J. C. WILSON.

TIME STAMP.

APPLICATION FILED JUNE 27, 1907.

Patented May 11, 1915.

1,139,247.

3 SHEETS—SHEET 1.

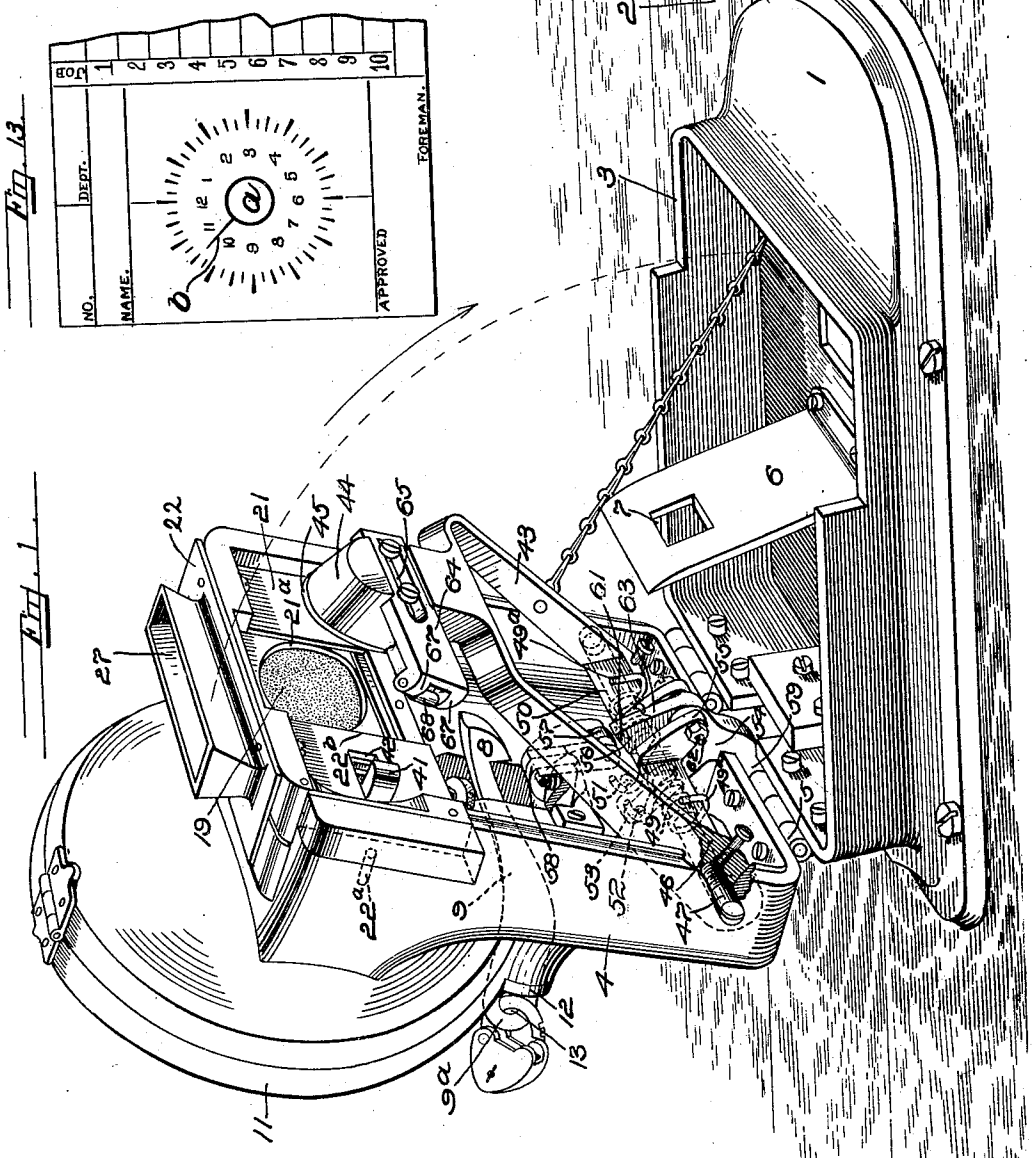


FIG. 3.

