

May 12, 1942.

J. T. CALLAHAN, JR

2,282,561

VENDING MACHINE

Filed Aug. 15, 1940

4 Sheets-Sheet 1

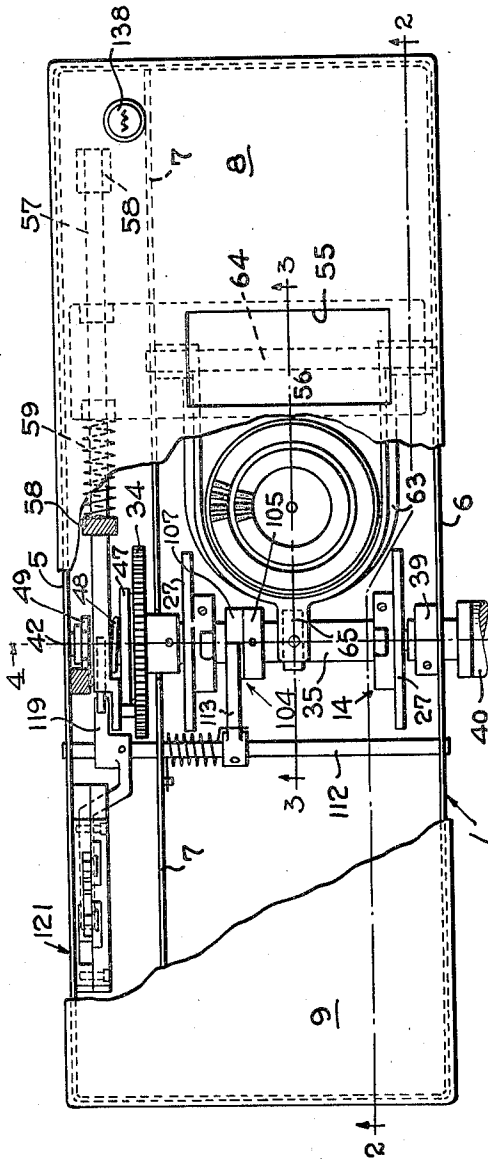


Fig. 1.

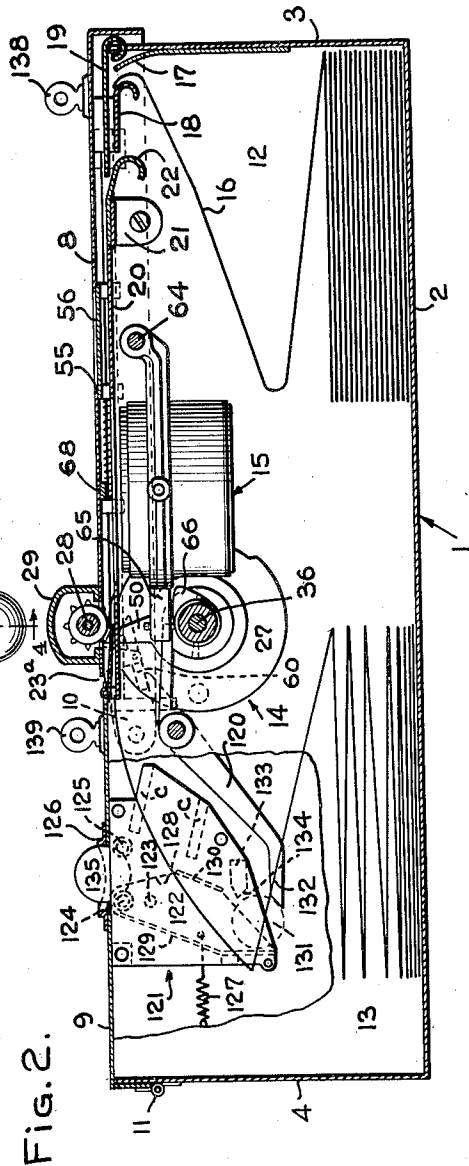


Fig. 2.

