

No. 745,058.

PATENTED NOV. 24, 1903.

D. HEPP.

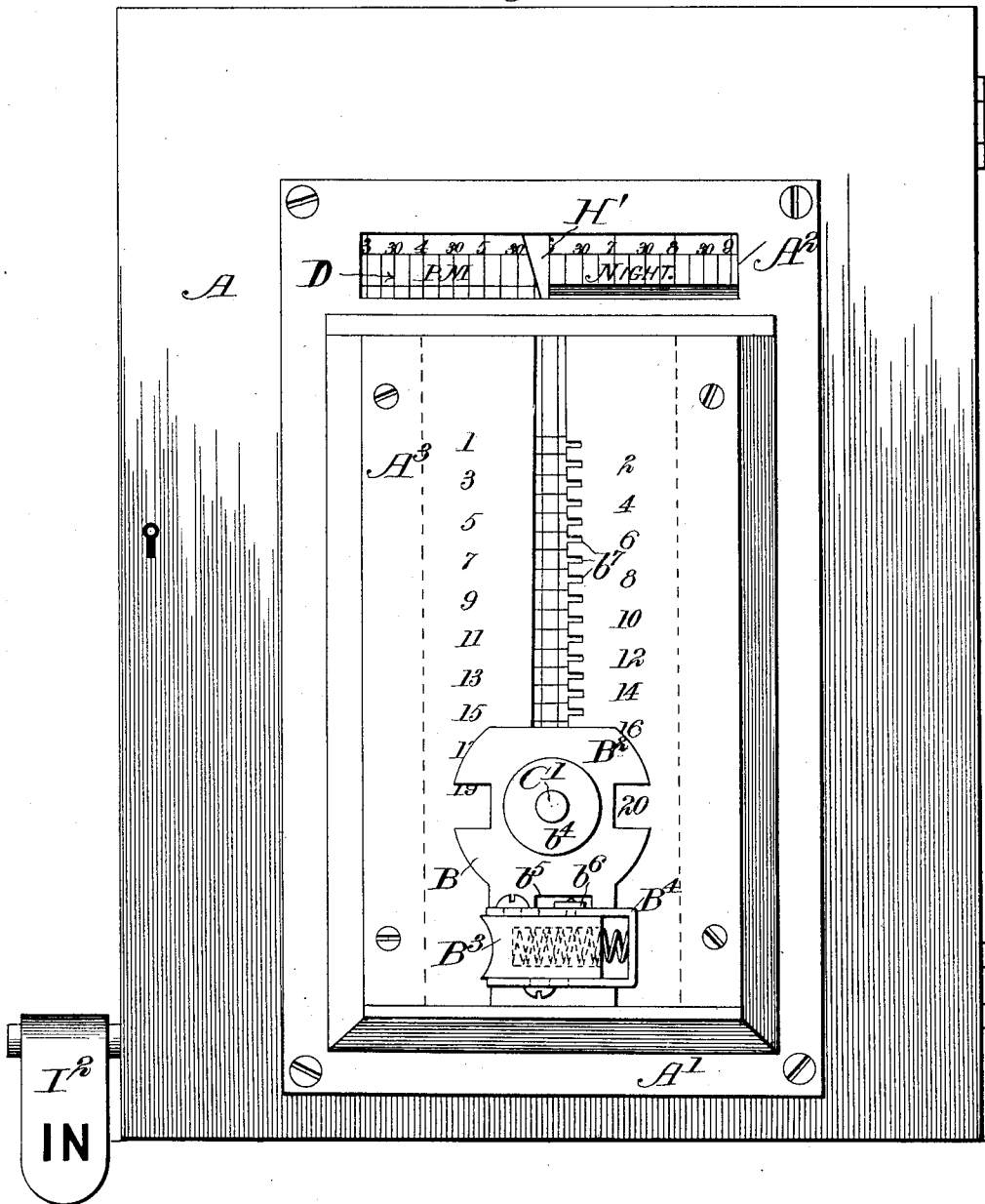
WORKMAN'S TIME RECORDER.

