No. 652,822. Patented July 3, 1900.

L. E. VOORHEIS.

WORKMAN'S TIME INDICATOR.

(Application filed Jan. 28, 1899.)

(No Model.)

Fig. 1.

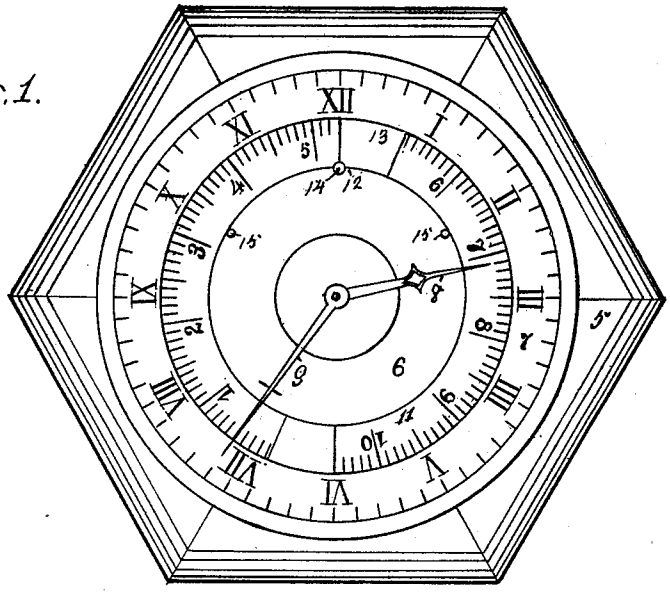


Fig. 2.

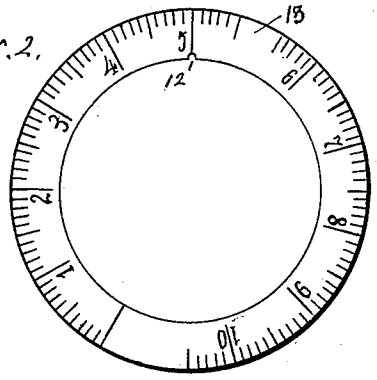


Fig. 3.

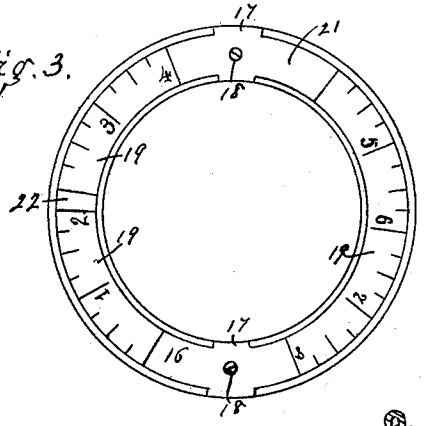
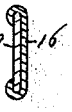


Fig. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

LOUIS E. VOORHEIS, OF CINCINNATI, OHIO.

WORKMAN'S TIME-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 652,822, dated July 3, 1900.

Application filed January 28, 1899. Serial No. 703,715. (No model.)

To all whom it may concern:

Be it known that I, LOUIS E. VOORHEIS, a citizen of the United States, and a resident of Cincinnati, Ohio, have invented certain new and useful Improvements in Clocks, of which the following is a specification.

My invention relates to clocks of that class used in factories to indicate time to the employees; and the object of my improvement is to provide an auxiliary dial whereon the hour-hand will indicate the lapse of the working time exclusive of the regular stops and in addition to the ordinary time indicated by the clock. This object is attained in the following-described manner, as illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a clock embodying my improvement; Fig. 2, the reverse face of a work-dial; Figs. 3 and 4, details of a modified form of construction.

In the drawings, 5 represents the case, 6 the face, 7 the dial, 8 the hour-hand, and 9 the minute-hand, of a clock, and all arranged in the usual manner.