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4 Sheets-Sheet 3

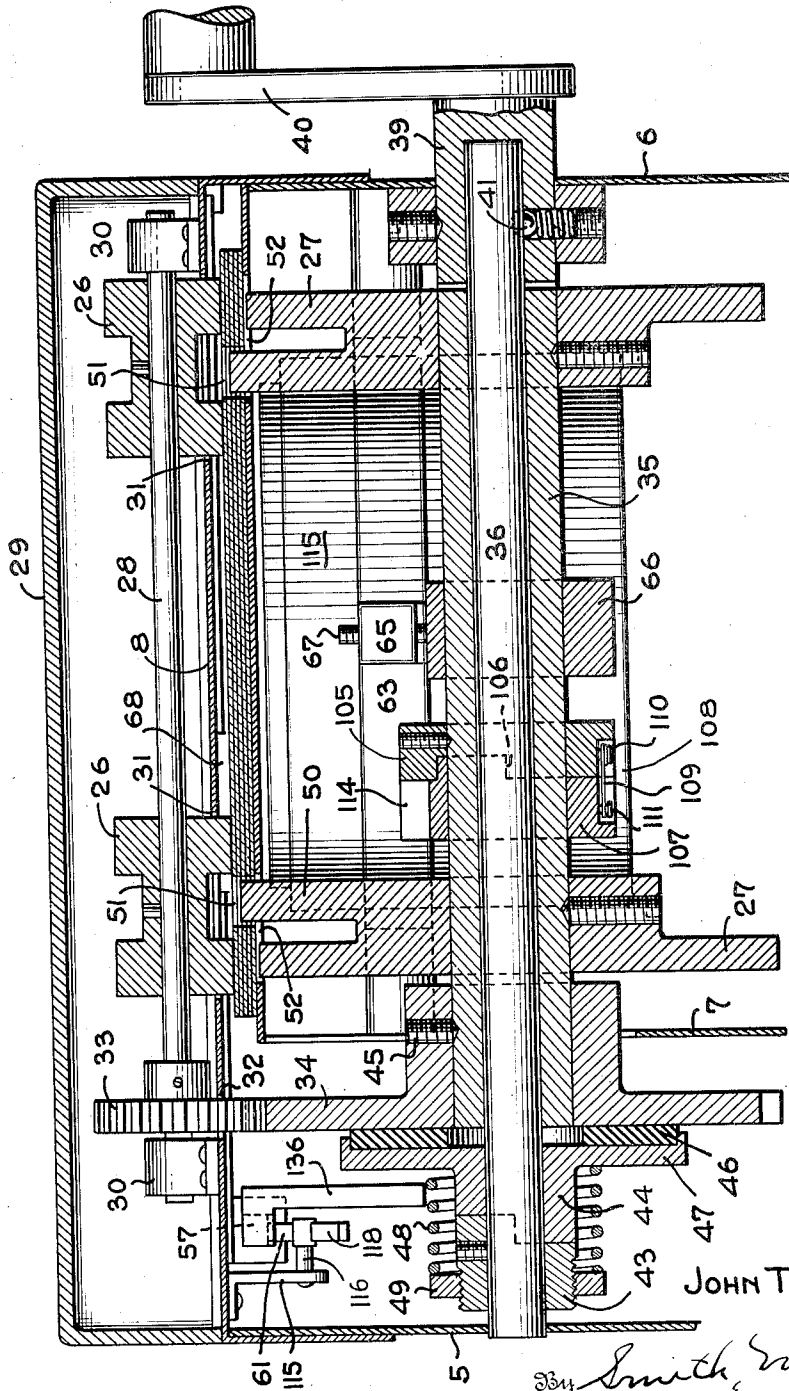


Fig. 4.

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2,282,561

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Filed Aug. 15, 1940

4 Sheets-Sheet 4

Fig.5.

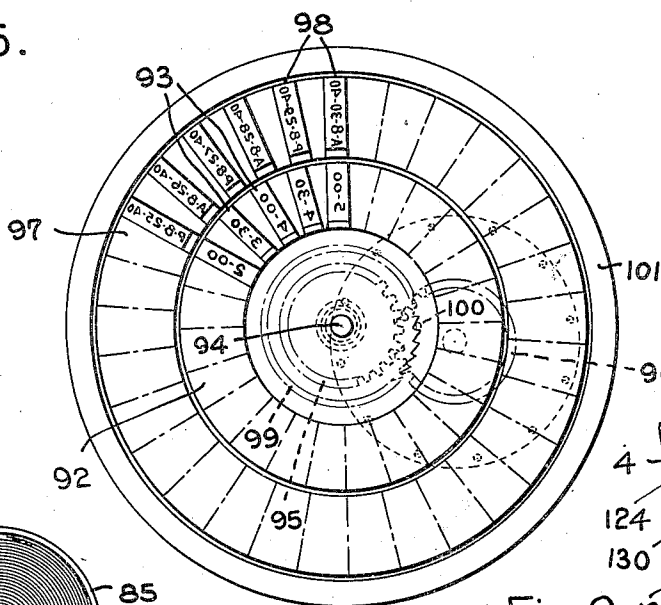


FIG. 7.

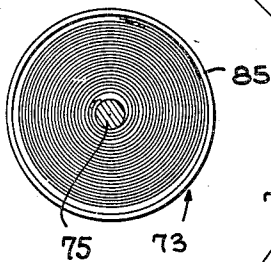


Fig. 9.

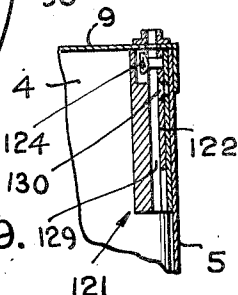


Fig. 6.

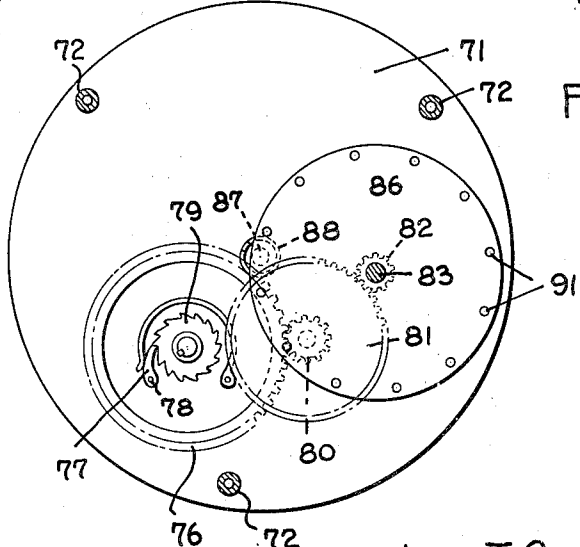
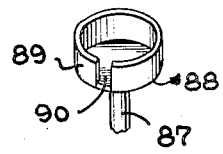


Fig. 8.