APPLICATION FILED MAR. 9, 1903.

NO MODEL

4 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses

*J. W. Moore.*  
*James C. Evans*

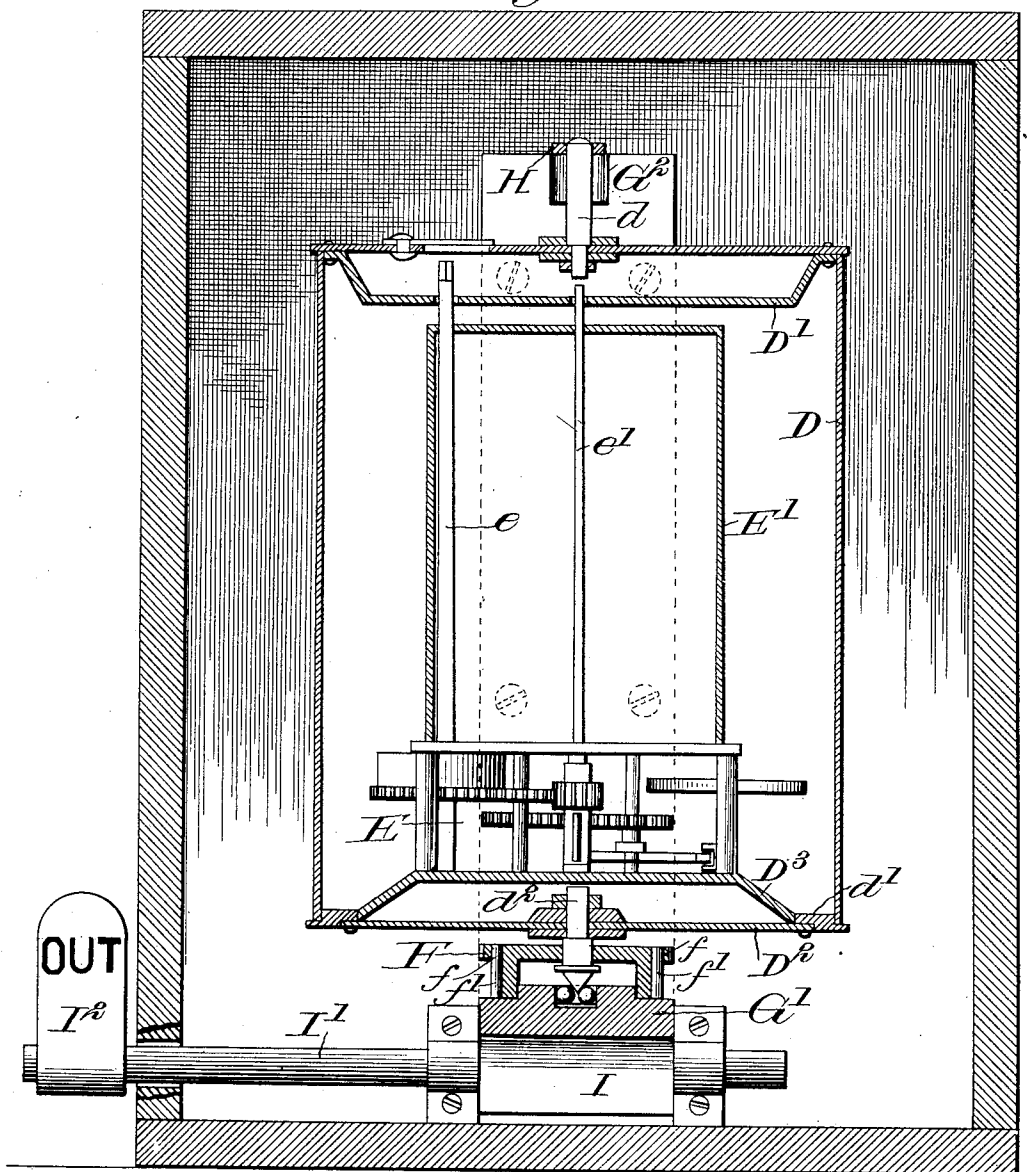
By

*Daniel Hepp.* Inventor  
*Eugene C. Johnson.* Attorney

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 WORKMAN'S TIME RECORDER.  
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4 SHEETS—SHEET 2.

