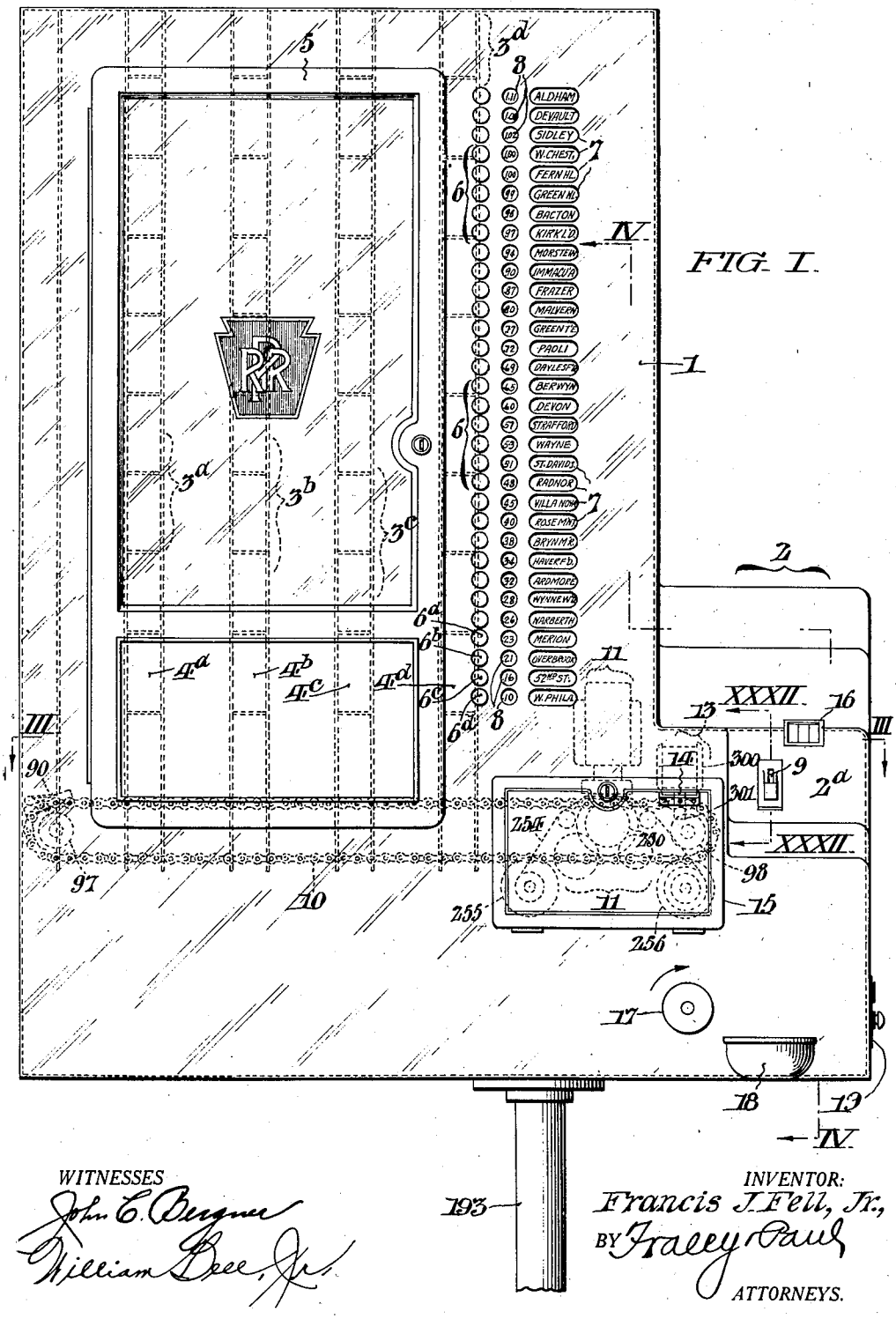
June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 1

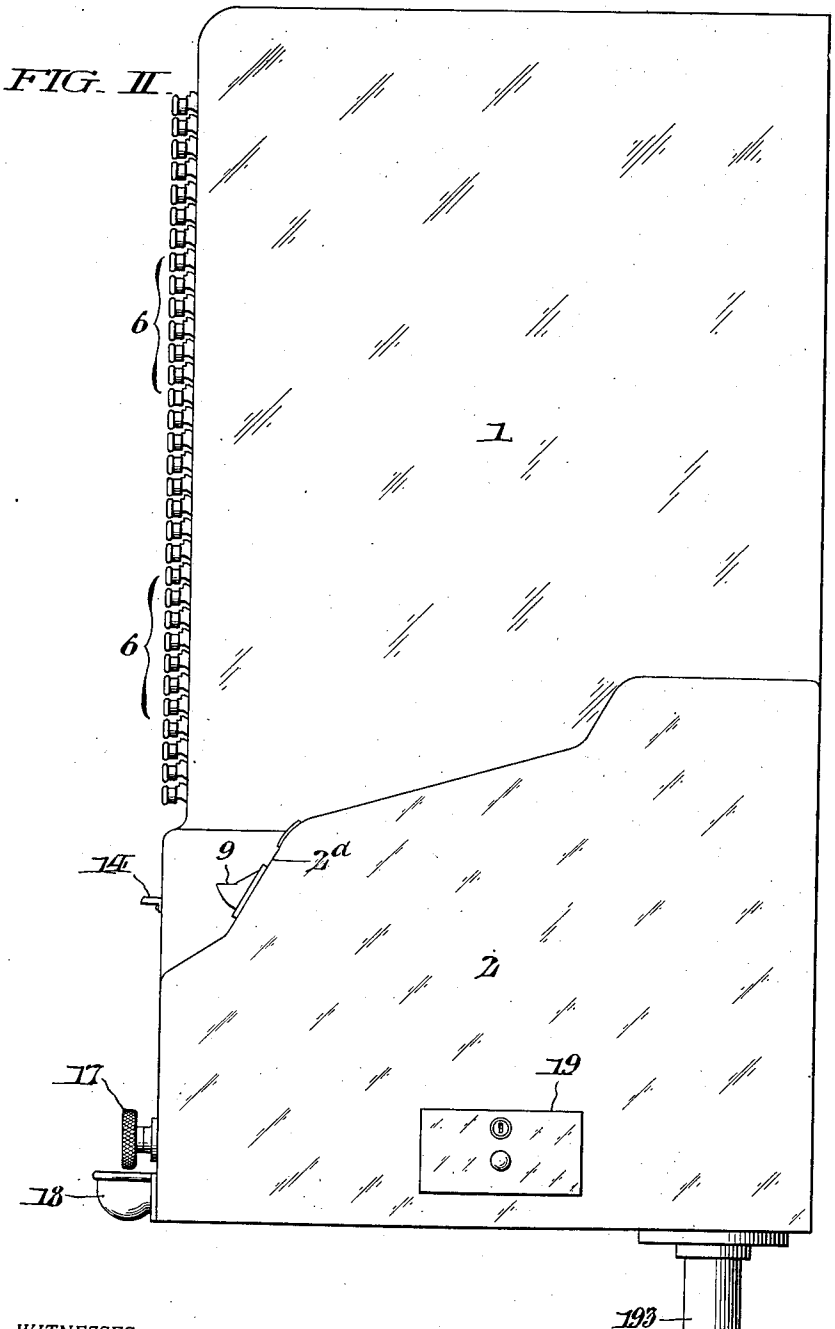


June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 2

FIG. II



WITNESSES

John C. Bergner.

William Bell, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraser & Paul

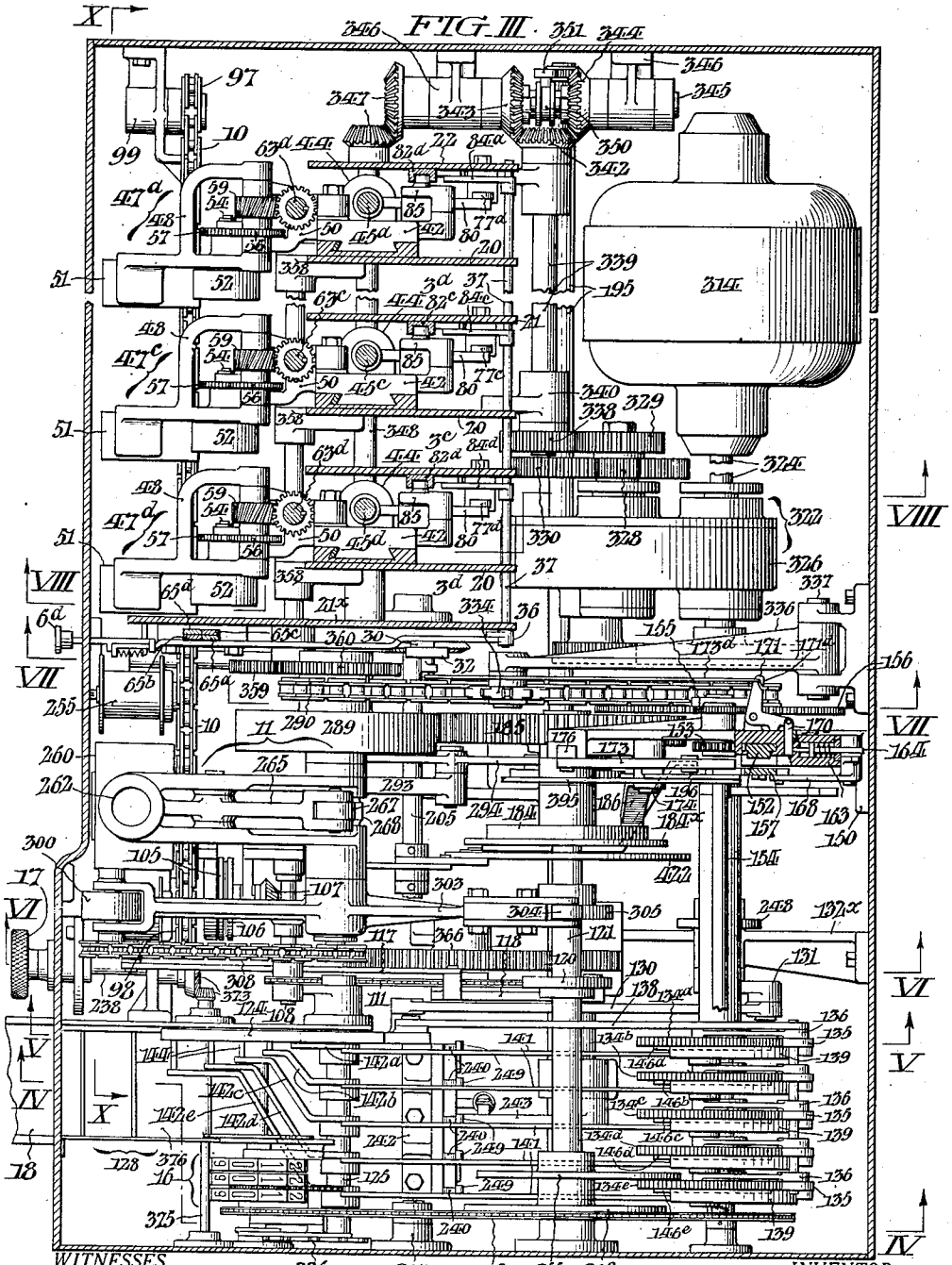
ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 3

FIG. III.



WITNESSES

John C. Bergner.

William Bee Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraser & Paul

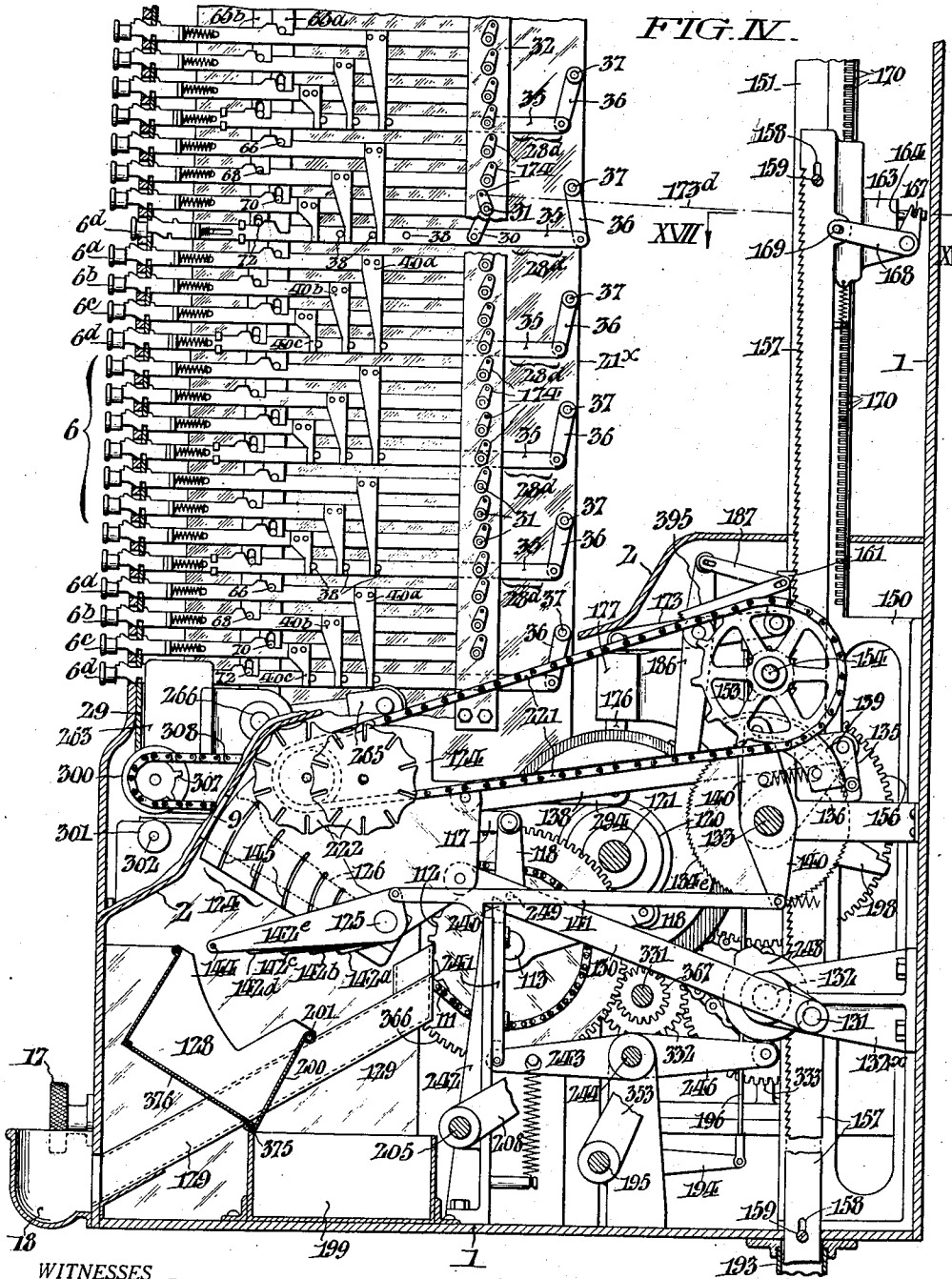
ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 4

FIG. IV.



WITNESSES

John C. Bergner.

William Dee, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraley & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 5

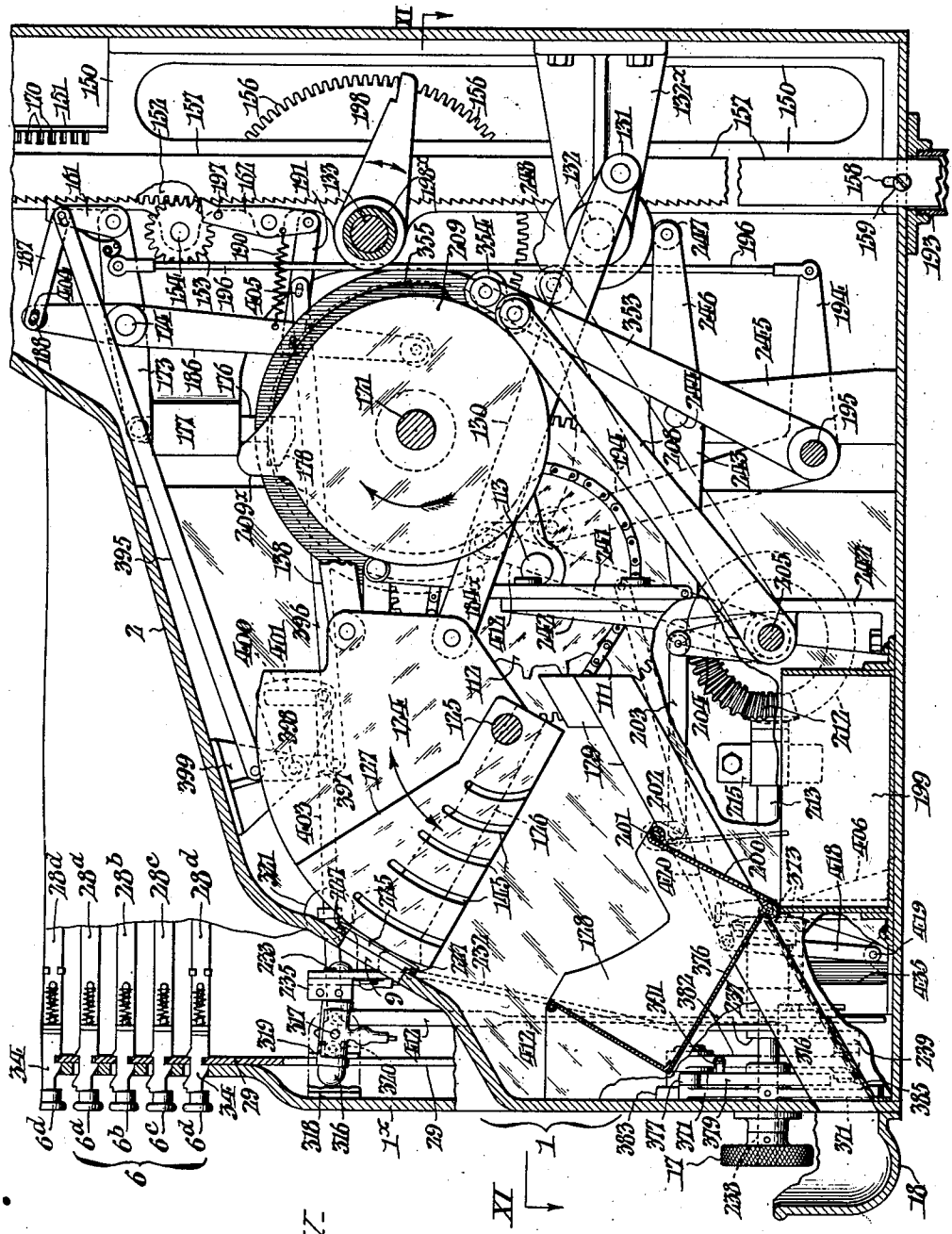


FIG. V.

