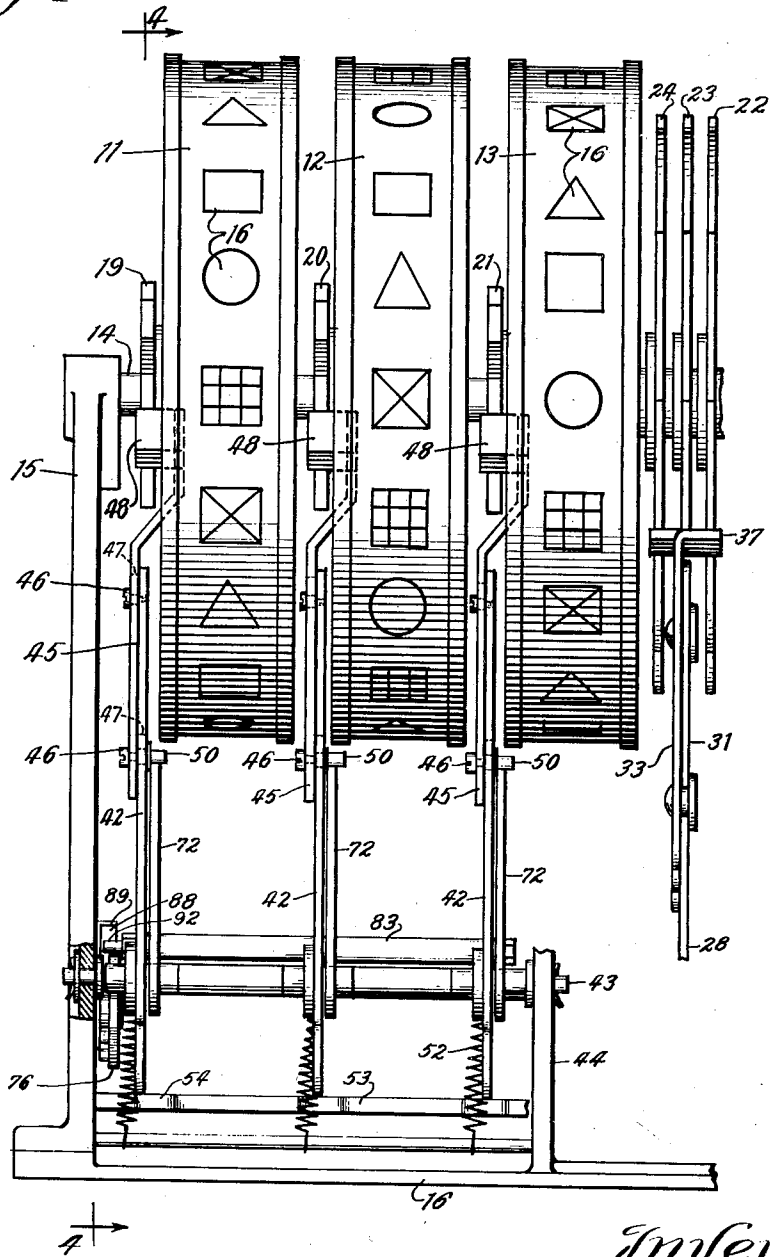
March 28, 1939. B. E. MILLS 2,152,599

AUTOMATIC STOP CONTROL MECHANISM FOR COIN-OPERATED MACHINES

Filed April 20, 1936 4 Sheets-Sheet 1

Fig. 1



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AUTOMATIC