

April 24, 1951

A. E. MAAGE, JR

2,550,364

COIN ACTUATED CALENDAR BANK

Filed Sept. 2, 1949

2 Sheets-Sheet 1

FIG. 1

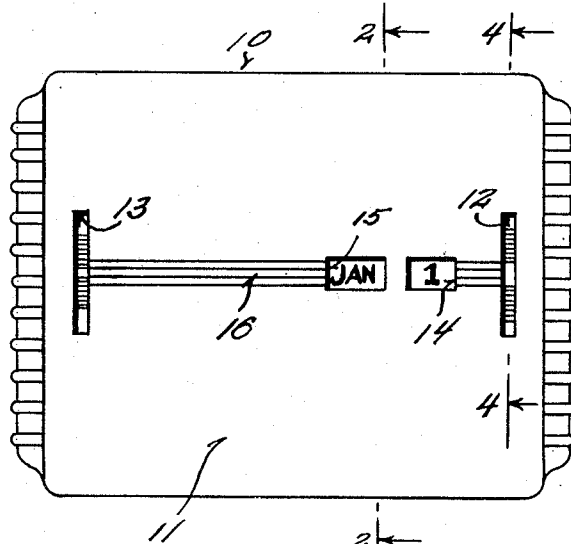


FIG. 3

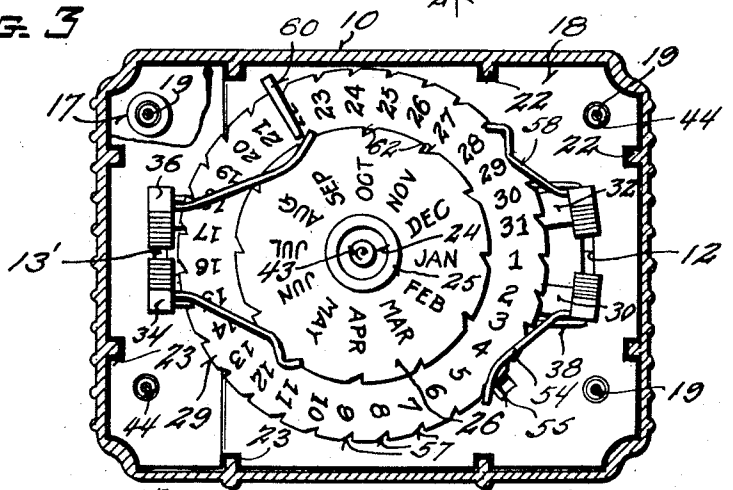


FIG. 2

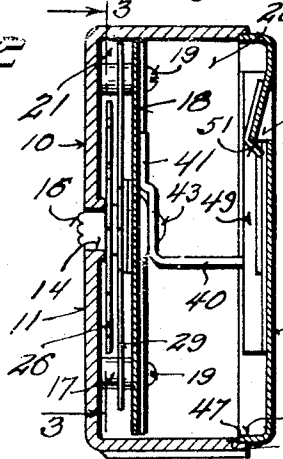
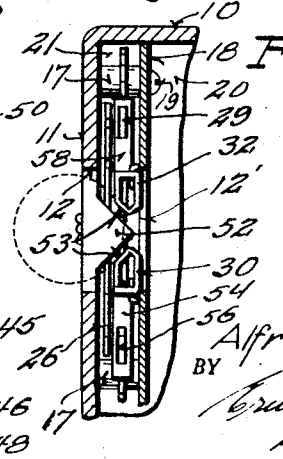


FIG. 4



INVENTOR.

Alfred E. Maage Jr.

