

Aug. 16, 1966

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3,266,693

TRADING STAMP DISPENSER

Filed Sept. 10, 1964

3 Sheets-Sheet 1

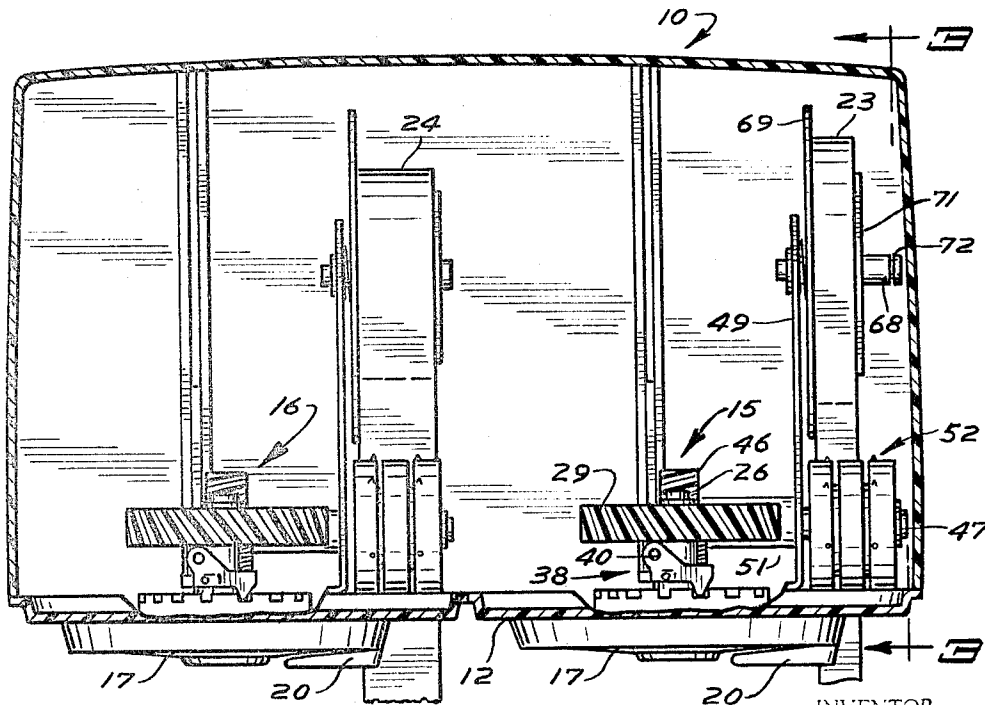
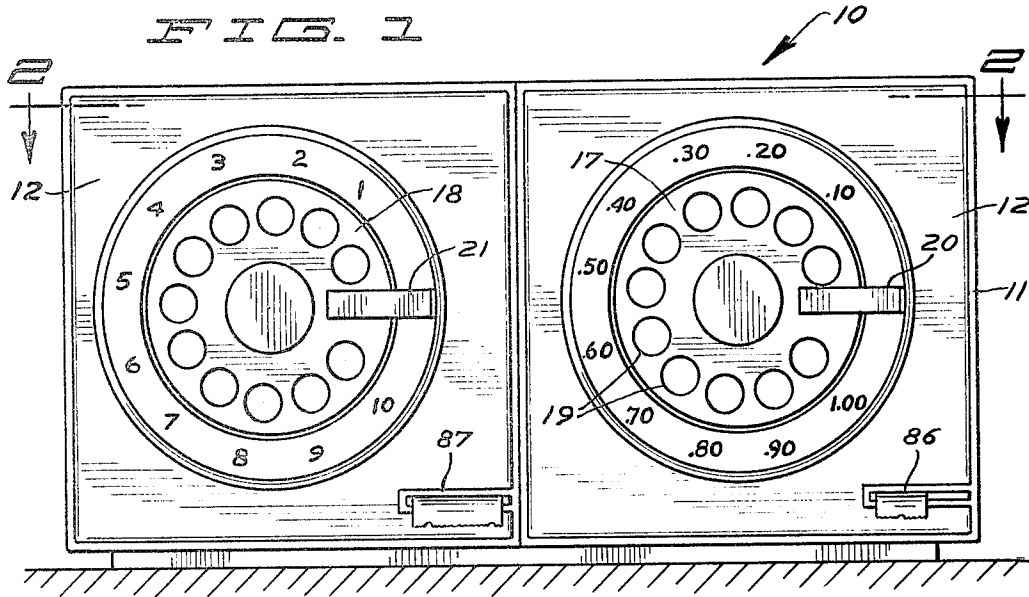


