J. SOKOLOV.

TIME RECORDING LOCK.

APPLICATION FILED FEB. 7, 1916.

1,261,965.

Patented Apr. 9, 1918.

2 SHEETS—SHEET 1.

Fig. 2.

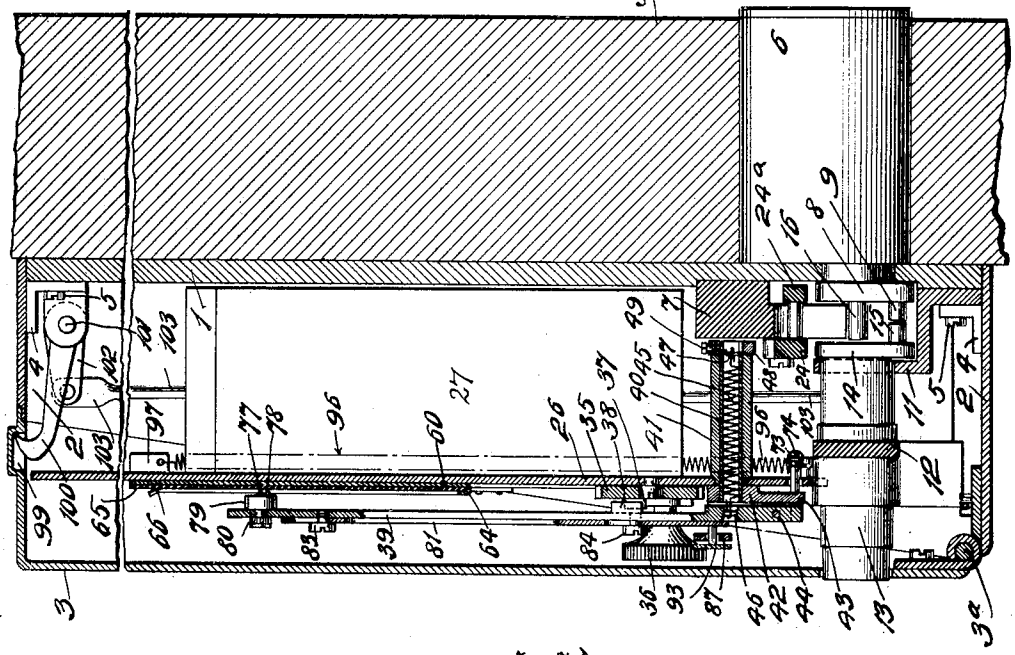
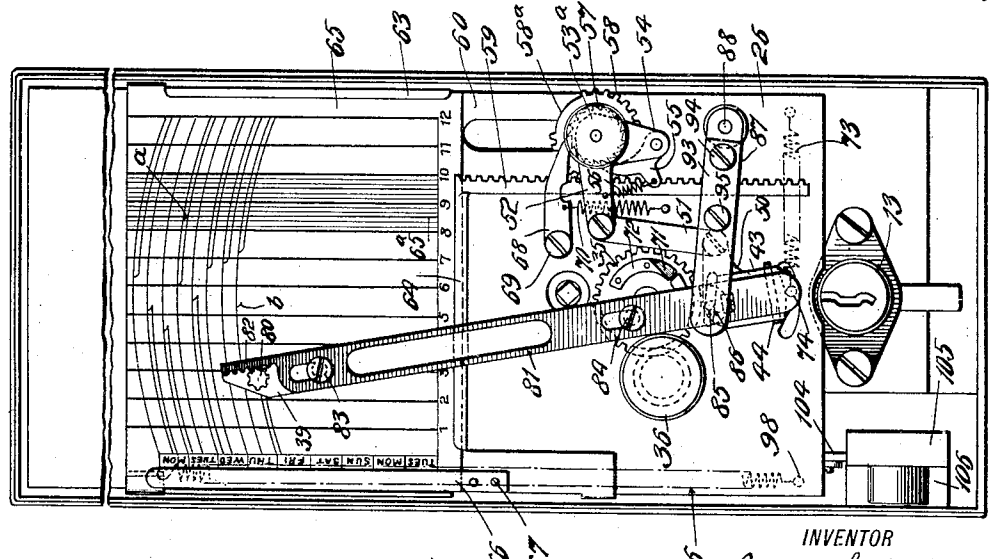


