

(No Model.)

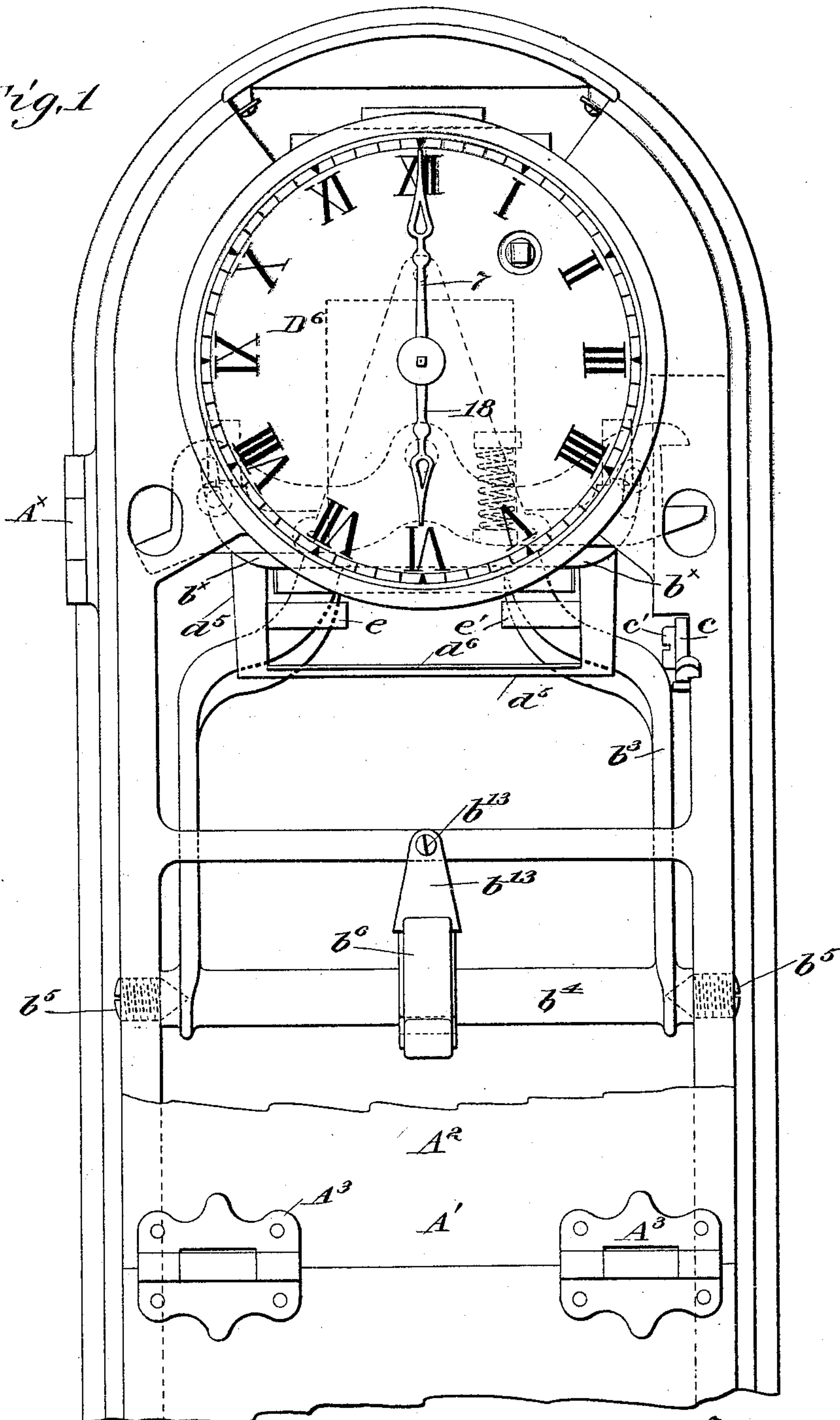
3 Sheets—Sheet 1.

J. C. WILSON.  
TIME RECORDING APPARATUS.

No. 543,416.