WITNESSES

John C. Bergner

William Bell, Jr.

INVENTOR:

Francis J. Fell, Jr.,

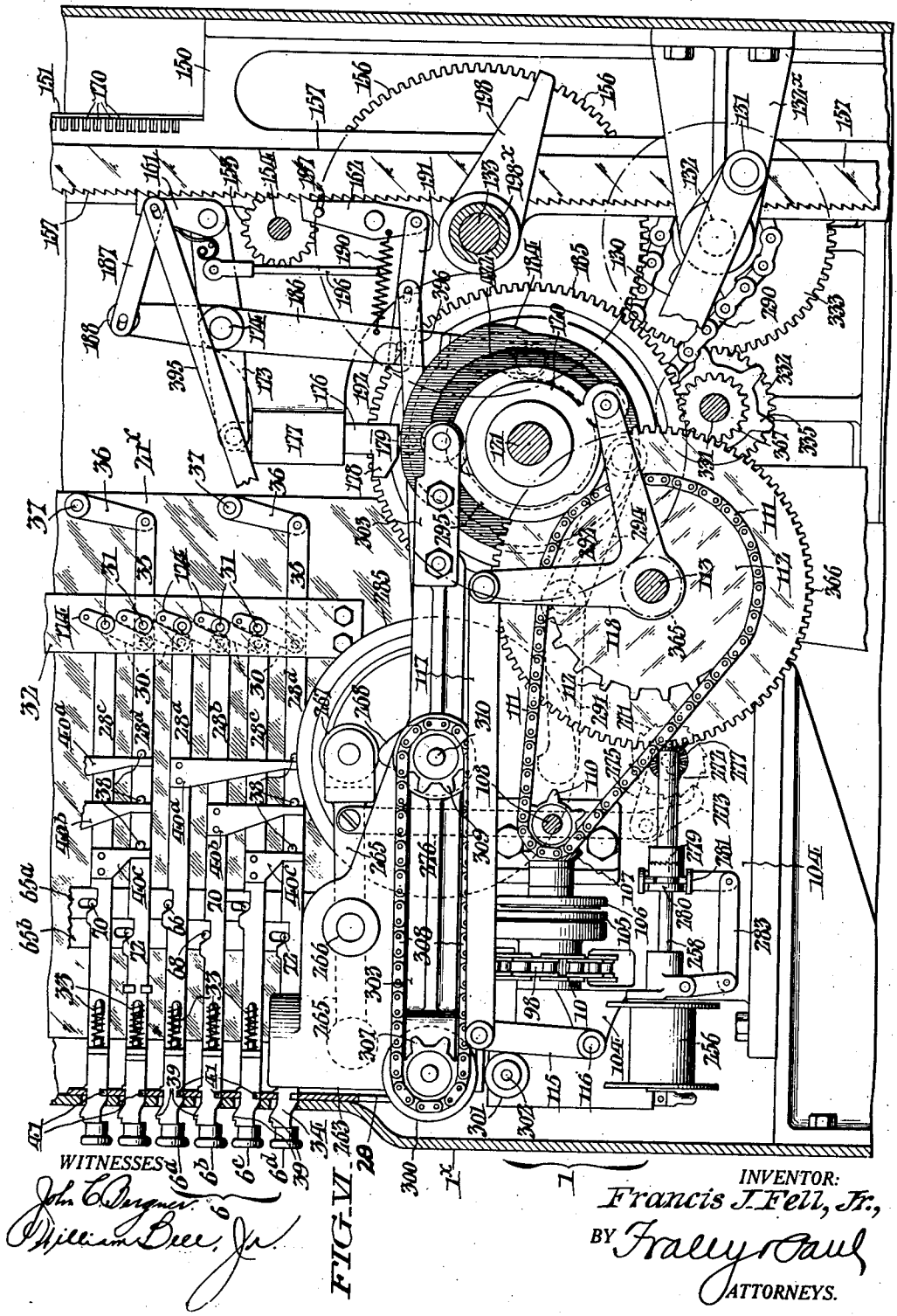
BY Fraley & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 6



WITNESSES:
John C. Bergner.
William Bree, Jr.

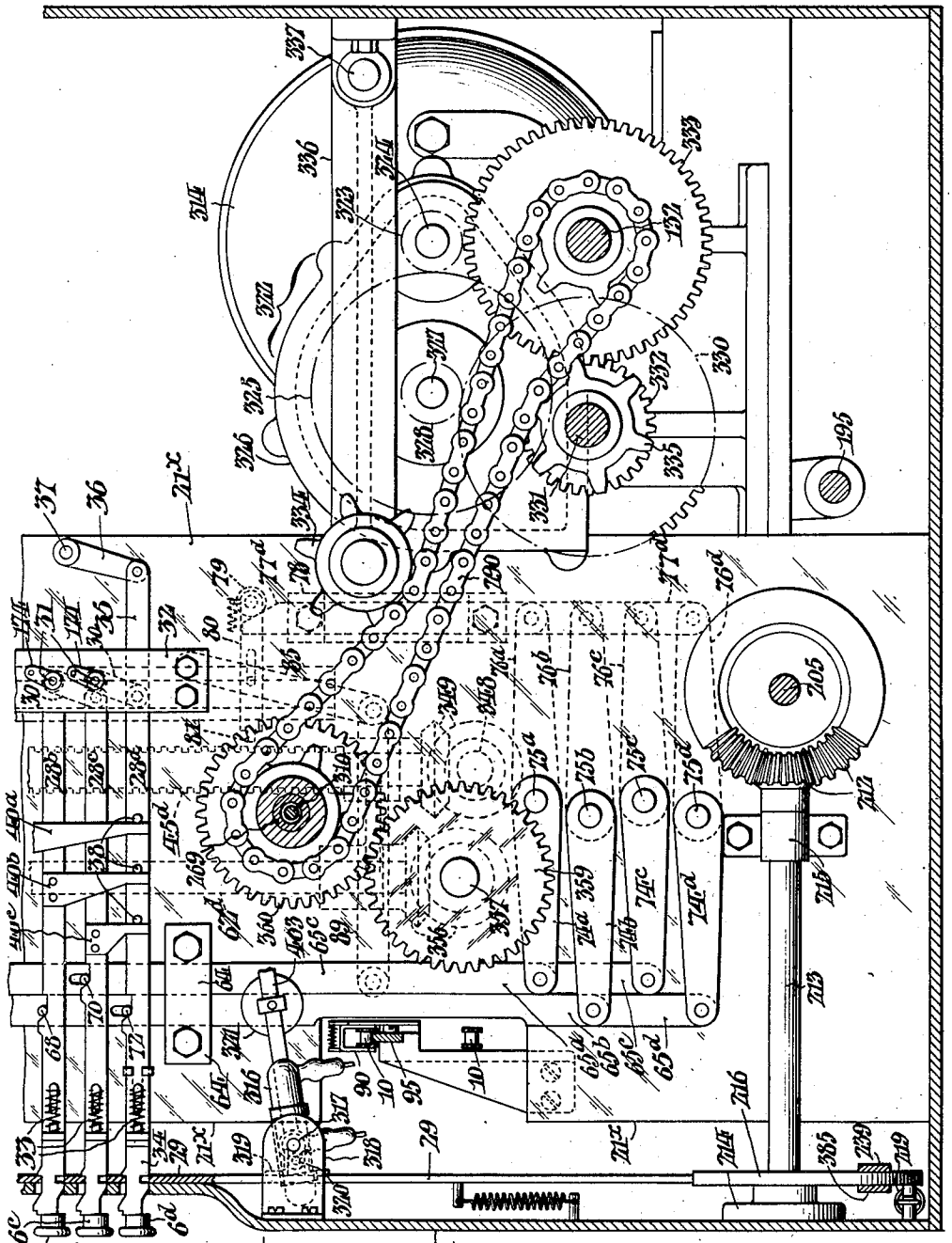
INVENTOR:
Francis J. Fell, Jr.,
BY Fraley & Paul
ATTORNEYS.

FIG. VI.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 7



WITNESSES

John C. Bergner.

William Bee, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraser & Paul

ATTORNEYS.

FIG. VII

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 8

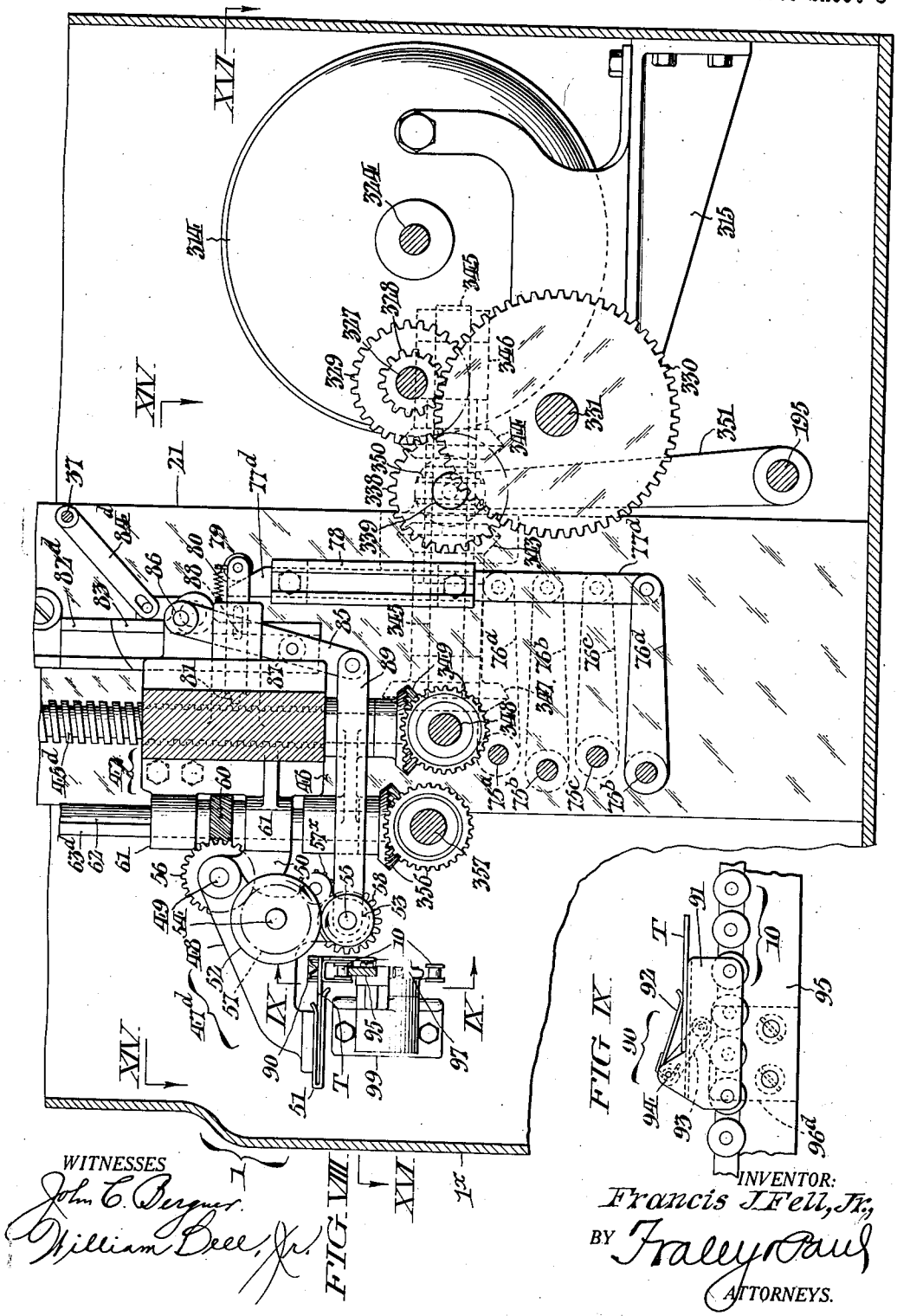


FIG. VIII

FIG. IX

WITNESSES

John C. Berger

William Beer, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraley & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 9

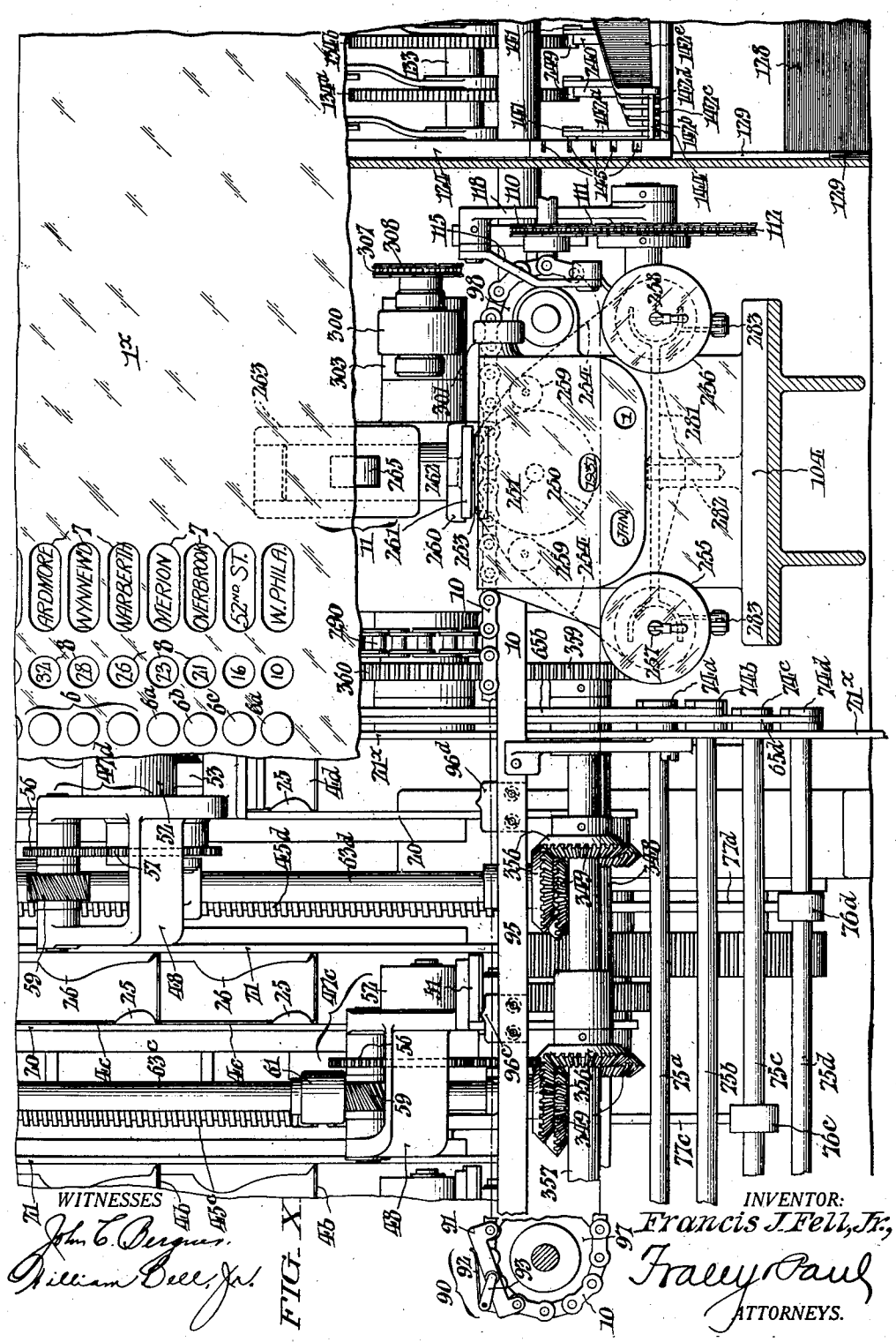


FIG. X

WITNESSES
John C. Bergner.
William Bell, Jr.

