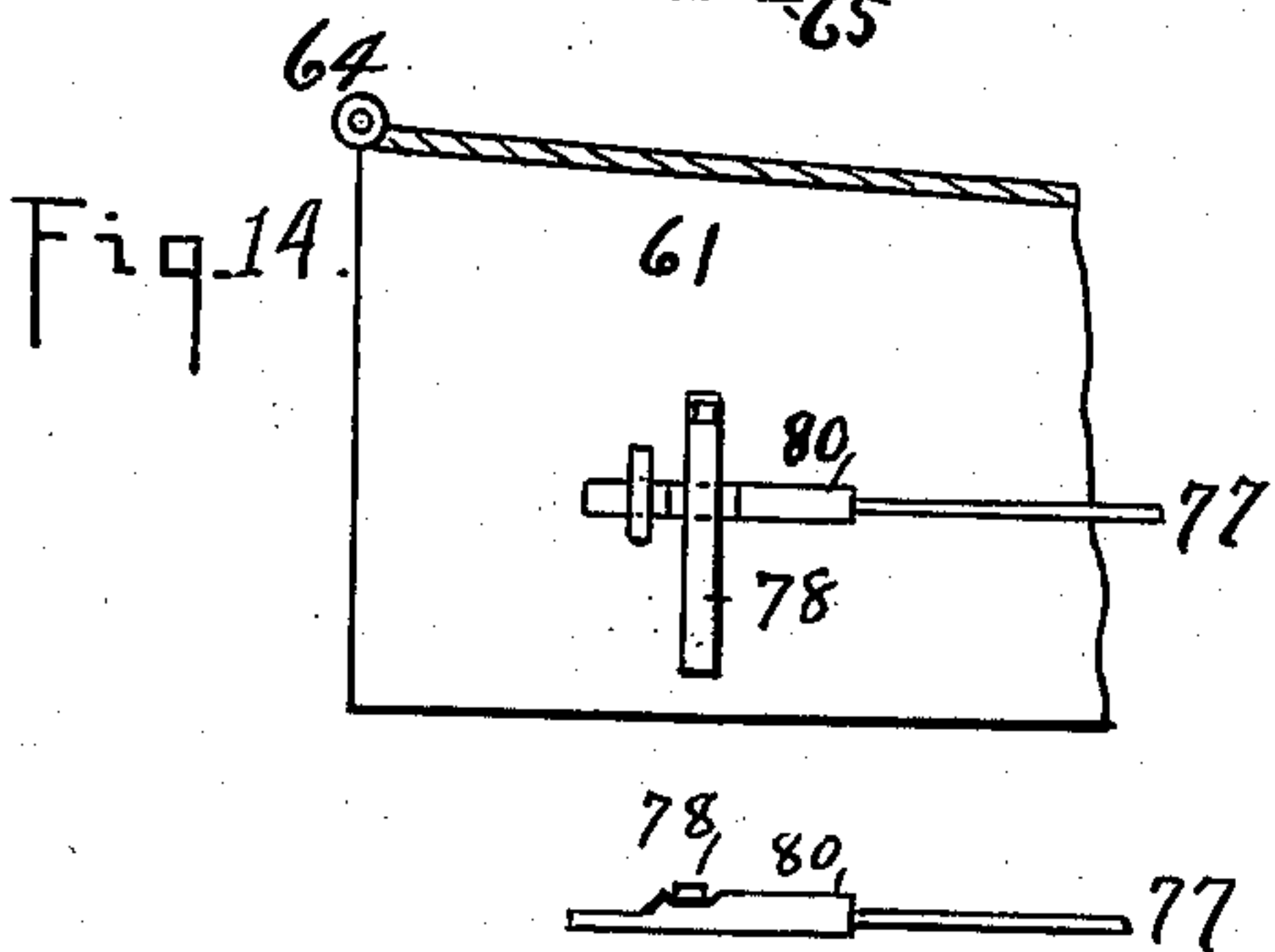