*Fig. 2.*

Witnesses

*J. W. Moore,*  
*James O. Brown*

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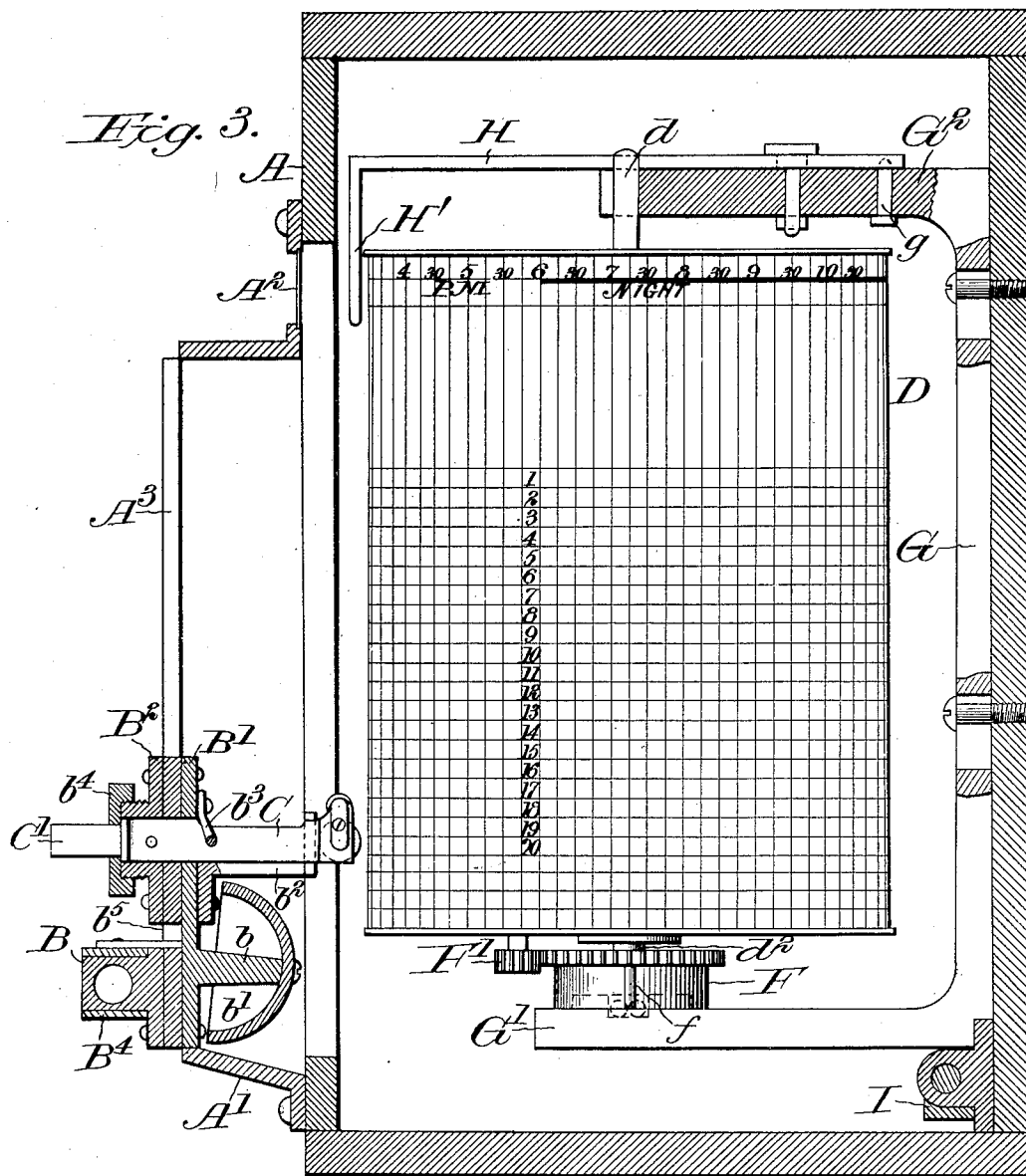
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4 SHEETS—SHEET 3.



