

(No Model.)

2 Sheets—Sheet 1.

J. R. CONNELL.
WORKMAN'S TIME RECORDER.

No. 534,858.

Patented Feb. 26, 1895.

Fig. I.

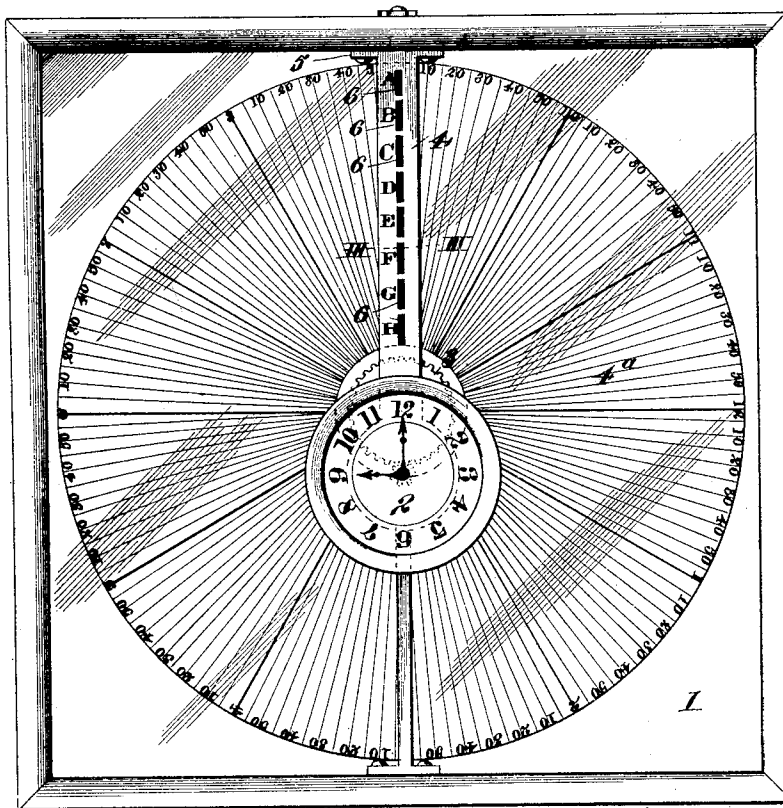


Fig. II.

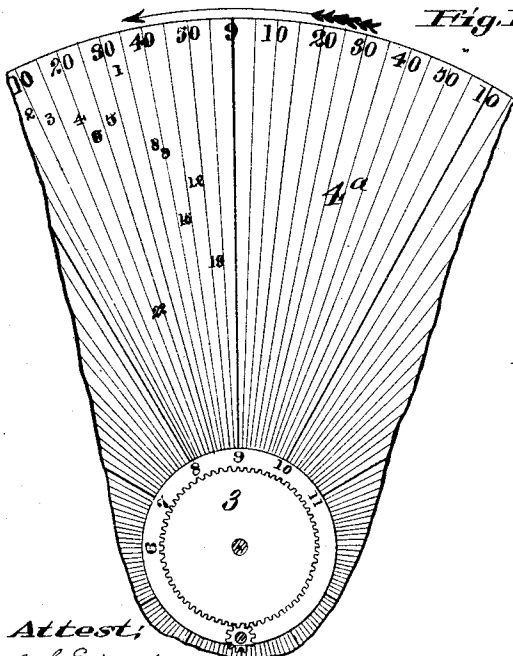


Fig. III. 10
6 7 8

Fig. IV.

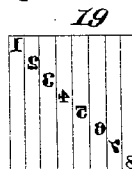


Fig. V.

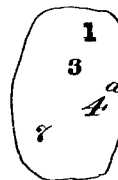
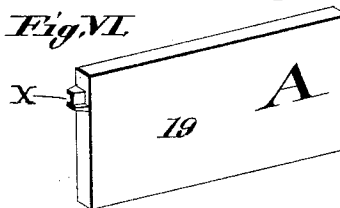


Fig. VI.



Attest;

C. G. Edwards.
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attys

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Fig VII

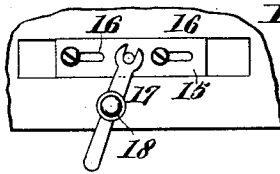
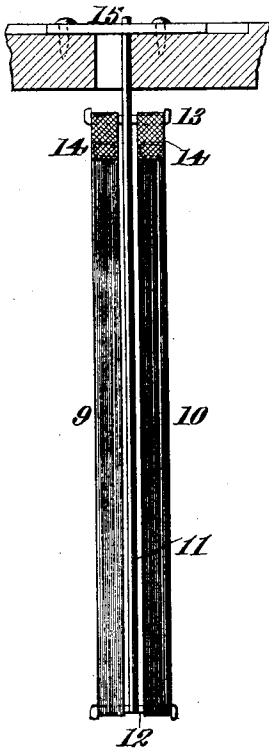


