

APPLICATION FILED AUG. 16, 1907.

Patented Dec. 28, 1909.

2 SHEETS—SHEET 1.



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TIME CONTROLLER FOR BURGLAR ALARM SYSTEMS.
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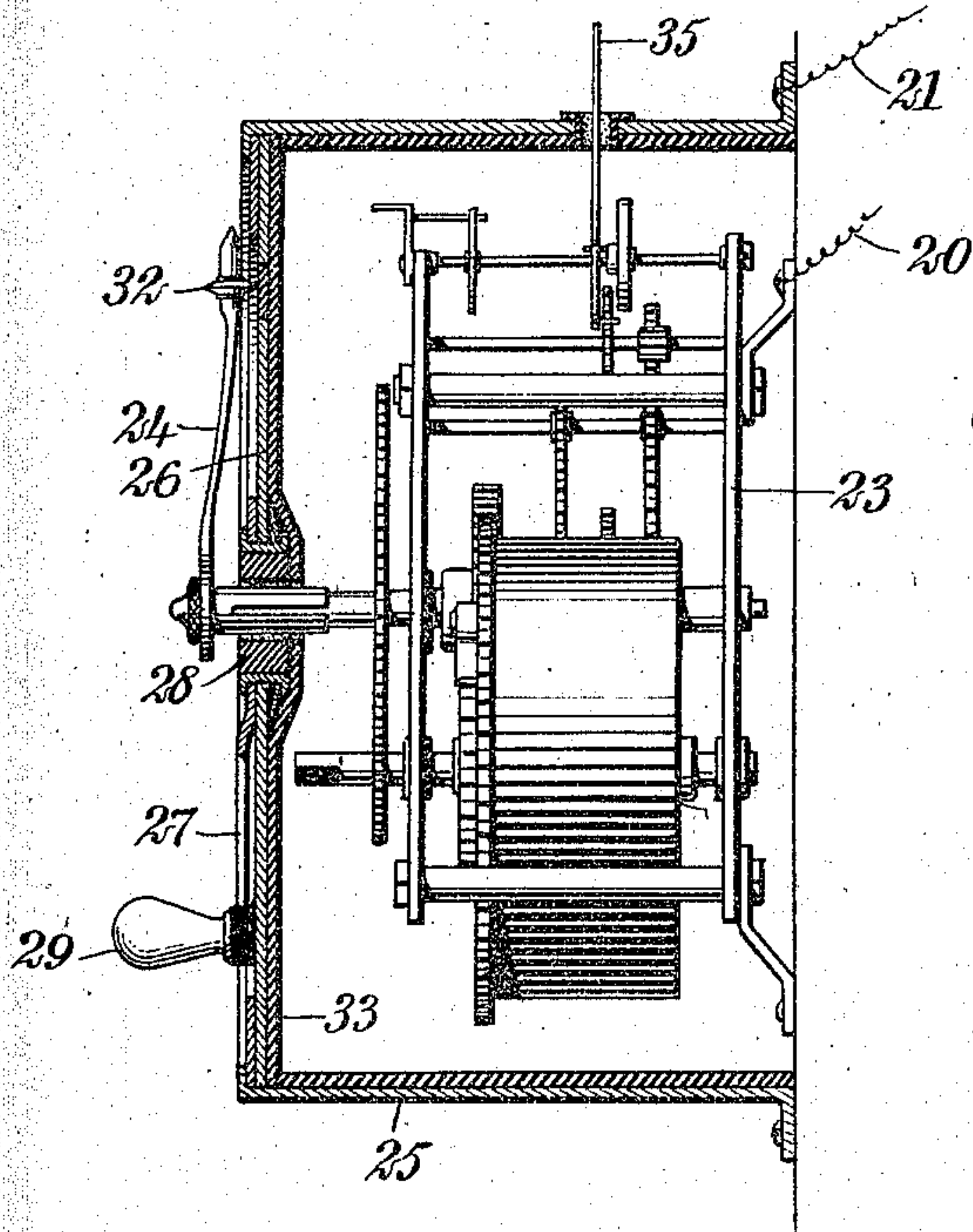


Fig. 2.