FIG. 2

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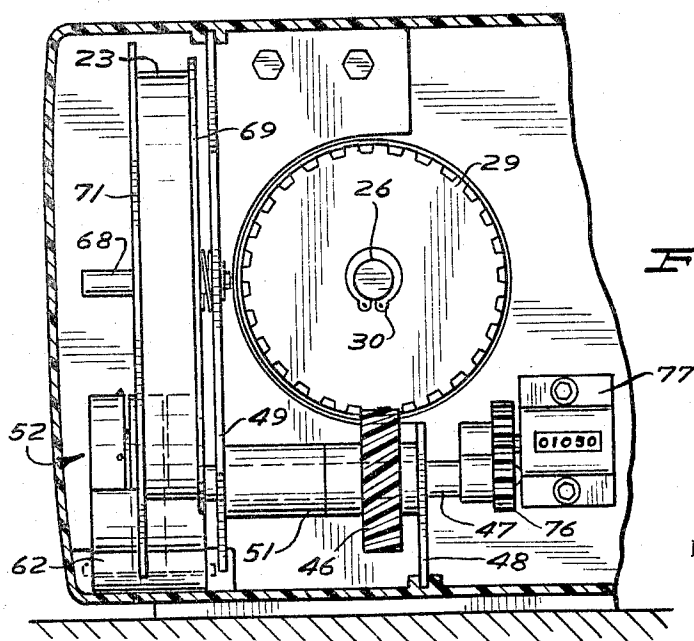
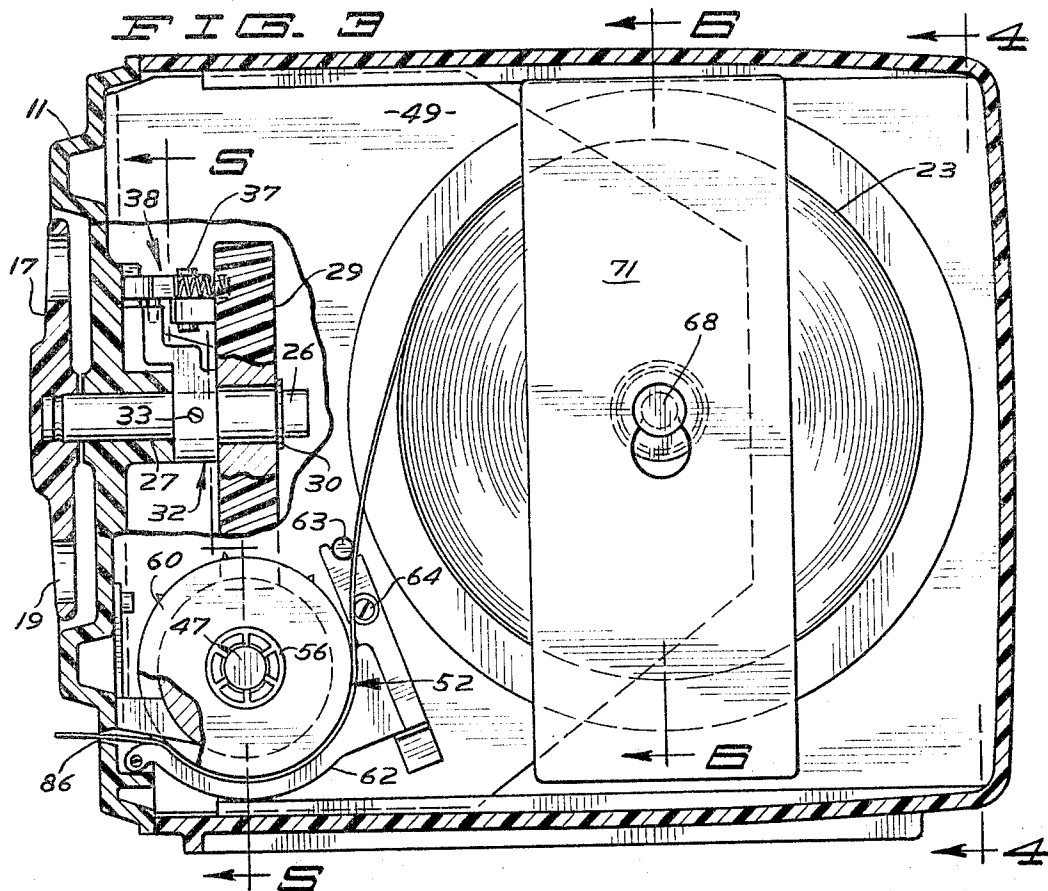
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3 Sheets-Sheet 3