Fig VIII

Fig IX

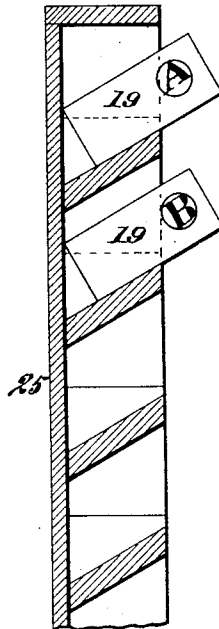


Fig X

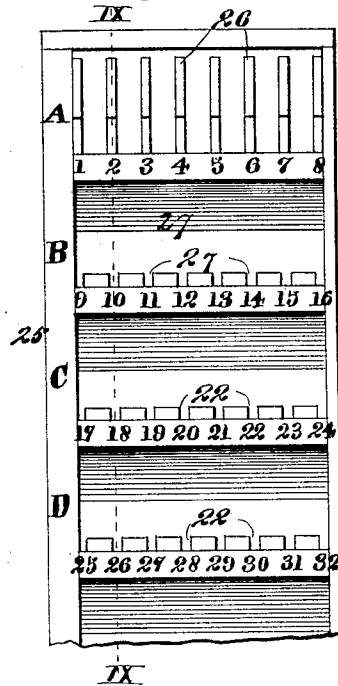
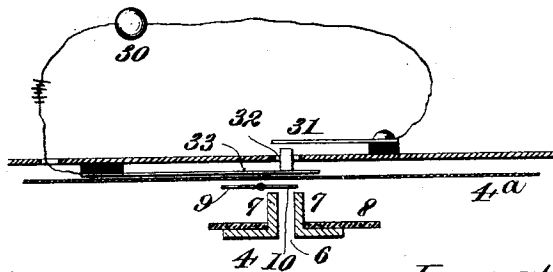


Fig XI



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UNITED STATES PATENT OFFICE.

JAMES R. CONNELL, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THOMAS A. DONLEVY, OF MAYWOOD, ILLINOIS.

WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 534,858, dated February 26, 1895.

Application filed April 6, 1894. Serial No. 506,570. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. CONNELL, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Time-Recorders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an apparatus well adapted for recording the time of workmen in a factory or shop, but which may be used for other purposes; and my invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I is a face view of my improved machine. Fig. II is a detail view of the dial or recording surface, with part of the clock in section. Fig. III is an enlarged, detail, horizontal section, taken on line III—III, Fig. I. Fig. IV is an end view of a number of keys placed side by side. Fig. V is an enlarged, detail view of the recording dial or surface. Fig. VI is a perspective view of one of the keys. Fig. VII is an enlarged, detail view, showing the ink ribbon holder. Fig. VIII is a detail, top view, showing the device for shifting the ink ribbons. Fig. IX is a section, taken on line IX—IX, Fig. X. Fig. X is a front view of the key holder. Fig. XI is an enlarged view of the parts shown in Fig. III, but showing in addition thereto an electric bell, and contact points with their support.

Referring to the drawings, 1 represents a clock case, having the usual dial and hands. On the hand shaft of the clock is a pinion 2, engaging a cog wheel 3, which carries the recording disk or printing surface 4^a, so that the printing surface is carried around by the hand shaft of the clock, but in the opposite direction. The printing surface is preferably made of paper, and is marked off into a number of spaces, graduated as shown in Fig. I. I have shown the printing surface marked off into spaces of five minutes each. In front of the printing surface is a plate or arm 4, preferably bolted to the clock frame, as shown at 5, and which is provided with a number of slots 6, which are marked A, B, C, D, &c., or other letters of the alphabet may be used. The plate 4 has inturned flanges or edges 7, as shown in Figs. III and XI, which form a

guide to keep the keys from wobbling as they are inserted into the openings or slots 6.

The printing surface 4^a is covered by a plate 8, part of which is shown in Figs. III and XI, so that only the strips 6, and the dial of the clock, with the clock hands, are exposed. Back of the strips 6, and in front of the printing surface 4^a, are ink ribbons 9 and 10, to give impressions of different colors, say black and red. These ink ribbons are well shown in Fig. VII, and are supported by a vertical rod or bar 11, having a lower cross head 12 and an upper cross head 13, around which the ribbons pass. At one end of each ink ribbon is an elastic strip 14 which keeps the ink ribbons under sufficient tension. The upper end of the rod 11 is supported in a sliding plate 15, having slot and pin connection 16 with the clock frame, and which is adapted to be moved by a lever 17 pivoted at 18.