FIG. 1.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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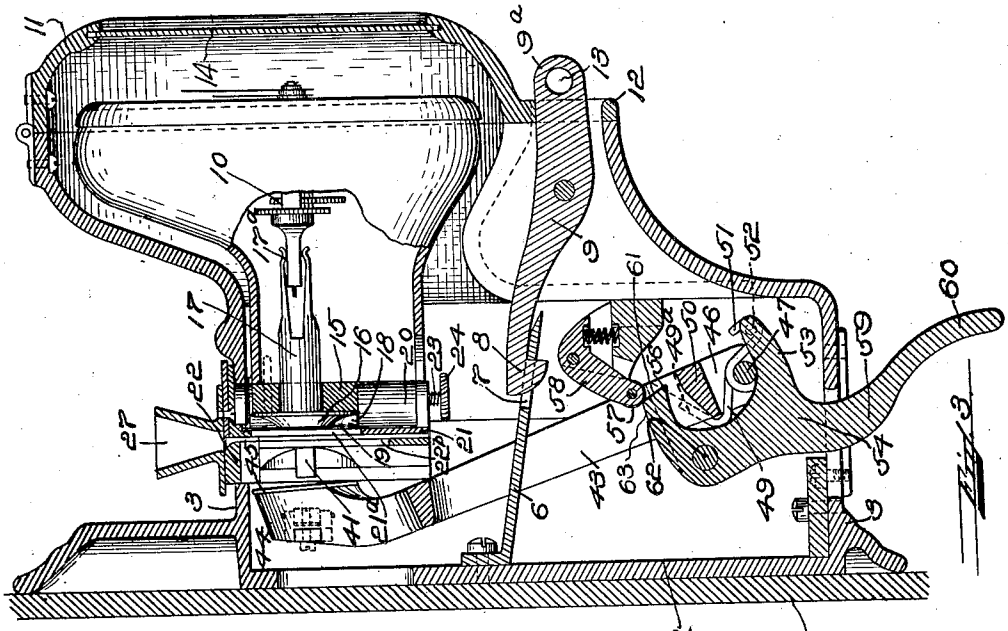


Fig. 3.

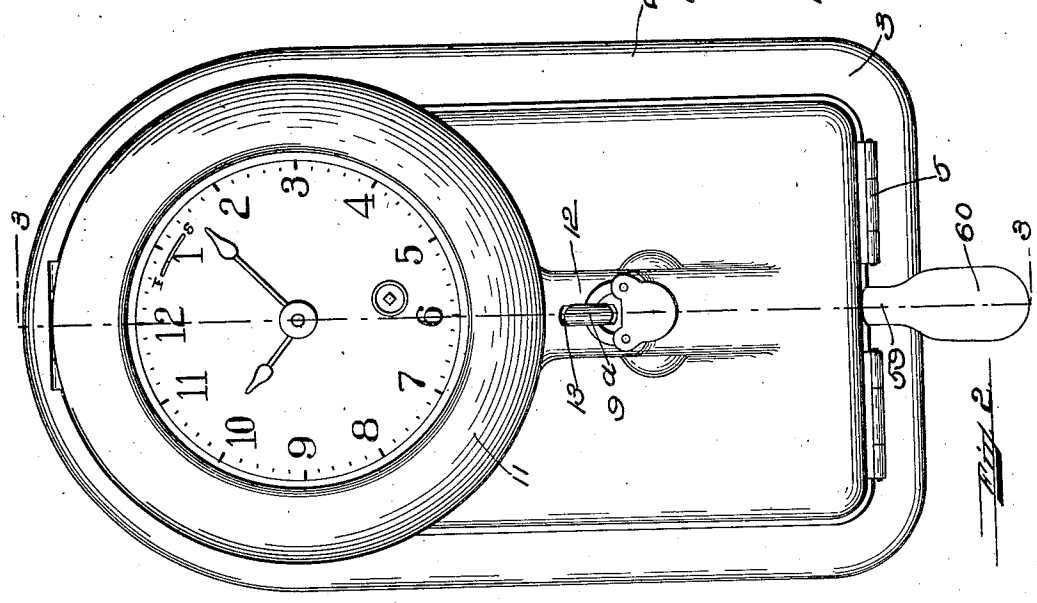


Fig. 2.