INVENTOR:
Francis J. Fell, Jr.,
Fraley & Paul
ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 10

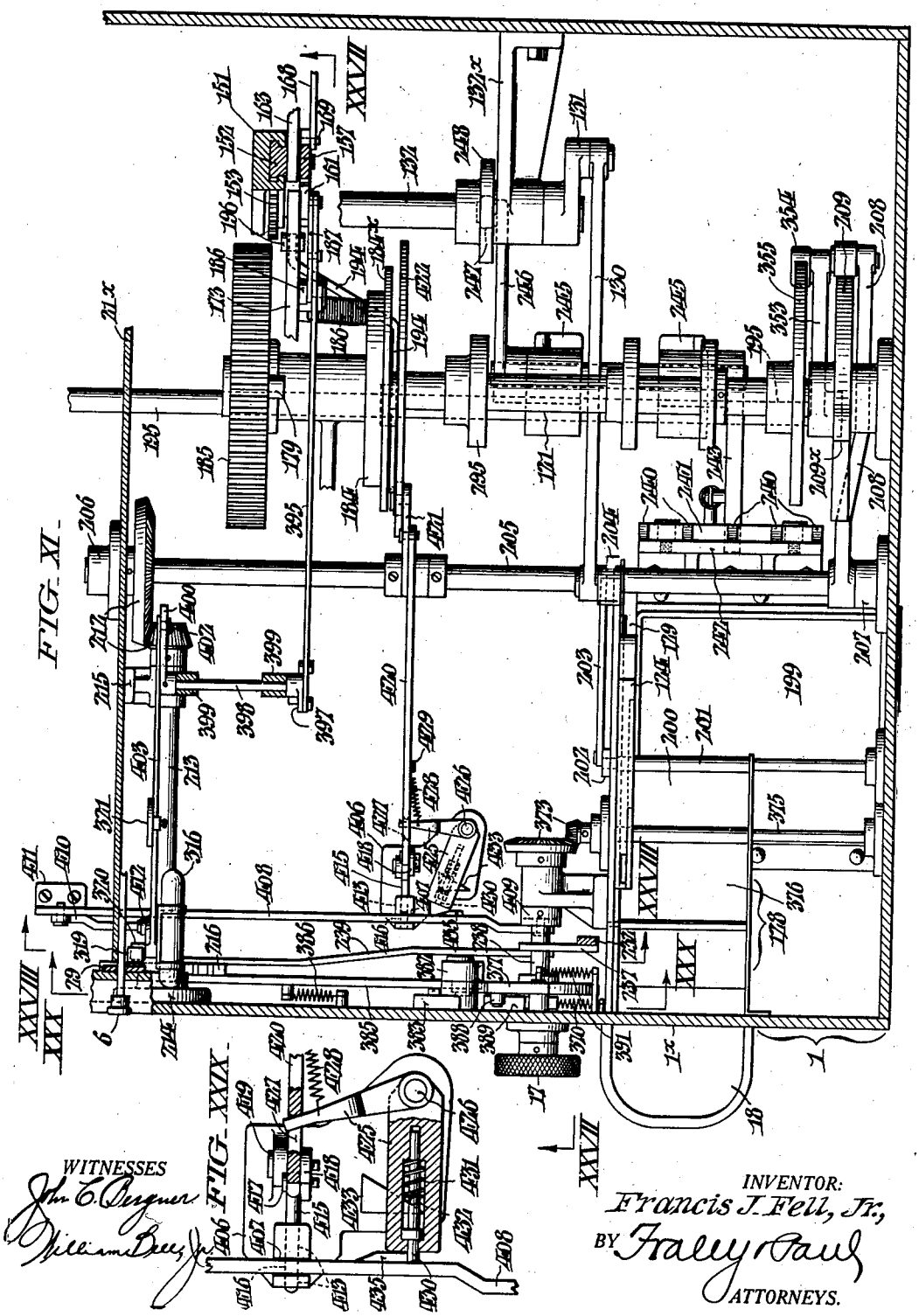


FIG. XI.

FIG. XXIX.

WITNESSES

John C. Bergner

William Berg Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraley & Paul

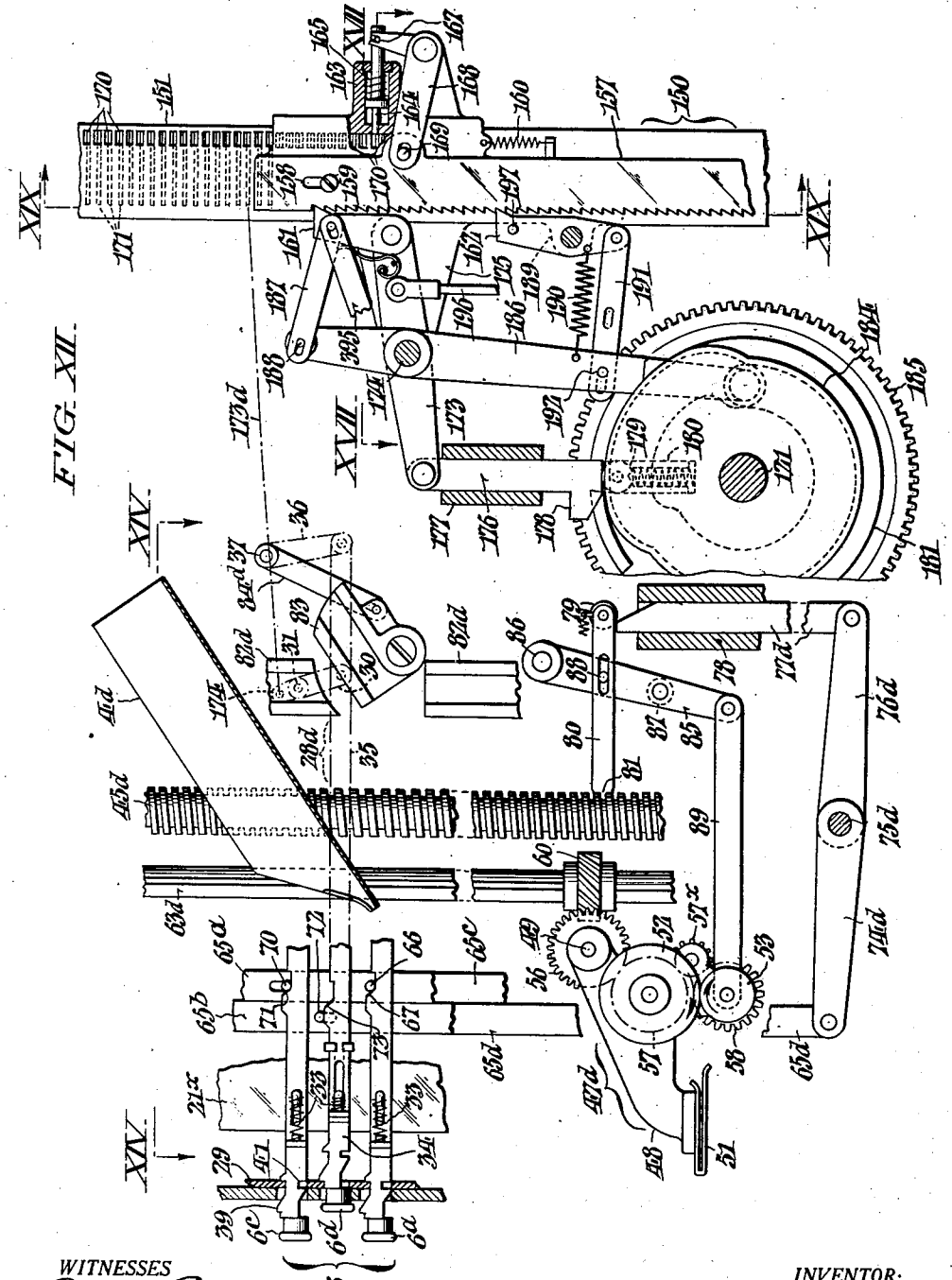
ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 11

FIG. XII.



WITNESSES

John C. Bergner.

William Bell, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraley & Paul

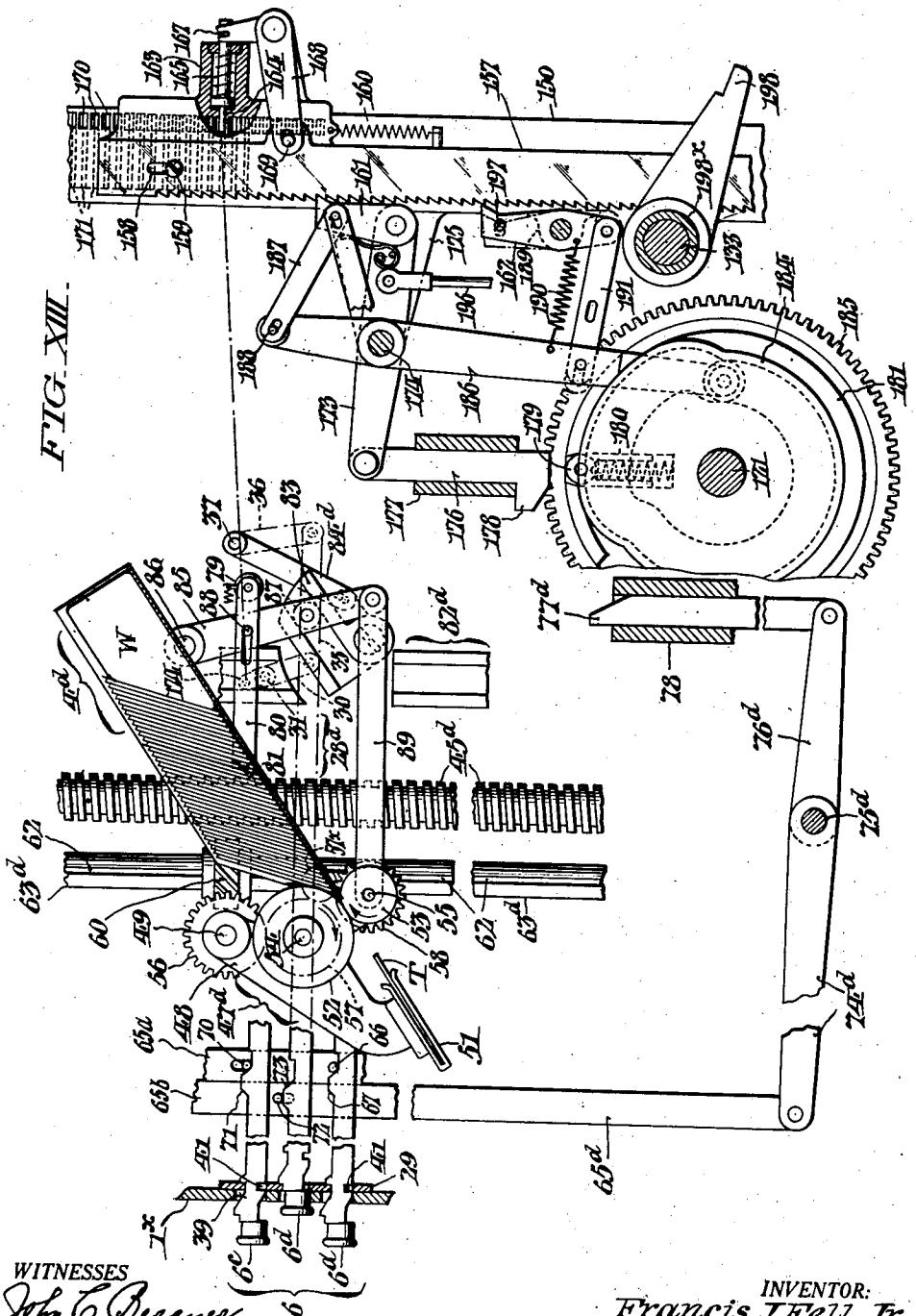
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June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 12

FIG. XIII.



WITNESSES

John C. Bergner.

William Bell, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraily & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 13

FIG. XIV.

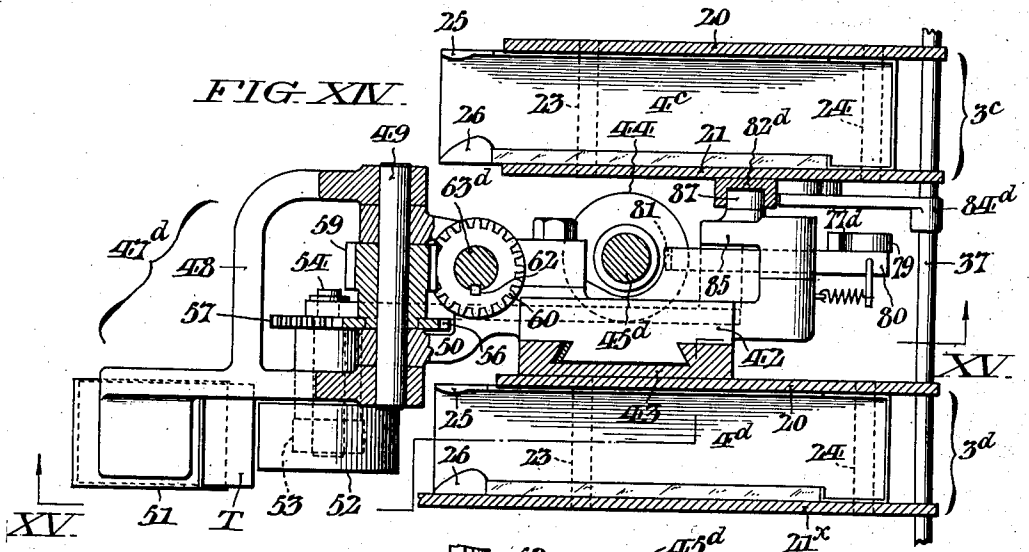
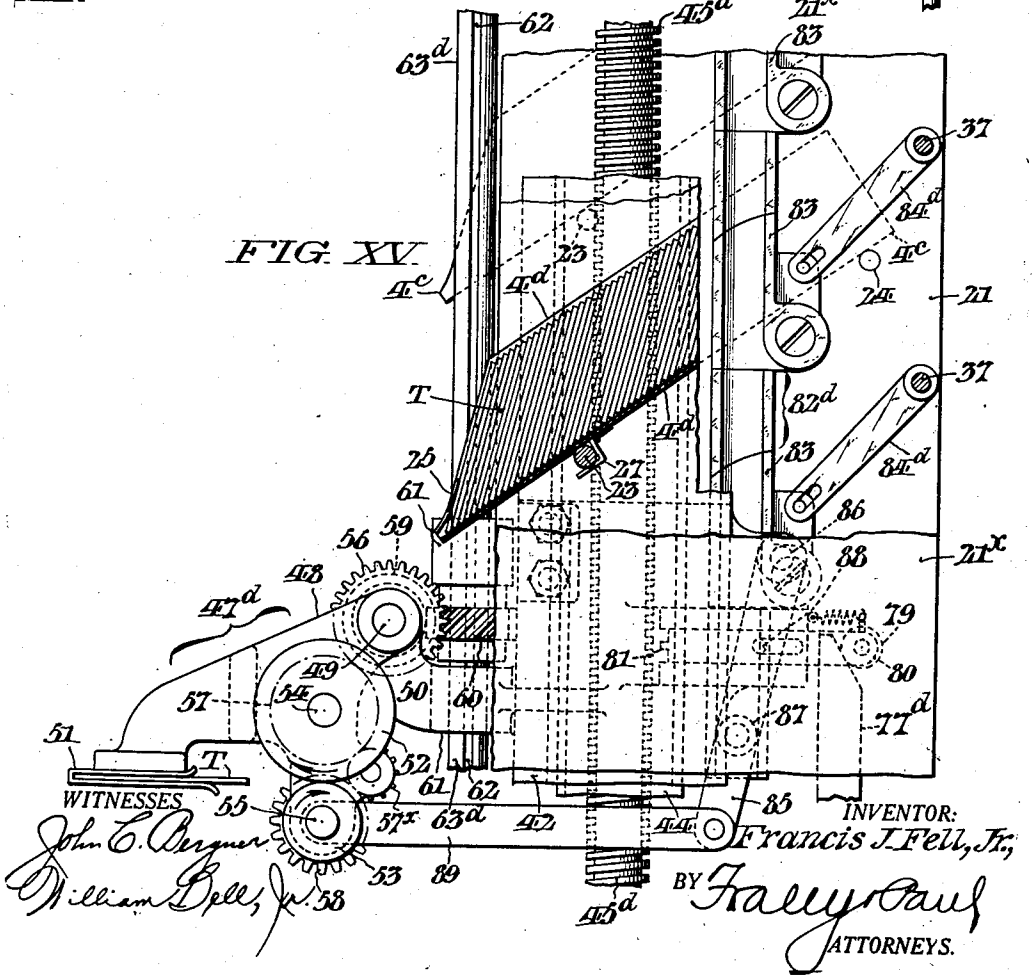


FIG. XV.



WITNESSES

John C. Bergner

William Bell, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraser & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 14

FIG. XVI.

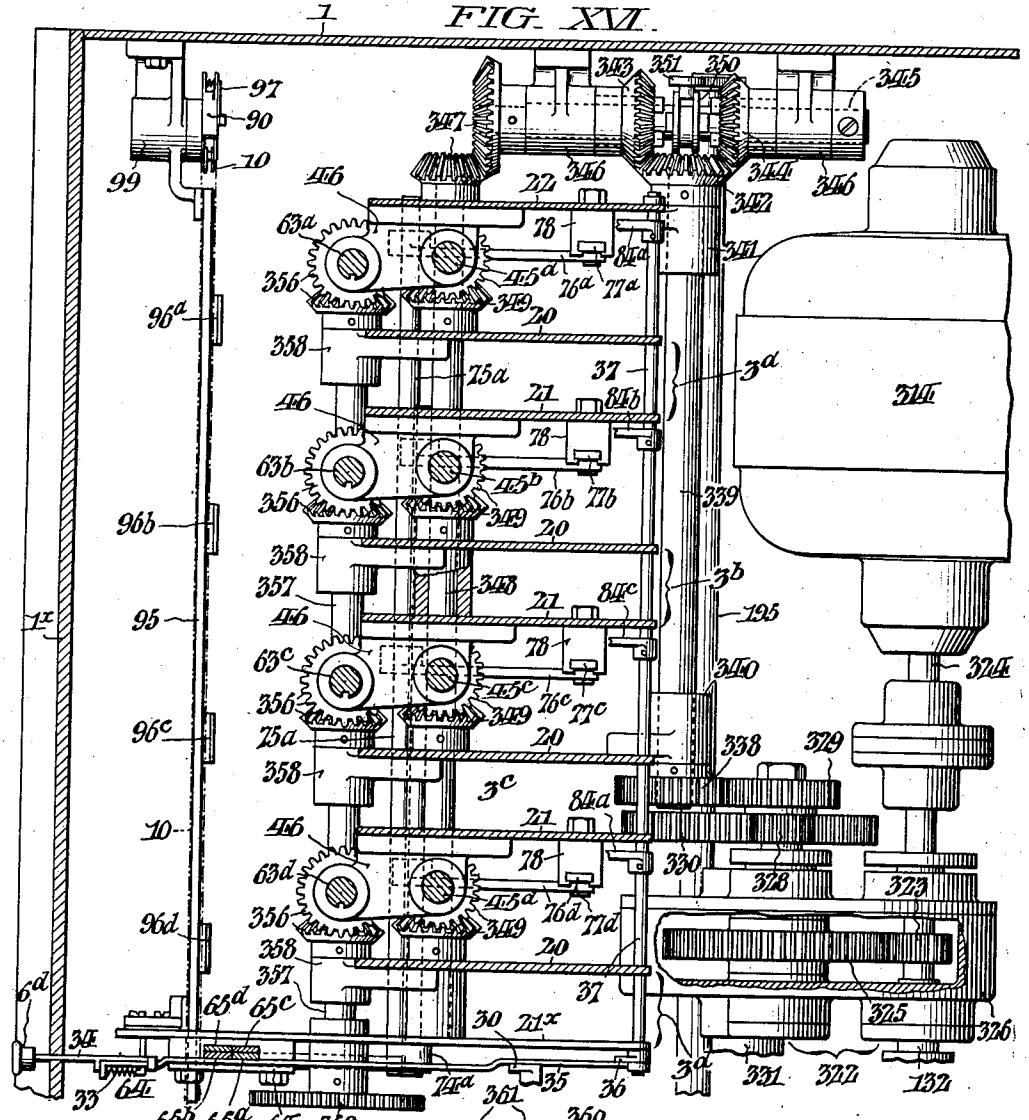
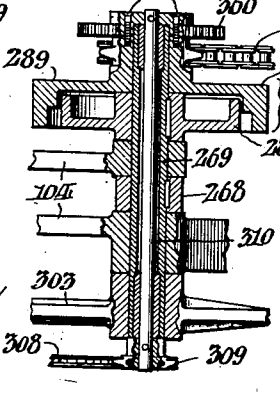


FIG. XXV.



