

WORKMAN'S TIME RECORDING AND WAGE CALCULATING MACHINE.
APPLICATION FILED FEB. 7, 1914.

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Patented Jan. 22, 1918.

4 SHEETS—SHEET 1.

Fig. 1

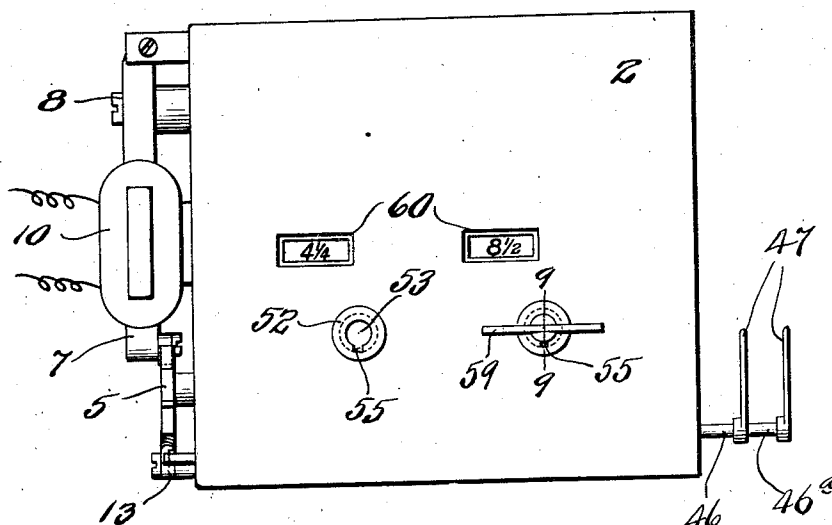
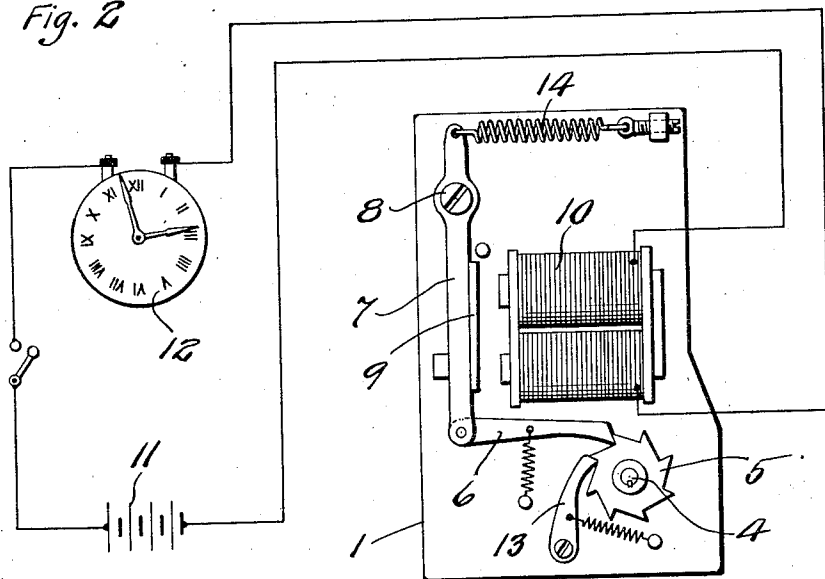


Fig. 2



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WORKMAN'S TIME RECORDING AND WAGE CALCULATING MACHINE.

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4 SHEETS—SHEET 2.

Fig. 3

NAME	FOR WEEK ENDING				
	REC'D PAYMENT	T.W.	P.W.	TOTAL	ADD. AMT. DED.
				54	7.00
				53 1/2	6.97
				53 1/2	6.94
				53 1/2	6.90
				53	6.87

Fig. 4

	TOTAL P&S.
	TOTAL HR.
	TOTAL COST
	COST EACH
N0.	
JOB	

Fig. 6

[illegible]

Fig. 5

$\frac{1}{4}$
$\frac{1}{8}$
$\frac{3}{4}$

Witnesses
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L. E. MORE.

