

Sept. 30, 1958

C. E. WILLIAMS
AUTOGRAPHIC REGISTER

2,854,257

Filed Nov. 13, 1953

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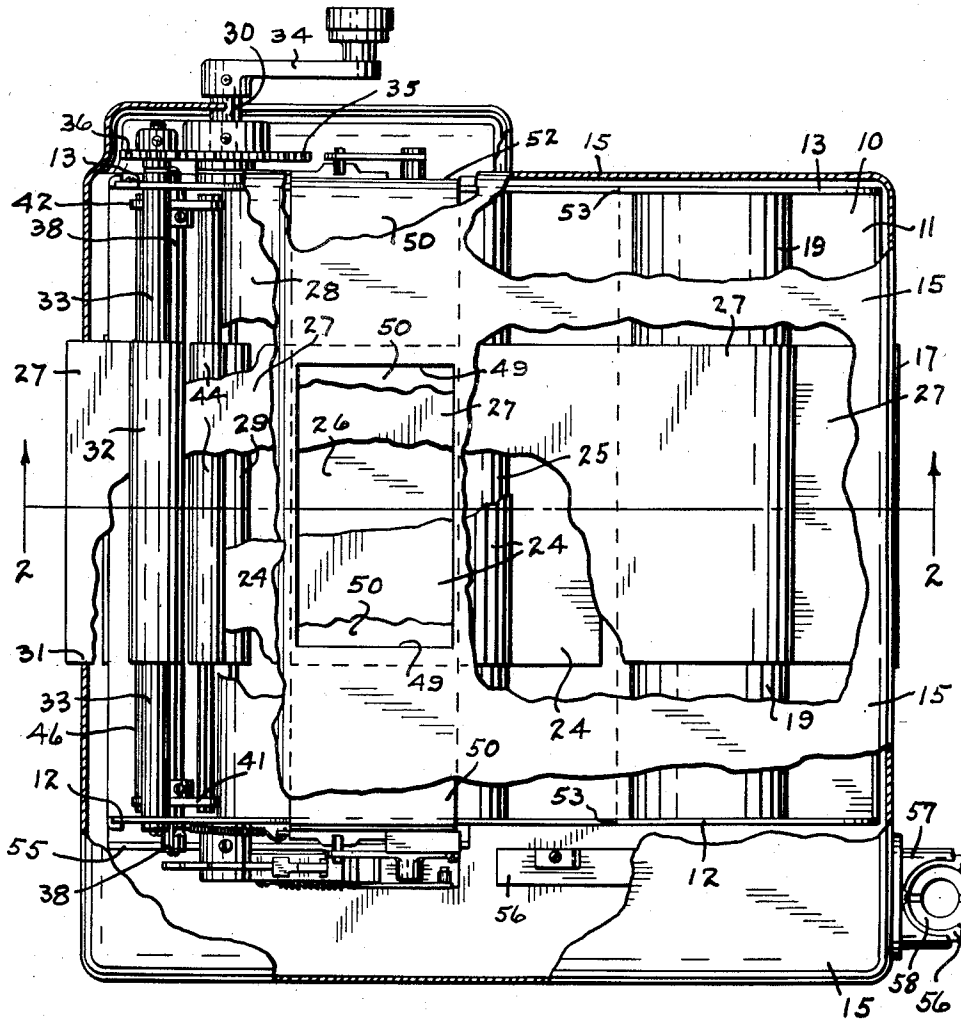


Fig. 1.

