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RECORDING APPARATUS

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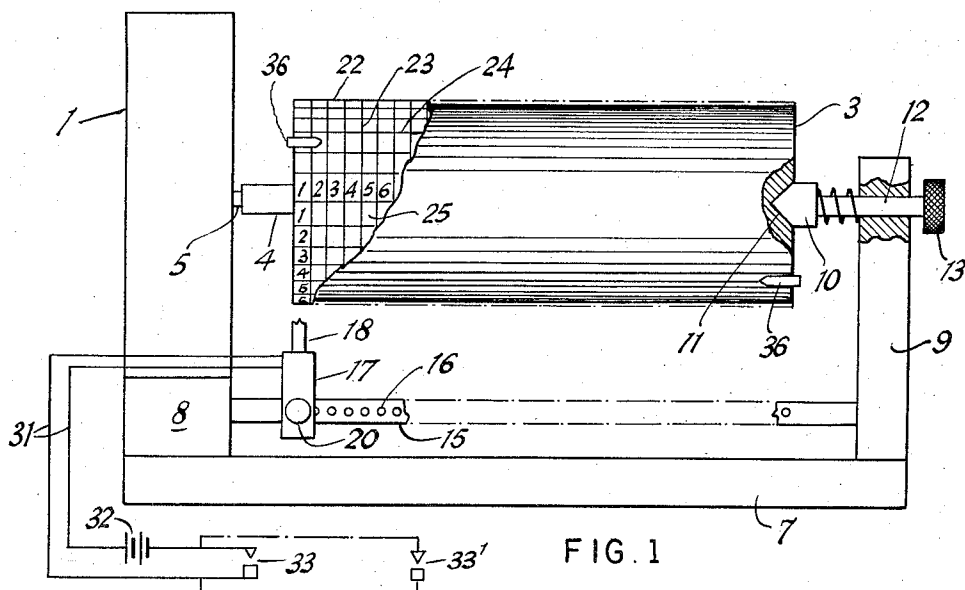


FIG. 1

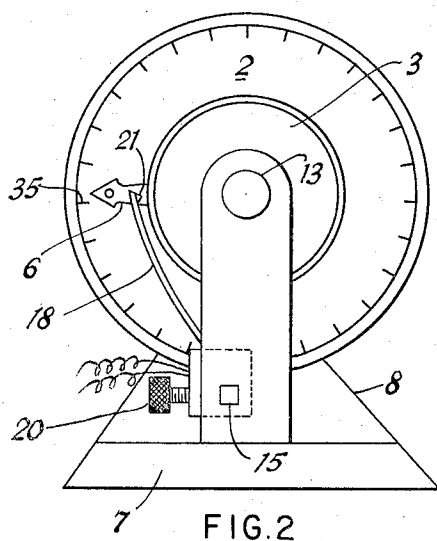


FIG. 2

1	2	3	4	5	6	29	30	31
1								
2								
3								
4								
20								
21								
22								
23								
24								

FIG. 3

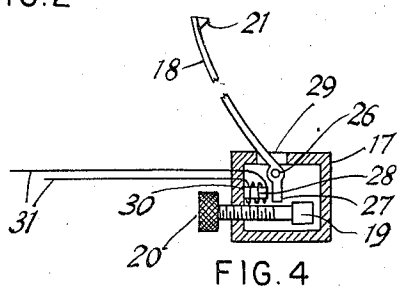


FIG. 4

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## RECORDING APPARATUS

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1 Claim. (Cl. 346—80)

My invention is an improvement in recording apparatus, especially recording apparatus for indicating the presence and attention to duty of any individual at an appointed station.

The principal object of this invention is to provide mechanism to be set up at a central point of observation with connections to a place at which an individual is posted for a scheduled length of time; and capable of repeated activation by such person to show his continued attendance and activity in the employment assigned to him. Hence the apparatus will reveal the absence or negligence of the person at selected moments.