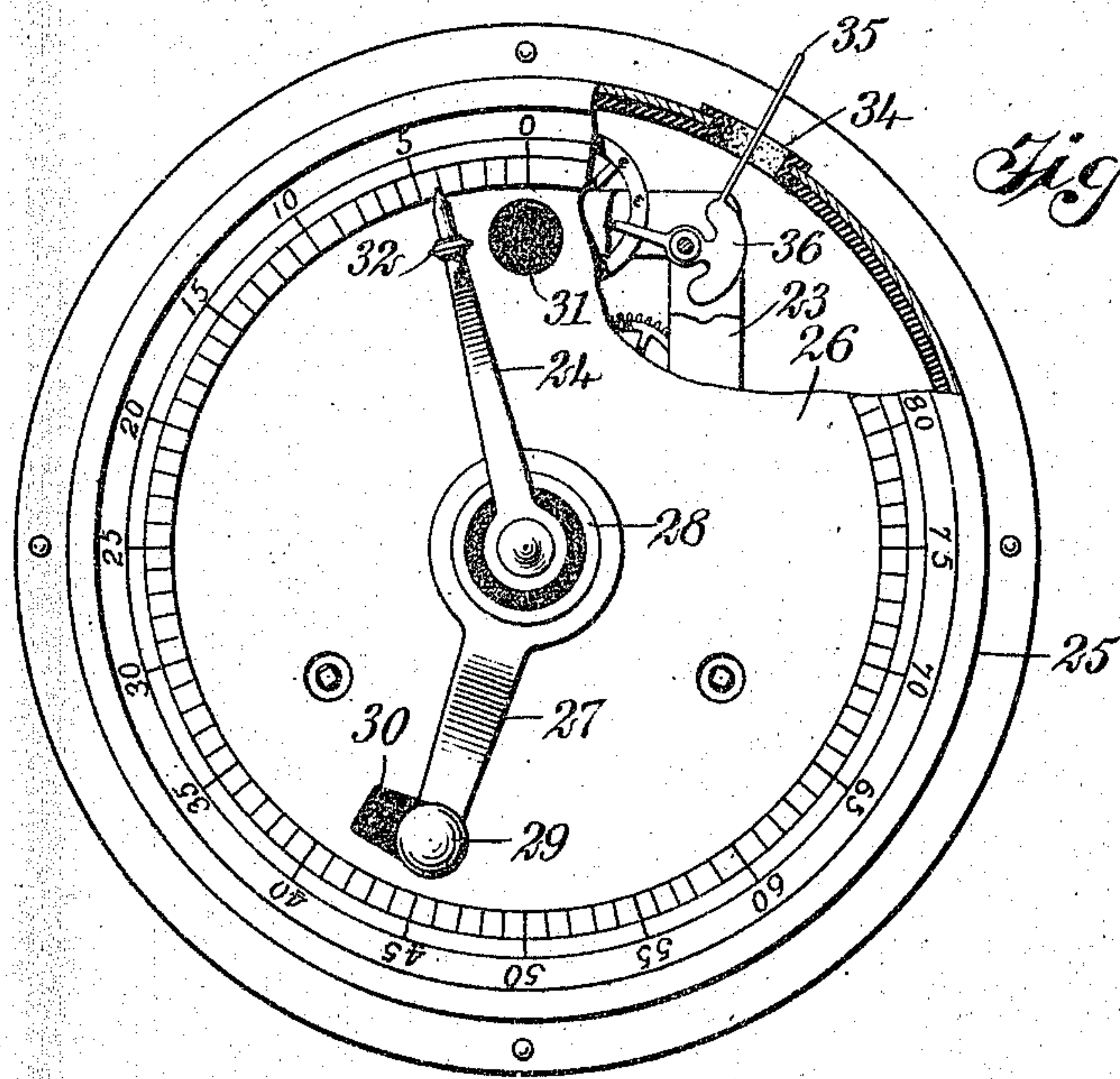


Fig. 3.

