Sept. 10, 1940. V. F. SLEZAK 2,214,542

MACHINE FOR DISPENSING HOROSCOPES

Filed Dec. 22, 1937 5 Sheets-Sheet 1

Fig. 1.

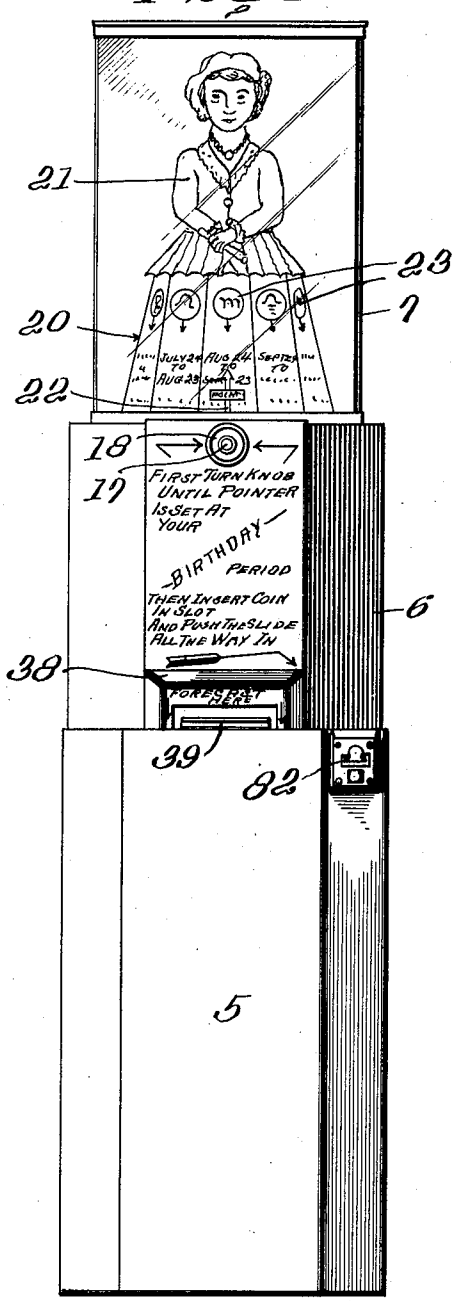
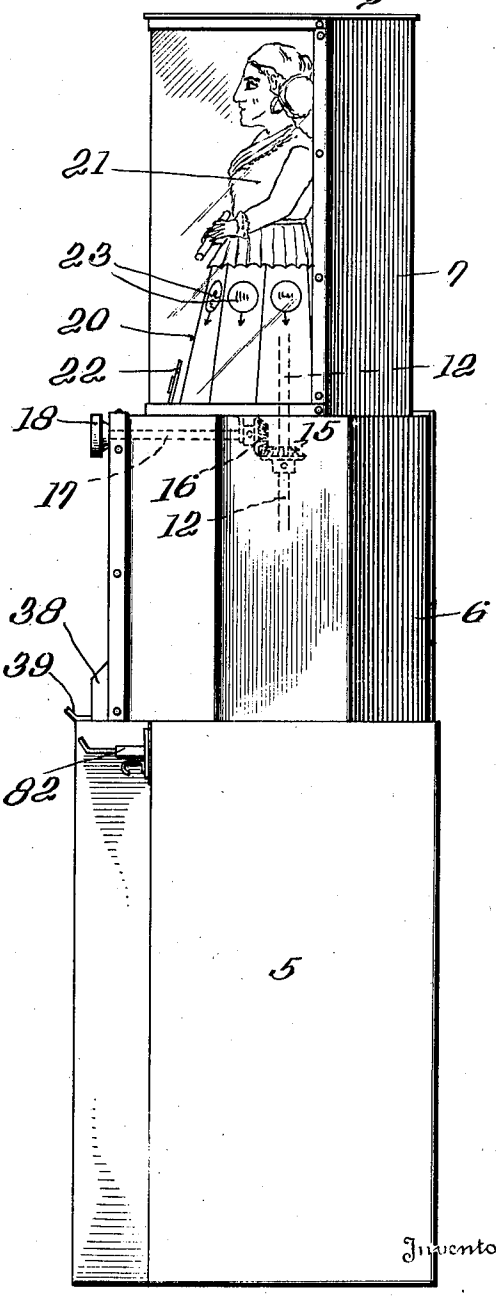


Fig. 2.