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UNITED STATES PATENT OFFICE

2,282,561

VENDING MACHINE

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Application August 15, 1940, Serial No. 352,792

2 Claims. (Cl. 234—54)

This invention is a coin controlled dispensing apparatus for vending accident insurance policies and the like.

It is well known at the present time that accident insurance policies which will protect the policy holder for a given period of time after purchase thereof, may be obtained at railway stations, bus stations, airports and the like by travelers, such policies being sold by the ticket agents of the respective transportation companies at the time the traveler purchases transportation. The present machine is designed to vend similar policies to private automobile drivers traveling from place to place, the machines being adapted to be placed in gasoline stations, service stations, garages and the like, and to be operable upon deposition of coins of predetermined value, to vend a policy without the necessity of supervision by an actual representative of the insurance company involved in the transaction.

One object of the invention is to provide a machine of the character described which will be compact in design, simple in construction and accurate and positive in its operation.

Another object of the invention is to provide a machine of the character described wherein upon deposition of a coin or coins of predetermined value, the prospective purchaser may actuate the machine to vend a policy bearing the effective date and time at which it is dispensed from the machine.

A further object of the invention is to provide an improved coin chute construction including a movable chute member designed to receive and hold an initially deposited coin in a manner such that a subsequently deposited coin will move the first coin into actuating relationship with a lever by reason of which the operating instrumentalities of the machine are released for actuation by the prospective purchaser.

A further object of the invention is to provide the machine with a normally free operating handle extending exteriorly of the casing and connected by a friction clutch to a normally locked operating part of the machine, which, when released by the proper deposition of coins, may be actuated through said handle to dispense the policy.

A further object of the invention is to provide an intermittent feed mechanism by which the policies are dispensed from the machine, in cooperation with a time recording mechanism, the said instrumentalities being arranged and actuated so as to record the effective date and time

on the policy during one of the rest periods in the operation of the intermittent feed device.

Another object of the invention is to provide in a machine of the character described a movable door or closure member which normally conceals a portion of the policy to be dispensed, but which door or closure is moved to an open position upon the deposition of proper coins in the machine, to expose a portion of the face of the policy on which the prospective purchaser writes his name, address, age, destination, or such other information vital to the validity of the policy when issued.

Another object of the invention is to provide an improved time controlled recording device for imprinting the effective date, month, year and hour on the policy just prior to being dispensed from the machine.

These and other objects of the invention will become apparent from a reading of the following specification when considered in connection with the accompanying drawings, wherein I have illustrated a preferred embodiment of the invention and wherein:

Figure 1 is a top plan view of the invention with portions of the top cover broken away.

Fig. 2 is a longitudinal sectional view taken on the line 2—2 of Fig. 1, but showing the cover parts of the machine in place.

Fig. 3 is an enlarged fragmental sectional view similar to that shown in Fig. 2 taken on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged fragmental sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a top plan view of the time recording unit.

Fig. 6 is a plan view of the escapement mechanism by which the printing wheels are driven.

Fig. 7 is a detailed view partly in section of the spring motor.

Fig. 8 is an enlarged detail view of the escapement cup.

Fig. 9 is a sectional view of the coin chute taken on line 9—9 of Fig. 2.

Referring more particularly to the accompanying drawings, the machine forming the subject-matter of the present invention comprises an outer casing indicated generally by the reference character 1 in Figs. 1 and 2. The casing, which is substantially rectangular in configuration, includes a bottom wall 2, end walls 3 and 4, and side walls 5 and 6. Within the casing is provided a longitudinally extending partition member 7, said partition being disposed generally parallel to the side walls 5 and 6. The several

mechanisms housed within the casing 1 are concealed from view by movable cover members 8 and 9. The cover member 8 is shown provided with depending lugs 10 by which the cover is pivotally connected to the side walls 5 and 6 of the casing. The cover member 9 may conveniently be hinged to the top portion of the end wall 4 as at 11.

As previously indicated, the machine forming the subject-matter of the present invention is primarily designed to dispense and vend accident insurance policies and similar sheet forms and to this end the chamber or compartment defined by the side walls 6 and the partition member 7 is designed to form a supply compartment 12 and a receiving compartment 13 separated by the feeding and printing instrumentalities indicated generally by the reference characters 14 and 15, respectively, in Fig. 1. Thus a supply strip of serially connected insurance policy forms comprising a folded strip 16 may be deposited in the compartment 12 and, as the machine is actuated, said strip is fed longitudinally of the machine from right to left as viewed in Fig. 2 across the top of the printing and feeding instrumentalities and deposited for record in the compartment 13. The strip form 16 is preferably composed of a plurality of superposed sheets or strips to form a duplicate or triplicate set of copies of the policy, and means is provided for separating these sheets or strips so that the top or original may be fed from the machine concurrently with the feeding and deposition of the underlying copies in the receiving compartment 13.

