No. 720,957. PATENTED FEB. 17, 1903.

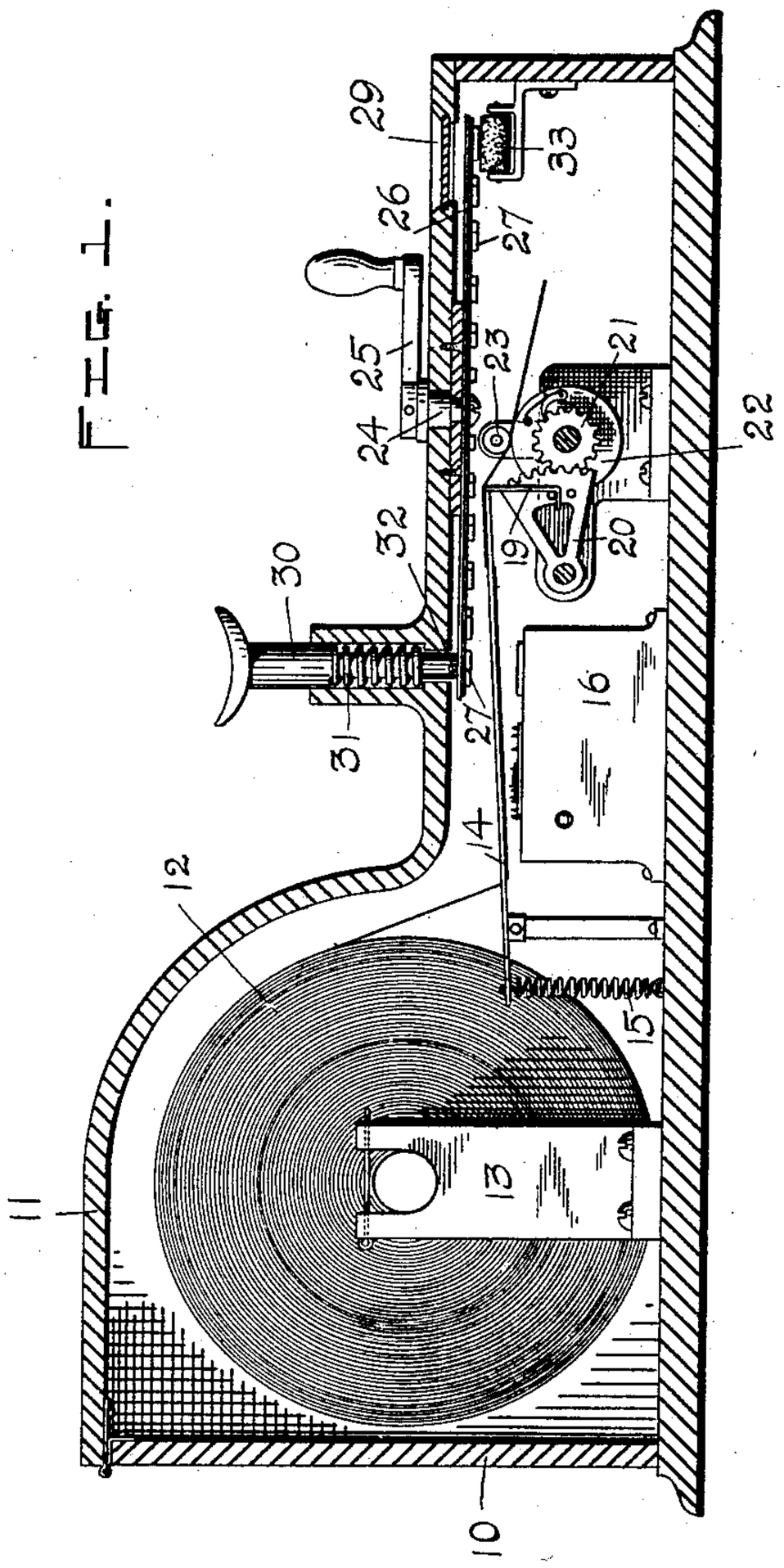
C. E. ONGLEY.

WORKMAN'S TIME RECORDER.

APPLICATION FILED SEPT. 13, 1899.

NO MODEL. 3 SHEETS—SHEET 1.

FIG. 1.



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NO MODEL. 3 SHEETS—SHEET 2.

FIG. 1.