STOP CONTROL MECHANISM FOR COIN-OPERATED MACHINES

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Fig-2

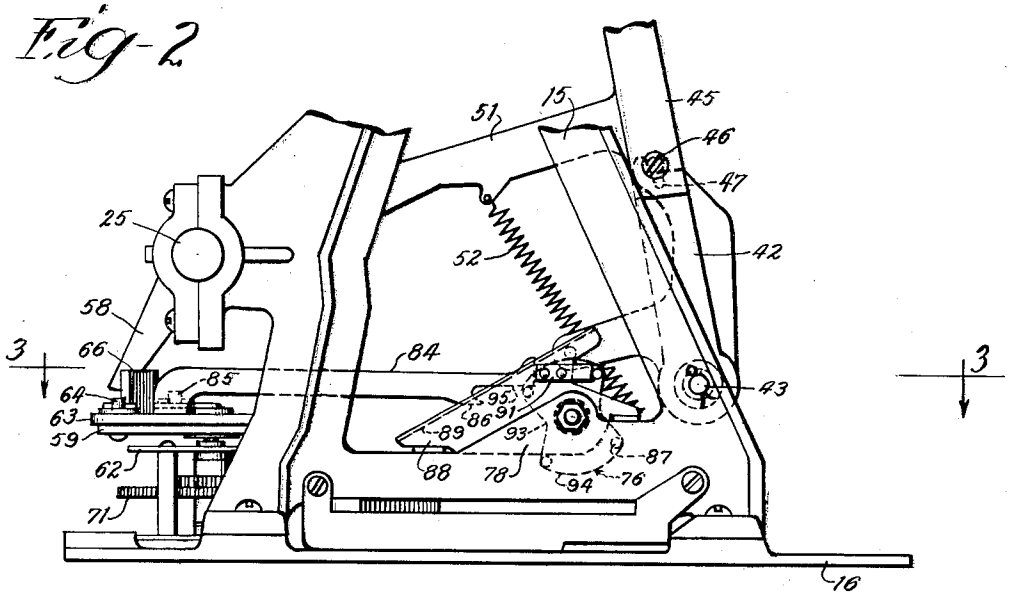
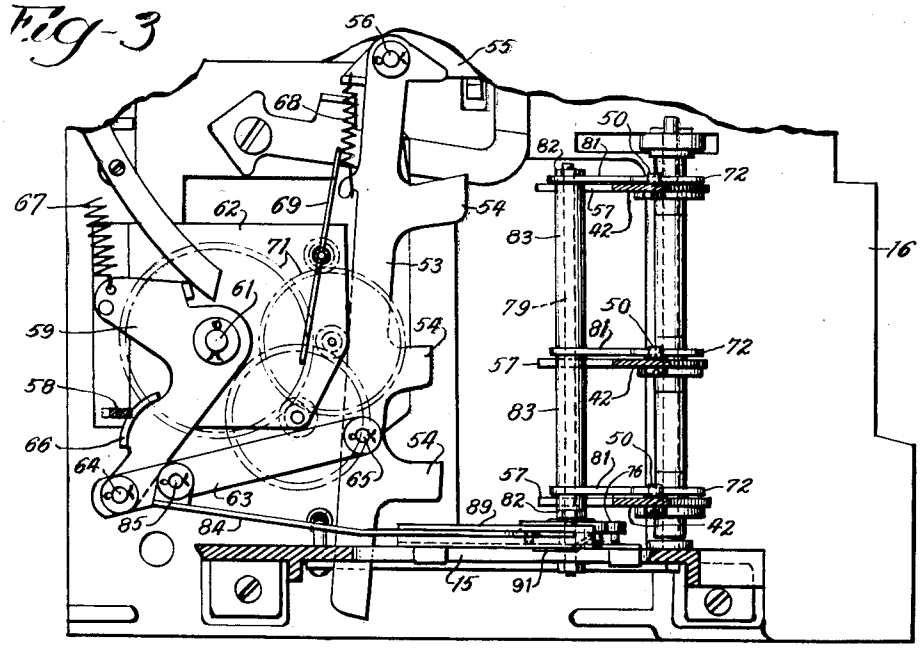