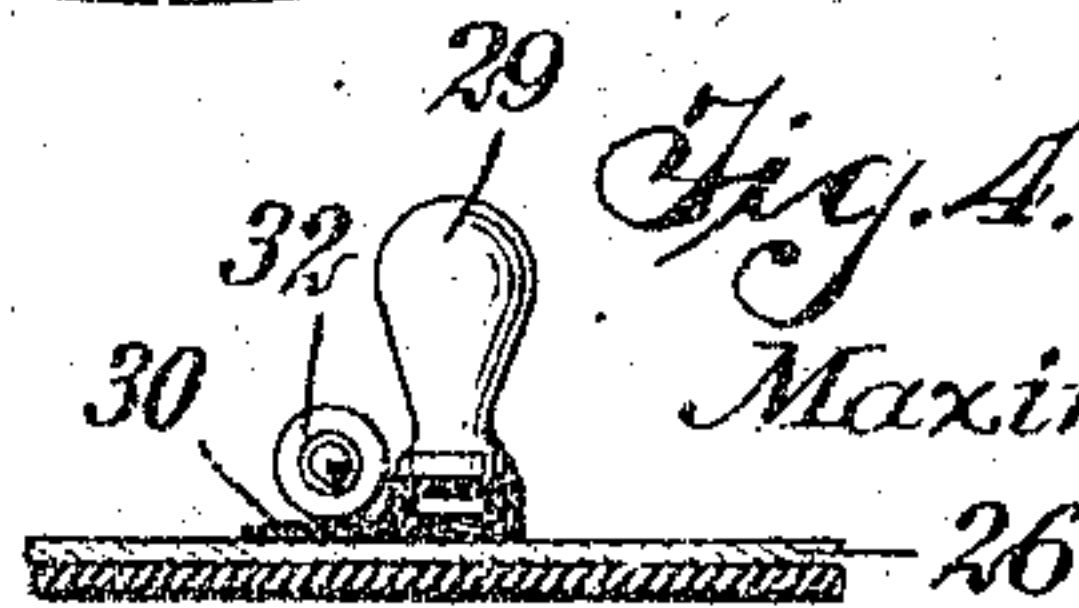


Fig. 4.

WITNESSES
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UNITED STATES PATENT OFFICE.

MAXIMILIAN F. JURUICK, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS,
TO ELECTRIC BANK PROTECTION COMPANY, A CORPORATION OF DELAWARE.

TIME-CONTROLLER FOR BURGLAR-ALARM SYSTEMS.

944,733.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed August 16, 1907. Serial No. 388,787.

To all whom it may concern:

Be it known that I, MAXIMILIAN F. JURUICK, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Time-Controller for Burglar-Alarm Systems, of which the following is a full, clear, and exact description.

10 This invention relates to certain improvements in burglar alarm systems and more particularly to means whereby the alarm system may be thrown into operative condition for any predetermined length of time, and whereby the system is prevented from being short-circuited or disconnected during the daytime, on Sundays and holidays as is the case where a single time controller is employed and which allows the bank to be
15 opened during certain hours of the day by placing the alarm circuit in its operative position at a given hour each night and disconnecting it at a given hour each morning.

The object of my invention is to provide means whereby the bank may be kept closed and the burglar alarm system in operation for any given length of time up to one hundred hours, and whereby the system is automatically disconnected at the end of this
20 predetermined length of time.

A further object of the invention is to provide means whereby the time controlling mechanism may be started in operation without short-circuiting the alarm system.

30 A further object of the invention is to provide means whereby the time controller does not put the alarm in operative condition until a given time after the mechanism is adjusted, whereby the banker may have sufficient time to close all doors and windows and leave the building before the alarm system is placed in circuit.

Other objects of my invention and special advantages therefor will be hereinafter pointed out and the structure defined in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, in which—

Figure 1 is a diagrammatic view of a burglar alarm system having the ordinary time controller in circuit, and also having
55 my improved device arranged in parallel

therewith; Fig. 2 is a central section through my improved time controller; Fig. 3 is an elevation thereof, a portion being broken way; and Fig. 4 is a detail showing the means employed for moving the hand.

