

Oct. 12, 1943.

E. G. STRECKFUSS

2,331,635

FORM ISSUING MACHINE

Filed Jan. 3, 1941

4 Sheets-Sheet 1

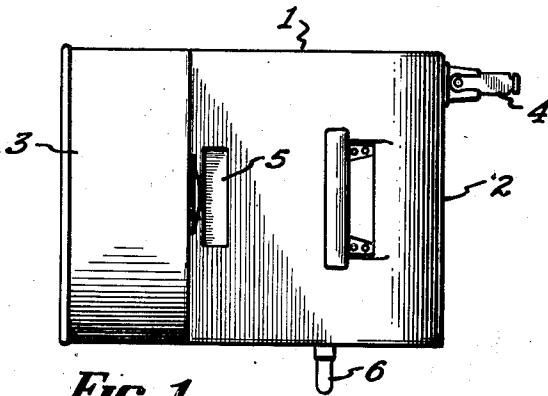


Fig. 1.

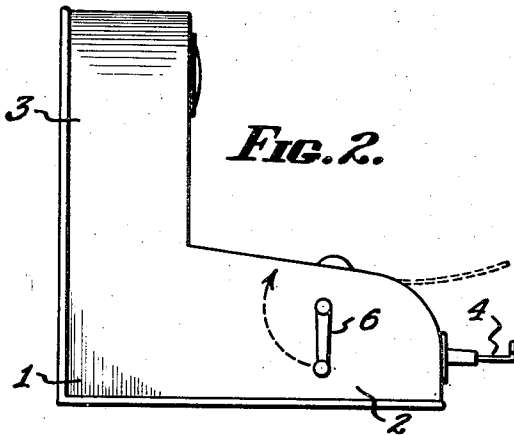


Fig. 2.

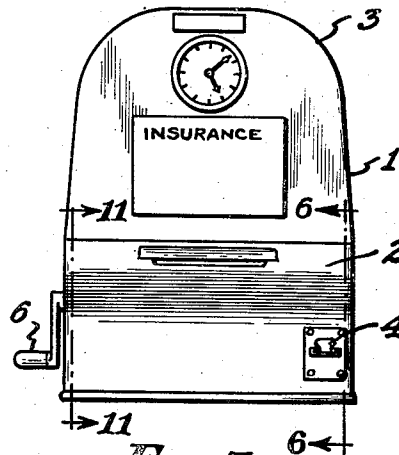


Fig. 3.

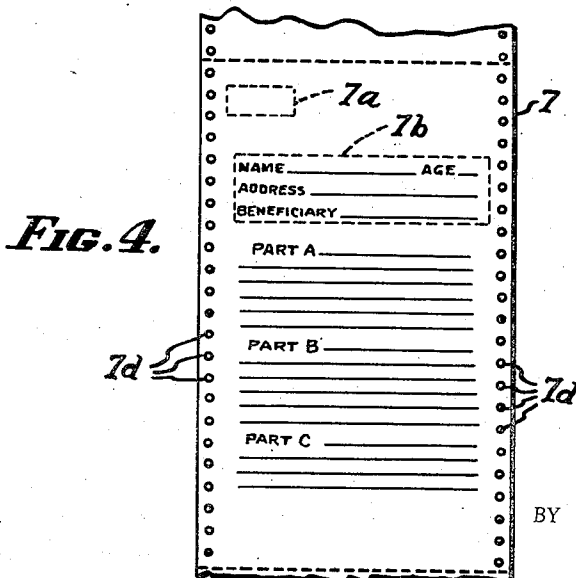


Fig. 4.

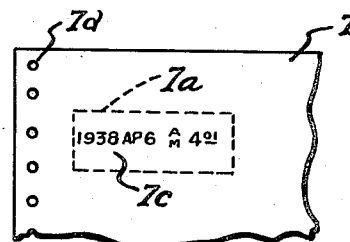


Fig. 5.