In order to facilitate the passage of the multiply form strip 16 from the compartment 12 to the compartment 13 of the casing, said casing is provided with paper guiding instrumentalities above the compartment 12. The paper guides may conveniently take the form of a curved in-turned guide member 17 extending transversely of the compartment 12 and secured to the end wall 3 adjacent the upper end thereof. The guide member 17 cooperates with a transversely extending guide bar 18 secured to the side walls 5 and 6 of the casing and in spaced relation to the guide member 17. In order to effectively guide the leading edge of the sheet 16 from the guide member 17 across the top of the guide member 18, a plate member 19 is provided, said plate being pivotally connected to the upper edge of the end wall 3 and designed to overlie cross guide 18. This construction is clearly shown in Fig. 2.

The machine, as previously indicated, contemplates requiring the prospective purchaser to write on the face of the policy to be dispensed, certain data vital to the validity of the policy, and to this end the machine is provided with a platen 20 to support the several policy strips beneath that portion of the cover 8 which is apertured to expose the face of the policy when a door normally closing said aperture is open. The platen 20 is provided with depending lugs 21 which are pivotally connected to the partition plate 7 and the side wall 6 of the casing and is designed to occupy a substantially horizontal position parallel to the cover member 8. The end of the platen 20 adjacent the guide bar 18 is slightly down-turned and curved as at 22 to facilitate passage of the leading end of the form 16 onto the platen. The platen at its opposite end is designed to overlie and rest upon the upper edges of the side wall 6 and partition member 7.

At the end of the platen remote from its pivotal support 21 means are provided for separat-

ing the several plies of paper, said means comprising a pivoted plate member 23 movable about a transverse pivot member 24, said pivot member being supported in upstanding lug members 25 carried by the side edges of the platen 20. By initially placing this flap member 23 between the upper and underlying plies of the paper form 16, the upper ply or sheet may be dispensed from the machine through a discharge opening 23^a in the cover while the underlying plies pass off over the upper end of the platen member into the compartment 13, as will be more clearly described later.

The feeding means 14 for feeding the blank forms 16 from the compartment 12 to the compartment 13 comprise upper feed wheels 26 and lower feed wheels 27. The feed wheels 26 and 27 are clearly shown in Figs. 3 and 4. The feed wheels 26 are mounted on a transversely extending shaft 28 supported on the cover member 8 and enclosed by an auxiliary housing member 29. As shown in Fig. 4, the shaft 28 is supported for rotation in bearing members 30 mounted upon the upper face of the cover 8, said cover being perforated at points 31 to permit the driving peripheries of the rollers 26 to extend beneath the plane of the cover 8 into frictional engagement with the paper form 16 overlying the platen 20. The cover member 8 is also apertured as at 32 to provide means whereby a drive gear 33, secured to the shaft 28, may extend through the cover member 8 into driving engagement with a gear member 34. The drive gear 34 is fixed to a sleeve 35 which in turn is mounted upon a transversely extending shaft 36, said shaft being supported for rotation at one end in the side wall 5 of the casing 1 and passing through the partition member 7. The opposite end of the shaft 35 is received within a sleeve member 39 freely mounted for rotation in the side wall 6 of the casing 1. The sleeve 39 is provided with a hand crank 40 exteriorly accessible so as to be readily manipulated by a prospective purchaser. I provide a one-way driving connection between the hand crank 40 and the shaft 36 such as a ball or roller clutch shown at 41, by reason of which rotation of the hand crank in a counterclockwise direction will rotate the shaft 36, while rotation in the opposite direction will not drift the shaft. The end 42 of the shaft 36 which is supported for rotation in the side wall 5 of the casing is provided with a clutch collar 43 fixedly secured thereto and which is arranged to drive a complementary clutch collar 44 mounted for rotation on the shaft 36 but interengaged for driving relation with the clutch collar 43, as clearly shown in Fig. 4. The feed roller driving gear 34 is secured to the sleeve 35 by means of a set screw 45 and the clutch collar 44 is arranged to frictionally drive the gear wheel 34 and the sleeve 35 attached thereto by means of a rubber or fiber disk 46 interposed between an upstanding disk 47 carried by the clutch collar 44 and an adjacent face of the drive gear 34. The driving disk 45 is maintained in resilient frictional engagement with the rubber or fiber disk 46 by means of a spring member 48 interposed between said disk and an abutment nut or collar 49 screw-threadingly mounted upon the clutch collar 43. Thus, when the crank handle 40 is rotated in the proper direction, the shaft 36 rotates to drive the gear 34 through the clutch collars 43 and 44, and the rubber disk 46 to impart rotation to the sleeve 35.

The lower feed wheels 27, previously referred to, are secured to the sleeve 35 and are trans-

versely disposed thereon in position to align with the driving peripheries of the upper feed rollers 26, as clearly shown in Fig. 4. If desired, the lower feed wheels 27 may each carry a tooth member 50 which projects beyond the peripheries of the feed rollers 27 for the purpose of engaging in suitable perforations 51 provided in the superposed forms 16 to thus align the several sheets with respect to one another. This operation will be more clearly described hereinafter.