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

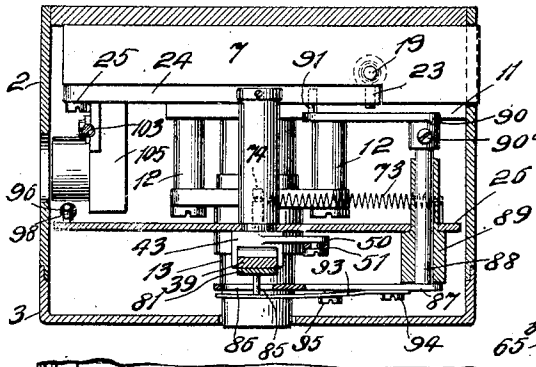
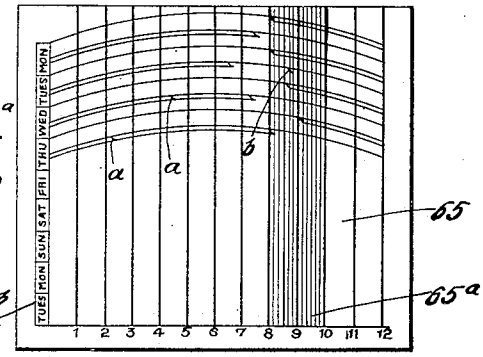


Fig. 11.



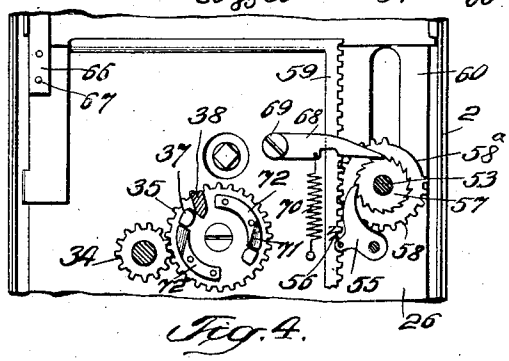


Fig. 4.

Fig. 10.

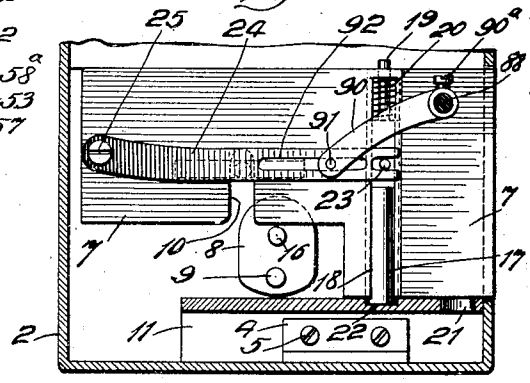


Fig. 5.

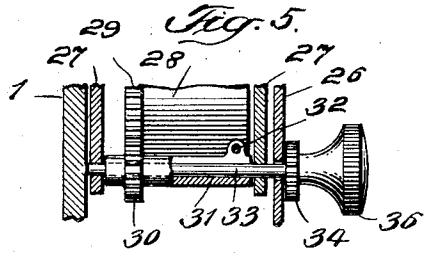


Fig. 9.

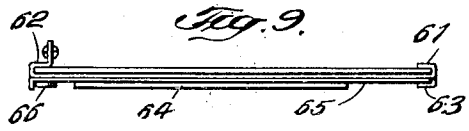


Fig. 8.

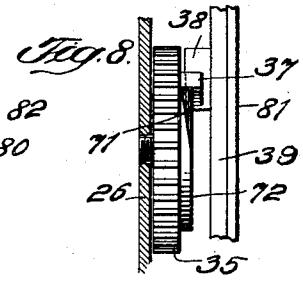


Fig. 6.

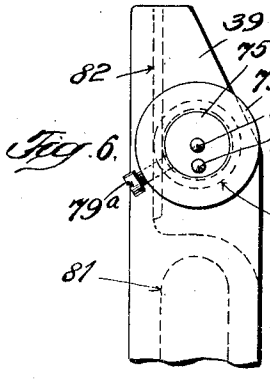
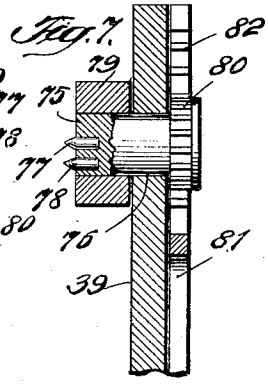


Fig. 7.



