

April 2, 1935.

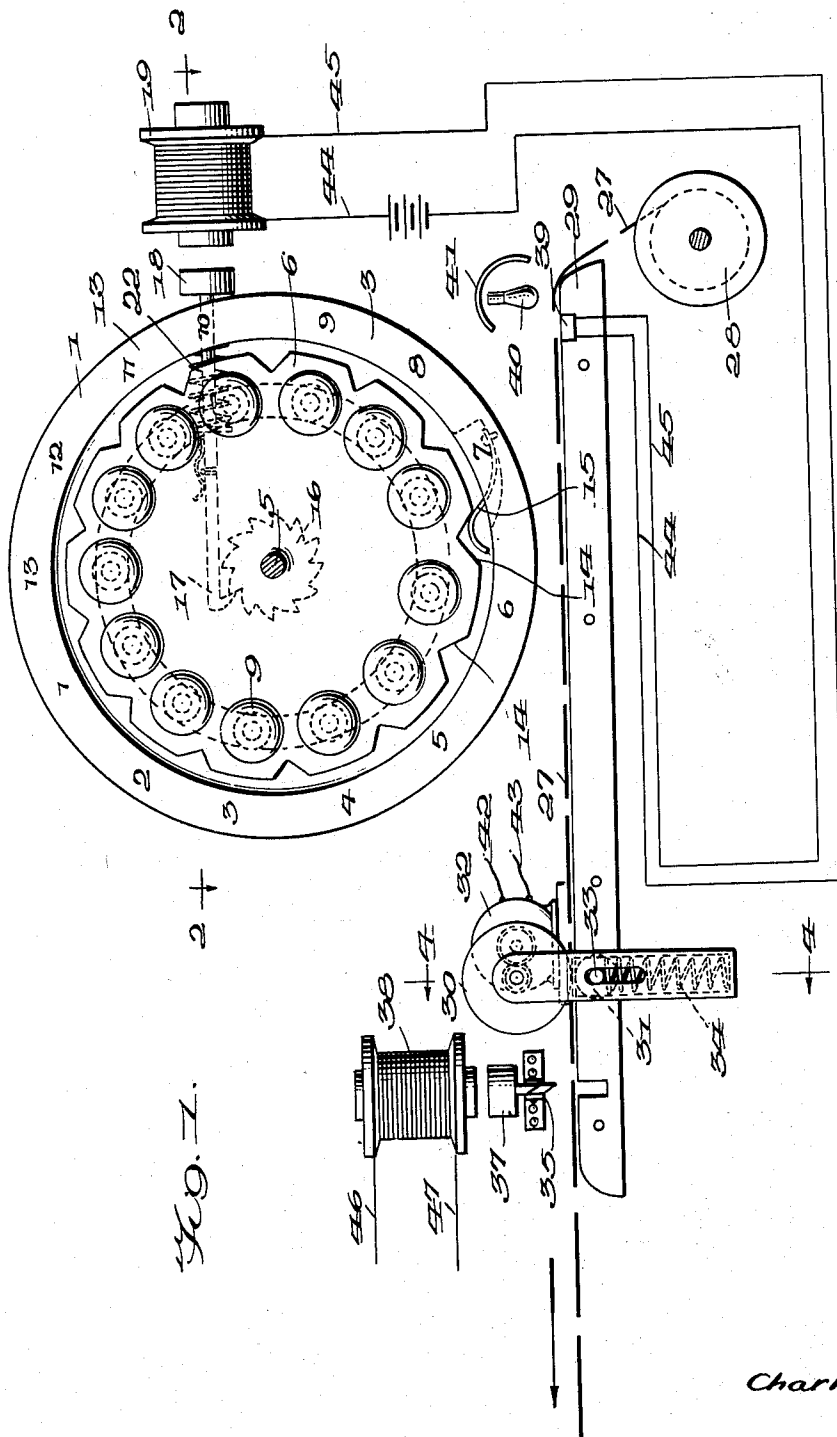
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1,996,665

STAMP VENDING AND DISPENSING MACHINE

Filed Oct. 25, 1933

2 Sheets-Sheet 1



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Fig. 4.