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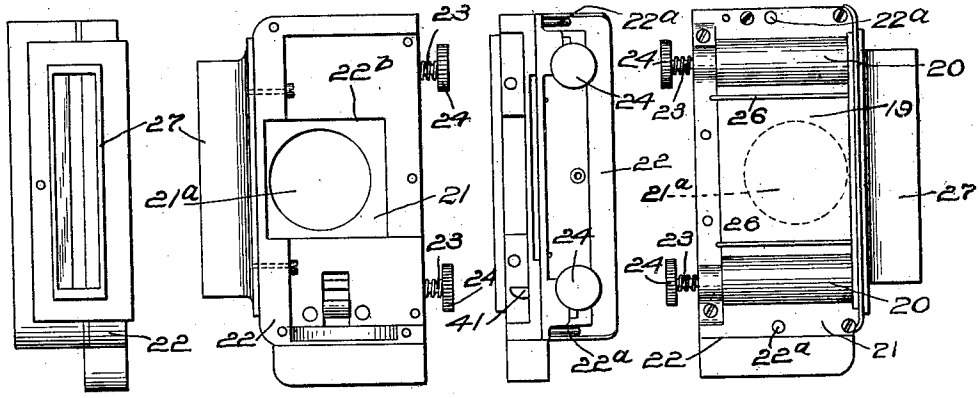


Fig. 4. Fig. 5 Fig. 6 Fig. 7

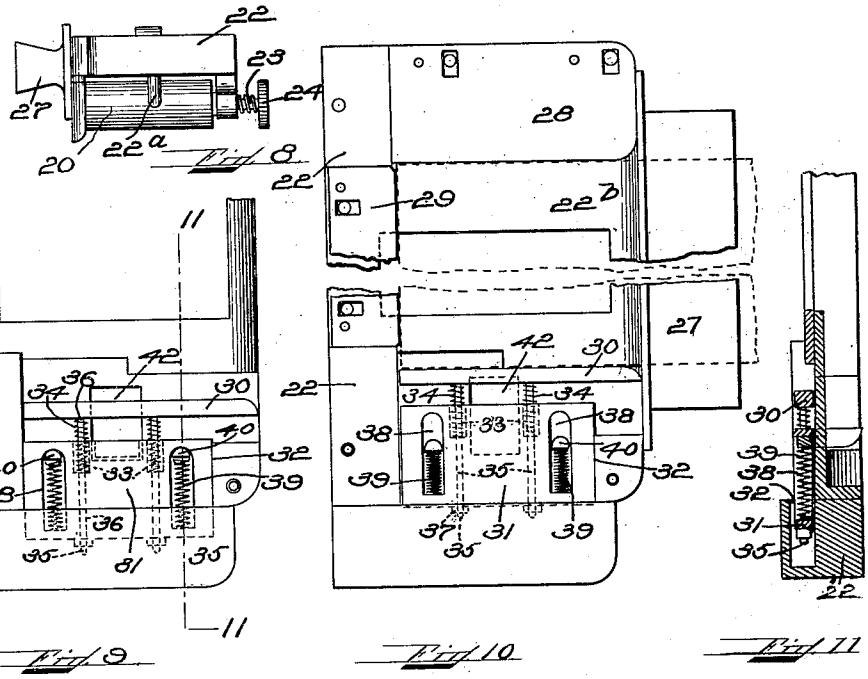


Fig. 8 Fig. 9 Fig. 10 Fig. 11

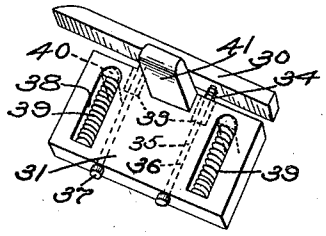


Fig. 12.

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UNITED STATES PATENT OFFICE.

JOHN C. WILSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE AUTOMATIC TIME STAMP COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

TIME-STAMP.

1,139,247. Specification of Letters Patent. Patented May 11, 1915.

Application filed June 27, 1907. Serial No. 381,013.

To all whom it may concern:

Be it known that I, JOHN C. WILSON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Time-Stamps, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to time stamps, printing timers and registers for automatically registering or stamping the time or interval upon a suitably presented medium, such as a card.