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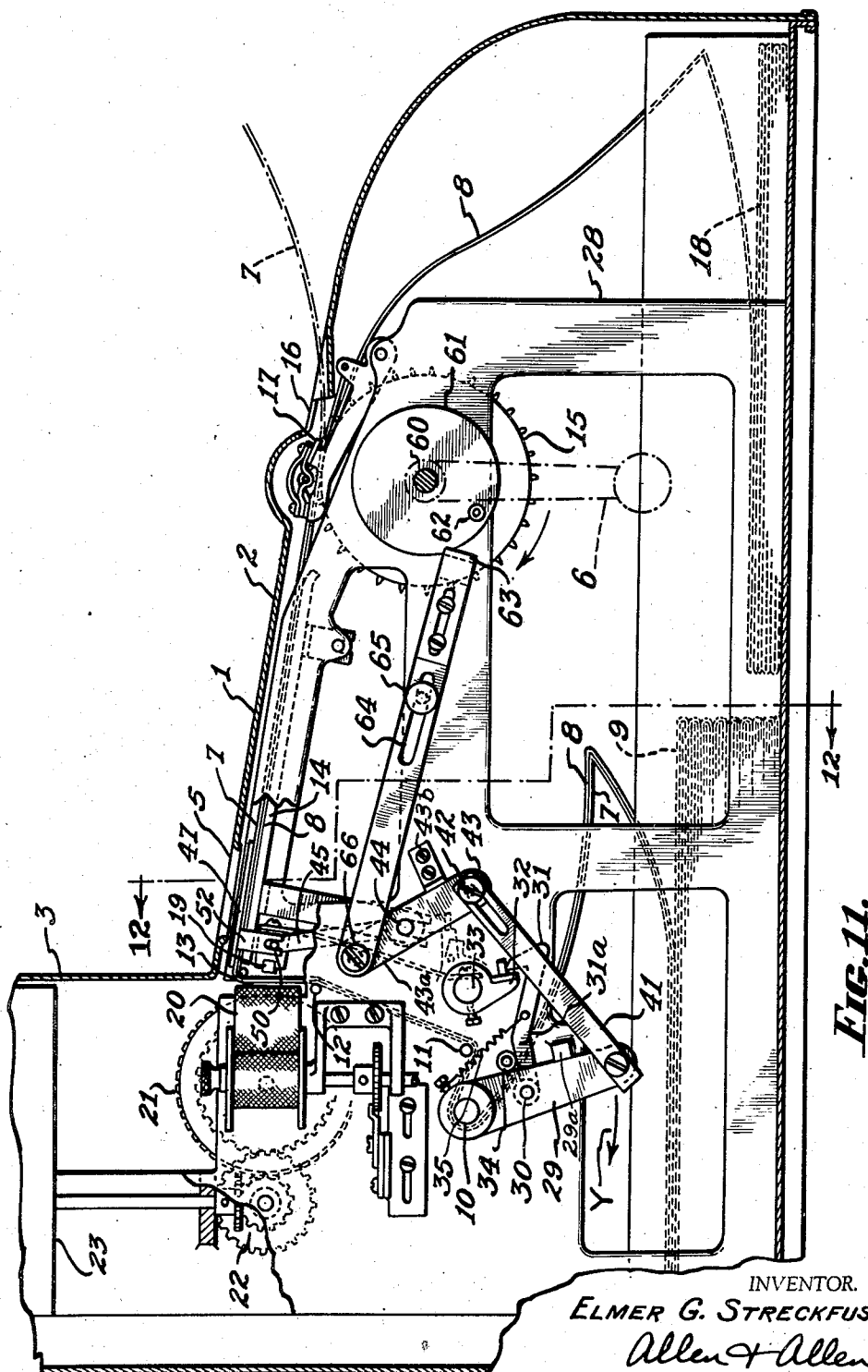


FIG. 11.

