

(No Model.)

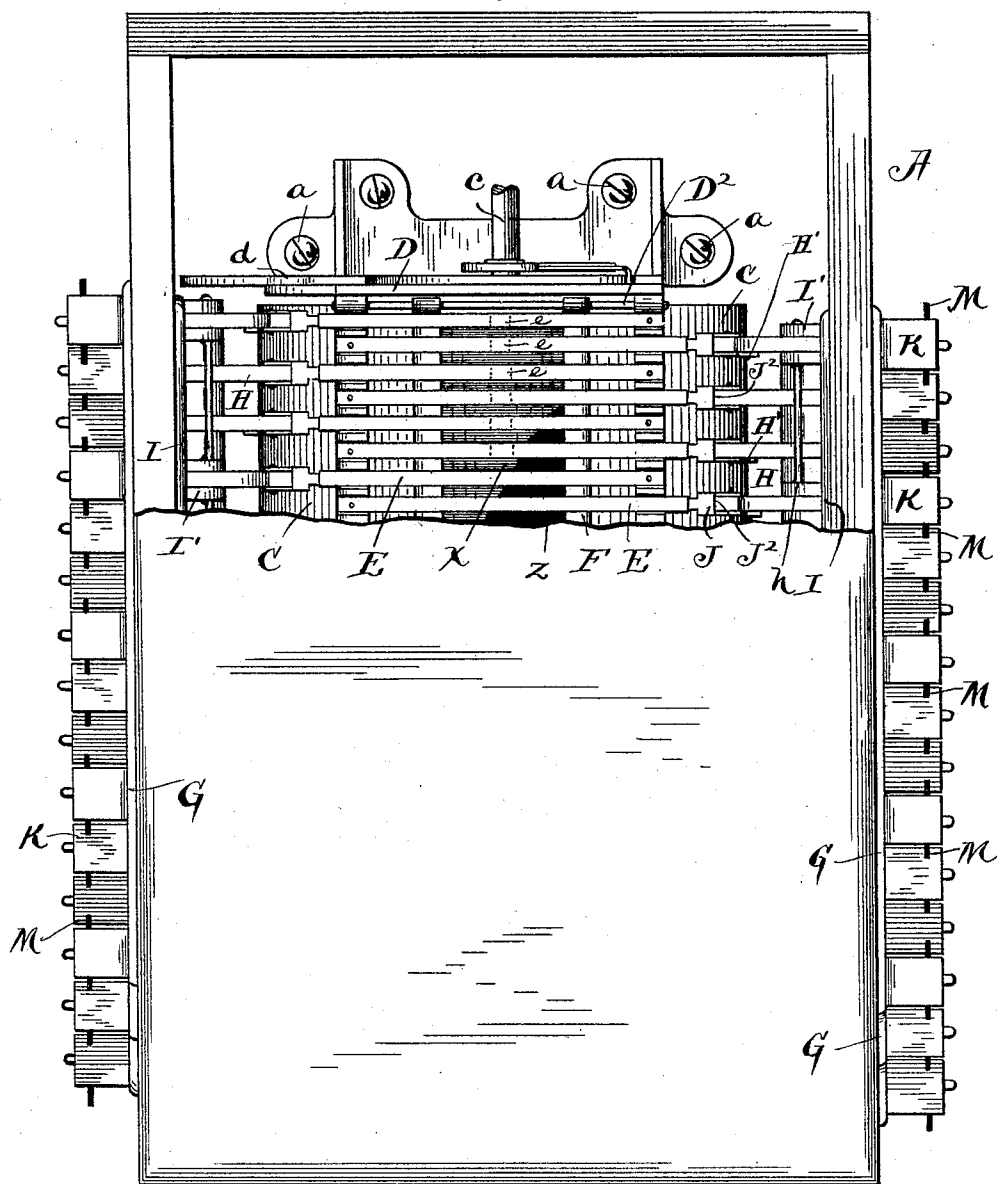
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R. D. MORGAN.
WORKMAN'S TIME RECORDER.

No. 486,977.

Patented Nov. 29, 1892.

Fig. 1.



Witnesses.

E. Byron Gilchrist.
E. B. Gilchrist

Inventor.

Reuben D. Morgan
R. D. Morgan
His Attorneys

(No Model.)