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JACOB SOKOLOV, OF NEW YORK, N. Y.

TIME-RECORDING LOCK.

1,261,965. Specification of Letters Patent. **Patented Apr. 9, 1918.**

Application filed February 7, 1916. Serial No. 76,539.

To all whom it may concern:

Be it known that I, JACOB SOKOLOV, a citizen of the United States, and a resident of Bronx, county of Bronx, city and State of New York, have invented certain new and useful Improvements in Time-Recording Locks, of which the following is a specification.

My invention relates primarily to time recording locks adapted to be secured to office or store doors to indicate or make a permanent record of each and every manipulation of the lock by means of the key thereby showing when the lock was unlocked and the period of time it remained unlocked. The record will also show the time when the door was locked and the period of time it remains locked.

Various time locks of this character have been devised, but the object of my invention is to provide means for producing a perceivably different record upon the record receiving member during the time the lock bolt is in locked position from that made when the lock bolt is in unlocked position.

Another object is to provide a removable rectangular card for receiving the record, the card being readily removed when the record is completed and a new card inserted in place without disturbing or disconnecting any of the parts of the mechanism.

Another object is to so arrange the record receiving member and the record making member and their coöperating mechanism as to produce the resulting record on the card in parallel lines transversely of a plurality of equally spaced parallel lines representing the hours and minutes, the card being preferably provided with twelve hour-spaces.

These objects and others are obtained by simplifying the mechanism and rendering it efficient and accurate in its operation, at the same time producing a mechanism not liable to get out of order with ordinary usage and not readily susceptible of being tampered with or rendered inoperative or inaccurate by manipulation of unauthorized persons.

One form of my improved time-recording lock is shown in the accompanying drawings, in which—

Figure 1 represents a front elevation with the door of the casing removed.

Fig. 2 represents a vertical cross-section, the clock mechanism being represented as inclosed.

Fig. 3 represents a transverse section looking down from just above the lock bolt showing the latter and its connections.

Fig. 4 represents a broken away portion of the mechanism showing details of the parts.

Fig. 5 is a sectional detail of the operative connection with the clock.

Fig. 6 is an enlarged view showing the underside of the record making member or double pointed stylus.

Fig. 7 is a corresponding sectional view of the end of the stylus member.

Fig. 8 is a detail of the connection between the clock and the record making member.

Fig. 9 is a separate view of the card holding carriage.

Fig. 10 represents the lower part of the casing broken away showing in sectional detail the detent and its connection with the stylus mechanism; and

Fig. 11 represents the card for receiving the record made by the stylus.

Referring to the drawings, 1 represents the base or back plate to which the instrument, including the lock, is secured. The device is preferably inclosed in a metal casing 2 provided with a drop lid or front cover 3, the casing being secured to the back plate by brackets 4 and screws 5, the latter passing through suitable holes in the brackets 4 and entering the back plate 1 substantially as indicated in Figs. 2 and 10 of the drawings. The lower part of the back plate is perforated and provided with a tumbler lock barrel 6 into which the ordinary Yale type of key may be inserted for operating the lock bolt 7. The key actuated mechanism consists of an eccentric cam arm 8 provided with a pin 9 adapted to enter a slot 10 in the bolt 7 substantially as indicated in Figs. 2 and 10 of the drawings. The bolt 7 is held in place by a bracket 11 secured to the back plate 1 in any suitable manner, this bracket being shown in the lower part of Figs. 2 and 10. Suitable spacing lugs 12 project outward from the bracket 11 and are adapted to receive and support a second key barrel 13 also adapted to operate the bolt 7 by means of a cam arm 14 provided with a pin 15, these members corresponding substantially with the arm and pin 8 and

9 of the other key tumbler member. Both the pin 9 and the pin 15 are adapted to operate in the slot 10 of the bolt. A central pin 16 is provided upon which the rear portion of the bolt may rest and slide.