WITNESSES

John C. Bergner.

William Bee, Jr.

INVENTOR.

Francis J. Fell, Jr.;

Fraley & Paul

ATTORNEY.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 15

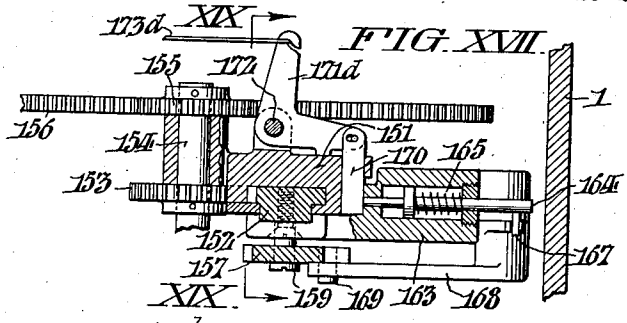


FIG. XVII

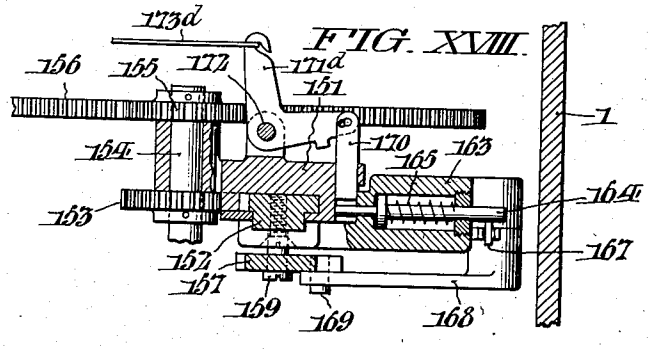


FIG. XVIII

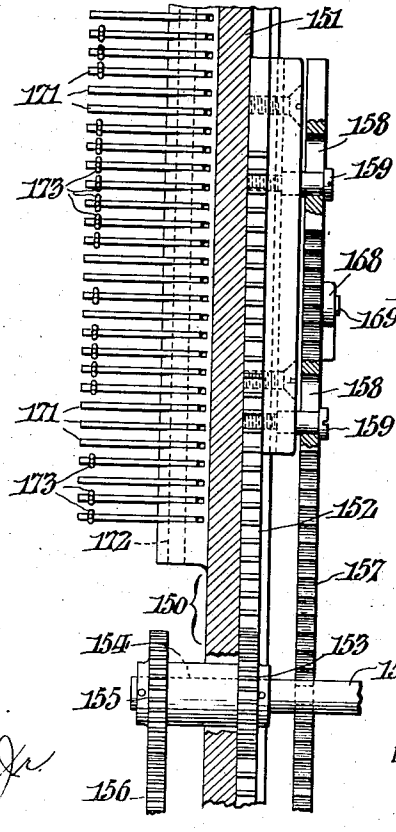


FIG. XIX

WITNESSES

John C. Bergner.

William Bell, Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraley & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 16

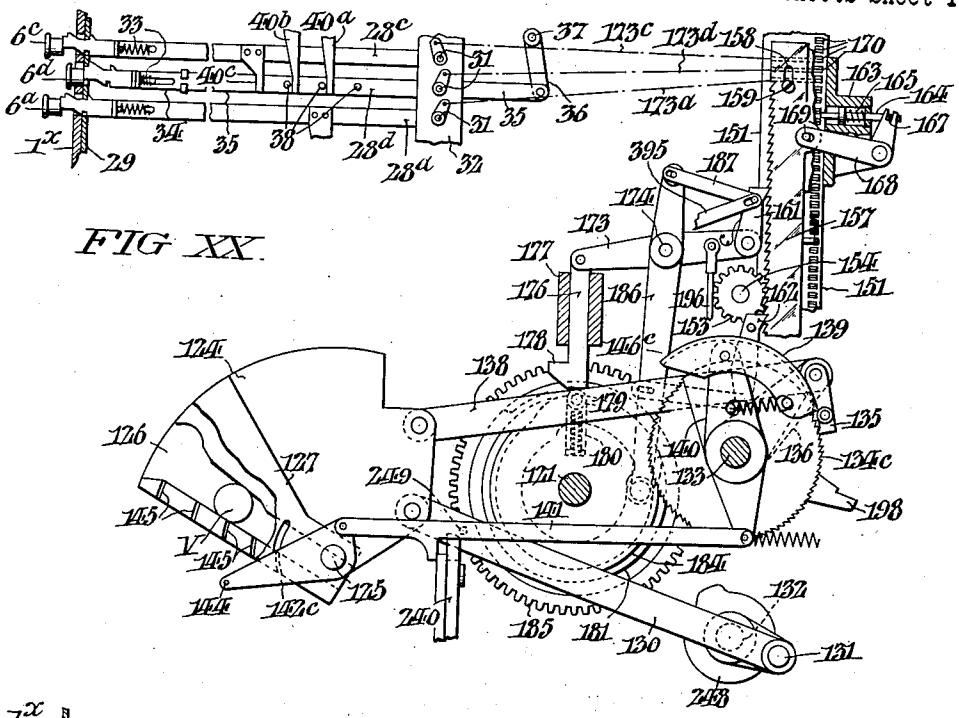


FIG XX.

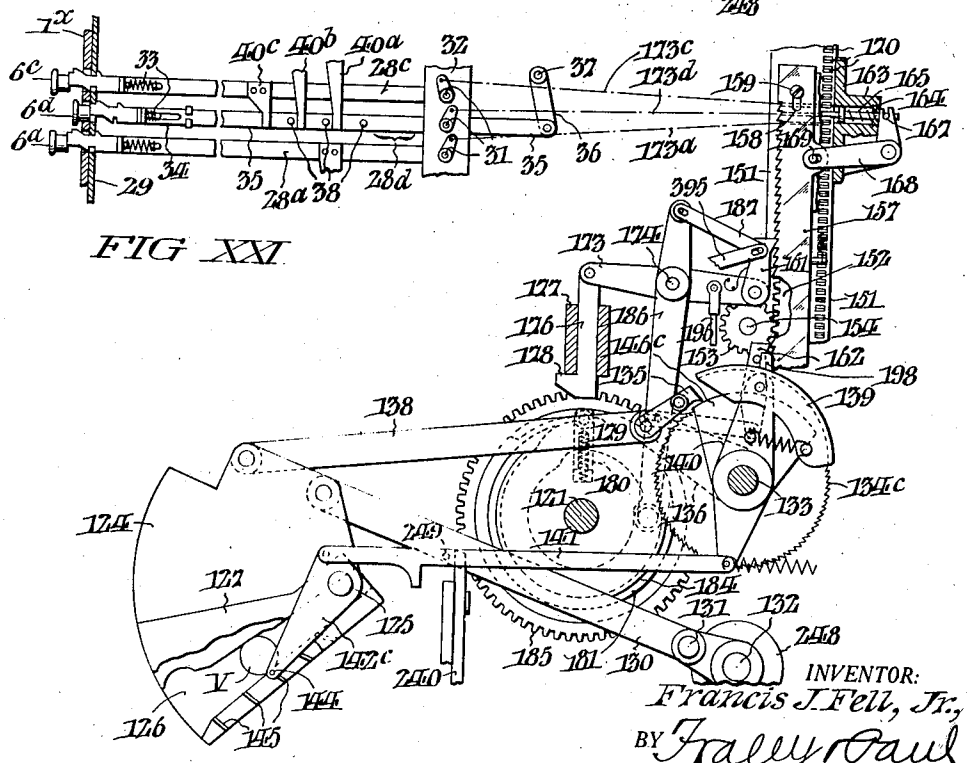


FIG XXI

INVENTOR:
Francis J. Fell, Jr.,
BY Fraley & Paul
ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 17

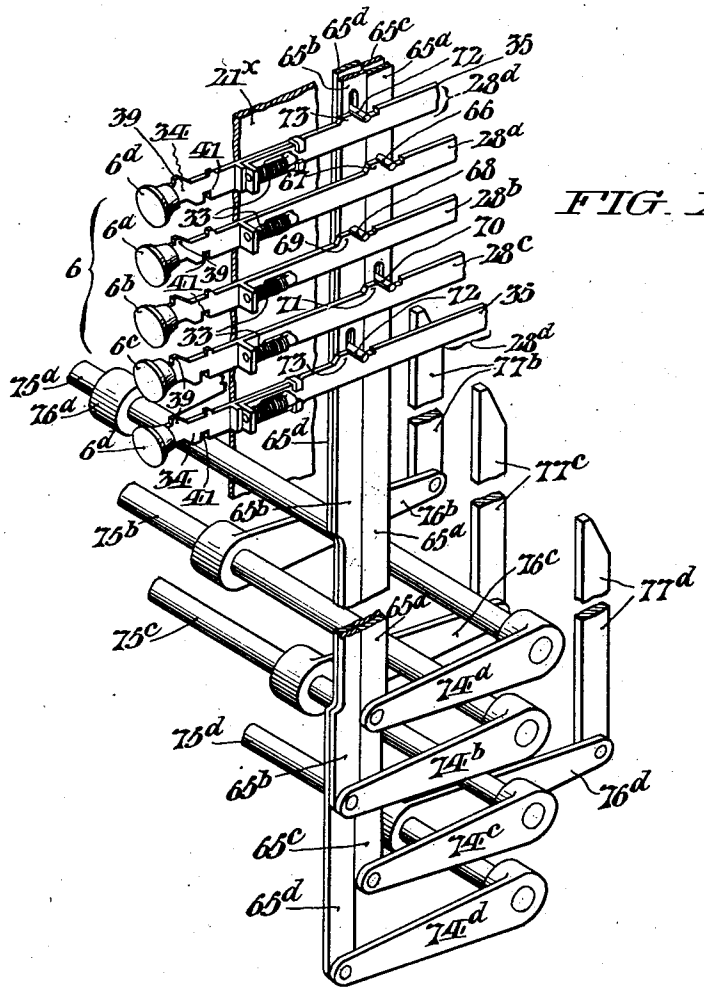
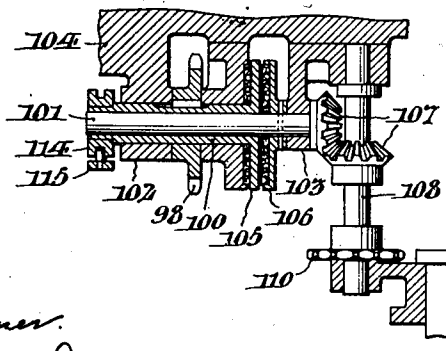


FIG. XXII.

FIG. XXVI.



WITNESSES

John C. Bergner.

William Bee, Jr.

INVENTOR:

Francis J. Fell, Jr.

BY Frally & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 18

FIG. XXIII.

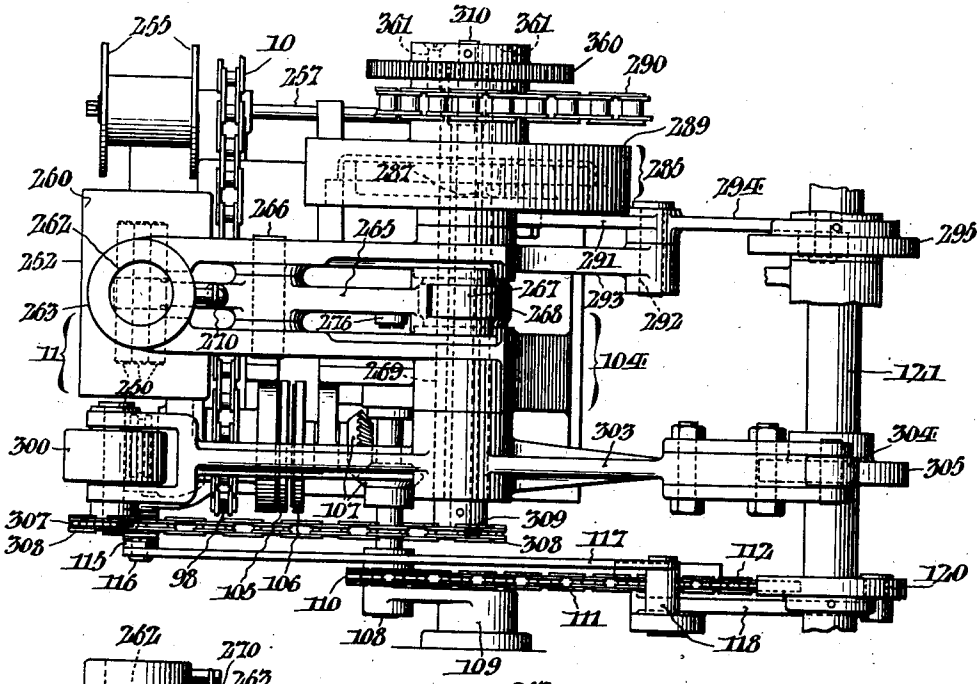
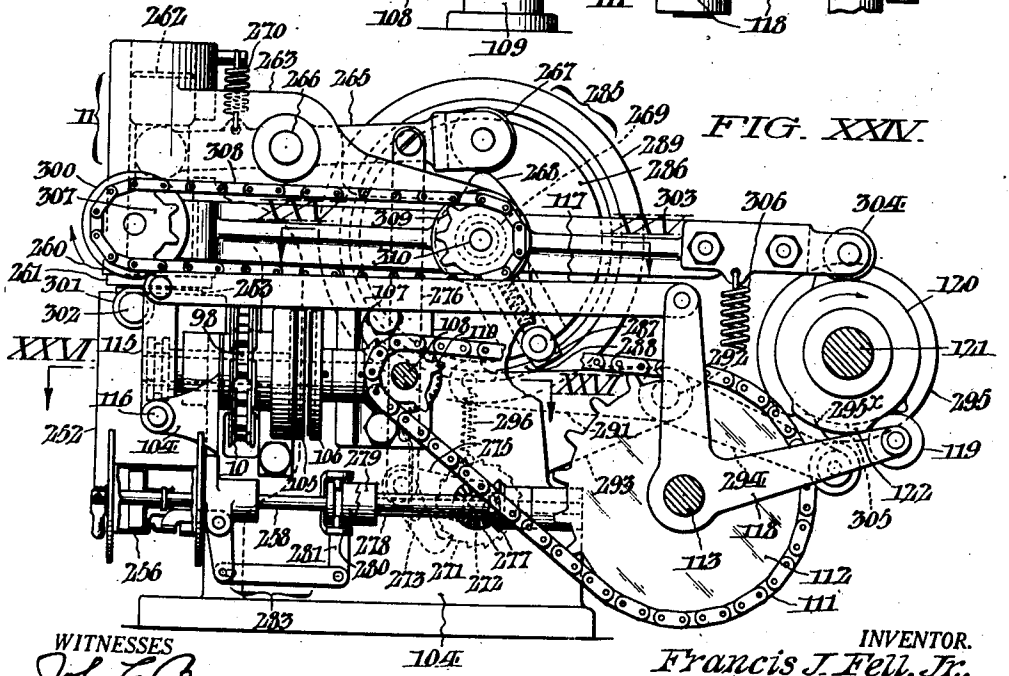


FIG. XXIV.



WITNESSES

John C. Bergner.

William Bee, Jr.

INVENTOR.

Francis J. Fell, Jr.,

BY Fraley & Paul

ATTORNEY.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 19

FIG. XXVII.