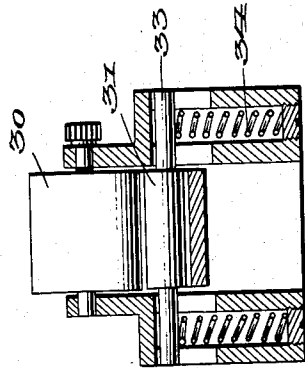


Fig. 5.

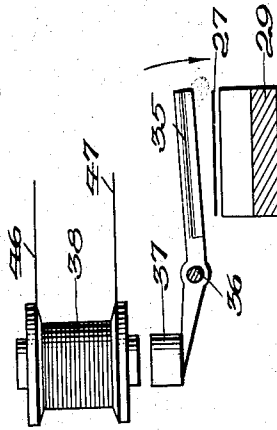


Fig. 2.

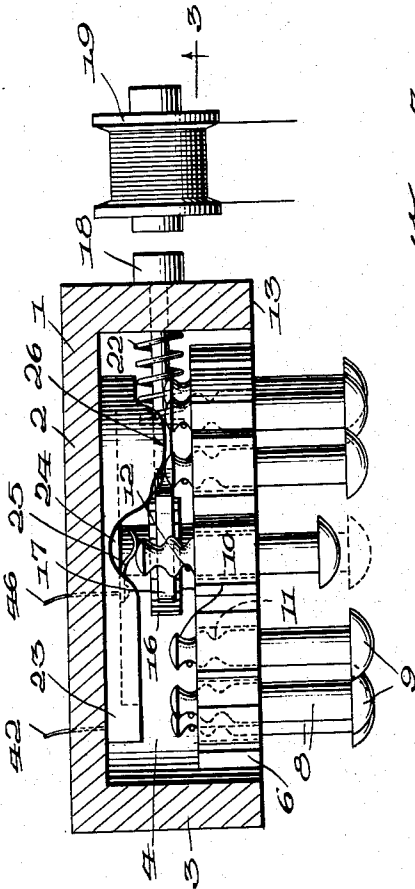


Fig. 3.

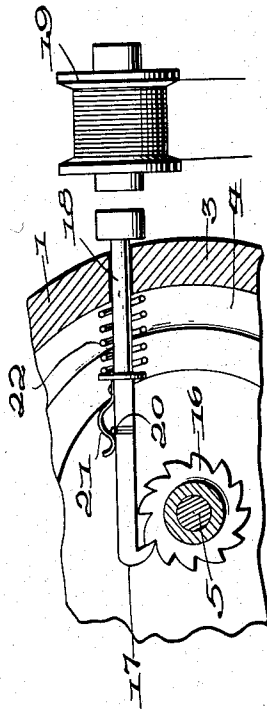
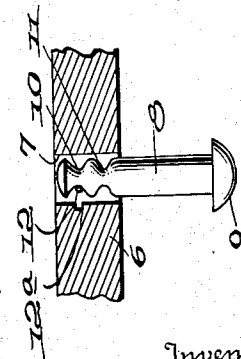


Fig. 6.



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UNITED STATES PATENT OFFICE

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STAMP VENDING AND DISPENSING
MACHINE

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Application October 25, 1933, Serial No. 695,158

7 Claims. (Cl. 164-49)

My invention consists in new and useful improvements in a strip dispensing machine and is particularly adapted for the dispensing of stamps or the like.

5 The primary object of my invention is to provide a stamp dispensing machine which is relatively simple in construction, positive in action and requires little or no effort on the part of the operator.

10 Another object of my invention is to provide a machine of this character which is adapted to deliver any given number of stamps or the like, severing the delivered stamps at the completion of its cycle of operation.

15 A still further object of my invention is to provide a stamp dispensing machine which is entirely automatic in its action, the machine being set into operation by a selective control mechanism whereby an initial electric circuit is closed, the completion of the cycle being brought about by a chain of mechanism and electrical devices under the control of the initial actuating means.

20 With the above and other objects in view which will appear as the description proceeds, my invention consists in the novel features herein set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

30 Referring to the drawings in which numerals of like character designate similar parts throughout the several views,

Fig. 1 is a front view of the selective control device showing the balance of the mechanism in diagrammatic form.