FIG. 5

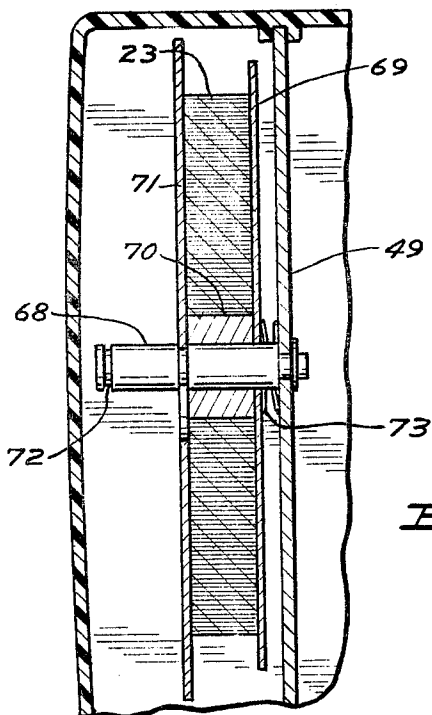
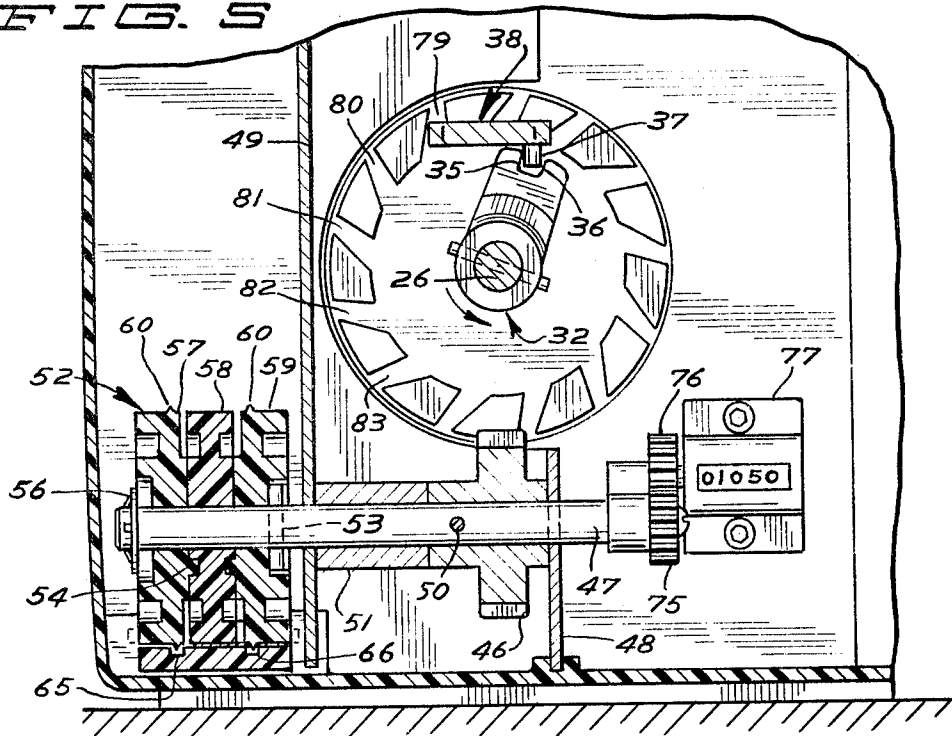