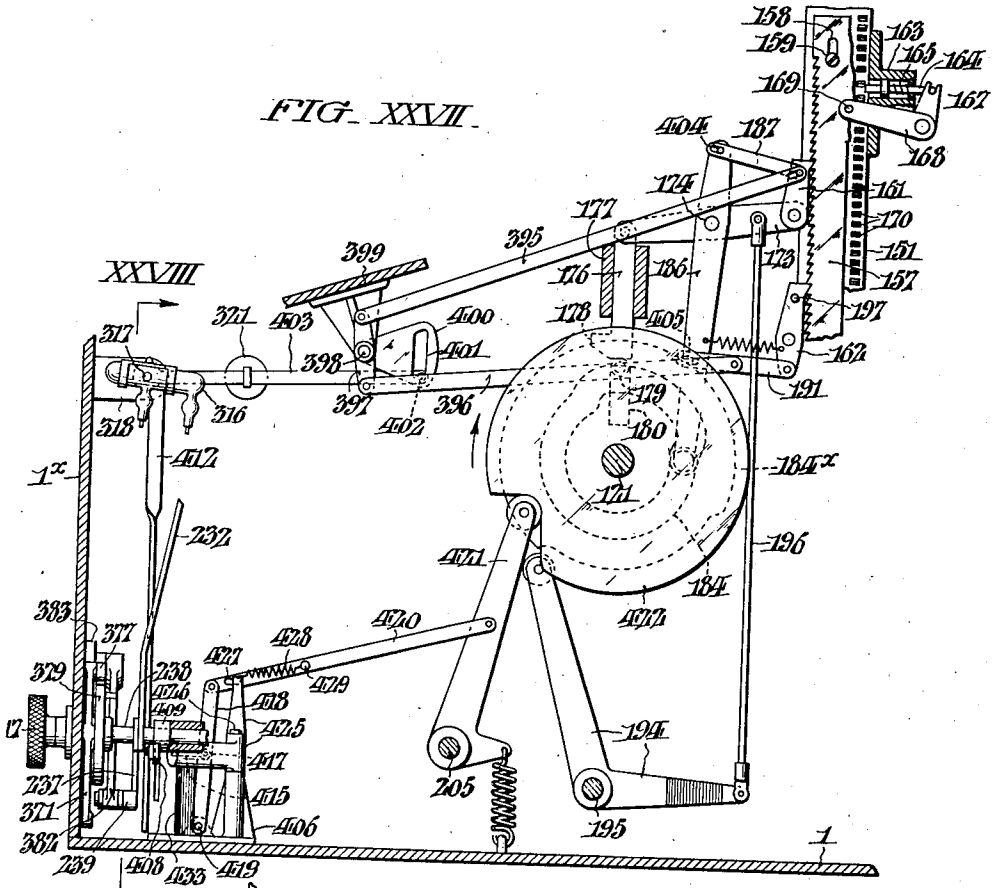
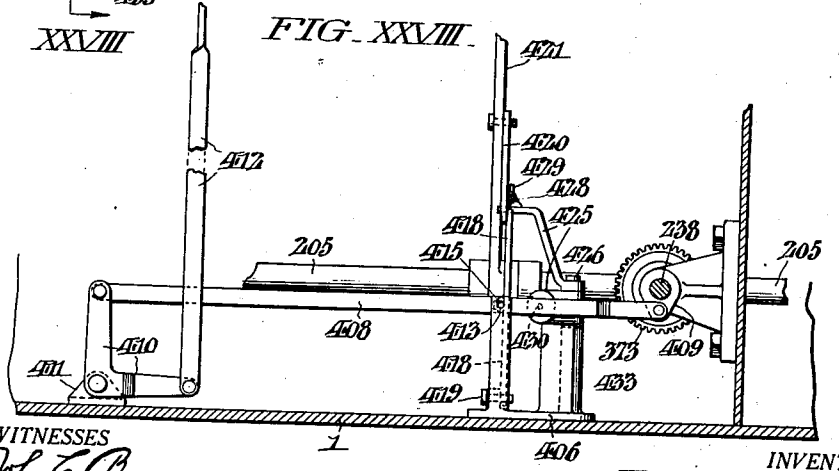


FIG. XXVIII.



WITNESSES

John E. Bergner

William Bee Jr.

INVENTOR:

Francis J. Fell, Jr.,

BY Fraley & Paul

ATTORNEYS.

June 12, 1934. F. J. FELL, JR 1,962,640

VENDING MACHINE

Filed Feb. 25, 1931 20 Sheets-Sheet 20

FIG. XXX.

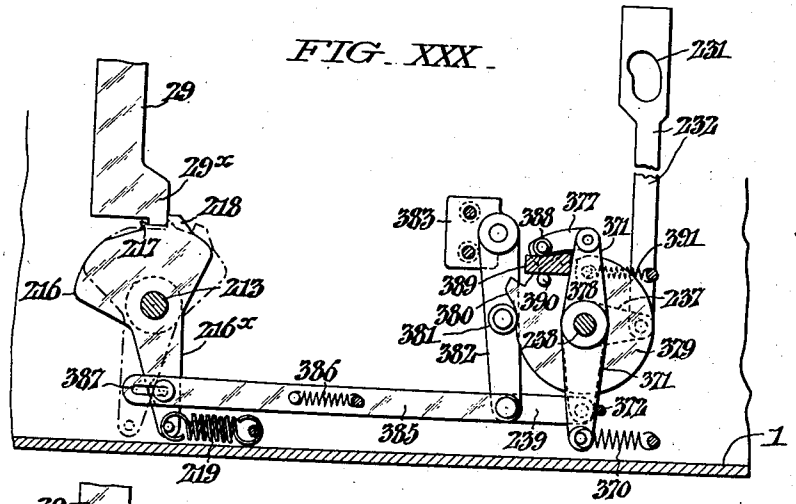


FIG. XXXI.

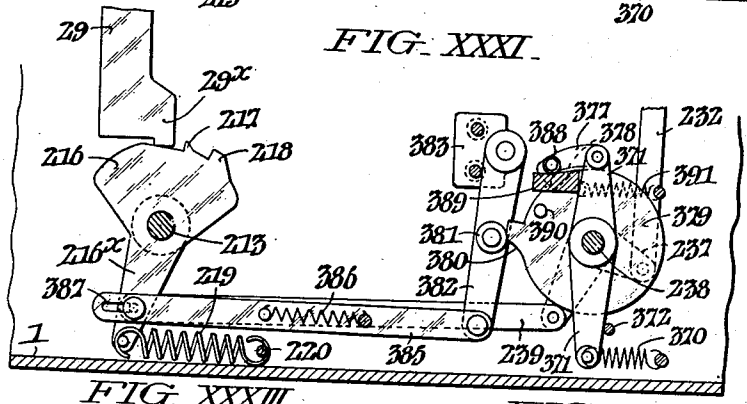


FIG. XXXIII.

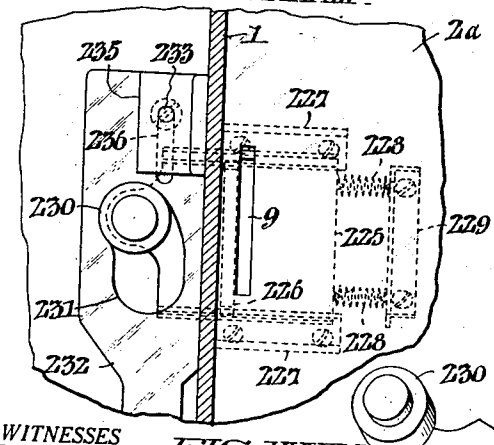


FIG. XXXII.

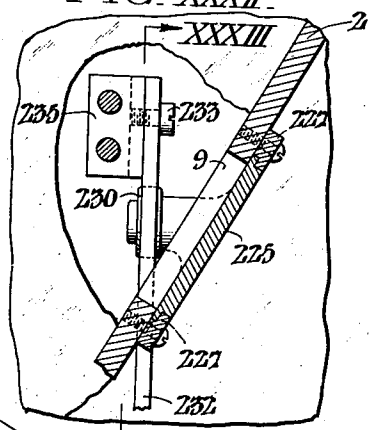
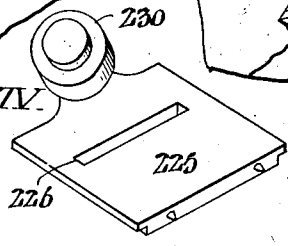


FIG. XXXIV.



WITNESSES

John C. Bergner.

William Bree, Jr.

INVENTOR:
Francis J. Fell, Jr.,
BY Fraley & Paul
ATTORNEYS.

Patented June 12, 1934 1,962,640

UNITED STATES PATENT OFFICE

1,962,640

VENDING MACHINE

Francis J. Fell, Jr., Mont Clare, Pa.

Application February 25, 1931, Serial No. 518,112

66 Claims. (Cl. 194—85)

This invention relates to vending machines, and it is concerned more particularly with machines for vending railroad tickets and the like.

Broadly speaking, my invention is directed toward the provision of a self-contained, compact, dependable and fool-proof automatic machine for vending articles of different values such as exemplified by railroad tickets.

In connection with a vending machine of the designated character, it is an object of my invention to provide selective means whereby, in conjunction with suitable destination and fare-rate indications, the purchaser may pre-set the machine to predetermine delivery of the proper ticket for which the selection is made.

Another object of my invention is to afford mechanism for withdrawing individual tickets automatically from a multiplicity of separate holders containing tickets to different destinations, and for automatically ejecting the individual tickets so selected from the machine.

Another object of my invention is to provide for the automatic withdrawal and delivery of a ticket only upon deposit in the machine of coins sum-totaling in amount the purchase price of the ticket for which the machine is pre-set.

A further object of my invention is to provide a self-registering integrating mechanism which will function in the above capacity to govern withdrawal and delivery of a selected ticket upon deposit of coins sum-totaling the price of such ticket regardless of the denominations of the coins, the order in which they are deposited in the machine, or the time consumed in depositing.

Another object of my invention is to provide for the automatic restoration of the machine to its normal inactive condition upon the performance of a ticket withdrawing and delivering cycle.

My invention is also in part directed toward the provision of a manually-operable release mechanism whereby, in the event that coins are wrongly deposited by inadvertence (either to an amount less than or in excess of the purchase price of a ticket for which the machine is preset), the purchaser may receive his money back with attendant cancellation of the setting and restoration of the machine to its normal inoperative condition.

Still another object of my invention is to provide a stamping mechanism for automatically applying to each ticket the current date imprint incident to delivery of the ticket by the machine.

Additional objects and attendant advantages of this invention will be manifest from the detailed description following in connection with the attached drawings, whereof Fig. I is a front elevation of my improved ticket vending machine.

Fig. II is a side elevation of the machine looking from the right of Fig. I.

Fig. III is a plan sectional view of the machine with an intermediate portion broken out taken as indicated by the arrows III—III in Fig. I.

Fig. IV is a staggered fragmentary vertical sectional elevation of the machine taken as indicated by the arrows IV—IV in Figs. I and III.

Fig. V is likewise a vertical sectional view, somewhat less comprehensive in its scope than Fig. IV and on a larger scale, taken as indicated by the arrows V—V in Fig. III, and featuring more particularly the integrating coin mechanism of the machine.

Fig. VI is a vertical sectional view like the immediately preceding taken as indicated by the arrows VI—VI in Fig. III, and showing in part the selective pre-setting means, the date stamping mechanism and in part the drive mechanism of the machine.

Fig. VII is a fragmentary vertical sectional view similar in turn to Fig. VI, taken as indicated by the arrows VII—VII in Fig. III further illustrating in part the selective pre-setting means and the drive mechanism of the machine.

Fig. VIII is still another fragmentary vertical sectional view of the machine taken as indicated by the arrows VIII—VIII in Fig. III featuring portions of the ticket withdrawing mechanism as well as other elements of the drive mechanism.

Fig. IX is a fragmentary illustration viewed as indicated by the arrows IX—IX in Fig. VIII featuring a clamp means associated with a means which functions to convey a withdrawn ticket to the date stamping mechanism.

Fig. X is a fragmentary view of the machine partly in front elevation and partly in vertical section taken as indicated by the arrows X—X in Fig. III.

Fig. XI is a fragmentary plan view of the machine taken as indicated by the arrows XI—XI in Fig. V, and showing portions of the coin mechanism, portions of the coin return and cancelling mechanism, and an electric switch means coordinated with mechanism for starting and stopping an electric motor employed to drive the machine.

Fig. XII is a fragmentary diagrammatic vertical sectional view of the machine featuring more particularly the mechanism provided for withdrawing individual tickets from the ticket holders.

Fig. XIII is an illustration like Fig. XII with the parts in different positions.

Fig. XIV is a fragmentary sectional view in plan taken as indicated by the arrows XIV—XIV in Figs. VIII and XII, showing certain details associated with the ticket withdrawing mechanism.

Fig. XV is a staggered fragmentary vertical detail sectional view taken as indicated by the arrows XV—XV in Fig. XIV.

Fig. XVI is a partial plan sectional view of the machine taken as indicated by the arrows XVI—XVI in Fig. VIII and showing details of the ticket withdrawing mechanism.

Fig. XVII is a staggered detail sectional view taken as indicated by the arrows XVII—XVII in Figs. IV and XII.

Fig. XVIII is like Fig. XVII with the parts differently positioned.

Fig. XIX is a detail sectional view taken as indicated by the arrows XIX—XIX in Figs. XII and XVII.

Fig. XX is a diagrammatic vertical sectional view generally like Fig. V showing the interrelation of the integrating coin mechanism and the selective means for pre-setting the machine.

Fig. XXI is like Fig. XX with the parts differently positioned.

Fig. XXII is a perspective view showing a portion of the presetting mechanism.

Fig. XXIII is a plan view of the ticket stamping mechanism together with the means for ejecting the stamped tickets from the machine.

Fig. XXIV is a side elevation of the organization shown in Fig. XXIII.

Figs. XXV and XXVI are detail sectional views of the ticket stamping mechanism taken as indicated respectively by the arrows XXV—XXV and XXVI—XXVI in Fig. XXIV.

Fig. XXVII is a staggered fragmentary cross section of the machine taken as indicated by the arrows XXVII—XXVII in Fig. XI showing the manually operable mechanism provided for restoring the machine to normal condition in the event of a mistake in depositing, and for returning the coins to the purchaser.

Fig. XXVIII is a fragmentary detail sectional view of the mechanism just referred to taken as indicated by the arrows XXVIII—XXVIII in Figs. IX and XXVII.

Fig. XXIX is a view partly in plan and partly in section of a latch means associated with the resetting mechanism.

Fig. XXX is another detail sectional view taken as indicated by the arrows XXX—XXX in Fig. XI.

Fig. XXXI is like Fig. XXX showing the parts in different positions.

Fig. XXXII is a detail sectional view taken as indicated by the arrows XXXII—XXXII in Fig. I, showing means provided for actuating a guard plate which normally closes the coin slot of the machine.

Fig. XXXIII is a detail sectional view taken as indicated by the arrows XXXIII—XXXIII in Fig. XXXII; and

Fig. XXXIV is a perspective view of the guard for the coin slot.

To facilitate the understanding of my invention, the description is subdivided under different captions as follows:

(A) The machine in general.

(B) The ticket holders.

(C) The ticket selecting and pre-setting mechanism.

(D) The ticket withdrawing mechanism.

(E) The coin and self-registering integrating mechanism.

(F) The ticket stamping and delivering mechanism.

(G) The drive mechanism.

(H) The coin return and restoring mechanism.

(I) The operation of the machine.

(A) The machine in general

From Figs. I and II of these illustrations, it will be observed that my improved ticket-vending machine comprises a vertical casing 1 which is rectangular in configuration except for a lateral offset 2 at the bottom. Housed within the upper part of the casing 1 is a series of vertical racks which number four in the present instance, and which are designated by the characters 3*a*, 3*b*, 3*c* and 3*d*. As shown, these columns respectively accommodate in superposed relation, holders 4*a*, 4*b*, 4*c* and 4*d* for tickets to different destinations. To enable replenishing of the tickets from time to time, the holders 4*a*, 4*b*, 4*c* and 4*d* are accessible through a lock-controlled door 5 at the front of the casing 1. Immediately to the right of the door 5 is a vertical series of individual ticket selecting devices having the form of push buttons 6 which correspond in number to the ticket holders 4*a*, 4*b*, 4*c* and 4*d*, and which are adapted to be actuated by the purchasers in accordance with the railway station designations displayed in coordinated windows 7 at the front of the casing 1 adjacent the buttons. For guidance of the purchasers in the selection of tickets, a smaller window 8 is provided between each of the push buttons 6 and the coordinated designation window 7 giving the rate of fare corresponding to the destination which it is desired to reach. Upon insertion into a slot 9 in the sloping face 2*a* of the casing offset 2 of proper coins totalling the indicated amount for the selected ticket after pressing of the proper push button, mechanism (hereinafter fully described) within the casing is automatically set into motion to draw a ticket from the proper ticket holder and to deliver such ticket to an endless chain 10 that travels horizontally beneath the columns 3*a*, 3*b*, 3*c* and 3*d*. This chain 10 conveys the ticket first to a stamping mechanism comprehensively designated by the numeral 11 in Fig. I, for dating. After being stamped, the ticket is further advanced by the chain 10 to a delivery means 13 whereby it is discharged through a horizontal slot 14 in a lock-protected door 15. By way of this door 15 access is had to the stamping mechanism 11 for date changing and inspection. For convenience, the machine is provided adjacent the coin slot 9 with an indicator 16 that registers the amount deposited in the machine by the purchaser. There is also provided at the front of the casing a finger knob 17 for manually actuating other mechanism within the casing, whereby, in the event of a mistake on the part of the purchaser, either in pushing the wrong ticket selecting button 6 or in depositing an incorrect sum total of coins, the machine is restored to normal inactive condition and such coins ejected into a cup 18 immediately below the knob 17. Coins retained as a consequence of delivery of the tickets are directed into a till within the offset portion 2 of the casing, from which collections may be made from time to time through a lock-controlled door 19 at the right hand end of the offset 2.

(B) The ticket holders

From Figs. III, X, XIV and XVI it will be observed that the ticket holder columns 3*a*, 3*b*, 3*c* and 3*d* are defined by spaced pairs of vertical partitions 20, 21 which, together with an end partition 22 are all rigidly secured, top and bottom, within the casing 1. One partition of the series 21 is wider than the others, and has been specially designated by the character 21*x*. Extending transversely of each of the columns 3*a*, 3*b*, 3*c* and 3*d* between the partitions 20, 21 are two vertical rows of staggeringly arranged cross rods 23, 24. As shown in Figs. XIV and XV, the ticket holders 4*a*, 4*b*, 4*c* and 4*d* are fashioned to channel configuration from sheet metal, and so proportioned as to accommodate approximately two hundred tickets each. As shown in Figs. XIV and XV the side walls of the ticket holders are bevel cut at their frontal ends and there formed with inwardly directed lips 25, 26 which serve to retain the tickets T with capacity for ready withdrawal successively in a manner later on explained. It will also be seen from Fig. XV, that the ticket holders 4*a*, 4*b*, 4*c* and 4*d* are supported at an inclination within the columns 3*a*, 3*b*, 3*c* and 3*d* by pairs of the cross rods 23, 24, the tickets being thereby urged forwardly and downwardly in each instance against the lips 25, 26 through the influence of gravity upon a backing weight W. A bottom hook clip 27 engaging the rod 23 serves, in each instance, to secure the ticket holder in place. This arrangement obviously permits ready removal of the ticket holders from their respective columns for the purpose of refilling.