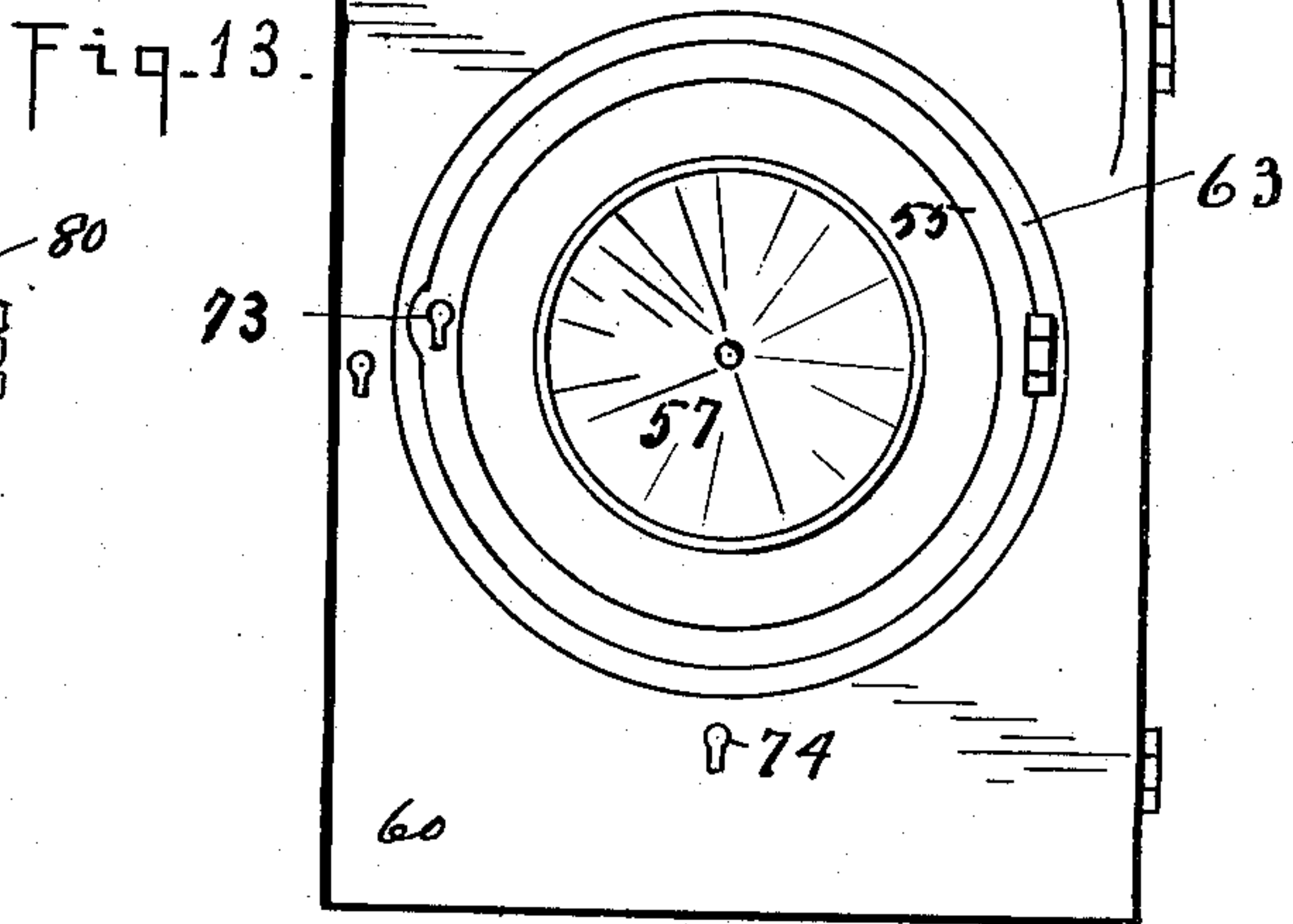
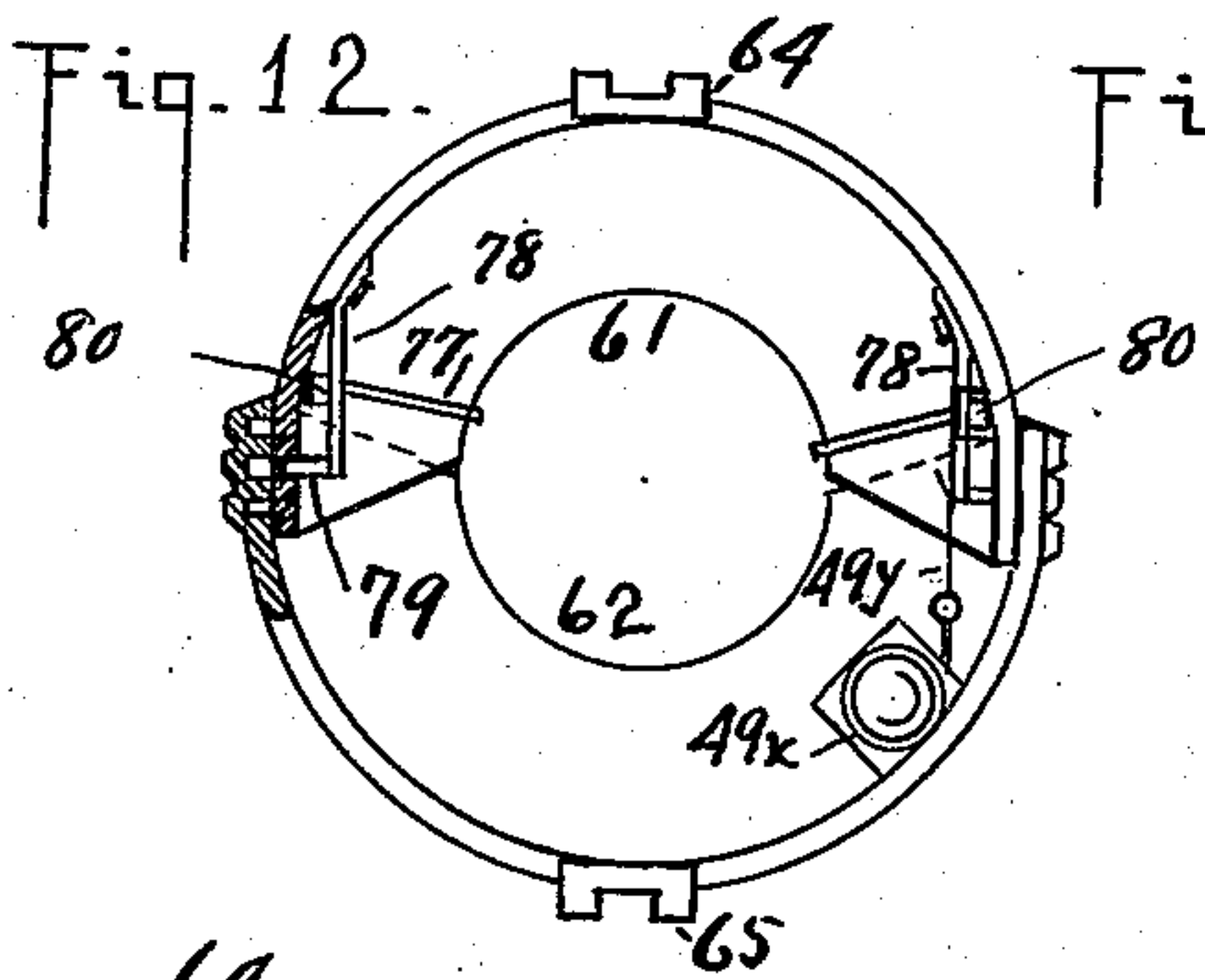