Patented July 23, 1895.

*Fig. 1*



Witnesses  
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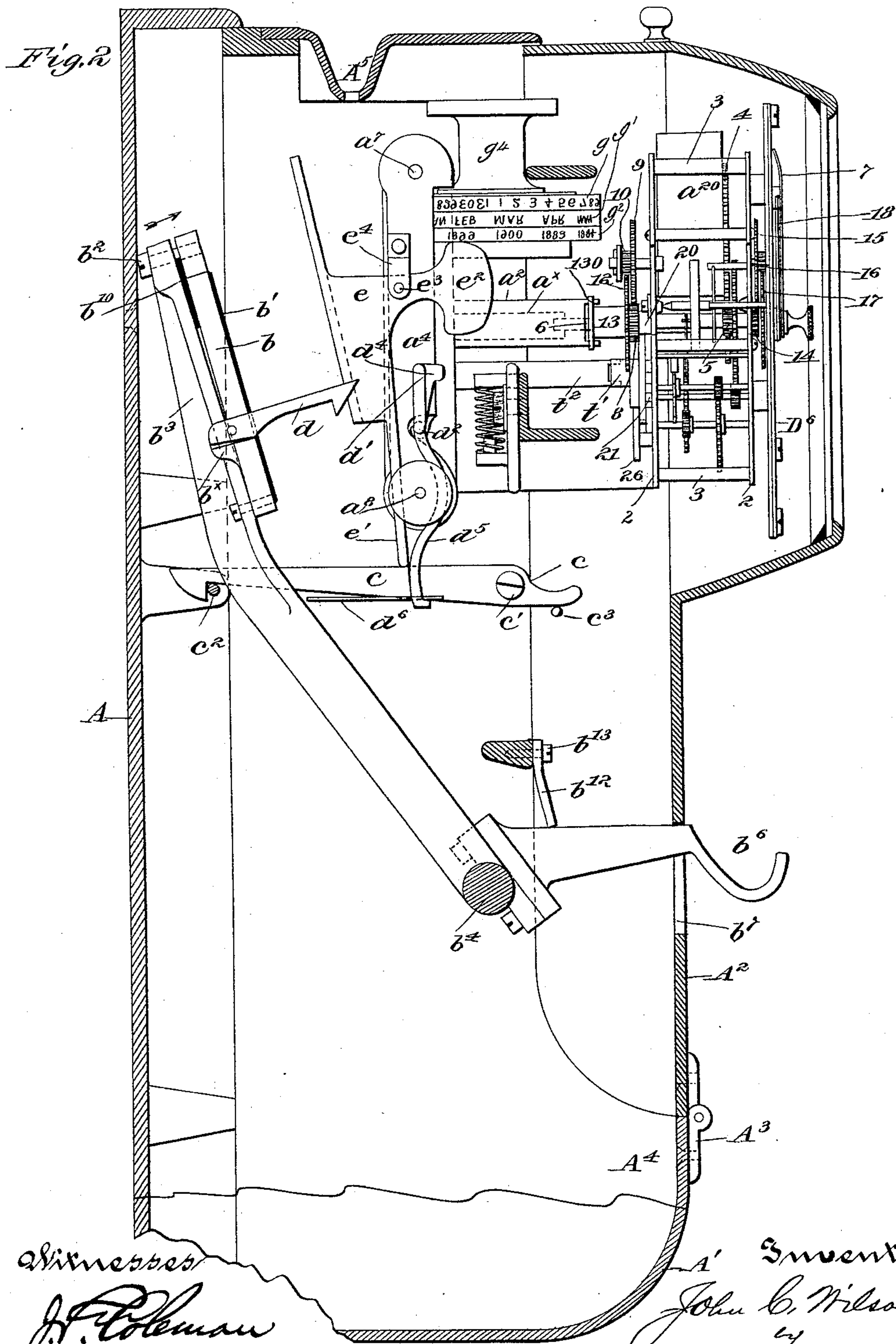
(No Model.)

3 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

JOHN CORNELIUS WILSON, OF BOSTON, MASSACHUSETTS.