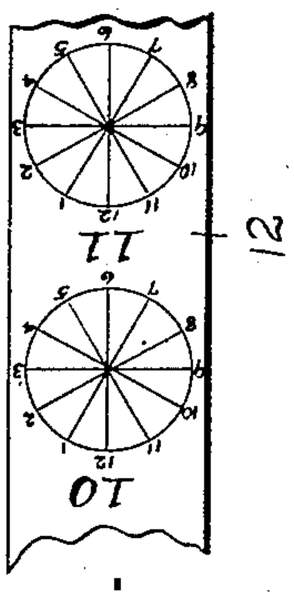

FIG. 2.

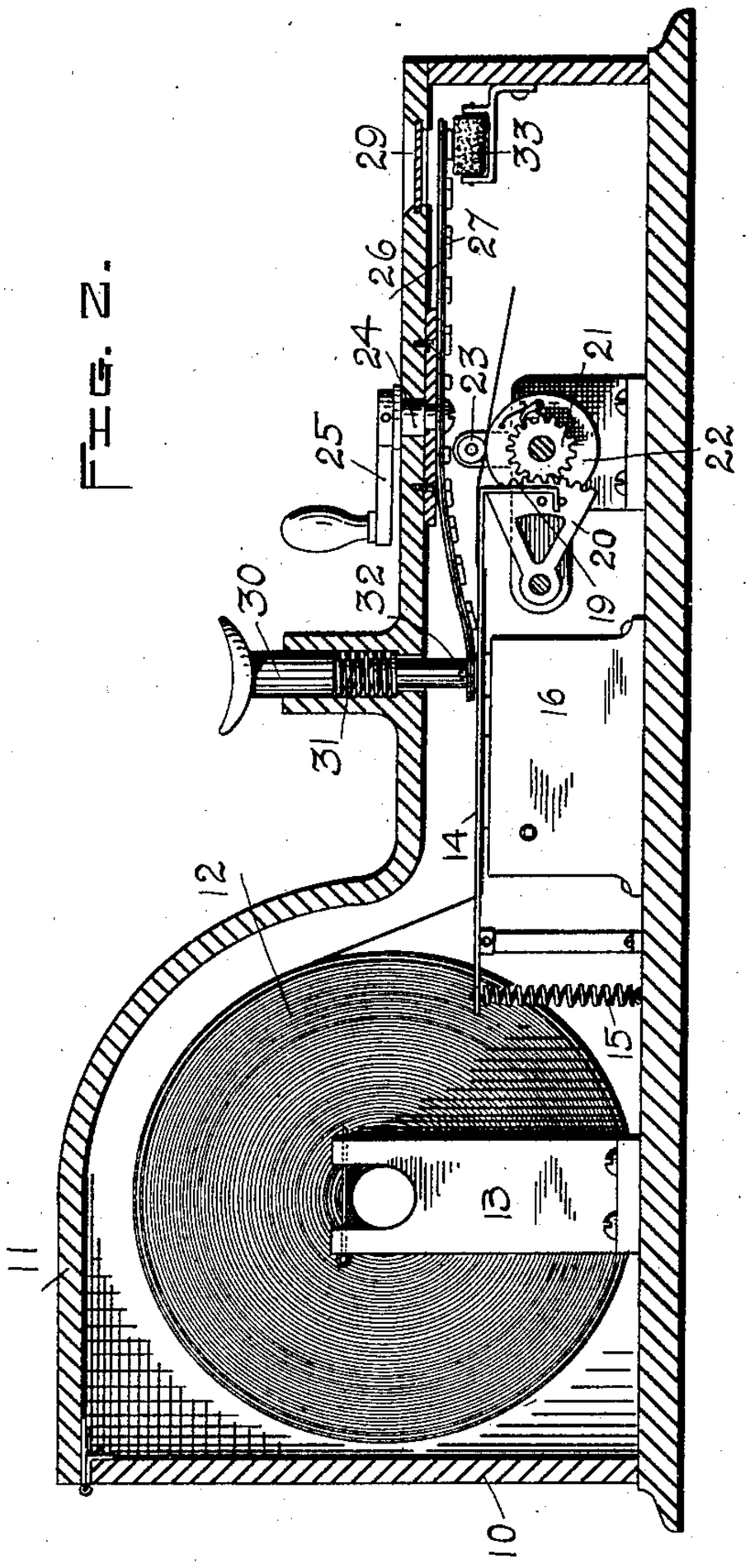

FIG. 3.

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NO MODEL. 3 SHEETS—SHEET 3.

FIG. 3.

