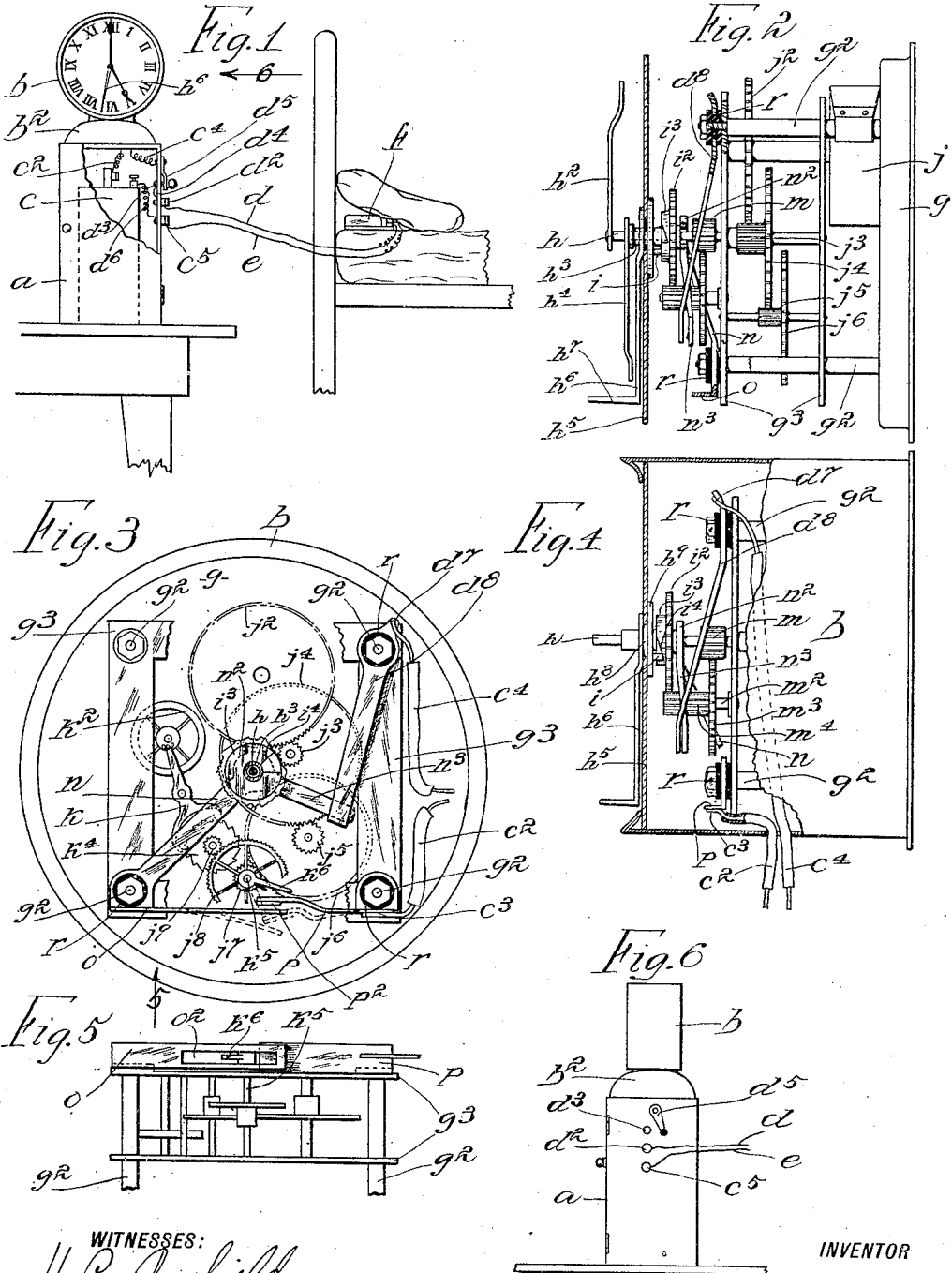


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ALARM APPARATUS.
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ALARM APPARATUS.

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To all whom it may concern:

Be it known that I, FRANK PESCE, a subject of the King of Italy, and residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Alarm Apparatus, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to alarm apparatus designed for use in a sleeping room or compartment and to be set so as to sound an alarm at a predetermined time so as to awaken a party or parties sleeping in said room or compartment; and the object thereof is to provide an improved apparatus of this class constructed and adapted to be operated so as to awaken, if desired, only one party without awakening or arousing others who may be sleeping in the same room or compartment or adjacent thereto; a further object being to provide an alarm apparatus of the class specified which will operate intermittently through a given length of time; and with these and other objects in view the invention consists in an apparatus of the class specified, constructed as hereinafter described and claimed.