A further object is to provide mechanism for this kind of recording that is comparatively simple in design, inexpensive and easy to produce and install, and certain in operation.

Other objects and advantages of this invention are clearly set forth herein and the novel characteristics are defined in the appended claim. A preferred embodiment is illustrated in the drawings, but variations in minor respects may be adopted without deviation from the general plan in which the invention resides.

On said drawings:

Figure 1 is a side elevation of recording apparatus according to my invention.

Figure 2 is an end view thereof.

Figure 3 shows the form of record which is obtained; and

Figure 4 is a sectional view of a detail.

The apparatus comprises a clock 1, presenting its face 2 to a cylinder 3, which has a trunnion 4 at one end, rigidly connected with the arbor or spindle, indicated at 5 on Figure 1, of the hour hand 6 of the clock. Both the clock and cylinder are mounted in a framework 7 which carries a supporting block or base 8 for the clock, and an upright member 9 carrying a journal for the opposite extremity of the cylinder 3. The journal has a pointed end portion 10 that fits into a central recess 11 in the adjacent end of the cylinder, and a reduced stem 12 having a head or knob 13 on the outer face of the member 8. Between the end portion 10 and the member 9 is a coiled spring 14 encircling the stem 12 and pressing against the member 9 and the shoulder of the portion 10, to hold the pointed end of the portion 11 in the recess 12.

Affixed to the block 8 and the member 9 is a bar or rail 15, extending parallel to the cylinder 3. This rail has recesses 16 in its side, and slidably disposed on this rail is a casing 17 having a marker 18 with its outer end in position to engage an indicator sheet on the cylinder 3. The casing has an opening 19 through which the rail 15 passes, and a catch 20 of the casing in the side. The catch may be a screw with a pointed end to engage any one of the recesses 16 in the bar 15, or it may be a plug with a pointed end to enter any of the recesses 16, and the casing may have a spring to press the catch inward to hold the catch in the recess selected. At the outer end of the arm 18 is a pointed element 21 which can

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strike the record sheet and make either a small punched hole in said sheet or a dot thereon.

The kind of sheet on which the recording is inscribed is shown at 22 in Figure 3. The sheet is rectangular and along one edge is a series of consecutive numbers beginning with 1 and ending with 31, representing dates in a calendar month. The month and year may also appear on the sheet, at the back or elsewhere. The dates are separated by lines 23 extending to the other end of the sheet and parallel to the opposite sides. Additional lines 24 parallel to the ends run across the sheet intersecting the lines 23, and thus a column of squares 25 is delineated in line with each of the dates. The squares are 24 in number, one for each hour in each day, and the consecutive hours are printed or otherwise inscribed on one edge or any other convenient location on the sheet 22. Obviously the squares in horizontal alinement with the hour number represent the same hour on each day.

The record sheet is laid on the cylinder, and as the cylinder revolves in synchronism with the clock mechanism, the squares 25 are moved one by one into position relative to the arm 18. The casing 17 is set on the rail 15 so as to be in line with hour column for the day of the month on which the record is to be obtained. When the arm 18 is actuated to strike the sheet 22, the arm will mark any square opposite the arm with a dot or perforation, to establish the fact that the person who is to be checked is at his post and for time and alert. The employee may be ordered to cause the arm 20 to be actuated several times in each consecutive hour, as conditions demand.

To operate the arm 20, it is mounted on a pivot pin 26 in the casing 17 and its lower end 27 will be magnetic and disposed near a soft iron magnet core 28 in the casing. The arm projects out of the casing through an opening 29 in the top. A coil of wire 30 surrounds the magnetic core 28 and is connected with a circuit comprising electric conductor wires 31, a battery 32 and a push button or other type of switch 33. The circuit extends to the place where the person who must signalize his continued presence is stationed.

