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T. J. BARRETT

MULTIPLE TIMER

Filed May 20, 1925

FIG. 1.

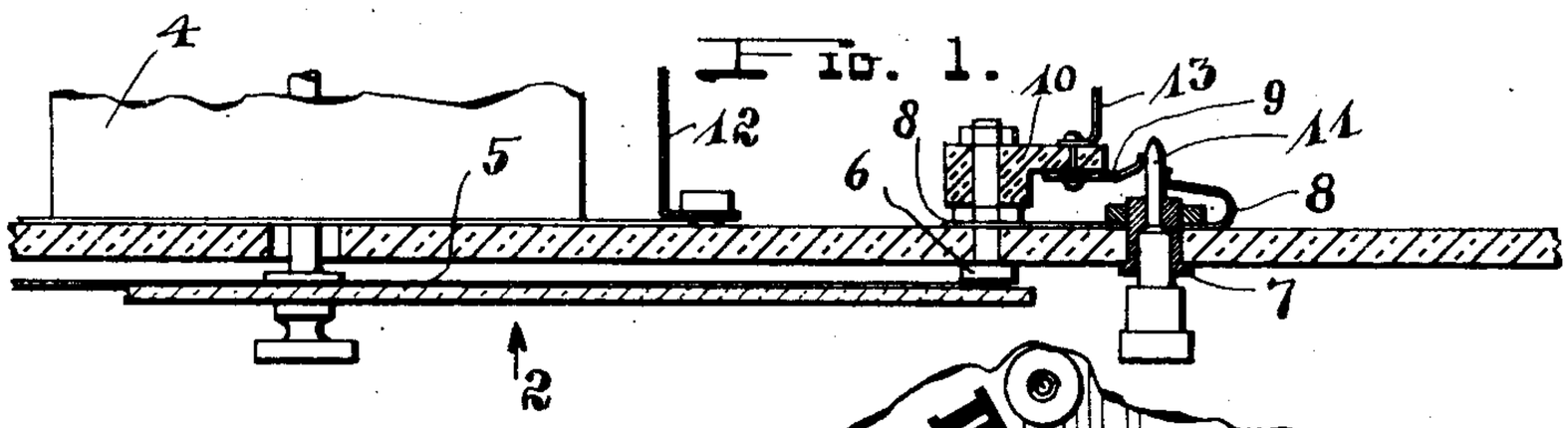


FIG. 2.

