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GAME SIGNALING APPARATUS

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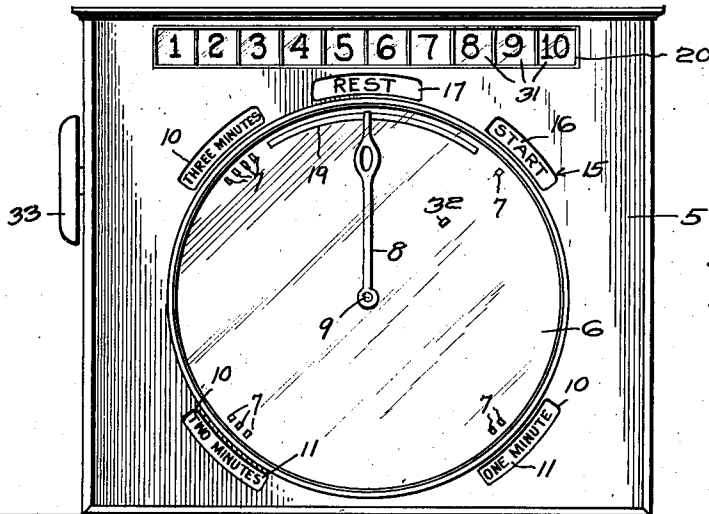


FIG. 1.

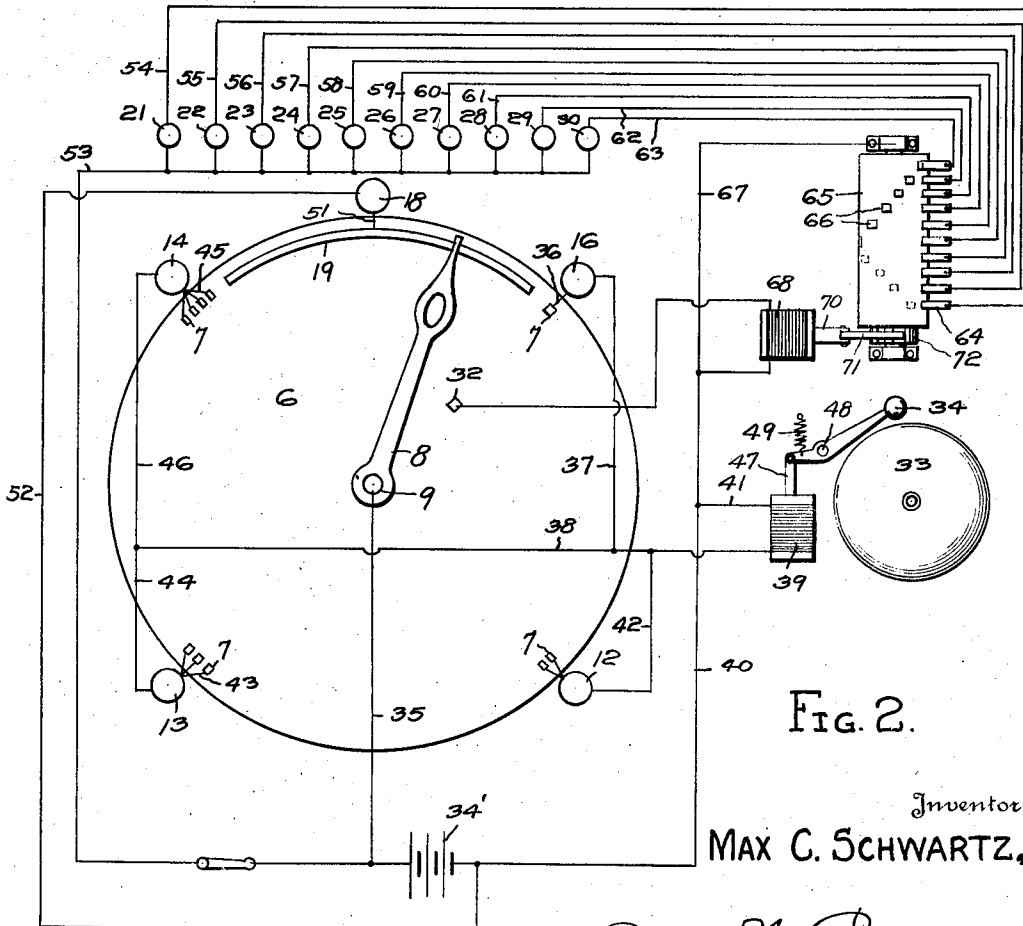


FIG. 2.

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GAME SIGNALING APPARATUS

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This invention relates to game signaling systems, and has particular reference to an apparatus for accurately timing boxing and other bouts, and producing both audible and visual signals to thereby acquaint the audience of the progress of the game.

It is an object of the invention to provide an apparatus of the above mentioned character comprising various electrical circuits, so arranged as to indicate to the audience the various stages of a boxing bout, such as the progress of a round, and the number of the round, and to also indicate the usual one minute rest period between rounds.