(C) The ticket selecting and pre-setting mechanism

As before explained, a selecting push button (Figs. I and II) is provided for each of the ticket holders. Now since there are four columns of holders the push buttons are grouped in fours for coordination with the four holders in each horizontal row of the four columns. Thus the buttons designated 6*a*, 6*b*, 6*c* and 6*d* in Figs. IV, V, VI and XXII, correspond to the holders 4*a*, 4*b*, 4*c* and 4*d* of the lowermost row, and so on with the other buttons and holders upward of the series. From Fig. VI, for example, it will be observed that the push buttons 6*a*, 6*b*, 6*c* and 6*d* are secured respectively to horizontal thrust rods 28*a*, 28*b*, 28*c* and 28*d*, that move through aligned vertically spaced apertures in the frontal wall 1*x* of the casing 1. At their inner ends, the thrust rods 28*a*—28*d* are pivotally connected to as many arms 30 fast on rock shafts 31 which are arranged in vertically spaced relation and have fulcrum support in a common bearing member 32 secured to the partition 21*x*. The thrust rods 28*a*, 28*b* and 28*c* associated with the buttons 6*a*, 6*b* and 6*c* of each group of four are in one piece and individually subject to springs 33 which tend to urge them outward. The thrust bar 28*d* associated with the lowermost push button 6*d* of each group of four, on the other hand, comprises two relatively slidable parts 34 and 35, see Fig. XXII, whereof the first, which carries the button 6*d*, is subject to a spring 33 like the other thrust rods. The parts 35 of the push rods 28*d* extend beyond their connections with the arms 30 for pivotal attachment to levers 36 which are secured to horizontal shafts 37 having journal support at the rear of the partitions 20, 21, 21*x* and 22, there being one such shaft 37 for each horizontal row of the ticket holders. The function of the shafts 37 will be later set forth. The part 35 of each thrust rod 28*d* carries three studs 38 which lie in the path of fingers 40*a*, 40*b* and 40*c* depending respectively from the three other push rods 28*a*, 28*b* and 28*c* of each group of four, so that as either of the latter thrust bars are actuated, the section or part 35 of the thrust rod 28*d* is moved inward to rock the corresponding lever 36. Guided with capacity for vertical sliding movement at the inside of the frontal wall of a casing, is a spring-influenced bar 29 which is apertured at proper intervals for traverse of the thrust bars 28*a*—28*d* of the push buttons 6*a*—6*d*. As a ticket selecting button is depressed for the selection of a ticket, this vertical bar 29 is elevated through action of a cam lug 39 at the top of the push button thrust bar with the upper edge of the corresponding slot in the said vertical bar. After the lug 39 has passed the vertical bar 29, the latter drops behind the said lug and thereby locks the depressed button in depressed position. As the vertical locking bar 29 is elevated in the manner just explained, the bottom edges of its slots engage within notches 41 in the lower edges of the thrust bars of all the other buttons 6, thereby simultaneously locking them against actuation.

(D) The ticket withdrawing mechanism

Movable up and down in the intervals between the ticket holder columns 3*a*, 3*b*, 3*c* and 3*d* are carriages 42 having dove-tail tongues for guidance by grooved rails 43 secured to the partitions 20, see Figs. III, XIV and XV. Lateral bosses 44 of the carriages 42 are engaged respectively by reversible vertical screws 45*a*, 45*b*, 45*c* and 45*d* which are relied upon to impart the up and down movement to the carriages 42, and which are journalled top and bottom in suitable bearings 46 secured to the partitions 21 and 22. As shown, the carriages 42 respectively support ticket pullers 47*a*, 47*b*, 47*c* and 47*d*. Each such puller comprises a yoked lever 48 which is swingable vertically on a shaft 49 journalled in bearings afforded by a short outwardly reaching bifurcated arm 50 of the carriage 42. Secured to the forward extremity of each yoked lever 48 is a clip 51 which is open toward the holders of the corresponding column so that it may receive a ticket T when the carriage 42 is arrested before one of the holders with the puller swung downward to active position as shown in Fig. XIII. Withdrawal of the outermost ticket T from a holder is effected by a roller 52 which is brought into contact with the exposed face of such ticket as the puller is swung downward. A smaller roller 53 below the withdrawing roller 52 and rotating in the opposite direction engages the tickets immediately to the rear of the one being withdrawn, and so prevents them from being pulled from the holder at the same time. The rollers 52, 53 are respectively secured to shafts 54, 55 journalled in the yoked arm 48, and driven through spur gears 56, 57, 57*x* and 58 from the fulcrum shaft 49 of the said arm. The fulcrum shafts 49 of the several pullers 47*a*—47*d* receive motion, through spiral gear pinions 59, from intermeshing spiral pinions 60 held between pairs of bearing bosses 61 on the slides 42, and keyed with capacity for longitudinal shifting along the keyways 62 of vertical drive shafts 63*a*—63*d*, which, like the corresponding screws 45*a*—45*d*, are rotatably supported top and bottom in the bearings 46.

For the purpose of arresting the vertical travel of the puller carriages 42 associated with the several ticket holder columns 3*a*—3*d* at the level of

the horizontal row of holders containing the one corresponding to a depressed push button 6, and for swinging the pullers at that holder to withdraw a ticket therefrom, means are provided as follows:—Grouped for independent vertical movement in guides 64 bolted to the partition 21*x*, are four slide bars 65*a*, 65*b*, 65*c* and 65*d* whereof there is one to correspond with each ticket holder column. As shown in Fig. XXII, the slide bar 65*a* carries lateral pins 66, one to project into the path of an incline cam lug 67 on the upper edge of the thrust bar 28*a* corresponding to the button 6*a* in each group of four of the buttons. The slide bar 65*b* carries lateral pins 68, one to project into the path of an inclined cam lug 69 on the top edge of the thrust bar 28*b* associated with the button 6*b* in each group of four. The slide bars 65*c* and 65*d* in turn respectively carry lateral pins 70 and 72 to project into the path of cam lugs 71 and 73 on the upper edges of the thrust bars 28*c* and 28*d* associated with the buttons 6*c* and 6*d* in each group of four, the pins 70 and 72 extending through longitudinal clearance slots in the slide bars 65*a*, 65*b*. At their lower ends, the vertical slide bars 65*a*, 65*b*, 65*c* and 65*d* are connected respectively to levers 74*a*, 74*b*, 74*c* and 74*d*, secured to horizontal shafts 75*a*, 75*b*, 75*c* and 75*d*. These shafts are arranged one above the other, horizontally beneath the four ticket holder columns 3*a*, 3*b*, 3*c* and 3*d*, and have bearing support in the partitions 20, 21 and 22. Respectively secured to the shafts 75*a*, 75*b*, 75*c* and 75*d* are levers 76*a*, 76*b*, 76*c* and 76*d* for actuating four vertically slidable cam bars 77*a*, 77*b*, 77*c* and 77*d* having guidance in fixed bearings 78 in the lower part of the casing 1, see Figs. VIII, XII, XIII and XVI. As shown, these cam bars are designed to cooperate with rollers 79 at the ends of spring influenced bolts 80 which are guided for horizontal movement in the ticket puller carriages 42. At their forward ends, the bolts 80 are formed with teeth 81 adapted to respectively engage the threads of the vertical screws 45*a*, 45*b*, 45*c* and 45*d*, see Figs. XII and XIII.

When the ticket puller carriages 42 are in the normal lowered positions at the bottom of the casing 1, see Figs. VIII and XII, the cam bars 77*a*—77*d* hold the bolts 80 retracted from the screws 45*a*—45*d*. As a button is pushed—say one of the buttons 6*d*—the cam lug 73 on the rod 28*d* of the same, in acting on the stud 72, causes the vertical slide bar 65*d* to be lifted with attendant withdrawal, through the arm 74*d*, shaft 75*d* and lever 76*d*, of the cam bar 77*d* from engagement with the roller 79 on the associated bolt 80, which latter is thereby released to its spring and forced into engagement with the vertical screw 45*d*. Accordingly, with rotation of the screw 45*d* in one direction, the ticket puller 47*d* is moved upwardly of the corresponding ticket holder column 3*d*.

Secured to the partitions 21, 22 are channelled vertical guides 82*a*, 82*b*, 82*c* and 82*d* having pivoted sections 83 in line with the horizontal rows of ticket holders 4. As shown in Figs. XII and XIII, the channel guide sections 83 are individually connected to the ends of arms 84*a*, 84*b*, 84*c* and 84*d*, secured in fours to the horizontal shafts 37 previously referred to, there being thus one such arm for each column of ticket holders. When one of the ticket selecting push buttons 6*d* is depressed as shown in Figs. XII and XIII, the corresponding horizontally aligned pivoted sections 83 of all four channel guides 82*a*—82*d* are swung out of place. It is to be understood, however, that in the exemplified instance, only the ticket puller 47*d* of the column 3*d* is elevated as aforesaid; and that when such ticket puller 47*d* reaches the level of the disaligned section of the channelled guide 82*d* associated with the column 3*d* as in Fig. XIII, the ticket puller 47*d* is arrested at the ticket holder 4*d* on that level and swung into active position to withdraw a ticket T from such holder. The parts instrumental in bringing the latter operations about include in each instance, an arm 85 which is fulcrumed at 86 on the ticket holder carriage 42 and which is swung through diversion of a roller 87 thereon laterally from the channel guide 82*d* by the disaligned section 83. Such movement is communicated through a pin 88 on the arm 85, to the bolt 80 whereby said bolt is withdrawn from engagement with the screw 45*d*. Through a link connection 89, the ticket puller 47*d* at the same time is swung downward about its fulcrum 49 to the angular position shown in Fig. XIII in readiness for the clip 51 to receive the ticket T withdrawn by the roller 52. Depression of any one of the other three buttons 6*a*, 6*b*, 6*c*, of the same group of four will result in the displacement of the same four horizontally aligned pivoted sections 83 of the channel guides 82*a*—82*d* due to the cooperation between the depending fingers 40*a*, 40*b* and 40*c* (Fig. VI) on the thrust rods 28*a*—28*c* of the said buttons 6*a*—6*c* with the pins 38 on the section 35 of the push rod 28*d* associated with the button 6*d*. Here again, it is to be understood, however, that only that puller coordinated with the ticket holder column corresponding to the letter of the button pressed will be elevated, the sequential steps being exactly the same as described in connection with the button 6*d* used for the purposes of exemplification.

Upon withdrawal of the selected ticket and after the lapse of a short interval of time, the direction of rotation of the screws 45*a*—45*d* is reversed in a manner later described, and the puller 47*d* is accordingly lowered to the normal position shown in Fig. VIII, incident to which the cam bar 77*d* causes withdrawal of the bolt 80 from engagement with the screw 45*d*. Also during descent of the ticket puller 47*d*, the yoked lever 48 of the latter, carrying the clip 51, is swung back to its normal position (Fig. VIII) through reengagement of the roller 87 on the arm 85 with the straight portion of the channelled guide 82*d*.

The ticket T brought down by the puller 47*d* as just explained is held by the clip 51 in the path of a pick up snap clasp 90 on the transfer chain 10 that travels horizontally of the lower part of the casing to the front of the four ticket holder columns 3*a*—3*d*. The clasp 90 is detailed in Fig. IX, and, as shown, it comprises a block 91 which is riveted fast to the transfer chain 10. Pivoted to upward ears of the block 91 is a spring pressed finger 92 adapted for actuation by a roller arm 93 fast on one end of the finger pivot axis 94. Secured to a fixed horizontal rail 95 in the lower part of the casing 1, is a series of tripping cams 96*a*, 96*b*, 96*c* and 96*d* (Figs. X and XVI) which lie in the path of the roller on the arm 93 and so lift the finger against the action of its spring as the clasp 90 approaches each of the ticket holder columns 3*a*—3*d*. The clasp 90 is thereby temporarily held in open position to receive the tickets from the clips 51 of the ticket pullers. Upon passing the trip cam, in each instance, the finger 92 snaps down and clamps the ticket T

against the upper surface of the block 91. It is to be particularly noted from Fig. VIII that the pick-up clasp 90 is comparatively narrow and engages only that portion of the ticket T which projects beyond the clip 51 on the puller. As shown in Figs. I, III and X, the transfer chain 10 is trained about sprocket wheels 97, 98 located at opposite ends of the casing 1. The sprocket 97 revolves free in a bearing 99 fastened to one end wall of the casing 1. The sprocket 98, which acts as a driver for the chain 10, is splined to a sleeve 100 which is free on a shaft 101 journalled in spaced bearings 102, 103 of a bracket 104 associated with the stamping mechanism 11, see Figs. III, XXIII, XXIV and XXVI. The sleeve 100 is axially shiftable, and at one end formed with a clutch disk 105 for cooperation with a friction surfaced companion clutch disk 106 secured to the shaft 101. The shaft 101 receives motion, through a bevel gear couple 107, from a jack shaft 108 which is journalled at one end in the bracket 104 and at the other end in bracket 109 secured to a side wall of the casing 1. Mounted on the jack shaft 108 is a small sprocket pinion 110 which is coordinated by means of a chain 111 (Fig. VI) with a sprocket wheel 112 on a shaft 113 of the drive mechanism hereinafter described, the latter shaft being constantly driven at a slow speed when the machine is in operation. At the end opposite to that occupied by the disk 105, the clutch sleeve 100 has attached to it a grooved collar 114 which is engaged by a stud on a shifter lever 115 with fulcrum attachment at 116 on a lateral projection of the bracket 104, see Figs. XXIII and XXIV. The outer end of the shifter lever 115 is connected, by means of a horizontal link 117, with the upright arm of a bell crank lever 118 free on the shaft 113. The horizontal arm of the bell crank lever 118 carries a roller 119 adapted to be influenced by a rotary cam 120 on a cam shaft 121 which makes but one revolution during each cycle of the machine, and which forms a part of the drive mechanism. As shown, the cam 120 has but a single rise 122 which is instrumental, through the clutch 105, 106, in determining a temporary pause in the movement of the transfer chain 10 for presentation of the ticket to the stamping means 11.

(E) *The coin and self-registering integrating mechanism*

This mechanism occupies the greater portion of the offset 2 of the casing 1, and, as shown in Figs. III, V, XX and XXI, embodies a plate-like sector 124 which lies in the vertical plane of the coin slot 9 and which is adapted to be constantly oscillated about a horizontal shaft 125 from the position shown in Figs. V and XX to that shown in Fig. XXI when the machine is in operation. At one side, the sector 124 has a radial channel 126 cut into it, the said channel having portions decreasing in width inwardly of its mouth end for accommodation of coins of different denominations and dimensions, i. e. half dollars, quarters, nickels, pennies and dimes, the open side of said channel being covered by a plate 127 separately attached to the sector. When the sector 124 is in its upper position as shown in Fig. XX, the larger or mouth end of its channel 126 is presented to the coin slot 9 with the said channel sloping downwardly so that the inserted coins may roll by gravity to different allocations predetermined by the shaping of said channel. When the sector 124 is in its lowered position as in Fig. XXI, its channel 126 is downwardly inclined in the opposite direction so that the coins are discharged into a temporary receiver 128 in the bottom of the casing 1. There is also provided a chute 129 by which slugs or counterfeit coins of a diameter to pass through the small end of the channel 126 in the sector 124 are conducted to the coin cup 18 at the front of the casing. Immediately upon starting of the machine by depression of any one of the push buttons 6, the sector 124 is set into oscillation through a link connection 130 with a crank 131 affixed to a shaft 132. This shaft 132 forms a part of the drive mechanism of the machine and extends horizontally of the back of the casing 1 as shown in Figs. III, V, VI and XI, where it is supported by bearings whereof one is indicated at 132*x*. Similarly journalled within the casing 1 in a plane above that of the shaft 132 is another horizontal shaft 133 whereto are secured five ratchet wheels 134*a*, 134*b*, 134*c*, 134*d* and 134*e* respectively having a hundred teeth, adapted to be stepped about by separate pawls 135 which are pivotally attached to a series of interconnected arms 136. These arms 136 are free on the shaft 133 and simultaneously oscillated about the latter through a link connection 138 between one of them and the coin sector 124. Normally the pawls 135 are prevented from picking the ratchets 134*a*—134*e* by individually associated segmental guards 139 having arcuate flanges adapted to be overtravelled by rollers on the pawls. As shown, the guards 139 are pivotally connected at one end to separate levers 140 also free to oscillate on the ratchet shaft 133. By means of links 141, the depending extremities of the five arms 140 are individually coupled with five levers 142*a*, 142*b*, 142*c*, 142*d* and 142*e* which are free on the shaft 125 of the coin sector 124 and provided at their ends with lateral pins 144. These pins 144 project into the path of the oscillating coin sector 124, but the latter is provided transversely of the bottom of its coin channel 126, with concentric arcuate slots 145 to clear the pins. As shown, the slots 145 are so allocated that successively deposited coins arrested, in accordance with their size, in different portions of the sector channel 126, engage the pins 144 of the corresponding levers 142*a*—142*e*. It therefore follows that the coordinated segmental pawl guard 139 is, in each instance, retracted and the corresponding pawl 135 released for action. To predetermine the extent of movement successively imparted to the ratchets 134*a*—134*e* by the pawl 135 in accordance with the values represented by the different coins, positionally fixed sectoral shield plates 146*a*, 146*b*, 146*c*, 146*d* and 146*e* with arcuate edges of correspondingly different lengths, are respectively associated with the ratchets to "cover" more or less teeth. Supposing, for example, that the coin shown at V in Figs. XX and XXI in line with the pin 144 on the lever 142*c* to be a nickel, then the coordinated pawl 135, released by retraction of the corresponding guard 139, is held from the ratchet 134*c* by the shield plate 146*c* until toward the latter end of its stroke when it will be permitted to move the ratchet wheel 134*c* (and the shaft 133) through an arc corresponding to five teeth. In a similar manner, a fifty cent piece will result in rotation of the shaft 133 to the extent of fifty ratchet teeth, a quarter to the extent of twenty five teeth and so on. Thus, at each actuation of the machine, the shaft 133 will be rotated to an amount corresponding to ratchet teeth regis-

tered to represent the sum total of the coins deposited. Incident to picking the ratchets 134*a*—134*e*, the pawls 135 move beneath the guards, thereby lifting the latter against the action of tension springs to which they are subject. In performing their return strokes, upon clearing, the pawls 135 ride up on the arcuate flanges of the guards 139 whereafter they are held idle by the latter until again called upon to function.