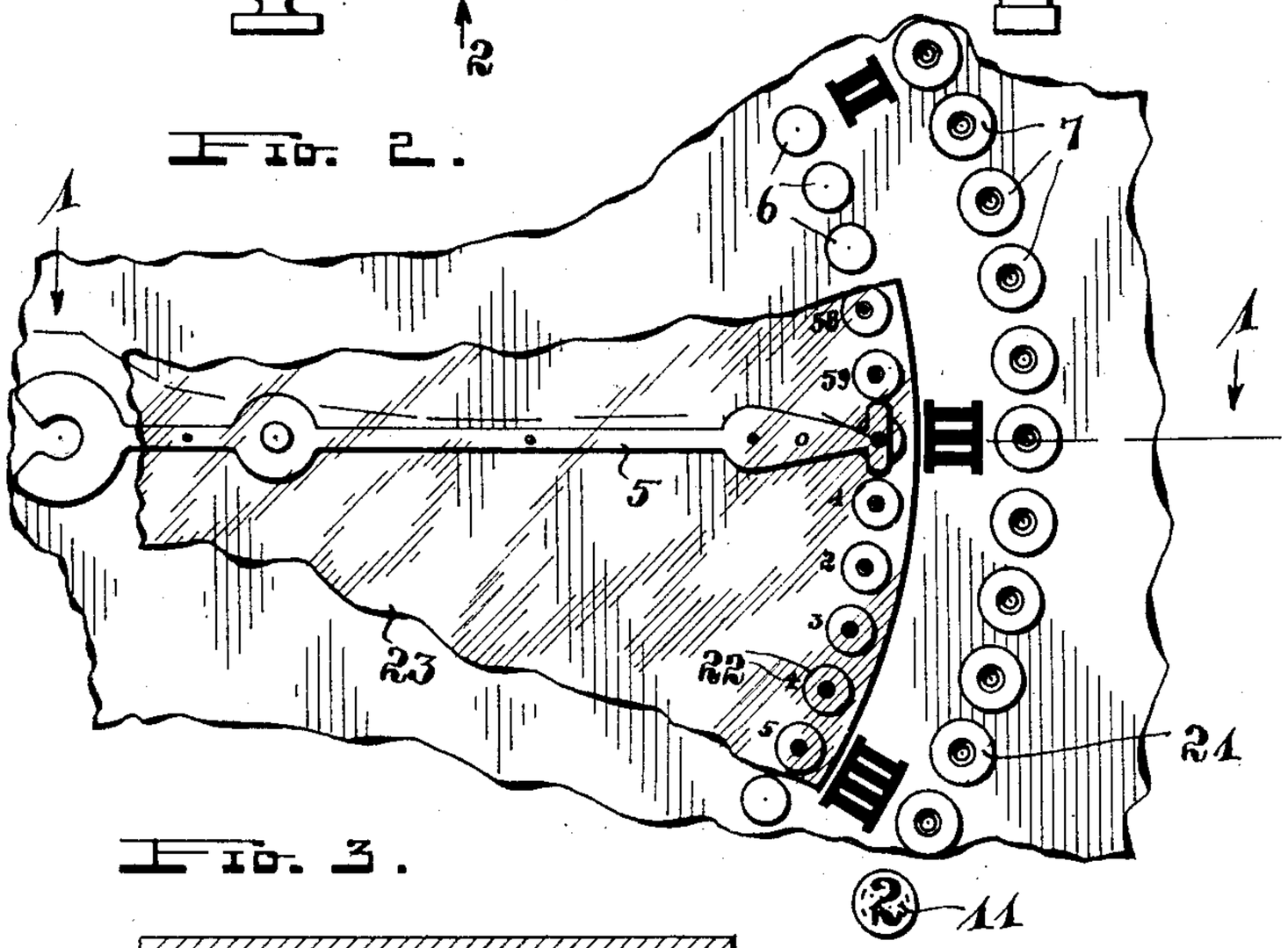
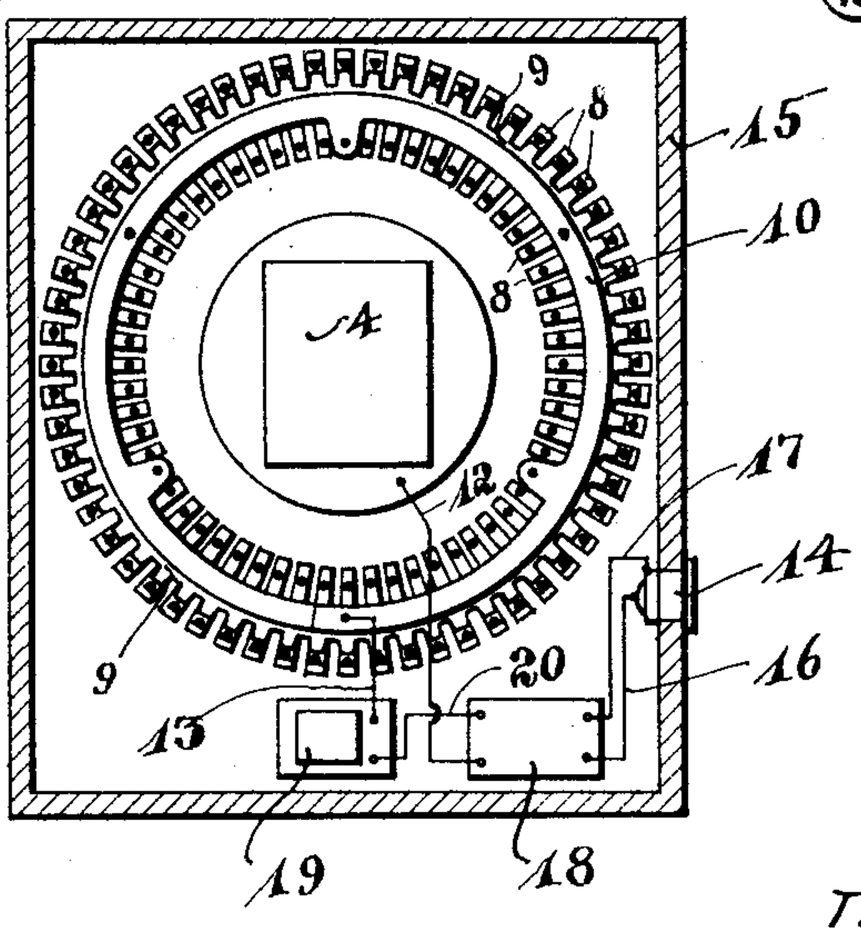