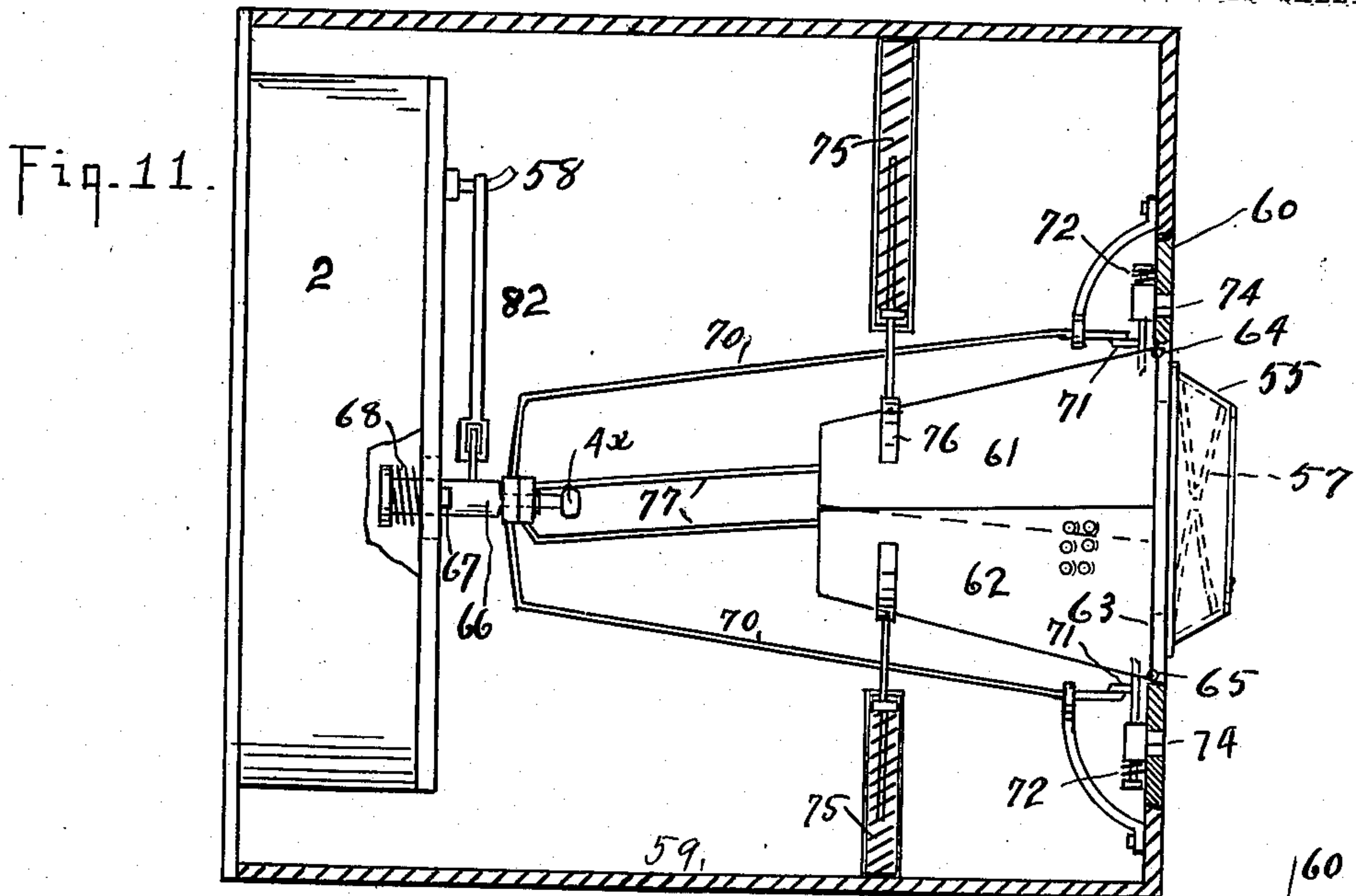