## TIME-RECORDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 543,416, dated July 23, 1895.

Application filed March 3, 1891. Serial No. 383,593. (No model.) Patented in England May 16, 1891, No. 4,973.

*To all whom it may concern:*

Be it known that I, JOHN CORNELIUS WILSON, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Time-Recording Apparatus, (patented in England May 16, 1891, No. 4,973,) of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

One part of this invention consists in a novel registering apparatus by which to imprint a card or ticket to be used as a time card or ticket between an employer and employé to indicate the time of the arrival of an employé at the apparatus located at a particular spot, or the departure of such employé from such spot, and leave in the apparatus a record of such arrival or departure.

It is customary in large factories and other places where a number of people are employed to employ a time-keeper, whose duty it is to keep the time of arrival of each operator or clerk.

By my invention a time-keeper is unnecessary, as the employé, through the machine or apparatus forming part of this invention, makes his or her own record of time.

My novel registering apparatus comprehends a case containing a time-stamp, a card or ticket support, a card or ticket receptacle, and means for actuating the support to permit the discharge of an imprinted card or ticket into the said receptacle.

The employé or other person whose time is to be kept will either be presented with or will take a ticket or card from a card-delivery box, the ticket being numbered in succession or dated in a manner to designate the time or order of its reception by the employé, and then the employé will individualize the card or ticket by putting his or her name or mark thereon, and these individualized cards or tickets will then be dropped into the slot in the registering apparatus one at a time and the time-stamp of the apparatus be actuated to imprint each individualized card, it after having been imprinted dropping into the receptacle forming part of the registering apparatus.

Figure 1 of the drawings represents a registering apparatus embodying my invention,

part of the outer door and casing being broken away. Fig. 2 is a sectional internal side elevation. Fig. 3 is an elevation of the train of gearing at the rear of the rearmost pillar-plate. Fig. 4 is a vertical section of the printing mechanism, omitting the platen. Fig. 5 is a rear elevation of the printing mechanism, omitting the inking-ribbon; and Fig. 6 is a perspective view of the rear end of the minute-shaft and its ratchet-finger and pinion.

The framework constituting the case of the apparatus consists of a back plate A, a shell A', hinged thereto at A<sup>x</sup> and having a door A<sup>2</sup> hinged to it at A<sup>3</sup>, the lower part of the shell being shaped to constitute a card or ticket receptacle A<sup>4</sup>. The shell A' has a mouthpiece or throat A<sup>5</sup> at or near the top for the reception of the card or ticket, and in the upper part of the shell is secured an imprinting mechanism of that form known as a "time-stamp," the essential features of this genus of stamp being a dial-plate *a* (see Fig. 5) having figures corresponding with those of a clock-face, a minute-shaft *a*<sup>x</sup> having a hand *a*' and a surrounding tubular hour-shaft *a*<sup>2</sup> having a hand or arrow-head, a suitable clock motor-train actuated by a spring *a*<sup>20</sup>, and an ink-ribbon *a*<sup>3</sup> carried by a frame *a*<sup>4</sup>.

This invention is not limited to the exact form of imprinting mechanism or time-stamp shown, as, instead, I might employ any other well-known form of imprinting mechanism or stamp adapted to indicate on the cards or tickets the time of their deposition in the receptacle.

The clock mechanism herein shown is mounted in two like pillar-plates 2, separated by suitable pillar-posts 3. The driving-spring *a*<sup>20</sup>, fastened at its outer end to one of the pillar-posts, has its inner end fast upon the axle of the main gear 4. The main gear engages a lantern-pinion 5, fixed upon the minute-shaft 6, to the outer end of which is secured the minute-hand 7, which travels over the exposed dial D<sup>6</sup>, the inner end of the said minute-shaft being squared or otherwise shaped, as shown in Fig. 6, to enter a square or correspondingly-shaped recess in the inner end of the minute-shaft *a*<sup>x</sup> of the time-stamp train, thus rotating the two minute-shafts in unison.