The platen 20 is apertured at 52 in alignment with the lower feed wheels 27 and the tooth members 50 in order to provide for engagement of the teeth and feed wheels with the forms being fed along the platen 20. As shown in Fig. 3, the lower feed wheels 27 have mutilated peripheries comprising recessed or cut-away portions 53 and outstanding driving portions 54 and 54^a. As thus designed, the outstanding or driving portions of the periphery 54 of the feed wheels cooperate with the driving peripheries of the upper rollers 26 to frictionally feed the superposed forms 16 across the platen member 20 but when the recessed or cut-away portions 53 of the feed rollers 27 come opposite the peripheries of the driving rollers 26, feeding pressure between the upper and lower rolls is relieved and the forward movement of the blanks 16 stops. The purpose of this intermittent feed of the blank is to provide for proper aligning of the superposed forms by the teeth members 50 engaging the perforations 51 of the blanks and to permit the time recording mechanism to be raised into printing engagement with the forms 16 while the latter are stationary, as will be more fully explained hereinafter.

As previously indicated, the closure member 8 is provided with an aperture 55 which is normally closed by a door or cover member 56. The cover member 56 is mounted upon a rod or pin 57 slidably supported by the underside of the cover member 8 in bearing blocks 58. A coil spring 59 surrounds the pin or rod 57 and is normally under compression by reason of its opposite ends engaging respectively one of the slide bearing blocks 58 and a collar or lug 60 carried by said pin. The movement of the door 56 from closed to open position is from left to right as viewed in Figs. 1 and 2. The door 56 is maintained in closed position against the bias of the spring 59 by a latch member 61 arranged beneath the pin 57 and spring-biased to a position in which it engages a latching notch 62 provided in the underface of the rod 57. Thus, when the rod 57 and the attached cover 56 are moved into the position shown in Figs. 1 and 2, the latch 61 engages the notch 62 and maintains the cover in closed position until said latch is released, whereupon the door or cover member 56, under the influence of the spring 59, moves to the right, to open the aperture 55. When the door 56 is opened a portion of the strip form 16 is exposed so that the prospective purchaser of a policy may write upon said exposed portion such vital information as name, residence, age, destination and the like. It will be noted that the platen 20 is in position to afford a substantial writing surface for this operation.

The platen 20 beyond that portion underlying the opening 55 in the cover 8 is provided with an enlarged aperture for receiving the time controlled printing mechanism 15 previously referred to. As shown in Figs. 1 and 2, the time controlled printing mechanism 15 is mounted in a yoke shaped support 63 which is in turn mounted for pivotal movement about a transverse axis

as defined by a supporting pin or rod 64, supported at its opposite ends in the partition member 7 and the casing wall 6. The yoke shaped support 63 carries at its free end a portion 65 which overlies the shaft 36 and sleeve 35, and the sleeve 35 carries a cam member 66 underlying the portion 65 of the yoke 63. The yoke 63 is suitably biased in engagement with the cam 66 by a spring 5, as shown. The cam engaging portion 65 of the yoke 63 may conveniently be provided with an adjusting screw member 67 for the purpose of adjusting the position of the time controlled printing mechanism 15 with respect to a platen member 68 carried by the inside of the cover member 8 above the path of movement of the strip form 16. By this arrangement, when the shaft and sleeve 35 are rotated by the actuating handle 40, the cam member 66 functions to swing the time controlled printing mechanism 20 and its support about the axis of the shaft 64 to bring the characters on the upper face of the printing mechanism into printing engagement with the form 16 and to forcibly press the form 16 into engagement with the platen 68 whereby an imprint of the characters on the printing mechanism is transferred to the form 16. It will be understood, of course, that by the use of interposed carbon sheets, or properly backing the intermediate strips with carbon spots, the imprint of the characters on the printer may be concurrently made on the several superposed plies of form being fed from the supply compartment 12. It is proposed that the lower feed wheels 27 having the raised feeding portion 54 and the cut-away idle portions 53 be so oriented on the sleeve 35 with respect to the cam 66 that the feed wheels are inoperative during the period that the imprint on the policy strip is being made.

The time controlled printing unit indicated generally by the reference character 15 comprises a suitable standard eight-day spring driven clock-works as a means for driving the printing wheels. In Fig. 3 I have shown my time controlled printing mechanism as including at 69 a standard eight-day spring motor driven clock train of conventional design and including spaced plates 70 and 71 interconnected by the usual pillars 72 and having mounted between said plates the spring motor 73 together with a winding key 74 by which, through the usual train of gearing, the shaft 75 of the spring motor may be rotated to place the spring within the barrel under suitable tension. In lieu of the usual locking pawl which is employed in conventional clock trains to hold the shaft of a spring motor against retrograde movement while under tension, I provide a gear wheel 76 loosely mounted on the end of the spring motor shaft 75 which projects beyond the upper plate 71. On a face of this gear is provided a locking pawl 77 pivoted at 78 and spring-urged into engagement with a ratchet wheel 79, the ratchet wheel being keyed or otherwise fixedly secured to the end of the shaft 75. The gear 76 is arranged to mesh with a pinion 80, the pinion being mounted for rotation about a stub axle mounted on the plate 71. Integral with or secured to the pinion 80 and mounted for rotation about its axis is a gear wheel 81 which in turn meshes with a pinion 82 mounted for rotation about a shaft 83, the opposite ends of which are journaled in the plate 71, and an auxiliary plate 84 mounted above and in spaced relation to the plate 71. This arrangement of gearing and locking pawl causes the gear 76 to drive the pinion

and gear 80, 81 under the influence of the spring motor through the spring motor shaft 75 while the gear 85 on the barrel of the spring motor 73 drives the time train of the clock in the usual manner.