The bolt 7 is preferably provided with a vertically disposed rod or detent member 17 which is adapted to slide in a suitable slot or hole 18 in the bolt 7. The upper end of the rod or detent member 17 is preferably reduced in size at 19 and surrounded by a spring 20 which by pressure against the upper end of the slot or hole 18 and the shoulder on the detent member 17, is adapted to force the latter downward so that it may enter one or the other of the openings or recesses 21 and 22 formed in the bracket 11 (see Fig. 10). Extending from the side of the detent member 17 there is provided a pin 23 which is adapted to coöperate with the slotted end of a detent lever 24 pivoted to the bolt 7 on the screw 25. It will be noted that the detent lever 24 is provided with a lateral lug or extension passing through the upper or bottom end of the slot 10, a bar 24^a, on the opposite side of the bolt, being thereby secured to the detent lever to form a part thereof so that either of the cam arms 8 or 14 may contact therewith and lift the detent member 17 out of one or the other of the recesses 21 or 22 in the bracket member 11 (see Fig. 2). It will be noted that, as seen in Fig. 10, the recess or opening 22 is of less depth than the hole or opening 21, the result being that when the detent member 17 is in the position shown in Fig. 10 the lock bolt 7 will be in unlocked position and the detent lever 24 stands at a different level or position from that which it will occupy when the detent member 17 enters the hole or recess 21, at which time the lock bolt 7 is in locked position. This difference of position of the detent lever 24 is utilized in the present form of my device to shift or vary the record making member so as to produce a different record for each position of the lock bolt 7, as hereinafter more fully described.

The recording mechanism is mounted in front of a plate 26 which is secured to the clock mechanism 27 in any suitable or preferred manner. Any suitable clock may be used, preferably, an eight day clock, provided with a spring barrel 28, as indicated in Fig. 5 of the drawings, to which a spur gear 29 is preferably secured. My mechanism is preferably operated from this gear 29 by means of a suitable pinion 30, meshing therewith, as indicated in Fig. 5 of the drawings. The pinion 30 is preferably secured to a tubular shaft 31, the upper end of which may be split and clamped together by means of a screw 32 so as to frictionally engage a co-axial shaft 33 extending through the clock casing 27 and the plate 26. The outer end of the shaft 33 is provided with a pinion 34 adapted to mesh with a spur gear 35, the ratio between pinion 34 and gear 35 being preferably two to one. The outer end of the shaft 33 preferably terminates in or is provided with a knob or knurled head 36 by which the pinion 34 and gear 35 may be turned independently of the pinion 30 because of the frictional engagement between the shaft 33 and the tubular shaft 31, as hereinbefore explained. It will be understood that normally, the frictional engagement between the tubular shaft 31 and the shaft 33 is sufficient for the clock mechanism to drive the gear 35 and the stylus or record making member operatively connected therewith in a manner now to be described. The gear 35, as will be seen in Figs. 1, 4 and 8, is provided with oppositely disposed pins 37 adapted to engage a depending lug or cam member 38, secured to the underside of the stylus carrying arm 39, and thereby move the latter synchronously across the record receiving member, as hereinafter described. The stylus carrying arm 39 in the device as shown is adapted to reciprocate in a vertical plane and is preferably supported upon a pivotal member or tubular shaft 40 which extends through a tubular bearing or stud 41, secured to and extending from the underside of the plate 26, as will be seen in Fig. 2 of the drawings. The front end of the tubular shaft 40 has, secured thereto, a double armed member 42, one arm of which is provided with outwardly extending lugs 43 to which the lower end of the stylus carrying arm 39 is pivotally secured by means of a transversely disposed pin 44, this pivotal arrangement being provided in order that the stylus arm 39 may be lifted away from the plate 26 for the purpose hereinafter explained. A suitable spring 45 is mounted in the tubular shaft 40 in a manner to urge the stylus and its arm 39 toward the plate 26, the front end of the spring being connected at 46 to the arm 39, as will be seen in Fig. 2 of the drawings, the lower end being connected to the tube by a lug 47, preferably formed by bending inward a portion of the tubular shaft 40. A suitable collar 48 is secured by means of a screw 49 to the inner end of the tubular shaft 40 so as to suitably hold the shaft in the bearing 41.