Witnesses  
J. M. Moore,  
James W. Bevan

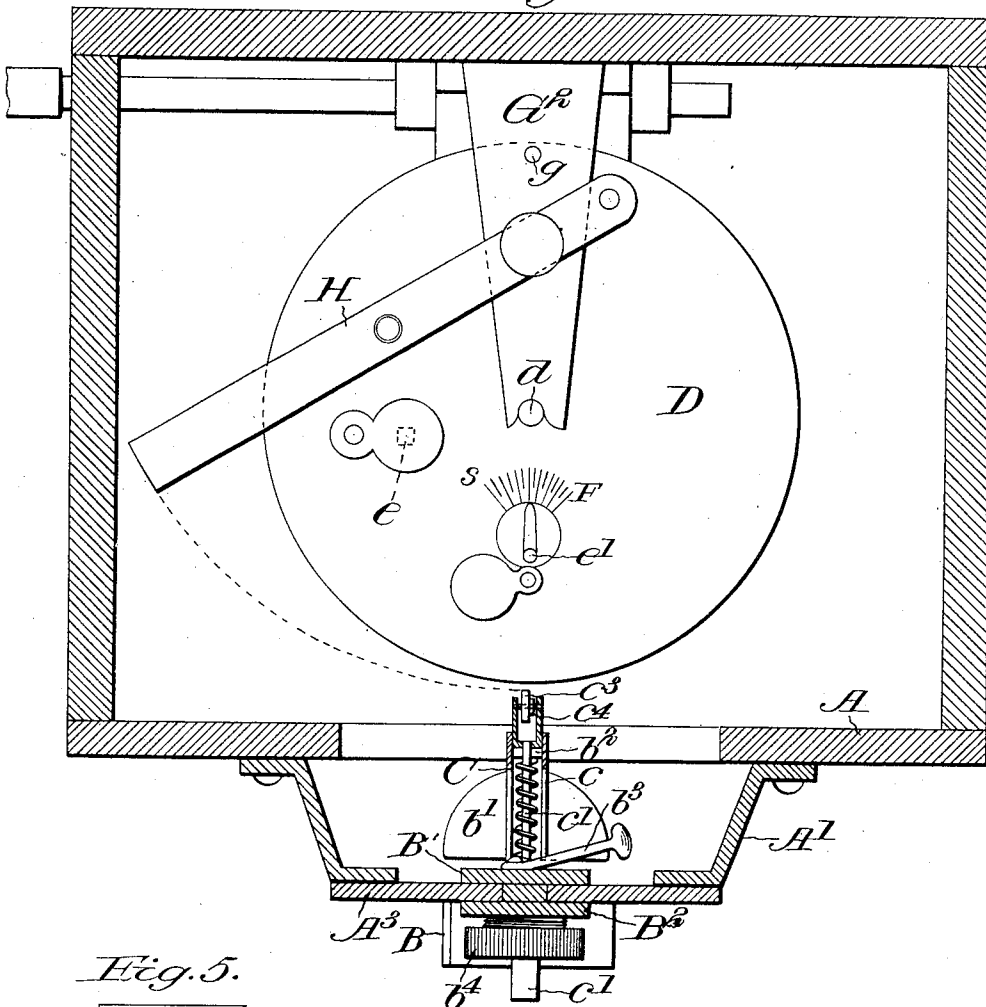
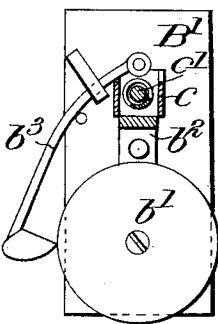
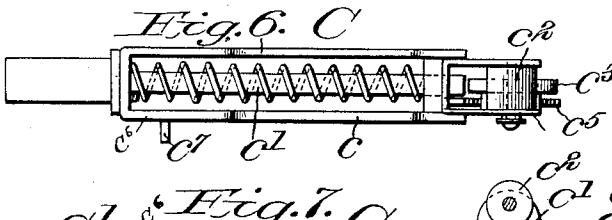
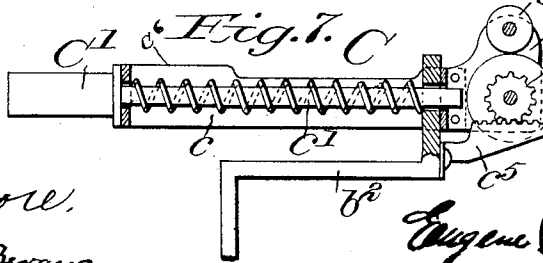
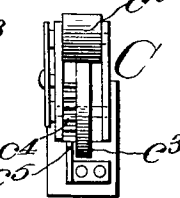
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NO MODEL.