FIG. 7

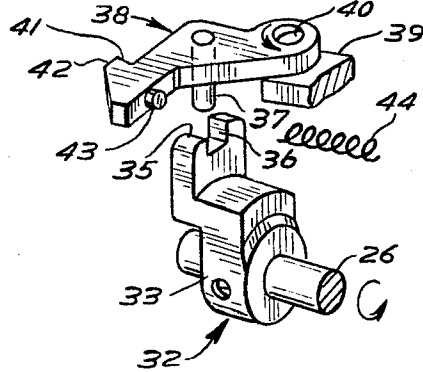


FIG. 6

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TRADING STAMP DISPENSER

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10 Claims. (Cl. 226-129)

The present invention is concerned generally with an apparatus for dispensing a predetermined lineal length of material from a rotary wound supply roll and more specifically to dispense a predetermined lineal length of periodically spaced perforated stamps from a spirally or rotary coil wound supply roll. The stamps are retained within the apparatus, taken from the supply roll, and delivered to a delivery port where they may be severed at a desired point along the perforation line.

At the present time, stamps such as trading stamps or the like are available in rotary wound coils, and these are delivered from the roll to the consumer in accordance with the specific predetermined quantity desired. In order to expedite the selection of the proper quantity, various apparatus have been developed for delivering predetermined quantities of these stamps from the dispensing unit. In each instance, care must be taken to insure that the unit ceases to deliver the stamps at a predetermined time. Normally, the stamps of this type have little, if any, intrinsic value; however, these are stamps which may represent substantial value. Therefore, it is important that the units be consistent and reliable in order to render the operation uniform in each instance. Furthermore, the unit should be tamper-proof to prevent the stamps from being inadvertently pulled out of the enclosure assembly.

In the past, various apparatus have been developed for dispensing stamps such as trading stamps and the like; however, these devices have generally been extremely complex and cumbersome. Consequently, these devices have been relatively large in size and have been expensive as well. The apparatus of the present invention overcomes these disadvantages and is mechanically simple, straightforward and reliable in its operation. The unit includes a rotating dial by which the user may preselect the quantity or lineal length of stamps desired, the dial being coupled to a rotating shaft which drives a delivery wheel, the delivery wheel then carrying the stamps from the roll outwardly through a delivery channel. The drive means includes a pawl device which is adapted to be normally engaged with one of a plurality of radially spaced locking slots which are disposed along the inner surface of the enclosure for the unit, the pawl being disengaged only upon force being applied thereto in a certain predetermined arcuate direction by the dial means. In addition, restraining means are provided for the rotary wound rolls in order to prevent overrunning or backlash from occurring. Therefore, a predetermined quantity or lineal length of stamps will be delivered from the roll and there will be no inadvertent feeding or delivery of a greater or lesser quantity of material therefrom. Since the apparatus of the present invention is compact, it is generally possible for the units to be arranged in juxtaposed position, one such assembly conveniently dispensing stamps representing one specific value, the second assembly delivering stamps representing a different value. The versatility of the device will accordingly be appreciated.

Therefore, it is an object of the present invention to provide a new and improved apparatus for dispensing lineal lengths of rotary wound material such as trading stamps and the like, which unit is extremely simple, economical and reliable.

It is a further object of the present invention to provide an improved trading stamp dispenser which is ex-

tremely reliable in its use, and will on each operating event, deliver a certain predetermined specific quantity of stamps and render them easily accessible for removal by the operator.

It is still a further object of the present invention to provide an improved trading stamp dispenser which permits delivery of stamps only during the time that force is applied to the drive means which actuate the stamp delivery mechanism per se.

Other and further objects of the present invention will become apparent to those skilled in the art upon a study of the following specification, appended claims and accompanying drawings wherein;

FIGURE 1 is a front elevational view of a stamp dispensing apparatus prepared in accordance with the present invention;

FIGURE 2 is a horizontal sectional view taken along the line and in the direction of the arrow 2-2 of FIGURE 1;

FIGURE 3 is a vertical sectional view taken along the line and in the direction of the arrow 3-3 of FIGURE 2;

FIGURE 4 is a vertical sectional view partially broken away, and on a slightly reduced scale, taken along the line and in the direction of the arrow 4-4 of FIGURE 3;

FIGURE 5 is a vertical sectional view, partially broken away, showing a portion of the drive mechanism used in connection with the apparatus of the present invention, and being taken along the line and in the direction of the arrow 5-5 of FIGURE 3;

FIGURE 6 is a vertical sectional view of the rotary wound stamp roll on the shaft provided therefor, this figure being taken along the line and in the direction of the arrow 6-6 of FIGURE 3, and

FIGURE 7 is a detail view of the pawl assembly used in the driving mechanism of the present invention.