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4 Sheets-Sheet 4

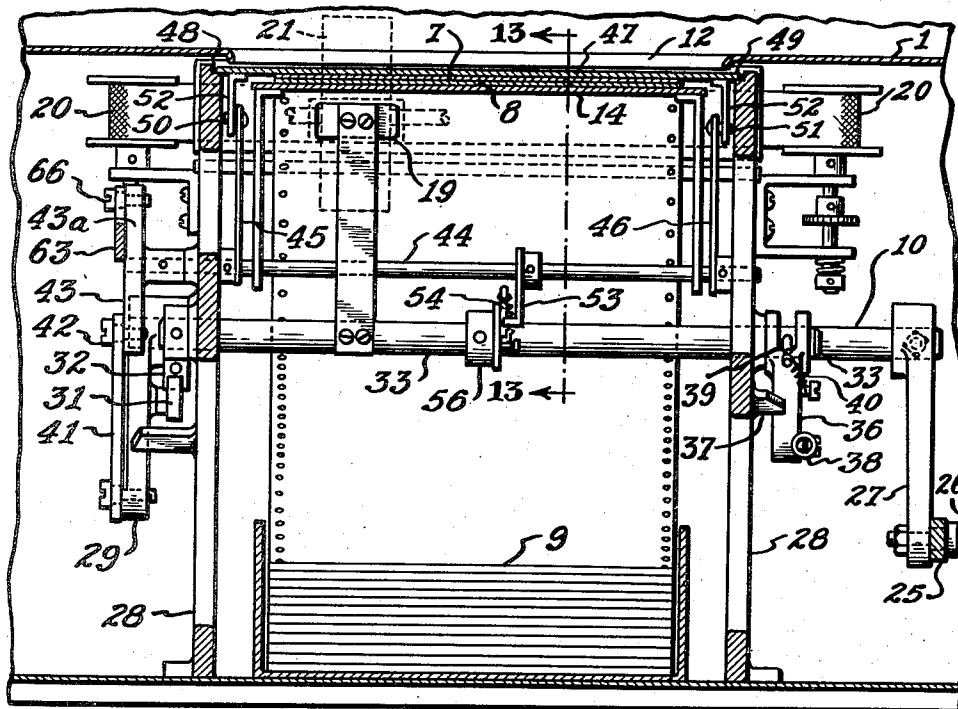


FIG. 12.

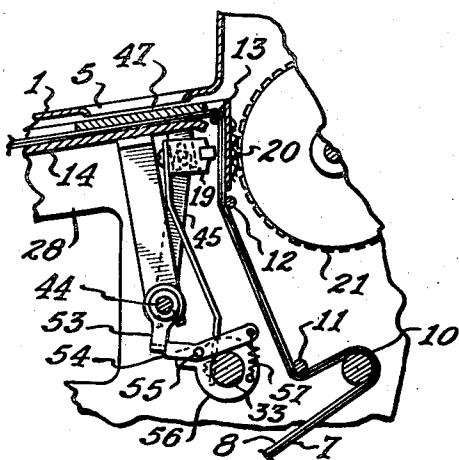


FIG. 13.

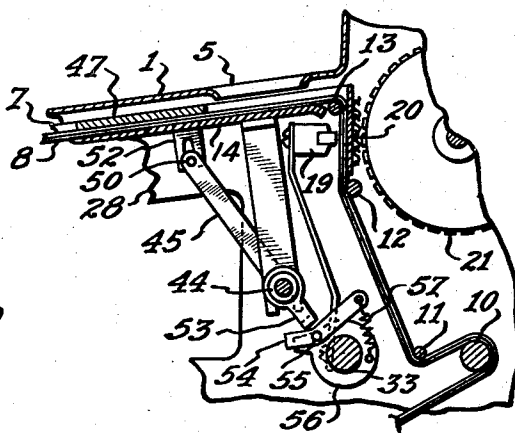


FIG. 14.

