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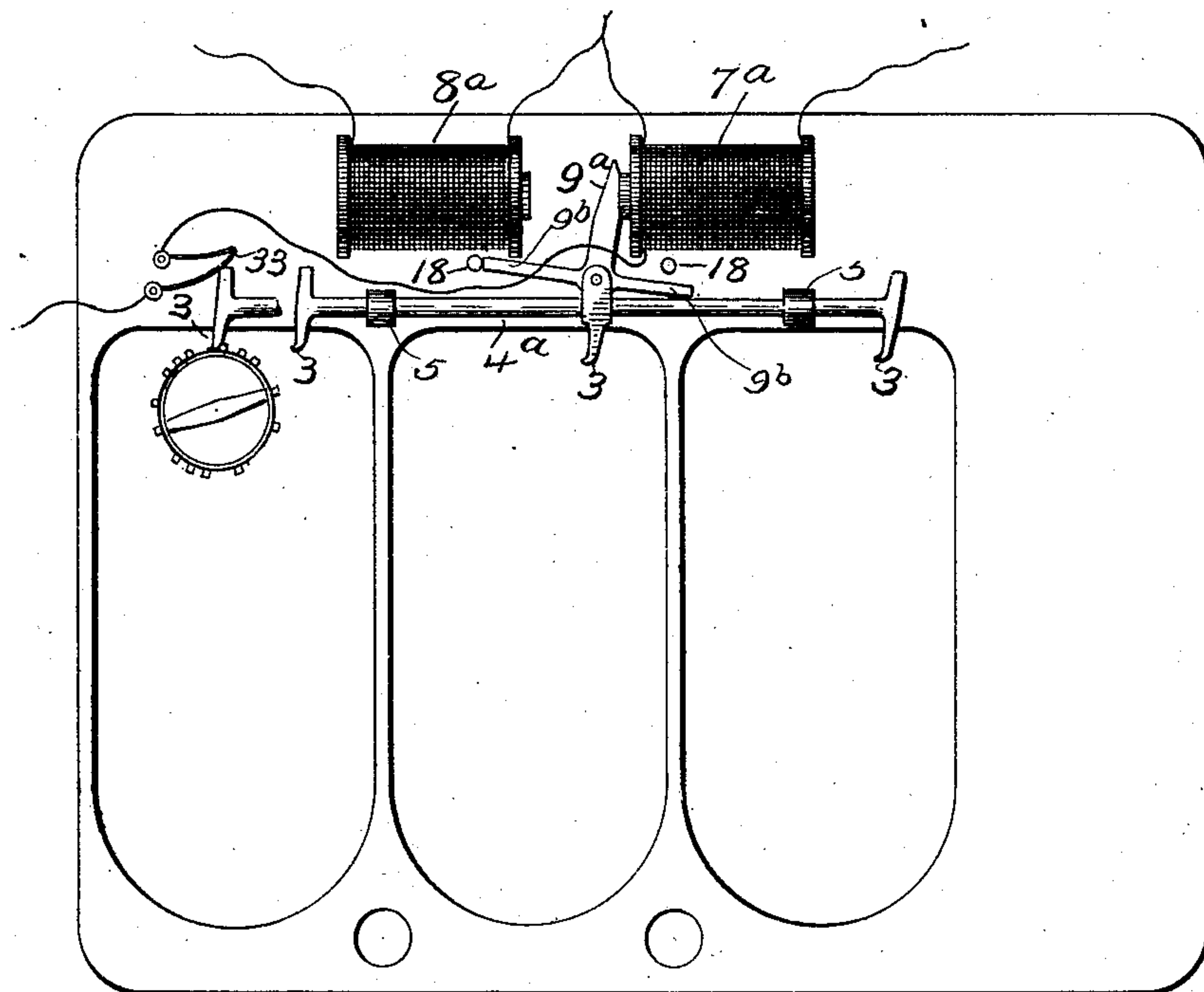