In accordance with the preferred modification of the present invention, the trading stamp dispensing apparatus shown in detail in the figures, and with particular reference to FIGURES 1 and 2, includes an enclosure 10 having a front surface 11 which is divided into a pair of individual sections or areas 12 and 13. In this regard, the section designated 12 is directed to a stamp dispensing mechanism for dispensing stamps representing fractional dollar amounts, for example, and the portion designated 13 may be directed to full dollar amounts. This is indicated on the indicia which is present on the front surface of the front panel member or surface member 11. Of course, other amounts may conveniently be represented, as desired, and more than two stamp values may be enclosed and dispensed from a single composite enclosure.

Turning to the view shown in FIGURE 2, it will be seen that the unit has a pair of juxtaposed drive means generally designated 15 and 16 each of these units being substantially identical in design and functioning substantially identically and independently of one another. In order to actuate each of the independent drive means 15 and 16, the dial member 17 is utilized to actuate the individual drive means, a dial such as the dials 17 and 18, respectively, being provided. As seen in FIGURE 1, each of these dials includes a plurality of holes or finger engaging openings, similar to that type of index finger engaging openings used on a telephone dial, one representative opening being designated as 19. For purposes of clarity, no attempt is made to number each of the individual finger engaging ports 19. For controlling the degree of arcuate movement of the dials 17 and 18, a stop bar, such as the stop bars 20 and 21, is provided, the stop bars being secured in place along and against the surface of the panel 11. The stop bar is stationary and accordingly provides for uniform stopping and accordingly uniform arcuate movement of the individual dial members 17 and 18.

The rotary wound rolls of stamps are shown at 23 and 24, and rotation or actuation of the individual dials 17 and 18 will in turn actuate the drive means 15 and 16, respectively, the drive means then appropriately moving the roll or supply in accordance with a predetermined lineal measurement. This is represented in the delivery of uniform amounts of stamps on each delivery event. Turning now to FIGURES 3 and 4, it is seen that the dial 17 is locked onto the shaft 26, the shaft 26 being journaled for rotation within the bushing or bearing area 27. Also mounted and secured onto the shaft 26 is the helically toothed spiral gear 29, this gear being positioned on the shaft 26 by means of the locking ring 30, for example. Obviously, other means of holding the gear 29 to the shaft may be suitably employed. Looking adjacent to the spiral gear 29, it is seen that a bifurcated pawl driving and restraining arm assembly generally designated 32 is shown, this assembly being locked for rotation with the shaft 26 by means of the pin 33 which passes diametrically through the shaft 26, as well as through the bifurcated lever arm 32. The lever arm 32 has a bifurcated channel or the like formed between a pair of driving lugs 35 and 36. The channel formed in the bifurcated area is adapted to receive the pawl driving pin 37 in driving engagement therewith. A pawl 38 is provided as shown in FIGURE 3; however, this unit is shown in greater detail in the exploded view of FIGURE 7. The pawl 38 is mounted on a lug member 39 by means of the pivot pin 40 which passes through the opening in the pawl as indicated in FIGURE 7. The pawl 38 further includes a notch engaging point or portion as at 42, the purpose of this portion of the pawl being explained hereinafter. The pawl 38 also has a stub element or shaft 43 protruding from the surface thereof, and being adapted to receive or engage the compression spring 44 in circumscribed relationship thereover.