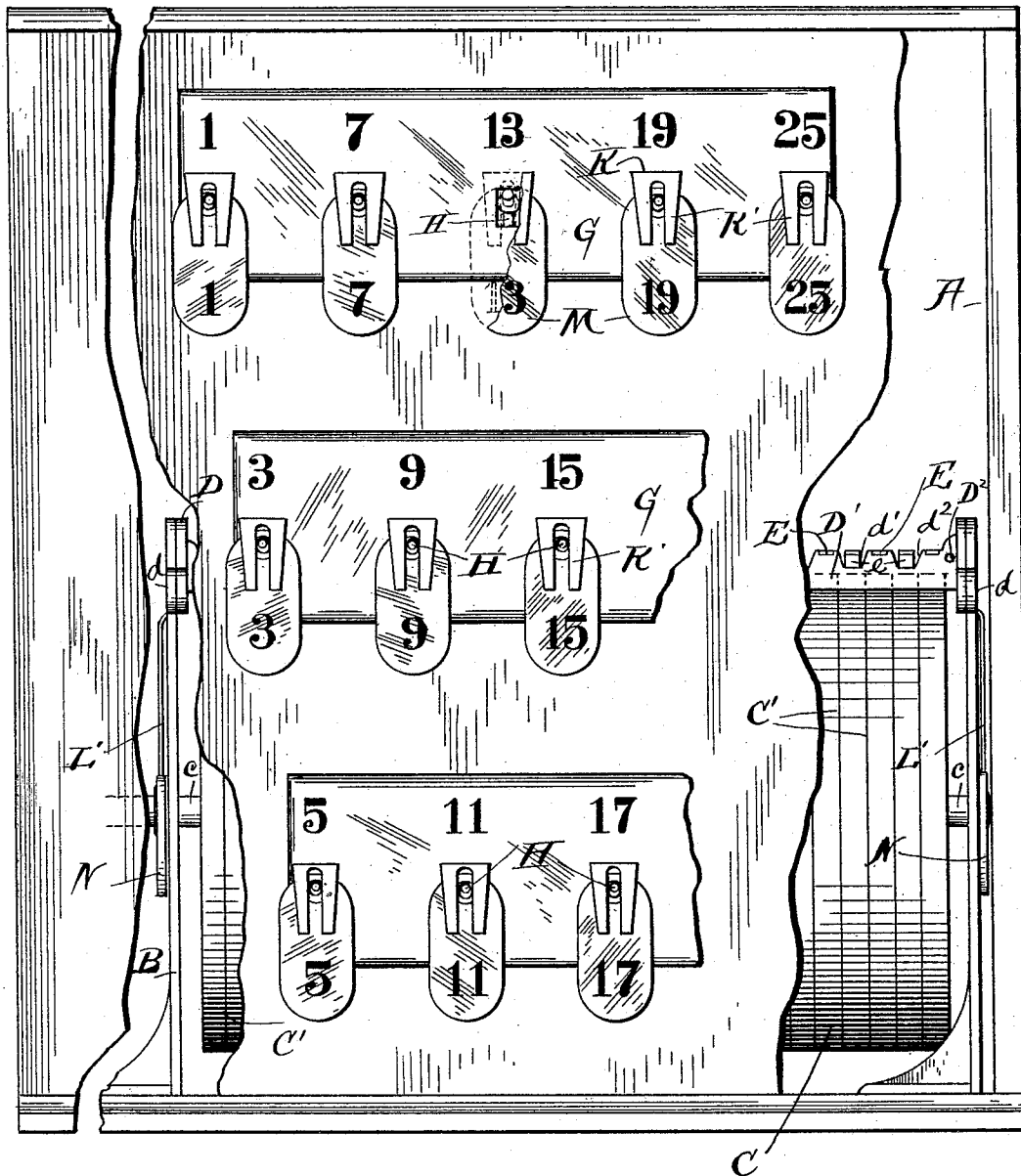
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Fig. 2.



Witnesses.

E. Byron Gilchrist.
[Signature]

Inventor.