My invention aims generally to improve devices of this type, and to that end comprises novel features of construction, arrangement and combination of parts, which will be best understood and appreciated, by reference to the following description, when taken in connection with the accompanying drawings, of an automatic time registering stamp embodying one form of my invention and selected for purposes of illustration, the scope of the invention being more particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of a time stamp embodying one form of my invention, showing the same with its front swung down, or in its open position to disclose the interior; Fig. 2, a front elevation of the same; Fig. 3, a vertical section taken on the line 3—3, Fig. 2; Fig. 4, a plan of the removable card receiving frame to show the ribbon holder and the card positioning device; Fig. 5, an elevation of the right side of said frame; Fig. 6, a plan of the bottom thereof; Fig. 7, an elevation of its left side, Fig. 4; Fig. 8, an end elevation, and Fig. 9, a partial side elevation (full size) of said frame, the ribbon carrying plate being removed to show the card positioning latch member in normal position with its spring actuating mechanism; Fig. 10, a side elevation, full size, with parts broken out and the ribbon holding plate removed, to show the card positioning device moved inward relative to the opposite adjustable side gage and the end gage; Fig. 11, a longitudinal section, on the dotted line 11—11, Fig. 9; Fig. 12, a perspective of the card positioning mechanism detached from its carrying frame; and Fig. 13, a detail, in plan, of the end portion of a card employed, showing the dial previously printed therein and the impression made by the stamping die.

Referring to the drawings and to the particular embodiment of my invention selected for illustration therein, the time stamp comprises a suitable casing having a back 1, adapted to be secured in vertical position upon a suitable support 2, and to the lower wall 3 of which, the front 4 of said casing is hinged as at 5, thus to provide a two part closable casing within which the operative mechanism is housed, and that may be opened to afford access to the interior or closed up into its normal position of use.

Referring to Figs. 1 and 3, the back wall of the casing is provided with a forwardly projecting plate 6, having an aperture 7 in its front end, which is adapted to be engaged by the hook shaped end 8 of a pivoted latch lever 9 which maintains the casing closed, as best shown in Fig. 3. This pivoted latch lever extends through an opening in the front of the casing, so that it may be depressed to elevate its hooked end for releasing the latter from engagement with said apertured plate to permit the casing to be opened. The upper part of the casing is provided with a forwardly projecting portion of suitable shape and form, herein circular, within which is inclosed a suitable clock work, represented at 10, Fig. 3, which may be and preferably is of the same general construction and shown in my prior Patents Nos. 637,315 and 543,416, to which reference may be had if desired. The front of the casing is itself provided with a hinged and glazed door or cover 11 to protect the clock face, the glass plate 14 thereof permitting the clock face to be readily seen and the time ascertained, so that the time stamp also answers the purposes of a clock. This cover 11 is provided with a depending apertured lug 12 to receive the forwardly projecting end 9^a of the latch lever 9, said projecting end having a longitudinal slot 13 to permit the insertion of a pad lock to lock the cover in its closed position. At its back, the front 4 of the casing is interiorly provided with a suitable bed plate 15, Fig. 3, in which is rotatably mounted a stamping die, in the present instance, a printing die 16, having a forwardly projecting spindle 17 which, at its front end, is provided with spring fingers 17^a to grasp and clamp

upon a rearwardly projecting spindle of the clock works, in the present instance, the hour hand arbor. By this arrangement, the die is caused to rotate simultaneously with the hour hand or once in twelve hours.

While, obviously, the printing die may be of any suitable construction or form, such, for example, as the dials, indicators, etc., shown in my prior patents, to which reference has been made, I prefer that herein provided, comprising a die formed to stamp a circle *a*, (Fig. 13), having a radially extending index *b*, the circle and index portions of the die being respectively shown at 16 and 18, Fig. 3.

The bed plate may obviously be provided at its inner face with a suitable stationary printing die of the annular clock face dial type, within which the circular die 16 with its index 18 rotates, but, in the present instance, the graduations and hours are printed upon the card employed, Fig. 13, and the card is presented, by mechanism hereinafter described, so that the printing die is centered relatively to the printed dial upon the card.

As is common, in devices of this type, and as shown in the patents referred to, the stamping is effected by printing through a suitable preferably adjustable inking ribbon 19, extending across the front of the die. The ends of this ribbon are secured to suitable rollers 20, see Fig. 7, mounted upon a plate 21, of what may be termed a card receiving frame 22, Fig. 1, which is provided with suitable means for receiving and placing the card to be stamped relative to the die. This frame is, herein, removably secured upon and between the side walls of the casing front and directly behind the die. This frame is preferably of rectangular shape and is provided with forwardly projecting pins 22^a which extend from the face of the ribbon plate adjacent its lateral edges and are adapted to engage suitable apertures in the rear edges of the side walls of said front 4, so that the frame may readily be secured in position or removed.

