

A. Y. JANSEN.

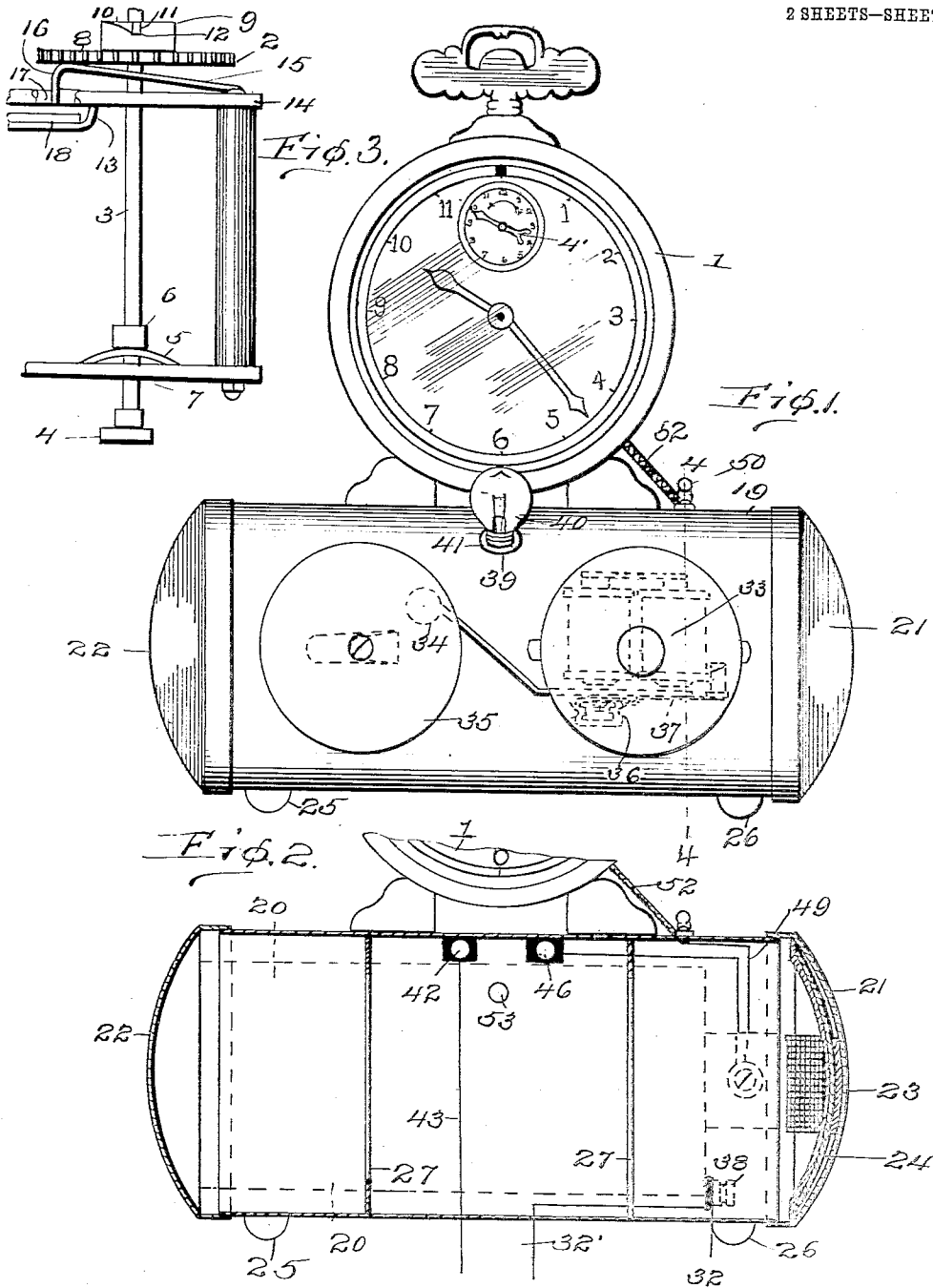
ALARM CLOCK.

APPLICATION FILED AUG. 31, 1909.

964,426.

Patented July 12, 1910.

2 SHEETS—SHEET 1.



Inventor

Witnesses
J. M. Fowler Jr.
A. L. Kitchen.

