

D. MILLER.  
WORKMAN'S TIME RECORDER.

No. 522,738.

Patented July 10, 1894.

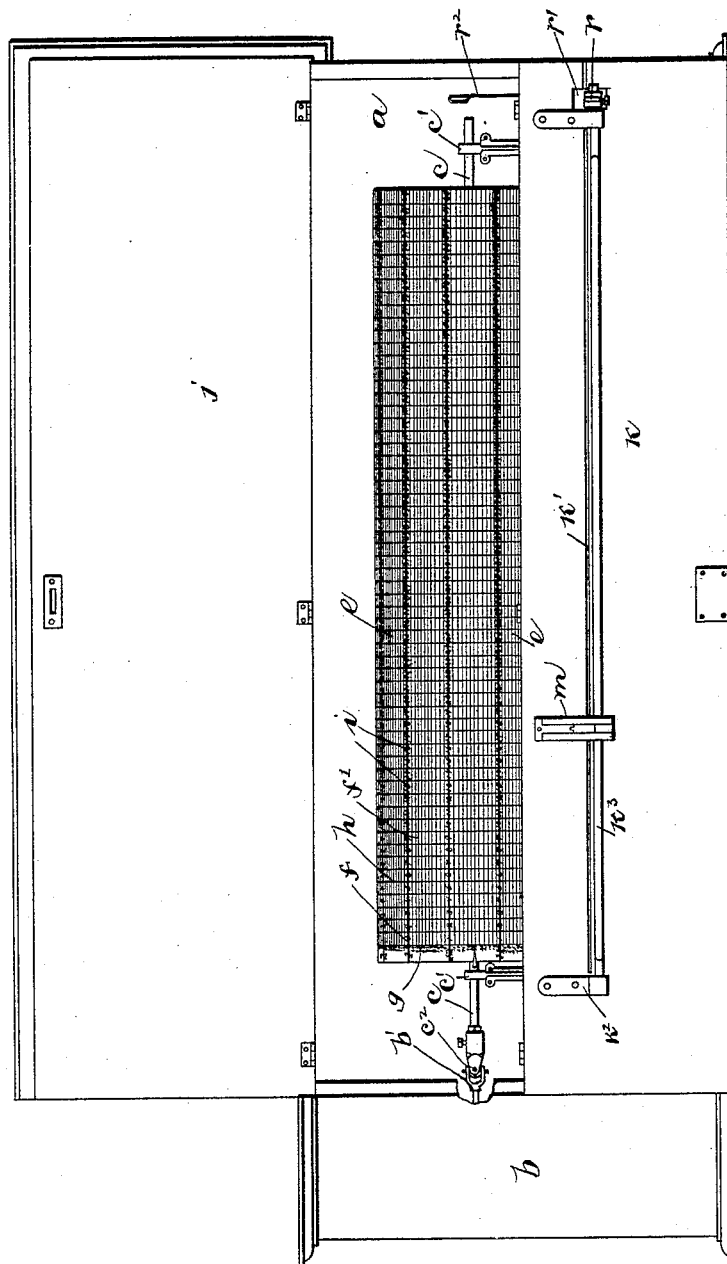


Fig. 1

WITNESSES:

