

(No Model.)

C. E. VAN VOORHIS.
EMPLOYÉ'S TIME RECORDER.

No. 377,341.

Patented Jan. 31, 1888.

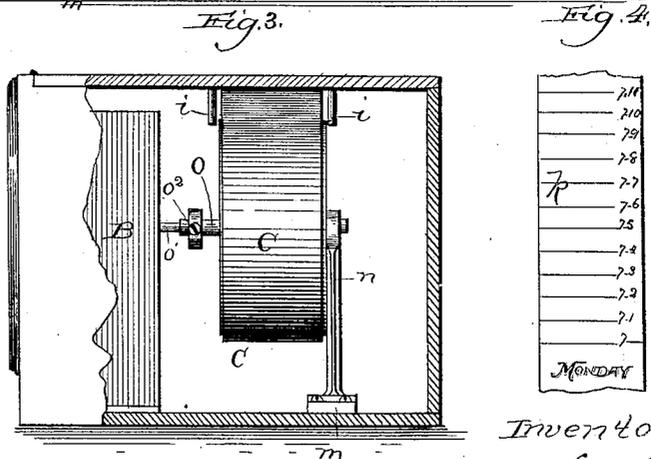
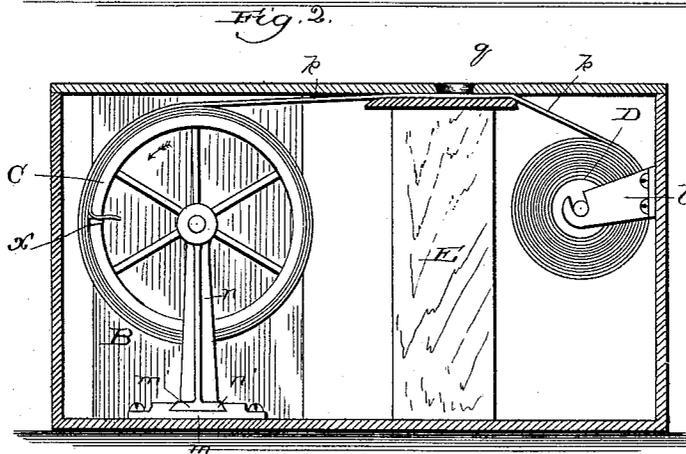
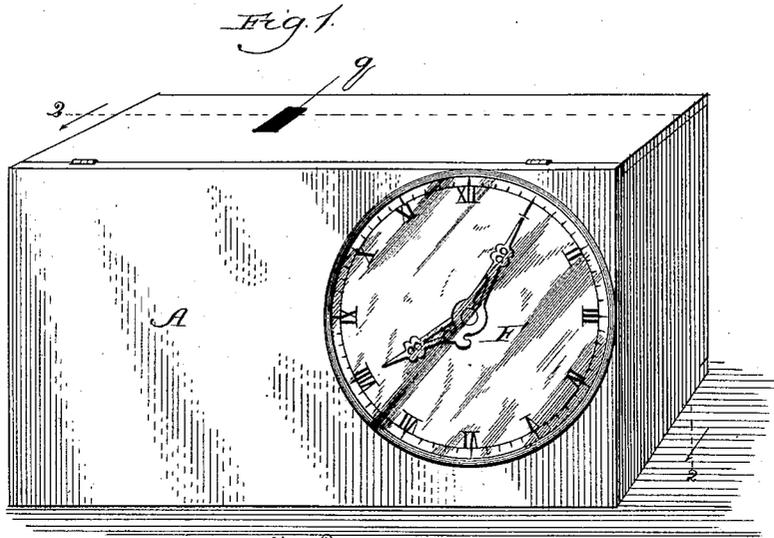


Fig. 4.

7.14
7.10
7.9
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
7
MONDAY

Witnesses:

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UNITED STATES PATENT OFFICE.

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EMPLOYÉ'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 377,341, dated January 31, 1888.

Application filed June 14, 1887. Serial No. 241,249. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. VAN VOORHIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Employés' Time-Registers; and I hereby declare the following to be a full, clear, and exact description of the same.

The object of my invention is to provide means whereby the time at which employés arrive and depart may be accurately recorded, and thus indicate at the end of the day the exact time which each employé has spent at his duties.

To this end my invention consists in certain details of construction and combinations of parts, all as hereinafter more fully set forth and claimed.

In the drawings, Figure 1 is a perspective view of my time-recorder provided with a dial; Fig. 2, a vertical section on the line 2 2 of Fig. 1, viewed in the direction of the arrows; Fig. 3, an end elevation showing a part of the case broken away to disclose internal details, and Fig. 4 fragments of paper ribbon marked with a time-scale for use in the apparatus.