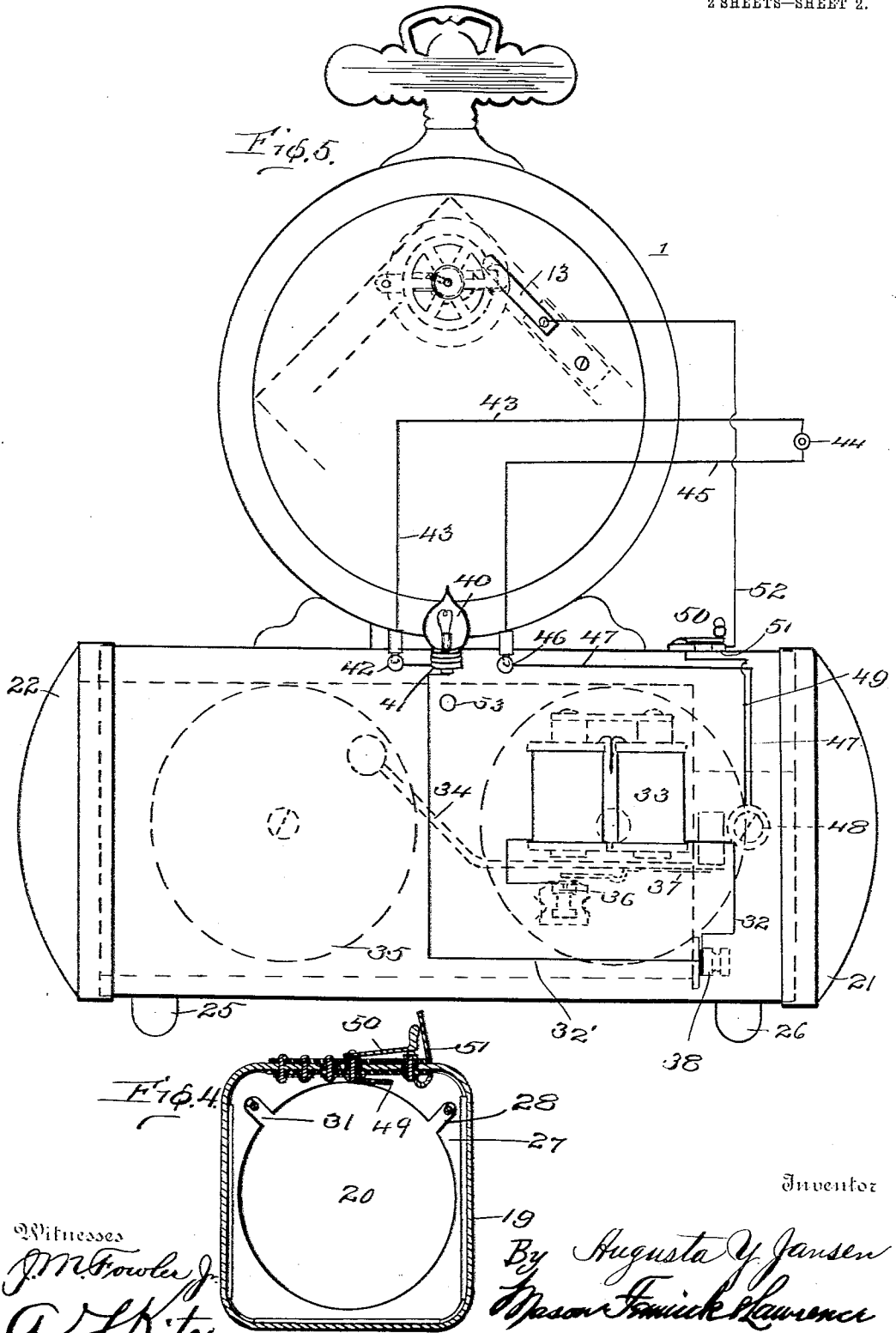
Augusta Y. Jansen
By Messrs. Fawcett & Lawrence
Attorneys

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Inventor

By *Augusta Y. Jansen*
Wm. F. Lawrence
his Attorney

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UNITED STATES PATENT OFFICE.

AUGUSTA Y. JANSEN, OF CHICAGO, ILLINOIS.

ALARM-CLOCK.

964,426.

Specification of Letters Patent.