*H. B. Bradshaw*  
*A. L. Phelps*

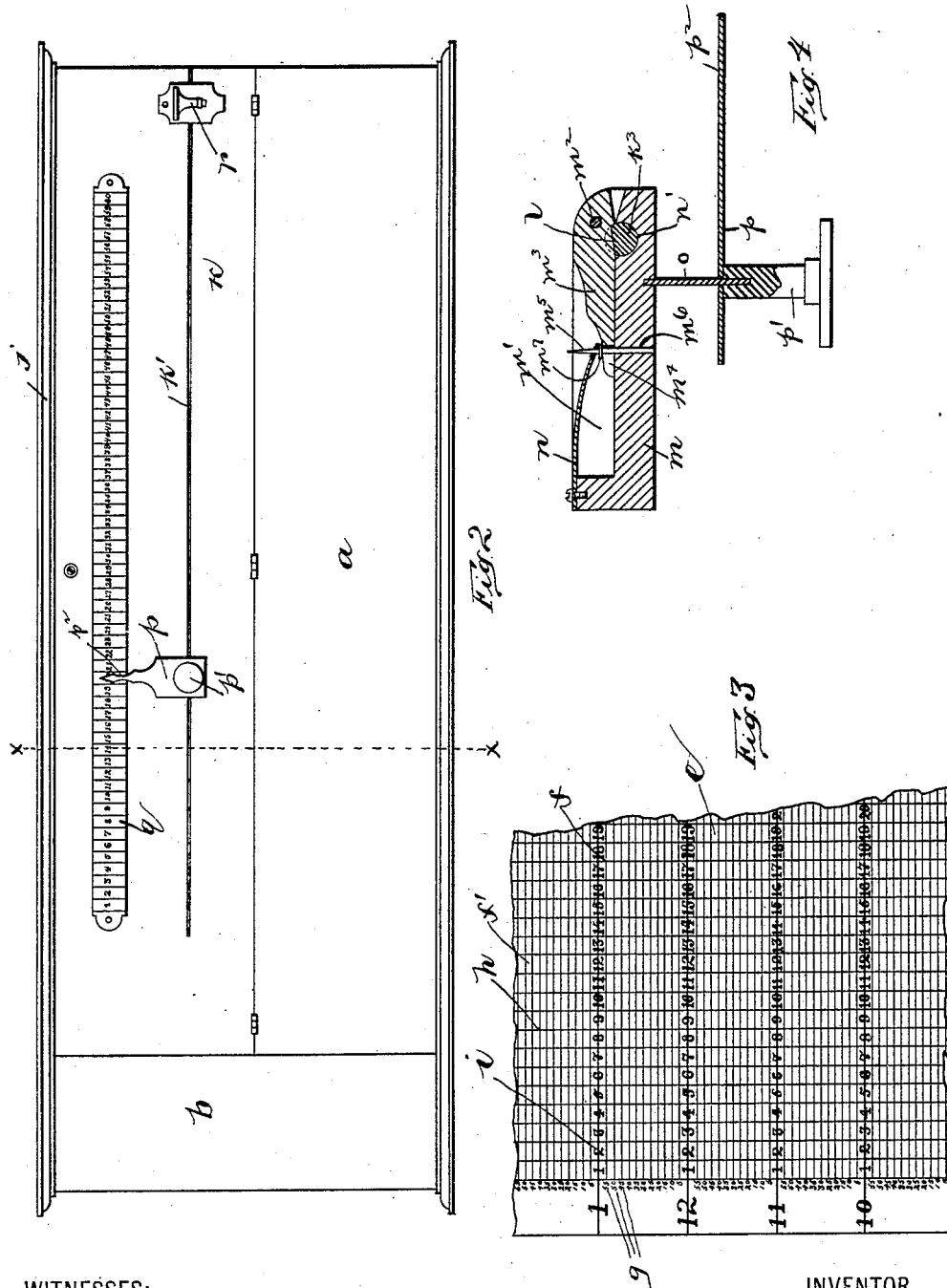
INVENTOR  
*Daniel Miller*

BY  
*Staley & Shepherd*  
ATTORNEYS

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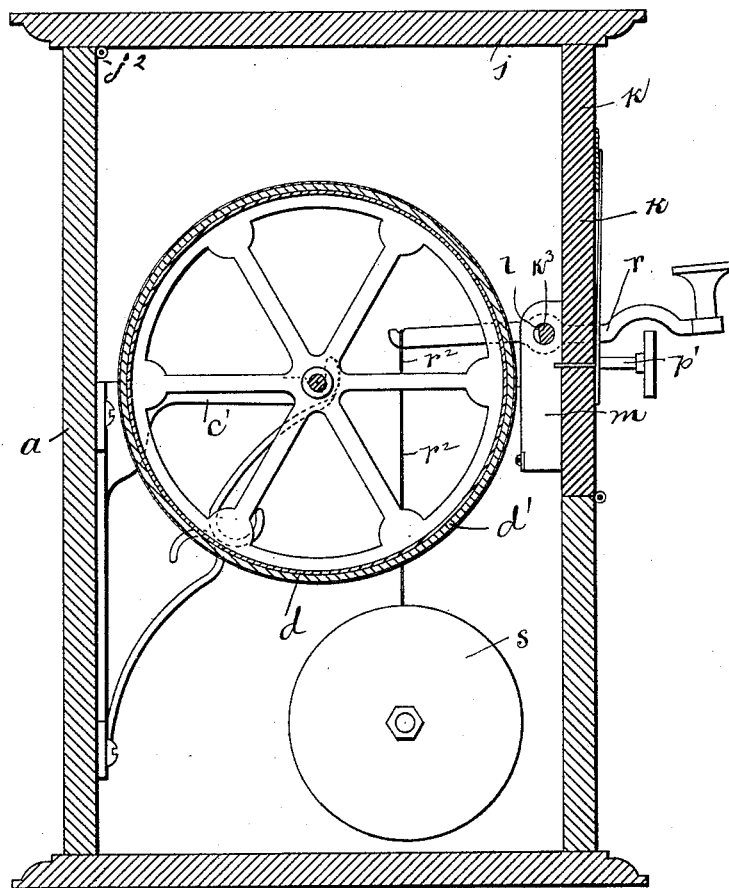
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*Fig. 5*

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# UNITED STATES PATENT OFFICE.

DANIEL MILLER, OF COLUMBUS, OHIO.

## WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 522,738, dated July 10, 1894.

Application filed June 2, 1893. Serial No. 476,321. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL MILLER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Workmen's Time-Recorders, of which the following is a specification.

My invention relates to workmen's time recorders and the objects of my invention are to provide an improved device of this class of superior construction and arrangement of parts; to produce the same in a simple, reliable and effective manner and at a reasonable cost of manufacture and to provide for the keeping of a time record for any number of workmen. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved recording device showing the case doors opened. Fig. 2 is a similar view showing said doors closed. Fig. 3 is a detail view of a portion of one of the record papers which I employ. Fig. 4 is a central longitudinal section of the punching block and Fig. 5 is an enlarged transverse section on line  $x x$  of Fig. 2.

Similar letters refer to similar parts throughout the several views.