For convenience in adjusting the ribbon the rollers are provided with projecting ends 23, having milled heads, 24, by which they may be turned to move the ribbon back and forth across the ribbon carrying plate and relatively to the die. This ribbon carrying plate, see Fig. 5 and dotted lines Fig. 7, is centrally provided with a preferably circular aperture 21^a, opposite a larger square opening, 22^b, in the back of said frame, said apertures receiving the platen member, 44, which engages the card held in said frame and forces it against the ribbon and coöperating printing face of the die, which, when said frame 22 is secured in place upon the casing, are immediately behind the printing die and its index 18, the ribbon of course, extending across the aperture to cover the face of the die.

For maintaining the ribbon with its printing surface substantially flush with the apertured ribbon plate, and in operative relation with the printing die, the latter is provided with transversely extending cross rods 26, see Fig. 7, beneath which the ribbon runs and which hold it down upon said plate.

To provide suitable means for receiving and supporting the card, said frame 22 is interiorly provided with a suitable rectangular recess or pocket formed between the ribbon supporting plate, 21, and the apertured back of the frame, the head of the frame having a projecting mouth 27 for receiving and directing the card into the receiving pocket. One side wall of said card recess or pocket, the top Fig. 10, is provided by a normally fixed but adjustable gage or stop 28 and the opposite side of said pocket is closed by a movable gage or card positioning member 30, which with its operating mechanism constitute the "card placing" means to which reference will be made. The bottom of the card receiving pocket is closed by an adjustable end gage or stop 29, Fig. 10, which determines the vertical position of the inserted card relative to the die. The side gage 28 and the bottom gage 29, as shown in Fig. 10, are each provided with transversely extending slots for the shanks of suitable retaining screws tapped through the back of said frame 22 into the ribbon holding plate 21, thereby permitting said gages to be secured in desired predetermined and adjusted position and to coöperate with the "card placing" mechanism.

Referring now to Figs. 9 and 10, this mechanism comprises the automatic positioning device, 30, which engages one side of the card and shifts the card laterally to cause its opposite edge to abut the side gage 28. This member is carried by and is slidably mounted upon a substantially rectangular block 31, a detached view of which is shown in Fig. 12, the latter being slidably mounted within a longitudinally extending recess 32 in the front face of the said frame and for which the ribbon holding plate, 21, serves as a retaining plate. At its inner edge, said block is provided with suitable sockets 33, Figs. 9 and 12, to receive outwardly projecting coil springs 34. These sockets communicate with apertures 36 extending through the block, which slidably receive pins 35 secured at their inner ends to said member 30. These pins, 35, the heads 37 of which exteriorly engage said frame, extend through said apertures 36 and said sockets 33, and are surrounded by said springs 34, the latter being interposed between said gage 30 and the bottoms of said sockets, so that the positioning member, 30,

is yieldingly and normally projected toward the opposite gage, 28, but has a yielding movement toward its carrying block. For normally retaining the block and thereby said positioning member, 30, in outer or card receiving and releasing position, said block is provided with transversely extending slots 38 to receive coil springs 39, the latter being interposed between the outer end walls of said slots and studs 40, Fig. 9, projecting into the opposite end of said slots from the bottom plate of said frame. These studs being stationary, the action of said springs is to thrust or push the block outwardly and to carry with it the card positioning member 30. Said block is also provided with a cam faced latch 41, extending at right angles from the rear face of said block and extending through and having an in and out or lateral movement in a suitable rectangular slot, 42, in the back plate of said frame. Referring to Figs. 9 and 10, the inner face of said plate, or that which constitutes the top edge thereof and which is immediately beneath the card receiving mouth of the time stamp, is preferably provided with a curved face for directing the inserted or unfed end of the card into the card receiving space below it, indicated in dotted lines, Fig. 10.

In operation, the card is inserted in said card receiving pocket and pushed down until arrested by the engagement of its inserted end with the adjustable bottom gage, whereupon the cam faced latch, which projects toward the rear face of said frame, is actuated by suitable means provided upon the platen operating lever 43, Fig. 1, presently described, to force the latch inward. This movement, of course, moves the card positioning or gage member 30 also inward, pushing the card sidewise or laterally, until its opposite edge strikes and is arrested by the opposite side gage 28, thus placing the card always in predetermined position after it has been fed into operative relation with the die.