Patented July 12, 1910.

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To all whom it may concern:

Be it known that I, AUGUSTA Y. JANSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Alarm-Clocks; 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.

This invention relates to improvements in alarm clocks, and particularly to electrical alarm clocks.

The invention consists in the construction and arrangement of parts, as will be hereafter described and particularly pointed out in the claims.

In the accompanying drawings: Figure 1 is a front elevation of an embodiment of the invention. Fig. 2 is a longitudinal vertical section through the battery holding casing, the clock being broken away. Fig. 3 is an enlarged detail fragmentary view of part of the alarm mechanism of a clock and electrical contact member operated thereby. Fig. 4 is a section through Fig. 1 approximately on line 4-4. Fig. 5 is a diagrammatical view of the invention in which the circuits are shown.

In constructing an alarm device embodying the invention, an ordinary clock is provided having an alarm mechanism of any desired kind, but with the alarm bell and hammer removed. In place of the alarm bell and hammer is arranged means for making and breaking an electrical circuit when the clock has moved to the time set for the alarm to be rung. The electrical circuit includes an alarm, as for instance a bell, together with a source of current, so that when the alarm mechanism of the clock closes the switch the source of current will cause the bell to be sounded until the circuit has been manually opened by a second switch. In connection with the alarm mechanism set forth, a light is provided which is connected with the same source of current as the alarm mechanism and designed to be connected by a suitable push button which is connected therewith and with the same source of current as the alarm mechanism, so that the face of the clock may be seen at night at any time and without molesting the alarm part of the device.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings, in which—

1 indicates a clock of any desired kind having an alarm mechanism 2 (Fig. 3). The alarm mechanism 2 is provided with the usual shaft 3 and a pointer 4', which appears on the face of the clock. A spring 5 is provided which engages a lug 6 secured to shaft 3 for yieldingly holding shaft 3 correctly in position, and for yieldingly preventing any longitudinal movement thereof in one direction, a stop 7 being provided for preventing movement in the opposite direction. Shaft 3 carries the usual gear wheel 8 in mesh with the clock mechanism for being rotated thereby. Rigidly secured to gear wheel 8 is a cam 9 formed with a beveled cam surface 10 and an offset portion 11. Rigidly secured to shaft 3 is a lug 12 designed to be positioned upon the upper surface of cam 9 and to move over offset portion 11 when it is desired to cause switch 13 to make contact with the framework 14 of the clock. Secured to framework 14 is a spring member 15 formed with an extension 16 which is designed to pass through an aperture 17 in framework 14 for engaging an insulating strip 18 secured to switch 13 for moving the switch out of contact with framework 14. Spring member 15 normally bears against gear wheel 8 and holds the same some distance from framework 14, and also holds extension 16 out of contact with insulation 18.

When it is desired to set the alarm mechanism to any desired hour the thumb member 4 is rotated until the hand or pointer 4' is moved to indicate the proper hour. Upon the rotation of thumb member 4, which is rigidly secured to shaft 3, lug 12 will be rotated and moved up inclined portion 10 to the upper surface of cam 9, or rather the cam 9 will be moved toward framework 14 by the rotation of lug 12. This will cause gear wheel 8 to depress spring 15, and cause extension 16 to press against insulation 18 and raise switch 13 from contact with framework 14, switch 13 being formed of spring metal will yieldingly resist such movement and will immediately return to its original position in contact with framework 14 upon the raising of extension 16. Upon the rotation of

cam 9 switch 13 will be moved out of contact with framework 14, and will be held out of contact until the clock work of clock 1 has moved wheel 8, and consequently cam 9 sufficiently for permitting cam 9, and also wheel 8, to move away from framework 14, and permit lug 12 to move to the bottom of offset portion 11. In this manner when the alarm is set, switch 13 is out of engagement with framework 14 and when the clock work has moved the alarm mechanism at the proper hour switch 13 will be moved into contact with framework 14 for closing the circuit, hereinafter more fully described, whereby an alarm is sounded.