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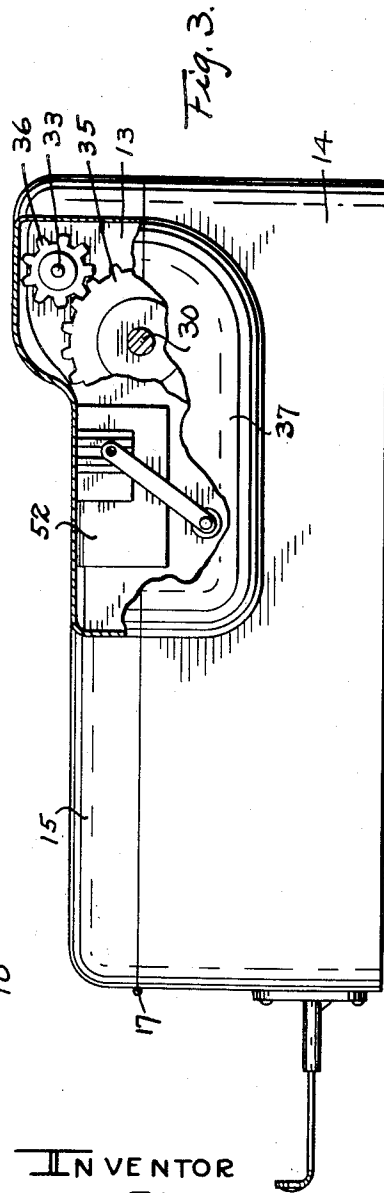
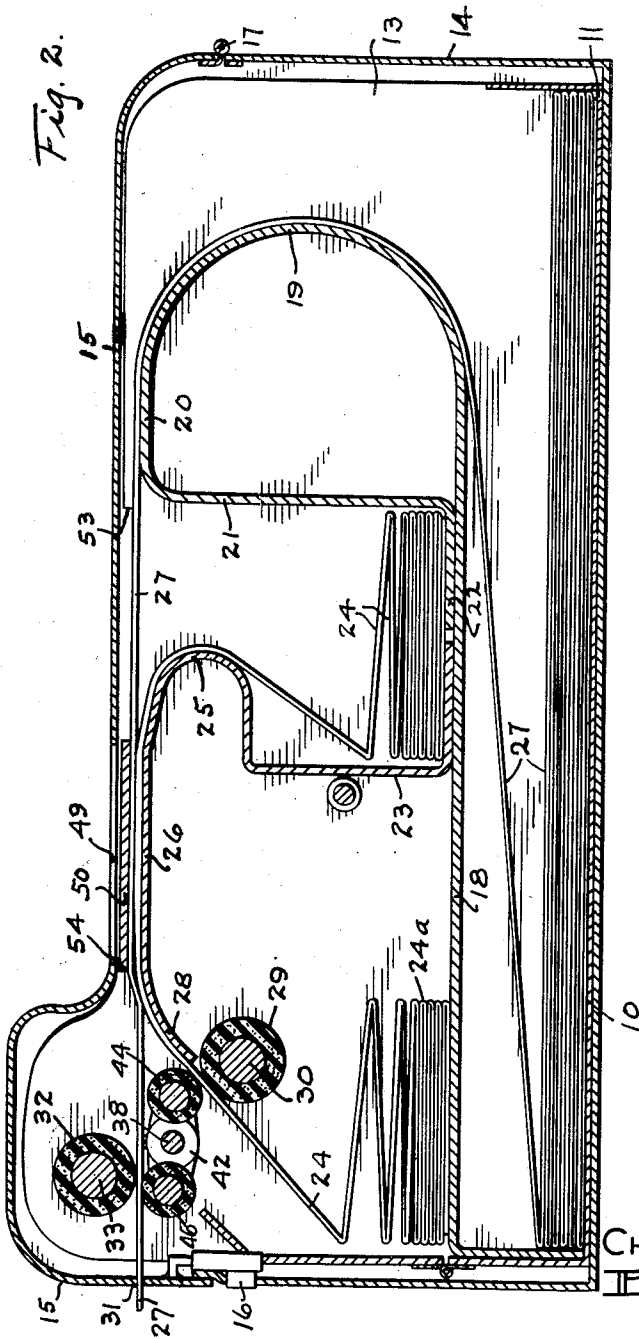
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Filed Nov. 13, 1953

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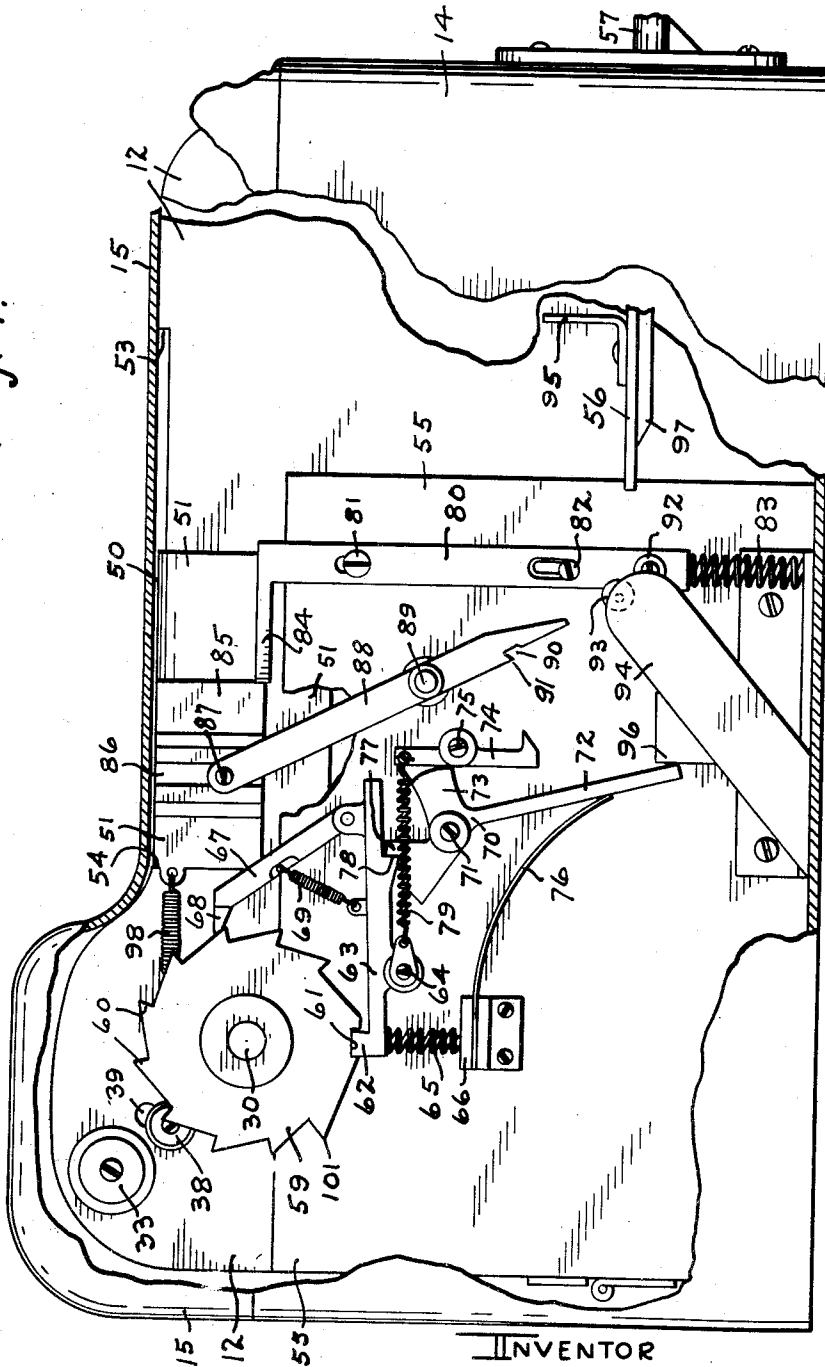
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2,854,257