Inventor

Vincent F. Slezak

By Mason and Porter

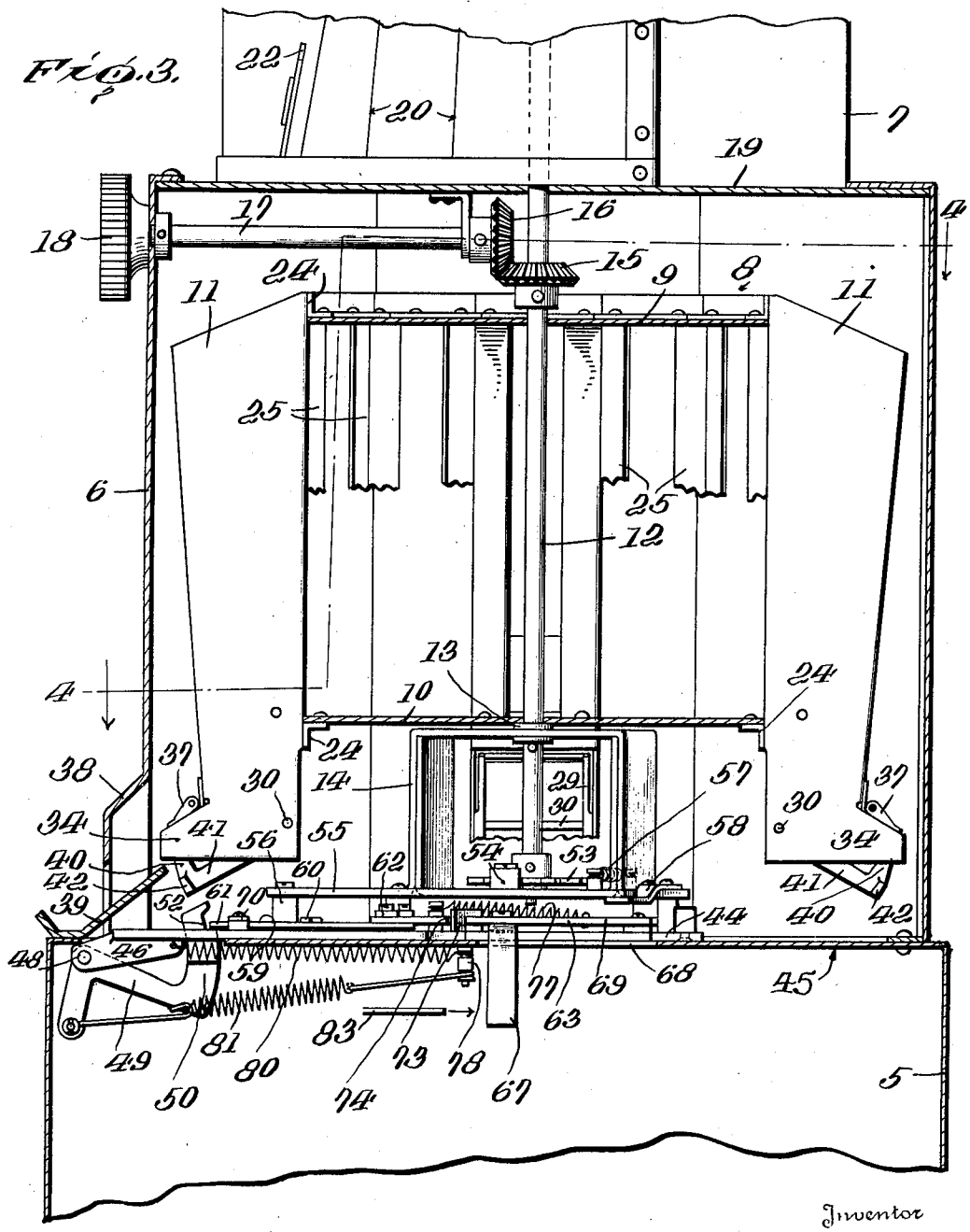
Attorneys

Sept. 10, 1940. V. F. SLEZAK 2,214,542

MACHINE FOR DISPENSING HOROSCOPES

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FIG. 3.



Inventor

Vincent F. Slezak

By Mason and Porter

Attorneys

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MACHINE FOR DISPENSING HOROSCOPES

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Fig. 4.