BY

Erwin B. Eiring

ATTORNEY

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FIG. 5

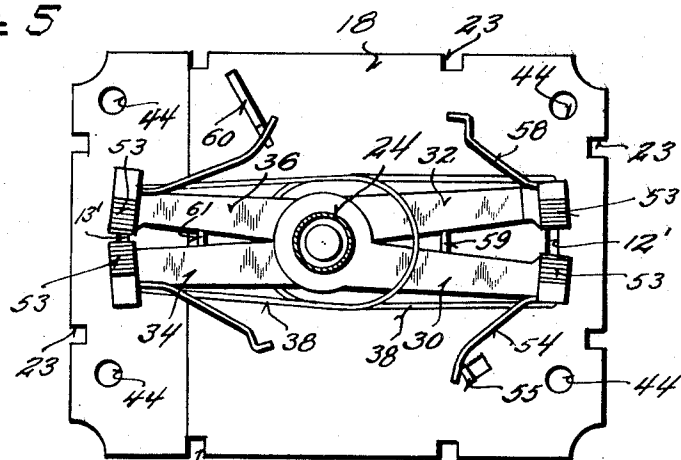


FIG. 6

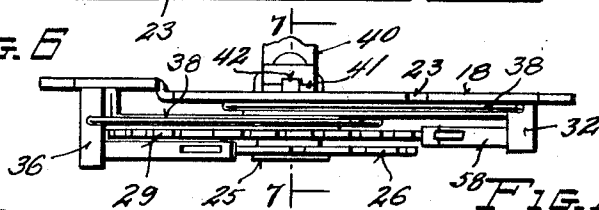


FIG. 7

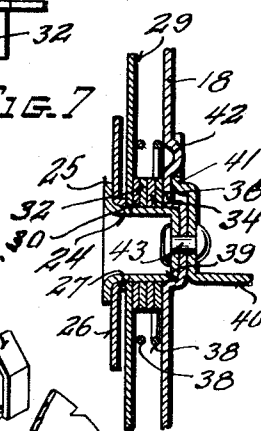
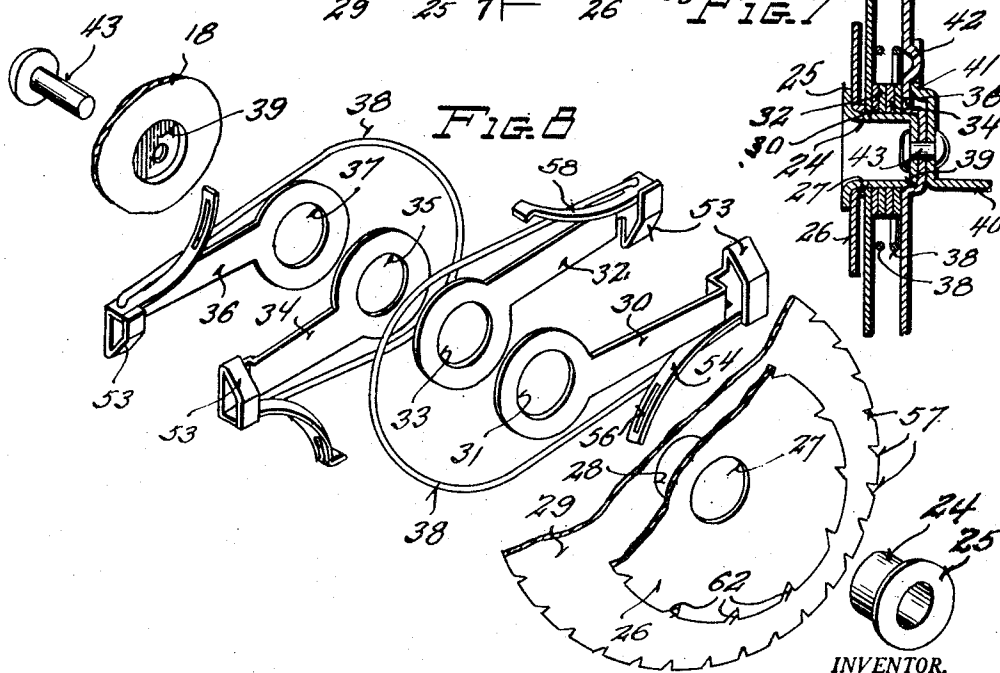


FIG. 8



INVENTOR.  
Alfred E. Maage Jr.  
BY Edwin B. Kiring  
ATTORNEY

## UNITED STATES PATENT OFFICE

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## COIN ACTUATED CALENDAR BANK

Alfred E. Maage, Jr., Milwaukee, Wis., assignor  
to M. A. Gerett Corporation, Milwaukee, Wis.

Application September 2, 1949, Serial No. 113,781

6 Claims. (Cl. 194—94)

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This invention relates to coin actuated calendar banks, and more particularly to savings banks of the type which include a perpetual calendar mechanism that may be kept up to date only by the daily insertion of a coin.

The primary object of the present invention resides in the provision of a new and improved coin actuated mechanism adapted to effect the day by day and month by month advance of the perpetual calendar dials automatically with the periodic insertion of individual coins into the bank.