Filed Nov. 13, 1953

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Fig. 4.



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Sept. 30, 1958

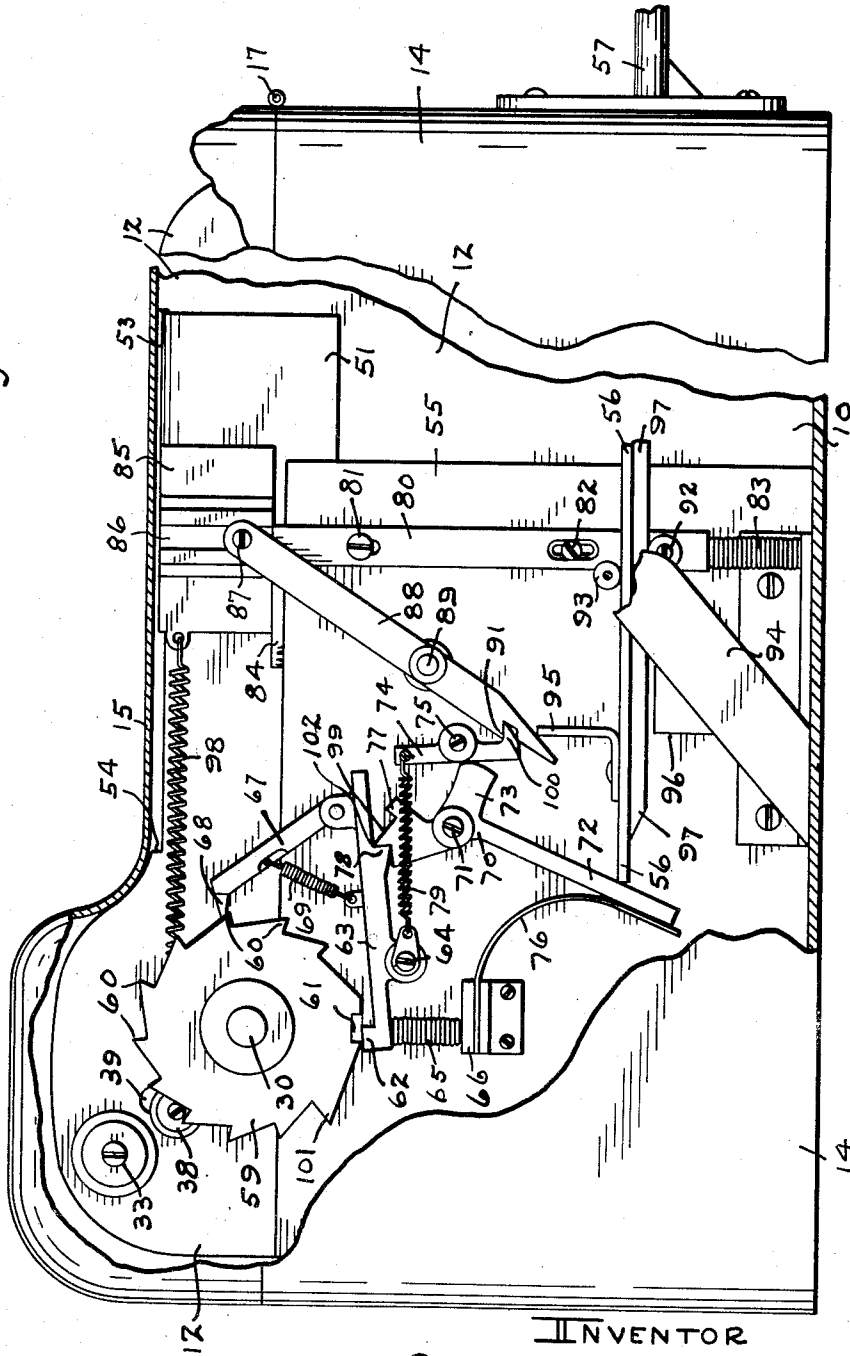
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Filed Nov. 13, 1953

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Fig. 5.