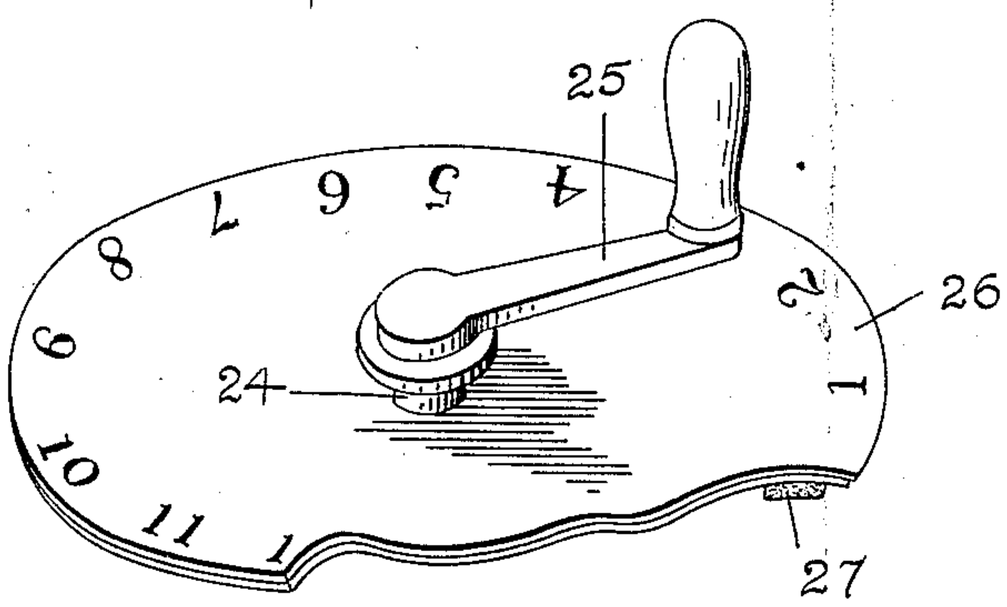

FIG. 4.

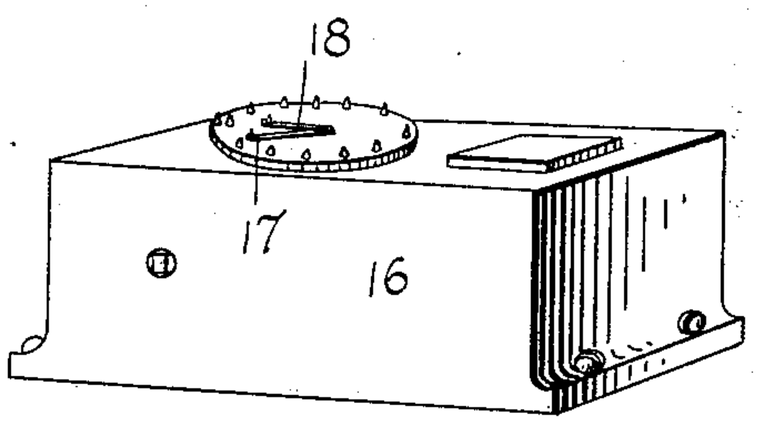

FIG. 6.

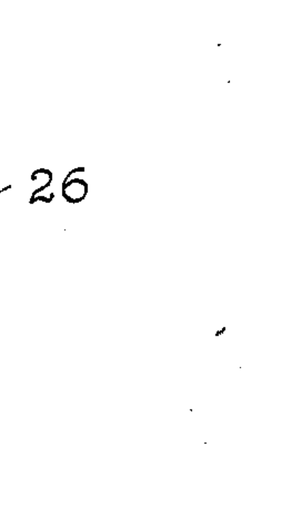

FIG. 5.

Witnesses;

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UNITED STATES PATENT OFFICE.

CHARLES E. ONGLEY, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE UNITED STATES ELECTRIC CLOCK COMPANY OF NEW YORK, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 720,957, dated February 17, 1903.

Application filed September 13, 1899. Serial No. 730,356. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. ONGLEY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Employee's Time-Recorder, of which the following is a specification.

My invention relates to a time-recording mechanism having a clock with recording devices combined therewith by which the time of the arrival or departure of workmen, clerks, or other employees may be recorded by the employees themselves.

The object of my invention is to provide a simple, durable, and efficient time-recorder which may be manufactured and placed upon the market much more cheaply than the complicated time-recorders which are now employed.