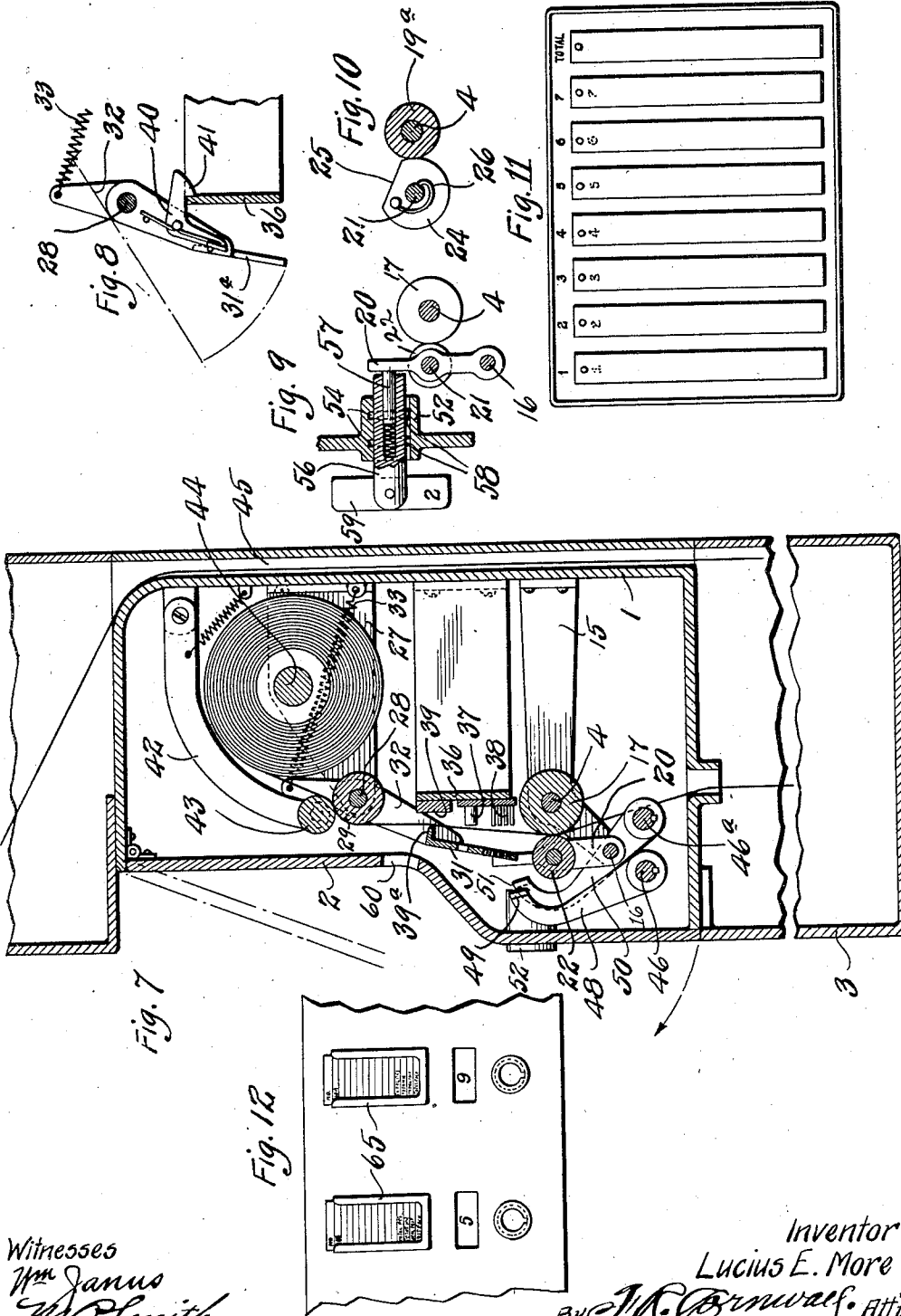
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4 SHEETS—SHEET 3.

1,254,259.



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4 SHEETS—SHEET 4.