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2,854,257

Filed Nov. 13, 1953

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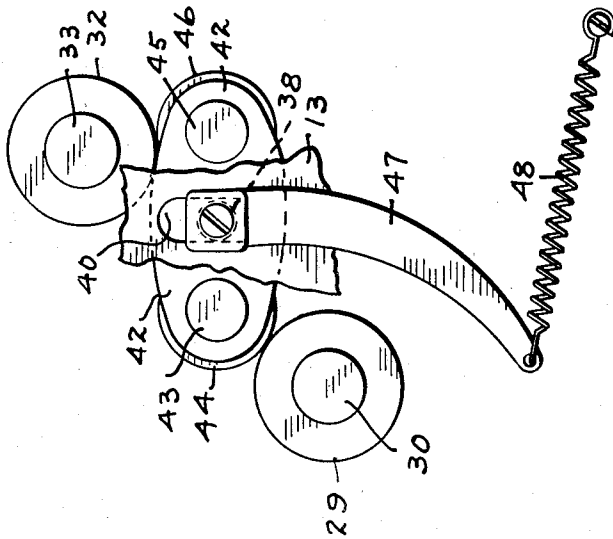


Fig. 6.

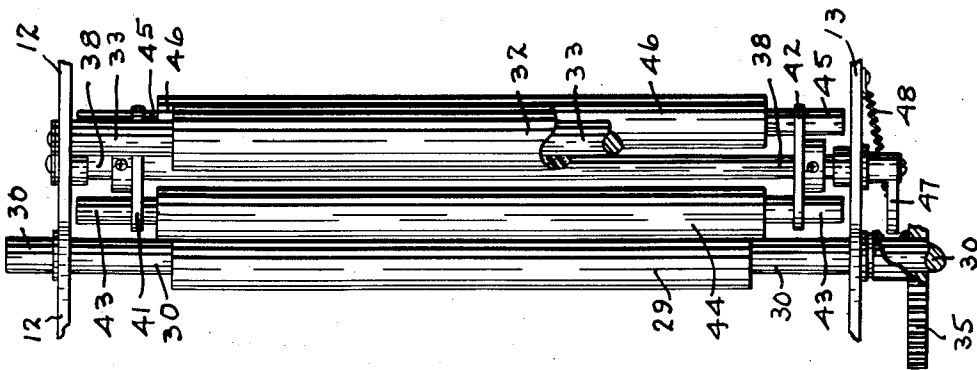


Fig. 7.

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Application November 13, 1953, Serial No. 391,950

4 Claims. (Cl. 282—16)

This invention relates to an autographic register of a type wherein at least two forms may be fed past a window over a table, in order to permit writing on a top form to be impressed through any such means as carbon paper on a second under form, but only permitting such writing upon the uncovering of that window. The invention includes a coin operated device for releasing mechanism normally maintaining the window covered, and which mechanism, when released by the deposit of a coin, will operate by means of an externally presented member such as a crank when that member is employed to feed the forms across the table and across the window. One particular use of the invention is to make available a plurality of insurance policy forms, one each to be dispensed from the register upon each deposit of a coin. The invention further provides that access to the policy form may not be had until after the coin has been deposited, and the form fed up over the table and the window uncovered to permit the purchaser of that policy to affix his signature and address on the policy and at the same time impress that signature and address on a secondary form under the policy, which secondary form is retained in the register for a record while the policy itself will be fed from the register to be taken by the purchaser.

In accomplishing that purpose, the invention provides an exceedingly simple, yet fool proof mechanism which cannot be manipulated to give access to a policy in the absence of having deposited the proper coin. Furthermore the invention provides for a structure which would be of relatively small size and may be portable if desired such for example, as would be desirable around a filling station for automobiles, where policies of insurance agreements covering accidents and the like may be sold for a limited period.

These and many other objects and advantages of the invention will become apparent to those versed in the art in the following description of one particular form of the invention, in which

Fig. 1 is a view in top plan in partial section and with various walls broken away to disclose the interior for use with short policy forms;

Fig. 2 is a view in vertical longitudinal section on the line 2—2 in Fig. 1 but showing the invention applied to a device of greater length than that shown in Fig. 1;

Fig. 3 is a view in right hand side elevation of the structure shown in Fig. 1, and in partial section;

Fig. 4 is a view in left hand elevation and partial section with walls broken away to disclose interior parts, on an enlarged scale;

Fig. 5 is a similar view but with the coin mechanism in an operated condition;

Fig. 6 is a detail in side elevation of means for compressively gripping the forms to be fed through the register; and

Fig. 7 is a detail in top plan and partial section of the roller feed mechanism for advancing the forms.

