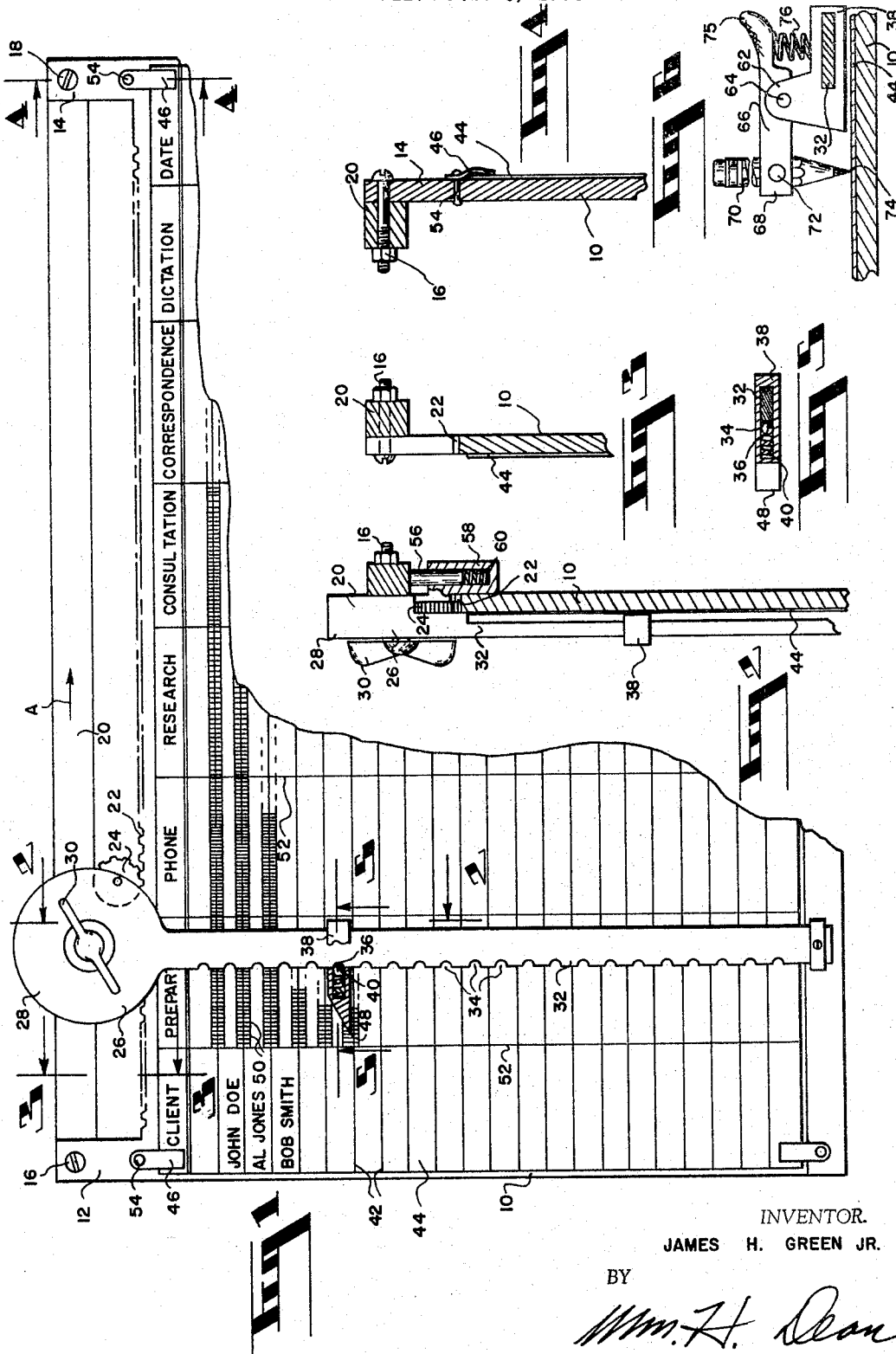


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TIME RECORDING DEVICE

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8 Claims. (Cl. 346—111)

This invention relates to a time recording device, and, more particularly, to a time recording device for use in automatically and mechanically recording a person's time spent in a variety of activities in behalf of a variety of clients or projects.

In many professional activities it has been a problem to keep accurate track of a professional person's time spent in a variety of services rendered for a variety of persons or projects. This problem has been particularly apparent to attorneys who have numerous clients and who perform a great variety of services for such clients throughout a given day.

A professional man's time must be properly recorded when allocated to various activities for various purposes so that the time may be fairly billed for.

Accordingly, it is an object of the present invention to provide a very novel time recording device which is particularly adapted for use by professional persons performing a variety of services for a variety of clients or a variety of services related to a variety of projects.