The pinion 82 is integral with or secured to a pin toothed wheel 86 which forms part of an escapement mechanism for intermittently moving the printing members periodically. The minute shaft or center arbor 87, or any desired arbor of the clock mechanism 69, which is driven from the spring barrel gear 85 through the usual train of gearing, carries at its upper end a cup-like member 88, having a cylindrical rim-like portion 89 provided with a slot 90 which extends parallel to the axis of the shaft 87. The rim 89 of the cup 88 lies in the path of movement of the pins 91 carried by the under-surface of the pin wheel 86. This escapement mechanism comprising the spring-urged, pin toothed wheel 86 and the slotted cup-like member 88, is designed to periodically advance the shaft to which the pin wheel is secured, twice to each complete rotation of a slotted cup-like member 88. The action of the escapement mechanism is as follows:

The diameter of the cup-like member 88 is substantially equal to one-half the distance between the centers of adjacent pins 91 carried by the pin wheel 86. The cup-like member 88 is rotated by an arbor, or the minute shaft 87 of the clock mechanism 69. A pin member 91 engaging on the outer periphery of the rim portion 89 of the member 88 will hold the wheel 86 against movement by the action of the spring 73, transmitted thereto by reason of the locking pawl 77, until the slot 90 aligns with the pin 91 which is in engagement with the outer surface of the rim. At this moment the pin will pass through the opening into engagement with the inner periphery of said rim at a point substantially diametrically opposite the slot. This movement is in the nature of a snap action and minimizes the time in which the printing members are undergoing movement. As the member 88 continues to rotate the slot 90 will again become aligned with the pin which has passed into the interior of the cup portion and at this point the pin will pass through the slot until a succeeding pin is in abutting relation with the outer surface of the cup. Thus, at desired intervals the pin wheel 86 is permitted to make a sudden partial rotation which, through a gearing train now to be described, will impart periodic advance movements to the printing mechanism of the printer 15.

The printing wheels of the printing unit 15 comprise a central disk-like member 92 carrying at its periphery a series of regularly spaced printing members 93 which may carry time indicia, successive indicia varying by desired time intervals. The printing wheel or member 92 is mounted for rotation about a central vertical shaft 94, said printing member carrying a gear 95 coaxial with said shaft and which gear meshes with a gear 96 secured to the shaft 83 which carries the pin wheel 86. Thus, the time printer 92 is advanced periodically at desired intervals.

A date printer is provided which comprises a circular disk-like member 97 concentric with the printing member 92 and carrying at its periphery a regularly spaced series of date printing indicia 98. The printing member 97 carries a gear wheel 99 having the same number of teeth as there are indicia 98 on the printer and said gear 99 and the printing wheel 97 are freely rotatable on the hub

of gear 99 and above the axis of the shaft 94. The gear 98 carries on its face a pin 100 which projects parallel to the axis of said gear and is arranged to engage the teeth on the periphery of the gear 99 in a manner such that at each revolution of the gear 96 the gear 99 is moved a distance of one tooth. A spring pawl 102 is mounted on a post 103 carried by the top plate 84, and the free end of the pawl bears against the toothed periphery of the gear 99 so as to insure proper alignment of the respective indicia 98 with the printing platen 68.

Thus it is seen that the pin toothed wheel 86 having twelve teeth and making twenty-four impulses or steps in a revolution, due to its cooperation with the escapement cup 88, will make one revolution in twelve hours, and by designing the gears 96 and 95 to have a one to one ratio the printing member 92 will make a corresponding number of steps or impulses to a revolution to thus shift the printer periodically. The pin 100, by engaging the gear teeth 99 once each revolution, will, of course, advance the date printer one step for each period of time represented by one revolution of the pin wheel 86. I propose to provide the time wheel 92 with twenty-four indicia members 93, covering a twelve hour period at one-half hour intervals. The date wheel may have two indicia members 98 for each day of the month and bear a. m. and p. m. indications alternately. Thus successive indicia members on the wheels 92 and 97 when aligned with the platen 68, may print or record the date and time on the strip 16 in this manner, i. e., "Aug. 10—40 a. m. 2:00" or "Aug. 10—40 p. m. 3:00" etc. As thus arranged the date wheel 92, carrying thirty indicia members 93, would serve through a period of fifteen days. At the end of a fifteen day period, a second wheel 97 would be substituted to cover the next two-week period, etc. If desired, the printing members could readily be arranged to record time at hour intervals rather than one-half hour intervals, and the date wheel thus designed to serve a period of thirty days, by placing the a. m. and p. m. indication in the wheel 92, together with the hour designation such as 1:00 p. m., 2:00 p. m. . . . 8:00 a. m., etc. In this arrangement the wheel 97 would carry thirty consecutive date designations such as July 1 '40 . . . July 30 '40. This arrangement would also necessitate the cup 83 of the escapement being driven by a two to one gear train from the arbor 87, rather than directly thereby. It is thus apparent that the printing mechanism may be arranged to record the time at any desired intervals.