The structure embodying the invention is primarily as-

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sembled on a chassis 10 having a floor 11 and side walls 12 and 13. This chassis 10 is enclosed within a housing generally designated by the numeral 14 which has the cover 15 extending over the top side thereof and preferably secured in a closed position by any suitable means such as by a latch 16. The exact construction and operation of the latch 16 does not form a part of the invention per se and therefore such details are not described and illustrated herein. Preferably the top cover 15 is hinged across the front side of the housing 14 along some such line as the hinged line 17. The chassis 10 may be lifted out of the housing 14 for inspection, repair, and also for filling with forms.

A second floor 18 is provided to extend horizontally across the chassis and in substantial parallel alignment with the under floor 11, and this floor 18 is carried around in a semi-cylindrical manner by the curve 19 to extend rearwardly by a length 20 spaced slightly below the top of each of the walls 12 and 13, and then extends substantially vertically downwardly to the floor 18 to form a transverse wall 21, and is preferably fixed to the floor 18 by a leg 22. A second vertical and transversely positioned wall 23 extends upwardly from the floor 18 to form a compartment between the wall 23 and the wall 21 into which may be received and maintained a stack of zig-zag folded record forms 24.

From the upper end of the wall 23, there is provided a forwardly extending, substantially semi-cylindrical wall 25 around which the forms 24 may be pulled onto and over a table 26 which in reality in the present form is a horizontal extension from the upper portion of the curved wall 25, which table 26 extends entirely across the chassis 10 to be fixed to the side walls 12 and 13.

In the space between the floors 11 and 18 in the chassis 10 at the forward end portion thereof there is provided space for the placement of a plurality of zig-zag forms 27, which forms may be carried around the cylindrical surface 19 and across over the forms 24 across the table 26.

The rear end of the table 26 is provided with a curved, downwardly directed end portion 28 which terminates with its top side substantially tangential to a feed roll 29 which is carried on an axle 30 revolvably supported by the side walls 12 and 13. The cover 15 is provided with a slot 31 through which the forms 27 may be fed from the device while being carried from over the table 26 and under a roller 32 which is carried on an axle 33 revolvably supported by the side walls 12 and 13 of the chassis.

A crank 34 presented externally of the housing 14 is fixed to the outer end of the shaft 30 which is extended outside of the housing. On the shaft 30 there is also fixed a spur gear 35 which is in constant mesh with a spur gear 36 fixed on the shaft 33. These gears appear on the outside of the side wall 13 but are covered over by an extension 37 of the housing 14, Fig. 1.

In the present illustration of the invention, it is to be assumed that the forms 27 constitute between each fold a complete insurance policy, this policy being put into force by the purchaser writing his name and address on it when that form 27 appears over the table 26 with the signature and address blank portion properly presented thereover. Since the insurance company already knows what the standard policy form embodies, all that is needed for a record is the purchaser's signature and address, and this is obtained by the impression of the signature and address on the form 27 being transferred to the form 24 thereunder over the table 26. Any suitable transfer medium may be employed such as carbon paper, or preferably that form of paper wherein there is a backing on the under side of the form 24 which becomes legible from

the top side of the form following the line of impression thereover. Therefore, the forms 24 may be exceedingly short in comparison to the forms 27, and since the forms 24 are to be obtained for record after the name and address has been impressed thereon, and the impressed forms are retained in the register or on the floor 18 as indicated by the stack 24a, Fig. 2, the forms 24 are fed through the register over the table 26 at a less speed than are the forms 27, that is for a less distance of travel than is the travel required to present the complete length of the form 27 outside of the housing 14 through the slot 31. The rollers 29 and 32 constitute the feed rollers, and since these are interconnected through the spur gears 35 and 36, the differences in sizes of these two gears will provide the required distances of different travels of the forms 24 and 27.

Now in order to effect the feed of these two forms simultaneously upon turning the crank 34 a very unique and yet most effective pressure roller system is provided. The two axles 30 and 33 have their axes in parallel relation and in fixed spaced apart relation also. A rocker axle 38 extends across and through the side walls 12 and 13 to be held against fore and aft travel in relation to those walls, but permitted to have a vertical travel within the limits of slots 39 and 40 through those walls. The axle 38 has fixed thereto within the walls 12 and 13 and adjacent to those walls the rocker plates 41 and 42. The axle 38 extends substantially centrally through these plates 41 and 42. As best indicated in Fig. 6, the axles 30 and 33 are arranged in the manner indicated whereby the axle 33 is above and to one side of the vertical plane through the axis of the axle 30. The slots 39 and 40 appear through the side walls 12 and 13 below the axis of the axle 33 and above and to one side of the axle 30.