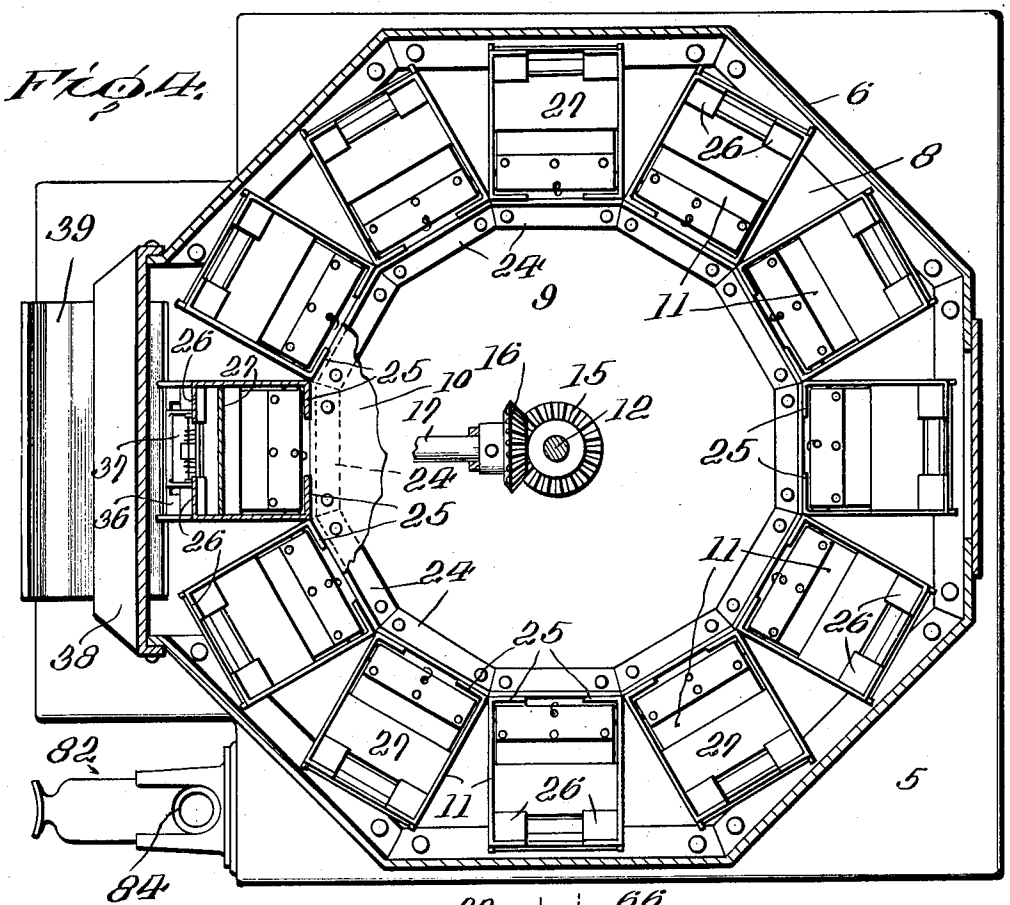
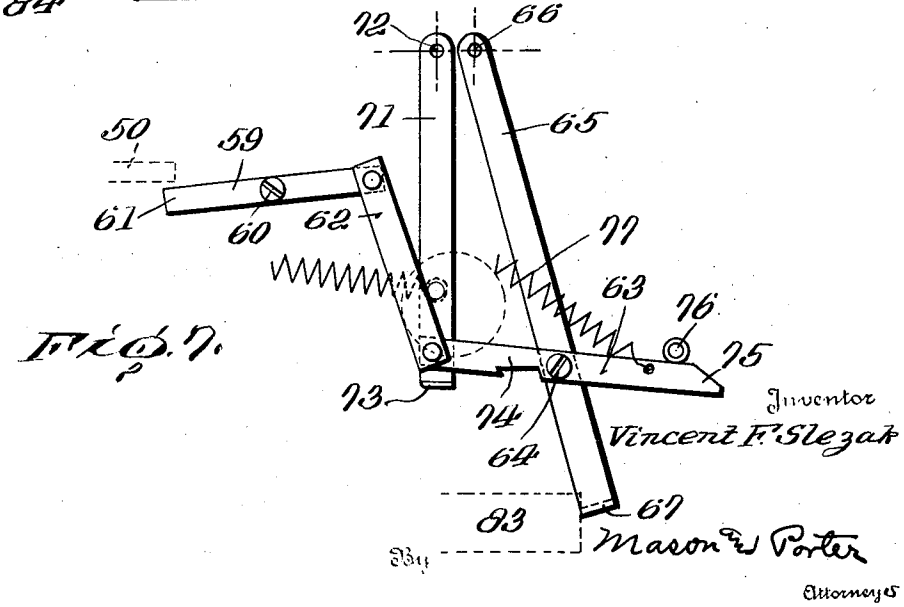


Fig. 7.



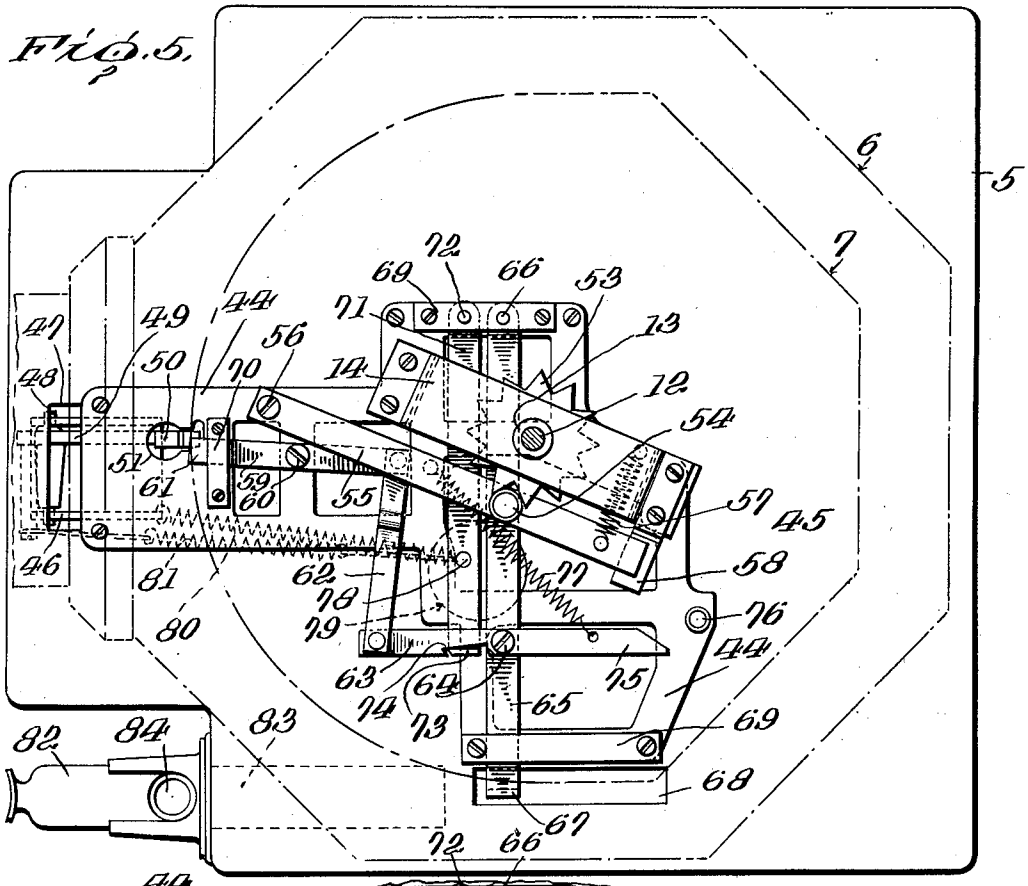
Inventor
Vincent F. Slezak
By Mason & Porter
Attorneys

Sept. 10, 1940. V. F. SLEZAK 2,214,542

MACHINE FOR DISPENSING HOROSCOPES

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Fig. 5.