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4 SHEETS—SHEET 4.



Witnesses  
C. M. Catlin  
H. L. Gould

Fig. 15.

Inventor  
F. A. Dorsey & M. E. Keyser,  
By R. R. Bailett  
Attorney



# UNITED STATES PATENT OFFICE.

FREDERICK A. DORSEY AND MARY E. KEYSER, OF BALTIMORE, MARYLAND.

## FIRE-ALARM-BOX ATTACHMENT.

No. 919,702.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed June 16, 1908. Serial No. 438,792.

*To all whom it may concern:*

Be it known that we, FREDERICK A. DORSEY and MARY E. KEYSER, residents of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Fire-Alarm-Box Attachments; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to fire-alarm-box attachments, and has for its object to provide a device to aid in ascertaining the person actuating the alarm with a view to discourage intermeddlers with fire alarm or other signaling devices.

The invention consists in means for fixing to the person of one actuating an alarm or signal means, a device whereby he may be discovered as the alarm actuator, and also in the several particulars hereinafter pointed out.

In the accompanying drawings which illustrate the invention and form part of the specification—Figure 1 is a front elevation of a fire alarm box door with a sleeve inclosing the box-operating knob or handle; Fig. 2 is a rear elevation of said door; Fig. 3 is a side elevation of the door and sleeve, and of a detached box like part; Fig. 3<sup>a</sup> is a partial section of a door on said box like part; Fig. 4 is a section on line 4, 4 of Fig. 3; Fig. 5 is an elevation of the box like part or "cuff" its door being omitted; Fig. 6 is a partial front view enlarged showing a bell stop; Fig. 7 is a rear elevation of the cuff on a smaller scale than Fig. 5; Fig. 8 is a section on line 8, 8 of Fig. 5; Fig. 9 is a partial elevation showing a holding pawl and adjacent parts; Fig. 10 is a like view of another pawl. Fig. 11 shows a side view of a modified form of cuff applied to an alarm box; Fig. 12 is an end view of a cuff detached a part being broken away; Fig. 13 is a front view of the cuff and supporting door; Fig. 14 is a partial longitudinal section of one section of the cuff; Fig. 15 is a side view of a bolt; Fig. 16 shows a part of an alarm box face plate.