The rocker plates 41 and 42 carry an axle 43 in substantial parallelism to the axle 38 and on that side of the axle 38 toward the roller 29. On this axle 43 there is fixed a roller 44, this roller 44 as well as the roller 29 is preferably made out of an elastic material in the nature of rubber. The opposite end portions of the plates 41 and 42 carry an axle 45 also substantially parallel to the axle 38, and on this axle 45 is fixed a roller 46. This roller 46 as well as the roller 32 is made out of an elastic material in the nature of rubber. An arm 47 is fixed to an end of the axle 38 on the out side of the wall 13, and to the end of this arm 47 there is engaged a spring 48 which has its other end fixed to the wall 13. The action of this spring 48 is to pull the arm 47 in that direction which will compressively urge the roller 46 against the roller 32 and simultaneously urge the roller 44 against the roller 29.

The form 24 is fed between the roller 44 and the roller 29 while the primary form 27 is fed between the roller 32 and the roller 46. In this manner, there is a very effective gripping of the two forms between these rollers particularly in that the rollers 44 and 46 are shiftable carried against the fixed axes rollers 29 and 32.

The cover 15 is provided with a window 49, herein shown as being rectangular in shape. This window 49 is placed centrally over the table 26, Figs. 1 and 2, and it is through this window 49 that the operator or purchaser of the policy may write his name and address on the form 27 appearing thereunder.

Normally however there is a shutter 50 appearing under this window 49 effectively closing it and preventing any access to the forms 27 thereunder. This shutter 50 is substantially planar and extends entirely across the upper portion of the chassis to rest on the walls 12 and 13 and to be maintained thereover by means of the downturned end portions 51 and 52 which slidingly pass along the outsides of these walls 12 and 13. The upper edges of the walls 12 and 13 are cut away to provide front and rear abutments 53 and 54, Fig. 2, between which abutments the shutter 50 is free to slide along over the walls 12 and 13. These abutments are

so spaced apart that when the slide 50 is against the abutment 54, the slide 50 will completely fill under the opening of the window 49 as indicated in Fig. 2, and when the slide 50 is moved forwardly against the abutment 53 the full area of the window 49 will be made available.

An operating mechanism assembly plate 55 is fixed to the wall 12, Figs. 4 and 5. A coin receiving bar 56 is horizontally presented from the front wall of the housing 14 to reciprocate in a bracket 57 attached to the housing. A coin mechanism not herein shown since it is of standard form and commercially obtainable limits the inward travel of the bar 56 in the absence of the coin being received by the bar to some such position as indicated in Fig. 4, wherein the rear end of the bar 56 is presented on the outside of the plate 55 and is free to travel therealong when it is coin released. That is to say, the bar 56 cannot be pushed inwardly beyond the position indicated in Fig. 4 until the coin is placed in the pocket 58 on the bar 56 externally of the housing 14, Fig. 1. Then when that coin is inserted and the bar 56 pushed inwardly, the control mechanism is operated.

Referring to Fig. 4, the operating mechanism is shown in the normal position prior to being operated or rather released by the bar 56. It is to be noted that the form feeding mechanism is actually operated by the crank arm 34 whereas the bar 56 serves as means for releasing that mechanism permitting the crank arm 34 to be turned, otherwise the arm 34 cannot be turned.

On the end of the shaft or axle 30 which is to be remembered is the axle on which the crank arm 34 is fixed on the opposite side, there is fixed a ratchet wheel 59. This wheel 59 has a plurality of regularly spaced teeth 60 around its periphery, and on one side the teeth are interrupted to provide a slot 61 entering through the periphery of the wheel. In the normal inoperative position, this slot 61 is on the undermost side of the wheel 59 as indicated in Fig. 4. This slot 61 is in the nature of a keeper. Into it extends normally a tooth 62 of a latch bar 63 which is rockably supported on a pivot member 64 to have a spring 65 bearing on a block 66 attached to the plate 55 to bear by its opposite ends against the under side of the arm 63 to retain the latch member 62 in the slot 61 and thereby prevent rotation of the wheel 59 in either direction.

The bar 63 extends forwardly from over its pivot 64 to have a pawl 67 rockably secured to its upper side and normally urged by its free end 68 into the path of the teeth 60 by means of a spring 69 interconnecting the pawl 67 with the bar 63.

A bell crank 70 is rockably mounted on the plate 55 below the forward end portion of the bar 63 on a pivot 71. This crank 70 has a long arm 72 extending downwardly and normally substantially forwardly to a slight degree, Fig. 4. There is an upper and forwardly extending shorter arm 73 extending forwardly and slightly upwardly to be in the path of a lever 74 which extends both upwardly and downwardly from a pin 75.