The member 42 to which the stylus arm 39 is connected, is provided with a laterally extending arm 50 to which a link 51 is connected, the upper end of the link 51 being pivotally connected with one arm 52 of a bell crank lever pivoted on the stud shaft 53^a (Figs. 1 and 4). The other arm 54 of the bell crank lever is provided with a pawl 55, pivotally secured thereto and spring-actuated by a spring 56 so that the point

thereof will be held to engage a ratchet wheel 57 secured to the spindle or stud shaft 53 about which the bell crank lever 52 and 54 is adapted to pivot. Secured to the ratchet wheel 57 and rotating therewith is a spur gear or pinion 58 adapted to mesh with a rack 59 substantially as shown in Figs. 1 and 4 of the drawings. The rack 59 is secured to a sheet metal card holder which in the present instance is adapted to form the record receiving member of the instrument. The card holding member 60 is preferably provided with lugs or ears 61 and 62 bent over the edge or edges of plate 26 so that the latter acts as a track and guide for reciprocating the card holding member 60 in a vertical plane parallel to itself. One side and the lower part of the card holder at 63 and 64, are preferably bent over to form slots or grooves into which the card 65 may be inserted. A spring clip 66 is preferably secured to the sheet metal frame 60 by rivets 67 so as to extend along one edge of the card 65 and frictionally retain the same in place in the card holder or carriage (Figs. 1, 2 and 9).

A detent 68 is pivotally secured to the plate 26 at 69 and spring-actuated by a spring 70 so that the point thereof is adapted to engage the teeth of the ratchet wheel 57 and prevent retrograde movement thereof during the step by step feeding action of the pawl 55 and connected mechanism, as hereinafter explained.

From the construction of the mechanism thus far described, it will be seen that the gear 35 by means of one of the pins 37 acting on the cam lug 38 is adapted to move the stylus supporting arm 39 transversely across the face of the plate 26 so that the stylus may make a record upon the card 65. The relation between the parts is such that the upper end of the stylus arm is given a synchronous movement and each of the pins 37 is adapted to operate on the cam lug 38 for twelve hours after which the point of the lug 38 passes around and over the pin 37 and escapes therefrom, the lug 38 striking a beveled surface 71 formed on an arc-shaped block 72 secured to the face of the gear wheel 35 substantially as shown in Figs. 1 and 4 of the drawings. The object of the block 72 is to force up the stylus arm 39 as it is drawn toward the left, as viewed in Fig. 1 of the drawings, and prevent the stylus from making a record. The arm 39 is returned to initial position at the left by means of the spring 73 secured to a pin 74 depending from the underside of the lower end of the stylus lever arm 39, as will be seen in Fig. 2 of the drawings. This movement will prevent the stylus carried at the upper end of the arm 39 from engaging the face of the recording card during its return to the initial position after the expiration of a twelve hour period of synchronous movement. During this return of the arm 39, under the action of the spring 73, the arm 50, connected therewith will, by means of the link 51, operate the bell crank lever 52—54, so that the pawl 55 is caused to turn the ratchet wheel 57 and the gear 58 so as to move the card carriage 60 and the card one step upward to present a new line for the record during the next synchronous movement of the stylus across the face of the card.

In a time-recording lock it is desirable that the record made by the stylus on the record receiving member shall indicate any movement of the lock bolt or the members associated therewith, either temporarily—such as would be the case if some one quickly locked and unlocked the door or vice versa, or to indicate and show a record of the time the bolt remains in either unlocked or locked position. In my device this is accomplished by providing the outer end of the stylus arm 39 with a double pointed stylus member 75, revolubly supported in the end of the arm in a hole or bearing 76. This stylus member is provided with two stylus pins or points 77 and 78, the stylus pin 77 preferably being central and the other one eccentric of the axis of the stylus member. The stylus member 75 in the present instance, is held in position by a collar 79 secured thereto by set screw 79^a, on one side of the stylus arm 39 and by a gear or pinion 80 secured to the member and engaging the opposite face of the member 39. A member or bar 81 provided with rack teeth 82 adapted to mesh with the pinion 80, is preferably mounted to slide longitudinally of the stylus bar 39, substantially as indicated in Figs. 1, 2 and 7 of the drawings. The bar 81 is held slidably upon the stylus bar 39 by slot and screw connections at 82 and 84, as will be seen in Figs. 1 and 2 of the drawings. The lower end of the slide bar 81 at 85 is provided with an outwardly projecting pin adapted to engage a slot 86 in one end of a lever arm 87 secured to a rock shaft 88, the latter being pivotally mounted in a tubular bearing 89 secured, as indicted in Fig. 3 of the drawings, to the plate 26. The inner end of the rock shaft 88 has, secured thereto, a rock arm 90 provided with a rearwardly extending pin 91 adapted to enter a slot 92 in the detent lever 24, as indicated in Figs. 3 and 10 of the drawings. The rock arm 90 is preferably secured to the rock shaft 88 by means of a set screw 90^a so that the relation between the rock arm 90 and the arm 87 may be adjusted to produce the desired effect or adjustment of the double pointed stylus member 75. A supplemental leaf-spring 93 is preferably secured by a screw 94 to the outer face of the arm 87, the free end of the spring being adapted to rest upon the pin 85 and

assist the spring 40 in holding down the stylus arm 39. A screw 95, passing loosely through the spring 93, is adapted to adjust the tension thereof.