By this construction, it will be evident that my invention provides suitable automatic means, which I denominate as card placing means for taking the card in its infed or received position and then transferring or shifting it to a new position in desired and predetermined relation to the printing die. Such construction, furthermore, differentiates my invention from stamping and printing devices provided with what may be termed feeding in means, that take a previously presented card and direct or move it into printing position and wherein the accuracy of the feeding movement is relied upon to properly position the card. To prevent the buckling of the inserted card by the complete or continued movement of said latch 41 and its block 31, the pin springs 34 are made light relative to the springs 39, so that they yield, and the positioning member 30, when the positioning movement of the card has been arrested, remains relatively stationary and thereby preventing bending or distortion of the card.

Referring now to Figs. 1 and 3, the means for actuating the card positioning member and for thereafter forcing the surface of the card into its centered position, into printing relation with said printing ribbon and the operating face of the printing die in front of it, comprise a spring controlled yoke shaped lever 43, which is provided at its head with a suitable platen 44, faced with a yielding pad 45. Both the platen and its pad are preferably of circular shape and are adapted to be moved in and out of the apertures in said ribbon supporting plate and its supporting frame 22. The forward movement of the platen operates to force the card engaged thereby and the printing ribbon into printing relation with the face of the printing die, thus producing an impression of the die on the card.

At its lower end, the lever 43 is pivotally mounted between the side walls of the casing, the sides of the yoke lever, in the present instance, being provided with depending ears 46, Fig. 3, apertured to receive a pivot pin 47 extending between the side walls of the casing and journaled at its ends therein. These ears are rigidly secured to said pivot pin by means of clamping screws 48 and said pin is surrounded by coil springs 49, the outer ends of which engage, as at 49^a, Fig. 3, the inwardly extending arms 50 of said lever. The opposite inner hooked shaped ends 51 of said springs, in the present instance, are arranged to engage pins 52 upon a forwardly projecting arm 53, of a lever 54 fulcrumed between ears 55 at the inner ends of the inwardly extending yoke arms 50. By this construction, said springs operate to swing the lever 54 on its pivot so as to move its forwardly projecting arm 53 rearward toward said yoke lever and yieldingly maintain it in such position. Between said ears 55, however, said lever 54 is provided with a cam face 56, which is adapted to engage a roller 57 upon the rear arm of a spring controlled lever 58, said cam face and the yielding roller arm cooperating to produce a percussive blow of the platen upon the card, as will now be described. A depending arm 59 of said lever 54, extends through a suitable slot in the bottom of the hinged front of the casing and at its outer end is suitably formed to present an operating handle 60 by which it may be depressed. Depression of this operating handle, swings the upper cam end thereof and the lever 43 forward together, first to bring the active face 61 of said cam arm 56 into engagement with

the roller and for the time being prevent further simultaneous movement of the levers. Further and continued depression of the operating handle 60, however, swings said lever 54 about its fulcrum 62 and relative to the lever 43, the springs 49 yielding to permit this separating movement and being compressed thereby until the curvilinear face 63 of said cam passes beneath the roller. At this instant, the spring controlled lever 58 carrying said roller 57 is permitted to swing rearward and upward, releasing the lever 54, the latter and said lever 43, immediately swinging forward; but the latter through a greater arc owing to the separation produced by the action of the roller, before the release thereof. The action of the compressed springs, swings the lever 43 forward to cause a sharp percussive blow to be struck by the padded platen against the card and the printing die in front of it, this movement stamping the card with the imprint of the die in desired relation with the printed dial thereon, as shown in Fig. 13.

While any suitable means may be provided for engaging and actuating the cam shaped latch of the card positioning device, so that the latter may present the card in predetermined position and hold it there while the stamping is effected I prefer the construction herein shown, wherein the back of the platen is provided with a transversely adjustable plate 64 having longitudinal slots 65 and clamping screws 66 by which it may be secured in desired position. At its right end, this adjustable plate is provided with inwardly extending ears 67 between which is mounted a friction roller, 68, adapted, when the platen lever is swung forward, to engage the rearwardly projecting cam face of said latch and by its action thereon, force the latter inward to position the card.