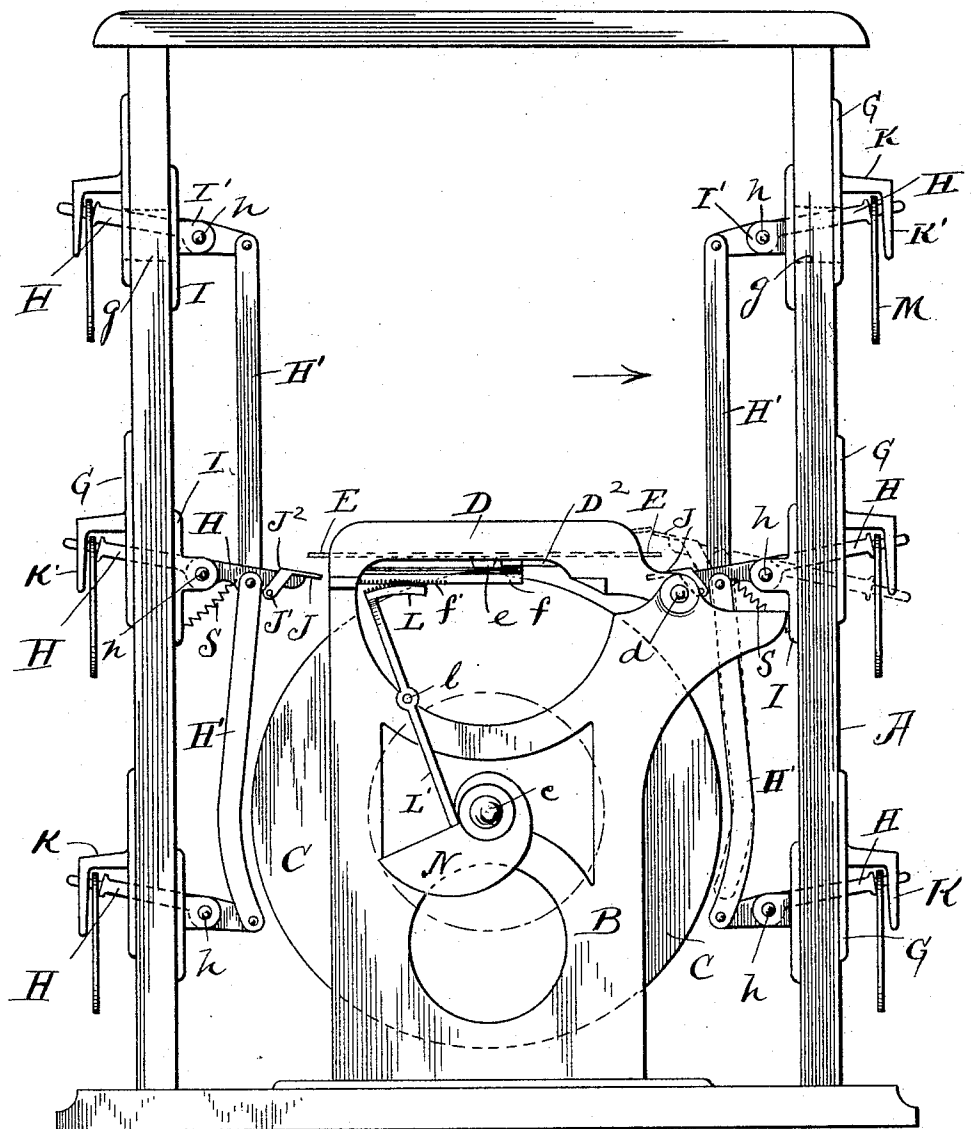
Reuben D. Morgan
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By *[Signature]* and *[Signature]*
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Fig. 3.



Witnesses.
E. Byron Gilchrist.
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(No Model.)