As previously indicated, I propose to provide a coin released latch for the shaft 36 and also for the sliding door 55. To this end the sleeve 35 carries a lost motion locking pawl indicated generally by the reference character 104. The locking pawl device just referred to comprises a collar 105 secured to the sleeve 35 by a suitable set screw, said collar having a latch receiving recess 106 cut out in one of its side faces. Cooperating with the collar 105 is a collar 107 loosely mounted upon the sleeve 35 and carrying a lug 108 on its side opposed to the cut out portion 106 of the collar 105, said lug 108 interfitting with the cut out portion 106 as shown in Fig. 4. The lug 108 has a slightly lesser circumferential extent than the cut out portion 106 to provide limited relative rotation between these members. A biasing spring 109 attached to a pin 110 in the periphery of the collar 105 bears against a pin 111 in the periphery of collar 107 whereby to urge the collar 107 in the

direction of rotation of the shaft 36 during the feeding movement of the strip 16. The function of this lost motion will be explained later. A rock shaft 112 extends transversely of the casing and parallel to the shaft 36, said shaft being supported in opposite side walls 5 and 6 of the casing. The shaft 112 carries a locking lever 113, the free end of which bears on the periphery of the collar 107 and operatively engages a notch or tooth 114 in the periphery thereof whereby to lock the sleeve 35 against rotation.

The door 56 in the cover plate 8, as previously indicated, is retained in closed position against the bias of spring 59 by a pivoted latch member 61 arranged to engage in notch 62 in the under-side of the rod 57. The latch member 61 may be conveniently supported by a depending lug 115 carried by the underface of the cover 8, said lug 115 carrying a horizontally disposed pin 116 on which the latch member 61 is pivotally mounted and has its right hand end as viewed in Fig. 2, spring-urged upwardly into engagement with the notched face of the rod 57, by a spring 117. The latch member 61 has a tail-piece 118 with which a release lever 119 engages. The lever 119 is secured to the rock shaft 112 and operates concurrently with the lever 113 when said shaft is actuated in a manner now to be described.

The lever 119 is provided with a tail-piece 120 which extends into operative relation with respect to a coin chute mechanism indicated generally by the reference character 121. The coin chute mechanism 121 is shown more particularly in Figs. 2 and 9 and comprises spaced side plates between which is a trough-like member 122 pivoted for movement about a horizontal pivot 123 carried by the side walls of the chute member. The trough member 122 carries at a point above said pivot 123 a coin gauging pin 124 which cooperates with a similar coin gauging pin 125 carried by a side wall of the chute mechanism. It will be understood that the pins 124 and 125 are fashioned and positioned with respect to the particular coin or coins to be deposited in the machine so as to prevent operation of the machine by other than predetermined coins. Thus, if a coin smaller than that for which the gauge pins 124-125 are set, is inserted through slot 126, it will pass laterally through the passage defined by spaced ribs C-C. The pin 124 is carried by the trough member 122 and as a coin is inserted in a coin slot 126 and crowded between the pins 124 and 125, functions to move the trough member 122 about its pivot 123. Normally, the trough member 122 is restrained by a biasing spring 127 into the position shown in Fig. 2, but as a coin is crowded between the pins 124 and 125 the coin trough 122 moves in a counterclockwise direction so that a throat portion 128 thereof defined by upstanding side flanges 129 and 130 moves to a position to receive the deposited coin as it drops clear of the pins 124 and 125. The coin thus deposited is indicated in dotted lines at 131, where it has come to rest against the end 132 of the tail-piece 120 of lever 119. A cam member 133 having an inclined cam face 134 is provided on the side wall of the chute mechanism immediately above the end 132 of the tail-piece 120, the angular face 134 thereof being positioned to overlie the upper edge of the coin 131. Thus, the act of depositing a second coin 135 in the coin slot 126 and forcibly crowding the same between the pins 124 and 125 causes a second pivotal movement of the coin trough

122 with the result that the previously deposited coin 131 is forced to the right as viewed in Fig. 2 and crowded between the inclined face 134 of the cam 133 and the end 132 of the tail-piece 120, with the result that said tail-piece is rocked downwardly to rock the lock shaft 112 in a counterclockwise direction. This movement of the shaft 112 functions to actuate the release levers 119 and 113 to permit the door 56 to move to open position under the bias of the spring 59 and to release the sleeve 35 for rotation by the handle 40. It is to be noted that due to the lost motion pawl mechanism indicated generally at 104, as soon as the lever 113 is raised out of engagement with the notch 114 of the collar 107, the biasing spring 109 will shift the collar 107 forwardly to move the notch 114 past the raised end of the lever 113. The coin 131 drops free of the end 132 of the tail-piece 120, and the retrograde movement of the shaft 112 and lever 113 under the influence of a suitable biasing spring 112^a, brings the lever 113 on top of the collar 107 where it rests during one revolution of the sleeve 35, coming into engagement with the notch 114 again at the completion of one revolution of the sleeve. While the lever 113 is rigid on the periphery of the collar 107, the space between the cam 133 and the end 132 of lever 120 is so great that the second coin 135 passes freely therethrough and into the casing.