Numeral 1 denotes a door for a fire alarm box indicated at 2, and of any usual or desired construction, and 3 denotes a key or spindle journaled in the door, by rotation

of which key alarm mechanism of usual or suitable form is put in operation to give an alarm.

4 denotes a spindle-turning knob. The turning of the knob and spindle to release or actuate the alarm mechanism in any usual or desired manner, also releases certain spring-actuated lever catches 5 which normally hold a detachable box like device (which we call a cuff or bracelet) 7, and which comprises two movable plates to be described, to a sleeve 6 fixed on the door 1. Said catches 5 are pivoted at 9 in housings 8 fixed preferably to sleeve 6. They are normally held engaged with hooks 10 fixed on the detachable cuff 7, whereby the latter is held in place against the outer end of sleeve 6.

11 denotes springs which engage the ends 12 of the levers 5. These springs are in the present instance made of one piece of wire wound about pins 14 or the like, the outer end of each spring-member being connected to a lever end 12. Each end 12 of the levers is normally held at or near the inner end of a slot 15 in the door 1 by a hook member 16 fixed to the knob spindle by the medium of a plate 17. A suitable turning of the spindle, as usual in sounding fire alarms, also withdraws the hooks 16 from the levers whereby the springs 11 are left free to disengage the lever ends 13 from the hooks 10, and thus release the cuff 7 from the door sleeve 6.

18 denotes a pawl bar pivoted at 19 and adapted by a tooth 20 to hold a ratchet wheel 21 from backward rotation. The pawl is normally yieldingly held in engagement by a spring 23. The lever has a bearing end 22 which coöperates with a flange 22<sup>a</sup> on plate 17. When said plate is turned by handle 4 the pawl is disengaged from ratchet 21 for a purpose which will be described. The pressure of part 22 against flange 22<sup>a</sup> also normally tends to hold hooks 16 engaged. The ratchet wheel 21 is fixed to a shaft 24 which extends through a housing 25, and at its outer or protruding end has a feather 26 adapted to engage a slot 27 on the interior of a spool 28 rotatably supported in the outer framework or border of the cuff 7. To each flange of spool 28 is fixed oppositely a chain 29 which is extended over a pulley 30 and thence to a pulley 31. The opposite end of each of said chains is fixed at 32 or 33 to a plate 34 or 35



movable between ways 36 on one side, and ways 37 on the other. These plates may comprise each two parts so connected as to form housings for springs, pawls, or the like, as indicated. To each movable plate is secured one end of a spring 38, the other end being fixed at 39 to the back frame or body portion of the cuff, as shown. These described connections of chains and springs to the plates and frame respectively are conveniently made by staples 40.

The movable plates 34 and 35 are each provided with guiding pulleys 41 running on the respective ways or tracks 36 or 37. Said plates are each hollowed out at 42 and provided with a lining or other suitable wrist-engaging surface 43. The plates are moved apart to set the device by winding the chains 29 on spool 28 by means of a key applied to one end of shaft 24 or in other suitable manner. This winding of the chains puts under tension the springs 38, while it separates the plates 34 and 35 to provide for the insertion of the hand between them to reach the fire alarm knob or handle 4. The plates are held apart against the pull of springs 38 by the medium of the chains and chain spool, which latter is normally held by ratchet 21 and the pawl tooth 20, as above described.

To set the device for use the plates are separated by winding the chains on spool 28, the holding pawls 44, pivotally connected to the plates 34, 35, having first been disengaged and held from racks 45. These pawls, pressed by springs 46, are adapted when the cuff plates are closed to engage the racks. This prevents the separation of the plates and release of a wrist that may have been caught between them by the described effect of the actuation of the fire alarm knob. The said plates can be withdrawn or separated by hand the door 47 having been unlocked and opened to give access to the pawls 44, which can also be released by hand, as in setting the device. 48 denotes a lock for said door 47, a suitable key or keys for which can be put in charge of firemen or policemen or of both.