Auxiliary or work dial 11 is shown in Fig. 1 in proper position on the face and concentric with the dial of the clock. It contains notch 12 in the edge of its top portion, and is formed of cardboard, sheet metal, or other suitable material. Spaces of thirty degrees each are marked on the face of said dial to each represent an hour of time by the clock, and each space is graduated in decimals of three degrees or six minutes of time. The hour-spaces begin and are numbered with the sun consecutively from a predetermined point, as at the radius intersecting the clock-time of 6.45 a. m. (Shown in Fig. 1.) This predetermined starting-point represents the time of beginning work and may be changed to any other time, as desired. Blank space or gap 13 in the graduations at the top of the work-dial represents the noon rest for dinner. In Fig. 1 it is twenty-two and one-half degrees in extent or forty-five minutes, of time but may be established to represent a longer or shorter period of time, as desired. From the end of the gap the graduations and the numbering of the hour-spaces are taken up as from the beginning of the gap and continued to the predetermined point of beginning, or to the end of the relief of workmen, or to the end of the day's work of, say, eight or of ten hours. At any time indicated on the dial of the clock the hour-hand will indicate on the work-dial the number of hours and tenths of hours of six minutes each that have passed from the time of beginning work in the morning and exclusive of the noon rest. The example shown in Fig. 1 indicates at 2.36 o'clock p. m. that the working-time from the time of beginning at 6.45 o'clock a. m. amounts to seven hours and one-tenth or six minutes, and exclusive of the forty-five minutes rest at noon. The work-dials are simply suspended in position from a screw or pin 14, that projects from the clock-face by the engagement of notch 12 therewith, and pins 15 project from said face past the edge of the dial to hold it properly concentric with the clock-dial.

The work-dial shown in Fig. 2 is spaced into hours and graduated for nightwork and may be substituted for the daywork-dial 11. (Shown on the clock-face in Fig. 1.) If it is attached to the clock-face in the proper position for the hour-hand to indicate the hours thereon as being numbered from seven o'clock p. m. as the predetermined time of beginning work and a gap of fifteen degrees or thirty minutes time intervenes for lunch at 12.30 o'clock a. m., or after the lapse of five and one-half hours, then at 2.30 o'clock a. m. the hour-hand would also indicate the lapse of seven working-hours.

The dial for nightwork may be arranged on the reverse face of the dial that is arranged for daywork, if it is so desired.

A circular groove 16, formed of sheet metal, by having its edges turned partly over and with one or more spaces 17 left open may be secured on the clock-face by means of screws 18 and in a position concentric to the clock-dial. Sectors 19 of a work-dial may be inserted through an open space 17 and adjusted within the groove to any desired position. Said sectors may be of the proper length and properly adjusted within the groove to either serve for nightwork or for daywork, or both. Blank spaces or gaps 21 may be left at intervals, as desired or as occasion may require, to represent a stoppage of work, like a temporary breakdown of power or for a morning lunch, as at 22 in Fig. 3.

Instead of making the work-dial separate and removable from the clock-face it may be painted or otherwise permanently represented thereon.

The graduations on the work-dials may represent other fractions of an hour than tenths, as quarter-hours (shown in Fig. 3) or any other short period of time desired.

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

1. In a clock, the combination with the face and the hour-dial of contiguous sectors of a similar dial attached to the face and concentric with the hour-dial, said sectors being adjustable more or less apart to form a gap between their adjacent ends, whereby the time occupied in the movement of the hour-hand across the gap will not be indicated by the numbers on the succeeding sector, for the purpose specified.

2. In a clock, the combination with the face having a dial, of a plurality of independent graduated dial-sectors secured to the face, and adjustable relative to each other and to the dial, substantially as set forth.

3. In a clock, the combination with the dial-face, of a plurality of independent dial-sectors, and means detachably secured to the clock-face for loosely holding such sectors in position contiguous to the dial, whereby the sectors may be adjusted relative to such dial and to each other, substantially as set forth.

LOUIS E. VOORHEIS.

Witnesses:
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R. S. CARR.