35 Fig. 2 is a sectional view taken on line 2-2 of Fig. 1 showing the construction of the selective control mechanism.

Fig. 3 is a fragmentary section taken on line 3-3 of Fig. 2.

40 Fig. 4 is a transverse sectional view taken on line 4-4 of Fig. 1.

Fig. 5 is a detail view of the cutting device taken at right angles to Fig. 1, and

45 Fig. 6 shows a modified form of contact stem which may be employed in the selective control mechanism.

In the drawings, 1 represents a stationary cylindrical housing for the selective control mechanism, said housing having a base 2 and peripheral walls 3 forming a hollow chamber 4 open at its front face. Within the chamber 4 and fixedly mounted on a suitable co-axial shaft 5, I provide a rotary disc 6 arranged to lie in alignment with the open face of the peripheral walls 3.

55 This rotary disc is provided with a series of trans-

verse openings 7 arranged adjacent the periphery of said disc and extending entirely around the same in an annular row.

A series of contact members having stems 8 are slidably mounted in the respective apertures 5 7, each of said members being provided with a head or push button 9 which projects outwardly at the front face of the disc 6. The inner ends of the stems 8, as shown in Figs. 2 and 6, are provided with annular beveled grooves 10 and 11 10 adapted to cooperate with a spring member 12 to retain the contact stems 8 in one of two positions as hereinafter described. It will be noted that these springs 12 may be located either on the rear face of the disc 6 adjacent the openings 15 7 as shown in Fig. 2, or in the openings 7 themselves as shown in the modified form in Fig. 6. In that form wherein the spring 12 is located within the opening 7, I preferably provide a slot 12a in the wall of the opening to accommodate 20 the stem while the stem is moving through the opening.

On the front face 13 of the peripheral wall 3 of the housing 1, I provide a series of indicating numerals equal in number to the openings 7 and 25 contact stems 8 in the rotary disc 6, said numerals being preferably arranged in counter-clockwise order as shown in Fig. 1. The periphery of the rotary disc 6 is provided with a series of substantially V-shaped transverse notches 14 which 30 cooperate with a spring member 15 carried by the peripheral wall 3 of the housing 1, to normally retain the rotary disc in registering position. That is, so that one of the contact stems 8 normally lies adjacent each of the numerals on the 35 front face of the housing 1.

Behind the rotary disc 6, the shaft 5 carries a ratchet wheel 16 which is keyed thereto and arranged in operative engagement with the pawl end 17 of an armature 18, the latter extending 40 through the wall 3 of the housing and terminating adjacent an electro-magnet 19. The pawl end of the armature 18 is hinged or pivoted as at 20 to permit its return movement past the teeth 45 of the ratchet wheel 16 and is normally held in engaging position by a suitable spring 21, a coil spring 22 being provided on the armature shaft for causing the return of said member to normal position as hereinafter described more in de- 50 tail.

The inner face of the base 2 of the housing 1 carries a contact ring 23 arranged in fixed relation to the housing and lying directly in line with the inner ends of the contact stems 8, whereby 55

when any one of said contact stems is forced inwardly by pushing the button 9, said stem will engage said ring, the engagement being maintained by the spring 12. It will be noted that as the stem 8 is pushed inwardly, the spring 12 is forced out of the innermost groove 10 and into the second groove 11, the beveled or inclined face of the groove cooperating with the tension of the spring to hold the inner ends of the stem in close contact with the face of the ring 23.

At a predetermined point in the upper portion of the ring 23 I provide a recess 24, whereby when the disc 6 is rotated to bring one of the depressed contact stems adjacent said recess, the contact will be broken as will be later described more in detail. In the recess 24 I provide a spring contact 25 held in place by any suitable means and connected with a different circuit from that of the ring 23, said spring contact 25 being adapted to engage the end of a depressed contact stem as the latter arrives adjacent the recess 24.

Immediately adjacent the recess 24, the ring 23 is provided with a forwardly extending raised portion or lug 26 which, as the disc 6 rotates in clockwise direction, serves as an abutment for the inner end of a depressed contact stem 8 and causes the latter to be returned to normal position in its opening 7 where it is held by the spring 12.