The card carriage or record receiving member 60 is adapted for intermittent movement along the plate 26, being fed step by step, as previously described, by means of the ratchet wheel 57 and the gear 58, the latter meshing with the rack 59. It will be seen that at the point 58[a] the teeth are removed from the gear 58 so that when this portion thereof comes to the rack 59 the latter and the connected record receiving member will cease to be fed forward. By means of a spring 96, located at the back of the plate 26 on the left underside, as indicated by dotted lines in Fig. 1 of the drawings, the record receiving member is adapted to be drawn down to its lowermost position ready to start a record for another week. The spring 96 is secured to an ear 97 forming, in the present instance, a part of the thin metal card receiving frame 60 or an extension of the overturned upper ear 62 thereof, the other end of the spring 96 being secured to a pin 98 extending toward the rear from a point near the bottom of the plate 26.

The record receiving member or card carriage 60 is adapted to carry a flat card 65, shown separately in Fig. 11 of the drawings, the card being preferably divided by parallel equally spaced lines into twelve divisions representing the hours, the record making member being adapted to traverse these lines at substantially right angles. At the left of the card the days of the week 65[b] are indicated, the card preferably being provided with two extra day spaces to permit the time for changing the card to be extended. It will be understood that the card is intended to be changed at the end of each week, but if the change should be delayed for a day or so, the extra days on the card provide that a record of the use made of the lock during this time shall be made and preserved. By my present arrangement the record of each day is adapted to be represented by two twelve-hour record lines, each being produced by the synchronous movement of the record making member across the card, successive records being represented by parallel lines, but obviously the mechanism may be arranged to produce continuous 24-hour records in parallel relation. Preferably, the hour spaces on the card 65 are divided by parallel lines 65[a], into ten minute subdivisions, the half hour lines being slightly heavier than the other divisional lines (Figs. 1 and 11). In this way the reading of the time shown by the record will be facilitated.

It will be understood that the device may be inclosed in any suitable casing and in the present instance the casing 2 is provided with a lid 3 hinged at 3[a] and provided at the upper end with a recess at 99 adapted to act as a keeper for a locking latch 100 secured to a rock shaft 101. The latter has another arm 102 secured thereto and connected by means of a link 103 with a lock bolt 104 forming a part of an ordinary small lock 105 secured to the side wall of the casing 2 by suitable brackets 106, as will be seen by reference to Figs. 1, 2 and 3 of the drawings. By this means the casing may be locked so that an unauthorized person cannot obtain access to the card or the mechanism of the device to manipulate the same or in any way interfere with the correct operation of the device. The case is so constructed that when closed nothing can be inserted therein to injure the recording mechanism or deface the record.

In operation the lock is placed on a door A, and a card of the character described is inserted in the card holder or record receiving member 60 and the record receiving member is properly positioned by turning the knob 53[a] which permits an adjustment of the card to bring the proper day opposite the record making member or stylus 75, the latter being positioned by means of the knurled head 36 to bring the stylus 75 to the proper line corresponding to the hour of the day at which the card is inserted. The clock being wound up, the gear 35, by means of one of the pins 37 and the lugs 38, will carry the double pointed stylus 75 across the face of the card toward the right, as viewed in Fig. 1 of the drawings against the opposition of the spring 73. This movement of the stylus arm 39 will be communicated through the link 51 to the pawl 55 which will gradually be drawn down to engage a succeeding tooth of the ratchet 57, the latter being held from retrogression by the detent pawl 68. In this manner the card or record receiving member is held stationary while the record making member or stylus 75 is moved synchronously across and substantially at right angles to the hour lines of the card. When the lock bolt is in unlocked position, in my present arrangement the double pointed stylus, by means of the rack 82 and its connection through the arms 87 and 90, with the detent lever 24, is held to present the two stylus points 77 and 78 to the record receiving member or card in parallel relation so that a record consisting of two parallel lines is produced. When the key is inserted in the lock and the bolt actuating mechanism is operated, the detent 17 is lifted out of the recess 22 (Fig. 10) and the bolt is thrown to the locked position, the detent then entering the recess or hole 21 which permits the detent, under the stress of the spring 20, to lower the detent arm to a new and lower level, thereby permitting the connecting arms 87 and 90 to shift the

slide 81 and its rack 82 to a new position which is preferably such that the stylus points 77 and 78 are in tandem, one directly behind the other so as to produce a single line record upon the card.