The utility of the apparatus will now be apparent. The sheet 22 is attached to the cylinder 3 so that the row of dates extends along the cylinder from end to end, and the transverse line immediately under said row aligns or registers with the zero hour mark on the face 3 of the clock 1. The element 21 on the arm 18 is now in position to strike this line. At the end of a scheduled interval, such as every ten, fifteen or twenty minutes, the person at the post equipped with the switch 33, closes the switch and marks are thus impressed on the square of the first hour. This is done for every hour till the period of duty or employment for the day is finished.

The apparatus can thus be utilized in a military or industrial establishment by installing the switch 33 at the booth or desk of a watchman or gate keeper and setting up the clock 1, cylinder 3, and casing 17 in the room of the proper official. The latter can tell whether the watchman or gate keeper is constantly at his post by observing the cylinder 3 and sheet 2. It can also be utilized to check on a sentry who has to walk to and fro on a beat of any length. In that case a switch 33 can be placed at each end of his beat, both switches in parallel in the circuit of the casing 17, as at 33 and 33' in Figure 1, so that the sentry can record his movements. If his beat takes fifteen minutes to patrol from end to end, four dots or perforations in each square 25 will show that he is performing his duty fully.

The clock 1 has a casing with a rim 34 encircling the face 2 and the hour points are indicated at 35. The hands may be rotated by mechanical or electrical means; and the sheet 22 is secured on the cylinder with its edges

at some points under clips 36 or other fastening means. A clock with an hour hand making a complete revolution for half a day can also be employed, but then there should be two columns side by side for the hours in line with each date, one column for the first 12 hours and the other for the remaining 12, and the casing 17 has to be shifted and the screw 18 made to engage the next recess 16 to the right at the end of each half day.

The principle of my invention can be employed also if a watchman or other person is required to go from point to point several times a day, night, or part thereof, for example, through the separate rooms or floors of a factory. Then each date will head several columns of squares 25 side by side for the hours, and each column will correspond with one point to be visited and observed. An equal number of casings 17 will be mounted on the rail 15, each with its own circuit and switch at one of said points. The watchman will close each switch and thus actuate each arm 18 in the proper order at each point, as often as he goes on his rounds, and the record will show if he has failed to visit any point to be included at any time when a visit was necessary in the regular performance of his duties.

My invention is therefore well adapted to serve its intended purposes. The supervising individual keeps the apparatus in his quarters and can tell at once by the record if an employee who must account for his time and whereabouts is really devoting himself to the employment given to him.

The face 2 of the clock 1 can be calibrated to show fractions 37 of hours and the minute hand shown diagrammatically at 38 will then indicate the exact moments when signals should be received at the desk of the management. The minute hand will of course be properly disposed with reference to the hour hand.

The switches indicated at 33 and 33' can be ordinary

push button switches or key control switches; or any other suitable type of switch.

Having described my invention, what I believe to be new is:

- 5 Recording apparatus comprising a portable supporting framework having a block and a time clock thereon at one end, a cylinder connected at one end to an arbor of said clock, and a post at its opposite end, said post having a bearing adjacent its top, a releasable journal
- 10 in said bearing engaging said cylinder at its opposite end, a record sheet having a single layer enveloping said cylinder, said sheet having columns, side by side, of squares representing consecutive hours extending around the cylinder, and numbers representing consecutive days
- 15 heading said columns, retaining clips at each end of said cylinder engaging the edges of said sheet, a hollow casing having a marker arm pivoted therein and projecting therefrom with its outer end adjacent said cylinder, and a magnetic coil in the casing adjacent said arm, means
- 20 extending away from said apparatus and including a source of electric current and conductors united to said coil for actuating the arm at repeated intervals to strike said sheet at repeated intervals, said framework having a bar extending along the cylinder parallel thereto and
- 25 below it, the casing being slidably mounted on said bar, and a retractile device to secure the casing to the bar, said bar being affixed to the post at one end, its opposite end being affixed to said block, the bar having recesses each adjacent one of said columns for said device.

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