By this construction, it is obvious that the card may be inserted a plurality of times within the pocket, or card receiving recess provided for its reception, and that each time it is inserted, it will be moved to the same predetermined position to receive the impress of the printing die, the circle of said die having the same position relative to the card, while the index arm thereof has different relative positions corresponding to the times at which the time stamp is actuated.

The end of one of the cards or slips to be printed is shown in Fig. 13, upon which is previously printed the time dial referred to. The annular printed dial occupies the same position on all the cards relative to the sides and end thereof and for accurate results it is evident that in placing the card within the pocket receiving recess, it should be moved or placed in predetermined position relative to the printing die, so that the successive imprints of the latter stamped thereon occupy a concentric position relative to the previously printed dial on the card.

By the provision of the fixed though relatively adjustable side and end gages 28 and 29 with the coöperative action of the positioning member 30 and the adjustment of the roller carrying member 64 of the platen lever, suitable means are provided by which cards of different sizes may be used, the said gages, of course, being previously adjusted to effect the proper positioning or centering of the size of card used relative to the die, so that the imprint of the time stamp may always be concentric relative to the center of the clock dial on the card. By this construction, furthermore, it will also be apparent that the card is always moved to the predetermined position referred to and that it is also firmly held in position during the subsequent printing operation, so that any displacement thereof is positively prevented.

The invention described thus provides not only simple and effective means for effecting the stamping of the cards, but more particularly, devices which are automatically operated to position the card relative to the stamping device and also to hold it there while the stamping is taking place, this being the first instance in the art, so far as I am aware, in which automatic positioning devices have been provided. Furthermore, the actuation of the card positioning devices is effected by the same movement that moves the platen or effects the stamping, so that no other labor is required of the operator than to insert the card and actuate said lever.

My invention obviously is not limited to the particular embodiment thereof, herein selected for purposes of illustration only, nor to the specific details of construction and arrangement, the same being capable of modification within wide limits without departing from the spirit and scope thereof.

I claim—

1. The combination of a die with a platen, means for operating the same to effect a printing operation, a card receiving pocket having a fixed stop, a support, a card positioning member mounted to slide on said support relatively to said pocket, spring means tending to move said member away from said pocket, a card engaging element carried by said card positioned member, spring means tending to move said element away from said member, a cam member on said card positioning member and an operating member on said platen for engaging said cam member in the course of the printing operation automatically to shift said positioning member and cause said element yieldably to move the card to said fixed stop.

2. The combination of a die with a platen, a card receiving pocket having a fixed stop,

a reciprocable card positioning member, a support for said member, spring means tending to slide said member away from said stop, a cam faced lug on said member and an arm on said platen for engaging said cam face and automatically shifting said member toward said stop in the course of the movement of said platen toward said die in making an imprint.

3. The combination of a die with a platen, a card receiving pocket interposed between them and having a fixed stop, a reciprocable card positioning member, a card engaging element, spring means tending to move said element away from said member, spring means for yieldingly maintaining said member and element as a unit normally out of said pocket to present a free and unobstructed card receiving interior for the pocket, and means for automatically shifting said unit toward said fixed stop to adjust an edge of the card to said stop in the course of the relative movement of said die and platen in making an imprint.

4. The combination of a die, a platen, a time train for actuating said die, a card receiving pocket interposed between said die and platen and having a fixed stop, a card positioning member having provision for engaging an edge of the card, a support for said member, spring means tending to slide said member along said support away from said stop and leave a free and unobstructed interior for the pocket and means for automatically shifting said member toward said stop in the course of relative movement of the die and platen to adjust an edge of the card to said fixed stop.

5. The combination of a casing, with a die, a platen, a time train for actuating said die, a card receiving pocket interposed between said die and platen and having a fixed stop, a card positioning member having provision for engaging an edge of the card, means tending to slide said member away from said stop, and means for automatically shifting said member toward said stop in the course of relative movement of the die and platen to adjust the opposite edge of the card thereto.

6. The combination of a die with a platen, a card receiving pocket interposed between them and having a fixed stop, a card positioned member having provision for engaging an edge of the card, means tending to slide said member away from said stop, a casing receiving the above parts, and operating means for relatively moving said die and platen including a handle accessible exteriorly of said casing, and means for shifting said member toward said stop in the course of the relative movement of said die and platen to adjust the opposite edge of the card thereto.

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

JOHN C. WILSON.

Witnesses:
JOSIAH MINOT FOWLER,
SIDNEY F. SMITH.

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