In Fig. 1, I have illustrated diagrammatically one form of burglar alarm system having my improved time controller in circuit, and illustrating the manner in which the latter operates, although it is evident that my improved time controller could be used in various other burglar alarm systems than that illustrated and hereinafter described. The burglar alarm system illustrated in Fig. 1, comprises an alarm bell 1, a suitable source of electrical energy, as, for instance, a battery 2, an automatic drop or trip 3, and the necessary wiring for connecting the same. The battery is connected directly to the bell by a wire 4, but the return wire 5 from the battery leads to the automatic drop where the circuit to the bell is normally broken. The wire 4 connecting the battery and the bell is also provided with a plurality of branches, only one of which is shown, and each of which terminates in a contact 6 arranged at each of the windows, doors, locks, and other points, and in such position as to be connected with an oppositely-disposed contact 7 connected by a wire 8 to the time controller 9. When in an operative position, this controller permits the passage of a current from the wire 8 through the wire 10 to the coils of the automatic drop 3, and thence to a terminal 11 adjacent a pivoted lever 12, which latter is connected to the frame of the automatic drop and to the battery 2 by a wire 13. The wire 5 from the bell terminates in a contact 14 adjacent the pivoted lever and in a position to be connected therewith when the latter is released by the passage of a current through the coils of the automatic drop 3 and the withdrawal of the armature 15. Thus, if at any time during the night the contacts 6 and 7 are brought together, a circuit immediately passes from the battery through the wires 4, 8 and 10, lever 12 and wire 13. This automatically breaks its own circuit by the releasing of the pivoted lever, and the bell circuit is closed at the contact 14 and the bell started in operation.

The time controller 9 may be of any suitable form commonly used in such systems, and is adapted to break the circuit between

the wires 8 and 10 during certain hours of the day, and to close such circuit during the night, whereby if the bank is entered during the daytime no alarm is rung or signal operated, but if anybody attempts to enter at night when the circuit is closed by the time controller, the alarm bell is started in operation.

The particular form of time controller illustrated in Fig. 1, comprises a twenty-four-hour clock with the operating mechanism and the hour hand 16 connected to the wire 10, while the wire 8 connects to a portion of a collar 17 insulated from the face of the clock and in a position to contact with a spring 18 carried by the hand 16. As the hour hand 16 moves around the face of the clock, the spring 18 is in contact with insulating material during a portion of the time and in contact with the collar 17 during the remainder of the time. The position of the collar 17 may be adjusted so that the spring 18 will contact with it to close the burglar alarm system at this point at any time desired at night and to break the circuit of the alarm system at any desired time in the morning. This time controller and other similar ones in use at the present time work perfectly satisfactory for normally controlling the system during the week, but this type of time controller disconnects the burglar alarm system upon Sunday morning and upon the mornings of holidays, the same as upon the morning of ordinary week days. Thus during the daytime of Sundays and holidays the burglar alarm system is disconnected and out of operation. It is evident that a burglar could freely enter the building at this time without setting any of the alarms into operation or in any other way warning the public or the police of the intrusion.

In connection with the ordinary time controller I employ a second controller 19 arranged in parallel with the controller 9 and having wires 20 and 21 connected, respectively, to the wires 8 and 10. One of these wires is preferably provided with a switch 22 whereby the controller 19 may be cut out of circuit during the week time when the time controller is properly performing its function, but whereby my improved time controller 19 may be placed in circuit on the day previous to each Sunday, holiday or other day during which it is desired that the bank or other building in which the alarm system is employed, is to be closed.