My invention comprises an ordinary clock, a battery, and an electric buzzer or bell, the mechanism of the clock being the same as that of all ordinary clocks except as modified to adapt said clock to the purpose for which it is intended and as will be hereinafter fully described; and the battery is an ordinary battery placed in a pedestal or casing on which the clock is mounted and the buzzer or bell is in electrical connection with the mechanism of the clock and with the battery by means of circuit wires which are of sufficient length to enable it to be put under the pillow of a bed or in any other desired position.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is an elevation showing my complete apparatus and showing the method of its operation, part of the construction being broken away; Fig. 2 a side view of the clock mechanism only part of which is shown, and part being in section; Fig. 3 a plan view of

said mechanism also showing only part of the mechanism and parts being broken away; Fig. 4 a view similar to Fig. 2 but showing the parts in a different position; Fig. 5 a side view looking in the direction of the arrow 5 of Fig. 3, and showing only part of the clock mechanism; and Fig. 6 a side view of the clock and the pedestal or base on which it stands and looking in the direction of the arrow 6 of Fig. 1.

In the practice of my invention, I provide a pedestal casing *a* on which is secured a clock *b* having a bottom portion *b*², and in the pedestal casing *a* is placed an ordinary dry battery *c* with which is connected by circuit wires *d* and *e* an ordinary electric buzzer or bell *f*. The clock *b* is of the usual construction and comprises a framework in, or in connection with which, the clock mechanism is mounted, and which comprises a bottom or base member *g*, corner posts *g*², and parallel frame plates *g*³.

That part of the clock mechanism shown comprises a central arbor *h* on which the minute hand *h*² is mounted; and a sleeve *h*³ mounted on said arbor and movable longitudinally on the arbor *h* and with which the hour hand *h*⁴ is connected. The arbor *h* and sleeve *h*³ are passed through the dial plate *h*⁵ of the clock and the minute and hour hands are on the outside of this plate in the usual manner, and mounted on the sleeve *h*³ between the dial plate and the hour hand *h*⁴ is the alarm setting hand *h*⁶ provided at its free end with an outwardly directed finger or handle piece *h*⁷. The head of the alarm setting hand *h*⁶ through which the sleeve *h*³ passes is provided with a short hub *h*⁸ which passes through the dial plate *h*⁵, and on the inner end of which is secured a disk *h*⁹; and this disk *h*⁹ is provided with a backwardly directed pin *i*. Mounted on the sleeve *h*³ inwardly of the disk *h*⁹ is a gear wheel *i*², the face of which adjacent to the disk *h*⁹ is provided with a hub *i*³, and the side or face of the hub *i*³ adjacent to the disk *h*⁹ is provided with a recess *i*⁴ adapted to receive the pin *i*, all of these parts being of the usual construction and forming no part of my invention. I have also shown at *j* the spring by which the clock mechanism is driven, and at *j*², *j*³, *j*⁴, *j*⁵, *j*⁶, *j*⁷, *j*⁸ and *j*⁹ the usual train of gearing of a clock of this class. I have also shown at *k* the escapement which operates in connection with the balance wheel *k*² and the escapement wheel *k*⁴, and with

this construction it will be observed that the movement of the wheel j^8 is controlled by the escapement k operating through the wheels k^4 , j^9 and j^7 and the shaft k^5 , to which the wheel j^8 is secured, is provided with a finger k^6 . The clock mechanism also comprises the gearing and other apparatus by which the hour hand h^4 is operated, and these consist of a pinion m on the main arbor h , a shaft m^2 mounted adjacent to said main arbor, a gear m^3 on said shaft and operating in connection with the pinion m , and a pinion m^4 on the shaft m^2 and operating in connection with the gear i^2 . This part of the mechanism also comprises a spring arm n secured to one of the frame posts g^2 and ranging inwardly diagonally of the clock mechanism and provided with a head n^2 through which the main arbor h loosely passes and the head of the spring arm n is provided with a supplemental arm n^3 which projects approximately at right angles to the arm n . All these parts being old and well known in connection with alarm clocks. I also, in practice, secure to two opposite frame posts g^2 at one side of the clock mechanism two inwardly directed spring contact arms o and p , the inner free ends of which overlap. The inner end of the arm p is set inwardly from the corresponding end of the arm o and is preferably provided with a soft metal contact plate p^2 , and the inner or free end portion of the arm o is provided with a longitudinal slot or opening o^2 through which the finger k^6 of the shaft k^5 is adapted to pass.