A is the case, provided on its upper surface with a longitudinal slot, *q*, of a length to correspond with the width of the ribbon *k*, hereinafter described, and running parallel with the ends of the case, as shown.

B is a time-movement, an ordinary clock-movement being sufficient for the purpose.

C is a roller mounted upon a shaft, *o*, said shaft being hollow at one end to form a collar to receive the end of the extension *o'* of the minute-hand shaft of the clock-movement, to which it is firmly attached by means of the set-screw *o²*. The other end of the shaft *o* has its bearings in the standard *n*.

Although I prefer to attach the roller C to the minute-hand shaft to be operated thereby, it may be attached to other parts of the movement to produce its automatic operation, and I do not therefore confine myself to the manner of attachment shown in the drawings.

The standard *n* is dovetailed at its base, as shown at *n'*, to enter and fit snugly within a corresponding groove, *m'*, in the base-plate *m*, which latter is firmly secured to the bottom of the case, and the standard *n* is thus rendered removable, for a purpose hereinafter described.

D is a spool mounted upon a shaft having its bearings in brackets *l*, secured to the end of the case A upon its inner side, as shown. Wound upon the spool D is a paper ribbon, *k*, marked upon its outer face, at ascertained intervals, with the hours and minutes in regular order of time, and of a width sufficient to permit the writing of a name at the side of the numbers.

E is a block or support secured to the bottom of the case directly opposite the slot *q*, and extending upward to a distance a little more than the thickness of the paper ribbon from the slot *q*. The top of the support E affords a smooth and firm surface for the ribbon *k* to glide over and bear against, while the guide-pins *i* in the cover of the case serve to prevent the ribbon from moving to one side or the other. The dial F, with the hour and minute hands, though not a necessary feature of my invention, are nevertheless useful and attractive adjuncts. Both the cover and back of the case A are arranged to open to afford convenient access to the interior.

To operate the device as thus far described, the spool D, carrying the ribbon *k*, is placed in position upon the brackets *l*, and the end of the ribbon passed over the support E to the roller C, upon which it is fastened in any convenient manner, one mode, as shown in Fig. 2, being to provide a slot in the periphery of the roller, through which the end of the ribbon may be passed and secured by means of the wedge *x*. The set-screw *o²* being loosened, the roller C is revolved until the proper hour and minute indicated upon the ribbon appear under the slot *q*. The set-screw *o²* is then tightened and the roll C caused to revolve with the minute-hand shaft of the clock-movement. The ribbon *k* is thus made to unwind itself from the spool D onto the roll C, and pass across the opening *q* at an ascertained rate of speed, to which the distances between the minutes indicated upon the ribbon are made to conform. At the end of each day it becomes necessary to remove that part of the ribbon which has passed across the opening *q*, for the purpose of making up the time-roll for the day; though, if preferred, the device may be made of a size sufficient to run a week without the removal of the ribbon, or even longer, if desired. To remove the ribbon *k*, it is only nec-

essary to loosen the set-screw o^2 to disengage the shaft o from the shaft o' , and sever the ribbon, if necessary, at a point between the spool D and roll C, when the ribbon may be readily unwound from the roll C, and the severed end of the unused ribbon attached to the roll C, as before described. Where, however, the device is intended to operate for a week or longer without removing the ribbon from the roll C, it is preferable to take out the roll bodily from the case, and this may also be done, if desired, when it is removed daily. This I have provided for by making the standard n removable, as hereinbefore described.

15 In preparing the ribbons for daily removal, I prefer to make them in connected or disconnected lengths for twenty-four hours each, beginning, for example, with six o'clock, and leaving spaces at the ends of the lengths to make it possible to commence with six o'clock opposite the opening g . It will readily be seen that these ribbons may be in one-hundred-and-sixty-eight-hour lengths, the spaces between minutes being gradually widened accordingly to compensate for the increasing size of the roll C.

What I claim as new, and desire to secure by Letters Patent, is—

1. A time-recorder comprising, in combination, an inclosing-case, A, provided with an opening, g , a time-movement, a roller, C, rotated by the time-movement, a roller, D, a ribbon, k , wound upon the roller D, and adapted to be unwound therefrom upon the roller C by the rotation of the latter, and marked with a time-scale having increasing intervals to compensate for the increasing diameter of the roller C, in which intervals names are to be recorded on the ribbon, and a support, E, beneath the opening g , for the ribbon to slide upon, substantially as and for the purpose set forth.

2. In combination with the case A, provided with an opening and closing side, the base-plate m , having a dovetailed groove, m' , and the standard n , for supporting the roll C, provided with a dovetailed base, n' , substantially as and for the purpose set forth.

CHARLES E. VAN VOORHIS.

In presence of—

J. W. DYRENFORTH,
GEORGE C. COOK.