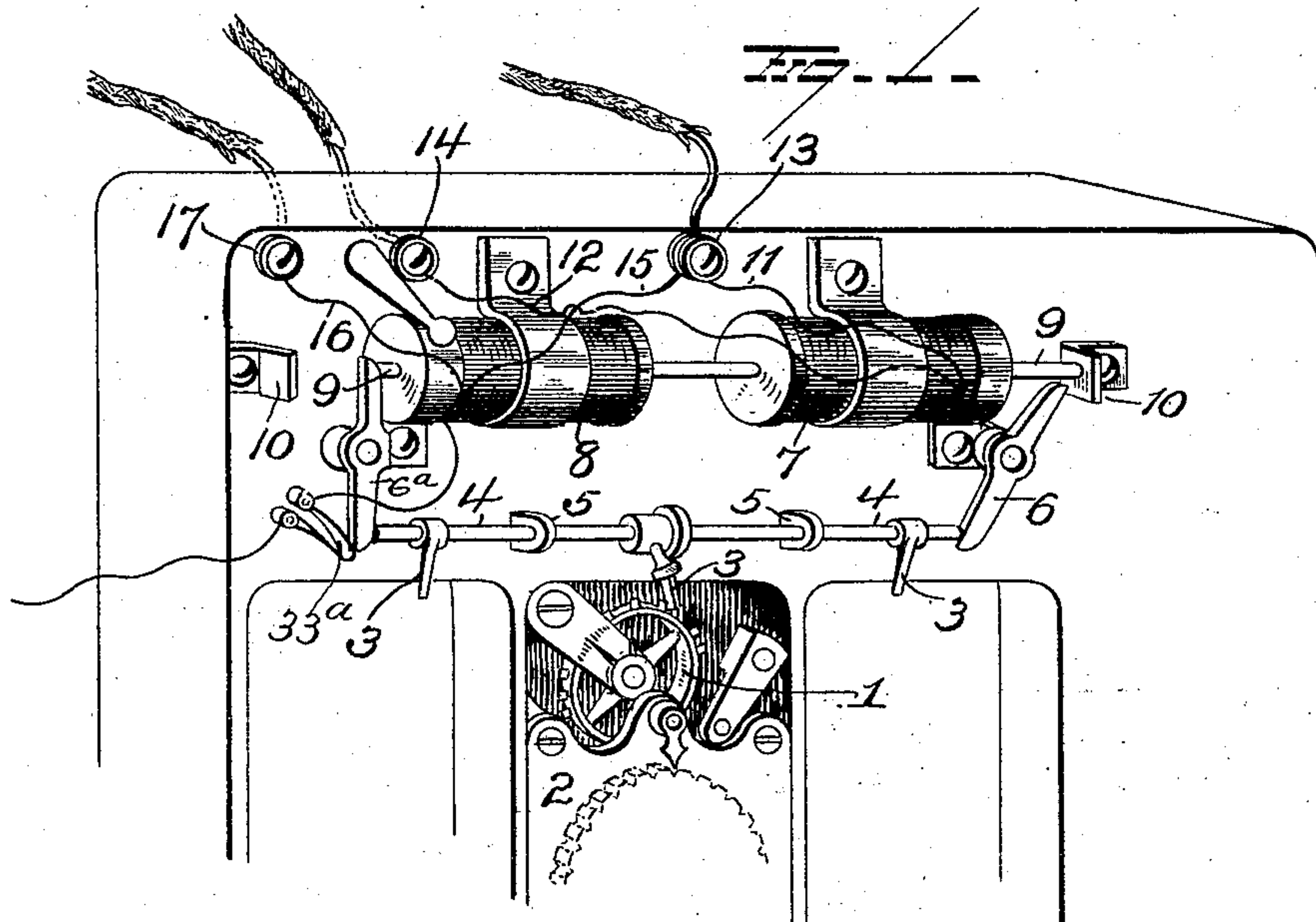
PATENTED JAN. 29, 1907.