The minute-shaft 6 at its inner end, out-



side the pillar-plate 2, has fixed upon it a pinion 8, which engages and rotates a gear 9, mounted on a stud carried by the pillar-plate, the hub of the gear 9 having fast to it a pinion 10, which in turn engages a toothed gear 12, fast on a sleeve 13, mounted loosely upon the minute-shaft 6. The said sleeve (shown best in Fig. 2) has a collar 130, (see Figs. 2 and 3,) in which there are opposite peripheral notches 131 to embrace projections at the inner ends of the tubular hour-shaft  $a^2$ , thus rotating the said hour-shaft positively.

The minute-shaft 6, near its outer end and just outside the pillar-plate, has an attached pinion 14, which engages a toothed gear 15, having a hubbed pinion 16, which engages a toothed gear 17, upon the hub of which is mounted the hour-hand 18, co-operating with a dial  $D^6$ .

It will be noticed that the hour and minute shafts of the stamp, as well as of the clock mechanism, are so united and combined with gearing as to show visually, as a clock, through a glass face in the door  $A^2$ , the time which the time-stamp-printing devices will imprint upon the card through the inking-ribbon, as will be described.

The other parts of the clock-gearing not specifically described are usual in other clock mechanism.

The minute-shaft 6 has fastened to it, next to the pinion 8, a ratchet-finger 20, (see Fig. 6,) which engages once during each rotation a tooth of a ratchet 21, mounted on a stud 22, carried by the pillar-plate, the said ratchet having connected to it one end of a barrel-spring  $t^6$ , the outer end of which spring is connected to the inner side of a drum 23, the hub  $t'$  of which surrounds the said stud and is notched at  $t$  to engage the lugs  $t^3$  of a shaft or post  $t^2$ , having its opposite end (see Fig. 5) engraved with the letters "A. P.," by which to designate, in connection with the character "M.," (see Fig. 5,) morning or afternoon. In Fig. 3 the drum is shown broken away to expose the outer end of the spring in the position it occupies to engage said drum. The drum has at its periphery a projection 25 adapted to be engaged by either of two like spring-controlled detent-pawls 26 27, pointing in opposite directions, one or the other of which serves to stop the rotation of the drum when released, as will be described, to thus stop the shaft  $t^2$  with the proper letter indicating morning or afternoon under the inking-ribbon, so as to enable one only of the said letters to be imprinted at the same time upon the card. The rotation of the minute-shaft 6 winds intermittingly the spring  $t^6$ , which actuates the drum, and whenever the drum is released it will be rotated by the spring for half a rotation, thus bringing the proper letter into place.

The ratchet referred to has a releasing device 30, which once in twelve hours acts upon one or another of the oppositely-arranged pawls

26 or 27 and causes it to be moved away from the projection of the drum, releasing the same.

The side bars of the parallelogrammic frame  $a^4$ , having at their ends journals for the rolls  $a^7$   $a^8$ , are snapped or fitted to the sides of the frame containing the clock-movement referred to.

The platen, shown as a metal plate  $b$  faced with some elastic material to thus constitute an impression-pad  $b'$ , is attached by suitable screws  $b^2$  to a platen-carrier  $b^3$ , it having a cross shaft or bar  $b^4$ , herein shown as mounted at its ends on point-screws  $b^5$  as centers. This carrier has a pull or arm  $b^6$  extended outwardly through a slot  $b^7$  in the door  $A^2$ , the shape and weight of the carrier and platen being such as to cause it to stand normally as in Fig. 2.

I prefer to insert a piece of rubber or other packing  $b^{10}$  (see Fig. 2) between the carrier and platen to enable the blow of the platen to be somewhat cushioned.

The rotation of the screws  $b^2$ , extended loosely through holes in the carrier and screwed into the platen, enable the latter to be adjusted sufficiently to place the face of the platen in the proper plane to correctly co-operate with the imprinting parts of the stamp and insure distinct printing. A stop  $b^{12}$ , pivoted at  $b^{13}$  on a cross-bar  $b^{14}$  at the face of the shell  $A'$ , serves to control the extent of movement of the platen-carrier and platen; but when the shell is turned aside on its hinges, as it may be by turning the latch  $c$  about its pivot  $c'$  so as to disengage it from the stud  $c^2$ , and the stop  $b^{12}$  turned aside, the carrier may be further turned back about the point-screws, so as to afford better access to the frame  $a^4$  and other parts.