To these ends my invention consists of the parts and combinations of parts, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying three sheets of drawings, Figure 1 is a longitudinal sectional view of a time-recorder constructed according to my invention. Fig. 2 is a similar view showing the parts in a different relative position. Fig. 3 is a perspective view, partially broken away, of the type wheel or disk. Fig. 4 is a perspective view of the clock, illustrating the preferred construction of dial, in which the dial itself, the hour-hand, and the minute-hand are provided with perforating or embossing spurs. Fig. 5 is a perspective view of the depressible plate for guiding a strip of paper over the clock-dial and recording an impression or print thereon. Fig. 6 is an enlarged fragmentary view of a portion of a strip of paper, showing the manner in which a record may be impressed or perforated therein. Fig. 7 is a fragmentary view of a modified form of paper strip having dials or graduated circles printed thereon, and Fig. 8 is a plan view of the arrangement of hands and dial which may be used to coöperate with this form of paper.

In many of the larger factories and even in some of the larger stores it has been found desirable to employ some system for automatically recording the time of the arrival or departure of the employees. In establishments where a large number of persons are employed the time-recorders which have to be used are necessarily comparatively complicated, and the cost of installing and keeping such time-recorders in proper working condition has heretofore prevented their being adopted for use in establishments having only a comparatively small number of employees.

The especial object of my present invention is to provide a time-recorder of such simple and inexpensive construction that it can be employed with advantage in establishments having comparatively few employees and which shall be of such strong and simple construction as not to require either frequent adjustment or repair.

In prior time-recorders with which I am familiar it has heretofore been customary to employ printing or embossing type-wheels which have to be turned or actuated by a clock-movement. One especial object of my invention is to dispense with these printing-wheels and to arrange the parts of my time-recorder to record the relative position of an hour-hand and minute-hand of the usual clock-movement, thus dispensing with the more expensive and less reliable printing-wheel construction. To these ends a time-recorder constructed according to my present invention comprises an ordinary clock-movement for actuating an hour-hand and a minute-hand, a type wheel or disk for recording a number or character on a strip of paper and to simultaneously record the angular position of the hour and minute hands, and means for feeding the paper after such a record has been made.

Referring to the accompanying drawings and in detail, my time-recorder, as herein illustrated, comprises a casing 10, having a hinged top or cover 11. A roll of paper 12 is journaled in supports 13 at the rear of the casing, and from the roll 12 the paper is passed down through a slot and along the under side of a depressible plate 14, then up through a slot near the front end of the plate 14, and

thence through the feed-rolls, which are operated as hereinafter described. The plate 14 is pivotally supported near its rear end and is normally raised or elevated by springs 15.

Secured in the casing of the machine below the depressible plate 14 is a clock-casing 16. The clock 16 may be of any of the ordinary or approved constructions, except that in practice I prefer to have the hour-hand 18 above the minute-hand 17, as shown most clearly in Fig. 4, so that the hands 17 and 18 may be provided with embossing points or prickers and so that the embossing point or pricker of the hand 18 will not interfere with the travel of the minute-hand 17, as would be the case if said hands were mounted in the ordinary manner. The parts 17 and 18, which I have herein termed the "minute-hand" and "hour-hand," need not have the slender pointed form of the ordinary clock-hands, but may be of any desired shape suitable for supporting the embossing points or prickers at their outer ends, and it is to be understood that in using the terms "hour-hand" and "minute-hand" in the claims at the end of this specification I do not necessarily intend to refer to the hands ordinarily employed on clock-dials; but by these terms I do intend to specify parts for carrying the embossing or pricking points. In the preferred form of construction the dial on which the hands 17 and 18 are mounted is provided with embossing points or prickers corresponding with the numbers of an ordinary clock-dial, and the depressible plate 14 is provided with sockets for receiving the embossing points or prickers and with a central opening 40 for allowing the embossing points or prickers carried by the hour-hand and the minute-hand to pass up therethrough, so that when the plate 14 is forced down, as hereinafter described, a record—such, for example, as shown in Fig. 6—will be embossed in the strip of paper, indicating the exact angular position of the hands, and thus preserving an accurate record of the time at which said plate was depressed.