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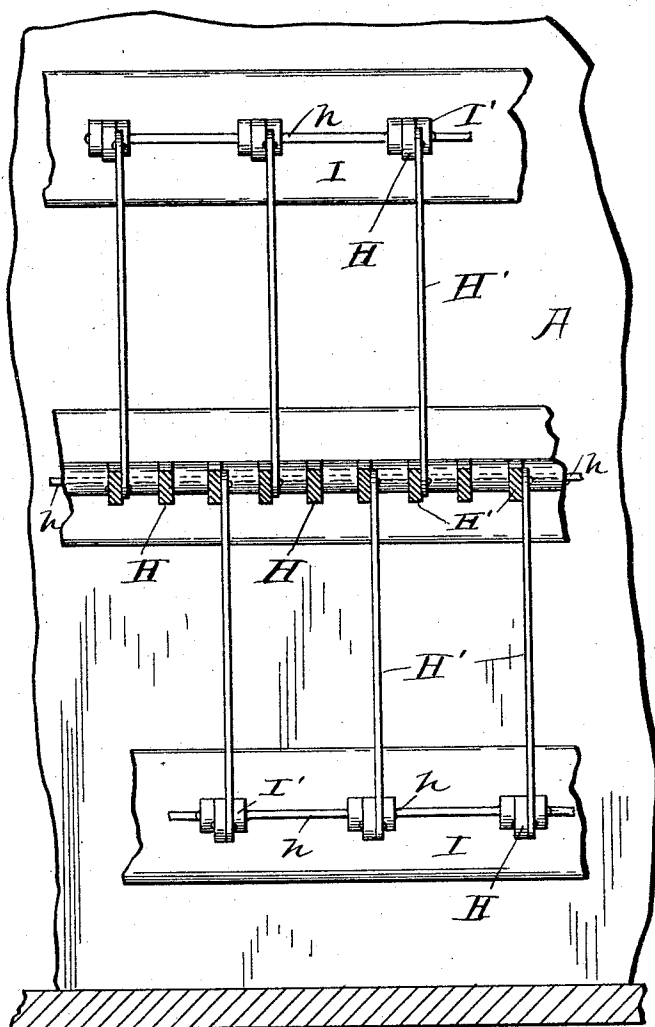


Fig. 4.

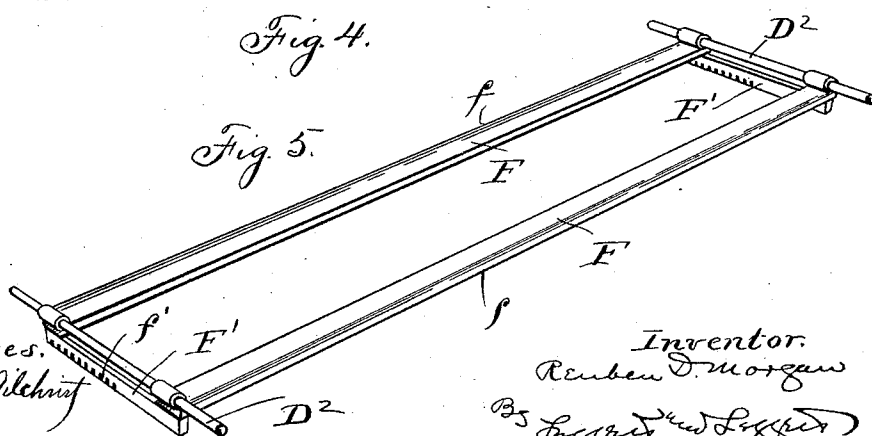


Fig. 5.

Witnesses,

E. Byron Gilchrist
Clerk

Inventor,

Reuben D. Morgan

B5 *Letter and Letter
to Attorney*

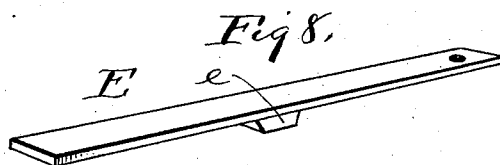
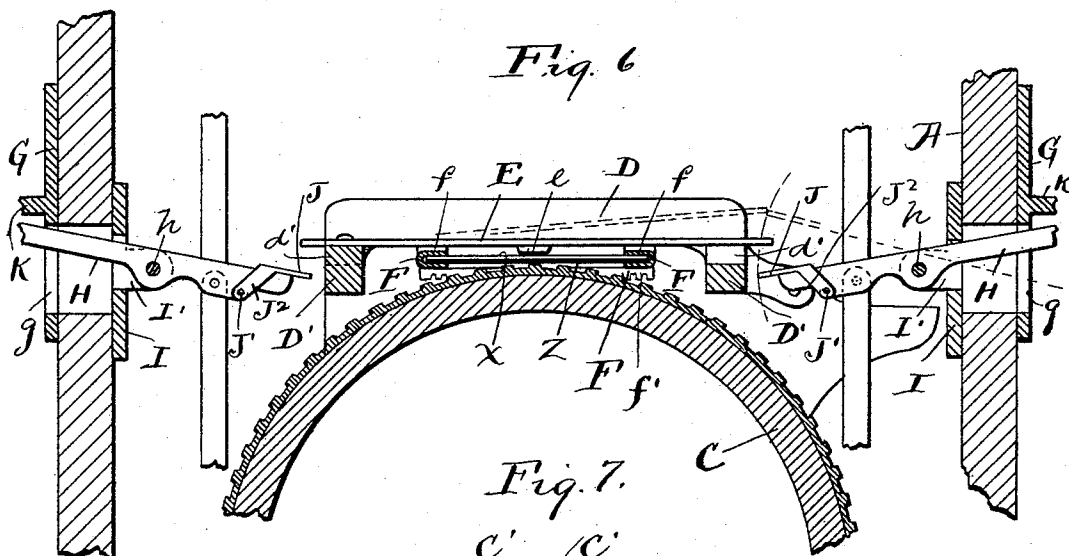
(No Model.)