My improved controller illustrated more in detail in Figs. 2 and 3, comprises an ordinary form of clockwork 23, having the train of gears so proportioned that the single hand 24 moves around the dial once in each one hundred hours. The dial is carried by the casing 25, which latter is thoroughly insulated from the moving parts of the clock-

work and connected to a wire 21. The hand 24 normally travels in contact with the face of the clock whereby the current may freely pass from the wire 20 through the clockwork 23, the hand 24, the face of the clock, and the casing 25 to the wire 21. The face 26 of the clock supports a movable arm 27 pivoted thereto, at the center but insulated from the hand 24 by a packing ring 28. This arm 27 is preferably so mounted that it will remain in whatever position it is placed. The outer end of the arm 27 is provided with a knob or handle 29, whereby it may be moved around the face of the clock, and adjacent the handle or knob 29 is a small plate 30 of insulating material resting directly upon the face of the clock. The arm 27 is not connected to the clockwork but is merely pivoted to the face of the clock, and this arm merely serves as a means for placing the hand 24 at the desired position. Adjacent the zero mark on the clock dial, a portion of the clock face 26 is cut away and a block of insulating material 31 inserted flush with the face of the clock and in the path of the hand 24. This hand is of spring material and normally presses against the face of the clock, and to facilitate the free movement of said hand a small roller 32 is provided adjacent its outer end, which latter travels upon the clock face and serves to close the circuit. The clock case 25, as well as the face 26, may, if desired, be lined throughout with insulating material 33 to prevent any accidental passage of a current between the clockwork and the casing save through the hand 24, or to prevent contact of the casing and the clock when the former is being removed for any purpose. The casing at one side thereof is provided with a perforation 34 lined with insulating material, and through this opening extends a needle 35 carried by the escapement arm 36 of the clockwork. The arm 36 rocks back and forth when the clock is running, and the needle 35 serves as a means to indicate whether the clock is running and also serves as a means whereby the clock may be started or stopped at will.

Normally, that is during the week, the switch 22 is open and my improved time controller is cut out of circuit, but when it is desired to close the building for a day, as for instance, Sunday or a holiday, the banker computes the time which it is desired that the bank shall remain closed and sets the hand of the controller 19 accordingly. If, for instance, Monday is a legal holiday and the bank is to remain closed from twelve o'clock on Saturday noon until eight o'clock Tuesday morning, the banker by means of the knob 29 moves the arm 27 clockwise until the plate 30 is moved beneath the roller 32 and separates it from the clock face, as clearly indicated in Fig. 130.

4, and then continues to move the arm 27 until the hand 24 points to the figure 68 on the clock dial. The clock if not running is then started in operation by the needle 35 and the switch 22 is closed. The burglar alarm circuit is still broken as the roller 32 is held out of contact with the face 26 of the clock by means of the plate 30. The plate 30 is of sufficient width so that it takes the hand 24 about an hour to move a sufficient distance to bring the roller 32 off of the plate and in contact with the clock face 26. During this hour the banker has plenty of time to close the vault and all of the doors and windows, and after he leaves the bank the burglar alarm system is automatically thrown into its operative position by the roller 32 coming in contact with the face 26. As it is sixty-eight hours from noon Saturday until eight o'clock Tuesday, the hand 24 will reach the zero point on the clock dial at the time it is desired to reopen the bank. Just previous to this time, the roller 32 has passed onto the insulating block 31 and thus again broken the burglar alarm circuit, so that the banker may freely enter the building and open the vaults without setting off the alarm. The time controller is preferably within the vault, and as soon as the banker opens the vault he throws the switch 22 and thus disconnects my improved time controller until it is desired to again employ the same. The insulating disk 31 is of a width substantially equal to three or four hours on the clock dial, so that in case the banker is delayed somewhat in reaching the building or does not at once throw the switch 22 after the opening of the vaults, the alarm will not be set off until the roller 32 again comes in contact with the face of the clock on the opposite side of the disk. If the switch 22 is opened the position of the hand 24 is entirely independent and the clock may be stopped by the needle 35, or if it is allowed to continue in operation the hand 24 will eventually reach the lever arm 27 where it will remain until it is desired to again use the improved controller, and the hand 24 is again placed at the predetermined point depending upon the length of time it is desired that the bank should remain closed. When my improved controller is in operation it is entirely immaterial whether the circuit is broken or closed by the time controller 9, as the controller 19 is placed in parallel therewith and the current may pass through the controller 19 even though it cannot pass through the controller 9.