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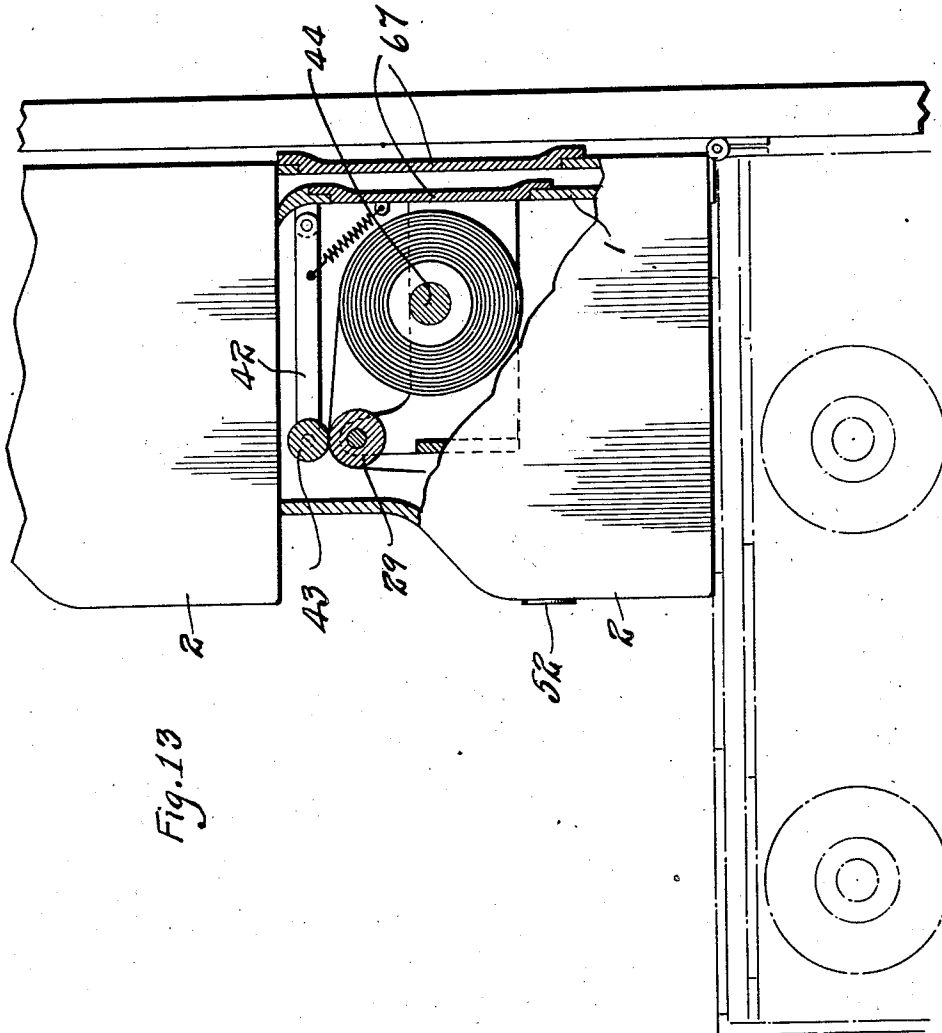


Fig. 13

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UNITED STATES PATENT OFFICE.

LUCIUS E. MORE, OF ST. LOUIS, MISSOURI.

WORKMAN'S TIME-RECORDING AND WAGE-CALCULATING MACHINE.

1,254,259.

Specification of Letters Patent.

Patented Jan. 22, 1918.

Application filed February 7, 1914. Serial No. 817,204.

To all whom it may concern:

Be it known that I, LUCIUS E. MORE, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Workmen's Time-Recording and Wage-Calculating Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevational view of one unit or section of my improved time recording and wage calculating machine.

Fig. 2 is a side elevational view of one of the units of the machine and showing the electrically operated actuating and control mechanism associated therewith.

Fig. 3 is a front elevational view of one of the units or sections of my improved machine with the front of the housing removed.

Fig. 4 is a face view of a portion of a record strip or tape used in my improved machine.

Fig. 5 is a face view of a portion of a second strip or tape used in the machine.

Fig. 6 is a face view of a card or sheet adapted to be used in connection with my improved machine where workmen are engaged in job or piece work.

Fig. 7 is an enlarged vertical section taken approximately on the line 7—7 of Fig. 3.

Fig. 8 is a detail section taken approximately on the line 8—8 of Fig. 3.

Fig. 9 is a detail section taken approximately on the line 9—9 of Fig. 1, and showing the workman's key positioned in the machine.

Fig. 10 is a detail section taken approximately on the line 10—10 of Fig. 3.

Fig. 11 is a plan view of a tray or container for the record strips which are removed from the machine by the time keeper or clerk who calculates the workmen's wages.

Fig. 12 is a front elevational view of the form of machine adapted for use in connection with job or piece work.

Fig. 13 is a vertical section through the central portion of a modified form of the apparatus with dotted lines showing the position of the device when new record strips are positioned therein.

My invention relates to a mechanism particularly adapted for accurately obtaining workmen's time records and for automatically calculating wages to be paid to the workmen, such mechanism being intended for use in offices, factories, and other establishments where it is desired to keep an accurate record of the employees' time and wages.

Specifically, my invention pertains to an improved mechanism in which each workman has an individual recording device which, by being operated at the beginning and end of an interval of time, records the total duration of said period of time in hours and fractions of hours, and the record thus made is utilized by the proper person, such as a time clerk or bookkeeper in calculating the workmen's wages.