Another object of the invention is to provide a novel time recording device employing a recording sheet coupled to a frame member having a tractive time clock mechanism which actuates a bar in one direction over the sheet and whereon a recording pen or pointer member is movable longitudinally on the bar and substantially transversally to the movement direction of the bar, whereby a variety of clients or projects may be identified in one column and whereby a plurality of services or time allocations may be placed in other columns on the sheet, thereby permitting the bar to traverse calibrated areas of the columns opposite the client names or project identification so that the pen may mechanically and automatically record time spent by an attorney or other person using the recording device of the invention.

Another object of the invention is to provide a novel time keeping device employing a time clock mechanism which traverses a board upon which a time sheet is located and whereby novel resetting means of the time clock mechanism permits it to be reset in one direction on the board so that a bar carried by the time clock mechanism may be reset with reference to various columns on the time sheet carried by the board so that a pen and/or pointer movable longitudinally of the bar may reset to various positions relative to various columns and relative to various clients or projects designations.

Other objects and advantages of the invention may be apparent from the following specification, appended claims and accompanying drawings, in which:

FIGURE 1 is a fragmentary side elevational view of a time recording device in accordance with the present invention;

FIGURE 2 is a fragmentary sectional view taken from the line 2—2 of FIGURE 1;

FIGURE 3 is a fragmentary sectional view taken from the line 3—3 of FIGURE 1;

FIGURE 4 is a fragmentary sectional view taken from the line 4—4 of FIGURE 1;

FIGURE 5 is a sectional view taken from the line 5—5 of FIGURE 1; and

FIGURE 6 is a view similar to FIGURE 5 showing a modification of the invention.

The device of the invention generally consists of a thin board or sheet of metal. Attached to one edge of the board is a clock mechanism which moves on a horizontal track across the board. The clock mechanism

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has a thin metal arm which extends down from the top of the board to the bottom. The clock mechanism, and therefore the arm attached to it, may be disengaged so that it may be moved freely horizontally back and forth across the board. When it is engaged, however, the clock, and therefore the arm, moves from left to right across the board at a measured rate per hour. There is a pen or pencil attachment on the clock "arm" so that when the clock mechanism is engaged and moving from left to right, the pen or pencil on the arm will record the time elapsing on graph paper placed on the board. In order that the time elapsed may be recorded on the paper for a number of different clients, the pen attachment may be manually moved up and down on the clock "arm" to the place on the graph paper which will show the time spent for the different clients. The pen is raised during such movement, as well as during a horizontal movement of the clock arm to the left or right, so that the pen does not leave its mark on the paper during such horizontal or vertical changes of position made manually. If a person sets the pen indicator to show both the client and the type of work each time he begins a different job or a different client, then at the end of the day the graph paper will show an exact record of the time spent that day for each client and each type of activity.

As shown in FIGURE 1 of the drawings, the time recording device of the invention is provided with a board or plate 10 which is a substantially flat rectangular plate having a pair of upstanding tabs 12 and 14 near opposite ends of the board coupled by screws 16 and 18 to the tabs 12 and 14, respectively, is a guide bar 20 disposed in parallel spaced relationship with a gear rack portion 22 which is engageable by a traction gear 24 of a time clock mechanism 26. This mechanism 26 is provided with a housing 28 and an extending manual winding key 30. Coupled to the housing 28 is a bar 32 having detent notches 34 engageable by a detent 36 in a pointer member 38 slidable longitudinally of the bar 32. The detent 36 is loaded by a spring 40 to hold it firmly in engagement with one of the notches 34 and thereby to dispose the pointer 38 in alignment with guide lines 42 of a score sheet 44 held on the board 10 by clips 46 which will be hereinafter described.

The pointer 38 is provided with a pointed end 48 which is disposed to operate adjacent to calibrations 50 on the lines 42 of the sheet 44. These calibrations 50 may be spaced apart a distance equal to five minutes so that the pointer portion 48 may traverse along the lines 42 and the number of calibrations 50 will indicate to the user of the time recording device the amount of time which has elapsed since he set it adjacent one of the vertical lines 52 on the sheet 44 between various columns, as will be hereinafter described.

The clips 46 are spring clips held to the board by drive screws 54, and thus, the paper sheets 44 may be readily removed from the board 10 so that a new sheet may be placed thereon each day or at various intervals, as desired.

The gear 24 operates tractively on the gear rack 22 to move the time clock mechanism 26 and the bar 32 in a direction of an arrow A, shown in FIGURE 1 of the drawings. The mechanism, thus, traverses the rack 22 at a speed which will permit the pointer 48 to traverse the calibrations 50 accurately to record the amount of time which has elapsed for each activity of the user of the time recording device.