Pivotally mounted in the cover 11 of the casing is a type wheel or disk for printing an arbitrary number or character to indicate the person by whom the machine is operated. As illustrated most clearly in Fig. 3, the shaft 24, which is journaled in the cover 11, is provided at its upper end with an operating handle or crank 25, and secured on its lower end is a type disk or wheel having an indexed upper metallic plate, with rubber or other type 27 vulcanized or otherwise secured to its under side. The type 27 may receive a supply of ink from ink-rollers 33, as indicated most clearly in Figs. 1 and 2, and the upper surface of the type wheel or disk is graduated or indexed, so that a character corresponding with the type presented to the printing-point will be displayed through an opening 29 in the cover 11 as the type-wheel is rotated or turned by its handle 25. A finger-key or plunger 30 is normally raised by a spring 31 to the position illustrated in Fig. 1; but by depressing the finger-key 30, as illustrated in Fig. 2, the inner edge of the type-disk will be bent down, the plate 14 will be depressed, and a number or figure will be imprinted on the strip of paper through the printing-opening in the plate 14, as shown in Fig. 5. In order to feed or advance the paper after the machine has been operated, I preferably provide a pair of feed-rolls, and I preferably operate the feed-rolls, as 22 and 23, from the motion of the depressible plate 14, preferably a lost-motion connection being employed for this purpose, so that the plate 14 will rise far enough to clear the embossing points or prickers from the paper before the same is advanced or fed forward. As herein illustrated, the operating connections for the feed-rolls comprise an arm 19, extending down from the plate 14 in position to engage pins extending from a sector 20. The sector 20 meshes with and drives a gear 21, loosely mounted upon the shaft of the feed-roll 22, which gear 21 is connected by a pawl connection to turn the feed-roll 22 in a direction to advance or feed the paper from its roll 12. The pins of the sector 20, which are engaged by the arm 19, extending down from the plate 14, are arranged far enough apart to provide a lost motion, so that as the plate 14 is raised by its springs 15 the pins or embossing-points will be first cleared from the paper before the sector 20 is operated or lifted to advance or feed forward said paper.

In some cases instead of providing the dial of the clock with printing or embossing points for perforating or embossing the strip of paper a prepared strip may be employed having a series of dials or graduated circles printed thereon, as illustrated in Fig. 7, and when paper which is printed or prepared in this manner is employed the clock-dial may be of the usual form, except that the hour-hand is arranged uppermost, and both the hour-hand and the minute-hand are provided with marking points or prickers, as shown in Fig. 8, it being understood that when a prepared or printed paper strip is employed the feeding devices are proportioned to advance the paper far enough at each operation of the machine to bring one of the printed dials or graduated circles concentrically over the clock-dial.

One especial feature of advantage in a time-recorder constructed as herein illustrated arises from the fact that the entire printing mechanism is carried by the cover of the casing, so that when the casing is opened ready access may be had to the clock and the paper-feeding devices, and the ink-rollers for the type-wheel may be readily inked or renewed, as may be necessary.

I am aware that many changes may be made in the construction of my employee's time-recorder by those who are skilled in the art without departing from the scope of my invention as expressed in the claims. I do not

wish, therefore, to be limited to the construction herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a time-recorder, the combination of hour and minute hands arranged on a clock-dial with the hour-hand above the minute-hand, a depressible plate for guiding a strip of paper over the clock-dial, a printing mechanism for printing a number or character to indicate the person operating the machine on the strip of paper, and for depressing the plate to record the position of the hour and minute hands on said strip of paper, and a paper-feeding mechanism for advancing the paper after an impression has been made thereon, substantially as described.

2. In a time-recorder, the combination of hour and minute hands carrying embossing points or prickers, a depressible plate for guiding a strip of paper over the clock-dial, means for depressing said plate to record on the strip of paper the positions of the hour and minute hands, paper-feeding devices, and a lost-motion connection between the depressible plate and the feeding devices arranged so that the plate will first be lifted to free the paper from the embossing points or prickers, and the feeding devices thereafter operated to advance the paper, substantially as described.

3. In a workman's time-recorder, the combination of a casing, a clock having an hour-hand and a minute-hand, each provided with an embossing point or pricker, the hour-hand being mounted above the minute-hand, so that the turning of said hands will not be interfered with by said embossing-points, and the dial of said clock having embossing points or prickers occupying the positions of the numerals on an ordinary clock-dial, paper-supporting devices for presenting the paper on which records are to be made in position to be perforated by said embossing-points, means for moving the paper to present a fresh portion thereof in position to be perforated, a type-wheel, and means for operating the same to print a number or character on the paper indicating the person operating the machine, substantially as described.

4. In a time-recorder, the combination of a clock having its hour-hand mounted above the minute-hand, so that said hands may be provided near their outer ends with embossing points or prickers, a paper-roll, a depressible plate for guiding the paper from the roll over the clock-dial, a type wheel or disk having its upper surface indexed to show what characters are presented to the printing-point as the type-disk is turned, means for depressing the type-disk to print a character on the strip of paper and to simultaneously force down the depressible plate to perforate the paper by means of the prickers or points carried by the hands of the clock, paper-feeding devices, and a lost-motion connection between the paper-feeding devices and the depressible plate for first permitting the paper to be freed from the embossing-points, and then to be advanced or fed forward by the feeding devices, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES E. ONGLEY.

Witnesses:
LOUIS W. SOUTHGATE,
PHILIP W. SOUTHGATE.