Secured about midway of the back of the casing 1 is a vertical bracket 150 having a narrow upward channel extension 151 that serves as a guide for a gear rack 152. Meshing with this rack is a pinion 153 which is secured to one end of a shaft 154 rotative in a bearing boss of the bracket 150. At its opposite end the shaft 154 has attached to it another pinion 155 arranged to be driven by a gear 156 secured on the shaft 133 of the ratchet wheels 134*a*—134*e*. Thus as the ratchet wheel shaft 133 is pawled in the manner previously described, the gear rack bar 152 is elevated to an extent varying with the sum total of the coins deposited at different times incident to the purchase of different tickets. Associated with the gear rack bar 152 is a vertical bar ratchet 157 which is slotted as at 158 for passage of guide screws 159, and which therefore has capacity for slight longitudinal movement relative to the gear rack bar in opposition to a spring 160 (Figs. XII and XIII). This spring 160 tends to maintain the rack bar raised with the lower edges of its slots 158 in engagement with the screws 159. As the gear rack bar 152 is elevated in the manner explained, it is held in check first by one and then by the other of two detents 161, 162 engaging the teeth of the ratchet bar 157 to temporarily lock the gear rack bar in shifted positions. Reaching rearward from the gear rack bar 152 near its upper end is a bracket-like projection 163 wherein is slidably guided a horizontal pin 164 which is urged inward by a spring 165, see Figs. IV, XVII, XX, XXI and XXVII. The protruding rear end of the pin 164 carries a lateral stud 167 that engages the bifurcated extremity of a bell crank lever 168 fulcrumed on the bracket-like projection 163. The other extremity of this bell crank lever 168 is slotted at its end to engage a stud 169 on the ratchet bar 157. Normally, the latch pin 164 is kept retracted due to the fact that its inner end is obliged to ride over stops 170 which are slidable in transverse slots cut into the upward guide portion 151 of the vertical bracket 150. The stops 170 are pivotally connected to horizontal bell cranks 171*a*, 171*b*, 171*c* and 171*d* which are fulcrumed for independent movement on a common vertical rod 172 secured in a lateral offset at one side of the guide 151, and which correspond in number to the push buttons 6*a*—6*d*. As shown in Figs. XII and XIII, the bell cranks 171*a*—171*d* are coordinated, through wire links 173*a*, 173*b*, 173*c* and 173*d*, with small levers 174 secured to the shafts 31 previously described in connection with the push buttons in section B. Accordingly, when one of the push buttons 6*d* is depressed as in Fig. XII, there is a pull exerted on the corresponding wire link 173*d* to swing the bell crank 171*d* as in Fig. XVIII, whereby the associated stop 170 is withdrawn from the range of the latch pin 164. Thus, if coins equalling the price of the ticket selected by the depressed push button 6*d* are deposited in the machine, the picking of the ratchets 134*a*—134*e* would be such as to result in the elevation of the gear rack 152 so that the latch pin 164 is brought to the level of the withdrawn stop 170. The latch pin 164 will thereupon be thrust inward by its spring 165, and, as a consequence, the bell crank lever 168 coupled with said latch pin causes the ratchet bar 157 to be moved downward relative to the gear rack 152 which is at the time held locked by said pin. The movement so imparted to the ratchet bar 157 is communicated to a lever 173, which, at one end carries the detent 161, and which is fulcrumed to rock on a fixed center 174 in a lateral lug 175 of the bracket 150, see Figs. XII and XIII. The opposite end of the lever 173 is pivotally connected to a slide 176 having vertical guidance in a bearing 177 also afforded by the bracket 150. At its lower end the slide 176 has a cam shoe formation 178 which normally rests on a roller 179 secured at one side of a clutch pin 180 having guidance in a radial socket of a disk 181 secured to the cam shaft 121. When the cam shoe 178 is lifted by movement of the lever 173 as just explained, a spring 182 acting on the clutch pin 180 forces the latter outward into a circumferential notch 183 internally of a gear wheel 185 which is free on the cam shaft 121 and which is continuously revolving slowly during the operation of the machine. As soon as the cam shaft 121 is set into motion, a side groove cam 184 on the cam shaft becomes operative immediately to swing an arm 186 fulcrumed on the fixed axis 174 with the lever 173, so that, through a link connection 187 with a pin 188 on the upper extremity of the said arm 186, the detent 161 is withdrawn from engagement with the ratchet bar 157. The detent 162, which is pivoted on a side lug 189 of the vertical bracket 150 is at the same time withdrawn from the ratchet bar 157 in opposition to a spring 190 through a link connection 191 with a pin 192 on the lower extremity of the arm 186. Upon withdrawal of both detents 161, 162 as just explained (the depressed push button 6*d* being released at about the same time in a manner later on explained with attendant restoration of the corresponding stop 170 Figs. XVII and XVIII, and outward displacement of the latch pin 164) the gear rack 152 is freed and descends by gravity into a protective tube 193 depending from the casing 1 at the bottom, see Figs. I, II and IV. Concurrently, the slide 176 is moved downward to the normal position shown in Fig. XII with the result that the clutch pin 180 is depressed into the socket of the disk 181, by the cam shoe 178. This is brought about just as the cam shaft 121 completes a single revolution by a peripheral cam edge 184*x* of the rotary cam 184, which edge acts upon a bell crank lever 194 fulcrumed on a fixed center 195, the movement of the said bell crank being communicated, through a link connection 196 with the lever 173 whereto the slide 176 is attached, see Figs. XII, XIII and XXVII. During each lift of the ratchet bar 157 by the coin mechanism, a pin 197 at one side of the detent 162 is struck by a finger 198 which is secured to a sleeve 198*x* on the ratchet wheel shaft 133 and oscillated with the pawl arms 136 so that the said bar 157 is afterward held solely by the detent 161. The purpose of this arrangement will also be explained later on.

In order that the coins may be released from the temporary receiver 128 to drop into a till 199 (previously referred to) in the bottom of the casing 1 for permanent retention by the machine

upon initiation of the movement of the cam shaft 121, the said receiver is provided at the back with a pivoted door 200 which is swingable about a top edge axis 201 having an actuating crank arm 202, see Figs. V and XI. This crank arm 202 is coupled, by means of a link 203, with an arm 204 on a shaft 205 supported for rocking movement in bearings 206, 207 in the lower part of the casing 1. The shaft 205 carries a second arm 208 having a roller in engagement with another rotary cam 209 on the cam shaft 121. As shown, the cam 209 is formed with a single circumferential projection 209*x*, which, as it strikes the roller on the arm 208 imparts clockwise movement to the shaft 205, and, through the described intermediate connections, causes the door 200 of the receiver 128 to be swung to open position, so that, by virtue of the slope in the bottom of the said receiver, the coins are discharged into the till 199. Through a bevel gear couple 212 (Figs. XI, XXX and XXXI) the movement of the shaft 205 is communicated to a cross shaft 213 rotative in bearings 214, 215 which are secured respectively to the partition 21*x* and the front wall of the casing 1. Adjacent the bearing 214 the shaft 213 carries a cam sector 216 which has a rise at 217 and a stop lug 218 for coaction with a lateral lug at the lower end of the push button locking slide bar 29. During the movement of the shaft 213 in the one direction the cam sector 216 is swung to the position shown in Fig. XXXI, thereby raising the slide just sufficient to permit release of the push button 6*d* described hereinbefore as having been depressed for the selection of a ticket. Such movement of the cam sector 216 is yieldingly opposed by a spring 219 in tension between a depending arm 216*x* of the said sector and an anchorage pin 220 projecting from the inside of the frontal wall of the casing 1.

The indicator 16 at the front of the casing 1 adjacent the cam slot 9 by which the purchaser is apprised of the amount deposited in the machine is actuated from the shaft 154 which carries the pinion 153 for driving the vertical gear rack bar 152. The means instrumental in such actuation includes a sprocket chain connection 221 between the shaft 154 and a compounded "Geneva" movement 222 associated with the indicator 16, see Fig. IV.

In order to prevent deposit of coins until a ticket selecting and pre-setting button 6 is depressed and the machine set in motion, a guard or cover is provided for the coin slot 9, see Figs. XXXII–XXXIV. As shown, this guard or cover is in the form of a plate 225 with a slot 226 adapted for registry with the coin slot 9. A pair of guides 227 secured to the sloping wall of the casing offset 2 at the inside serve to confine the cover plate 225 to endwise sliding movement crosswise of the coin slot 9. Such sliding movement is imparted to the cover plate 225, in opposition to a pair of springs 228 buttressed by an angle bar 229 secured to the casing wall, through cooperation of a roller 230 on the said plate with a cam slot 231 in a vertically shiftable bar 232. A screw stud 233 let into an angle bracket 235 secured to one of the side walls of the casing 1 engages a vertical slot 236 at the upper end of the bar 232, thereby to assist in the guidance of the latter. At its lower end the bar 232 is coupled with one arm of a bell crank lever 237 (Figs. XXX and XXXI) free on the stem or shaft 238 of the finger knob 17 referred to in Section A, the other arm of said bell crank lever 237 being coupled, by means of a horizontal link 239, with the depending extremity 216*x* of the cam sector 216. From the foregoing it will be seen that as the locking slide 29 is raised incident to depression of one of the ticket selecting and pre-setting push buttons 6, the lateral lug 29 at its lower end clears the projection 217 of the sector cam 216. As a consequence, the sector cam 216 will be swung counterclockwise under the pull of the spring 219 from the dot-and-dash line position to the full line position in Fig. XXX, with the stop 218 of said cam engaging the locking bar 29. The movement so induced in the cam sector 216 is communicated, through the link 239 and the bell crank lever 237, to the bar 232 with the result that the cover plate 225 is moved to register its slot 226 with the coin slot 9 to permit insertion of coins into the machine.

To insure release of the coins by the oscillating sector, there is provided a series of five detents 240 which are individually associated with the links 141 that connect the levers 142*a*, 142*e* with the arms 140 for actuating the pawl guards 139, see Figs. III, IV, XI, XX and XXI. These detents 240 are secured to a slide 241 confined to vertical sliding movement in a fixed guide bracket 242 on the bottom of the casing 1, the said slide being operated through a horizontal lever 243 which is secured to a horizontal shaft 244 rotative in fixed bearing brackets 245. Another arm 246 on the shaft 244 is fitted with a roller 247 that runs in contact with a rotary cam 248 on the shaft 132. Engagement of the high point of the cam 248 with the roller 247 of the arm 246 results in raising of the slide 241 so that the detents 240 are simultaneously projected into the path of lateral pins 249 on the links. Accordingly, the return movement of the links 141 is checked to hold all the levers 142*a*, 142*e* stationary momentarily, so that, immediately upon initiation of the upward swing of the coin sector 124 from the position shown in Fig. XXI, any coin in the said sector is freed to drop into the temporary receiver 128.

(F) Ticket stamping and delivering mechanism

This mechanism is shown in Figs. I, III, VI, X, XXIII and XXIV. As shown, it comprises three type disks 250 respectively bearing the months of the year, the numbers of the days, and the numbers of consecutive years, these disks being independently rotative for the purposes of date changing, on a shaft 251 having journal support in a fixed frame 252 in the lower part of the casing. From Fig. X it will be noted that the peripheries of the type disks 250 project through an aperture in a platen 253 bearing type indicative of the station at which the vending machine is used. The disks 250 and the platen 253 are over-travelled by an ink ribbon 254 whereof the ends are secured to spools 255, 256 on shafts 257, 258 rotative in the frame 252. Incident to passage to and from the spools 255, 256, the ribbon 254 is guided by means of idlers 259. Opposing the type disks 250 and platen 253 is a stamping plate 260 with a rubber insert 261, by which the tickets are pressed into contact with the type, the said plate having an upward stem 262 guided in an arm 263 that reaches from the bracket 104 previously referred to. The stamp 260 is adapted to be momentarily actuated by means of a lever 265 which is fulcrumed at 266 on the bracket arm 263 and provided with a roller 267 to run in contact with a rotary cam 268 on a sleeve 269 rotative in the bracket arm, Fig. XXV, the said lever being subject to a spring 270 whereby its roller is maintained in yielding contact with the cam. Immediately after each stamping operation, the ink ribbon 254 is progressed, as in a typewriter,

by means including a ratchet wheel 271 secured to still another shaft 272 journalled in the bracket 104 and actuated by a spring pressed pawl 273. As shown, the pawl 273 is pivotally connected to an arm 275 free on the shaft 272, and coordinated by means of a link 276 with the actuating lever 265 for the stamp. The stepwise movements imparted to the shaft 272 by the pawl 273 and ratchet 271, are communicated, through the bevel gear couples 277, to sleeves 278 free on the shafts 257, 258 of the spools 255, 256, the said sleeves being formed with toothed clutch collars 279 for engagement by opposing clutch collars 280 splined to the shafts 257, 258, see Fig. XXIV. These clutch collars 280 are actuated by a double arm lever 281 which is fulcrumed centrally on a stud 282 in the base portion of the bracket 104 and which has its ends bifurcated and provided with pins to engage grooves in the said clutch collars. By means of linkages shown at 283 in Figs. X and XXIV, one clutch collar 280 is withdrawn from action and the other concurrently placed in action to reverse the direction of travel of the ink ribbon 254 when one or the other of the spools 255, 256 is exhausted. The sleeve 269 carrying the cam 268 for actuating the stamp, is driven through one rotation for each operation of the machine as predetermined by a clutch comprehensively designated 285. This clutch 285 (Fig. XXV) comprises a discous member 286 which is secured to the sleeve 269 and which carries a spring pressed plunger 287 (Fig. XXIV) having guidance in a radial slot of the said discous member, see Fig. XXIV. When the plunger 287 is projected from its slot, it engages a circumferential notch 288 within the hollow of a wheel 289 which is free on the sleeve 269 and which is continuously rotated during the operation of the machine through a sprocket chain connection 290 with the shaft 132, see Figs. III, XXIII and XXV. Normally, the plunger 287 is held depressed by a cam finger 291 which is fulcrumed to rock on an axis 292 supported in a bearing arm 293 of the bracket 104 and which has a rearward extremity 294 carrying a roller to engage another rotary cam 295 on the cam shaft 121 of the machine, the said roller being maintained in contact with the cam by a spring 296. It will be noted that the cam 295 has a single notch 295*x* so that the finger 291 is momentarily pulled away from the plunger 287 to permit the latter to engage the notch 288 on the wheel 289. Upon completion of a single rotation of the sleeve 269, the plunger 287 is again depressed into the slot of the disk 286 by the finger 291 with attendant disconnection of the disk 286 from the wheel 289.

The means 13 whereby the selected ticket is delivered, i. e., ejected from the machine after having been dated by the stamping mechanism 11, is illustrated in Figs. I, III, VI, X, XXIII and XXIV. As shown, it includes a pair of rollers 300, 301 in superimposed relation. The lower roller 301 is mounted on a fixed stud 302 let into the frame 252 of the stamping mechanism 11, while the upper roller 300 is supported by one extremity of a horizontal rock lever 303. This rock lever is free on the sleeve 269, and on its other extremity there is a roller 304 which runs in contact with still another rotary cam 305 on the cam shaft 121, it being held to the cam by means of a spring 306. During the operation of the machine, the roller 300 is constantly driven in the direction of the arrow in Fig. XXIV, and when urged into contact with the companion roller 301, causes the dated ticket brought beneath it from the stamping mechanism 11 to be withdrawn from the clasp 90 of the said transfer chain 10 and ejected through the delivery slot 14 at the front of the casing 1. A sprocket pinion 307 secured to one end of the shaft of the roller 309 is coordinated, by means of a chain 308, with a sprocket pinion 309 on the corresponding end of a shaft 310 which extends axially through the sleeve 269, see Figs. III, VI, XXIII and XXV.

(G) *The drive mechanism*

To drive the machine, I have shown in the present instance an electric motor 314 supported by a bracket 315 in one of the lower rear corners of the casing, see Figs. III, VIII and XVI. In circuit with this motor is a mercury tumble switch 316, see Figs. V, VII, XI, XXVII and XXVIII, which is fulcrumed to swing on a center 317 supported by a bracket 318 on the front wall of the casing 1. A notched lug 319 on the locking bar 29 for the pre-setting push buttons 6, engages a lateral stud 320 on the tumble switch 316 which is subject to a counterweight 321. Upon elevation of the locking bar 29 incident to depression of one of the pre-setting buttons 6, the counterweight 321 assists in swinging the tumble switch 316 to close the circuit through the motor 314. Associated with the motor is a speed reducing unit 322 comprising a spur pinion 323 on the shaft 324 of the motor, and an intermeshing gear wheel 325, both enclosed in a housing 326, see Figs. VII and XVI. The shaft 327 carrying the gear 325 extends to the exterior of the housing 326, and there has secured to it a pair of spur pinions 328, 329, whereof the former communicates motion at a still slower speed to a gear wheel 330 on a shaft 331, see Figs. VII and VIII. A pinion 332 also on the shaft 331 in turn communicates motion, at still further reduced speed, to a gear wheel 333 fast on the crank shaft 132 which has been described hereinbefore and which carries the sprocket pinion for the driving chain connection 290 to the stamping mechanism 11. As shown in Fig. VII, the chain 290 is held to a definite circuit by a pair of idler sprockets 334 and 335. Of these, the sprocket 334 acts as a slack take-up for the chain 290, it being supported at the end of a gravity arm 336 fulcrumed at 337 to the back wall of the casing 1; while the sprocket 335 is supported with capacity for free rotation on the shaft 331. The spur pinion 329 on the shaft 327 of the speed reduction unit 322 meshes with a pinion 338 on one end of a horizontal shaft 339 rotative in bearings 340, 341. As shown in Figs. III and XVI, the bearing 340 is secured to one of the partitions 20, and the bearing 341 to the partition 22. A miter gear pinion 342 at the opposite end of the shaft 339 functions as a common driver for a pair of intermeshing miter pinions 343, 344, both of which are free on a short transverse shaft 345 having journal support in a pair of spaced bearings 346 secured to one of the end walls of the casing 1. The transverse shaft 345 is coordinated, through a bevel gear couple 347, with a jack shaft 348 which extends horizontally through the several partitions 20, 21 and 22, and which communicates motion, through a number of miter gear couples 349, to the vertical screw actuating shafts 45*a*—45*d* for the ticket pullers 47*a*—47*d*. A splined clutch collar 350 shiftable on the shaft 345 between the miter pinion 343, 344, to couple with one or the other of the said pinions in determining driving of the screws 45*a*—45*d* in opposite directions to elevate and lower the ticket pullers.