Referring to FIGURE 2 of the drawings, it will be seen that the housing 28 of the time clock mechanism 26 carries the bar 32 and that the bar 20 coupled to the plate 10 by the screws 16 is engaged by a spring loaded plunger 56 vertically movable in a plunger bearing struc-

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ture 58 carried by the housing 28 of the time clock mechanism 26. A spring 60 urges the plunger 56 upwardly thereby reacting to hold the time clock mechanism 26 downwardly and to hold the spur gear 24 in mesh with the rack 22 so that it may tractively move the time clock mechanism in the direction of the arrow A, as hereinbefore described.

When it is desired to reset the mechanism to align the pointer 48 with any one of the vertical lines 52 on the sheet 44, the time clock mechanism 26 and the bar 32 are forced upwardly against compression of the spring 60, thereby relieving the teeth of the spur gear 24 from the rack 22 and permitting the time clock mechanism 26 and bar 32 to be slidably moved longitudinally of the bar 20 and to reset the pointer 48 in alignment with any one of the vertical lines 52 on the sheet 44. Thus, in operation, an attorney may set the pointer 48 adjacent any one of the lines 52. As for example, under the heading of preparation, phone, research, consultation or correspondence, the pointer 48 may be set to the vertical line at the left of the column so that the time clock mechanism may tractively move the bar 32 in the direction of the arrow A relative to the calibrations 50 to indicate the amount of time that an attorney or other persons spend in various activities and the pointer 48 in accordance with the setting of the detent 36 in one of the notches 34 may be aligned with any one of the clients designated in the client column, as shown in FIGURE 1 of the drawings.

It will be obvious to those skilled in the art that the sheet 44 may carry other indicia, including projects rather than clients and various other activities. As for example, a professional engineer may have drafting, calculating and surveying activities, as well as many others, and rather than having a client column, an engineer might utilize the client column for various engineering project designations.

It will be seen from the disclosure of FIGURE 1 that the various columns may be marked according to the number of minutes spent in various activities. As an example, it will be seen that the pointer 48 travelled a distance equal to thirty-five minutes in the column under preparation opposite the client John Doe. Also, ten minutes were charged to a phone conversation in the horizontal line opposite John Doe, and, thus, during the day the attorney made a charge of thirty-five minutes for preparation and ten minutes for a phone conversation to his client, John Doe. Another example is that the attorney spent thirty minutes of preparation time for Al Jones.

It will be apparent that the time clock mechanism 26 may be of conventional construction, either operated by a spring motor or an electric motor in accordance with known practices in the art. Further, it will be obvious that a smooth rubber roller may be substituted for the gear 24 and that such a roller may operate on a smooth track in place of the gear track 22. Spring loading of the spring 60 and the plunger 56 may be utilized to hold such a roller in tractive engagement with such a smooth track. The coefficient of the roller and the track may be sufficient under mechanisms of some sizes so that this system will work efficiently and be more economical to produce. However, it is believed that with the larger time recording devices in accordance with the invention, the spur gear 24 and rack 22 may be preferable.

In the modification, as shown in FIGURE 6 of the drawings, a pen is used to automatically record time spent relative to the various client designations and activity columns on the sheet 44.

Disposed on the bar 32 is the pointer member 38 having upstanding bosses 62 through which a pin 64 is supported. Pivotaly mounted on the pin 64 is a lever 66 having a pen holding end 68 in which a pen 70 is secured by means of a set screw 72. This pen 70 may be a ball point or other type pen having a writing tip 74 disposed to write on the sheet 44 as supported on the plate 10.

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The member 38 is slidably mounted on the bar 32 in a similar manner to that as shown and described hereinbefore.

A coil spring 76 tends to urge an end 75 of the lever 66 upwardly to hold the writing point 74 of the pen firmly in engagement with the surface of the sheet 44.

When resetting the member 38 on the bar 32, the end 75 of the lever 66 is pressed downwardly compressing the spring 76 thereby raising the writing point 74 of the pen 70 away from the sheet 44 until the writing point 74 has been placed in a desired location for further time recording operations.

It will be obvious to those skilled in the art that the pen point 74 may be termed a "pointer" and that various modifications of the present invention may be resorted to in a manner limited only by a just interpretation of the following claims.

I claim:

1. In a time recording device the combination of: a substantially flat plate; a time clock mechanism carried by said plate; a rectilinear means carried by said plate; an elongated bar operable by said time clock mechanism along said rectilinear means and relative to said plate, said bar being longitudinally disposed at substantially right angles to said rectilinear means; a writing point means adjustably movable longitudinally along said bar and carried thereby.