$a$  represents an oblong case of wood or other suitable material at one end of which is formed a clock compartment  $b$ . Within this compartment  $b$  is adapted to be supported an ordinary clock mechanism of which  $b'$  is a continuation of the ordinary hour hand post, said hand post continuation projecting as shown through the rear side of the clock casing into the main compartment.

$c$  represents a horizontal shaft which is journaled in suitable brackets  $c'$  which project inwardly from the rear wall of the casing near the ends of the latter. The forward end of this shaft  $c$  is as indicated at  $c^2$ , connected with the hour hand post extension  $b'$  by a universal joint. Upon the shaft  $c$  between its bearings is mounted and carried a roll or cylinder  $d$ . This cylinder is incased with a covering of suitable pliable material  $d'$  such as felt or similar material.  $e$  represents a recording chart which is formed of a strip of paper which as shown in the draw-

ings, is adapted to fit around and cover the felt covered cylinder. Upon this paper casing or chart I cause to be printed or otherwise indicated at equidistant points, parallel longitudinal lines  $f$ , said lines dividing said paper casing into twelve equal spaces and said lines being numbered from one to twelve to correspond with the numbers upon the face of a clock. Between the lines  $f$  which we will term the hour lines, I cause to be printed parallel lines  $f'$  of which there are preferably eleven, thus dividing the hour spaces into twelve sub-spaces each of which represents one-twelfth of an hour, or the period of five minutes. These five minute periods are indicated by small figures  $g$  arranged opposite the ends of said five minute spaces, said numbers running in multiples of five as shown.