I also provide means for restoring the cover 56 to its closed position following a cycle of operation of the apparatus and to this end I provide the left-hand end of the rod 57 as shown in Fig. 2 with a depending arm 136, said arm being offset from the axis of the rod 57 towards the face of the gear 34, as clearly shown in Fig. 4. The arm 136 is designed to cooperate with a pin 137 carried by the adjacent face of the gear 34 so that as the gear 34 rotates with the sleeve 35 the pin 137, near the completion of the cycle of operation of the machine, engages the pin 136 to pull the rod 57 and attached cover 56 to its closed position against the bias of spring 59. When the rod 57 has been moved to a position in which the cover 56 completely closes the aperture 55, the latch 61 drops into the notch 62 on the underface of the rod 57 to effectively hold the door 56 closed against the opening bias of the spring 59. At this point the pin 137 passes clear of the lower end of the arm 136.

The cover members 8 and 9 of the casing may be conveniently provided with key operated locks indicated generally at 138 and 139 in order to maintain the contents of the casing secure and prevent tampering.

Having thus described a preferred embodiment of my invention it will be understood that a prospective purchaser of an accident policy will find the machine with the door 56 closed and the sleeve 35 locked against rotation. Due to the friction drive including the rubber or fibre disk 46, however, it will be apparent that the handle 40 may be turned even though the sleeve 35 is locked, but this movement of the handle will impart no operative movement to any part of the machine. Upon the successive deposition of two coins of proper size and denominations in the coin slot 126, as previously indicated, the coin trough 122 is moved to actuate the rock shaft 112 through the medium of the tail-piece 120 carried by the lever 119. This rocking movement releases the lock lever 133 for the sleeve 35 and the latch 61 for the cover or door 56, so that the door moves to open position and the sleeve 35 is free

to turn by rotation of the handle 40. The prospective purchaser then writes upon the face of the policy through the opening 55 such data as is required by the issuing company, and then rotates the handle 40 one complete revolution. The portion 54^a of the periphery of the lower feeding wheels 27 then cooperates with upper feed wheels 26 to move the policy strip towards the left as viewed in Fig. 3 until the low spot 53 of the periphery of the wheels 27 comes into juxtaposed position with the driving peripheries 26 of the upper rollers. At this point feeding movement of the strip ceases and the cam 66 carried by the shaft begins its operative engagement with the end 64 of the yoke 63 which carries the printer or recording mechanism. Continued rotation of the shaft elevates the printer into engagement with the platen 63 and then lowers it to its normal position of rest, said movement raising and lowering the recording mechanism through the opening 20^a provided in the platen 20. Continued rotation of the crank 40 brings the raised periphery 54 of the wheels 27 to driving engagement with the paper strip 16 again so that the form is fed forwardly, the upper original sheet passing over the plate 23 and out through the discharge opening 23^a while the duplicate or lower plies of the form pass off of the left-hand edge of the platen 20 and into the receiving compartment 13. The high spot or driving portion 54 of the wheels 27 terminates in advance of the point at which the tooth members 50 project therefrom so that at the time the tooth members engage openings in the several sheets comprising the form strip 16, pressure between the upper and lower feed lugs is relieved. This permits the teeth 50 cooperating with the apertures in the superposed plies of the form to bring the several sheets into alignment with respect to each other. In the rear of the teeth 50 the high spot 54^a is provided on the periphery of the wheels 27 to insure proper pressure on the strips at the time the original is severed from the strip housed within the casing at the conclusion of the feeding movement. As previously indicated, during the final incre-

ment of rotation of the sleeve 35 the gear wheel 34 brings the pin 137 into engagement with the arm 136 carried by the rod 57 to close the door, and this concludes an operative cycle of the apparatus.

It will be understood that although I have shown and described herein a preferred embodiment of my invention, I reserve the right to make such changes in the size and dimensions of parts as clearly fall within the scope of the appended claims which set forth more clearly the important and novel features of my invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A time recorder comprising a time wheel and a date wheel, said wheels being mounted for rotation about a common axis, a gear carried by each of said wheels, a spring motor including a spiral spring, a barrel and a shaft, the opposite ends of the spring being connected respectively to the barrel and to the shaft, an escapement mechanism including rotatable members drivingly connected to the barrel and the shaft of the spring motor, and means for drivingly connecting one of the escapement members with the gears carried by the time and date wheels.

2. A time recorder comprising a time wheel and a date wheel, said wheels being mounted for rotation about a common axis, a gear carried by each of said wheels, a spring motor including a spiral spring, a barrel and a shaft, the opposite ends of the spring being connected respectively to the barrel and to the shaft, an escapement mechanism including rotatable members drivingly connected to the barrel and the shaft of the spring motor, a gear carried by one of said escapement members and drivingly connected with one of said wheels, and a pin carried by said escapement driven gear and disposed to engage the gear carried by the other of said wheels once during each revolution of said escapement member.

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