In many factories and other places of business different workmen are paid different rates of wages per hour, and it is the principal object of my invention to provide an appliance for accurately recording workmen's time and wages, and which appliance is comparatively simple in construction, automatic in operation and of comparatively low initial cost and maintenance.

In my improved apparatus I utilize two strips of paper or tape for each workman, one of which strips is for the daily record of time put in by the workman, and the other strip being for the weekly, bi-weekly or monthly record of time, and also containing a column of figures to indicate the amount of wages to be paid for the corresponding elapsed time in hours and fractions thereof.

With the above and other objects in view my invention consists in certain novel features of construction and arrangement of parts, hereinafter more fully described and claimed.

In the form of device illustrated in Figs. 1, 2 and 3 I have shown a unit or section adapted for recording the time and wages of two workmen, and it will be understood that a number of the same mechanisms or units can be combined to accommodate a number of workmen or employees.

The unit as shown includes a substantially rectangular housing 1 having a front wall which is hinged or removable in order to permit ready access to the interior of the housing by the time clerk or person in charge of the workmen's records. The lower series

of units are positioned upon a suitable container 3 which serves as a receptacle for the detached portions of the record strips after the same have passed through the recording mechanisms.

5 Journalled in suitable bearings in the end walls of the housing 1 is a shaft 4 and fixed on one end thereof outside the housing is a ratchet wheel 5. Adapted to engage with
10 the teeth of this ratchet wheel is the point of a spring held pawl 6, the rear end of which is pivotally connected to a lever 7, which latter is pivotally mounted on a pin or stud 8 which projects from the end of the housing.
15 This lever 7 carries an armature 9 which is adapted to be attracted by an electromagnet 10 which receives current from a suitable source of electrical energy, preferably a battery 11, and said battery and magnet being
20 in circuit with a clock 12.

Certain mechanism of this clock is arranged so as to close the circuit in which the battery and electromagnet are located at predetermined intervals, as for instance, every
25 fifteen minutes, and thus said magnet will be energized at the end of each quarter hour, and when so energized the armature 9 will be attracted, thus actuating the lever 7 and pawl 6, and as a result, the shaft 4 will be
30 partially rotated.

The point of a spring held detent 13 engages the teeth of the ratchet wheel 5 to hold the same against reverse rotary movement. A retractile coil spring 14 is attached to the
35 housing 1 and the end of the lever 7 and normally holds said lever so that the armature 9 is disengaged from the cores of the magnet coils 10.

Fixed on the interior of the housing 1 is a
40 pair of brackets 15, the forward ends of which project downward as designated by 15^a to form auxiliary brackets in the lower ends of which is journaled a shaft 16.

Fixed on the shaft 4 between the brackets
45 15 is a pair of rollers 17 and 18, the same being spaced apart, and fixed on the shaft between these rollers is a spacing hub 19, the end of which adjacent to the roller 17 is enlarged to form a bearing ring 19^a.

50 The rollers 17 and 18 move with the shaft 4, and act as driving or feeding rollers to move the record strips through the machine. Fixed on the central portion of the shaft 16 is a vertically disposed plate 20 which is
55 adapted to be engaged by a workman's key inserted through a key hole in the front wall 2, and loosely mounted in a suitable bearing on this plate is a horizontally disposed shaft 21 carrying rollers 22 and 23. The roller 22
60 is positioned immediately in front of and is adapted to engage the roller 17, and the roller 23 is immediately in front of and adapted to engage the roller 18.

When a key is inserted to engage the
65 per portion of the plate 20, the rollers 22 and

23 are forced rearwardly with pressure against the corresponding rollers 17 and 18 and the strips of paper passing between the pairs of rollers are intermittently fed downward as a result of the intermittent rotary
70 movement imparted to the rollers 17 and 18.

Loosely mounted on the shaft 21 adjacent to the inner end of the roller 22 is a disk 24 having a segment removed as designated by
75 25, and the curved periphery of this disk is adapted to engage with the periphery of the bearing ring 19^a. One end of a bow spring 26 is fixed to the disk 24 and the opposite end to the shaft 21, and this spring normally maintains the disk 24 in position with its
80 curved periphery against the face of the bearing ring 19^a. (See Fig. 10.)

Fixed to the upper portion of the rear wall of the housing 1 and projecting forwardly therefrom are brackets 27 in which
85 are journaled the ends of a shaft 28. Carried by this shaft are rollers 29 and 30 which are arranged above the rollers 17 and 18, respectively.