Crossing the longitudinal lines  $f$  and  $f'$  at right angles therewith, are parallel circumferential lines  $h$ , which are arranged at corresponding distances one from the other throughout the length of the chart. The circular or circumferential spaces thus formed are numbered consecutively as indicated by the numbers  $i$ , said numbers being preferably arranged on the lines  $f$ .

In constructing the casing for my improved recording machine, I provide therefor a lid  $j$  the latter being hinged at the rear edge of the casing as shown at  $j^2$ . I also produce the upper half of the front wall of said casing in the form of a door  $k$ , the latter being hinged to the lower half of said wall. In this front door  $k$ , I provide a longitudinal slot or mortise  $k'$  and adjacent to the ends of said mortise on the inner side of said door are supported bracket bearings  $k^2$  for the ends of a longitudinally extending rod  $k^3$  which is thus supported in a position parallel and adjacent to the slot  $k'$ . The normally inner face of the rod  $k^3$  is as indicated at  $l$  flattened, thus causing said rod to describe in cross section the segment of a circle. Upon the rod  $k^3$  is mounted and adapted to slide a punch carrying block  $m$ , the latter having a channeled face, the channel or depression  $m'$  of which extends to a point near one end of the block. Within the open end of this block channel is pivoted at  $m^2$  a spring actuated operating lever  $m^3$ , the body of which lies within the chan-

nel of said block  $m$ , and the inner end of which is notched or bifurcated as indicated at  $m^4$ . Through this notch or bifurcation of the lever  $m^3$  passes a punching pin  $m^5$ , the inner end portion of the latter working loosely in a suitable socket  $m^6$  of the block  $m$ . On the outer side of the lever  $m^3$ , the pin  $m^5$  is provided with a collar or enlargement  $m^7$  which bears upon the outer side of said lever.

$n$  represents a spring strip, the inner end of which is secured upon the closed end of the block  $m$  and the remaining and downturned end of which is provided with an opening through which the pointed end portion of the pin  $m^5$  passes. The inner and downturned end of this spring strip  $n$  bears upon the outer side of the pin collar  $m^7$  and thus serves to retain it in connection with the lever  $m^3$ .

As shown in the drawings the segmental rod  $k^3$  is adapted to fit and turn within a transverse depression  $n'$  in the body of said block  $m$  and beneath or within the lever  $m^3$ . This rod seat  $n'$  is of such size as to so support the rod  $k^3$  as to bring the flattened face of the latter flush with the inner surface of the channel  $m'$ .

$o$  represents a short horizontal plate or flattened arm which as shown passes through the slotted opening  $k'$  of the door  $k$  and has its inner end connected with the body of the block  $m$  while its outer end is connected as shown, with a vertical indicator plate  $p$ . This plate  $p$  is provided with an outwardly projecting finger piece  $p'$ . The upper portion of the indicator plate  $p$  is pointed to form an indicator finger  $p^2$ .

On the outer side of the door  $k$  above the slot  $k'$  is secured longitudinally a number strip  $q$ , the latter being divided by vertical parallel lines into equidistant spaces which correspond with the width of the numbered circumferential spaces on the chart  $e$  and which are numbered consecutively as prescribed for said chart spaces. This plate  $q$  is arranged as shown in the path of the indicating point of the plate  $p$  when the latter is moved laterally, as hereinafter described.

Affixed to one end of the rod  $k^3$  is the central portion of a finger lever  $r$ , the outwardly extending portion of which passes loosely through a slotted opening  $r'$  in the door  $k$  and the inwardly extending portion of which is detachably connected with a suitable cord or wire  $r^2$ . This cord or wire  $r^2$  extends downwardly and is connected at its lower end with an ordinary spring actuated gong or alarm bell  $s$ , the latter being supported in the rear end of the casing.