One of the wires e^2 leading from the battery c is in electrical connection at c^3 with the spring contact arm p and the other wire d^6 from said battery is connected with a binding post c^5 in one side of the pedestal casing a on which the clock b is mounted. The wire e which is connected with the buzzer or bell f is also connected with the binding post c^5 and the other wire d of said buzzer or bell is connected with another binding post d^2 in the side of the pedestal casing, and the said binding post d^2 is in electrical connection with a contact point d^3 of a switch secured to, or in the side of the pedestal casing a , by means of a short wire d^4 , and pivoted adjacent to the contact point of the switch is a switch arm d^5 with which is connected a wire e^4 which is secured at d^7 to a spring contact arm d^8 pivoted to one of the frame posts g^2 and ranging inwardly and terminating above or outwardly of the end of the supplemental arm n^3 . The arms n and d^8 are insulated from the framework of the clock mechanism as are also the spring contact arms o and p as shown at r , and the operation will be readily understood from the foregoing description when taken in connection with the accompanying drawing and the following statement thereof.

The clock operates in the main, the same as all other clocks of this class and, in practice, the alarm hand h^6 is set at the time at which it is desired that the alarm shall operate, and it will be understood that the gear i^2 revolves but once in twelve hours, and when this wheel reaches a point at which the pin i of the disk h^9 is opposite the recess i^4 in said wheel the spring arm n operates to move the gear i^2 outwardly so that said pin will enter said recess, and at this time the supplemental arm n^3 moves outwardly and makes contact with the end of the spring contact arm d^8 .

It will be understood that the shaft k^5 is continually rotated and the finger k^6 thereof is continually throwing the free end of the contact arm p into connection with the free end of the contact arm o but this operation produces no result until the supplemental arm n^3 is thrown into connection with the contact arm d^8 , as above described, and when this is done the making and breaking of the connection between the contact arms o and p makes and breaks the circuit as will be understood. When, however, the finger k^6 is pressed against the inner end of the arm p it forces said end of said arm out against the end of the arm o and holds it in connection therewith until the said finger slips off the end of the arm p and passes through the slot or opening o^2 in the arm o and during this time the bell or buzzer f is operated. The arm k^6 revolves approximately about once a minute and the arms o and p will therefore be thrown in contact approximately every minute, and this connection continues for eight or ten seconds during which time the bell or buzzer is operated. This intermittent operation of the bell or buzzer, or the intermittent connection of the arms o and p will continue until the pin i moves out of the recess i^4 in the hub i^3 of the wheel i^2 , which operation breaks the contact between the supplemental arm n^3 and the arm d^8 , and this period of time depends on the circumferential extent of the recess i^4 in the hub i^3 and this with the construction shown would be approximately one hour.

It will be understood, of course, that in order for the apparatus to operate as above described the switch arm d^5 must be closed so as to close the circuit in which the bell or buzzer is placed and the apparatus may be thrown out of operation at any time by opening the switch arm as shown in Fig. 6.

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

1. In an alarm device of the class described a clock mechanism provided with a gear controlled by the escapement, a finger connected with the shaft of said gear, a main spring arm secured to one of the frame posts of the clock mechanism and provided

with a head through which the main arbor passes, said head of said arm being provided with a supplemental arm, a spring contact arm secured to a frame post diagonally opposite that to which the said spring arm is secured and the free end of which is adapted to operate in connection with the supplemental arm, two spring contact arms, *o* and *p*, secured to opposite frame posts at the side of the clock mechanism opposite that with which the spring contact arm is connected and the free ends of which overlap, the free end of the arm *p* being set inwardly of the free end of the arm *o* and the free end of the arm *o* being provided with a longitudinal slot or opening through which the finger connected with the shaft of said gear passes, and a buzzer or bell in electrical connection with the said spring contact arm and one of the arms *o* and *p*, said buzzer and bell and said arms being in an open electric circuit and the clock mechanism being provided with devices automatically operated at predetermined intervals for opening and closing said circuit.

2. In an alarm device of the class described a clock mechanism provided with a gear controlled by the escapement, a finger connected with the shaft of said gear, a main spring arm secured to one of the frame posts of the clock mechanism and provided with a head through which the main arbor passes, said head of said arm being provided with a supplemental arm, a spring arm secured to

a frame post diagonally opposite that to which the main spring arm is secured and the free end of which is adapted to operate in connection with the supplemental arm, two spring contact arms, *o* and *p*, secured to opposite frame posts at the side of the clock mechanism opposite that with which the spring contact arm is connected and the free ends of which overlap, the free end of the arm *p* being set inwardly of the free end of the arm *o* and the free end of the arm *o* being provided with a longitudinal slot or opening through which the finger connected with the shaft of said gear passes, and a buzzer or bell in electrical connection with the said spring contact arm and one of the arms *o* and *p*, said buzzer and bell and said arms being in an open electric circuit and the clock mechanism being provided with devices automatically operated at predetermined intervals for opening and closing said circuit, during a predetermined length of time, and said circuit being also provided with hand operated means for opening and closing the same.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 31st day of July 1909.

FRANK PESCE.

Witnesses:

H. R. CANTFIELD,
C. E. MULREANY.