Turning now to FIGURE 4, it is seen that the spiral gear 29 engages a second helically toothed spiral gear 46, the gear 46 being secured to the shaft member 47, shaft 47 being journaled for rotation in the support plates or block 48 and 49, as required. The shaft 47 is generally perpendicular to the shaft 26, the shafts being otherwise in spaced apart parallel relationship. The spiral gear 46 is locked for rotation with the shaft 47 by means of the locking pin 50 which is shown in detail in FIGURE 5 of the drawings. With continued reference to FIGURE 5, it is seen that the spiral gear 46 is prevented from moving axially by means of the sleeve spacer 51. Therefore, the helically toothed spiral gear 46 will always remain in proper relative disposition to the meshing and driving gear 29. The shaft 47 further has retained thereon a stamp driving wheel such as is shown generally at 52. The wheel 52 is locked onto the shaft 47 by means of the pin 53 and is locked against axial movement by means of the retaining ring or locking ring 56. Cooperative recesses and pins 54 are used to drive the composite assembly of drive wheels and spacers. The driving wheel 52 is conveniently fabricated from a plurality of individual disk elements such as the elements 57, 58 and 59. The elements 57 and 59 each include spaced spikes or teeth such as are shown at 60, these teeth being adapted to engage the spaced perforations along the lineal extent of the stamps from the supply rolls 23 and 24. Various longitudinal and lateral spike spacings can be obtained by various combinations of driving disks. The disk or wheel 58 is merely a spacer to provide proper lateral spacing of the individual teeth 60—60. The arcuate spacing of the individual teeth is, of course, controlled by the fabrication of the individual disks 57 and 59. The wheel 52 is arranged in closely spaced relationship to the arcuate shoe segment member 62, the gap between the member 62 and the wheel 52 being arranged to accommodate the stamps from the roll as at 23. Guides such as the shaft guides 63 and 64 may be provided, if desired, to control the delivery of the stamps to the gap

area between the wheel 52 and the arcuate shoe segment 62. The arcuate shoe segment 62 has a pair of channels as at 65 and 66 in order to permit free movement of the spikes 60—60 therealong, and to permit engagement of the spikes with the spaced perforated areas found in the stamps on the roll 23. Therefore, it will be appreciated that axial rotation of the wheel 52 will provide continuous engagement of the individual spikes 60—60 with the spaced perforated areas of the stamps on the roll 23. The arcuate length of the shoe 62 where it runs closely adjacent to the wheel 52 is not critical; however, it is essential that this length exceed the lineal length of at least one of the individual stamp members. In other words, the spikes must be capable of being in simultaneous consecutive engagement with the adjacent spaced perforations along the length of the stamps found on the roll 23.

Attention is now directed to FIGURE 6 of the drawings wherein the details of the mounting of the stamp roll 23 is shown. It will be appreciated that the mounting of the roll 24 is identical to the mounting of the roll 23; however, for purposes of explanation, only one need be described. The support plate 49 through which the shaft 47 passes, carries a second shaft designated 68. The shaft 68 is adapted to receive the stamp roll pressure plate 69 which is forced against the surface of the stamp roll 23. The arrangement permits restrained rotation of the stamps 23 wound on core 70 about the shaft 68. A pressure plate 71 is provided along the surface of the stamps 23 and is locked in a circumferential groove similar to the groove 72. A resilient member such as the spring 73 provides a constant mechanical bias between the support plate 49 and the pressure plate 69 in order to restrain free running rotational movement of the stamp roll 23. The compressional force is established because of the positioning of the plates 71 in a circumferential groove formed in the shaft 68. In this connection, for a wider stamp roll such as at 24, the plate 71 would obviously be positioned in a different circumferential groove as shown at 72.

In order to maintain an accurate count on the number of stamps which have been dispensed through the unit, the drive shaft 47 is coupled to a gear 75 which is in turn meshed with a second gear 76. The conventional rotation counter member 77 provides, therefore, an accurate count on the number of stamps which have been dispensed by the unit. The indicia in the center of the counter 77 is provided to illustrate this showing.

Returning now to the specific operation of the pawl 38, particular attention is directed to FIGURE 5 of the drawings. In this view, a plurality of substantially radially disposed slots such as the slots 79—83 inclusive, are shown, the remaining slots not being individually numbered in the interest of clarity. In this regard, the slots are substantially identical, one to another, and are adapted to engage the tip portion 42 of the pawl as it moves arcuately about the circumference formed by the continuous disposition of the slots including the slots 79—84 inclusive, together with the remaining undesignated slots. It will be appreciated that the individual slots may be formed by merely providing plateau areas in individually spaced relationship about the circumference of the slotted area; however, for general purposes, the slots are formed or routed in the interior surface of the structure 11 and are satisfactory. With specific reference to FIGURE 7, as well as FIGURE 5, it will be observed that the shoulder area 41 of the slot engaging portion 42 of the pawl 38 locks securely against the surface of the slots such as the slots 79—83. When the pawl is engaged with one of the slots, continued rotation of the shaft 47 is not possible. Rotation of the shaft 47 is only possible when the pawl is disengaged from the slots, this occurring only when the pin 37 of the pawl 38 is engaged by the bifurcated channel area of the lever 32. This pivots the pawl 38 upwardly in