Fig-3



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AUTOMATIC STOP CONTROL MECHANISM FOR COIN-OPERATED MACHINES

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Fig-4

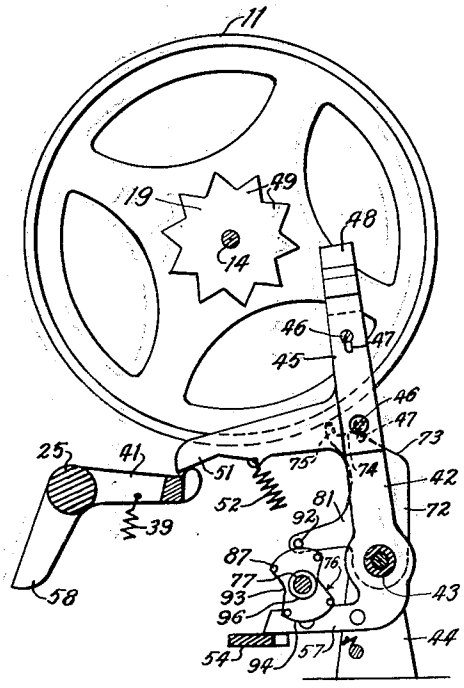


Fig-5

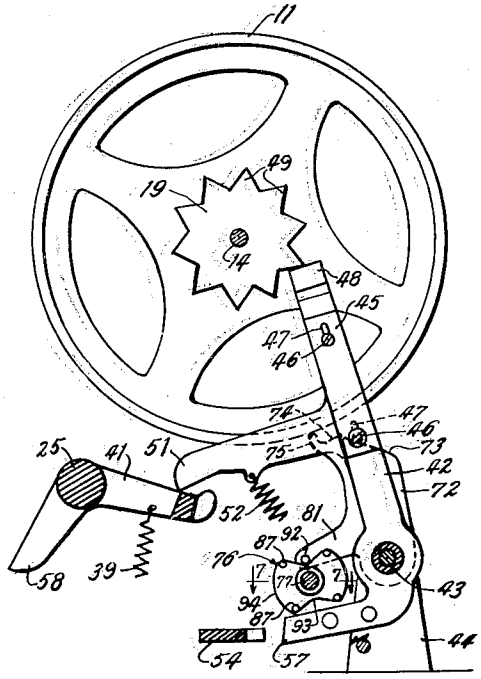


Fig-6

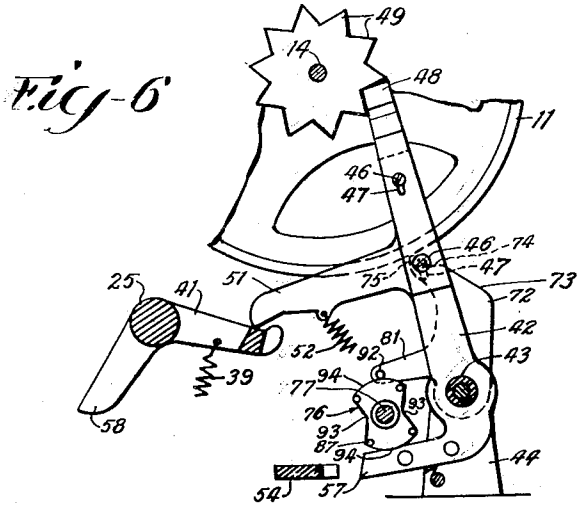
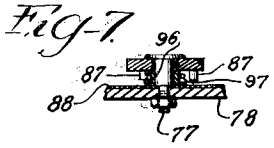


Fig-7



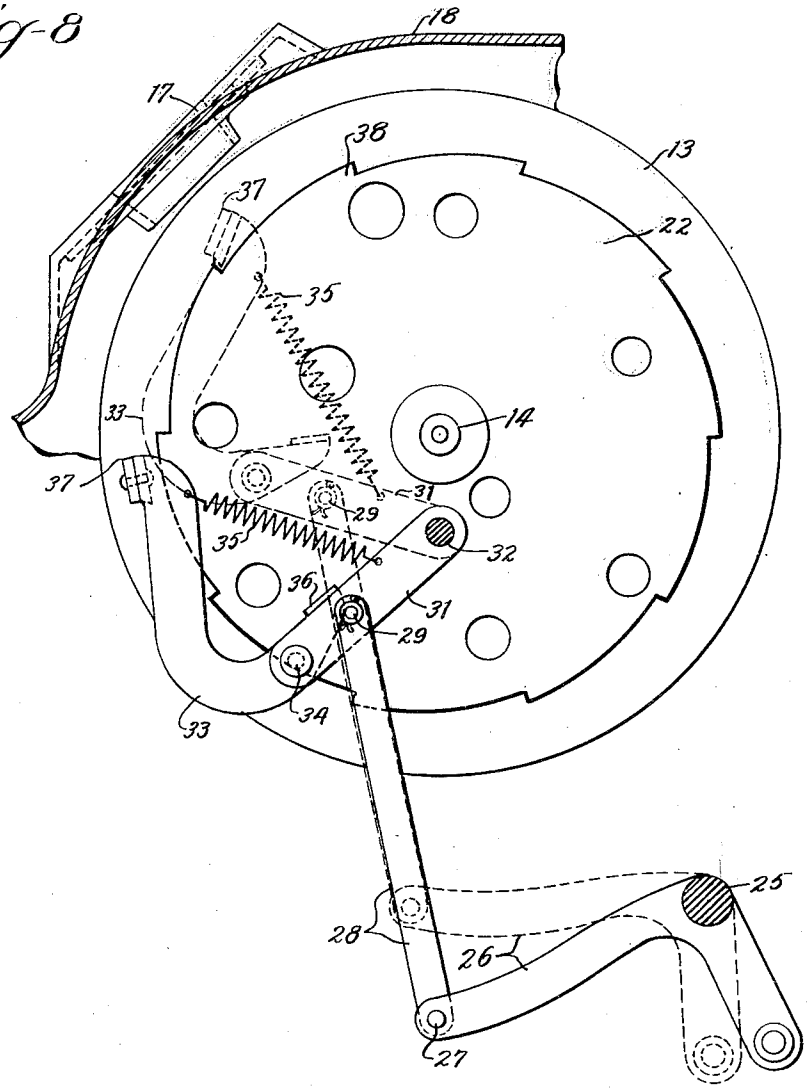
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AUTOMATIC STOP CONTROL MECHANISM FOR COIN-OPERATED MACHINES

Filed April 20, 1936 4 Sheets-Sheet 4

Fig-8



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UNITED STATES PATENT OFFICE

2,152,599

AUTOMATIC STOP CONTROL MECHANISM FOR COIN-OPERATED MACHINES

Bert E. Mills, Oak Park, Ill., assignor to Mills Novelty Company, Chicago, Ill., a corporation of Illinois

Application April 20, 1936, Serial No. 75,338

13 Claims. (Cl. 273—143)

This invention relates to improvements in coin-controlled machines of the type in which a plurality of rotatable elements, such as legend-bearing reels, are adapted to be rotated and brought to rest in position to display various combinations of legends having certain significance, or, for example, telling fortunes and indicating a certain number of tokens or checks to be delivered to the operator, such checks being usable, if desired, for further operation of the machine. The general form of this spinning reel type of machine is well known in the art and is illustrated in a number of prior United States patents, among which may be mentioned Patent No. 1,586,455.