A roll of stamps 27 is supported on a suitable drum 28 rotatably mounted below one end of a table or platform 29 which extends longitudinally of the machine. At the other end of said platform, I provide a pair of feed rollers 30 and 31, the former being operatively connected to an electric motor 32, and the latter being freely rotatable on a shaft 33 and arranged immediately beneath the power-driven roller 30. By means of coil springs or the like 34, the lower roller 31 is normally forced upwardly into contact with the roller 30, a suitable opening being provided in the top of the table 29 to permit such contact. Thus upon the rotation of the roller 30 by the motor 32, the strip of stamps 27 is gripped between the two rollers 30 and 31 and fed forwardly along the table.

Directly in front of the feed rollers just described, I provide a knife 35 which is pivotally mounted as at 30 (Fig. 5) said knife being operatively connected to an armature 37 arranged adjacent a second electro-magnet 38.

39 represents a selenium cell located in the table 29 at any suitable point anterior to the feed rollers 30 and 31 and lying under the moving strip of stamps 27 which passes between said selenium cell and an electric light bulb 40 arranged above the table 29 in line with said selenium cell. The light bulb 40 is preferably provided with a reflector 41 for concentrating the light rays from the bulb and directing them on to the stamp strip, whereby as said strip moves along the table 29, the perforations therein permit said rays to energize the selenium cell.

Any suitable system of electric circuits may be employed for operating the various parts of the mechanism just described. It is preferable, however, to employ an arrangement substantially as illustrated diagrammatically in Fig. 1, wherein the contact ring 23 is connected to one terminal of the motor 32 by lead 42, the other terminal of the motor being connected by lead 43 to a source of electric current which in turn is connected to the rotary disc 6 carrying the contact stems 8. Thus, when one of the contact stems 8 engages the contact ring 23, the motor 32 is set

into operation. It is also preferable to have the electric light bulb 40 connected in this same circuit so as to be energized simultaneously with the operation of the motor.

The selenium cell 39 is connected in circuit with the electro-magnet 19 by leads 44 and 45, a battery being arranged in the circuit to provide power for operating the electro-magnet. Thus, when the electric light rays penetrate the perforations in the stamp strip 27 as the latter moves along the table 29, the selenium cell energizes the electro-magnet 19 and actuates the armature 18 and pawl and ratchet 17 and 16, respectively, to cause the step by step advancement of the rotary disc 6.

The spring contact 25 is connected by means of a lead 46 to the second electro-magnet 38, the opposite terminal of which is connected by lead 47 to a source of electric current which in turn is connected to the rotary disc 6. Thus, when 20 the depressed contact stem 8 rides over the recess 24 in the ring 23 and breaks the circuit leading the electric motor, it contacts the spring 25 and makes the circuit to the electro-magnet 38 for operating the knife 35.

Having thus described the construction and assembly of my improved stamp dispensing machine, its operation is as follows:—

Assuming that the clerk or operator wishes to dispense four stamps, he depresses the button 9 adjacent the numeral 4 on the front face of the housing 1 which causes the contact stem 8 to engage the contact ring 23. This closes the circuit to the electric motor 32 and causes the feed roller 30 to advance the strip of stamps 27 along the table 29, the electric lamp 40 being simultaneously energized. As the stamp strip moves along the table 29, the perforations between the individual stamps successively pass over the selenium cell 39, permitting light rays to penetrate the latter. This energizes the electro-magnet 19 which, by means of the armature 18 and pawl and ratchet 17 and 16, respectively, causes the step by step rotation of the rotary disc 6 to advance the depressed contact stem in a clockwise direction. The breaking of the circuit by the obstructions of the light rays after the perforations pass the selenium cell deenergizes the electro-magnet 19 and permits the coil spring 22 to return the pawl member 17 to normal position.

This step by step operation is repeated until the depressed contact stem comes adjacent the recess 24 in the ring 23, whereupon the circuit to the motor 32 and light 40 is broken, and the circuit to the knife operating electro-magnet 38 is energized by the contact of the stem 8 with the spring 25. This severs the stamps which have been fed past the knife 35, and the spring 15 operating against the inclined surface of the V-shaped notch 14 turns the disc 6 a sufficient distance to clear the spring contact 25, thus breaking all electric circuits and rendering the mechanism inoperative. It will be noted that the arrangement of the spring 15 and the notches 14 is such that when the contact stem 8 is engaging the spring 25, the spring 15 is just beginning to enter the respective notch 14, thus assuring the further revolution of the disc 6 to a slight extent to break the contact with the spring 25.