Thus by my device a perceivably different record is produced by the record making member when the lock bolt is in unlocked position from that made when it is in locked position. This enables the record of the card to be readily interpreted by any one familiar with the instrument. A further advantage obtained by this arrangement is that a record is made upon the record receiving member each time the key tumbler mechanism is operated even if the bolt is thrown from the unlocked position to the locked position and immediately return therefrom. This would be indicated by a short arc connecting the double line record as indicated at *a* on the card 65 in Figs. 1 and 11 of the drawings. Likewise if the lock bolt is in locked position and a single line record being produced, a similar short arc or line will be produced, extending laterally from the single line if the lock bolt is unlocked and again immediately locked, such a record being indicated at *b* on the card 65 of Figs. 1 and 11 of the drawings.

It will be understood that in the broad scope of the invention either the record receiving or the record making member may be given the intermittent synchronous movement under the control of the clock and either may have the intermittent step by step movement every twelve hours in order to produce the parallel line record upon a suitable card, and various other modifications in the specific details of construction of the device may be made without departing from the invention.

I claim:

1. In a time recording lock, a clock, a record receiving member adapted to remain stationary while the record is being made, a record making member synchronously movable with the clock along said record receiving member and means controlled by the clock for intermittently shifting said record receiving member transversely of the direction of motion of said record making member.

2. In a time recording lock, a clock, a record receiving member, a record making member, synchronously movable by the clock a predetermined distance across the record receiving member, and means controlled by the clock for returning said record making member to the starting point and simultaneously shifting said record receiving member transversely of the direction of motion of said record making member.

3. In a time recording lock, a clock, a record receiving member adapted to be moved at predetermined intervals, a record making member synchronously moved across said record receiving member while the latter is stationary, and means controlled by the clock for moving said record receiving member a predetermined distance transversely of the direction of motion of said record making member, no record being made during such movement.

4. In a time recording lock, a clock, a record receiving member adapted to be moved at predetermined intervals, a record making member adapted to be moved synchronously for a predetermined period across said record receiving member and then returned to the starting point, and means controlled by the clock for returning said record receiving member to the starting point and simultaneously moving said record receiving member a predetermined distance, no record being made during the simultaneous shifting movement of the record making and receiving members.

5. In a time recording lock, a clock, a record receiving member, a record making member, both members being movable, means connecting the clock to one member for synchronously moving it for a predetermined period at right angles to the direction of motion of the other member while the latter remains stationary, and means controlled by the clock for simultaneously moving both members at the termination of said period of synchronous movement for returning the synchronously movable member to initial position and for advancing the other member to a new position.

6. In a time recording lock, a clock, a record receiving member, a record making member, said members being relatively movable, one of said members being under control of the clock for synchronous movement therewith for a predetermined period, means for releasing and returning said clock controlled member to initial position, and means operative simultaneously with the last named means for moving the other member to a new position.

7. In a time recording lock, a clock, a record receiving member, a record making member, said members being relatively movable, means connecting the clock to one member intermittently for synchronous movement thereof for a predetermined period, means for moving the other member step by step, and means operative at the end of a period of synchronous movement for returning the member thus moved to initial position and for feeding the other member one step forward.

8. In a time recording lock, a clock, a record receiving member, means for moving the same step by step, a record making member adapted to be moved intermittently and synchronously by the clock in a direction transversely of the movement of said record

receiving member, said record making member being released and returned to initial position at regular intervals, means for simultaneously effecting step by step feed of said record receiving member during the return movement of said record making member, means adapted to prevent the formation of a record during the last named movement, and means for returning said record receiving member to initial position after a predetermined number of feed steps.