the direction shown by the arrows on the surface of the pawl 38, thereby disengaging the tip portion 42 out of the slotted area. The compression spring 44, of course, mechanically biases the pawl 38 in the direction of the slots, and hence the rotational energy of the lever 32 must first overcome the compressional force of the spring 44 before the pawl 48 will be lifted from the slot in which it is engaged. When the operator desires to dispense a certain quantity of trading stamps such as would be represented by a purchase of \$2.30, he first places his finger in the appropriate hole in the dial 17, such as is indicated adjacent the indicia .30, and rotates the dial in a clockwise direction until his finger comes into contact with the stopper bar 20. This action has the following effect in the apparatus; initially, the lever arm 32 commences rotation in the direction of the arrow indicated adjacent the shaft 26, and the shoulder 36 thereby engages the drive pin 37. Because of the disposition of the pin 37 relative to the pivot point 40, the tip portion 42 of the pawl 38 is lifted from the slot such as the slot 86. The operator, continuing to rotate the dial 17, moves the pawl in a counterclockwise direction as viewed in FIGURE 5 until it is adjacent the slot 82. At this point the operator's finger contacts the bar 20 and the slot engaging portion 42 of the pawl 38 is forced into the slot 82, thereby preventing any overrun of the shaft 47 and locking the mechanism in place. The stamps on the roll 23 are accordingly carried outwardly through the delivery slot 86 because of the rotation of the shaft 47. By a similar effort applied to the dial 18, the driving means generally designated 16 may be actuated and stamps from the roll 24 accordingly delivered outwardly from the apparatus through the slot 86. Overrun of the stamps from the rotary wound coil or roll 23 is prevented since the spring member 73 mechanically biases the stamp roll against the stationary pressure plate 71. The wooden core 70 is adapted to prevent inadvertent folding or damage to the stamps contained in the roll 23 when the roll has been reduced to a small diameter, and close to the center thereof. Generally, however, it is desirable if the core 70 is somewhat narrower than the width of the stamps 23 in order to permit the surface of the stamp roll per se to ride against the surface of the plates 71.

It will, of course, be understood that various changes may be made in the form, details, arrangements and proportions of the parts without departing from the scope of my invention as set forth in the appended claims.

What is claimed is:

1. A stamp dispensing apparatus for dispensing a predetermined lineal length of perforated stamps from a rotary wound stamp supply roll to form a continuum of individual stamp areas, said apparatus comprising:

(a) an enclosure, one surface of said enclosure having a plurality of substantially radially disposed slots arranged in arcuately spaced relationship about a common center point;

(b) a toothed rotating delivery wheel adapted to engage the spaced perforations of the stamps to thereby drive stamps from said supply roll to said delivery port, and

(c) drive means for rotating said delivery wheel, said drive means comprising an axially rotatable dial disposed externally of said one surface, a first rotatable shaft coupled to said delivery wheel and to said dial, a pawl biased in normally locking engagement with said slots and being pivotally mounted about a first pivot axis and having a driving surface associated therewith, the driving surface being spaced from said first pivot axis, means coupled for axial rotation with said shaft for applying an arcuate force to rotate said pawl and to release the slot engaging portion from engagement with said slots only while said arcuate force is being applied to said driving surface, the arrangement being such that rotation

of said shaft between adjacent slots provides linear movement of said stamp supply substantially equal to an integral number of spaced perforations.

2. The stamp dispensing apparatus as defined in claim 1 being particularly characterized in that said rotary wound stamp supply roll is mounted for rotation about an axis for removal of lineal lengths from said supply, and resilient restraining means coupled to said supply roll for restraining the free rotation thereof.