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R. D. MORGAN.
WORKMAN'S TIME RECORDER.

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Patented Nov. 29, 1892.



Witnesses.
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UNITED STATES PATENT OFFICE.

REUBEN D. MORGAN, OF CLEVELAND, OHIO.

WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 486,977, dated November 29, 1892.

Application filed December 4, 1891. Serial No. 414,041. (No model.)

To all whom it may concern:

Be it known that I, REUBEN D. MORGAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Workmen's Time-Recorders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in workmen's time-recorders; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims, the object being to provide a machine that is simple in construction and at the same time reliable.

In the accompanying drawings, Figure 1 is a plan view of a machine embodying my invention with the top of the casing partly removed. Fig. 2 is a side elevation of the same, portions being broken away; and Fig. 3 is an end elevation with the end wall removed to show the internal construction. Fig. 4 is an elevation partly in section, of the side of the casing and attached levers shown in Fig. 3, looking in the direction of the arrow, the same exhibiting more clearly the construction. Fig. 5 is a perspective view of the sliding frame for holding and carrying the paper or card upon which the time-record is made and the inked ribbon or carbon-paper instrumental in making such record. Fig. 6 is a section at right angles to the axis of the type-cylinder, showing the relative position of a spring E and its depending projection or hammer *e*, with reference to the type-cylinder, time-record-receiving card or paper, inking-ribbon or carbon-paper, &c. Fig. 7 is a side elevation of a portion of the type-cylinder. Fig. 8 is a perspective of a spring E detached.

A represents the casing of the machine. This casing is preferably of wood, and to the bottom of the same, at or near either end of the casing, is secured, preferably by means of screws, as at *a*, an upright frame or standard B, that affords bearing for spindle *c* on which is mounted the type-cylinder C. The type that represents hours of the day and fractions of the hours is arranged on the periphery of the cylinder in series C' concentric with the axis of the cylinder, a series of type being pro-

vided at suitable intervals endwise of the cylinder. (See Fig. 7.) Spindle *c* at one end of the cylinder is operatively connected with a clockwork (not shown) in any well-known manner, so that the cylinder will be rotated as required.

To the upper end of frame B and at one side of the latter, as at *d*, is hinged a frame D, the same comprising side members D', notched or recessed on the upper side transversely, as at *d'*, the recesses being preferably narrower at the bottom than at the top, with the side walls thereof beveled as shown at *d''*, and the recesses of one member D' alternating with the recesses of the opposite member D'. Between recesses *d'* members D' have secured, respectively, springs E. Springs E are preferably flat leaf-springs, (a spring being shown detached in Fig. 8,) and extend transversely of frame D at right angles to the side members thereof, a spring being provided for each series of type of the type-cylinder and directly over the respective series of type of the type-cylinder. The free ends of springs E are located, respectively, directly over a recess *d'*, and extend, respectively, somewhat beyond the respective side members of frame D for the purpose hereinafter made more apparent, and in their normal position the springs are in approximately the same horizontal plane as the upper surface of the side members of frame D. Directly over the axis of the type-cylinder and directly over the respective series of type, springs E are provided with a depending teat, projection, or hammer *e*.