A further object of the invention is the provision of such a device as mentioned above, having the appearance of a clock, and various electrical contacts arranged thereon for indicating the minute divisions of the round, by means of both visual and audible signals.

Other important objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, wherein like numerals are employed to designate like parts throughout—

Figure 1 is an elevational view of a device embodying the invention, and,

Figure 2 is a diagrammatic view of the electric circuits embodied therein.

Referring specifically to the drawings, the numeral 5 designates the indicator casing, in the present instance shown as being square, although the shape is immaterial. The device is illustrated as embodying a single face, although it is obvious that it may be formed with any suitable number of faces, whereby it may be observed from all points of the arena or the like. Where more than one indicating face is employed, a single operating mechanism is used for simultaneously actuating the several faces. The face of the device comprises a round, clocklike dial 6, equally divided into four divisions as indicated. At each division of the face, is arranged metallic contact members 7, adapted to be engaged by a metallic hand 8, pivotally mounted at the center of the dial, as indicated at 9, and adapted to be driven by any

suitable mechanism, not shown. It is to be noted that the divisions of the dial 6 are arranged at intervals of one minute each, making it necessary for the hand 8 to make a complete revolution in four minutes.

Arranged at each division of the dial 6, are visual indicators 10, embodying lens 11, having painted or otherwise displayed thereon, the minute indication of that particular division, such as "One minute", "Two minutes", and "Three minutes". Each of these visual indicators are provided with an incandescent lamp, 12, 13 and 14, which are adapted to glow momentarily upon the passage of the hand 8 over that particular contact 7. The starting point of the game is indicated at 15, and likewise embodies a visual signal 16, similar to the signals 10, but displaying thereon the word "Start". The time consumed during the passage of the hand 8 from the three minute point, to the starting point, is indicated as a rest period, and is so designated by a visual signal 17, having displayed thereon the word "Rest", and caused to become visible by means of a lamp 18. The lamp 18 is caused to glow by reason of the hand 8 passing over an elongated contact strip 19, as will be more fully described hereinafter. It is desirable that the round number shall be exhibited at all times during the progress of the game, and to accomplish this, a casing 20 has been provided wherein is housed a plurality of incandescent lamps, 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30, each provided with a lens 31, having displayed thereon the figures "1" to "10", inclusive, it being understood that the average boxing match or bout is of ten round duration. Each of the lamps 21 to 30 is suitably electrically connected, and adapted to glow progressively, upon the progress of the game. The face or dial 6 is provided with a metallic contact member 32, adapted to be engaged by the hand 8 upon its passage thereover. This contact 32 has suitable electrical connection with mechanism, to be hereinafter described, for progressively bringing the lamps 21 to 30 into the electric circuit.

The device comprises an audible signal in addition to the visual signals, and in this

instance is shown as a bell, indicated at 33, in Figure 2, and comprises a clapper 34, adapted to be operated by electrical means, to be hereinafter described.

The numeral 34' designates a source of electrical energy, such as the conventional storage battery. Leading from the battery 34', is a wire 35, having connection with the hand 8, as shown. The "starting" contact 7 has connection with the lamp 16 by means of a wire 36. The opposite side of the lamp 16 has connection with a wire 37, in turn connected with a wire 38. The wire 38 serves as a negative return wire for the lamps 12, 13 and 14, and this wire in turn has connection with a solenoid magnet 39. The opposite side of the magnet 39 is connected with a wire 40, through the medium of a short wire 41 the wire 40 having connection with the negative side of the battery. It will therefore be obvious, that upon the passage of the hand 8 over the "starting" contact 7, current will pass from the battery 34', through wire 35, hand 8, contact 7, wire 36, lamp 16, causing it to glow, wire 37, wire 38, solenoid magnet 39, wires 40 and 41, and back to the opposite pole of the battery 34'. The passage of the hand 8 over the "one minute" contact 7 will permit current to pass from the battery as before, through the hand 8, contacts 7, wire 42 to wire 38, thence through the magnet 39 and back to the negative side of the battery.

It will be noted that the "one minute" period is provided with two contacts, the "three minute" period with four contacts, and the "two minute" period with three contacts. The passage of the hand 8 over these several contacts will permit current to pass there-through as before stated, the "two minute" contacts 7 being connected with the lamp 13 by wires 43, and the lamp in turn being connected with the wire 38 by a wire 44. Likewise the "three minute" contacts 7 are connected with the lamp 14 by means of wires 45, and the lamp in turn being connected with the wire 38 by means of a wire 46. In each instance of the passage of the hand 8 over any one of the contacts 7, will cause the solenoid magnet 39 to become energized. As clearly shown in Figure 2, the magnet 39 is provided with an armature 47, having pivotal connection with the clapper 34, consequently whenever the magnet is energized, the armature 47 is drawn downwardly, causing the clapper 34 to swing upon its pivot 48, and against the tension of a spring 49. Upon release of the armature, the spring causes the clapper to move upward, causing its weighted end to strike the bell 33. The passage of the hand 8 over the "one minute" contacts 7 will cause the bell to sound twice, and the passage of the hand 8 over the "two minute" and "three minute" contacts 7, will

cause the bell to sound three and four times respectively.