FIG. 3.



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UNITED STATES PATENT OFFICE.

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MULTIPLE TIMER.

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This invention relates to devices used for indicating the termination of a certain period of time.

One of the objects of this invention is to provide a time-piece by which the treatment of a patient can be easily and properly timed from any given moment or from the beginning of the treatment.

Another object is to provide a device by which a patient's treatment can be conveniently checked.

Another object is to provide a device by which the treatments of any number of patients can be timed over various periods.

Another object is to provide a device by which the period of a patient's treatment can be indicated audibly.

Another object is to provide a device by which various periods may be audibly indicated.

Another object is to provide a device embodying a time-piece and a dial for indicating various periods, having signals arranged in certain relation to the indicated periods.

Another object is to provide a device embodying a time-piece and signals, by which any desired period may be visibly and audibly indicated.

Other objects will appear from the following description and appended claim as well as from the accompanying drawing, in which—

Fig. 1 is a fragmentary horizontal section on line 1—1 of Fig. 2, illustrating a portion of a clockwork with a hand in operative connection with electric contacts.

Fig. 2 is a fragmentary front elevation of a dial and time-indicating hand with computing dial in operative relation to contact-sockets.

Fig. 3 is a somewhat diagrammatical rear-side elevation of the inner apparatus of the device as disposed in a cabinet, the cabinet being illustrated in vertical section.

Patients are frequently put under treatment for certain periods, and at places where a number of patients are treated for various periods at different times it is not an easy task to time the treatments of the various patients conveniently or properly.

In hotels and at other places where certain periods or times are desired to be indicated with a certain degree of correctness and punctuality it is also of great importance to have mechanically operated indicators.

Though a certain arrangement with certain parts are illustrated in the drawing, it must be understood that the illustrations in the drawing are merely to serve to facilitate a description of the invention, and that the different parts may be varied to quite an extent within the scope of the accompanying claims.

A clock-work 4 serves as the actuator of the indicator as illustrated in the drawing. The indicating hand 5 is in operative connection with the clockwork. The clockwork may, of course, be of any desired make, to indicate anything suitable for the purpose for which the whole device may be applied.

Taking a common clockwork, the hand may be made to indicate the time by hour or minute or any other desirable period.

The indicated time may be divided into any desirable fraction.

In Fig. 2, a portion of a common dial of a clock is illustrated, showing the main figures II, III and IIII, and five positions or spaces between the different figures, being the equivalents of minutes in a common clock. If the illustrated hand 5 is considered the common-clock hour-hand, a movement of the hand from one indicated position to the next position would be the equivalent of twelve minutes, while the minute-hand of a common clock would move in one minute from one position to the next.

For the sake of simplicity, the invention will be described with reference to the movements of a common clockwork, and with reference to the movement of the minute-hand or larger hand of a common clock.

Under these conditions, the hand 5 moves from II to III and from III to IIII in five minutes, and the hand moves a full turn back to the starting point in sixty minutes.

Contacts 6 are provided in the dial of the clock in the path over which the hand moves in its regular manner, the contacts being disposed so that the hand 5 contacts with the top surfaces of the contacts 6.

As illustrated, sixty contacts have been provided so that the hand 5 may come into operative engagement with one of the contacts every minute as the hand moves over the face or dial of the clock. More or less contacts may of course be provided, to allow a contact-making for any desired periods.