If desired, it is possible to employ my improved controller independently of the controller 9 and remove the latter from the circuit. In this case it would be necessary to set the hand 24 at the desired point each afternoon before closing the bank and throw the switch on and off each evening and

morning. By the use of my improved controller it is possible to close the bank for as long a time as four days, and to automatically disconnect the burglar alarm system at the end of this time to permit the entry of the proper officials without the starting of the alarm.

The controller may be used either alone or in conjunction with the ordinary time controller, and may be readily started and stopped without any liability of closing the circuit between the casing and the operating mechanism. The controller automatically closes the circuit at a given time after the controller has started in operation, whereby the operator has plenty of time to close the vaults, and the controller automatically breaks the circuit at the end of the predetermined time to permit the reopening of the vaults.

Various changes may be made in the specific details of my improved controller and also in the method of connecting it in circuit, without departing from the spirit of my invention.

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

1. A time controller for alarm systems, comprising a suitable clockwork, a clock face insulated therefrom, a hand carried by said clockwork and normally contacting with said face, and an arm pivoted concentric with the hand and provided with means adapted to electrically disconnect the hand from said clock face.

2. A time controller for alarm systems, comprising a suitable clockwork, a clock face insulated therefrom, a hand carried by said clockwork, a roller on said hand normally contacting with said clock face, and an arm pivotally connected to said clock face and having an insulating plate adapted to be inserted between said roller and said clock casing.

3. A time controller for alarm systems, comprising a suitable clockwork, a clock face, a hand carried by said clockwork and normally contacting with said clock face, and an arm pivoted to said clock face adjacent the center thereof and having a plate of insulating material adapted to be inserted between the hand and the clock face, whereby the hand may be separated from the clock face and moved to any desired position.

4. A time controller for alarm systems, comprising a suitable clockwork, a clock face insulated therefrom, a hand carried by said clockwork and having a roller normally contacting with the clock face to close the circuit, and an arm pivoted to said clock face and having an insulated plate adapted to be inserted between the roller and the clock face to break the circuit, said arm being adapted to move the hand to any desired position.

sition while maintaining the circuit in an open condition, the clockwork being adapted to move the roller from said insulated plate and into contact with the face of the clock to close the circuit after a predetermined length of time.

5. A time controller for alarm systems, comprising a suitable clockwork, a clock face insulated therefrom, a hand carried by said clockwork and normally contacting with said clock face to close the circuit, and means pivoted concentric with the hand whereby the hand may be separated from the clock face to break the circuit and said hand moved to any predetermined position, the clockwork being adapted to bring the hand again into contact with the clock face to close the circuit after a predetermined length of time, and to again break the circuit after a second predetermined length of time.

6. In combination, a suitable clockwork, a clock face, a hand carried by the clockwork and normally in contact with said clock face to close an electric circuit, and a manually-operatable member carried by the device and pivoted concentrically with said hand for separating said hand from said clock face.

7. In combination, a suitable clockwork, a clock face electrically insulated therefrom, a hand carried by the clockwork and normally in contact with said clock face to close an electric circuit, and a manually-operable member independent of the clockwork and carried by the device for separating said hand from said clock face and moving said hand to any desired position.

8. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork and normally contacting with said clock face to close an electric circuit, and a supplementary device in connection with the clock face and independent of the clockwork and independent of the operatable connections of the hand and carrying an insulating piece insertible beneath the hand to retain the same from contact with the clock face during a predetermined period, whereby the electric circuit is open when the supplementary device is in operation and is closed again when the hand moves beyond the insulating piece in the position in which the supplementary device has been set in the operation of retaining the hand from contact with the clock face.

9. A time controller for alarm systems, comprising a suitable clockwork, a clock dial, a hand carried by said clockwork and normally contacting with said dial to close a circuit, and means carried by said time controller and movable into engagement with said hand whereby the hand may be separated from the clock face to break the circuit and said hand moved to any predetermined position, the clockwork being

adapted to bring the hand again into contact with the clock face to close the clock circuit after a predetermined length of time.

10. In combination, a suitable clockwork, a casing surrounding said clockwork and insulated therefrom, means carried by said clockwork for closing an electric circuit, means carried by said clockwork and projecting through an opening in said casing, whereby the clockwork may be started or stopped at will, and insulating material adjacent said opening and preventing said last-mentioned means from contacting with casing to close the circuit.