Plates 31 and 31^a are normally positioned
90 above the rollers 17 and 18, respectively, and formed integral with and projecting upwardly from the sides of these plates are pairs of arms 32, the same being loosely
95 mounted on the shaft 28 adjacent to the ends of the rollers 29 and 30. One arm of each pair is extended upward as designated by 32^a, and attached to this extension is one end of a retractile spring 33, the rear end of which is attached to the rear wall of the
100 housing 1.

The plates 31 and 31^a are each provided with an aperture 34 and with a series of comparatively small apertures arranged so as to
105 form a number or character 35.

The numbers of characters of each pair of plates correspond, and said numbers correspond with the keys which are inserted in the machine by the workmen. Fixed within
110 the housing is a horizontally disposed bar 36 which occupies a position immediately over the rollers 17 and 18, and fixed on the front side of said bar is a series of forwardly projecting pins, such as 37, the same being adapted to project through the apertures
115 34 when the plates 31 and 31^a are moved rearward, thus punching a small hole in the record strip which passes behind the corresponding plate.

Projecting forwardly from the bar 36 is
120 a series of small pins 38 arranged in the form of numbers or characters, and which correspond with the apertures 35 in the plates 31 and 31^a. Thus, as said plates are pressed rearwardly, the pins 38 pass
125 through the apertures 35, thereby punching in the corresponding record strip a number or character which identifies the workman who inserted the key to actuate the corresponding one of the plates.

The upper edge of each of the plates 31 and 31^a is turned rearwardly as designated by 39^a to form a cutting edge which severs the corresponding record strip when the plates are pressed rearwardly, and positioned on the bar 36 and adapted to receive said cutting edge is a section of soft material 39, such as wood or rubber. Positioned on one of the arms 32 of each plate is a spring held detent 40 having on its free end a hook 41 which is adapted to engage over the upper edge of the bar 36, thereby normally holding the corresponding plate immediately in front of the bar 36. (See Fig. 8.)

When this detent is released the corresponding spring 33 will swing the plate outward and upward into the position shown by dotted lines in Fig. 8, thereby permitting the end of the record strip to be drawn downward into position between the pairs of rollers 17 and 18, and 22 and 23.

Pivottally connected to the rear wall of the housing and near the upper end thereof are forwardly and downwardly projecting arms 42, and journaled on the lower ends thereof are rollers 43, which normally engage the rollers 29 and 30.

The record strips utilized in my improved machine are wound onto suitable mandrels 44 so as to form rolls, and these rolls are between the brackets 27 with the mandrels journaled therein.

In passing through the machine, the record strips pass between the pairs of rollers 43 and 29 and 30, from thence downward between the plates 31 and 31^a, and the bar 36, from thence downward between the pairs of rollers 17 and 18 and 22 and 23, and from thence said strips pass through suitable apertures in the bottom of the housing, and discharge into the receptacle 3. Where a series of housings are arranged one on top of the other, the lowermost housings have a double rear wall so as to provide a passage way 45 through which the strips of paper from the uppermost rollers may pass downward into the receptacle 3.

Journaled in suitable bearings in the end walls of the housing 1 and near the bottom thereof are horizontally disposed shafts 46 and 46^a, the outer ends of which are provided with suitable handles, such as 47. Fixed on the shaft 46 is a series of upwardly projecting arms 48, the upper ends of which are curved rearwardly and carry laterally projecting fingers 49 which are adapted to engage with the lower portions of the plates 31.

The shaft 46^a carries upwardly extending arms 50, the upper portions of which are curved rearwardly and carry laterally projecting fingers 51, which are adapted to engage the lower portions of the plates 31^a.

The devices just described are for the purpose of simultaneously moving all of the plates 31 and 31^a rearwardly to punch the record strips, and cut off portions thereof, and which operation is done by the time clerk or bookkeeper.

Fixed to the front wall 2 immediately opposite the upper end of each plate 20 is a cylindrical lug 52 in which is formed a key hole 53. Each key hole is provided with one or more annular grooves 54 and with one or more longitudinally disposed grooves 55, all of said grooves being adapted to receive lugs or projections on the key, and these grooves in the different pairs of key holes are differently spaced or located so as to prevent the indiscriminate use of the workman's key.

Each key comprises a cylindrical shank 56 in which is located a spring pressed pin 57 and formed on or fixed to the shank of each key is one or more projecting lugs 58 which are adapted to coincide with the grooves of the corresponding key hole. The outer end of each key is provided with a numbered plate 59.