As before stated, the "rest" period is adapted to be displayed for substantially the entire time of the passage of the hand 8 between the "three minute" period, and the "start" period. The elongated contact strip 19 is connected with the lamp 18 by means of a short wire 51, and the lamp is in turn connected with the negative side of the battery through the medium of a wire 52.

The several lamps 21 to 30 inclusive are connected with the positive side of the battery by means of a common lead wire 53, having a cut-out switch arranged therein. The lamps 21 to 30 inclusive, are each provided with a lead wire, indicated at 54, 55, 56, 57, 58, 59, 60, 61, 62 and 63, in turn having connection with metallic spring fingers 64. The fingers 64 bear against a rotatable drum 65, provided with a plurality of metallic contacts 66, there being ten in number, and spaced circumferentially of the drum as indicated, to alternately have engagement with the fingers 64. Each of the contacts 66 has connection with a common lead wire 67, having connection with the negative side of the battery, through the medium of the wire 40. The means to rotate the drum 65, embodies a solenoid magnet 68, connected at one side with the contact 32, and at its other side with a wire 69, in turn connected with the return wire 40. The magnet 68 is provided with an armature 70, having pivotal connection with a pawl 71, in turn engaging a ratchet wheel 72, fast upon the end of the drum 65. Thus when the magnet 68 is energized, as is the case whenever the hand passes over contact 32 and the "start" point, the drum will be rotated a step, by reason of the armature 70 being drawn inwardly, and moving the pawl a corresponding distance to rotate the ratchet wheel. Thus a step by step movement is imparted to the drum 65 every time the hand passes over the contact 32, or at the start of every round. The contacts 66 are so arranged, that as the drum is rotated, the lamps 21 to 30 will be alternately brought into circuit, and the preceding lamp cut out of the circuit. Thus the observer will be enabled to tell at a glance the number of the round in progress.

Assuming that everything is in readiness, the mechanism is started, and as the hand 8 passes over the "start" point, the bell 33 will sound once, the lamp 16 glow momentarily, and the drum rotated so that lamp 21 is brought into circuit. As the hand passes over the "one minute" period, the bell will sound twice, and the lamp 12 will glow momentarily. As the hand 8 passes over the "two minute" period, the bell will sound three times, and the lamp 13 will glow momentarily. As the hand passes over the "three minute" period, the bell will sound four times, and

the lamp 14 will glow momentarily. Thus the audience will be able to follow the progress of the round by merely glancing at the device. After the hand passes from the "three minute" period, it engages the contact 19, causing the lamp 50 to glow and illuminate the "rest" period. This operation continues until the end of the contest. It is obvious that all parts are suitably insulated one from the other.

It will be observed from the foregoing, that an extremely simple and efficient form of game signal has been provided, one which will keep the audience advised at all times as to the progress of the game, and at the same time accurately timing such game, and thereby avoid the now prevalent practice of showing favoritism to either contestant, by the timekeeper. It is well known in sport contests, that a timekeeper will often sound his signal ahead of time to enable his favorite contestant to regain his position, or as is the case many times, a second or two more to a round will enable a contestant to obtain a decision over his opponent, where it is apparent to the timekeeper that such would be the case. With this device, the possibility of unfairness to either opponent is avoided, and the audience is assured of an impartial decision. The device is extremely advantageous in many games, where decisions are rendered on a time basis. The mechanism is such as can be very cheaply manufactured and marketed.

It is to be understood that the form of the invention herewith shown and described is to be taken as the preferred one, but that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention, or the scope of the subjoined claim.

Having described my invention, what I claim is:—

A time indicator of the character described comprising a main casing having a dial arranged thereon, electrical contact elements carried by said dial adjacent its edges, a hand for traversing said dial, said dial divided in four equal divisions of one minute each, said hand connected with a source of electrical energy, certain of said contact elements arranged at the minute division of the dial, electrical connection between the last named contacts and both visual and audible signals, one of said last named contacts arranged at the first division of the dial for indicating the starting point, two of said contacts arranged at the second division in spaced relation for indicating both visibly and audibly the one minute elapsed time, three of said contacts arranged at the third division in spaced relation for indicating both visibly and audibly the two minute elapsed time, four of said contacts arranged at the fourth division in spaced relation for indicating both

visibly and audibly the three minute elapsed time, an elongated contact strip arranged between the three minute signal and the starting point, electrical connection between said strip and a visual signal for indicating a rest period during the travel of the hand thereover, said hand adapted to engage the several contacts for indicating the progress of the game, an indicator casing arranged above the dial and provided with figures upon its face for progressively indicating the several stages of the game, independent illuminating means for each of said figures, electrical means operable by the passage of the hand over a contact adjacent the starting point for causing the said figures to become successively illuminated for each complete revolution of the hand.

In testimony whereof I affix my signature.

MAX C. SCHWARTZ.