W. H. TAYLOR.

DOGGING MECHANISM FOR TIME AND OTHER LOCKS.

APPLICATION FILED MAY 5, 1906.

2 SHEETS—SHEET 1.



WITNESSES
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FIG. 2

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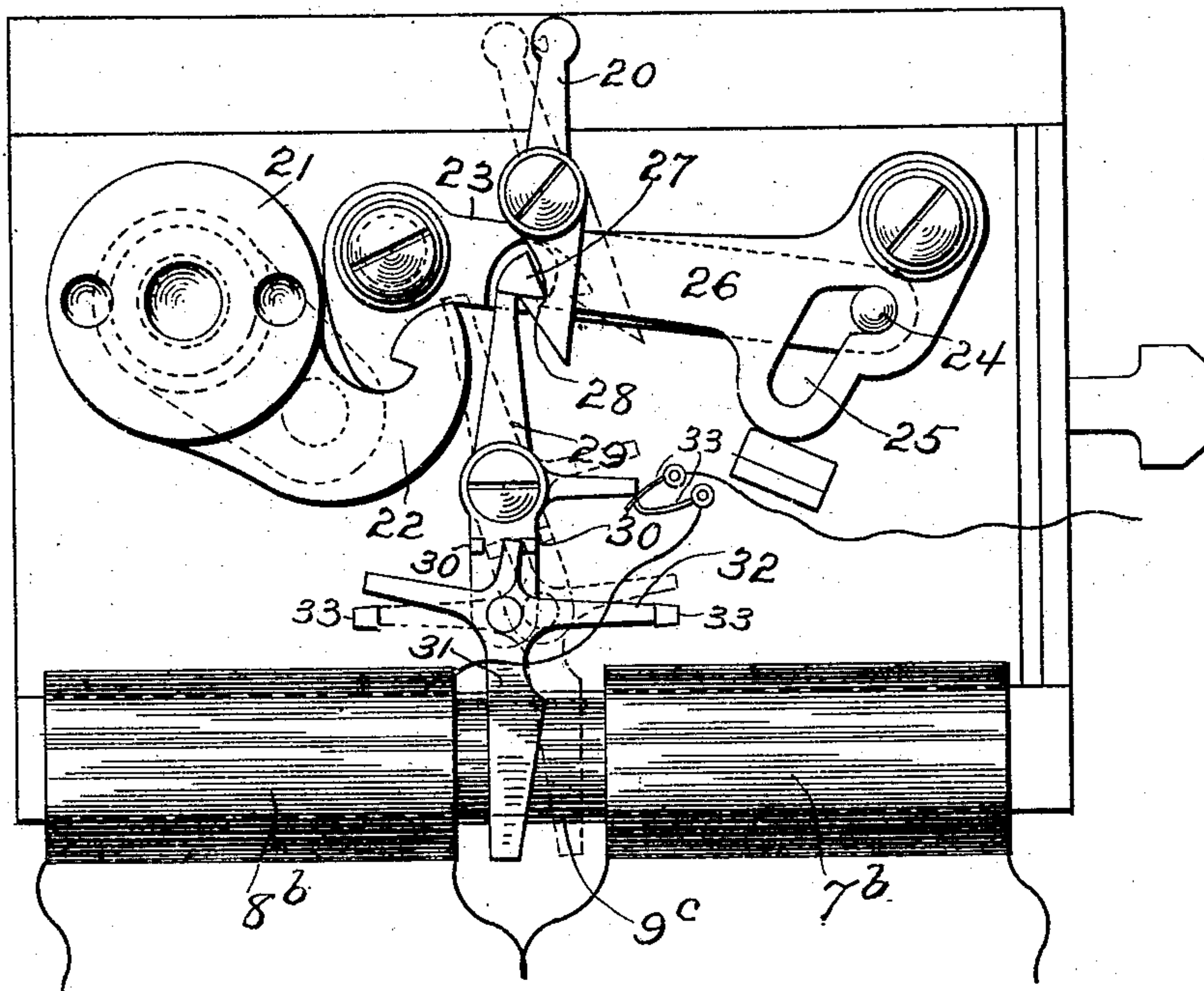
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Fig. 3.



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UNITED STATES PATENT OFFICE.

WARREN H. TAYLOR, OF STAMFORD, CONNECTICUT, ASSIGNOR TO
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DOGGING MECHANISM FOR TIME AND OTHER LOCKS.

No. 842,268.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed May 5, 1906. Serial No. 315,326.

To all whom it may concern:

Be it known that I, WARREN H. TAYLOR, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Dogging Mechanism; and I 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 appertains to make and use the same.

My invention relates to an improvement in dogging mechanism for time and other locks, the object being to provide means whereby the time movement of the lock or the automatic bolt-operating devices of the lock may be dogged by a person at a distance from the vault or safe, so as to postpone for any length of time the opening of the safe or vault.

My invention consists in electrically-operated devices adapted to be moved into and out of the path of the bolt-releasing devices, whereby such releasing devices are restrained in their action until such electrically-operated devices have been withdrawn.

My invention further consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of time-lock mechanism, showing my improvement applied thereto. Fig. 2 is a view of a modified form of the improvement, and Fig. 3 is a view in elevation showing my improvement applied to the Yale single automatic bolt-operating device.

In Fig. 1 I have shown simply the casing for a triple time-lock movement with part of the time mechanism in one section of the casing only; but it will be understood that the time mechanism, such as the well-known Yale movement, is to be used in each section of the case, and again while I have illustrated the triple movement the single or quadruple movements may be used with my improvement.

Each time-movement has as a part of its mechanism an escapement-wheel 1, suitably mounted near the top of its casing 2. Each casing 2 is provided at a point adjacent to the escapement-wheel 1 with a slot in which

a finger 3 rests and moves. The three fingers 3 are secured to a rod 4, slidably mounted in brackets 5, which latter may be secured to the time-lock casing or to the inner face of the vault or safe door or to any part carried by the latter.