By shifting the ink ribbon supports through means of the lever, either ink ribbon may be brought in front of the slots or openings 6 of the plate 4, so that either color may be printed upon the surface 4^a.

19 represents keys, of which there is one for each workman or person who has to register. On the front end of each key is a numeral X, as shown in Figs. IV and VI, the numerals on the different keys running from 1 upward. These numerals, as shown in Fig. IV, are placed at different elevations on different keys. In Fig. IV a number of keys are shown placed side by side, and by referring to this figure, it will be noticed that the numerals, when the keys are placed side by side, arrange themselves in a diagonal course across the ends of the keys. An important advantage is obtained by thus arranging the numerals on the different keys, at different elevations. Each numeral is a sufficient distance from the other, in a horizontal course, to allow its numeral to be impressed upon the printing surface, which is constantly moving, without overlapping the print of any other numeral, even though the printing be done almost simultaneously, for the reason that the prints are made on the surface at different elevations, whereas if they were all made at the same elevation, they would lap upon each other, unless the printing surface had moved

a sufficient distance to allow a space between the prints of the different keys on a horizontal line, as for example, supposing the key carrying the numeral 1 to be inserted in the slot 6, indicated at A, Fig. I, and this key be removed and another key inserted immediately, the print of the numeral of the second key would lap onto the print made by the first key if the numerals of the different keys were on the same horizontal plane, but by arranging them as I have described, two or more keys may be inserted in the slot A, in quick succession, and the prints in the different keys will all be separated and not lap upon each other as they will be spaced apart in a vertical row, or nearly vertical row; and thus a number of keys having different numerals may be inserted in the same slot, and the prints of the different keys made on the surface 4^a, one beneath another, and at practically the same time, and the prints not lap upon each other.

25 represents a case or rack for holding the keys. It has a number of compartments 26 arranged in a horizontal row, and indicated by the letter A. It has also a number of compartments 27 arranged in a horizontal row, and indicated by the letter B, and so on. Any number of rows of compartments may be made, each row being indicated by a different letter, as shown in Fig. X. The keys of each row of compartments bear the same letter; as, for instance, the keys for the compartments 26 bear the letter A, and the keys for the compartments 27 bear the letter B. Beneath each compartment is a numeral indicating the numeral which is formed upon the inner end of the key that fits in the compartment.

All the keys bearing the letter A are to be inserted in the slot 6, indicated by the letter A, and all the keys in the compartments 27 are to be inserted in the slot 6 indicated by the letter B, and so on, and this will bring the prints of the different keys at a different elevation on the printing surface 4^a.

In use a workman comes along, and knowing his number, takes his key from the rack, and inserts it in a slot 6 indicated by the letter which corresponds with the letter indicating the compartment of the rack from which his key was taken. He then returns the key to its place in the rack, and a workman following him does the same with his key, and the time of each workman is thus registered on the printing surface 4^a, as illustrated in Figs. II and V.

In order that the workman may know that

his key has been inserted sufficiently far to make an imprint on the surface 4^a, and in order also that a signal may be given for any other purpose, I arrange a bell 30, which is in electric circuit with a contact point 31, and in electric circuit with a contact point 32. This latter contact point is on a spring arm or plate 33 arranged back of the printing surface 4^a, as shown in Fig. XI. When the workman inserts his key, he presses the contact point 32 against the contact point 31, and the bell 30 rings. When he withdraws his key, the contact point 32 resumes its normal position, opening the circuit.

I claim as my invention—

1. In a time recorder, the combination of a printing surface, a clock mechanism for moving the printing surface, a slotted plate arranged in front of the printing surface, and having inwardly projecting flanges forming guides to keep the keys from wobbling when inserted, and separate ink ribbons arranged on a holder in front of the printing surface; said holder consisting of a bar with cross pieces to support the ink ribbons independently of each other, and means for moving the bar to shift the ink ribbons; substantially as and for the purpose set forth.

2. In a time recorder, the combination of a printing surface, a clock mechanism for moving the printing surface, a slotted plate arranged in front of the printing surface, to receive keys for insertion in the said slots, and ink ribbons arranged in front of the printing surface, and provided with means for shifting them consisting of a bar having cross pieces upon which the ribbons are mounted, and means for shifting the bar; said ink ribbons having elastic portions 14; substantially as and for the purpose set forth.

3. In a time recorder, the combination of a printing surface, a clock mechanism for moving the printing surface, a slotted plate arranged in front of the printing surface to receive keys for insertion through said slotted plate, ink ribbons arranged in front of the printing surface, and a spring plate, a bell and contact points located back of the printing surface; said bell being arranged to be rung by the insertion and pressure extended upon said keys substantially as and for the purpose set forth.

JAMES R. CONNELL.

In presence of—

A. M. EBERSOLE,
C. G. EDWARDS.