In machines of the type mentioned the legend-bearing reels are started rotating through operation of a manually operable coin-controlled mechanism, and are brought to rest by stop devices which are individualized to the reels, and which operate automatically to stop the reels in various positions so that upon successive operations of the machine different combinations of legends will be displayed through windows which are provided in the casing opposite restricted peripheral sections of the reels. The reel stop devices usually comprise arms or levers which are adapted to be moved into engagement with toothed wheels on the reels to stop rotation of the reels after they have been allowed to spin for a predetermined length of time. The number of different positions in which any particular reel may be brought to rest thus depends upon the number of teeth in the stop wheel on the reel, each tooth representing one position of rest.

An important object of the present invention is to provide means whereby the number of positions in which the reels may be stopped for a given number of teeth on the reel stop wheels is increased through the provision of adjusting mechanism for the automatic stop devices which enables said devices to stop the reels in positions of one series for a certain adjustment of the stop devices and in positions of another series for another adjustment of said devices.

Another object of the invention is to provide automatic adjusting mechanism for the stop devices which operates to effect a change in the adjustment of said devices, and hence a change in the series of positions in which the reels may be stopped, at regular intervals of operation, or after a predetermined number of operations, thereby minimizing the opportunity for frequent repetition of particular combinations of legends.

Other objects and advantages of the invention will be apparent from the following detailed description, taken in connection with the accompanying drawings, wherein I have shown the preferred form in which I have thus far contemplated applying the principles of the invention.

Referring to the drawings:

Fig. 1 is a front elevational view, partly in section, of a portion of a spinning reel type of machine which is provided with the improved adjusting mechanism for the automatic stop devices;

Fig. 2 is an end elevational view of the lower portion of the apparatus as viewed from the left in Fig. 1;

Fig. 3 is a horizontal section through the apparatus taken on line 3—3 of Fig. 2;

Fig. 4 is a transverse vertical sectional view of the improved stop mechanism, the section being taken as indicated by line 4—4 of Fig. 1;

Figs. 5 and 6 are views similar to Fig. 4 and showing two different operative positions of the stop mechanism;

Fig. 7 is a detail sectional view through the control cam for the stop mechanism, the section being taken on line 7—7 of Fig. 5; and

Fig. 8 is an end elevational view of the mechanism for spinning the reels, the view being taken from the right hand side of Fig. 1.

The general construction of coin or check-controlled machines of the type which employ a plurality of rotatable elements or reels which have legends arranged around their peripheral surfaces to indicate points or scores, or to be used in conjunction with vending mechanism which may be embodied in the machine, is well understood in the art, and I shall, therefore, describe the general structure of such a machine only in sufficient detail to give an understanding of the nature of the improvement which forms the subject matter of the present invention. In the embodiment shown, the apparatus includes three legend-bearing reels 11, 12 and 13 which are mounted for free rotation on a shaft 14, the latter being journaled at its opposite ends in frame uprights 15 (one shown) which are carried by a base plate 16. The peripheral surfaces of the reels are marked with legends 16 which are of various configurations and which may be viewed by the operator through a window 17 (Fig. 8) which is mounted in the upper front portion of the cabinet wall 18. As will presently more fully appear, the reels are stopped in such position that one of the legends 16 on each reel will lie beneath the window 17 so that the operator may thus view the combinations of legends corre-

sponding to the various positions of rest of the reels. The hub portions of said reels 11, 12, 13 consist of sleeves which are provided, respectively, with star wheels 19, 20 and 21, said sleeves being arranged in nested relationship on shaft 14, and the ends thereof opposite said star wheels being provided respectively with ratchet disks 22, 23 and 24.

The mechanism for spinning the reels is illustrated in Figs. 1 and 8. A rock shaft 25, which is journaled at its opposite ends in the frame uprights 15 (see Fig. 2), carries a forwardly projecting arm 26 which is pivotally connected at 27 to the lower end of a link 28, the upper end of the latter being pivotally connected at 29 to an arm 31, said arm 31 being pivoted at 32 to a fixed point on the frame. A pawl arm 33 is pivotally connected at 34 to the arm 31 and is normally held against the latter by a coil spring 35, one end of which is connected to the arm 31, the other end of said spring being connected to the arm 33. A lug 36 carried on one end of arm 33 engages over the edge of arm 31, thus serving as a stop to limit the relative movement between these parts. The free end of pawl arm 33 carries a pawl 37 which is adapted to simultaneously engage shoulders 38 on all three of the ratchet disks 22, 23 and 24. When rock shaft 25 is pivoted in a clockwise direction, viewing Fig. 8, pawl arm 33 and arm 31 are moved from the solid to the dotted line position of said figure, the pawl 33 riding upwardly over the teeth 38 and the arm 33 pivoting in a counterclockwise direction on arm 31. The coin-controlled mechanism for actuating the main rock shaft 25 which is not illustrated in the present drawings, but which is fully shown in U. S. Patent No. 1,586,455, is so arranged that after said shaft has been turned through a portion of a revolution, in a clockwise direction, viewing Fig. 8, it will be suddenly released and returned to normal position by springs 39 (Fig. 4) which extend between cams 41 on said shaft 25, and fixed points on base 16. This sudden return movement of shaft 25 pulls pawl arm 33 downwardly against the teeth 38 on the ratchet disks with a quick snapping action which rotates the disks and the reels connected therewith in a counterclockwise direction, viewing Fig. 8.