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2,331,635

FORM ISSUING MACHINE

Elmer G. Streckfuss, Cincinnati, Ohio, assignor
to The Cincinnati Time Recorder Company,
Cincinnati, Ohio, a corporation of Ohio

Application January 3, 1941, Serial No. 373,009

7 Claims. (Cl. 101—90)

My invention relates to provision of a machine for issuing forms from strips, and retaining records thereof, in which a series of operations are imposed upon the operator, so as to require a preliminary stamping by a mechanism controlled within the machine, preliminary to entries being made on the form to be issued. I have on file an application for Letters Patent, Serial No. 219,000 filed July 13, 1938, in which I show and describe an electrically operated machine, preferably initially set into operation by the insertion of a coin. In the present embodiment, I have used a manually operated device which performs similar functions to the electrically operated device illustrated in my said application for patent.

In the present embodiment I have used a coin slide, familiar in coin operated machines, employing the motion imparted to this slide for setting into operation a clock controlled printing device, opening a shutter, and releasing the form feed device for a manual operation.

To illustrate a mechanism suitable for carrying out my invention, I have shown and will describe a preferred embodiment, it being understood that the novelty therein, and illustrated by the drawings and description, will be set forth in the appended claims.

In the drawings:

Figs. 1, 2 and 3 are respectively a plan view, a side elevation and a front elevation of my strip dispenser.

Fig. 4 illustrates a preferred form of the strip. Fig. 5 is a fragmentary view of the strip with the date and time printed thereon.

Fig. 6 is an enlarged sectional view taken along line 6—6 of Fig. 3 but having certain parts broken away and certain parts in section.

Fig. 7 is a section taken along line 7—7 of Fig. 6 showing a detail of the lock releasing mechanism.

Fig. 8 is a section taken along line 8—8 of Fig. 6 showing the lock device.

Fig. 9 is a perspective of a latch member employed in the lock.

Fig. 10 is a section taken along line 10—10 of Fig. 6 showing one end of the shaft upon which the printing hammer is mounted.

Fig. 11 is a section taken along line 11—11 of Fig. 3 but having certain parts broken away and certain parts in section.

Fig. 12 is a section taken along line 12—12 of Fig. 11.

Fig. 13 is a section taken along line 13—13 of Fig. 12, and

Fig. 14 is a section similar to Fig. 13 but showing an alternate position of the parts.

In Figs. 1 to 5 inclusive I have illustrated the external appearance of my machine and a preferred form of strip such as may be employed in the sale of accident insurance.

The machine has a casing or housing 1 having a forwardly extending portion 2 in which strip dispensing mechanism, later to be described in detail, is contained. A rearward upstanding portion 3 of the casing contains clock mechanism for operating time printing wheels.

In operating the machine a coin is deposited in the coin slide or control device 4 and the plunger thereof pushed inward. This movement actuates three trains of mechanism within the machine the first of which serves to stamp the exact time and date on the strip to be dispensed. The second train of mechanism opens an aperture 5 in the face of the housing so that the purchaser's signature and/or other data may be written on the revealed portion of the strip. The third train of mechanism functions to release a locking device so that the dispensing crank 6 may be operated to finally eject the strip. After ejection of the strip the machine will again be locked until another coin is deposited.

Referring now to Fig. 11 the strip to be dispensed is indicated at 7 and a duplicate strip to be retained in the machine is indicated at 8. The supply of strips may be folded as shown to form a pile 9 from which pile the material is threaded about shafts 10, 11, 12, 13, over a writing support plate 14 and thence to a pair of sprocket wheels indicated at 15, the strips being suitably perforated to accommodate the sprockets.

As the strips are fed past the sprocket wheels by rotation of same the upper strip 7 passes through a dispensing aperture 16 in the casing whence the issued portion of the strip may be detached by tearing along the knife edge 17. The lower strip, which is to be retained, passes to the bottom of the casing to form a pile 18.