Formed in the front wall 2 of the housing immediately above each plate 31 and 31^a is an aperture 60 through which the record strip may be viewed by the workman or time keeper to see that the same is properly positioned at the time of the insertion or removal of the workman's key.

In Fig. 5 I have shown a portion of what may be termed the daily record strip, inasmuch as this strip is utilized for recording the hours and quarter hours of each work day, and the face of each strip is divided into spaces of equal size which are suitably marked to designate the hours and quarter hours of working time; as for instance, at one end of said strip to 8, 9 or 10 at the opposite end, depending on the number of working hours in the factory where the device is used.

Where the pay-roll is made up weekly it is desirable to have the daily record strip of sufficient length to represent the six working days, and between the numbered divisions representing the days are blank sections such as 62, through which the punch pins 37 and 38 pass to mark the record strip with the workman's number, and to provide an aperture whereby the sections of the strips may be placed on filing hooks or the like.

The upper portion of each section 62 is distinctly marked or colored as designated by 62^a, and this marked or colored portion forms a guide for correctly positioning the strip in the machine at the end of the working period.

The daily record strip is wound upon a spindle 44, the same being positioned in its bearings in the brackets 27, so that the free end of said strip passes between the roller

29 and corresponding roller 43, and from thence downwardly to the rear of the plate 31, from thence between the rollers 17 and 22, and as the strip is intermittently drawn downwardly, its free end passes through an opening in the bottom of the housing 1, and discharges into the receptacle 3.

A portion of the weekly record strip 63 is shown in Fig. 4, said strip having printed on its face a row of figures to represent the total number of work hours in the six working days of the week, and directly opposite these figures are figures indicating the wages to be paid for the corresponding number of hours. This strip is also provided with a series of spaces adapted to receive certain data written in by the time clerk or bookkeeper. This strip is also printed with the rate per hour at which the workman is paid, and it is also provided with a section 64 adapted to receive the punch pins which pass through the apertures in the plate 31^a to mark said strip with the workman's number or identifying character, and to also provide an aperture whereby the ends of the slips may be filed on a hook or the like.

The upper portion of the space 64 on the strip 63 is distinctly marked or colored as designated by 64^a in order to provide a guide for correctly positioning the strip in the machine.

The strip 63 is wound on one of the spindles 44, the same being placed in its bearing in a pair of the brackets 27, and the free end of said strip passes downward between the roller 30, and adjacent roller 43, from thence downward behind the plate 31^a, and from thence between rollers 18 and 23. As the free end of the strip is drawn downwardly between the last mentioned rollers, said strip passes through a suitable aperture in the bottom of the housing 1, and discharges into the receptacle 3.

A time clerk or authorized person prepares the apparatus for use by placing the rolls of record strips in the machine and drawing the free ends of said strips downward between the corresponding pairs of guide rollers 29 and 43, and 30 and 43, and arranging the ends of said strip between the pairs of rollers 17 and 22, and 18 and 23. The free ends of the strips are provided with blank sections having portions distinctly colored or marked, and the end portions of the strips are manipulated or drawn between the rollers until these first mentioned distinctly marked sections are positioned immediately above the cutting edges 39^a and directly behind the openings 60.

Until the plate 20 is engaged with pressure by an inserted key, there is not enough pressure between the rollers 22 and 23, and feed rollers 17 and 18 to cause the strips to be drawn through the machine by the intermittent rotary movement imparted to said

rollers, and consequently there will be no movement of said strips until the workman enters the shop or work room and places his key in the proper opening. The workman receives his key from the time clerk or bookkeeper and places said key in the proper key hole or opening, and the spring pressed pin 57 in said key engages the upper portion of the corresponding plate 20, thereby moving said plate and the rollers 22 and 23 toward the feed rollers 17 and 18. This movement causes the curved periphery of the disk 24 to engage against the periphery of the corresponding bearing ring 19^a, and said disk 24 being slightly larger in diameter than the rollers 22 and 23, the latter are prevented from engaging the feed rollers 17 and 18 with sufficient pressure to effect a feeding through movement of the record strips.

On the succeeding quarter hour period, the circuit in which the electro-magnet 10 is located is closed by the contact devices in the clock, and as said magnet is energized the armature 9 will be attracted, thereby actuating the lever 7 and causing the pawl 6 to move the ratchet wheel 5 the distance of one tooth. This movement partially rotates the shaft 4, and the bearing ring 19^a being partially rotated, correspondingly partially rotates the disk 24, thereby bringing the flat portion of said disk against the periphery of said bearing ring, and consequently permitting the plate 20 carrying the rollers 22 and 23 to move toward the shaft 4 under the influence of the pressure of the spring pressed pin 57, and thus said rollers 22 and 23 are brought into engagement with the feed rollers 17 and 18.