Mechanism which is operated from rock shaft 25 is provided for bringing the reels to rest in positions which will display various combinations of the legends 16. Referring particularly to Fig. 4, each reel is provided with a stop lever 42 which is fulcrumed on a cross shaft 43, the latter extending between frame upright 15 and a frame bracket 44. The stop levers 42 are provided with sections 45 which are movably supported on said levers by pins 46 which are received in slots 47, it being noted that for the upper connection the pins 46 are carried by levers 42 and extend through slots 47 in the sections 45, while for the lower connection the pins 46 are carried by the movable sections 45, being clamped thereto by shouldered studs 50, and the latter projecting through slots 47 formed in levers 42. The purpose of this movable connection between the levers proper and the movable sections supported thereon will more fully hereinafter appear. The upper ends of said movable lever sections 45 are provided with stop lugs 48 which, as shown in Figs. 5 and 6, are adapted to engage the teeth 49 on the reel star wheels. When the reels are at rest stop levers 42 are either in the position shown in Fig. 5 or in the position shown in Fig. 6, with the movable lever sections 45 in engagement with the star wheels 19–21. The stop levers 42 are provided with rearwardly projecting arms 51 which are engaged by the forwardly projecting cams 41 on rock shaft 25. Coil springs 52, extending between the arms 51 and the frame, urge the levers 42 and the sections 45 mounted thereon toward the reel star wheels. When rock shaft 25 is turned to start spinning of the reels cams 41 are raised from the position shown in Fig. 6 to the position shown in Fig. 4, this movement of the cams 41 serving to pivot levers 42 to the position shown in Fig. 4, thus freeing the sections 45 from the star wheels.

The stop levers 42, after being moved to the position shown in Fig. 4, are adapted to be progressively released so that they may be projected into reel stopping position by the springs 52. The mechanism for effecting this release is best shown in Figs. 2, 3 and 4. A clock arm 53, having three forwardly extending projections 54, is pivotally connected at one end to a frame piece 55, the pivotal connection between these parts being indicated at 56. When the reels are at rest this arm is positioned as shown in Fig. 3. When rock shaft 25 is turned to start spinning of the reels said arm 53 is adapted to be moved forwardly to carry the projections 54 beneath rearwardly projecting arms or foot portions 57 which are formed on the lower ends of stop levers 42. It will be recalled that during the wind-up operation levers 42 have been raised to the position of Fig. 4, so that foot portions 57 will clear the extensions 54 on the clock arm. In Fig. 4 one of the extensions 54 on the clock arm is shown positioned beneath one of the arms 57, in which position it will be apparent that the clock arm 53 and the projection 54 thereon serve to hold the stop lever out of engagement with the reel star wheel.

The mechanism for advancing clock arm 53 into position to hold the stop levers in inoperative position comprises; a crank arm 58 (Fig. 2) which is rigid on rock shaft 25; a bell crank 59, fixedly secured to a shaft 61 which is journaled in a frame plate 62; and a link 63 which is pivoted at 64 to one arm of bell crank 59, the other end of said link being pivoted at 65 to clock arm 53. When the rock shaft is turned in a counterclockwise direction, viewing Fig. 2, arm 58 moves against a lug 66 on bell crank 59 to pivot the latter in a counterclockwise direction, viewing Fig. 3, which movement, in turn, moves link 63 and clock arm 53 to the right to carry the projections 54 beneath the foot portions 57 of the stop levers. This movement of the parts is resisted by a coil spring 67, which extends between bell crank 59 and the frame, and also by a second coil spring 68, which extends between clock arm 53 and the frame. After rock shaft 25 has been released the springs 67 and 68 return the parts to the normal position of Fig. 3, this return movement being retarded by a vane 69 which is connected through a clock gear train 71 to the shaft 61, to which bell crank 59 is secured. During this return movement of the clock arm the foot portions 57 of the reel stop levers are dropped progressively from the extensions 54, whereupon they are projected against the reel star wheels to arrest rotation of the reels. It will be noted from Fig. 3 that the projections 54 are of various lengths so that the stop levers will be released in predetermined order.