Frame D at either end is provided with cross-pieces or rods D², and mounted upon these cross-pieces is a sliding frame, preferably about half as wide as frame D. This sliding frame comprises side members F, preferably made of sheet metal and connected by cross-pieces F', side members F being preferably folded, as at *f*, forming pockets or holders for the paper or card X upon which the time is recorded, and the inked ribbon or carbon-paper Z instrumental in making the record, and members F, preferably at either end, are bent around cross-pieces or rods D² of hinged frame D, so as to loosely embrace members D² and be adapted to be slid endwise the same.

The relative positions of springs E and

their projection or hammer *e* with reference to the type-cylinder, printing-card, carbon-paper, or inking-ribbon, &c., is more clearly in Fig. 6.

5 To the sides of casing A, on the outer surface and extending lengthwise thereof, are secured slotted bars G, (see Figs. 2, 3, and 6,) preferably three in number, and located the one above the other, and it will be observed
10 that the slots *g* of the respective bars are located diagonally to each other—that is, no two slots are in the same vertical plane, as shown in Fig. 2. The sides of casing A are correspondingly slotted or perforated, (see
15 Fig. 6,) having a slot registering with each slot in the respective bars G aforesaid, and operative vertically within said slots are gravity tilting levers H, respectively, that are substantially the same in construction, being
20 all levers of the first class and fulcrumed to the innerside of the sides of casing A. Plates I, slotted for the passage of levers H, are secured in any suitable manner to the casing and having inwardly-projecting perforated
25 lugs I' in the same horizontal plane, with preferably a single pin or rod *h*, extending through the lugs of a plate from end to end of the latter. There are thus three rows of
30 levers on either side of the machine, the levers of a row being pivotally mounted on the respective axial pin or rod *h* in common. The levers of the middle row are provided, respectively, with a nose J, pivoted near the
35 end of the weight-arm of the lever, as at J', and straddling or embracing the latter, as at J², and projecting beyond the end of the respective lever. The levers of the upper and lower rows have pivotally connected therewith, respectively, a lever of the third class
40 H', the power-arms of these levers being pivotally connected to the weight-arm and the latter being located in the same plane with the weight-arm of levers H of the middle row, lever H', as shown, being preferably fulcrumed in the same horizontal plane with
45 levers H upon the same axial pin or rod. The weight-arm of levers H', like the weight-arm of levers H of the middle row, have pivotally connected therewith a nose, substantially the
50 same as nose J, already described.

Plates G have forwardly-projecting arms K, that terminate, respectively, in a depending bifurcated or slotted member K', and the power-arms of levers H extend outside casing
55 A through the slot in the respective members K', and forward of the latter, where they can be manipulated.

The cross-pieces F' of the sliding frame, hereinbefore described, are provided on their under surface with teeth *f'*, constituting racks
60 that are adapted to be engaged by a toothed sector L, pivoted, as at *l*, to the respective upright supporting-frames B. Each sector L has an arm L', that is adapted to be actuated
65 by a cam N, mounted on spindle *c* at the respective end of the type-cylinder.

By the mechanism just described it will be observed that the sliding frame is moved at right angles to the type-cylinder, thereby causing the card or paper X always to present a blank for receiving the time-record at the different times of the day.

Each workman is provided with a check, as at M, bearing a letter or figure corresponding to the letter or number of the lever that he is to manipulate to record his time, and this check he carries in his pocket before and after working-hours. As the workman arrives at the shop in the morning he slips his check upon the respective lever (the check being perforated for the purpose), and then depresses or moves the lever out of slot in member K', and slides the check rearward, so that when the lever is released and returns to its normal position the check will come behind member K'. The arrangement of parts is such that the operation of the lever just referred to causes the nose with which the lever is provided, as hereinbefore described, to be elevated and to engage and lift the free end of the adjacent spring E; but as soon as the lever is out of the slot in member K' the nose will release said spring, the tension of the spring returning the latter with sufficient force so that the free end of the spring will be carried beyond its normal position and descend against the bottom of the respective recess *d'*, causing teat or projection or hammer *e* of the spring to press the paper or card, upon which the record is to be made, and the carbon-paper or ribbon immediately below it, with sufficient force against the opposing type on the type-cylinder to cause the record of the time to be made. The impression having been made, the tension of the spring returns the latter to its normal position, and the nose for actuating the spring, as aforesaid, being pivotally connected with the lever, will not prevent the return of the latter to its normal position; and it will be observed that by the transverse movement of the sliding frame that carries the paper on which the time-record is made, as aforesaid, which movement is effected by means of sectors L, operated by cams N and engaging the toothed members or racks of said sliding frame, no matter what time during the day the time is recorded, said sliding frame will at all times present a blank portion of the paper for receiving the record.

