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WORKING TIME INDICATOR.
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1,383,560.

Patented July 5, 1921.

Fig. 1.

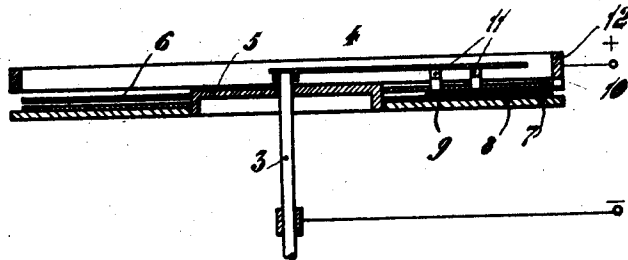
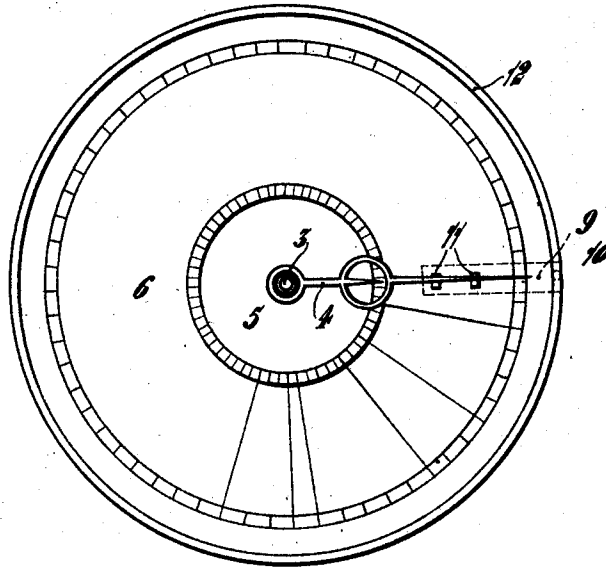


Fig. 2.



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WORKING-TIME INDICATOR.

1,383,560.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRI OSIECK, gentleman, a subject of the Queen of the Netherlands, residing at Amsterdam, the Netherlands, have invented certain new and useful Improvements in Working-Time Indicators, of which the following is a specification.

This invention relates to a working-time indicator, that is constructed in such a manner, that besides automatically indicating at a certain moment how much the work should have progressed or how long a time the working process or a certain part thereof should still last, it also gives automatically a signal, as soon as one or more predetermined points of the working process and more particularly the prescribed rest periods are attained.

It follows that the instrument according to the invention is at the same time of expedience during lessons and in the application of new methods of manufacture and it furthers the service-hygiene, inasmuch as it prevents the workman from becoming too tired.

According to the invention a hand driven by a clockwork of any type is adapted to move over a dial; and around this dial, which is either graduated in the usual way in intervals of one minute and fractions thereof or provided with a decimal time graduation, and which hereinafter will be called the "timeplate," there is arranged an annular plate, bearing the different working periods indicated by a radial graduation and which in the following will be called, "work-plate." This work-plate is supported by a supporting plate, adapted to be rotated from outside the instrument for the purpose of adjustment with respect to the time-plate.

The work-plate is detachably mounted; it bears loosely but not slidably on the supporting disk and may for instance be made of board.

According to the invention a conducting piece (or if desired a plurality of such pieces) is attached to the underside of the work-plate, said conducting piece projecting beyond the circumference of the work-plate and being provided at this end with a contact continuously bearing against a conductor which extends throughout the total circumference of the supporting disk.

More to the interior the conducting piece is provided with a resilient contact, project-

ing inwardly through the work-plate and temporarily making contact with the hand of the clockwork, when the latter is rotated over the contact.

An insulated plate, for instance a paper plate or disk, is placed between the contacting piece and the supporting disk, in case the latter is made of metal, in order to prevent the contact of the conducting piece with the work-plate.

The annular conductor, with which the outer end of the conducting piece is always in contact irrespective of the position of the conducting-piece with respect to the time plate, is connected to one pole of an electric circuit, whereas the clockwork (and as a consequence the hand) is connected to the other pole of said circuit. This circuit is closed as soon as the hand comes into contact with the conducting piece or with one of the conducting pieces. The resulting electric current may serve to operate an alarm device or may perform some other function.

A working-time indicator according to the invention will now be described with reference to the accompanying drawing on which—

Figure 1 is a diagrammatical section on a plane through the center line of the instrument.

Fig. 2 is a plan view of the time-plate and the work-plate.

To the axle 3 of the clock a hand 4 is fixed, capable of rotation over the time-plate 5 and the work-plate 6. The work-plate 6 is separated from the supporting disk 8 by a paper disk 7 and is provided at the under side with a conducting piece 9. The latter has a contact-piece 10 at the outer end and a pair of contact-springs 11, projecting through the work-plate 6; the contact-piece 10 bears permanently against the annular conductor 12.

It will be clear, that the spring-contact may be arranged at will at the beginning or at the end of a working-period, or at a point corresponding to an intermediate time. In the first place the starting of the piece of work and the finishing thereof can be indicated automatically by the electric current. It is however also important for instance in the case of a chemical process, to indicate automatically a time between the starting and the finishing of the process, at which for instance a certain material has to be added, a heating should terminate, etc. Such an

addition or the like may even be automatically controlled by the electric current. Owing to the fact that in the latter case the automatic control by the instrument according to the invention exclusively takes place in connection with the time passed since the starting of the process, the instrument works in this case as a "working time indicator" as well as when it serves for controlling the duration of each working period.

What I claim and desire to secure by Letters Patent is:—

1. A working time indicator, comprising a circular, graduated time plate; a graduated work plate disposed concentrically with the time plate and rotatable about its axis to vary the position of its graduations relative to those of said time plate; a clockwork-driven hand movable over the graduations of both plates; a conductor fixed to the work plate to rotate therewith and having a pair of contacts, one of which is disposed in the path of said hand; an annular conductor disposed concentrically with the work plate and engageable by the other contact on the first-named conductor in any position of said work plate; and an electric circuit wherein the hand and the annular conductor are included, said circuit being closable by the engagement of said hand with the first-named contact.

2. A working time indicator, comprising a circular, graduated time plate; a graduated annular work plate disposed concentrically with the time plate and encircling the same, the work plate being mounted to rotate about its axis so as to vary the position of its graduations with relation to those of the time plate; a clockwork-driven hand movable over the graduations of both plates; a

conductor fixed to the work plate to rotate therewith and having a pair of contacts, one of which is disposed in the path of said hand; an annular conductor extending around the outer peripheral edge of the work plate and engageable by the other contact on the first-named conductor in any position of said work plate; and an electric circuit wherein the hand and the annular conductor are included, said circuit being closable by the engagement of said hand with the first-named contact.

3. A working time indicator, comprising a circular, graduated time plate; an annular support encircling the time plate and disposed concentrically therewith; an annular, graduated work plate mounted on said support and rotatable with respect to the same and to the time plate so as to vary the position of its graduations with respect to the graduations on the time plate; an annular strip of insulating material interposed between the support and the work plate; a clockwork-driven hand movable over the graduations of both plates; a conductor fixed to the underside of the work plate to rotate therewith and having a contact which projects upwardly through the work plate into the path of the hand and a second contact which projects beyond its outer end; an annular conductor extending around the outer peripheral edge of the work plate and engageable by the second-named contact in any position of the work plate; and an electric circuit wherein the hand and annular conductor are included, said circuit being closable by the engagement of the hand with the first-named contact.

In testimony whereof I affix my signature.

HENRI OSIECK.