It will be noted from Figs. 4–6 that the reel

star wheels 19–21 are each provided with ten teeth. With the usual form of stop lever which has heretofore been commonly employed in these machines, the construction is such that the point of engagement of the lugs 48 with the teeth 49 is fixed so that there is but one position of rest of the reel for each tooth on the star wheel. In some instances the reels are provided with a greater number of legends than there are teeth on the star wheels, so that it might appear to the player that there are a much larger number of legends which could be displayed than could possibly be displayed because of the limited number of stop positions which are permitted by the star wheels. In accordance with my invention, the reel stop levers 42 are made adjustable in length through the provision of the movable sections 45, and mechanism is further provided for automatically adjusting the lengths of the levers on predetermined operations of the machine, thereby providing a greater number of possible positions of rest for a given number of teeth on the reel star wheels. The principle involved will be understood by reference to Figs. 5 and 6. In Fig. 6 the lever section 45 is in the extended position, the pins 46 being at the upper ends of the slots 47. It will be noted that in this extended position the tooth 49 which is engaged by the stop lug 48 is but a slight distance below the center of the reel shaft 14. This represents one of a series of positions in which the reels may be stopped by the levers 42. In Fig. 5 the lever sections 45 are in the retracted or shortened position, the pins 46 being at the lower ends of the slots 47. It will be noted that in this position the tooth 49 on the star wheel which is engaged by the stop lug 48 is considerably below the center of shaft 14. This represents one of a second series of positions in which the reels may be stopped, this series being obviously different from the series of positions in which the reels will be stopped with the levers in the extended position of Fig. 6. In the embodiment shown each reel is provided with twenty of the legends 16, that is, twice the number of teeth on the star wheels. Any one of ten alternate legends on each reel, representing one series of stop positions, may thus be brought to rest opposite the window 17 when the stop arms are in the shortened position of Fig. 5, and similarly any one of the remaining ten alternately positioned legends, representing the second series of stop positions, may be brought to rest opposite the window 17 when the levers are in the extended position of Fig. 6. It will be understood, of course, that in referring to series of positions I mean that for one adjusted position of its stop lever a reel may be brought to rest in any one of the ten positions of that series.

The mechanism which is provided for automatically adjusting the movable lever sections 45 is best shown in Figs. 2–4. Each stop lever is provided with an arm 72 which has associated therewith its lower end on cross shaft 43. The upper end of said arm is formed to provide a cam surface consisting of a rather steeply inclined portion 73 and a more or less straight portion 74, the latter terminating at the tip end of the arm in a stop lug 75. This cam surface formed on the upper end of the arm 72 engages under the stud 50 which projects from the lower pin 46 through the lever 42. In Fig. 5 the portion 73 of the cam surface engages stud 50 and allows the movable lever section 45 to drop to the shortened position. In Fig. 6 the portion 74 of the cam surface engages said stud 50 and holds the lever section 45 in the extended position.

The adjustment of lever sections 45 from the position of Fig. 5 to the position of Fig. 6, and vice versa, is accomplished automatically, and upon predetermined operations of the machine, by cam mechanism which is operated from rock shaft 25. In the embodiment shown this mechanism comprises: a cam 76 which is journaled on the shank of a bolt 77, said bolt being secured in a wall section 78 of the frame; a tie rod 79 which extends between rearwardly extending projections 81 formed on arms 72, the opposite ends of said rod being threaded to receive lock nuts 82 (Fig. 3), and the portions of said rod lying between the projections 81 being provided with spacing sleeves 83; a push bar 84 which is pivoted at 85 to link 63, the forward end of said bar being shaped to provide a pawl 86 which is adapted to engage pins 87 carried by cam 76; a guide plate 88, secured to the wall section 78, and having an inturned flange 89 which is slotted to receive the forward end of push bar 84; and a spring strip 91 which is secured to the outer surface of the wall section 78, the forward end thereof being bent inwardly (Fig. 3) to engage behind the pins 87 on cam 76.

Referring particularly to Figs. 1–3, the end portion 92 of tie rod 79 rests on cam 76. In the embodiment shown, this cam is shaped to provide oppositely disposed concave surfaces 93 which are separated by oppositely disposed convex surfaces 94. When the end 92 of tie rod 79 is resting on one of the convex surfaces 94, as shown in Figs. 4 and 6, the arms 72 will be held in such position that the cam surfaces 74 will engage the stud 50 of the movable stop arm sections 45, the latter being thus held in the extended position of Figs. 4 and 6. When the cam 76 is turned so that said end portion 92 of rod 83 rests on one of the concave surfaces 93, as shown in Fig. 5, arms 72 will be held in such position that the cam surfaces 73 engage studs 50, thus allowing the movable stop arm section 45 to assume the shortened position of Fig. 5. Upon each operation of the machine cam 76 is adapted to be turned through a quarter of a revolution in a clockwise direction, viewing Fig. 4, thereby changing the lengths of the reel stop arms each time the machine is operated. This cam is turned by push bar 84 which, being actuated from link 63 which also operates the clock arm 53, is moved forwardly from the positions of Figs. 2 and 3 at the time said clock arm 53 is advanced to carry the projections 54 beneath the stop lever foot members 57. As the push bar 84 moves forwardly from the position of Fig. 2, the pawl 86 thereon strikes one of the pins 87, continued advance movement of said bar turning cam 76 through a quarter of a revolution or until the pin 87 which is engaged by pawl 86 moves past the forward end of the spring strip 91, whereupon the latter snaps behind the pin to hold the cam against return movement. Upon return movement of clock arm 53 and link 63, push bar 84 is retracted to assume the position of Fig. 2, the edge portion 95 thereof falling against the next succeeding cam pin 87 to position the bar for the next stroke. It is thus apparent that cam 76 is operated in timed relation with the automatic stop devices, and upon each operation effects a change in the lengths of stop levers 42 so as to change the series of positions in which the reels are stopped. It may be added that the cam 76 is rotatably supported on the bolt 77 through the medium of a sleeve 96 (Fig. 7) which

is anchored in the hub portion of said cam. A coil spring **97** disposed between the cam and wall section **78** holds the cam in yielding engagement with the head of bolt **77**.