The lids  $k$  and  $j$  being closed as shown in Fig. 2 of the drawings and the cylinder  $d$  being so turned as to bring the point of the punch  $m^5$  immediately opposite the five minute space which represents the time indicated by the clock, the operation of my device is as follows: In order to record the hour at which he begins or leaves work, the workman moves the indicator plate  $p$  later-

ally until its pointed upper end is opposite his number  $i$  on the chart which corresponds with his number as a workman. He then presses down upon the outwardly projecting portion of the lever  $r$  which movement must result in a partial turning of the rock  $k^3$  and a pulling upward upon the bell cord  $r^2$  and a consequent ringing of the bell  $s$ . This partial rotation of the rod  $k^3$  must result through the contact of the round portion of said rod with the under side of the lever  $m^3$  and in pressing the latter inward. This inward movement of the lever  $m^3$  will result as will readily be seen in carrying the punch  $m^5$  inward until its pointed end pierces the paper forming the chart. On releasing the pressure from the lever  $r$  the tension of the spring  $n$  will be such as to cause the lever  $m^3$  and rod  $k^3$  to return to their normal positions, thus withdrawing the punch from the chart. Owing to the fact that the numbers  $i$  on the chart which designate the workmen are arranged to correspond with the numbers upon the outer plate  $q$ , it will be seen that the punch marks on the chart will always be opposite those chart numbers  $i$  which correspond with the numbers upon the plate  $q$ . It will further be seen that owing to the fact that a direct connection with the hour hand post and the cylinder shaft is produced and said cylinder is divided into twelve equal spaces, one-twelfth of a complete revolution of the hour hand post of the clock will result in one-twelfth of a complete revolution of the chart carrying cylinder. And said cylinder thus being moved at the same rate of speed as said hand post, it will be seen that the punch marks formed as above described in the chart will always be formed in those horizontal spaces in the chart which represent the time at which the puncture was made.

As will readily be seen the chart carrying cylinder may be of any desired length admitting therefore of the chart being employed for the keeping of a record for a large or small number of workmen as the case may be. Although the chart and numbered plate herein shown and described indicate but sixty numbers it is evident that by lengthening these parts the numbers may be increased. Owing to the universal joint connection of the cylinder shaft and hour hand post it is obvious that a proper movement of the cylinder will not be effected by this shaft being out of a horizontal plane. The construction of my device is exceedingly simple and of such nature as to prevent liability of its getting out of order. The number and character of the parts contained in my invention, are such as to admit of the manufacture of the device in a simple and inexpensive manner.

It will be observed that by slipping a new chart upon the cylinder each day, a complete record of the exact times at which the workmen began and stopped work will be provided by the punch marks upon said charts.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a workman's time recorder the combination with the casing, a clock mechanism contained therein, a cylinder carrying shaft rotated by the hour hand post of said clock, a chart on said cylinder, and numbered intersecting time and employes spaces on said chart, of a segmental rod  $k^3$  journaled in said casing, a sliding punch block on said rod, a pivoted and spring actuated lever  $m^3$  in said block and normally bearing upon the flattened side of said rod, a punch  $m^5$  adapted to be operated by said lever  $m^3$  and means for partially rotating said rod from the outer side of the casing, substantially as and for the purpose specified.

2. In a workman's time recorder the combination with the casing, a clock mechanism contained therein, a cylinder carrying shaft rotated by the hour hand post of said clock, a chart on said cylinder and numbered inter-

secting time and employes spaces on said chart, of a rod  $k^3$  journaled in said casing, said rod having a flattened side as described, a sliding punch block on said rod, a pivoted and spring actuated lever  $m^3$  in said block and normally bearing upon the flattened side of said rod, a punch  $m^5$  adapted to be operated as described by said lever  $m^3$ , a longitudinal slotted opening  $k'$  in the casing, a combined finger piece  $p'$  and pointer  $p$  on the outer side of the casing and an arm  $o$  connecting said finger piece with said punch block through said slotted case opening, a plate  $q$  on the outer side of the casing and numbers on said plate corresponding with the workman's numbers on said chart and means for partially rotating the rod  $k^3$ , substantially as and for the purpose specified.

DANIEL MILLER.

In presence of—

C. C. SHEPHERD,  
BARTON GRIFFITH.