Located adjacent to the ends of the sliding bar 4 are the pivoted levers 6 and 6^a, the lower ends of which are located in the plane of movement of the bar 4, so that when lever 6 is rocked on its pivot the bar 4 will be slid longitudinally in its bearings 5 and engaging the lower end of the other lever 6^a rock it on its bearing.

The two levers 6 and 6^a are located adjacent to the opposite ends of a solenoid, which latter is also carried by the time-lock casing, by the vault or safe door, or by a part carried by the latter. This solenoid comprises two helices 7 and 8, located end to end, and a core 9, mounted and movable in both helices, the endwise movements of the core 9 being limited by the stops 10, located in the path of movement of the core, but some distance removed therefrom, so as to permit of the free rocking movements of the levers 6 and 6^a.

The two ends 11 and 12 of the coil or helix 7 lead, respectively, to the binding-posts 13 and 14, while the two ends 15 and 16 of the coil or helix 8 lead, respectively, to the binding-posts 13 and 17. A conductor leads from each binding-post 13, 14, and 17 to any suitable point—for instance, to the residence of the president or cashier of the bank—and have properly included in the circuit a battery and a switch. By throwing the switch to close the circuit through the wires leading to binding-posts 13 and 14 the current will pass through and energize helix 7, thus moving the core 9 to the position shown in Fig. 1. This movement of the core rocks the adjacent lever 6 on its pivot, and the end thereof engaging the rod 4 moves the latter in a direction opposite to the movement of the core and carries the fingers 3 thereon against the projections on the escapement-wheels, thus stopping the time mechanism. By now shifting the switch so as to connect the conductors leading to binding-posts 13 and 17 helix 7 will be deenergized and helix 8 energized, thus drawing the core 9 into helix 8.

This movement of the core brings its free end into engagement with lever 6^a and rocks the latter on its bearing. As the lever is rocked its lower end engages the rod 4 and shifts same to the right, thus disengaging the fingers 3 from the escapement-wheels of the time mechanism and permitting the latter to start up again.

This dogging mechanism is designed to be under the control of a person remote from the vault or safe, so that in the event it becomes necessary the moment of opening the vault or safe can be indefinitely postponed.

To illustrate more clearly what this invention is intended to accomplish, let us suppose that the city is from some disturbing cause in the hands of a mob and is so held by the mob for a number of days. With the locking devices now in use and which automatically unlock the doors at stated times the mob would have access to the bank-vaults within twenty-four hours. With this device, however, the mechanism can be dogged and the moment of opening postponed for any length of time.

The wires should be carried through the walls of the vault or safe in such a manner as not to be distinguishable and terminate at any point, which may be kept secret, remote from the bank, so that the dogging mechanism may be operated by an officer of the bank without exposure to danger.

Precisely the same result can be accomplished with the construction shown in Fig. 2. In this construction I employ two magnets 7^a and 8^a, connected up with the three conductors. Slidingly mounted below the magnets is the sliding rod 4^a, mounted in bearings 5. This rod is provided with a series of fingers for engaging the projection on the escapement-wheel and carries a pivoted armature 9^a, having projecting toes 9^b. These toes limit the rocking movement of the armature and also engage fixed jaws or stops 18, which latter lock the rod against movement when the armature is at rest.

In Fig. 2 the armature is shown in contact with the magnet 7^a, and it will remain in such position at all times while said magnet is energized and also after the circuit thereto is broken and until magnet 8^a is energized. When magnet 8^a is energized, the armature will first rock on its bearing, and thus carry its toe in engagement with stop 18 to a plane below said stop and will then move toward said magnet and carry with it the bar 4^a until the armature makes contact with the core of magnet 8^a. When the armature engages magnet 8^a, the fingers 3 on bar 4^a will have been moved in positions to engage the escapement-wheels and stop the time-movements, and the toe to the right of the armature will rest in a plane with its top 18, thus locking the parts against displacement. With the parts in the positions last described

the time mechanism will remain inoperative until the magnet 8^a has been deenergized and the armature moved to the right by magnet 7^a.

In the construction shown in Fig. 3 I have shown the dogging mechanism applied to the Yale automatic bolt-operating device disclosed in United States Patent No. 645,431, granted to H. C. Stockwell, March 13, 1900, and assigned to The Yale & Towne Manufacturing Company, instead of directly to the time mechanism. With the dogging device applied to the time mechanism the latter will be stopped and after release will start up again and release the lock after the time mechanism completes the movement for which it was wound.