4 SHEETS—SHEET 4.

*Fig. 4.**Fig. 5.**Fig. 6.**Fig. 7.**Fig. 8.*

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## UNITED STATES PATENT OFFICE.

DANIEL HEPP, OF CHICAGO, ILLINOIS.

## WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 745,058, dated November 24, 1903.

Application filed March 9, 1903. Serial No. 146,923. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL HEPP, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Workmen's Time-Recorders, of which the following is a specification.

This invention appertains to improvements in workmen's time-recorders of the type having a revoluble record-sheet-carrying cylinder, a manually-actuated registering device for printing marks upon the record-sheet, and means for vertically changing the position of the cylinder and its attached record-sheet, so that a mark impressed thereon by the registering device will by its position indicate when the impression was made and whether the workman operating the registering device had set the cylinder to receive an arriving or leaving record.

The invention is designed as an improvement upon certain prior patents issued to me; and it consists in certain novel features of construction and combination of the parts, as will be hereinafter set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of a time-indicator and workman's time-recorder made in accord with my invention. Fig. 2 is a section taken vertically through the record-sheet-carrying cylinder and the casing. Fig. 3 is a vertical section taken through the casing at right angles to the section shown in Fig. 2, such sectional view showing the record-sheet-carrying cylinder in side elevation. Fig. 4 is a plan view, partly in section. Fig. 5 is a detail view of the inner plate of the registering device, showing a bell, its hammer, and a part of the inking device. Figs. 6, 7, and 8 are detail views of the registering device.

A recorder made in accord with my invention has a part thereof maintained within a suitable casing, having at its front a door A, the central portion thereof being cut away, the opening thus provided being partially covered by a frame A', having at its upper portion a sight-opening A<sup>2</sup>. The frame A' has a vertically slotted or divided number-plate A<sup>3</sup>, the numerals thereon corresponding with the numbers used to designate the workmen and numbers printed on the record-

sheet. One of the number-plates A<sup>3</sup> to one side of the vertical opening through the plate has recesses or slots b<sup>7</sup>, which correspond with the position of the numerals on the record-sheet. The sight-opening A<sup>2</sup> is positioned so that the upper portion of the record or time sheet may be visible, and there is provided a pointer H', which extends vertically across the opening, so that time can be read from the record-sheet. The opening A<sup>2</sup> is preferably closed by a transparent plate.