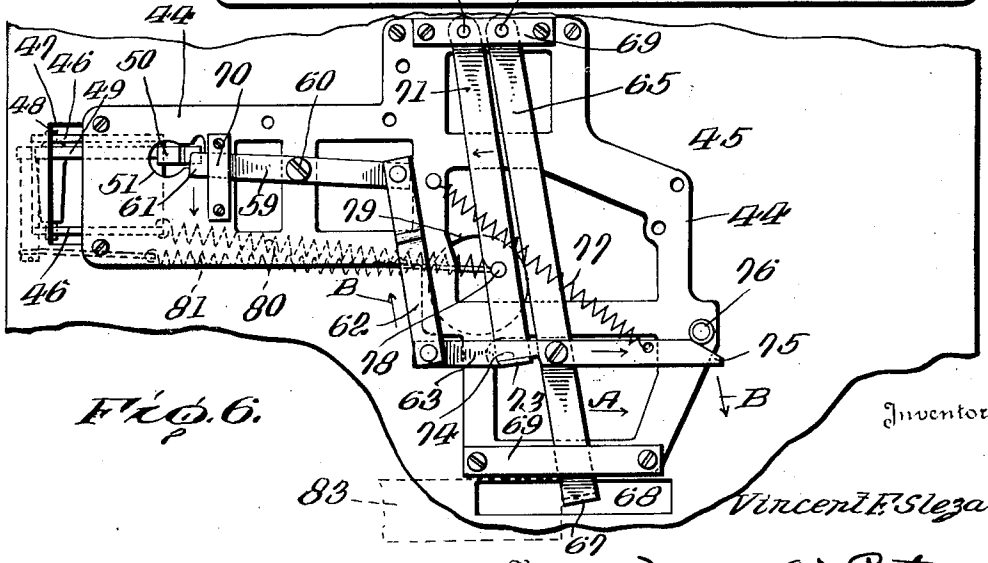


Fig. 6.

Inventor

Vincent F. Slezak

By Mason and Porter

Attorneys

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MACHINE FOR DISPENSING HOROSCOPES

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FIG. 9.

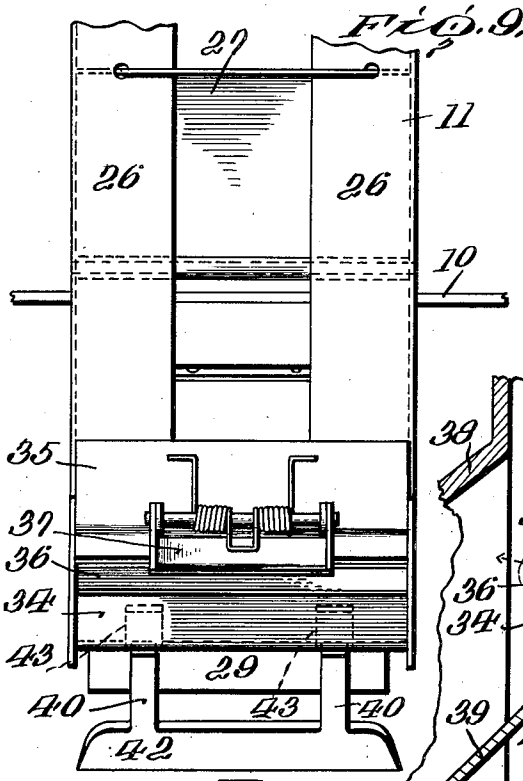


FIG. 8.

Inventor
Vincent F. Slezak

By Mason and Porter
Attorneys

Patented Sept. 10, 1940 2,214,542

UNITED STATES PATENT OFFICE

2,214,542

MACHINE FOR DISPENSING HOROSCOPES

Vincent F. Slezak, Chicago, Ill.

Application December 22, 1937, Serial No. 181,217

11 Claims. (Cl. 312—77)

The invention relates generally to coin controlled, article dispensing machines, and has for an object to provide certain new and useful improvements in machines of this general type adapted for dispensing cylindrical articles, or more particularly in the astrological machine for dispensing horoscopes based on the relation of the zodiac signs or periods to given birthdays disclosed in my co-pending application for Letters Patent filed November 10, 1936, Serial Number 110,148.

In the machine of the patent application referred to, horoscopes rolled into compact cylindrical form are dispensed, one by one, from a magazine manually selected in a novel manner by a prospective purchaser, the number of selective magazines preferably being equal to the number of the months or the signs of the zodiac. The actual ejection or dispensing of the scrolls in the machine of the application was accomplished by mechanical means, electrically actuated.