The printing of time and date is accomplished by the printing hammer 19 which strikes the strip material against an inked ribbon 20 and a set of time indicating type wheels 21. The type wheels 21 are properly driven by gearing indicated at 22 from a clock mechanism contained in a casing 23. The construction of the type wheels and mechanism controlling same form no part of my present invention.

As the time imprint will occur only on the strip 7 which contacts the ribbon it is necessary

to provide means for duplicating the imprint on strip 8. To this end the strip 7 may be coated on its under side with a suitable duplicating medium such as carbon. Referring to Figs. 4 and 5 the strip 7 has underneath coated areas 7a and 7b which serve to duplicate any data applied thereover to the underlying strip 8. The printed date is indicated at 7c and suitable perforations for the feed wheels are shown at 7d.

Referring to Fig. 6 the coin slide 4 has affixed to the inner end of its plunger 4a a downward bent angle piece 24 to which is fixed a horizontally extending bar 25. The bar 25 has at its rear end a slot 25a which is slidable upon the stud 26 fixed in lever arm 27. The arm 27 is fixed on shaft 10 which is suitably journaled in the frame 28 and extends to the other side of the machine where it serves to operate other mechanism.

It will be clear from Fig. 6 that when the coin plunger is pushed inward and the lost motion provided by slot 25a is consumed the arm 27 and shaft 10 will be rocked in an arc of counter-clockwise direction as indicated by the arrow X or, as seen in Fig. 11 (which shows the opposite side of the mechanism) the shaft 10 and its associated elements will be rocked in clockwise direction as indicated by arrow Y. To this end of shaft 10 is fixed a lever arm 29 having pivoted thereto as at 30 a hook like member 31 which engages a finger like element 32 fixed to a shaft 33 on which shaft the printing hammer 19 is carried. Movement of the arm 29 is limited by a stop 29a.

The member 31 has a cam surface 31a which bears against a roller 34 fixed in the frame and is urged to the position shown by a light spring 35.

When the lever arm 13 is carried in the direction of arrow Y by actuation of the coin slot plunger as before explained the member 31 will be carried therewith thus rocking shaft 33 and hammer 19 in clockwise direction as seen in Fig. 11. This action is resisted by a spring tension means acting on shaft 33 to be presently described and as the movement progresses the cam roller 34 bearing against cam surface 31a causes disengagement of the members 31 and 32 whereupon the shaft 33 and hammer 19 are forcibly returned by the spring tension device to accomplish printing of the strip.

The spring tension means above referred to in conjunction with shaft 33 is shown in detail in Figs. 6 and 10. As there shown the shaft 33 is provided with a lever arm 36 which is urged to the position shown against a stop lug 37 by the printing hammer actuating spring 38. The member 36 is pivotally mounted on the shaft 33 but relative movement between the two members is confined by a pin 39 which extends through and is fixed in the shaft 33. A spring 40 urges the members to the normal relative position as shown. The hub or bearing portion of member 36 has a slot or cut out portion the bottom surfaces 36a and 36b of which serve to abut the pin 39 to confine relative movement of the shaft and lever.

By the arrangement thus described the momentum of the printing hammer is permitted to momentarily carry the hammer past the normal position seen in the drawings to imprint the time and date firmly upon the strip whereafter the hammer will be returned by spring 40 to the position shown thus allowing free passage of the strip material when desired.

Referring again to Fig. 11 the lever 29 has pivoted at its outer end a second member or link 41 which engages a stud 42 to operate the lever member 43. Member 43 is fixed to a shaft 44 which extends to the other side of the machine and carries therebetween a pair of arms 45 and 46 which serve to operate a shutter member 47 normally obstructing the aperture 5. Movement of the lever 43 is limited by the stop 43b. The shutter member is arranged to slide in ways 48 and 49 provided in the upper rails of the frame (Fig. 12) and has a pair of lugs or ears 52 which extend downwardly to engage operating pins 50 and 51 in the arms 45 and 46. In Fig. 13 the shutter is shown in the closed position and in Fig. 14 it is shown in open position.