It will be understood that the turning of the fire alarm knob releases or operates the alarm mechanism (not shown) and simultaneously relieves the ratchet wheel 21 and spool 28 from the pawl 20 whereby springs 38 are free to close the plates 34, 35, on the wrist of the person turning in the alarm, said plates being held closed as stated by pawls 44, and it also simultaneously releases the cuff 7 from the sleeve 6, so that the cuff is carried on said person's wrist until removed by an authorized officer having a key to unlock door 47. The release of the ratchet, which normally holds the chain spool, and the consequent release of the plate-closing springs, also permits the sounding of a cuff-carried bell 49 (preferably a spring actuated bell) which is normally held inactive when the device is

set, by a stop 50 pivoted at 51, and at 52 is adapted to bear by one end against the plate 35, and by its other end against an extension 49<sup>x</sup> of the bell clapper holding it from actuation. The bell is freed from the restraint of said stop, as indicated in broken lines in Fig. 6, when plate 35 closes on the wrist, and sound to call attention of whom it may concern. The usual speedy appearance of firemen and policemen will enable the speedy release of any person lawfully sounding the fire alarm, or the arrest of any mischievous or criminal meddler, thus marked out.

53 denotes a key for winding the actuating spring of the cuff-alarm.

Mere mechanical changes which do not substantially alter the purpose of the herein described devices, nor materially depart from the principles of operation and construction set forth, may be made without departure from the invention, which comprises means for automatically fixing a mark or device to a person "turning in" or causing the actuation of an alarm or signal means. For example, the invention is not limited to a knob such as indicated, and is independent of any particular form of knob, key or handle, and also of any particular means for sending an alarm or otherwise signaling or of arousing attention. The cuff (so called) or its equivalent may be made as small and light as consistent with the main object of the device, and preferably aluminum, wood, condensed paper, or fiber board, or the like, will be used as found most suitable by skilled mechanics. The cuff in the instance illustrated has a base or support of box like form provided with a door and means for locking the same to prevent meddling with the contained parts of the device. Said box may be attached to any suitable alarm or indicating mechanism, in substantially the manner described, and may be provided in numbers for attachment by doors 1 to receptacles of standard size.

On the door 47 over a hand hole 54 is fixed a chamber or extension 55 of metal and having a hand hole which registers with hole 54 and with the opening between plates 34 and 35. Fixed between parts 47 and 55 is a sleeve 56 and in the sleeve is a yielding or elastic closure 57, which may be of rubber, and is shown of an hour-glass shape. A person's hand can be pushed through this elastic device to reach the alarm knob. It serves to exclude water, dirt, etc. from the cuff. It also steadies the cuff on the wrist and relieves the weight or strain on plates 34 and 35, and it prevents convenient insertion and manipulation of a tool to operate the alarm knob. The construction of this elastic protecting closure can be varied.

In practice the combined thickness of box 7 and extension 49 may conveniently be from two to three inches.



When the cuff is on a wrist door 47 may be unlocked by an officer with a key for lock 48, and the door opened a little to give access to pawls 44 to release them. Evidently means may be provided for disengaging said pawls without opening the door.