3. A stamp dispensing apparatus for dispensing a predetermined lineal length of perforated stamps from a rotary wound stamp supply roll to form a continuum of individual stamp areas, said apparatus comprising an enclosure, one surface of said enclosure having a plurality of substantially radially disposed slots arranged in arcuately spaced relationship about a common center point, a toothed rotating delivery wheel adapted to engage the spaced perforations of the stamps to thereby drive stamps from said supply roll to said delivery port, drive means for rotating said delivery wheel, said drive means comprising an axially rotatable dial disposed externally of said one surface, a rotatable shaft extending through said enclosure and being coupled to said dial, said shaft having a first helically toothed spiral gear mounted thereon for rotation therewith, a second helically toothed spiral gear in mesh with said first spiral gear and coupled to said delivery wheel, and a pawl disposed along said first spiral gear in spaced relationship from said shaft, the pawl being biased in normally locking engagement with said slots and being pivotally mounted about a first pivot axis and having a driving surface associated therewith, the driving surface being spaced from said first pivot axis, means coupled for axial rotation with said shaft for applying an arcuate force to rotate said pawl and to release the slot engaging portion from engagement with said slots only while said arcuate force is being applied to said driving surface, the arrangement being such that rotation of said shaft between adjacent slots provides linear movement of said stamp supply substantially equal to an integral number of spaced perforations.

4. The stamp dispensing apparatus as defined in claim 3 being particularly characterized in that a second rotatable shaft is provided for coaxial rotation with said second spiral gear, said second rotatable shaft being coupled to said delivery wheel and having an axis which is substantially perpendicular to the axis of said first rotatable shaft.

5. The stamp dispensing apparatus as defined in claim 3 being particularly characterized in that said first pivot axis is substantially normal to the axis of said first rotatable shaft.

6. The stamp dispensing apparatus as defined in claim 3 being particularly characterized in that said pawl releases from locking engagement with said slots upon application of an arcuate force in one arcuate direction only.

7. The stamp dispensing apparatus as defined in claim 3 being particularly characterized in that said rotary wound stamp supply roll is mounted for rotation about an axis for removal of lineal lengths from said supply, and resilient restraining means coupled to said supply roll for restraining the free rotation thereof.

8. The stamp dispensing apparatus as defined in claim 3 being particularly characterized in that counter means are coupled to said second rotatable shaft.

9. A stamp dispensing apparatus for dispensing a predetermined lineal length of perforated stamps from a rotary wound stamp supply roll to form a continuum of individual stamp areas, said apparatus comprising an enclosure, one surface of said enclosure having a plurality of substantially radially disposed slots arranged in arcuately spaced relationship about a common center point, a toothed rotating delivery wheel adapted to engage the spaced perforations of the stamps of thereby drive stamps from said supply roll to said delivery port, and drive means for rotating said delivery wheel, said drive means

comprising an axially rotatable dial disposed externally of said one surface and having a plurality of arcuately spaced finger engaging holes formed therein, the arcuate spacing of said finger engaging holes being similar to the arcuate spacing of said radially disposed slots, stop means mounted on said one surface of said enclosure and disposed in the arcuate path followed by said finger engaging holes, a first rotatable shaft coupled to said delivery wheel and to said dial, a pawl biased in normally locking engagement with said slots and being pivotally mounted about a first pivot axis and having a driving surface associated therewith, the driving surface being spaced from said first pivot axis, means coupled for axial rotation with said shaft for applying an arcuate force to rotate said pawl and to release the slot engaging portion from engagement with said slots only while said arcuate force is being applied to said driving surface, the arrangement being such that rotation of said shaft between adjacent slots provides linear movement of said stamp sup-

ply substantially equal to an integral number of spaced perforations.

10. The stamp dispensing apparatus as defined in claim 9 being particularly characterized in that said stop means on said one surface are adapted to interrupt rotation of the dial at an arcuate point where said pawl is engaged with one of said slots.

References Cited by the Examiner

UNITED STATES PATENTS

2,712,442	6/1955	Hanson	226—110	X
2,962,282	11/1960	Bergland	226—135	X
3,061,162	10/1962	Adams	226—110	
3,084,840	4/1963	Stansell	226—135	
3,145,890	8/1964	Gordon	226—127	X
3,165,248	1/1965	Jones	226—135	X

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