As shown best in Figs. 12, 13 and 14 a locking device is provided to prevent tampering with the shutter. As shown the shutter operating shaft 44 has fixed thereon a lever 53 the lower end of which (as seen in Fig. 13) abuts a stop member 54. The member 54 is pivotally mounted as at 55 to a collar 56 fixed on shaft 33 and a light spring 57 urges the member to the position shown. It will thus be clear that the shutter member 47 cannot be moved to open position by tampering with same through the aperture 5. However, when the coin slide is operated the hammer shaft 33 will be rocked in a direction counter-clockwise as seen in Fig. 13 by mechanism previously described, thus the stop member 54 will be moved to a position not obstructing movement of lever 53 and the shutter may then be moved to open position by linkage already described. The linkage of the machine is so arranged that the printing hammer 19 is actuated to imprint time and date before the shutter is opened, thus when the shutter has been moved to complete open position as seen in Fig. 14 the shaft 33 will have returned to its normal position and the member 54, due to its pivoted arrangement, will be depressed by lever 53 against tension of spring 57. The member 54 thus forms a latch which will again engage behind lever 53 when the shutter is moved to closed position. It may be pointed out that the slot in the member 41 of Fig. 11 is long enough to provide a very small amount of play sufficient to permit rotation in a slight degree of the lock 54 before becoming operative to move the shutter operator linkage.

Referring to Fig. 11 the shutter is automatically returned to the closed position when the ejection crank 6 is operated to dispense the strip. The crank 6 is fixed to a shaft 60 which shaft is suitably journaled in the frames and also carries the sprockets 15 before mentioned and a disc 61. Disc 61 carries a stud 62 which is located to contact the end of a link 63 and return same to the position shown when crank 6 is operated. The link 63 is pivotally attached as at 66 to an arm 43a of member 43 and has an intermediate slot 64 by which it is slidably carried on a stud 65 fixed in the frame. When the shutter 47 is in open position the link 63 will abut stud 62 so that movement of the stud, which occurs when handle 6 is operated to eject the strip, will return the link to its normal position as shown to close the shutter.

Associated with crank 6 and shaft 60 is a locking device which prevents issuance of the strip except when a coin has been deposited. This device is shown in Figs. 6 to 9 inclusive. Shaft 60 has fixed thereto a ratchet wheel 70 having a spring pressed pawl 71 which permits rotation of

the shaft and its associated elements only in the counter-clockwise direction as indicated by the arrow Z. Rotation in this direction, however, is prevented by a lug 72 which is carried on the ratchet 70 and a pivoted stop member 73 which normally lies in the path of the lug 72.

The member 73 is pivoted to bracket 74 as at 75 and has an upward extending portion 76 adapted to be engaged by a latch 77 which is carried on the ratchet wheel. The latch 77 consists of a pivoted member 78 which is carried on bracket 78a and is urged to the position shown against a stop pin 79 by a spring 80. The member 73 is urged to the locking position shown by a spring 81 but when a coin is deposited in the slide 4 and the plunger 4a pushed inward a member 82 carried thereon strikes an arm 83 of a bent lever 84 to rotate same about its pivot 85 causing arm 86 of the lever to carry the lower end of member 83 outward as indicated by the arrow A in Fig. 8. As this occurs, the portion 76 will become engaged behind the latch 78 and member 73 will remain in an outward position so as not to obstruct the path of lug 72 thus permitting rotation of shaft 60 to eject the strip. As soon as the shaft 60 is moved through an arc of rotation sufficient to carry the stop lug 72 beyond the member 73 the member 73 will return to its normal position due to the fact that the latch 78 is mounted on ratchet 70 and travels therewith to become disengaged beneath the portion 76. The return of member 73 to its normal position obstructing the path of lug 72 will thus prevent more than one complete revolution of shaft 60 and its associated elements for each coin deposited.