11. In combination a suitable clockwork, a casing surrounding said clockwork, said casing having an opening in one side thereof, and a needle carried by the escapement of the clockwork and projecting through said opening, whereby the needle vibrates while the clock is running, and whereby the clock may be readily stopped or started at will.

12. In a time controller for alarm systems, a suitable clockwork, a clock face comprising a dial having characters thereon arranged counterclockwise, a hand carried by the clockwork and normally contacting with said clock face to close an electric circuit, the direction of travel of said hand being clockwise so that it moves from characters of greater magnitude to those of lower magnitude, a permanent insulation located with relation to the zero point on said dial and adapted to be contacted with by the hand during its movement over the dial, whereby at a determined period or point in the movement of the hand said electric circuit is open, and a member carried by the device and comprising an insulating piece insertible beneath the hand to retain the same from contact with the clock face at different points and during a predetermined period.

13. In a time controller for alarm systems, a suitable clockwork, a clock face, a hand carried by the clockwork and normally in contact with said clock face to close an electric circuit, a permanent insulation located at a predetermined point on the clock face and adapted to be contacted with by the hand to open the circuit, and a member pivoted concentrically with the hand and having means for electrically disconnecting the hand from the clock face.

14. A device of the class described, comprising a suitable clockwork, a clock face having a series of characters arranged thereon, and an insulating section adjacent one of said characters, a hand carried by the clockwork and adapted to rotate adjacent said characters and close an electric circuit with said clock face, the direction of rotation of the hand being such that it moves from characters of greater magnitude to those of lower, and a member carried by the

device and pivoted concentrically with said hand; whereby the hand may be separated from the clock face to break the circuit, and said hand moved to any predetermined position, the clockwork being adapted to bring the hand again into contact with the clock face to close the circuit after a predetermined length of time and to again break the circuit when said hand reaches said insulating section.

15. In a time controller for alarm systems, a suitable clockwork, a clock face comprising a dial having a series of characters thereon, a hand carried by the clockwork and normally contacting with said clock face to close an electric circuit, a permanent insulation located at a determined point on said dial and adapted to be contacted with by the hand during its movement over the dial, whereby at a determined period and point in the movement of the hand said electric circuit is open, and an adjustable device in connection with the clock face and independent of the clockwork and carrying an insulating piece insertible beneath the hand to retain the same from contact with the clock face during a predetermined period.

16. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork and normally contacting with said clock face to close an electric circuit, and an insulating piece insertible beneath the hand to retain the same from contact with the clock face during a predetermined period, said insulating piece being carried by a movable member connected to the clock device and independent of the clockwork.

17. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork and normally contacting with said clock face to close an electric circuit, a movable member carried by the clock device, and insulating means carried by said movable member and adapted to be adjusted with relation to the hand so that it operates to retain the hand from contact with the clock face during a predetermined period and thus open said electric circuit.

18. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork and normally contacting with said clock face to close an electric circuit, and supplementary insulating means carried by the device and insertible beneath the hand to retain the same from contact with the clock face during a predetermined period.

19. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork, contact means carried by the hand and moving in contact with the clock face to close an electric circuit, and adjustable insulating means carried by the device and insertible between said clock face and said contacting means on the hand.

20. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork and normally contacting with said clock face to close an electric circuit, and a member connected to the device and independent of the clockwork and carrying a projecting insulating piece insertible beneath the hand.

21. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork and normally contacting with said clock face, and a movable member carried by the clock device and independent of the clockwork and engageable with said hand to separate the hand from contact with the clock face and move the hand to desired position.

22. In means of the class described, a suitable clockwork, a clock face, a hand carried by the clockwork, an electric circuit normally closed and controlled by the movement of said hand, and means carried by the clock device and variably operatable to open said circuit at any selected period or point during the movement of said hand.

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

MAXIMILIAN F. JURUICK.

Witnesses:

CLAIR W. FAIRBANK,
EVERARD B. MARSHALL.