The latch  $c$  cannot be disengaged as described until after the door  $A^2$  has been opened on its hinges  $A^3$  to remove the latch-locking device  $c^3$  from under the outer end of the latch, the said device being shown as a pin or stud.

The platen has arms  $b^x$ , upon the upper ends of which are pivoted like latches  $d$ , which are so weighted that their front ends hang down, as shown in Figs. 1 and 2, the front ends of the latches being beveled, so that when the platen is moved in the direction of the arrow above it in Fig. 2 the latches will strike and ride over upright lips  $d'$  of a rock-shaft  $d^2$ , mounted in ears  $d^3$ , forming part of the framework of the time-stamp, the said rock-shaft having lugs  $d^4$  and a depending loop  $d^5$ , to the lower end of which is attached the ticket support or arresting device  $d^6$ . The rock-shaft, to which this ticket supporting or arresting device is attached, is free to rock in the ears  $d^3$  referred to. As the latches  $d$  ride forward over the lips  $d'$  the ticket support or arresting device  $d^6$ , then normally standing in the position shown in Figs. 2 and 4, is not moved, as at that time it is supposed to support a ticket; but when the platen is moved



away from the time-stamp or imprinting device, as it is after the card or ticket has been imprinted, then the hooks of the latches  $d$ , by engaging the lips  $d'$ , turn the support or arresting device to the right, viewing Fig. 2, thus removing it from beneath the imprinted ticket or card, letting it drop into the receptacle or chamber  $A^4$ . In order to properly position the ticket in front of the stamp and keep it there while the platen is moved forward, I employ a guide, herein shown as composed of separate pieces  $e$   $e'$   $e^2$ , each pivoted, as at  $e^3$ , in stands  $e^4$ , attached to the side bars of the ribbon-carrying frame. These guides consist essentially of recessed blocks  $e$ , the side walls of which are inclined toward each other, while below the blocks are arms  $e'$  and weighted parts  $e^2$ . Normally the weight of the guides is such that the lip-like lower ends thereof (marked  $e'$ ) hang in contact with the shaft  $a^8$  of the lowermost roller containing the printing-ribbon.

When the ribbon-carrying frame is in operative position, as in Figs. 2 and 4, the arms  $e'$  or their lip-like lower ends stand across the lugs  $d^4$  of the rock-shaft  $d^2$ , and as the said rock-shaft is moved, as described, by the latches  $d$  to withdraw the supporting-plate from below the end of the imprinted card the said ears by striking the arms  $e'$  push them out about their pivots  $e^3$ , causing the lip-like lower ends of the arms to strike the rear side of the card or ticket and aid in discharging it from not only the supporting plate or arrester, but also to take it off from the ribbon in case it should stick there.

The time-stamping apparatus is shown (see Figs. 4 and 5) as provided with three wheels  $g$   $g'$   $g^2$ , each capable of being moved by hand or otherwise about a proper stud  $g^3$ , one of the said stamp-wheels  $g^2$  having figures upon its periphery denoting years, the other, as  $g$ , figures denoting the days of the month, while the central wheel  $g'$  has letters to designate the month.

A knob  $g^4$  is mounted upon a screw  $g^5$ , which is tapped in the stud  $g^3$ , with a spring  $g^6$  interposed between the head of the screw and the base of the knob, which latter bears upon the wheel  $g$ , and so holds it and the subjacent wheels in place. Said knob may be used for turning the dating-wheel  $g$ .