The invention not only accomplishes the result of providing a larger number of positions in which the reels may be stopped for a given number of teeth on the reel star wheels, but also has the effect of preventing frequent repetition in the display of the same combinations of legends. In the embodiment illustrated in the drawings, the lengths of the stop levers **42** are changed upon each operation of rock shaft **25**. It follows from this that upon each operation of the machine there will be a change in the series of positions in which the reels may be stopped. This minimizes the tendency for the repetition of the same combination of legends upon successive plays. It is obvious that the frequency with which the lengths of the reel stop levers is changed depends upon the shape of the cam **76**. If desired, this cam may be so shaped that the adjusting arms **72** for the stop levers would be actuated but once in say four operations of the machine, in which case the change in the series of stop positions for the reels would occur only on every fourth operation. The more frequently the change in the lengths of the stop levers occurs, the more marked is the tendency to spread out or distribute the recurrence of a showing of the same combination of legends.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

What I regard as new and desire to secure by Letters Patent is:

1. In a machine of the class described, the combination of a plurality of rotatable elements, means for starting rotation of said elements, and means for automatically stopping rotation of said elements including stop members on the elements, stop levers movable into engagement with said stop members to arrest rotation of said elements, each of said levers being adjustable in length, and means operable by said starting means independently of any action of the operator other than the operation of such starting means for automatically adjusting said levers to a predetermined length on certain operations of the machine, and to another length on the other operations thereof, whereby to stop said elements in positions of one series when said levers are in the first adjusted position and in positions of another series when said levers are in the second adjusted posiiton.

2. In a machine of the class described, the combination of a plurality of rotatable elements, means for starting rotation of said elements, and means for automatically stopping rotation of said elements including stop members on the elements, stop levers movable into engagement with said stop members to arrest rotation of said elements, and means for releasing said stop levers from engagement with said stop members said levers being adjustable in length, and means operable by said starting means independently of any action of the operator other than the operation of such starting means for automatically adjusting said levers alternately to a predetermined length upon one operation of the machine, and to a different length upon the next operation thereof, whereby to stop said elements in positions of different series upon successive operations of the machine.

3. In a machine of the class described, the combination of a plurality of rotatable reels, means for starting rotation of said reels, and means for automatically stopping rotation of said reels including stop members on the reels, stop levers movable into engagement with said stop members to arrest rotation of the reels, each of said levers being formed in sections, and the section thereof adapted to engage the stop member being slidably supported upon another section, and means for automatically adjusting said movable section to a predetermined position on certain operations of the machine, and to another position on the other operations thereof, whereby to stop the reels in positions of one series when the levers are in first adjusted position, and in positions of another series when the levers are in the second adjusted position said adjusting means comprising a rotatable cam having different portions for controlling the respective positions of said movable sections and means for advancing said cam one step for each operation of the machine.

4. In a machine of the class described, the combination of a plurality of movable elements, means for setting said elements in motion, devices for stopping said elements including stop members on said elements, stop levers adapted to engage said stop members to arrest movement of the elements, means for releasing said levers from engagement with said stop member, said levers consisting of sections which are relatively movable, whereby the levers may be lengthened or shortened, and means operable by said starting means independently of any action of the operator other than the operation of such starting means for controlling said levers to cause the same to automatically stop said elements, said controlling means including mechanism controlled by said releasing means and operative upon certain operations of the machine for changing the lengths of said levers and the point of engagement thereof with said stop members, whereby to stop the elements in positions of one series when the stop levers are adjusted to a certain length, and in positions of another series when the stop levers are adjusted to a different length.

5. In a machine of the class described, the combination of a plurality of movable elements, means for setting said elements in motion, devices for stopping said elements including stop members on said elements, stop levers adapted to engage said stop members to arrest movement of the elements, means for restraining said levers from engagement with said stop members, said levers being formed in sections and the section thereof adapted to engage said stop member being slidably supported upon another section, and means operable by said starting means independently of any action of the operator other than the operation of such starting means for controlling said levers to cause the same to automatically stop said elements, said controlling means including mechanism controlled by said restraining means and operative upon certain operations of the machine for adjusting said movable sections to change the lengths of said levers and the points of engagement thereof with said stop members, whereby to stop said elements in positions of one series when the stop levers are adjusted to a certain length, and in positions

of another series when the stop levers are adjusted to a different length.