The operation of the device will now be clear. When a person inserts a coin in the coin slide, which may have the usual safeguards requiring a proper coin and a proper length of path of movement, as in other coin slide machines, the operator must push in upon the said coin slide. There will be a form length of the paper to be issued lying on the usual support beneath the top casing of the machine, with the portion to be imprinted bent around the inner edge of the support, and in position opposite the type wheels. No movement of the feed handle can be initiated without the operation of the coin slide, nor can the user shift the shutter that closes the writing opening, pushing this shutter out of the way.

Upon pushing in on the coin slide, which is the only thing that the user can do, the printing hammer will at once imprint the time and date, or such other indicia as are required on the uppermost strip, which data will be carried through to the lowermost strip. At about the same instant the shutter will be moved away from the writing opening, whereupon the user will write in his name or such other data as will be required to identify the strip to be issued as his own. The machine will then stand in position until effort is made to issue the strip. The crank handle is then grasped by the operator, which will issue the uppermost strip, the lowermost one passing into the casing of the machine beyond the feed opening. It will be so arranged that one revolution of the crank will issue just one form length of the paper strip, and arrange a new form length for the next operation. The turning of the crank around, to issue the strip written upon and printed, will set the machine for another operation, requiring the deposit of another coin. The issue form is then torn off in the usual way.

It will be seen that as in my electrically op-

erated machine, the time printing mechanism does not interfere with the construction of the machine, and the user has no operations to perform except to operate the mechanical coin slide which all persons are familiar with, and impart a single rotation to the feed handle. He cannot tamper with the machine and due to the use of marginally perforated paper, the amount of paper fed is exact, and it will not be practical to tease a strip out of the machine, without positively rotating the feed pin wheel.

The arrangement of mechanism is simple, and sturdy, so as to withstand untrained handling thereof, and the arrangements are such that the user is led to make the proper moves at the proper time.

It should be noted that the coin controlled aspect of the structure could be dispensed with for certain uses. Thus the coin slide could simply be a preliminary operating device which could be pushed at any time, the point being that to remove a slip and leave a record thereof in the machine, would require the preliminary stamping of the strip to be issued and its copy to be retained with certain time and date indicia needed for purposes of later identification.

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

1. A form issuing machine comprising a storage for plural printed forms in strips, a feed device for delivering one form length of one of said strips at each operation and retaining a copy thereof on another of the strips, a time wheel printing mechanism, a paper support for autographic entry on the said forms, said time wheel printing mechanism so located as to imprint said forms when in position for writing thereon, a casing enclosing the forms having a shuttered opening through which writing can be performed on the topmost strip, a lock for the feed device, a shutter and means for moving the same to disclose said shuttered opening, and manually operated means arranged to operate the time wheel printing mechanism to print upon the form to be written upon and operate said shutter moving means, and release the lock for the feed device, and means operated separately from the manual means for operating the feed device after its release, and means operated by the feed device for resetting the shutter.

2. A form issuing machine comprising a storage for plural printed forms in strips, a feed device for delivering one form length of one of said strips at each operation and retaining a copy thereof on another of the strips, a time wheel printing mechanism, a paper support for autographic entry on the said forms, said time wheel printing mechanism so located as to imprint said forms when in position for writing thereon, a casing enclosing the forms having a shuttered opening through which writing can be performed on the topmost strip, a lock for the feed device, a shutter and means for moving the same to disclose said shuttered opening, and manually operated means arranged to operate the time wheel printing mechanism to print upon the form to be written upon and operate said shutter moving means, and release the lock for the feed device, and means operated separately from the manual means for operating the feed device after its release, said means being a single revolution crank, and means operated by the feed device for resetting the shutter.