Although the levers can be made to return to their normal position by gravity, as indicated, springs, as at S, are preferably provided, said springs connecting the levers with some suitable supporting member, such as the inclosing casing, and acting in the direction to return the levers to their normal position.

My improved machine is exceedingly simple in construction, and consequently comparatively inexpensive, and is not liable to get out of order. I would also have it under-

stood that modifications may be made in the details of construction without departing from the spirit and purpose of my invention.

What I claim is—

5 1. In a workman's time-recorder, a rotating cylindrical type-bearing surface, a frame supported above and extending lengthwise of the axis of said type-bearing surface and having cross-pieces or rods, a sliding frame or carriage mounted on and adapted to slide end-
10 wise of said rods or cross-pieces, said sliding frame being adapted to carry the time-record-receiving paper or card and the carbon-paper or inked ribbon instrumental in making the
15 record, and suitable mechanism for pressing said time-record-receiving paper or card and carbon-paper or inked ribbon against the type of the type-bearing surface aforesaid, substantially as set forth.

20 2. In a workman's time-recorder, supporting frames or standards and a rotating type-cylinder supported by said frames or standards, a frame extending lengthwise above the cylinder and hinged to said supporting frames
25 or standards, said hinged frame having cross-pieces or rods, a sliding frame or carriage mounted on and adapted to slide endwise said rods or cross-pieces of the hinged frame, said sliding frame being adapted to carry the time-
30 record-receiving paper or card and the carbon-paper or inked ribbon instrumental in making the record, and suitable lever and spring-actuated mechanism for pressing said time-
35 record-receiving paper or card and carbon-paper or inked ribbon against the type on the type-cylinder, substantially as set forth.

3. In a workman's time-recorder, upright supporting frames or standards and a rotating type-cylinder supported by said frames
40 or standards, a frame mounted on or connecting the supporting frames or standards above the cylinder and provided with cross-pieces or rods, a sliding frame or carriage mounted on and adapted to slide endwise said rods or
45 cross-pieces, the side members of the sliding frame being bent or folded to form holders for carrying the time-record-receiving paper or card and the carbon-paper or inking-ribbon instrumental in making the record, and suitable
50 lever and spring-actuated mechanism for pressing the time-record-receiving paper or card and carbon-paper and inking-ribbon against the type on the type-cylinder, substantially as set forth.

55 4. In a workman's time-recorder, an inclosing casing, a rotating type-cylinder supported within said casing, and the type of the cylinder being arranged in series substantially as shown and described, a frame, as at D, supported above the type-cylinder, a sliding
60 frame or carriage supported by frame D and adapted to move crosswise of the same and carry the time-record-receiving paper or card and the carbon-paper or inking-ribbon instrumental in making the record, a spring, as
65 at E, for each series of the type of the type-cylinder, said springs being connected with

and arranged transversely of frame D, and having, respectively, a depending teat, projection, or hammer adapted to press the time-
70 record-receiving paper or card and inking-ribbon or carbon-paper against the type of the respective series of type of the type-cylinder, and levers pivotally connected with the inclosing casing and adapted to be manipulated from outside the casing, and a nose or
75 projecting member, as at J, pivotally connected with the inner end of said levers and adapted to engage and lift the free end of one of the springs aforesaid, substantially as set forth.
80

5. In a workman's time-recorder, an inclosing casing and a rotating cylinder supported within the casing and bearing type arranged substantially as indicated, a hinged frame
85 supported above the type-cylinder, and a sliding frame or carriage supported by said hinged frame and adapted to be moved crosswise of the cylinder and carry the time-record-receiving paper or card and the carbon-paper
90 or inking-ribbon instrumental in making the record, the side members of the hinged frame having depressions or recesses with the recesses in one side member alternating with the recesses in the other side member, horizontal or approximately horizontal leaf-
95 springs secured to one of the respective side members of the hinged frame between said depressions or recesses and extending transversely of the frame, the free ends of said
100 springs being adapted to be depressed into a recess of and extending beyond the opposite side member of said hinged frame, the springs having, respectively, a depending projection or hammer, and mechanism, substantially as
105 indicated, for lifting the free ends of said springs, substantially as and for the purpose set forth.