6. In a machine of the class described, the combination of a plurality of movable elements, actuating means including means for setting said elements in motion, devices for stopping said elements including stop members on said elements, stop levers adapted to engage said stop members to arrest movement of the elements, and means for temporarily restraining said stop levers from engagement with said members, said levers being formed in sections and the section thereof adapted to engage said stop members being slidably supported upon another section, and means operable by said starting means independently of any action of the operator other than the operation of such starting means for controlling said levers to cause the same to automatically stop said elements, said controlling means including arms operatively connected with the movable sections of said levers, and a cam device controlled by said actuating means and operative upon certain operations of the machine for actuating said arms to change the lengths of said levers and the points of engagement thereof with said stop members, whereby to stop said elements in positions of one series when said stop levers are adjusted to a certain length, and in positions of another series when said stop levers are adjusted to a different length.

7. In a machine of the class described, the combination of a plurality of rotatable elements, actuating means including means for starting rotation of said elements, stop mechanism including stop members on said elements, stop levers movable into engagement with said stop members to stop rotation of the elements, and means for tempararily restraining the stop levers from engagement with said stop members, the lengths of said levers being adjustable, and means operable by said starting means independently of any action of the operator other than the operation of such starting means for automatically changing the lengths of said levers upon predetermined operations of the machine to change the points of engagement of said levers with said stop members, whereby to stop the reels in different positions for the different adjustments of the stop levers and to thereby shift automatically in periodic succession from one series of positions to another.

8. In a machine of the class described, the combination of a rock shaft, a plurality of rotatable elements, means actuated by said rock shaft for starting rotation of said elements, means operated from said rock shaft for stopping rotation of said elements, means operated from said rock shaft for temporarily rendering said stopping means inoperative, and means operated from said rock shaft and operative while said stopping means is inoperative, for adjusting said stopping means to bring said elements to rest in positions of one series upon certain operations of the machine and in positions of another series upon the other operations thereof.

9. In a machine of the class described, the combination of a rock shaft, a plurality of rotatable elements, means actuated by said rock shaft for starting rotation of said elements, stop mechanism including stop members on the elements, stop levers movable into engagement with said stop members to arrest rotation of said elements means for releasing said stop levers from engagement with said stop members, the lengths of said levers being adjustable, and means operated from said rock shaft and controlled by said releasing means for automatically changing the lengths of said levers upon predetermined operations of the machine to change the points of engagement of the levers with said stop members, whereby to stop said elements in different positions for the different adjustments of the stop levers.

10. In a machine of the class described, a rotatable legend bearing element adapted to stop in one of a plurality of positions displaying legends to view, means for starting rotation of said element, means for stopping rotation of said element, comprising a member rotatable in unison with said element, a pawl for engaging said member for stopping rotation of said element, means operable by said starting means for releasing said pawl from engagement with said member, and means operated by said releasing means independently of any action of the operator other than the operation of such starting means for adjusting said pawl alternately from a position in which it will engage said member in a region of one series for stopping said element in a position of one series, to a position in which it will engage said member in a region of another series for stopping said element in a position of another series.

11. In a machine of the claims described, the combination of a plurality of legend-bearing rotatable elements, actuating means including means for starting rotation of said elements, means for automatically stopping rotation of said elements in varying order upon successive operations of the machine, means for temporarily disengaging said stopping means from said rotatable elements and mechanism operated by said actuating means independently of any action by the operator other than operation of said actuating means for adjusting said stopping means to cause the same to stop said elements in positions of one series upon certain operations of the machine and in positions of another series upon other operations thereof.

12. In a machine of the class described, a reel, means for causing rotation of said reel, means for stopping rotation of the reel in one of a number of possible positions, said last-mentioned means comprising a member movable in unison with the reel and a stop arm movable during the cycle of operation of the machine out of engagement with said member to release the same for rotation and back into engagement therewith for stopping such rotation, said stop arm being adjustable in its relation to said member and adapted when in different adjusted positions to contact different points on said member to thereby increase the number of possible positions in which the reel may be stopped, and mechanism operable by said reel rotating means independently of any action of the operator other than the operation of such rotating means for automatically adjusting said arm during the cycle of operation of the machine.

13. In a machine of the class described, a reel, means for causing rotation of said reel, means for stopping rotation of the reel in one of a number of possible positions, said last-mentioned means comprising a member movable in unison with the reel and a stop arm movable during the cycle of operation of the machine out of engagement with said member to release the same for rotation and back into engagement therewith for stopping such rotation, said stop arm being adjustable in its relation to said member and adapt-

ed when in different adjusted positions to contact different points on said member to thereby increase the number of possible positions in which the reel may be stopped, and mechanism operable by said reel rotating means independently of any action of the operator other than the operation of such rotating means for automatically adjusting said arm during the cycle of operation of the machine, said mechanism including a cam device movable to different positions by said reel rotating means and a member operatively connected to said arm for adjusting the same and held in contact with said cam whereby the adjustment of the arm is controlled by the position of the cam.

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