One object of the invention is to provide an improved coin-controlled, trigger-released, spring actuated ejector mechanism of general application in article-dispensing machines.

Among the objects of the present invention are, to provide magazines of novel shape and construction in which danger of jamming of the scrolls due to mis-alignment or bridging is reduced to a minimum; to provide novel means for controlling the forcibly ejected scrolls; and to provide purely mechanical, coin-controlled devices for positively and forcibly ejecting the scrolls, including an ejector arm, a trigger normally locking the arm in inactivity, a coin control operated actuator lever, and a combined energy storing and releasing lever cooperating with the trigger and the arm and actuated by movement of the actuator lever for controlling the functions of the trigger and the arm.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more fully understood by following the detailed description, the appended claims, and the several views illustrated in the accompanying drawings.

In the drawings—

Figure 1 is a front elevation illustrating the invention;

Fig. 2 is a side elevation;

Fig. 3 is an enlarged central, vertical, fore and aft section of the intermediate portion of the machine;

Fig. 4 is a horizontal section taken on the line 4—4 on Fig. 3;

Fig. 5 is a plan view of the base section of the machine, the turret shaft being shown in horizontal cross section, and the intermediate and upper sections being shown in dot and dash phantom outline;

Fig. 6 is a fragmentary view similar to Fig. 5 showing the ejector control devices in the process of being shifted from the normal position shown in Fig. 5 to the energy storing, trigger releasing position;

Fig. 7 is a diagrammatic fragmentary plan view illustrating the trigger released, energy released position;

Fig. 8 is an enlarged fragmentary vertical section taken at the scroll dispensing station, the process of ejecting an individual scroll being shown in dotted lines;

Fig. 9 is an outside face view of a lower portion of one of the scroll dispensing magazines, the relation thereto of the ejector arm being shown.

The machine disclosed herein as an example embodiment of the invention is similar in general design and purpose to the one disclosed in my copending application for patent filed November 10, 1936, Serial Number 110,148, and includes a base section 5, an intermediate section 6, and an upper section 7.

A magazine turret generally designated 8 is rotatably supported within the intermediate section 6 as shown in Figs. 3 and 4 of the drawings. The turret is rotatable about a vertical axis and comprises upper and lower plates 9 and 10 and a plurality of magazines or chutes generally designated 11, secured to and equi-distantly spaced about the peripheral edges of the plates. The turret is supported on and rotatable with the shaft 12 which has rotative bearing as at 13 in an inverted U-shaped bracket 14 supported upon the base section as shown in Figs. 3 and 5 of the drawings.

A beveled gear 15 is secured upon the shaft 12, and rotation may be imparted to this gear and to the turret by means of a driver gear 16 which meshes with the gear 15 and is carried on a shaft 17 rotatably supported at the upper end of the intermediate section 6 and projected through the front wall of said section as shown in Figs. 2 and 3 of the drawings. By manipulation of the knob 18 carried on the projected end of the shaft, rotation may be imparted to the turret within the intermediate section 6 in order to bring any selected one of the twelve magazines into co-op-

erative relation with the scroll ejecting devices soon to be described. See Figs. 2 and 4 of the drawings.

The shaft 12 is extended upwardly through the ceiling or top wall 19 of the intermediate section 6 into the upper section 7 where it has secured thereon a rotor 20 shaped to present individual panels corresponding in number with the magazines 11 hereinbefore referred to and simulating the skirt of a figure 21 representing a seeress. The parts thus far described will be recognized as generally the same in construction and purpose as like parts disclosed in the co-pending application for letters patent herein referred to and it is deemed unnecessary to dwell further on the details of construction and operation of these parts. The seeress 21 may be viewed through a semi-cylindrical window formed in the front portion of the upper section as shown in Figs. 1, 2 and 5 of the drawings and while it is necessary for the skirt portion 20 of the figure to rotate so as to selectively select panels thereof, the upper body portion of the figure may remain stationary, or be permitted to revolve as may be desired since in this form of the invention the pointer 22 employed in the selection of panels is supported upon the base portion of the upper section instead of being carried by the figure as in the previous disclosure. The panels of the rotor skirt portion 20 are preferably identified with the signs of the zodiac indicated at 23. The skirt panel designations may take any form capable of indicating to a customer the zodiacal month in which he or she was born but I prefer to employ the zodiac signs in conjunction with an indication of the corresponding days of the month or months as disclosed in my co-pending application.

It will be observed by reference to Figs. 3 and 4 of the drawings that the individual magazines or chutes generally designated 11 are secured as at 24 to the turret plates 9 and 10. The inner walls or the spaced wing portions 25 comprising them are disposed perpendicularly, but it will be noted that the outer walls or spaced wing portions 26 are slightly inclined downwardly and inwardly so as to gradually taper or constrict the magazine chutes in the downward direction. I find that by thus shaping the magazines or chutes the cylindrical scroll units disposed therein are gradually crowded toward the bottom of the chutes in a manner tending to perfectly align the units and positively prevent misalignment in relation of the units as they are presented to the dispensing elements hereinafter to be described. A throat plate 27 is secured at the lower outer portion of each chute as shown in Figs. 8 and 9 of the drawings, and this plate further restricts the bottom portion of the chute as indicated at 28 and aids in perfecting the alignment of the scroll units.