3. A form issuing machine comprising a stor-

age for plural printed forms in strips, a feed device for delivering one form length of one of said strips at each operation and retaining a copy thereof on another of the strips, a time wheel printing mechanism, a paper support for autographic entry on the said forms, said time wheel printing mechanism so located as to imprint said forms when in position for writing thereon, a casing enclosing the forms having a shuttered opening through which writing can be performed on the topmost strip, a lock for the feed device, a shutter and means for moving the same to disclose said shuttered opening, and manually operated means arranged to operate the time wheel printing mechanism to print upon the form to be written upon and operate said shutter moving means, and release the lock for the feed device, and means operated separately from the manual means for operating the feed device after its release, said manually operated means being a coin controlled member, and means operated by the feed device for resetting the shutter.

4. A form issuing machine comprising a storage for plural printed forms in strips, a feed device for delivering one form length of one of said strips at each operation and retaining a copy thereof on another of the strips, a time wheel printing mechanism, a paper support for autographic entry on the said forms, said time wheel printing mechanism so located as to imprint said forms when in position for writing thereon, a casing enclosing the forms having a shuttered opening through which writing can be performed on the topmost strip, a lock for the feed device, a shutter and means for moving the same to disclose said shuttered opening, and manually operated means arranged to operate the time wheel printing mechanism to print upon the form to be written upon and operate said shutter moving means, and release the lock for the feed device, and means energized separately from the manual means for operating the feed device after its release, said manually operated means being a coin slide, and means operated by the feed device for resetting the shutter.

5. A form issuing machine comprising a storage for plural printed forms in strips, a feed device for delivering one form length of one of said strips at each operation and retaining a copy thereof on another of the strips, a time wheel printing mechanism, a paper support for autographic entry on the said forms, said time wheel printing mechanism so located as to imprint said forms when in position for writing thereon, a casing enclosing the forms having a shuttered opening through which writing can be performed on the topmost strip, a lock for the feed device, a shutter and means for moving the same to disclose said shuttered opening, and manually operated means arranged to operate the time wheel printing mechanism to print upon the form to be written upon and operate said shutter moving means, and release the lock for the feed device, and means energized separately from the manual means for operating the feed device after its release, said manually operated means being a coin slide, and means operated by the feed device for resetting the shutter.

vice, and means energized separately from the manual means for operating the feed device after its release, said means being a single revolution crank, said manually operating means being a coin slide, and means operated by the feed device for resetting the shutter.

6. A form issuing machine comprising a storage for plural printed forms in strips, a feed device for delivering one form length of one of said strips at each operation and retaining a copy thereof on another of the strips, a time wheel printing mechanism, a paper support for autographic entry on the said forms, said time wheel printing mechanism so located as to imprint said forms when in position for writing thereon, a casing enclosing the forms having a shuttered opening through which writing can be performed on the topmost strip, a lock for the feed device, a shutter and means for moving the same to disclose said shuttered opening, and manually operated means arranged to operate the time wheel printing mechanism to print upon the form to be written upon and operate said shutter moving means, and release the lock for the feed device, and means energized separately from the manual means for operating the feed device after its release, and means for guiding the paper strips so that the portion to be printed on lies at an angle to the portion thereof to be written upon, said form feed having a length of movement sufficient to move form lengths of the strips, at a single operation from the imprinting point to the delivery point, and means operated by the feed device for resetting the shutter.

7. A form issuing machine comprising a storage for plural printed forms in strips, a feed device for delivering one form length of one of said strips at each operation and retaining a copy thereof on another of the strips, a time wheel printing mechanism, a paper support for autographic entry on the said forms, said time wheel printing mechanism so located as to imprint said forms when in position for writing thereon, a casing enclosing the forms having a shuttered opening through which writing can be performed on the topmost strip, a lock for the feed device, a shutter and means for moving the same to disclose said shuttered opening, and manually operated means arranged to operate the time wheel printing mechanism to print upon the form to be written upon and operate said shutter moving means, and release the lock for the feed device, and means energized separately from the manual means for operating the feed device after its release, said form feed having a length of movement sufficient to move form lengths of the strips at a single operation from the imprinting point to the delivery point, and means operated by the feed device for resetting the shutter.

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