Upon the next movement of the actuating mechanism under control of the clock 12, the strips will be moved the distance of one division through the machine, thereby recording the quarter hour of time put in by the workman. By providing the loosely mounted disk 24 the feeding through movement of the strips is not effected until the second actuation of the operating mechanism which includes the clock and magnet, and thus the workman is not credited with the first quarter hour of elapsed time until such time is actually elapsed, and if said disk or a corresponding mechanism were not provided the strips would be drawn through the machine upon the first actuation of the operating mechanism, subsequent to the insertion of the workman's key, and he would, therefore, wrongfully receive credit for a quarter of an hour of working time.

At the end of the working period the workman removes his key from the machine, thereby releasing the pressure upon the plate 20, and the spring 26 on the disk 24 will now act to return said disk to its

normal position as seen in Fig. 10, and this movement will throw the plate 20 and rollers carried thereby away from the feed rollers 17 and 18. At the end of the working period and after the workmen have all removed their keys from the machine, the time clerk or other authorized person manipulates the handle 47 which is mounted upon the shaft 46 so as to rock said shaft, thereby moving the arms 48 so as to bear against the plates 31 and move the same inwardly toward the rail 36. This movement causes the cutting edges 39^a of the plates 31 to sever those portions of the strips 61 which have been drawn through the machine by the feed rollers 17 and 22, and the severed sections of the strips pass downward into the receptacle 3, leaving the ends of the sections above the plates 31 to show the time put in by the various workmen.

The time clerk now opens or removes the front wall 2 and by actuating the detent 40, permits the plates 31 to swing outwardly and upwardly under the influence of the corresponding springs 33 as shown by dotted lines in Fig. 8, and the end of the daily time strip 61 is now pulled downwardly until the space 62^a is directly above the upper edge of the bar 36. The clerk now swings the plate 31 downward so that the punch pins enter the apertures 34 and 35, thereby marking the daily record strip in the space 62 and at the same time severing the marked section of the strip so that it may be removed and placed on a suitable file to be retained until the pay-roll for the week is made up.

The clerk now draws the web of the record strip 61 downward until the next succeeding marked space 62^a is in position immediately above the top of rail 36 after which plate 31 is returned to normal position with the detent 40 engaging over the top of said rail. At the end of the week or when the pay-roll is made up the time clerk actuates the handle 47 which is mounted on the shaft 46^a to rock said shaft, thereby swinging the arms 50 upward and moving the plates 31^a so as to sever those portions of the weekly record strips 63 which have been drawn through the machine, and said severed sections pass downward into the receptacle 3.

The clerk now draws the free ends of the strips 63 downward until the spaces 64 are directly behind the plates 31^a, and said plates are now moved inward, thereby severing sections of said strips and punching therein the workmen's numbers and apertures wherein said severed sections may be placed on a suitable file.

The ends of strips 63 are now drawn downward until the marked sections 64^a are positioned directly above the upper edge of rail 36 and when so positioned, the lower

ends of said strips will be arranged between the pairs of feed rollers 18 and 23, and said strips will be in proper position to commence recording at the beginning of the next working period.

The numbers at the lower ends of the sections of strips 63 thus removed by the time clerk, represent the total number of hours put in by the workmen, and the total amount of wages to be paid the workmen, and these amounts can be checked or verified by reference to the sections of the strips 61 which have been removed at the close of each day's work and filed upon suitable hooks or a container.

The time clerk now fills in the necessary data on the sections of the strips 63, and when the workmen are paid they can be required to sign their corresponding strips, thereby receipting for their wages.

In Fig. 11 I have shown a box or tray in which the removed sections of the strips 62 and 63 can be placed for the purpose of making a permanent record of the workmen's time and wages, said tray being either provided with partitions to form compartments or having pins or hooks upon which the sections of the strips are filed by engaging said hooks through the apertures in the ends of the sections, and which apertures are formed by the punch pins 37.

Where workmen are employed on piece work, the front of the housing is provided with pockets, such as 65, the same being located immediately over the apertures 60 and said pockets being adapted to receive cards 66 on which can be written certain data relating to the work performed by the workmen.