A spring 76, herein shown as a leaf spring being secured to the block 66 extending forwardly and downwardly against the arm 72 normally urges the crank 70 to that position wherein a stop 77 carried by the crank 70 comes into abutment with a downturned lug 78 appearing on the bar 63. A spring 79 is fixed by one end to the upper end of the lever 74 above the pivot 75 and to any suitable place rearwardly on the plate 55 herein shown as being attached to the pivot 64. In the normal positions of these last named parts, the spring 76 so positions the crank 70 that the abutment 77 will bear against the lug 78 while the short arm 73 will bear against the back side of the upper portion of the lever 74, the lever 74 being rocked thereagainst by means of the spring 79. It is to be noted that the contact of the member 73 with the lever 74 is above the pivot 75

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in this normal, arm operated position. A bar 80 is slidably mounted on the side of the plate 55 to be guided and directed in vertical travel thereof by means of the screws 81 and 82 passing through vertically positioned slots through the bar 80 and interengaging with the plate 55. A spring 83 normally urges the bar 80 into an upper position, which position is limited by the screws 81 and 82 bearing against the lower ends of the slots through the bar 80. On the upper end of this bar 80 there is a rearwardly turned arm 84 to be in the path of a bracket 85 which is fixed to the side of the shutter leg 51. Thus, when the bar 80 is in its upper most position, the shutter 50 is retained in its rear most position against the abutments 54 and cannot be pulled forwardly to uncover the window 49 until that arm 84 is lowered out of the path of the bracket 85. The lowering of the arm 84 has to be had through the dropping of the bar 80 against the resistance of the spring 83. The bracket 85 carries a vertically disposed slot 86 within which extends a pin 87, this pin 87 being carried on the upper end of an arm 88 pivoted intermediate its ends on the axis 89. The axis 89, as will be noted in observing Figs. 4 and 5, is located between the pivot 75 and the bar 80, and the pin 87 is carried on the upper end of this arm 88 while the other end of this arm 88 which extends below the pivot 89 and normally forwardly thereof is provided with a notch 90 on its rear side to provide an angular, sharpened downturned tooth 91. A roller 92 extends from the side of the bar 80 below the path of the bar 56 and there is a second roller 93 carried by an arm 94 to be in the path of the top face of the bar 56. Also there is carried on a bar 56 an upturned finger 95. Normally the lower end of the arm 72 is stopped by striking the abutment 96 when the abutment 77 is in substantial contact with the leg 78.

Operation

Assuming a coin to be placed in the pocket 58 to permit the bar 56 to be pushed inwardly, the coin will hold the mechanism such that the bar 56 may be pushed to that position as indicated in Fig. 5. In travelling from the position indicated in Fig. 4 to this position indicated in Fig. 5, the bar 56 will first engage under the roller 93 and by means of a cam track 97 fixed to the under side of the bar 56 will engage over the roller 92 and push it downwardly to carry the arm 84 out of the path of the bracket 85. Continued travel of the bar 56 carries the finger 95 against the lower end of the bar 88 to cause the bracket 85 to be carried forwardly against the opposition of a spring 98 until the shutter 50 has been carried entirely forwardly against the abutment 53. The rear end of the bar 56 will push against the arm 72 of the crank 70 and rock it against the opposition of the spring 76 to carry the face of an abutment 99 against the under side of the lug 78 and thereby rock the bar 63 upwardly by its forward end and pull the latch 62 out of the keeper 61 against the opposition of the spring 65 to release the wheel 59 and permit it to be turned in a counter clockwise direction only, due to the presence of the pawl 68 and the teeth 60. Also simultaneously with that action, the arm 73 will be lowered along the lever 74 to bring its contact with that lever below the pivot 75 so that the spring 79 will rock the upper end of the lever rearwardly to carry a dog 100 thereon forwardly into engagement under the tooth 91 on the arm 88. The bar 56 has then completed all of its function, and may be returned to its forward position ready to receive the next coin.

Before that occurs however with the mechanism in the position indicated in Fig. 5, the crank 34 has been turned in the only direction it may be turned until the wheel 59 has made a complete revolution, and further turning of the crank 34 is prevented by the tooth 62 latching in the keeper 61. This limitation to one complete revolution is set up as follows. There is a tooth

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101 provided on the wheel 59 which extends outwardly from the periphery of the wheel, that is from the points of the teeth, a sufficient distance such that this tooth will ride over the latch 62 and thus depress that latch a sufficient distance to permit or rather cause the lifting of the lug 78 upwardly beyond the point 102 on the outer end of the face 99 so that the spring 76 may kick the crank 70 forwardly by its lower arm 72 and thus bring the lug 78 again on the face 99, and permit the abutment 77 to come up thereagainst. Thus as the latch 62 drops on the other side of the long tooth 101, it will be in the paths of the succeeding teeth 60 and serve as a pawl to prevent reverse travel of the wheel 59 cooperating with the pawl 67.

As the crank 70 is thus permitted to be rocked by the spring 76, the crank arm 73 will travel upwardly along the lever 74 to come above the pivot 75 and thus, rock the dog 100 out of engagement with the tooth 91 whereupon the shutter 50 will return to its closed position by reason of the presence of the spring 98 and the fact that the bar 56 and its finger 95 have returned forwardly to be out of the path of the lower end of the bar 88, this being insured by the pressure on the arm 72 of the crank 70 by the spring 76. Finally the wheel 59 upon sufficient turning brings the slot or keeper 61 around to that position where the latch 62 will spring therein under the urging of the spring 65, whereupon the form 27, that is the next appearing form 27 will be brought up under the window 49 ready to receive the next signature when the shutter 50 is retracted from under the window. It is to be understood, that the form is always in that position for receiving a signature and address before the crank 34 is turned, and upon the initial movement of the shutter 50 from under the window 49 which is set up as above explained before the crank is turned. The shutter 50 returns almost instantaneously with the initial turning again of the crank 34 so as to cover the window for the next subsequent operation. Normally the bar 56 will be spring returned to its full position this spring being incorporated in the coin mechanism and is not herein shown.