The rotary disc 6 and the depressed contact stem 8 remain in the aforesaid position with respect to the ring 23 until the machine is again set into operation. Now, let us assume that the

operator wishes to dispense five stamps to a subsequent customer. He pushes the button 9 which lies adjacent the numeral 9 on the front face of the housing 1 to set the mechanism in operation as heretofore described, and on the first advancement of the disc 6, the contact stem lying adjacent the recess 25 engages the lug 26 which returns the stem 8 to its normal position in the aperture 7, the spring 12 sliding out of the groove 11 and back into the groove 10 to retain said stem in normal position. The disc 6 then continues to rotate by steps until the five stamps have been dispensed and severed.

While I have described this mechanism as a stamp dispensing machine, it is obvious that it may be employed in various other connections, such for example as ticket offices for theaters and amusement places, or in fact any occasion where it is desired to sell varied numbers of strips or tickets wherein such strips are provided with perforations or openings.

From the foregoing it is believed that the construction and advantages of my invention may be readily understood by those skilled in the art without further description, it being borne in mind that numerous changes may be made in the details disclosed without departing from the spirit of the invention as set forth in the following claims.

What I claim and desire to secure by Letters Patent is:—

1. A machine for dispensing stamps or the like comprising a stamp strip magazine, electrically operated means for feeding a strip from said magazine, a selective movable contact device adapted to close the circuit to said feed means, an electro-magnet for progressively advancing said contact device, means controlled by the moving strip being fed for energizing said electro-magnet, and electrically operated knife controlled by a second circuit, and means controlled by said movable contact device for closing said second circuit to sever the stamps to be dispensed.

2. A stamp dispensing machine comprising a stamp strip magazine, electrically operated means for feeding a strip from said magazine, a rotary disc carrying a series of selective contact stems, a stationary contact member adapted to be engaged by any one of said selective contact stems to close the circuit to said feed means, an electro-magnet for progressively rotating said disc, means controlled by the moving strip being fed for energizing said electro-magnet, an electrically operated knife controlled by a second circuit, and means controlled by said selected contact

stem for closing said circuit to sever the stamps to be dispensed.

3. A stamp dispensing machine comprising a stamp strip magazine, electrically operated means for feeding a perforated strip from said magazine, a rotary disc carrying a series of contact stems, a stationary contact member adapted to be engaged by any one of said selective contact stems to close the circuit to said feed means, an electro-magnet for progressively rotating said disc, a selenium cell arranged between said magazine and said feed means and underlying said strip, said selenium cell being in circuit with said electro-magnet, an electric light bulb arranged adjacent said selenium cell, whereby a strip of stamps moving past said selenium cell will intermittently energize the latter through the perforations in the strip and in turn energize said electro-magnet, an electrically operated knife controlled by a second circuit, and means controlled by said selected contact stem for closing said circuit to sever the stamps to be dispensed.

4. A machine as claimed in claim 3 wherein said electrically operated knife is actuated by a second electro-magnet.

5. A machine as claimed in claim 3 wherein said stationary contact member comprises an annular ring provided at a predetermined point with a recess whereby contact with said selected contact stem is broken when the latter arrives adjacent said recess.

6. A machine as claimed in claim 5 wherein said stationary contact member comprises an annular ring provided at a predetermined point with a recess whereby contact with said selected contact stem is broken when the latter arrives adjacent said recess, and an independent contact member arranged adjacent said recess, whereby when said first named contact is broken, an independent contact is completed, the latter energizing said second electro-magnet to actuate said knife.

7. A machine as claimed in claim 3 wherein said stationary contact member comprises an annular ring provided at a predetermined point with a recess, whereby contact with said selected contact stem is broken when the latter arrives adjacent said recess, an independent contact member arranged adjacent said recess, whereby when said first named contact is broken, an independent contact is completed, the latter energizing said second electro-magnet to actuate said knife, and means on said ring for returning said selected contact stem to normal position after the completion of the cycle of operation.

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