In Fig. 11, 2 denotes an alarm box, with a pull 58 (such as used in Gamewell boxes, for example). 59 is a casing and 60 a door therein, normally locked. It has a circular opening into which fits a removable cuff device in the form of a funnel, having two sections 61, 62, preferably overlapping. At the large ends the sections are hinged to a plate 63 at 64 and 65. Said plate 63 has a hand hole which, together with the funnel, is in front of an alarm operating knob 4<sup>x</sup>, secured to a spindle 66 having arms 67 which rest against the face plate of the alarm box. 68 is a spring tending to move the spindle inward. When the handle is turned until lugs 67 reach notches 69 the spring suddenly moves the spindle inward with the effect to move rods 70 to the left. The outer ends of these rods are supported in brackets, and when the device is set stand behind lugs 71 on bolts which engage the cuff and lock it in the position shown in Fig. 11. 72 denote springs for withdrawing the bolts when the latter are free to move. 55 denotes a chamber over the opening in plate 63 having an elastic closing device 57 substantially like that above described. Part 55 is hinged to plate 63 and has a key hole 73 whereby an officer having a key can unlock it when desired. The same key may fit holes 74 so that in setting the device the bolts may be key-operated to lock in the cuff. 75 are springs pressing yokes 76 against the cuff. 77 denotes rods also connected to spindle 66 to be withdrawn with the latter. They pass into the cuff and control locking devices for fixing the cuff on a wrist. As illustrated such devices comprise springs 78 secured to the upper section and having each a locking pin 79 adapted when released to enter a registering hole in the outer section which has several sockets one or another of which will be brought in line with pin 79 as the cuff sections move to adjust themselves to a wrist. 80 denotes a bolt or wedge which when the device is set stands behind springs 78 holding the pins withdrawn and the cuff sections free to move on their hinges 64, 65. Spindle 66 has an arm with a loose connection, as by means of an elongated slot, with a connecting device 82 suspended from pull 58. When a hand is inserted and the handle turned the spindle arm and part 82 do not operate the alarm box pull 58 to send an alarm until just as lugs 67 reach notches 69 and spring 68 operates the spindle to draw rods 77 and bolts 80, allowing springs 78 to carry pins 79 into sockets in the outer section whereby the cuff is locked to the wrist. The same move-

ment of the spindle draws rods 70 from stops 71 and the springs 72 draw their bolts and release the cuff from the casing door. An officer with a key for hole 73 can reach pins 79 to unlock the sections to permit withdrawal of the locked hand. The devices for locking the cuff sections, and devices for releasing the cuff may be varied without departing from the invention. Within the large end of the cuff we mount an audible alarm device, preferably a spring operated bell 49<sup>x</sup>. The bell is normally held from action, for example, by an extension 49<sup>y</sup> of the bell hammer, said extension resting against spring 78 until the latter is released and moves inward when the hammer is free to vibrate.

Having thus described the invention what we claim is:—

1. The combination of an operating means for use with alarm devices, an open wrist-inclosing mechanism, connections whereby said mechanism is closed upon the wrist of a person actuating the operating means, and an elastic closure normally closing the entrance to said mechanism adapted to admit a hand.

2. The combination with an alarm box comprising signal-sending mechanism, a door closing the alarm box, means for operating the signal-sending mechanism accessible on the outside of the door, of an inclosure for said means having an opening in the front thereof, and a detachable wrist-grasping cuff device comprising means normally closing said opening.

3. The combination of an alarm-sending key or handle, an inclosure therefor, a wrist-grasping cuff, and a normally locked plate in front of the wrist-grasping portion and having a hand opening.

4. The combination with an alarm box and means for sending an alarm, of an inclosure for said means, a wrist-grasping cuff, locking devices normally securing the cuff to the alarm box, springs tending to disengage said locking devices, and means for releasing said locking devices actuated by operation of said means for sending an alarm.

5. The combination of an alarm operating means, a cuff for the wrist of a person actuating said means, a housing to which the cuff is normally connected, devices intermediate said operating means and cuff whereby manipulating the former causes the cuff to be fixed upon the wrist of the manipulator, and an alarm mechanism carried by the cuff.

6. The combination of a device for operating an alarm mechanism, a door for a box-housing of said mechanism, a sleeve fixed to said door and inclosing an alarm handle for causing the actuation of the alarm mechanism the end of said sleeve directly in front of said handle being open, a cuff supported on such open end of said sleeve, and mechanism



whereby the manipulation of the handle fixes the cuff upon the wrist of the manipulator.

7. The combination of a handle or key for causing the actuation of an alarm mechanism, with an indicating device comprising a detachable cuff, and a distinct alarm device carried by the cuff, and means for automatically fixing said device to the person actuating the handle.

10 8. The combination of a box comprising a cover and an opening for the admission of a hand and wrist, a lock for the cover, means for connecting the box to the support of an alarm key or handle, wrist-inclosing parts  
15 within the box, connections between said key and said parts whereby the manipulation of

the key fixes the parts on the wrist of the key manipulator.

9. The combination with an alarm box and a device for operating the same, of a detachable cuff, means for fixing it to a user, and an elastic closure over the entrance to such cuff.

In testimony whereof, we have signed this specification in the presence of two subscrib- 25  
ing witnesses.

FREDERICK A. DORSEY.  
MARY E. KEYSER.

Witnesses:

H. L. FRANC,  
C. M. CATLIN.