Therefore while I have herein shown and described my invention into one particular and precise form, which is obvious that structural variations may be employed such for example as substituting a roll of paper for the second form which is retained in the register in place of the zig-zag folded paper, and also in the particular construction of the chassis and cover itself, and therefore I do not desire to be limited to that precise form beyond the limitations which may be imposed by the following claims.

I claim:

1. In a form dispensing register having a housing with a top side window, a table below the window, means feeding forms across the table, and a shutter reciprocable across said window above said table and biased to a closed position: the combination of a housing-carried, longitudinally reciprocable, operating bar; a shutter closed-position retaining bar reciprocably carried by the housing; means carried by said operating bar engaging and shifting said retain-bar from its shutter retention position upon initial travel of the operating bar; means shifting said shutter comprising a lever carried by the housing and pivoted intermediate its ends engaging said shutter on one side of its pivot and having a free length on the other side of the pivot in the path of travel of said operating bar; a shaft drivingly connected with said form feeding means; a wheel fixed to said shaft and having a single peripheral toothed surface, one of the teeth extending beyond the circumferential line of termination of the other teeth, and further having a notch entering the peripheral surface adjacent said extending tooth; a latch bar carried by the housing and pivoted intermediate its end portions; a tooth on one end portion of the latch bar

yieldingly biased toward said wheel surface, shaped to enter and dwell in said notch; a lug on the other end portion of and directed from the side of the latch bar oppositely from said bar tooth; a bell crank pivotally carried by said housing having a long arm presented from one side of its pivot in the path of said operating bar, and having a stop on another portion on the other side of said pivot in the path of and normally abutting said lug; a latch lever carried by said housing pivotally intermediate its ends, one end being in the path of that portion of said shutter shifting lever when actuated by said operating bar; means carried by and interengaging said shutter shifting lever and said latch lever holding said shutter thereby in opened position; an arm on said bell crank normally bearing against said latch lever to one side of its pivot and shiftable to the other side of the pivot to maintain said latch lever in its latched position; rocking of said bell crank arm moving said stop away from said lug and rocking said latch bar tooth from said wheel notch and simultaneously retain said bell crank in its latching position freeing said shaft for one revolution of form feeding rotation; said one wheel tooth riding over said latch bar tooth rocking the latch bar and releasing said lug to bell crank stop abutment, said latch bar tooth returning into said notch preventing further wheel rotation.

2. In a form dispensing register, the combination with a housing having a top-side window therein, a table within the housing spaced below and across said window, a shutter reciprocable under said window and over said table, means biasing the shutter to a closed window position, and form feeding means: of reciprocable means normally maintaining said shutter closed position; a shutter shifting lever mounted intermediate its ends on a pivot carried by said housing and connected by one end portion with said shutter, the shifting lever extending from the other side of said pivot by a free end; a latch lever mounted intermediate its ends on a pivot carried by said housing; means interengaging one of the ends of the latch lever with said shifting lever free end upon rocking of one toward the other; means retaining said latch lever in either of two positions rocking about its pivot comprising a crank mounted on a pivot carried by the housing and having a freely extending leg, an arm directed toward and traversing a portion of said latch lever to positions one on each side of its pivot upon rocking of said leg, means biasing the latch lever for rocking of its said one

end away from said arm, and biasing means tending to rock said arm past said pivot toward said other latch lever end; means retaining said crank in either of said positions; a shaft rotatably carried by said housing and drivingly connected with said form feeding means; a wheel fixed on said shaft having a toothed periphery; an abutment on said wheel; a bar mounted intermediate its end on a pivot carried by the housing; one of said bar ends having a portion swingable into and out of the path of said abutment; said crank retaining means comprising a dog on the other end of said bar; a pair of spaced members on said crank swingable with the crank into and out of the path of said dog holding said dog against movement under said leg biasing means; one of the members in said pair rocking said bar from abutment engagement; and an operating bar initially moving said reciprocable means releasing said shutter and subsequently rocking said shutter lever and said leg, releasing said wheel for rotation of said shaft.

3. The structure of claim 2 in which one of said teeth extends radially beyond the other teeth, said one tooth being adjacent said abutment and in the path of said bar end which is swingable in the path of the abutment, and, upon initial rotation of said wheel, riding over that bar end rocking the bar dog out of engagement with said crank members, in turn releasing said shutter lever for shutter travel closing said window.

4. The structure of claim 2, in which there is a pawl rockably mounted on said bar and spring urged against said wheel teeth confining rotation of the wheel to that direction to carry said one tooth initially over said abutment bar end preceding the travel of the other teeth therpast.

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