6. In a workman's time-recorder, an inclosing casing, a rotating cylinder supported
110 within said casing and bearing type arranged substantially as indicated, a hinged frame supported above the type-cylinder and a sliding frame or carriage supported by said hinged frame and adapted to move crosswise of the
115 cylinder and carry the time-record-receiving paper or card and the carbon-paper or inking-ribbon instrumental in making the record, the side members of the hinged frame having depressions or recesses with the recesses in one side member alternating with the recesses in the other side member, horizontal or approximately horizontal leaf-
120 springs secured to one of the respective side members of the hinged frame between said depressions or recesses and extending transversely of the frame, the free ends of said
125 springs being adapted to be depressed into a recess of and extending beyond the opposite side member of said hinged frame, the springs having a depending projection or hammer, respectively, three rows of levers pivoted at
130 each side of the inclosing casing with the arrangement of levers, substantially as indi-

cated, and suitable means operatively connected with the levers and adapted to engage and lift the free end of the springs aforesaid, substantially as and for the purpose set forth.

- 5 7. In a workman's time-recorder, an inclosing casing, a rotating cylinder bearing series of type arranged substantially as indicated, a frame, as at D, supported above the type-cylinder and a sliding frame or carriage supported by frame D and adapted to move at right angles to the axis of the type-cylinder and carry the time-record-receiving paper or card and the carbon-paper or inking-ribbon instrumental in making the record, a spring, as at E, for each series of type on the type-cylinder, said springs being connected with and arranged transversely of frame D, and having, respectively, a depending teat, projection, or hammer, as at e, mechanism, substantially as indicated, for lifting the free ends of said springs to actuate the hammers, and a spring connected with said hammer-actuating mechanism and acting in the direction to return said mechanism to its normal position, substantially as and for the purpose set forth.

8. In a workman's time-recorder, a rotating type-cylinder bearing series of type arranged on the periphery of the cylinder, a frame or carriage located above and lengthwise of said cylinder and adapted to slide crosswise of the cylinder, said sliding frame carrying the time-record-receiving paper or card and the carbon-paper or ribbon instrumental in making the record, suitable lever and spring-actuated mechanism for each series of type and adapted to press the time-record-receiving paper or card and carbon-paper or inking-ribbon against the type of the respective series of type of the type-cylinder, and arms, as at K, projecting outwardly from the sides of the inclosing casing and having, respectively, a depending member, as at K', provided with a slot adapted to be engaged by an arm or mem-

ber of the lever mechanism aforesaid, substantially as and for the purpose set forth.

9. In a workman's time-recorder, supporting frames or standards, a rotating spindle mounted in said frames or standards and a type-cylinder mounted on the spindle, a frame or carriage supported above and extending lengthwise of the cylinder, said frame or carriage being adapted to hold the time-record-receiving paper or card and the carbon-paper or ribbon instrumental in making the record, the cross-pieces at either end of said frame being provided with teeth, a sector pivotally connecting with the supporting-frame at either end of the cylinder, and suitable means for operatively connecting said sector with the rotating spindle, substantially as and for the purpose set forth.

10. In a workman's time-recorder, supporting frames or standards, a rotating spindle mounted in said frames or standards and a type-cylinder mounted on the spindle, a frame or carriage supported above and extending lengthwise of the cylinder, said frame or carriage being adapted to hold the time-record-receiving paper or card and the carbon-paper or ribbon instrumental in making the record, the cross-pieces at either end of said frame being provided with teeth, a sector pivotally connected with the supporting-frame at either end of the cylinder, and a cam mounted on the rotating spindle aforesaid at either end of the cylinder, said sector having a depending arm or member adapted to be engaged and actuated by the respective cam, substantially as and for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 13th day of November, 1891.

REUBEN D. MORGAN.

Witnesses:

C. H. DORER,

WARD HOOVER.