Immediately beneath the restricted throat portion 28 in each magazine or chute 11 the perfectly aligned scroll units are free to spread out and fill the whole of the lower portion of the chute and this portion of each chute is closed by an agitator quadrant 29 in the form of an arcuate plate pivotally supported as at 30. The member 29 is oscillated back and forth during the dispensing of each scroll unit for the purpose of agitating the mass of scrolls contained in the chute immediately above the plate in order to overcome any tendency on the part of the scroll units to bridge and jam, and in order to facilitate agitation of the mass of units the plate 29 is equipped with a series of transverse grooves forming agitator ribs 31. It will be observed by reference to Fig. 8 of the drawings that the member 29 is so positioned in the lower portion of the respective chute that its peripheral surface lies parallel to the front wall portions of the chute so as to form therewith a restricted throat-way 32 so narrow as to permit passage of but one of the scroll units at a time. The scroll units are designated 33.

Each magazine includes an outwardly extending foot portion 34, and an angle piece 35 mounted at the juncture of this foot portion and the lower extremity of the front wall portions 26 forms an outer wall for the restricted throat-way 32 and a ceiling for the foot portion 34, said ceiling being spaced from the floor of the foot portion in distance just sufficient to permit passage of a single row of scroll units as shown in Fig. 8 of the drawings. The angle piece 35 terminates short of the front end of the foot portion 34 so as to provide an upwardly directed opening or scroll ejection mouth 36 as shown in Figs. 8 and 9 of the drawings. This ejection mouth is normally closed by a spring gate 37 and it will be noticed by reference to Figs. 3 and 8 of the drawings that the intermediate section 6 includes a deflector portion 38 so disposed with relation to said mouth that the scroll units forcibly ejected from said mouth in opposition to the spring gate 37 will be deflected by said wall portion downwardly into a receiving cup or trough 39 from which the customer may readily withdraw the same. By reason of this equipment it is possible to positively and forcibly eject each scroll unit and yet keep it under perfect control.

The scroll units 33 are individually ejected through the openings 36 by ejector fingers 40 carried at the ends of the spaced arms 41 extending from the agitator plate members 29 which are pre-held to the normal, finger retracted position as illustrated in Fig. 8 of the drawings. The spaced arms 41 are connected by an abutment bar 42. An agitator plate and ejector finger unit 29, 40 is carried at the lower end of each of the magazine units 11 and a single mechanically actuated mechanism is provided for operating each of these scroll ejecting equipments as the respective magazines are selectively brought into co-operative relation with said mechanism as shown in Figs. 3 and 8 of the drawings. Each time an abutment bar 42 is engaged and forced upwardly the fingers 40 movable therewith will move through slot-ways or openings 43 in the floor of the respective magazine foot portion 34 and eject a single scroll unit 33 as hereinbefore described. During each such ejection the agitator plate will move in an arcuate path and in a direction opposite that of the outfeeding movement of the individual scroll units so as to agitate the free mass of units and prevent bridging and jamming thereof. A return spring 29^a is anchored as at 29^b to each agitator plate member 29 and as at 29^c to a stationary portion of the magazine structure, and these springs serve to return the plates 29 to the normal position illustrated in full lines in Figure 8 after each movement thereof to the unit ejecting position illustrated in dotted lines in the same figure.

I will now proceed to describe the single mechanically actuated mechanism by which the ejecting devices of the respective magazine units are actuated as the units are selectively presented to said mechanism. This mechanism includes a

base plate 44 secured, as shown in Figs. 3 and 5 of the drawings, upon the top plate 45 of the base section 5. This base plate includes spaced bearing lugs 46 which extend down through an opening 47 formed in the top plate 45 and form pivotal support as at 48 for a bell-crank lever 49. One arm of the bell-crank lever carries an ejector arm 50 which is arcuate in shape and engageable with whichever one of the abutment bars 42 of the respective ejecting eqeuipments happens to be positioned thereabove at a given operation of the machine. The arm 50 operates through an aperture 51 formed in the plate 44 and includes a trigger notch 52 in one edge thereof as shown in Fig. 8 of the drawings.

A star wheel 53 is secured upon the lower end of the shaft 12 and includes a peripheral notch for each of the magazines 11 carried by the turret 8. A turret positioning or retainer roller 54 is engageable with the star wheel notches and is carried by a retaining lever 55 pivoted as at 56 upon the plate 44 and spring-held against the wheel as at 57. It will be obvious that the roller, seated in the respective star wheel notches, will yieldably hold the turret in positions for presenting a selected one of the scroll unit bearing magazines in co-operative relation with the ejection effecting and scroll delivering mechanisms. The free end of the lever 55 may be supported upon a shelf member 58 secured to the bracket 14 as shown in Figs. 3 and 5 of the drawings.

A trigger lever 59 is pivotally supported intermediate its ends as at 60 on the plate 44, and one free end 61 of this lever overlies the ejector arm 50 in the notch 52 provided therein, (see Figs. 3, 5 and 8). The other free end of the trigger lever 59 is pivotally connected to one end of a link 62 which is in turn pivotally connected to one end of a trigger release lever 63. The trigger release lever 63 is pivoted intermediate its ends as at 64 to the free end of an actuator lever 65 which is in turn pivoted at one end as at 66 on the plate 44. At its free end the lever 65 carries a depending arm 67 movable, during oscillation of the lever 65, in a slot-way 68 provided in the base section top plate 45. Suitable keeper plates 69 overlie the ends of the lever 65, and a keeper plate 70 overlies the end 61 of the trigger lever 59. See Figs. 3, 5 and 6.