In Fig. 13 I have shown a modified form of the apparatus, the same being hinged to a suitable support in order to be swung downward into horizontal position as shown by dotted lines to permit the ready insertion or removal of the rolls of record strips. In such construction the housings 1 are located one on top of the other, and each housing is provided with doors 67 in the rear wall, which doors can be opened to permit the insertion or removal of the rolls of record strips.

It is obvious from the foregoing description that records of the working time of workmen can be accurately kept and at the end of each day or working period, each workman's total time and wages to be paid him may be readily ascertained. The apparatus is compact, comparatively simple in construction, entirely automatic in operation and requires no manipulation by the workman, other than the insertion and removal of his key.

It will be readily understood that the hereindescribed apparatus constitutes but one preferred means of carrying out my in-

vention, and that the same may be varied in details of construction without departing from the spirit of my invention, and further it will be understood that my improved apparatus may be advantageously employed wherever it is desired to ascertain a record of elapsed periods of time in hours and fractions thereof.

I claim:

1. In a machine of the class described, a pair of feed rollers, means for imparting intermittent rotary movement to said feed rollers, a pivotally mounted member adjacent to said feed rollers, pressure rollers carried by said member, a key for actuating said pivoted member, a spring-pressed key carried by said pin for engaging the pivoted member, record strips adapted to be drawn between the pairs of feed rollers and pressure rollers, means for withholding the engagement of the pressure rollers with the feed rollers until after said feed rollers have been initially operated, a series of punch pins over which each record strip passes, a pivotally mounted perforated plate in front of the punch pins, means on said perforated plate for severing the record strips, and means moving said perforated plates toward the punch pins to simultaneously perforate the record strips and sever the perforated portions.
2. In a machine of the class described, a pair of feed rollers, means for imparting intermittent rotary movement to said feed rollers, a pivotally mounted member adjacent to said feed rollers, pressure rollers carried by said member, a key for actuating said pivoted member, a spring-pressed pin carried by said pin for engaging the pivoted member, record strips adapted to be drawn between the pairs of feed rollers and pressure rollers, means for withholding the engagement of the pressure rollers with the feed rollers until after said feed rollers have been initially operated, a series of punch pins over which each record strip passes, a pivotally mounted perforated plate in front of the punch pins, means on said perforated plate for severing the record strips, means for moving said perforated plates toward the punch pins to simultaneously perforate the record strips and sever the perforated portions, and means carried by the perforated plates for restraining the same when they are moved rearwardly to effect the perforating and severing operations.
3. In a machine of the class described, a shaft, rollers mounted on said shaft, electrically operated time controlled means for imparting intermittent rotary movement to said shaft, pressure rollers adapted to co-operate with the rollers on the shaft, record

strips adapted to pass between the pressure rollers and the rollers on the shaft, key-operated means for maintaining the pressure rollers in engagement with the record strips, means for marking the record strips before they pass between the pairs of rollers, and means for severing the record strips.

4. In a machine of the class described, a housing, record strips arranged therein, electrically operated time controlled means for intermittently moving said record strips through the machine, a series of punch pins over which each record strip passes, two sets of hinged perforated plates in front of the punch pins, means for maintaining the perforated plates in position in front of the punch pins, means on said plates for severing the strips, means for swinging the plates away from the punch pins when the plate holding means is released, and independently operating means for actuating either set of plates.

5. In a machine of the class described, a pair of feed rollers, electrically operated time controlled means for imparting intermittent rotary movement to said feed rollers, pressure rollers adapted to co-operate with said feed rollers, a key for operating each pressure roller, record strips adapted to be drawn between the pairs of feed rollers and pressure rollers, means for withholding the engagement of the pressure rollers with the feed rollers until after said feed rollers have been initially operated, and means for simultaneously severing said record strips and marking the same for individual identification.

6. In a machine of the class described, a shaft, electrically operated time controlled means for imparting intermittent rotary movement to said shaft, a pair of feed rollers carried by said shaft, a pivotally mounted member adjacent to said shaft and rollers, a shaft carried by said pivotally mounted member, pressure rollers on said last mentioned shaft, which pressure rollers are adapted to co-operate with the feed rollers, record strips adapted to be drawn between the pairs of feed rollers and pressure rollers, a key for engaging the pivotally mounted member and maintaining the pressure rollers in engagement with the feed rollers, and means for marking the record strips prior to their passage between the pairs of feed rollers and pressure rollers.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 4th day of February, 1914.

LUCIUS E. MORE.

Witnesses:

M. P. SMITH,
M. A. HANDEL.