9. A time recording lock comprising a clock, a record receiving member adapted to remain stationary while the record is being made, a record making member movable synchronously with the clock adapted to cooperate with the first named member to produce a continuous record for a predetermined period, a key operated bolt, a detent for holding the bolt in locked or in unlocked position, and means incident to the position of said detent for causing said record making member to produce a perceivably different record when said bolt is in unlocked position from that made when it is in locked position.

10. A time recording lock comprising a clock, a record receiving member adapted to remain stationary while the record is being made, a record making member, connected for synchronous movement with the clock, a key operated bolt, and means brought into operation incident to the position of said bolt for causing said record making member to produce a perceivably different record when the bolt is in unlocked position from that made when it is in locked position.

11. A time recording lock comprising a clock, a record receiving member adapted to remain stationary while the record is being made, a record making member, connected for synchronous movement with the clock, a key actuated bolt, intermediate means between the bolt and said record making member for varying the record made by the latter whereby a perceivably different record is produced when the bolt is in unlocked position from that made when it is in locked position.

12. A time recording lock comprising a clock, a record receiving member adapted to remain stationary while the record is being made, a record making member, means for moving said record making member synchronously with the clock, a bolt and bolt actuating means, means operated by said bolt actuating means for effecting a change in said record making member whereby a different record is produced on said record receiving member when the bolt is in locked position from that made when it is in unlocked position.

13. A time recording lock comprising a clock, a record receiving member adapted to remain stationary while the record is being made, a record making member, means for moving said record making member synchronously with the clock, a bolt and bolt actuating means, a bolt detent for holding the bolt in locked or in unlocked position, said detent being operated by said bolt actuating means, and a connecting member between said detent member and said record making member whereby the record of the latter is changed so as to produce a different record when the bolt is in locked position from that produced when it is in unlocked position.

14. A time recording lock comprising a clock, a record receiving member, a record making member, said members being relatively movable at right angles to each other, mechanism connecting one member to the clock for synchronous movement therewith for a predetermined period, means for returning the synchronously moved member to initial position at the end of each period and for simultaneously moving the other member to a new position, a lock bolt, key tumbler mechanism for operating said bolt and intermediate mechanism between the bolt and said record making member whereby the record made by the latter may be varied as an incident to the position of said bolt, a perceivably different record being made when the bolt is in locked position from that made when it is in unlocked position.

15. A time recording lock comprising a clock, a record receiving member including a removable card, a holder therefor, means for intermittently moving the card and holder step by step in the plane of the cards, a record making member including a double-pointed stylus, an arm therefor, means connecting the clock to said arm for synchronously moving the same in a plane parallel to said card for a predetermined period during which period said stylus is operative to make a record on said card, means for returning said arm to initial position at the end of said period, means being provided for lifting said stylus out of contact with said card during the return movement of said arm, means for advancing said card and card holder one step during the return movement of said arm, a lock bolt adapted for actuation by a key tumbler mechanism and means actuated by said tumbler mechanism for turning said stylus whereby, incident to the position of said bolt the points of the stylus will produce a single or a double line record on said card.

16. In a time recording lock provided with a clock, a record receiving member comprising a rectangular card holding frame adapted to remain stationary while the record is being made, means controlled by the clock for moving said frame rectilin-

early in its own plane, a rectangular card mounted in said frame adapted to receive the record, said card being provided with equally spaced parallel lines representing hours and minutes, a record making member synchronously movable with the clock adapted to coöperate with said card to produce a visible record thereon transversely of said lines, a lock bolt, key mechanism for operating said bolt, and means actuated by said key mechanism for varying the record produced by said record making mechanism whereby a different record is produced when the bolt is in unlocked position from that produced when it is in locked position.

17. In a time recording lock provided with a clock, a record receiving member comprising a card adapted to remain stationary while the record is being made, means controlled by the clock for moving the card intermittently in a rectilinear direction in its own plane, a record making member including a two point stylus adapted for movement synchronously with the clock transversely of the direction of movement of the card to record thereon, the card remaining stationary during such movement of the stylus, means operative at the end of a period of synchronous movement of said stylus to return the same to initial position and simultaneously shift said card to a new position whereby succeeding periods are recorded in parallel lines, a lock bolt, means for actuating said bolt to lock and unlock the same, and means operative in actuating said bolt to change the position of said two point stylus so as to produce a single line or a double line record according to the position of said lock bolt, one stylus point producing a laterally extending branch record line at each operation of said bolt actuating means to change the position of said bolt.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."