In operation let it be supposed that an employé has received from some suitable receptacle or person a card preferably imprinted to designate the time or order of its delivery. The employé receiving such a card will individualize the same by his or her name or mark, and with the parts of the register in the position, Figs. 2 and 4, will drop the card so individualized into the throat  $A^5$ , the said card entering the guides  $e$  referred to and descending until its lower end rests upon the supporting-plate or arrester  $d^6$  in front of the usual printing-ribbon, behind which is the time-stamp. In this condition, or as soon as the employé drops the card or ticket, he or

she seizes the pull  $b^6$  and pulls it down, thus throwing the platen-carrier and platen over to the right, causing the platen to pass in between the guides  $e$  referred to, strike the back of the card or ticket, and force the same with a quick blow against the inking-ribbon, which will result in imprinting upon the individualized card the time at which the card was deposited and the platen actuated. The employé, having made the imprint, quickly removes the hand from the pull, when the platen, as herein shown, falls back by gravity into the position shown in Fig. 2, and, in so going back, the hook  $d$ , engaging the lugs  $d'$ , turns the rock-shaft  $d^2$ , withdrawing the supporting-plate or arrester  $d^6$  from below the imprinted card, letting it drop, and at the same time the rock-shaft, by its partial rotation, causes the lugs  $d^4$  to strike the guides as described and cause their lower ends  $e'$  to be thrown outwardly against the card or ticket to discharge it from the retreating supporting-plate or arresting device  $d^6$ . In this way the card or ticket is imprinted at the completion of the forward movement of the platen, and the platen as it goes back or retreats is made to positively effect the discharge or release of the imprinted card or ticket, so that it is free to drop into the chamber  $A^4$ , from which chamber it may be removed by unlocking the door  $A^2$ , it having in practice applied to it a suitable lock.

Although it is preferable to move both the arresting device and the guide, to thereby more surely cause the card to be discharged into the closed receptacle after being imprinted, this invention is not limited to the joint action of these parts, as it is obvious that the mode of operation may be varied in such manner that the guide may move while the arresting device is at rest without departing from the spirit and scope of the invention.

I claim—

1. In a time recording apparatus, printing dies, a platen co-operating therewith inclosed in a case provided with an inlet opening for the card or ticket, a closed receptacle to receive the card after the impression has been made, and an arresting device intermediate the inlet opening and closed receptacle to normally support and prevent the passage of the card into the closed receptacle, combined with an intermittingly movable guide to position the card to be printed upon the arresting device, subsequent movement of the guide removing the card from the said arresting device, substantially as described.

2. In a time recording apparatus, a stamp, a platen inclosed within a case provided with an inlet for the card or ticket to be printed, a closed receptacle connected to the case to receive the printed cards, a movable arresting device normally in the path of and to prevent the passage of a card from the inlet to the closed receptacle, and an intermittingly movable guide to position the card to be



printed, upon the arresting device, the movement of said guide withdrawing the card from the stamp, combined with mechanism controlled by the platen to move said guide and  
5 arresting device to release and discharge the card when printed, substantially as described.

3. In a recording apparatus, a stamp, a platen inclosed within a case provided with an inlet for the card to be printed, a movable  
10 supporting or arresting device directly beneath said inlet when in normal position, and adapted to arrest the card and maintain it in proximity to the stamp until it is printed and the platen is retracted, combined with a lever  
15 pivoted within the casing and to the inner end of which the platen is attached, the outer end of the lever extending through an opening in the case, and connections between said arresting device and lever to move the arrest-  
20 ing device from the path of the card when the platen is retracted, substantially as described.

4. In a recording apparatus, printing dies,

a co-operating platen inclosed in a case provided with an inlet opening for the card, a closed receptacle for the printed cards, and  
25 an arresting device intermediate the inlet opening and closed receptacle, to normally support and prevent the passage of the card into the closed receptacle, combined with an actuating lever pivoted within the case, the  
30 inner end of said lever carrying the platen and the outer end extending through the case, a guide to position the card to be printed, upon the arresting device, and to subsequently remove it therefrom, and connections between  
35 the actuating lever and guide, to actuate the latter, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN CORNELIUS WILSON.

Witnesses:

GEO. W. GREGORY,  
EDWARD F. ALLEN.