Another object resides in the provision of an improved coin actuated mechanism for calendar banks which will effect the automatic advance of the date dial by the day by day insertion of any one of a plurality of coins of different denomination.

Another object of the present invention resides in the provision of new and improved coin actuated mechanism for calendar banks which is simple in construction, compact in assembly, low in cost and simple and effective in operation.

A further object lies in the new and improved arrangement and combination of operating elements which lend themselves to ready assembly into a single unitary construction which materially reduces cost of manufacture.

Other objects and advantages will become manifest from the following description of an illustrative embodiment of the present invention.

In the drawing:

Figure 1 is a front elevational view of a coin actuated calendar bank constructed in accordance with the teachings of the present invention;

Fig. 2 is a vertical sectional view, taken on the line 2—2 of Fig. 1, showing the general arrangement of the component parts of the bank shown in Fig. 1;

Fig. 3 is a vertical sectional view, taken on the line 3—3 of Fig. 2, showing a front elevational view of the indicating dials together with their associated coin actuated pawls which function in response to the insertion of a coin into the bank to advance the day or month dial, as the case may be, one notch to keep the calendar reading current;

Fig. 4 is a fragmentary vertical sectional view, taken on the line 4—4 of Fig. 1, showing the co-operating relationship between the coin receiving slot in the bank casing and the coin contacting surfaces of the dial indexing pawls operatively associated with the date dial to effect its movement upon the insertion of a coin into the bank;

Fig. 5 is a front elevational view of the partition

used to divide the bank into a coin compartment and a mechanism compartment and showing the arrangement of the dial actuating pawls and associated mechanism; with the dials removed to more clearly illustrate the mechanism;

Fig. 6 is a top plan view of the unitary structure mounted on the partition shown in Fig. 5;

Fig. 7 is an enlarged vertical sectional view, taken on the line 7—7 of Fig. 6, showing the unitary mounting of the coin actuated pawls and their associated indicating dials; and

Fig. 8 is an exploded view showing the several elements of the coin actuated dial indexing mechanisms together with the dials laid out in a manner to clearly illustrate the assembly sequence which unite these several cooperating elements into a single unitary structure readily adapted for positioning within the casing of the bank.

The invention herein disclosed and claimed is based upon an illustrative embodiment which incorporates the teachings of the present invention.

The coin actuated calendar bank chosen for illustrative purposes in the accompanying drawing comprises a casing 10, preferably formed of plastic or similar material capable of complete production in a single operation such as molding or casting. The casing 10 is relatively thin walled and provided with suitable bosses and reinforcing ribs for purposes to be hereinafter more specifically mentioned. The face 11 of the casing is provided with a coin slot 12 adapted to receive pennies, nickels, dimes and quarters, any one of which will act upon the dial actuating mechanism to effect the indexing of the dial to advance the date reading one digit. A similar slot 13 positioned near the opposite end of the casing serves to receive a coin to advance the reading of the month dial. While the slot 13 can accommodate each of the coins previously mentioned, in the present instance, the mechanism is so designed that only the largest denomination, the quarter, will effect the indexing of the month dial, the other coins of different denomination will pass through the slot without affecting the month reading. The face of the bank is also provided with a window 14 through which the day reading is visible and a window 15 through which the month reading is visible. The face of the bank is ornamented with raised ribs 16 to break the monotony of the smooth surface and generally add to the appearance of the bank. The casing is further provided with a plurality of bosses 17 (one of which is shown in Fig. 2) extending inwardly from the face portion 11 of the casing.

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These bosses 17 are provided with shoulders adapted to form stops against which a partition 18 is drawn by the application of screws 19. The partition serves to divide the inside of the casing 10 into two separate compartments, a coin receiving compartment 20 and a mechanism compartment 21. Ribs 22 formed on the inner surfaces of the casing 10 serve as reinforcing means to give the light casing the desired rigidity. It will be noted that the spacing of the ribs 22 is unequal both along the sides and top and bottom of the casing; this arrangement serves to insure the correct positioning of the partition member 18 when it is applied to the casing, since notches 23 formed in the edge of the partition are also unequally spaced with the result that the partition can only be positioned in one, the correct position within the casing 10.