2. In a time recording device the combination of: a substantially flat plate; a time clock mechanism carried by said plate; a rectilinear means carried by said plate; an elongated bar operable by said time clock mechanism along said rectilinear means and relative to said plate, said bar being longitudinally disposed at substantially right angles to said rectilinear means; a writing point means adjustably movable longitudinally along said bar and carried thereby, whereby said writing point means is movable on said bar in a direction at substantially right angles to the movement of said bar along said rectilinear means; a time keeping sheet on said plate and engageable by said writing point means; further means for removably holding said sheet on said plate; said sheet provided with indicia thereon the columns disposed at substantially right angles to each other, whereby identification of clients or projects and various activities may coincide to permit time keeping operations relative to several clients or projects and, also, several activities relative to each client or project.

3. In a time recording device the combination of: a substantially flat plate; a time clock mechanism having first means tractively coupled with said plate and movable relative thereto; a first bar carried by said time clock mechanism and movable relative to said plate; a pointer adjustably movable longitudinally of said bar and carried thereby, whereby said pointer is movable on said bar in a direction at substantially right angles to the movement of said bar relative to said plate by said time clock mechanism; said first means comprising a rotatable element of said time clock mechanism; a rectilinear track carried by said plate and engaged by said rotatable element; a second bar coupled to said plate and spaced from said track; said bar disposed at substantially right angles to said rectilinear track and said second bar; and spring loaded bearing means carried by said time clock mechanism and engaging said last mentioned bar for forcing said rotatable element of said time clock mechanism to engage said track and thereby provide tractive engagement of the time clock mechanism with the track so that it tractively moves relative to said plate with the escapement of time and in accordance with the operation of the time clock mechanism.

4. In a time recording device the combination of: a substantially flat plate; a time clock mechanism having first means coupled with said plate and movable relative thereto; a rectilinear means carried by said plate, said first means disposed to move rectilinearly along said recti-

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linear means; a bar carried by said time clock mechanism and movable relative to said plate; said bar normally disposed at substantially right angles to said rectilinear means; a pointer adjustably movable longitudinally of said bar and carried thereby, whereby said pointer is movable on said bar in a direction at substantially right angles to the movement of said bar relative to said plate by said time clock mechanism; said bar coupled to said time clock mechanism having detent portions engageable by said pointer for holding it in alignment with areas of said plate, said areas being disposed parallel to said rectilinear means; and a time sheet carried by said plate and having time designation areas substantially aligned with said first mentioned areas and said detent portions on said bar, whereby said pointer may follow said time designation areas.

5. In a time recording device the combination of: a substantially flat plate; a time clock mechanism having first means coupled with said plate and movable relative thereto; a rectilinear means carried by said plate, said first means disposed to move rectilinearly along said rectilinear means; a bar carried by said time clock mechanism and movable relative to said plate; said bar normally disposed at substantially right angles to said rectilinear means; a pointer adjustably movable longitudinally of said bar and carried thereby, whereby said pointer is movable on said bar in a direction at substantially right angles to the movement of said bar relative to said plate by said time clock mechanism; said first means of said time clock mechanism being a spur gear; said rectilinear means being a rack carried by said plate engageable by said spur gear.

6. In a time recording device the combination of: a substantially flat plate; a time clock mechanism having first means coupled with said plate and movable relative thereto; a rectilinear means carried by said plate, said first means disposed to move rectilinearly along said rectilinear means; a bar carried by said time clock mechanism and movable relative to said plate; said bar normally disposed at substantially right angles to said rectilinear means; a pointer adjustably movable longitudinally of said bar and carried thereby, whereby said pointer is movable on said bar in a direction at substantially right angles to the movement of said bar relative to said plate by said time clock mechanism; spring clip devices on said plate and a removable time keeping sheet frictionally held by said spring clip means.

7. In a time recording device the combination of: a substantially flat plate; a time clock mechanism having

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first means coupled with said plate and movable relative thereto; a rectilinear means carried by said plate, said first means disposed to move rectilinearly along said rectilinear means; a bar carried by said time clock mechanism and movable relative to said plate; said bar normally disposed at substantially right angles to said rectilinear means; a pen carrier adjustably movable longitudinally of said bar and carried thereby; a pen on said pen carrier and having a writing point disposed adjacent said flat plate, whereby said pen is movable on said bar in a direction substantially at right angles to the movement of said bar relative to said plate by said time clock mechanism.

8. In a time recording device the combination of: a substantially flat plate; a time clock mechanism having first means coupled with said plate and movable relative thereto; a rectilinear means carried by said plate, said first means disposed to move rectilinearly along said rectilinear means; a bar carried by said time clock mechanism and movable relative to said plate; said bar normally disposed at substantially right angles to said rectilinear means; a pen carrier adjustably movable longitudinally of said bar and carried thereby; a pen on said pen carrier and having a writing point disposed adjacent said flat plate, whereby said pen is movable on said bar in a direction substantially at right angles to the movement of said bar relative to said plate by said time clock mechanism; means permitting said pen to be movable relative to said pen carrier and said plate when being moved on said bar and relative to said flat plate; and means normally urging said pen toward said plate.

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