The number-plates A<sup>3</sup> sustain in sliding engagement a manually-operated and vertically-movable registering device B, comprising an inner plate B', having near its lower portion an inward-projecting stud b, upon which is mounted a bell b', and to the plate B' there is attached an inward-projecting bracket b<sup>2</sup>, the inner and upturned end thereof serving as a support for the inner part of a reciprocal portion of the inking or registering mechanism. A bell-hammer is attached to the inner plate B'. Such hammer b<sup>3</sup> overlies and bears upon a movable member of the inking device, so that the same will be actuated by the movement of such part. The front plate of the registering device B has an externally-threaded flange, which carries a nut b<sup>4</sup> with a central aperture, through which passes the cylindrical end of a spring-projected stem C', by means of which the registering device is given an inward movement when pressed upon. Below the nut b<sup>4</sup> there is a horizontal opening b<sup>5</sup>, through which is passed a catch-plate b<sup>6</sup>, the same being held normally in engagement with one of the slots b<sup>7</sup>, formed in the edge of one of the number-plates A<sup>3</sup>. The catch-plate b<sup>6</sup> is attached to a spring-projected bail or loop B<sup>4</sup>, which is held in sliding engagement with a projecting portion B<sup>3</sup> at the lower end of the registering device, such part having a concavity to provide a finger or thumb rest. As illustrated, the outer plate B<sup>2</sup> is provided with oppositely-disposed recesses, and the number-plates A<sup>3</sup> have the numerals thereon arranged on opposite sides out of horizontal alinement, so that only one number will be fully exposed at the same time through one of the recesses. To operate and properly position the marking device, a workman first moves the bail B<sup>4</sup> against the action of its spring, such movement placing the plate b<sup>6</sup>

out of engagement with a slot or recess. The marking device may then be raised and when opposite the proper number the bail is released. The catch-plate then enters one of the numbered slots and holds the registering device in position to make a mark in the proper place upon the record-sheet when the stem is manually pressed inward.

The part B in practice is moved by a workman to a position that corresponds with his number, such part having a reciprocatory marker C, consisting of a frame *c*, apertured at one end to receive a plunger or pin *C'*, the inner end thereof being passed through the upturned end of the bracket *b*<sup>2</sup> and through a corresponding aperture in a looped frame attached to the inner ends of the frame *c*. The pin or plunger *C'* is encircled by a spring which forces the frame away from the bracket. The frame *c'*, attached to the frame *c*, carries an inking-roller *c*<sup>2</sup>, mounted to engage an impression-roller *c*<sup>3</sup>, a pinion *c*<sup>4</sup>, which meshes with a rack *c*<sup>5</sup>, being attached to the bracket *b*<sup>2</sup>, the pinion and impression-roller being connected to turn in unison. The pin *C'* passes through the frame *B'* *B*<sup>2</sup>, its outer cylindrical end projecting beyond the nut, and when the pin is moved inward it causes the impression-roller to make a mark or dot upon the record-sheet, the movement rotating the impression-roller to bring a freshly-inked surface in contact with the record-sheet.

The frame *c* may have one or both of its upper edges cut away to provide a shoulder *c*<sup>6</sup>, upon which the bell-hammer *b*<sup>3</sup> will ride as the frame is moved inward, and when the frame is returned to its normal position by the spring the bell-hammer will strike the bell. The stem of the bell-hammer may be spring-actuated toward a stop-pin and is movable beneath a flat bar or guide-plate, the stop-pin and guide-plate both being attached to the plate *B'*. In order to prevent the printing-roll being moved inward when not properly positioned, the frame *c* is provided with a stud *c*<sup>7</sup>, positioned, to contact with the number-plate between the slots therein, such contact taking place when the catch-plate *b*<sup>6</sup> is not in engagement with one of the slots *b*<sup>7</sup>, and when the catch-plate *b*<sup>6</sup> engages one of the slots in the number-plate the stud *c*<sup>7</sup> will be in line with a slot at a higher elevation and the frame carrying the inking-roll may be pressed inward to make a mark upon the record-sheet.

The construction herein described provides a vertically-adjustable and self-inking recording device, a part thereof being movable toward the record-cylinder to make an imprint thereon, and after such imprint a bell carried by the marking device will be sounded. The construction obviates the use of a swinging frame for the inking device and provides means whereby such device can be operated only when properly positioned. The details of construction as to the make-up of the registering device may be varied, what has been illustrated being a preferred form.