An energy storing and releasing lever 71 is pivoted as at 72 on the plate 44 in substantially parallel relation to the actuator lever 65. The lever 71 carries a latch head 73 receivable in an undercut latching recess 74 formed in the trigger release lever 63 and the lever 63 also includes a cam nose or end portion 75 engageable with a stationary roller 76 secured upon the plate 44.

A spring 77 is secured to the cam nose equipped end of the lever 63 and to the plate 44 or other suitable anchoring means as shown in Figs. 5 and 6 of the drawings. This spring tends to hold the latch head 73 in the notch 74, and also to hold the trigger lever 59 in the position for locking the ejector arm 50 in inactive position shown in full lines in Figs. 3 and 8 of the drawings.

A pin 78 depends from the energy storing and releasing lever 71 through an aperture 79 formed in the plate 45, and a return spring 80 is connected with this pin and with one of the plate lugs 46 so as to tend always to return the lever 71 to the normal position shown in Figs. 5 and 7 of the drawings. Another spring 81 is secured to the pin and to the downwardly extending arm of the bell-crank lever 49 as shown in Figs. 3, 6 and 8 of the drawings. It is to be understood that when the parts are in the normal position shown in Figs. 3 and 5 of the drawings the spring 81 should be relaxed, that is, not under tension. Thus, the ejector arm 50 is free to return by gravity action to the normal position referred to after each ejection of a scroll unit.

It is to be understood that any well known form of coin-controlling mechanism may be employed in the machine. I have generally indicated such a mechanism at 82. Any type of coin-control mechanism including an actuator bar 83 through which thrust may be applied to the ejecting mechanism only after proper insertion of a coin is suitable for use in this machine. The actuator bar is indicated in dotted lines in Figs. 5, 6 and 7 of the drawings and the usual coin-receiving aperture is indicated at 84.

Operation

A person desiring to purchase a horoscope scroll unit will utilize the knob 18 to adjust the seeress figure skirt 20 to present the appropriate zodiac sign and birthday date bearing panel 23 in line with the pointer 22. By now inserting the proper coin in the aperture 84 and pushing the slide 83 all the way in, in the well known manner, the machine may be caused to dispense a single scroll unit from the selected magazine.

As the actuator bar 83 moves inwardly from the position shown in Fig. 5 of the drawings to that illustrated in Fig. 6 the projected end thereof will engage the arm 67 depending from the actuator lever 65 and shift that lever from the position shown in Fig. 5 of the drawings to the position shown in Fig. 6. During the first portion of this movement the energy storing and releasing lever 71 and the link 62 move substantially as parallel links with the lever 65 and thus no trigger releasing movement is imparted to the trigger lever 59. During the movement just described however, the springs 80 and 81 will be elongated, the latter storing up energy which, when released, will serve to forcibly move the ejector arm 50 in the upward direction, from the position shown in full lines in Fig. 8 of the drawings to that illustrated in dotted lines in the same figure.

As the lever 65 continues to move in the direction indicated by the arrow A on Fig. 6 the cam nose 75 of the trigger release lever 63 will engage the roller 76 and trip the lever in the direction indicated by the arrows B, from the position illustrated in Fig. 6 of the drawings to that illustrated in Fig. 7, thus causing the trigger end 61 to release the arm 50 and permit the stored energy to throw the arm upwardly as just above described. This tripping of the trigger release lever 63 also releases the latch and notch engagement at 73, 74, and permits the energy storing and releasing lever 71 to return to the normal position shown in Figs. 5 and 7, releasing the energy stored in the spring 81 and permitting the ejector arm 50 to gravitate to the normal position shown in full lines in Figs. 3 and 8. As soon as the actuator bar 83 of the coin-controlled mechanism is retracted the parts will return to the normal position shown in Fig. 5 of the drawings. It should be understood that the parts are so proportioned and arranged that the release of the trigger end 61 occurs while energy is stored in the spring 81, or just prior to release latch head and notch engagement at 73, 74. The slight undercutting of the notch 74 will aid in preventing inadvertent disengagement of these latching parts.

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

1. In a horoscope scroll unit dispensing machine, an upright magazine for holding the cylindrical scroll units side by side horizontally and superposed one on another, a laterally directed enclosed chute disposed at the lower end of the magazine dimensioned to accommodate a single row of scroll units and having an upwardly directed dispensing mouth, an arcuate member oscillatable about an axis across the bottom of the magazine for agitating and preventing jamming of the scroll units and for directing said units one at a time to said chute, a stationary choke plate restricting the magazine above the arcuate plate and terminating in an edge portion spaced from said plate a distance in excess of the diameter of said scroll units and disposed in parallel relation to said axis, and means carried by the arcuate member for ejecting scroll units one by one through said mouth.

2. In a horoscope scroll unit dispensing machine, a magazine for the units including a laterally directed chute having an upwardly directed dispensing mouth and means for directing units in a single row to said chute, a spring gate yieldably closing said mouth, means for forcibly dispensing scroll units one by one against and through said spring gate and through said mouth, a receptacle for dispensed scroll units, and means including said gate for directing dispensed scroll units to said receptacle.