Each of the contacts 6 is provided with a circuit-break, which may be closed by a plug, so that the contact-making may be made effective at a certain minute of the full rotating movement of the hand. Any number of plugs may be used, so that several contacts may be in a closed circuit as the hand moves over such contacts during its regular movement.

Sockets 7 are provided in a number corresponding to the number of contacts 6, and a connection 8 is provided between each pair of contacts 6 and sockets 7. A contact-ring 9 is mounted on the insulation ring 10 in a position that the circuit may be closed between any of the connections 8 and the ring 9 by a plug 11 disposed in any of the sockets 7, as illustrated in Fig. 1.

A circuit may then be formed and closed between the lead 12, the clock-work 4, the hand 5, the contact 6, the connection 8, the plug 11, the contact-ring 9, and the lead 13 back to the lead 12, considering that a battery and other instruments may be inserted between the leads 12 and 13 as illustrated in Fig. 1 even though no such insertions are indicated in that illustration.

In Fig. 3, a diagrammatic illustration of instruments and leads shows more clearly a simple form of forming a proper circuit in connection with the above described parts of the apparatus described so far. An electric socket 14, of any well known make, is indicated in the side wall of the cabinet 15. The leads 16 and 17 connect the socket 14 with the transformer 18. A buzzer 19 is connected to the transformer 18 by the lead 20 on one side, and has the lead 13 as a second connection.

Considering that the parts described above with reference to Fig. 1 are inserted between the leads 12 and 13 in one direction, the circuit between the leads 12 and 13 is in this form closed by the transformer, the lead 20, the buzzer 19, and the return to lead 13.

The buzzer may in such case be a low-current instrument, and the transformer may be selected to take care of any current to be supplied to the socket 14.

Considering that the hand 5 points to III of the main dial of the clock, and, since this description has been made with reference to the minute-hand of a common clock, assuming that four minutes are to be timed by this apparatus without having to pay attention to any other time-piece, a plug is merely inserted into the socket at 21. The circuit described above will be closed as soon as the hand 5 comes to a point over the corresponding contact, that is in the illustration of Fig. 2 shown below the indication next to the small numeral 4, indicated at 22, in the computing dial 23.

The computing dial may be of transparent material or may even be of metal as long as the hand alone is allowed to make contact. Providing a number of computing figures on the computing dial 23, the zero-figure is preferably in alignment with the hand 5, so as to simplify and facilitate a computing of time from the moment to extend over any period of time. Inasmuch as the hand 5 points toward III, and considering that the hand is in alignment with zero of the computing dial 23, any desired or required period to begin at III may be directly read off on the computing dial, and a plug may be inserted into the socket of the series 7, to assure a closing of the circuit as soon as the hand comes to a point over the corresponding contact of the series 6. The computing dial 23 and the hand 5 are for this purpose preferably firmly or frictionally interconnected, so that the computing dial will always be with its zero-mark in alignment with the position of the hand 5.

Of course, as stated above, the whole apparatus may be arranged to co-act with the hour-hand of a clock-work, so that several hours and including certain minutes may be plugged off to indicate the termination of a certain period, and several different periods of time may be indicated beginning at various times of the day.

The plugs 11 preferably carry numbers to correspond with the numbers of the rooms of a hotel, or to correspond with the numbers of the treatment rooms of clients.

Having thus described my invention, I claim:

In a multiple timer, in combination with a clockwork including dial and indicating hand carried by a central shaft of the clock-work, the central shaft and therewith the hand being in continuous operative connection with one terminal, indicating members having head pieces disposed on the outside of said dial to contact with the free end of said indicating hand at desired points throughout the circle of the dial and terminating on the rear-side of the dial carrying a contact member in operative connection with a second terminal normally insulated from the first-named terminal, a second contact member having its free end disposed spaced from the free end of the first-named contact member thereby normally forming a gap in a circuit while in direct

connection with the said indicating member and thereby with the said first-named terminal when the said hand is disposed over the head piece of said indicating member, and a plug receiving means disposed at a point to bring an inserted plug between the two free ends of said contact members to bridge the said gap on the rear-side of said dial for closing the circuit and at a point adjacent to each of said indicating members.

In testimony that I claim the foregoing as my invention I have signed my name.

THOMAS J. BARRETT.