It should be noted at this point that the partition 18 carries all of the operating mechanism of the bank and as a unitary structure it may be applied to or removed from the casing 10 without disturbing the positioning or adjustment of any of the operating mechanism which, under the influence of the depositing of a coin, will effect the automatic indexing of the selected dial.

The assembly of the coin actuated mechanism for effecting the automatic operation of indexing the day and month dials will be described in conjunction with Figs. 7 and 8 of the drawing for the purpose of clarity. A thimble or axis member 24 provided with an outwardly projecting flange 25 serves as mounting for the several parts of the dial operating mechanism. The flange 25 presents a shoulder against which the face of the month dial 26 rests when its flanged center hole 27 is slid onto the thimble 24. The flange of the center hole extends inwardly and serves as a means for spacing the next dial from it so that there will be no rubbing action between them. The punched center hole 28 of the date dial 29 is then slid onto the thimble. A latching pawl 30, having a bearing hole 31 is then placed on the thimble 24 followed in like manner by an indexing pawl 32 having a bearing hole 33. The pawls 30 and 32 act upon the date dial. An indexing pawl 34, having a bearing hole 35 is then placed on the thimble followed by a latching pawl 36 having a bearing hole 37. The pawls 34 and 36 act upon the month dial to index it upon the insertion of a suitable coin in the slot 13 in the casing of the bank. With the several parts placed upon the thimble 24 in correct order, a horse shoe shaped compression spring 38 having its free ends turned inwardly is applied to each set of pawls 30 and 32, and 34 and 36, by threading the inwardly turned ends of the springs 38 through positioning holes formed in each of the pawls adjacent their outer ends. These compression springs serve to urge each pawl of a set toward its companion pawl. After all of the parts above described have been properly positioned upon the thimble 24, the inner end of the thimble is placed in well or depression 39, formed in the partition 18, shaped to receive and position it. A locking bar 40 is placed behind the partition in position where a locating foot 41 straddles a tang 42 struck from the partition and a rivet 43 is passed through aligned holes in the foot, partition and thimble. A hammer blow on a punch applied to the end of the rivet serves to secure all of the parts in proper relationship in the assembly and prevents any displacement which might otherwise impair the proper operation of the dial indexing mechanisms.

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After the coin actuated mechanism for indexing the dials has been applied to the partition 18, the partition is secured in place within the casing by the application of screws 19 which pass through holes 44 in the partition 18 and hold it securely in desired spaced relationship with the inner surface of the front wall of the casing 10. The bank is completed by the application of a rear cover plate 45, preferably formed of sheet metal and provided with an inwardly turned marginal flange 46 arranged to abut a shoulder 47 formed on the marginal edge 48 of the casing 10. A suitable locking mechanism is housed in a frame 49 attached to the inner surface of the cover 45 and the lock is arranged to engage a reduced portion formed adjacent the free end of the locking bar 40 to prevent unauthorized opening of the bank.

For the purpose of permitting the depositing of coins other than those required to advance the date and month dials, a conscience slot 50 is formed in the cover plate 45. This slot is adapted to receive coins of any denomination or folded paper money and the slot is protected against the removal of any of the coins by a series of spring fingers 51 which are readily yieldable to permit the insertion of a coin but which block the removal of any of the contents of the bank.

A brief description of the operation of the coin actuated mechanism for indexing the indicator dials will serve to complete the disclosure. Referring more particularly to Fig. 4 of the drawing, it will be noted that a guide wall 52 tapers inwardly from the side of the coin slot 12. Similar guides are provided on both sides of each of the coin slots 12 and 13 to direct the edge of the coin (see dotted line showing) against cam surfaces 53 formed on the portions of the several pawls 30, 32, 34 and 36 which lie under or behind the coin slots. As the coin is pushed through the slot, the individual pawls of a particular pair move apart under the pressure of the coin and their movement is controlled by the size of the inserted coin. In the instance of the date actuating pawls 30 and 32 any coin will produce sufficient movement of the pawls to effect the indexing of the date dial to advance the date one day. This advance of the dial is effected in the following manner: downward movement of the latching pawl 30 under the influence of the coin results in the freeing of the latching position of its spring finger 54 by moving it away from a stop 55 struck up from the partition plate 18. A slot 56 formed in the spring finger 54 which overlies the peripheral edge of the date dial 29 moves out of latching engagement with one of the thirty-one notches 57 formed in equal spaced relationship in the marginal edge of the dial 29 and permits the dial to turn counter-clockwise under the action of the pawl 32 whose spring finger 58 is engaged with another notch 57 formed in the dial 29 and whose upward action under the influence of the coin causes the dial 29 to advance to the point where the slot 56 will engage the next succeeding notch 57 and as the coin is pushed beyond contact with cam surfaces 53 of the pawls, the compression spring will cause the pawls to move toward each other, ejecting the coin into the coin compartment of the bank and returning the pawls to their inactive position in which they are retained in contact with a common stop 59 struck from the partition 18 (see Fig. 5). As the pawls move toward each other, the latching pawl 30 carries the dial to its new indexed position where it is retained against further movement by rea-