3. In a horoscope scroll unit dispensing machine, a magazine for the units including a laterally directed chute having an upwardly directed dispensing mouth and means for directing units in a single row to said chute, a spring gate yieldably closing said mouth, trigger released spring actuated means for forcibly dispensing scroll units one by one against and through said spring gate and through said mouth, a receptacle for dispensed scroll units, and means including said gate for directing dispensed scroll units to said receptacle.

4. In a horoscope scroll unit dispensing machine, an upright magazine for holding the cylindrical scroll units side by side horizontally and superposed one on another, a laterally directed enclosed chute disposed at the lower end of the magazine dimensioned to accommodate a single row of scroll units and having an upwardly directed dispensing mouth, an arcuate member oscillatable about an axis across the bottom of the magazine for agitating and preventing jamming of the scroll units and for directing said units one at a time to said chute, a spring gate yieldably closing said mouth, means carried by the arcuate member for forcibly dispensing scroll units one by one through said spring gate closed mouth, a receptacle for dispensed scroll units, and means including said gate for directing dispensed scroll units to said receptacle.

5. In a horoscope scroll unit dispensing machine, a magazine for the units including a laterally directed chute having an upwardly directed dispensing mouth and means for directing units in a single row to said chute, a spring gate yieldably closing said mouth, means for forcibly dispensing scroll units one by one through said spring gate closed mouth, a receptacle for dispensed scroll units, and means including said gate for directing dispensed scroll units to said receptacle, said unit dispensing means including an ejector arm, spring means for operating the ejector arm, a trigger normally locking the arm in inactivity, a manually operable actuator lever, means movable with the actuator lever for releasing the trigger, and an energy storing and releasing lever cooperating with the trigger and the actuator lever and actuated by movement of the actuator lever for storing energy in the spring means prior to the release of the trigger and for releasing stored energy subsequent to the release of the trigger to permit free return of said arm.

6. In a horoscope scroll unit dispensing machine, means for presenting scroll units one by one before a dispensing mouth, and means for forcibly dispensing the units one by one through said mouth including, a spring actuated ejector arm, a trigger lever supported independently of and normally lying across the path of movement of said arm for locking the arm in inactivity, a manually operable actuator lever, means movable a distance with the actuator lever for storing energy in the spring and an additional distance for releasing the trigger lever, and a stationary abutment engaged by said trigger releasing means during said additional movement for effecting said trigger release.

7. In a horoscope scroll unit dispensing machine, means for presenting scroll units one by one before a dispensing mouth, and means for forcibly dispensing the units one by one through said mouth including a spring actuated ejector arm, a trigger lever supported independently of and normally lying across the path of movement of said arm for locking the arm in inactivity, a manually operable actuator lever, means movable a distance with the actuator lever for storing energy in the spring and an additional distance for first releasing the trigger lever and for then relaxing the spring to permit free return to normal of said arm, said last named means including a swingably mounted energy storing lever and means for releasing it from movement with said movable means just after release of said trigger lever.

8. In a horoscope scroll unit dispensing machine, means for presenting scroll units one by one before a dispensing mouth, and means for forcibly dispensing the units one by one through said mouth including, a spring actuated ejector arm, a trigger lever pivoted intermediate its ends and having a free end overlying a portion of the arm for normally locking the arm in inactivity, a manually operable actuator lever, a trigger release lever pivoted intermediate its ends on the actuator lever, an energy storing and releasing lever spring connected with said arm and having latch and release connection with the trigger release lever, a link connecting said trigger and trigger release levers, said link, actuator lever and energy storing and releasing lever being swingable in generally parallel relation, and said trigger and trigger release levers being disposed in generally parallel relation transversely of said actuator lever whereby said link, energy storing and releasing lever and trigger release lever are movable a distance with the actuator for storing spring energy without effecting trigger release, and means effective during additional movement of the actuator lever for first tripping the trigger release lever to release the trigger and then unlatch the energy storing and releasing lever for the purpose described.

9. In an article dispensing machine, means for presenting scroll units one by one before a dispensing mouth, means for forcibly dispensing

the units one by one through said mouth including a spring actuated ejector arm, a trigger supported independently of and normally lying across the path of movement of said arm for normally securing the arm against active movement, manually movable means for first storing energy in the spring and then releasing said trigger and including a swingably mounted trigger latching lever, and a fixed abutment for displacing said latching lever during movement of said movable means.

10. In an article dispensing machine, means for presenting scroll units one by one before a dispensing mouth, means for forcibly dispensing the units one by one through said mouth including a spring actuated ejector arm, a trigger supported independently of and normally lying across the path of movement of said arm for normally securing the arm against active movement, and manually operable means effective to first store energy in the spring, then release the trigger to permit the arm to move to effect a roll scroll ejection and then relax the spring to permit movement of the arm free of influence of said spring, said last named means including a swingably mounted energy storing lever and means for releasing it from movement with said movable means just after release of said trigger lever.

11. In an article dispensing machine, means for presenting scroll units one by one before a dispensing mouth, means for forcibly dispensing the units one by one through said mouth including a spring actuated ejector arm, a trigger lever supported independently of and normally lying across the path of movement of said arm for normally locking the arm in inactivity, a manually operable actuator lever, and means movable with the actuator lever for first storing energy in the spring and then releasing said trigger and including a swingably mounted energy storing and trigger latching lever.

VINCENT F. SLEZAK.