The record-carrying cylinder D at its upper end has a head from which depends a dished frame *D'*, having apertures for the passage of a spring-winding rod *e* and of a regulating-rod *e'*. The head of the cylinder carries a centrally-positioned and upward-projecting bearing *d* and has openings positioned to correspond with the openings in the frame beneath, through which pass the rods *e* and *e'*. The lower cylinder-head *D*<sup>2</sup> is removably attached to a ring *d'*, and a dished frame is fastened to the removable head. The frame *D*<sup>3</sup> carries a time-train *E*, of any suitable construction, the upper plate of the time-train having attached thereto either a cylindrical or looped frame *E'*, the head or cross-bar thereof having openings there-through for the passage of the winding-rod *e* and for the regulating-rod *e'*. The lower head *D*<sup>2</sup> of the cylinder has centrally attached thereto a bearing pin or stud *d*<sup>2</sup>, the same having above its lower conical end a collar or flange which retains thereon a gear-wheel *F*, said gear-wheel engaging pins *f'*, which enter openings *f* and hold the gear-wheel against rotation. The gear-wheel *F* has at its upper portion teeth with which mesh the teeth of a wide pinion *F'*, carried by a rod or shaft which is driven by the time-train or clock mechanism, the parts thereof being so coördinated as to effect a rotation of the cylinder once in twenty-four hours.

The cylinder not only serves as a support for the record-sheet, but incloses so as to protect the time-train from dust and from injury when removed from the casing for the purpose of winding, regulating, or placing on the cylinder a record-sheet.

The cylinder when within the casing is carried by an adjustable frame *G*, attached to the rear portion of the casing by screws which pass through slots in the vertical part of the frame, and said vertical part has integral therewith members *G'* *G*<sup>2</sup>, which project forward from the ends thereof. The lower member supports the fixed gear *F*, the pins *f'*, and has a recess to receive a plurality of balls with which the conical end of pin *d*<sup>2</sup> engage, thus providing an antifric-tion-bearing to carry the weight of the cylinder. The outer end of the upper member *G*<sup>3</sup> of the frame is forked for the reception of the bearing-pin *d*, the upper end of the pin being rounded to more readily pass through an opening in the arm *H*, which is pivotally attached to the arm or member *G*<sup>3</sup> of the vertically-movable frame. The pivoted or horizontally-swinging arm *H* has near its rear end a recess to engage a stud *g*, and the arm *H* is preferably made of flat resilient metal, the front end being bent downward and shaped to provide a pointer *H'*, the same extending downward over the time-spaces of the record-sheet and in the rear of the central portion of the sight-opening *A*<sup>2</sup>.

When it is desired to remove the cylinder from the casing, the door thereof is opened,

the forward end of the arm H is raised to be clear of the stud, after which it is swung to one side. The cylinder can now be removed from the frame and casing to place a time-sheet thereon and to wind the spring of the clock mechanism.

The frame G rests upon a cam I, formed or attached to a shaft I', supported by suitable bearings attached to the casing, and the shaft carrying the cam extends beyond the casing, where there is attached a plate I<sup>2</sup>, one side thereof being marked with the word "In" and on the other side with the word "Out."

Having thus described my invention and one manner of carrying the same into effect, what I claim as new, and desire to secure by Letters Patent, is—

1. In a workman's time-recorder, a longitudinally-apertured number-plate having in one side recesses, a record-sheet maintained in the rear of the numbered plate, a vertically-adjustable marker comprising a reciprocal member having a pin for preventing an inward movement of the marker when not in alinement with a recess in the number-plate, a horizontally-movable bail carrying a catch-plate for engagement with a recess in the number-plate, the parts being so coördinated that when the catch-plate enters a recess in the number-plate the marker may be moved inward to engage the record-sheet.

2. In a workman's time-recorder the combination of a time-actuated record-sheet-carrying cylinder, a frame having arms between which the cylinder is supported, means for raising and lowering the frame and cylinder, and a vertically-movable marker having means for sustaining the same at different elevations in front of the cylinder.