son of the contact between the pawl 30 and the stop 55.

The other pair of pawls 34 and 36 function in the same manner save for the fact that the latching pawl 36 cooperates with a stop 60 struck from the partition 13 and that the common stop which limits the movement of the pawls 34 and 36 toward each other comprises a stop 61 also struck from the partition 13. In the instance of the month dial 26, the twelve equally spaced notches 62 are such a distance apart that, in the present design of the mechanism, it requires the largest coin, a quarter, to effect the indexing movement from one month to another. Obviously, the mechanism can be modified to produce the indexing of the month dial with any of a plurality of coins if it is so desired.

While the invention has been described in considerable detail in the foregoing specification it is to be understood that various changes may be made in its embodiment without departing from or sacrificing any of the advantages hereinafter claimed.

I claim:

1. A coin actuated calendar bank comprising a casing having a plurality of coin receiving slots and window openings therein, a partition in said casing dividing the same into a relatively large coin compartment and a relatively thin mechanism compartment, a plurality of indicator dials mounted upon a common axis in said mechanism compartment and each of said dials having portions which are visible through said windows, one of said dials carrying month indicia and one of said dials carrying date indicia, coin actuated mechanism operatively associated with each of said dials for effecting the indexing movement of said dials upon the deposit of a coin in said bank, said coin actuated mechanism comprising a pair of pawls rockably mounted upon said dial axis, spring means operative to normally retain said pawls in inactive position, a coin contacting surface on each of said pawls, said surfaces being disposed in alignment with said coin receiving slots, whereby the insertion of a coin in said slot effects a spreading action upon said pair of pawls, said spreading action serving to position said pawls for effecting the indexing movement of said dial, said indexing movement being completed under the influence of said spring upon completion of the passage of said operating coin through said coin receiving slot.

2. A coin actuated calendar bank comprising a casing having a plurality of coin receiving slots and windows therein, a partition in said casing dividing the same into a coin compartment and a mechanism compartment, a plurality of indicator dials mounted for separate indexing movement on a common support in said mechanism compartment, one of said dials bearing month indicia, one of said dials bearing date indicia, a portion of each of said dials being visible through said windows, coin actuated indexing mechanism operatively associated with each of said dials, said mechanism comprising a pair of pawls rockably mounted upon said dial support, coin contacting surfaces on said pair of pawls disposed in alignment with said coin receiving slot whereby the insertion of a coin in said slot effects the spreading movement of said pair of pawls, said spreading movement serving to position said pawls for effecting the indexing of said associated dial, spring means operatively associated with said pair of pawls for normally

urging said pawls toward each other, said spring means operative upon completion of the passage of a coin through said coin receiving slot to index said dial and return said pair of pawls to their normal inactive position.

3. A coin actuated calendar bank comprising a casing having a plurality of coin receiving slots and windows therein, a partition in said casing dividing the same into a coin compartment and a mechanism compartment, a plurality of indicator dials mounted for separate indexing movement on a common support in said mechanism compartment, one of said dials bearing month indicia, one of said dials bearing date indicia, each of said dials having a portion of their faces visible through said windows, coin actuated indexing mechanism for each of said dials, said coin actuated indexing mechanism comprising a pair of pawls rockably mounted on said support for said dials, a coin contacting surface on each of said pawls, said surfaces being disposed in alignment with one of said coin receiving slots whereby the insertion of a coin in one of said slots effects a spreading action upon one pair of said pawls, means on each of said pawls for engaging one of said dials, said spreading action of said pawls positioning said dial engaging means to effect indexing of said associated dial upon return movement of said pair of pawls, and spring means connecting said pair of pawls, said spring means normally urging said pawls toward each other and being operative upon completion of the passage of a coin through said coin receiving slot to return said pair of pawls to their normal inactive position and in so doing effect the indexing of said associated dial.