Clock 1 is secured to a housing 19 in which a suitable battery or source of electricity 20 is positioned. Housing 19 is preferably formed of metal and nicely finished for giving a pleasing appearance, and provided with end members 21 and 22 that are held in position by friction, so that the same may be removed at any time for renewing or inspecting the battery and connections located in housing 19. End member 21 is preferably provided with insulating strips 23 and 24 (Fig. 2) for preventing any possible short circuiting of the leads of the battery. Housing 19 is also provided with supporting members 25 and 26 formed of some insulating material, preferably rubber, which acts as supports or feet for the housing, and as an insulation. Housing 19 is provided with a plurality of bracing and battery supporting members 27, each of which is formed with notches 28 and 31 (Fig. 4) for accommodating the various connecting wires. Members 27 are designed to support the battery 20 properly in position so that the leads therefrom will be out of contact with the housing. The lead 32 (Fig. 5) from the battery is connected with windings 33 which actuate the hammer 34 for sounding bell 35. The windings or spools 33 are connected with a make and break 36 and from thence through the vibrating arm 37 to housing 19, upon which the same is grounded. A second lead 32' extends from binding post 38 to the bottom of socket 39 for contacting with lamp 40. Current passing from binding post 38 will travel through lead 32', lamp 40, from lamp 40 out the sides of the securing member 41 in the usual manner to a socket 42, which is insulated from housing 19. From socket 42 a wire 43 extends to push button 44. When push button 44 is closed current will travel from thence through wire 45 to socket 46 which is insulated from housing 19. From socket 46 current is lead through wire 47 back to binding post 48 of battery 20, thus completing the circuit of the lamp 40. The ends of wires 43 and 44 are removably secured in sockets 42 and 46 and push button 44 is designed to be placed in any

convenient or desired place so that whenever desired lamp 40 may be lighted by simply pressing button 44.

Connected with binding post 48, which is preferably the positive side of the battery, is a lead 49 which is connected with a manually operated switch arm 50. Switch arm 50 is insulated from housing 19 and is designed to be moved over in contact with contact member 51. Contact member 51 has connected therewith wire 52 which extends up into clock 1 and is secured to spring switch 13. By this arrangement current is supplied for completing the circuit for ringing bell 35 when switch 13 is against framework 14, as framework 14 is grounded on housing 19. Beginning with binding post 48 current will travel through wire 49, switch 50, contact member 51, wire 52, switch 13, framework 14, the housing of clock 1, housing 19, vibrating member 35, make and break 36, windings 33, lead 32, and from thence to binding post 38. From the tracing of this circuit it will be observed that whenever the alarm mechanism 2 permits switch 13 to contact with framework 14 bell 35 will ring until switch arm 50 has been opened, or until switch 13 has been opened by the rotation of shaft 3.

Arranged in proximity to sockets 42 and 46 is a third socket 53 which is grounded on housing 19.

When it is desired to use the bell 35 as a call bell the end of wire 43 is inserted into socket 53 and push button 44 pressed. This will cause current from battery 20 to travel through wire 47, socket 48, wire 45, push button 44, wire 43, to socket 53, which is grounded on housing 19. From housing 19 current will pass through vibrating member 37, make and break 36, windings 33, and from thence through wire 32 to binding post 38. By thus changing the wire 43 either the light 40 may be used or bell 35, and in either case without disturbing the action of the alarm mechanism of the clock or the sounding of the bell 35 when switch 13 has been permitted to contact with framework 14.

What I claim is:

1. In a device of the character described, a clock provided with an alarm mechanism, an electrical switch operated by said alarm mechanism, a source of current, a circuit including said switch and source of current, an alarm device including said circuit adapted to be operated upon the closing of said switch, a second circuit including part of said first mentioned circuit and said source of current, a lamp interposed in said second circuit, and manually operated means for closing said second circuit.
2. In a device of the character described, a clock formed with an alarm mechanism, an electrical switch connected with said

clock but insulated therefrom arranged to have one end thereof contact with the clock, means for engaging said switch and holding the end normally in contact therewith
5 out of contact, said means being in engagement with said alarm mechanism and operated thereby for permitting contact between said switch and said clock, a source of current, a circuit including said source of current, said clock, and said switch, an elec-

trically operated alarm interposed in said circuit adapted to be operated while said switch is in contact with said clock, and means for manually opening said circuit.

In testimony whereof I affix my signature 15
in presence of two witnesses.

AUGUSTA Y. JANSEN.

Witnesses:

E. J. HEILMAN,

WALTER H. PUSCHECK.