3. In a workman's time-recorder, the combination of a record-sheet-carrying cylinder, a time-train incased thereby, a pinion beyond the cylinder and in gear with the time-train, a vertically-movable cylinder-supporting frame having a fixed gear in mesh with the pinion, for the purpose set forth.

4. In a workman's time-recorder, the combination of a record-sheet-carrying cylinder, a time-train incased thereby, a driving-pinion on a shaft which projects through one of the cylinder-heads to one side of its center, and a fixed gear with which the pinion meshes, substantially as shown.

5. In a workman's time-recorder, a record-sheet-carrying cylinder, means for rotatably supporting the cylinder, a time-train incased by the cylinder, a pinion in gear with the time-train and with a non-rotatable gear-wheel attached to the supporting-frame for the cylinder, bearings for pins which project from the heads of the cylinder, and means for detachably connecting the cylinder to its support, for the purpose set forth.

6. The combination of a record-sheet-carrying cylinder, a detachable head therefor, a time-train carried by said head, and a pinion

in gear with the time-train and positioned to one side of the center of the detachable head of the cylinder.

7. The combination of a record-sheet-carrying cylinder, a time-train connected to one of the heads thereof, winding and regulating stems which extend near the upper head of the cylinder, openings through the upper head of the cylinder above the ends of the winding and regulating stems, and an opening through the lower head of the cylinder to one side of its center, a shaft having a pinion which meshes with a non-rotatable gear and drives the cylinder, substantially as shown.

8. In a workman's time-recorder, a casing, a vertically-movable cylinder-supporting frame attached to the casing to be movable vertically, arms integral with the frame, means for raising the frame, a bearing and gear-wheel support formed on the upper portion of the lower arm of the frame, a recess in the end portion of the upper arm and a pointer pivoted to the upper arm said pointer having an aperture therethrough for engagement with a stud of the cylinder to retain said stud in the recess, substantially as shown.

9. In a workman's time-recorder, a record-cylinder, a support for the cylinder having forwardly-projecting arms, means for fixedly attaching to the upper side of the lower arm a gear-wheel, and a driven pinion carried by the record-cylinder for engagement with the gear-wheel.

10. In a workman's time-recorder, a revolvable and vertically-maintained record-cylinder, studs projecting from the center of the heads of the cylinder, a supporting-frame having arms with bearings for the studs, a gear-wheel carried by one of the studs, and means for attaching such gear-wheel non-rotatively and removably connected to the supporting-frame, and a driving-pinion carried by the cylinder to mesh with the non-rotative gear-wheel, substantially as shown.

11. The combination with a record-carrying cylinder and its casing, of a vertically-movable marker, guide-plates therefor one of the guide-plates having recesses, a spring-projected catch for engagement with one of the recesses, and a reciprocatory ink having a projecting stud for engagement with a recess in the guide-plate above the recess with which the catch engages when the marker is operatively positioned in front of the cylinder.

12. In combination with a workman's time-recorder, of a vertically-adjustable marker-carrying frame having means for sustaining the same in different positions in front of the record-carrying cylinder, a reciprocal member supported thereby and comprising an impression-roller-carrying frame made up of two connected looped members, a spring bearing upon one of the members and against a support therefor an inking-disk and an impression-wheel carried by the inner looped member, a pinion connected with the impres-

sion-wheel and a rack pivotally attached to the support so that the teeth engage the teeth of the pinion, and a push-bar which supports the spring and actuates the roll-carrying member.

13. In combination with a record-carrying cylinder, of a marker maintained in front of the same and comprising a plate which carries a bell and a bell-hammer a slidable member of the marker against which the bell-hammer bears, a shoulder on said member

for raising the hammer, and a spring for effecting an outward movement of said member, substantially as set forth.

In testimony whereof I have signed my name in the presence of two subscribing witnesses.

DANIEL HEPP.

Witnesses:

THEODORE HARZ,  
WM. L. CZOSCHKE.