4. A coin actuated calendar bank comprising a casing having a plurality of coin receiving slots and windows therein, a partition in said casing dividing the same into a coin compartment and a mechanism compartment, an indicator dial bearing month indicia thereon, an indicator dial bearing date indicia thereon, both of said dials being mounted for indexing movement on a common support, a portion of each of the surface of said dials being visible through said windows, coin actuated indexing mechanism for each of said dials, each of said indexing mechanisms comprising a pair of pawls rockably mounted on said common dial support, a cam surface on each of said pawls, said cam surface being disposed in alignment with one of said coin receiving slots, a compression spring operatively connecting the pawls of each pair, said springs each serving to urge the individual pawls of each pair toward its associated pawl, stop means on said partition for limiting the movement of each of said pawls toward its associated pawl, said cam means on said pawls being operative upon the insertion of a coin in one of said coin receiving slots to effect a spreading action between the contacted pawls against the action of said compression spring, dial engaging means on each of said pawls, said spreading action of said pawls positioning said dial engaging means to effect the indexing of said associated dial upon return movement of said pair of pawls, and said spring means being operative upon completion of the passage of a coin through said receiving slot to return said pair of pawls to their inactive position and in so doing effect the automatic advance of said associated dial.

5. A coin actuated calendar bank comprising a casing having a plurality of coin receiving slots and windows therein, a partition in said casing

dividing the same into a coin compartment and a mechanism compartment, an indicator dial bearing month indicia thereon, an indicator dial bearing date indicia thereon, both of said dials having notches in their marginal edges, said month dial having twelve such notches and said date dial having thirty-one of said notches, both of said dials being mounted for indexing movement on a common support and each having a portion of its face visible through said windows, a coin actuated indexing mechanism for each of said dials, each of said mechanisms comprising a pair of pawls rockably mounted on said common dial support, a cam surface on each of said pawls, said cam surface being disposed in alignment with one of said coin receiving slots, a compression spring connecting the pawls of each pair to normally urge them toward each other, stop means on said partition for limiting the movement of each of said pawls toward its associated pawl, said cam surfaces on said pawls being operative upon the insertion of a coin in one of said receiving slots to effect the spreading action between the contacted pawls against the action of said compression spring, notch engaging spring fingers on each of said pawls adapted to cooperate with said notches on the associated dial, said spreading action on said pair of pawls serving to advance the position of each spring finger on its associated dial to effect positioning of said fingers for the advance of said dial, and said compression spring serving upon completion of the passage of a coin through said receiving slot to return said pair of pawls to their inactive position and in so doing effect the automatic advance of said associated dial.

6. A coin actuated calendar bank comprising a casing having a plurality of coin receiving slots and windows therein, a partition in said casing dividing the same into a coin compartment and a mechanism compartment, an indicator dial bear-

ing month indicia thereon, an indicator dial bearing date indicia thereon, each of said dials having notches in their marginal edges equal in number to the indicia thereon and each of said dials having portions of their faces visible through said windows, coin actuated indexing mechanism for each of said dials, each of said indexing mechanisms comprising a pair of pawls, said dials and said pawls all being mounted upon a common support, said support in turn being secured to said partition whereby a single unitary structure including all of the actuating mechanism of the bank is afforded, a cam surface on each of said pawls disposed in alignment with one of said coin receiving slots, a compression spring connecting the pawls of each pair to normally urge them toward each other, stop means on said partition for limiting the movement of said pawls toward each other, said cam surfaces on said pawls being operative upon the insertion of a coin in one of said slots to effect the spreading action between the contacted pawls against the action of said compression spring, slotted notch engaging spring fingers on each of said pawls adapted to receive the notched marginal edge of each of said dials, said spreading action of said pair of pawls serving to release the latching action of one of said pawls and permit the other of said pawls to advance upon the edge of said dial to a position wherein the spring fingers of said pawls are ready to advance said dial, and said compression spring serving upon completion of the passage of a coin through said receiving slot to return said pair of pawls to their inactive position and in so doing effect the automatic advance of said associated dial through one step of movement.

ALFRED E. MAAGE, JR.

No references cited.