With the dogging device applied to the automatic bolt-operating device the time-movement will complete its movement and release the automatic bolt-operating device; but the latter will be prevented from operating until the dogging mechanism shall have been removed.

In Fig. 3, 20 is the pivoted lever which is actuated by the time mechanism for releasing the automatic bolt-operating device, which comprises a hub 21, carrying a crank which when turned compresses springs, which latter when released withdraw the bolts. This hub is provided with a hook 22, adapted to be engaged by a similarly-shaped hook on pivoted lever 23. This lever 23 is provided at its free end with a pin 24, which moves in a slot 25 in pivoted lever 26. This lever 26 is provided at its free end with a pin 27, which is engaged by the toe 28 of lever 20. It will thus be seen that when lever 20 is moved by its time mechanism in a position to cause the toe 28 to disengage pin 27 lever 26 will drop, thus permitting lever 23 to turn on its pivot and release hook 22, which, as before explained, holds the releasing-springs under tension. As soon as the springs are released they operate to throw the bolts. In this modification the dogging mechanism is employed for preventing the operation of the automatic mechanism and consists of a pivoted lever 29, the upper end of which is adapted to be moved under the pin 27 on lever 26. This lever 29 is provided near its lower end with two lugs 30, between which rests the upper end of pivoted lever 31. This lever is pivoted to the lower end of lever 29 and is loosely connected below its pivotal point to the core 9^c of the solenoid. This lever 31 therefore has a limited rocking movement on lever 29, which permits its lateral arms 32 to be moved clear of the stops 33, which latter lock the dogging devices against accidental displacement.

Fig. 3 shows the dogging device in its operative position. By now cutting out helix 8^b and energizing helix 7^b the core 9^c will be moved to the right, thus moving the lever 29 from under pin 27, as shown in dotted

lines, and releasing the automatic bolt-operating device and permitting it to operate.

It is evident that the last modification or its equivalent could be employed for dogging the fence of a combination-lock, thus preventing it from falling into the tumbler-gatings even if they be set.

When the mechanism has been actuated to dog either the time movement or the automatic bolt-operating device, a moving part of said mechanism will close a circuit at 33^a to set in operation a suitable indicating device located adjacent to the switch, so as to notify the person in control of the dogging mechanism that the latter has been set to operative position.

It is also evident that numerous changes might be made in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not desire to restrict myself to the exact construction of parts shown and described; but,

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

1. In a dogging device for locks, the combination with automatically-operating unlocking mechanism, of a dogging device and electrical means for moving said dogging device into and out of contact with a part of said unlocking mechanism.

2. In a dogging device for locks, the combination with automatically-operating unlocking mechanism of a lock, of a dogging device, an electromagnet for positively moving said dogging device into and out of the path of movement of a part of said unlocking device, and an electric circuit including said magnet.

3. In a dogging device for locks, the combination with automatically-operating unlocking mechanism of a lock, of a dogging device adapted to be positively moved into and out of the path of movement of a part of said unlocking means, electromagnetic devices adapted to move said dogging device positively in opposite directions, and means for energizing said electromagnetic devices.

4. In a dogging device for locks, the combination with automatically-operating un-

locking mechanism of a lock, of a dogging device adapted to be positively moved into and out of the path of movement of a part of said unlocking means, an electromagnet for moving the dogging device and means for controlling the magnet.

5. In a dogging device for locks, the combination with automatically-operating unlocking mechanism of a lock, of a dogging device adapted to be positively moved into and out of the path of movement of a part of said unlocking means, magnets for moving the dogging device positively in opposite directions and means for separately energizing said magnets.

6. The combination with the time mechanism of a lock, of a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, a solenoid having a movable core, means for energizing said solenoid and means actuated by said core for positively moving the dogging device into and out of contact with the time mechanism.

7. The combination with the time mechanism of a lock, of a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, a solenoid having a movable core, means for energizing said solenoid, and levers located adjacent to the two ends of the core and actuated by the movements of the latter for actuating the dogging device positively in both directions.

8. The combination with the time mechanism of a lock, of an endwise-movable bar having a finger adapted to engage a part of said time mechanism and interrupt the movement of same, pivoted levers for engaging the opposite ends of said movable bar and move the latter endwise in opposite directions, a solenoid comprising two helices and a movable core, the latter adapted to rock said levers, and means for energizing either helix of the solenoid.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WARREN H. TAYLOR.

Witnesses:

SCHUYLER MERRITT,
JOSEPH PALO.