The clutch collar 350 has a circumferential groove for engagement by a forked shifter lever 351 secured to one end of the horizontal shaft 195 which extends to the opposite end of the casing 1 at the bottom where it carries an arm 353 with a roller 354 engaging a rotary cam 355 on the main cam shaft 121. The vertical shafts 63*a*—63*d* carrying the spiral gear pinions 60 for driving the rollers 52, 53 of the ticket pullers 47*a*—47*d*, are driven simultaneously through bevel gear couples 356 from a jack shaft 357 extending parallel to the jack shaft 348 and journalled in bearings 358 secured to the partitions 20. A spur gear wheel 359 (Figs. III, VII, X and XVI) pinned to one end of the jack shaft 357, receives motion from an intermeshing gear wheel 360, which, as shown in Figs. VII, XXIII and XXV, is secured, by means of screws 361, to the hub of the wheel 289 of the clutch 285 embodied in the stamping mechanism 11.

The clutch gear wheel 185 for the main cam shaft 121 receives motion from the shaft 331 (Figs. IV, VI and XI) at a greatly reduced speed through interposed gearing, including an intermeshing pinion 365 fast on the shaft 113 with a gear wheel 366 which in turn meshes with a driving pinion 367 on said shaft 331.

(H) Coin return and restoring mechanism

This mechanism constitutes the means whereby, in the event of a mistake in depositing coins, the purchaser may receive his money back and restore the machine immediately to normal condition in readiness for another pre-setting. The coin return mechanism is operable manually by turning the finger knob 17 clockwise as directed by the arrow at the front of the casing 1. Movement so imparted to the knob 17 is resisted by a tension spring 370 effective upon a lever 371 (Figs. V, XI, XXVII, XXVIII, XXX and XXXI) which is secured to the shaft 238 of the knob, and whereof the depending extremity normally rests against a stop 372 projecting inward from the front wall of the casing 1. Movement induced in the shaft 238 as just explained, is communicated, through a bevel gear couple 373 (Fig. XI), to the hinge shaft 375 for the bottom 376 of the temporary receiver 128, the receiver bottom being thereby swung downward to the position shown in dot-and-dash lines in Fig. V, so that all coins are discharged by gravity from the said receiver into the cup 18 at the front of the casing 1. The upward extremity of the lever 371 on the knob shaft 238 carries a pawl 377, which, as the knob 17 is turned, drops into a notch 378 in a disk 379 free on the said knob shaft. When the knob 17 is released, the energy previously stored in the spring 370 and now free to react upon the lever 371 causes the disk 379 to be moved from the position shown in Fig. XXX to that shown in Fig. XXXI. Such movement of the disk 379 is imparted, through cooperation of a circumferential cam projection 380 thereof with a roller 381, to an arm 382 fulcrumed on a fixed bracket 383, and in turn communicated, by the said arm, through a horizontal link connection 385, to the depending extremity 216*x* of the cam sector 216. Upon passage of the rise 217 of the cam sector 216 beneath the lug 29*x* of the locking bar 29 for the pre-setting push buttons 6, said bar is permitted to drop sufficiently under the influence of its spring to free the button 6*d* previously depressed, as well as to unlock all the other buttons of the series, with concurrent swinging of the mercury tumble switch 316 to "off" position in opposition to the counterweight 321 to interrupt the flow of current to the motor 314. As shown in Figs. XXX and XXXI, the link 385 is subject to a spring 386 which functions to maintain the roller 381 on the arm 382 at all times in operative relation with the disk 379; and said link is moreover provided with a slot 387 at the end where it is connected to the arm 216*x* of the cam sector 216, so that the said sector can be automatically moved independently as already explained hereinbefore. From Fig. XXXI it will be noted that just about the time when the cam projection 380 of the disk 379 fully engages the roller 381 on the arm 382, the pawl 377 is lifted from the notch 378 of the disk 379 through travel of a roller 388 on said pawl along a fixed cam ledge 389. The disk 379 is thereupon immediately restored to the normal position shown in Fig. XXX, determined by engagement of a stop 390 thereon with the bottom of the ledge 389, by a spring 391. The arm 382 is at the same time obliged to follow suit under the action of the spring 386. When all this is accomplished, the spring 219 operates to induce countermovement of cam sector 216 until the rise 217 thereof contacts with the side of the lug 29*x* of the push button locking bar 29, as shown in dot-and-dash lines in Fig. XXX. Still another action resultant upon turning of the knob 17 is that the coin slot guard 225 (Figs. XXXIII—XXXIV) is shifted so as to cover the coin slot 9, the necessary movement for bringing this about being received from the cam sector 216 through the link 239 (Fig. XXX), the bell crank lever 237 and the vertical connecting bar 232.

Concurrently with return of the coins, stoppage of the motor and release of the pre-setting buttons, by actuation of the finger knob 17, the detents 161 and 162 are retracted from engagement with the ratchet bar 157 of the integrating mechanism, whereupon the said bar and the associated gear rack bar 152 descend by gravity into the protective tube 193. The means involved in bringing about the retraction of the detents 161, 162 include a pair of links 395, 396 which respectively connect the said detents with the opposite extremities of a lever 397 on a shaft 398. This shaft is rockably supported by bearing brackets 399 secured to the sloping top wall of the casing offset 2, see Figs. V, XI and XXVII. A sector 400, also fast on the shaft 398, has an arcuate slot 401 which is engaged by a stud 402 on the end of the lever 403 carrying the counterweight 321 for the mercury tumble switch 316. Thus, when the counterweight lever 403 is moved upward to swing the switch 316 to open circuit position, the stud 402 of the weight lever 403, by striking the top of the arcuate slot 401, causes counterclockwise movement of the sector 400 to retract the detents 161 and 162. The slot 401 ordinarily permits downward movement of the counterweight lever 403 incident to swinging of the switch 316 to "on" position which operation is accomplished without affecting the lever 186 (Fig. V), due to the provision of slots at 404 and 405 respectively in the links 187 and 396.

To prevent actuation of the finger knob 17 when the cam shaft 121 is in motion to carry out a withdrawing and delivery cycle for a ticket for which the proper coin deposit has been made and to preclude the return of the money under this condition, a means is provided for locking the bottom 376 of the temporary receiver 128 closed. This means is illustrated in Figs. V, XI and XXIX, and, as shown, comprises a bracket 406 which is secured to the floor of the casing 1

and which is slotted as at 407 for traverse of a horizontal link 408 connecting an arm 409 fast on the shaft 238 of the knob 17 with the vertical arm of a bell crank 410. This bell crank is fulcrumed to another bracket 411 on the casing bottom, and its horizontal arm is coordinated, by a vertical link 412, with the counterweight arm 403 for the switch 316. The bracket 406 has a transverse bore at 413 (Fig. XXIX) for guidance of the reduced end of a bolt 415 which is adapted to engage an aperture 416 in the link 408, thereby to lock the said link against movement and with it the drop bottom 376 of the coin receiver 128 as well as the finger knob 17. As shown in Fig. XXVII, the bolt 415 is pivotally connected at 417 to a rock lever 418 fulcrumed at 419 on the bracket 406, the upper end of the lever 418 being coupled, by a link 420, with a roller arm 421 free on the shaft 205 and arranged to be actuated by a rotary cam 422 on the cam shaft 121. Therefore, immediately as the cam shaft 121 begins its rotation, the bolt 415 is projected into the aperture 416 of the link 408 to lock the coin return mechanism.

To insure the return of the parts of the restoring mechanism to their normal positions after the cam shaft 121 has made its full revolution, a means has been provided for imparting reverse movement to the link 408, including a bell crank 425 (Figs. XI, XXVII, XXVIII and XXIX) which is swingable horizontally about a fulcrum stud 426 upstanding from the bracket 406. One arm of the bell crank 425 engages a slot 427 in the link 420; and a spring 428 connected at one end to a stud 429 on the link, tends to keep the said arm of the bell crank in engagement with one end of the slot 427. The other arm of the bell crank 425 carries a sliding pin 430 which is urged outwardly by a spring 431 but is normally held retracted through engagement of a stud 432 thereon with a triangular cam lug 433 of the bracket 406. As the locking bolt 415 is thrust forward by action of the rotary cam 422 on the cam shaft 121 to engage the aperture 413 in the link 408, the bell crank 425 will be swung counterclockwise from the position shown in Fig. XI to that shown in Fig. XXIX. This movement of the bell crank 425 is attended by release of the pin 430 from the cam lug 433 and engagement of the same behind a beveled tooth 435 on one side of the link 408. Thus when the roller arm 421 (Fig. XXVII) drops back into the notch of the cam 422 upon completion of a rotation of the cam shaft 121, the pull on the link 420 results in the withdrawal of the bolt 415 from the link 408. At the same time, due to the slot 427 in the link 420, the spring 428 is stretched, and eventually becomes reactive to pull the bell crank 425 clockwise to the position of Fig. XI, thereby imparting reverse sliding movement to the link 408, which, through the bell crank 410 (Figs. XXVII and XXVIII) and the vertical link 412 opposes the counterweight 321 in throwing the switch 316 to "off" position.

(I) Operation

Let it be assumed that the depressed button 6*d* corresponds to the station designation "Berwyn" (Fig. I) with an indicated fare rate of sixty-five cents, and that as a consequence of the depression of such button, the mercury tumble switch 316 is in the "on" position with the motor 314 running: the purchaser introduces into the coin slot 9 say a half dollar, then a "dime" and finally a "nickel" to make up the indicated sum. As these coins individually come to rest in prescribed allocations within the throat 126 of the oscillating coin sector 124, (Figs. III, IV, XX and XXI) they actuate the levers 142*e*, 142*a* and 142*c* successively, with attendant uncovering of the ratchets 134*e*, 134*a* and 134*c* by the guards 39 associated with them to the extent of fifty, ten and five teeth, the ratchet shaft 133 being accordingly turned by the pawls 135 through an angle corresponding to the sum total of the above numbers, i. e., sixty-five ratchet teeth. Through the gears 156, 155 and 153 (Figs. VI, XVII and XVIII), this registering movement of the ratchet shaft 133 is transmitted in proportionate amount to the shaft 154, and, through the pinion 153 on the latter, to the vertical gear rack bar 152 (Figs. XVII, XVIII and XIX) wherewith is associated the ratchet bar 157. The latch pin 164 carried by the rack bar 152 is thereby elevated to the level of the stop 170 previously withdrawn through the horizontal bell crank 171*d* and the coordinated wire link 173*d* by the depressed button 6*d*. Immediately as the detent 162 is disengaged from the ratchet bar 157 as in Fig. XXI, the spring 165 thrusts the latch pin 164 into the void created by retraction of the stop 170, and, through the bell crank 168, causes the ratchet bar 157 to be moved downward relative to the rack bar 152 in opposition to the lighter spring 160. Incident to the events just recited, the detent 161, influenced by the downward movement of the ratchet bar 157, actuates the horizontal lever 173 to lift the clutch slide 176 as in Fig. XXI so that rotation of the cam shaft 121 is started under drive of the constantly rotating gear wheel 185 which is driven by the intermeshing pinion 365 on the shaft 113, see Figs. IV and VI. With initiation in the movement of the cam shaft 121, the roller arm 421 is actuated by the rotary cam 422 (Figs. XI and XXVII) to shift the bolt 415 into the aperture 416 in the horizontal link 408 (Figs. XXVIII and XXIX) through the medium of the connections 418 and 420, thereby securing the finger knob 17 against use and locking the drop bottom 376 of the temporary coin receiver 128 closed. Also with initiation of the movement of the cam shaft 121, the rotary cam 184 (Figs. XII, XIII, XX and XXI) thereon swings the arm 186 on the center 174 with resultant retraction of both the detents 161, 162 from the ratchet bar 157 so that the latter is freed to drop, with the associated rack bar 152, into the protective tube 193 (Fig. IV). A further action instituted with initiation in the movement of the cam shaft 121 is the actuation of the roller arm 353 by the rotary cam 355 (Figs. V and XI). The movement thereby communcated to the horizontal shaft 195 causes the clutch collar 350 on the shaft 345 (Fig. XVI) to be moved into engagement with the bevel gear 344 on the said shaft. Accordingly, the shaft 345 is driven by the bevel pinion 342 on the shaft 339, which pinion meshes with the bevel pinion 343. The induced motion of the shaft 345 is in turn communicated, through the bevel gear couple 347, to the jack shaft 348 to drive the vertical screw shafts 45*a*—45*d* (Figs. VIII, X, XIV and XV) all in one direction. The cam bar 77*d* moved downwardly as in Fig. XII through the arm 76*d*, shaft 75*d*, arm 74*d* and vertical slide bar 65*d* actuated by cam lug 73*d* of the bar 28*d* incident to depression of the button 6*d*, releases the bolt 80 associated with the ticket puller 47*d*, the said bolt being urged forward by its spring into engagement with the screw 45*d* with the result that the ticket puller 47*d* is elevated. Such elevation of the ticket puller 47*d* continues until it is ar-

rested as in Fig. XIII in consequence of the automatic retraction of the bolt 80 as the lever 83 is swung through diversion of its roller 87 by the section 83 disaligned with respect to the channel guide 82*d* through the connections 36, 37 and 84*d* incident to the depression of the button 6*d*. Concurrently with actuation of the lever 85, the ticket puller 47*d* is swung downward about its fulcrum axis 49, and its roller 52 is thereby brought into contact with the outermost ticket T in the holder 4*d* as in Fig. XIII to withdraw the said ticket and to place it into the clip 51 of the holder. Ticket withdrawing as just described occurs during the first half rotation of the cam shaft 121, at the end of which period, the rotary cam 209 on the said cam shaft (Figs. V and XI) actuates the roller arm 208 with impartation of rocking movement to the shaft 205, which, through the gears 212 and shaft 213, is communicated to the cam sector 216 (Figs. XXX and XXXI). Due to this action, the vertical push button locking bar 29 is permitted to drop and release the depressed button 6*d*, the switch 316 being however held in the "on" position to keep the motor 314 running through restraint of the bell crank 410 and the vertical connecting link 412 coordinated with the locked horizontal link 408 (Fig. XXVIII). With the same movement of the shaft 205, the side door 200 of the temporary coin receiver 128 is opened by movement imparted through the arm 204 and the link 203, so that the deposited coins are released to drop into the till 199 for permanent retention in the machine. As a consequence of the release of the push button 6*d*, the disaligned section 83 of the guide channel 82 is restored to its normal position and the elevated ticket puller 47*b* at the same time swung back to the normal position shown in Fig. XV. As soon as the immediately preceding has been accomplished, the rotary cam 355 again acts on the arm 353 to rock the shaft 195—this time in the opposite direction—thereby to bring about clutching, by means of the collar 350 on the shaft 345, of the bevel pinion 344 with the bevel driving pinion 342 on the shaft 339, so that the jack shaft 348 is now driven in the opposite direction with impartation of reverse rotation to the vertical screw shafts 45*a*—45*d*. The ticket puller 47*d* is thereby lowered until the roller 79 on the bolt 80 associated therewith engages the cam slide 77*d*, the bolt 80 being thereby retracted from the screw 45*d* when the puller has been returned to the normal lowered position illustrated in Fig. XV. The ticket T in clip 51 of the holder 47*a* is in this manner brought into the range of the clasp 90 on the conveyer chain 10 (Figs. I and VIII), the said clasp being automatically opened to receive the ticket as it approaches the ticket holder column 3*d*, by the cam lug 96*d* on the horizontal bar 95. As the ticket puller 47*d* comes to rest, the transfer chain 10 is set into motion due to shifting of the clutch disk 105 (Figs. VI, XXIII, XXIV and XXV) on the sleeve 100 into engagement with the clutch disk 106 on the shaft 101, by the clutch lever 115, the latter being actuated through the horizontal link 117 and bell crank 118 by the rotary cam 120 on the cam shaft 121. The withdrawn ticket T in the clasp 90 of the transfer chain 10, is thereby conveyed to the stamping means 11, and there arrested as the roller 119 on the bell crank 118 drops off the high spot 122 of the rotary cam 120 with resultant temporary disconnection of the clutch 105, 106. At this stage in the cycle, the cam 295 (Figs. XXIII and XXIV) on the cam shaft 121 actuates the cam finger 291 with attendant release of the clutch pin 287 and coupling of the disk 286 on the sleeve 269 (Fig. XXV) with the constantly rotating wheel 289 of the clutch 285. During the ensuing single rotation of the sleeve 269, the rotary cam 268 secured thereto rocks the lever 265 whereby the stamping plate 260 on the plunger 262 of the stamping means 11 causes the ticket T to be pressed against the ink ribbon 254, thereby to receive the date impressions of the type rollers 250. With the stamping of the ticket T accomplished, the transfer chain 10 is again set into motion, as determined by the rotary cam 120 on the cam shaft 121, to convey the ticket to the delivery means 13, whereupon a momentary dwell is made in the movement of the chain to permit grasping of the ticket by the roller 300 for ejection through the delivery slot 14 at the front of the casing 1. The roller 300 is brought into contact with the companion roller 301 to perform the function just described through rocking of the lever 303 by the cam 305 on the cam shaft 121. As the cam shaft 121 nears the end of its single revolution, the rotary cam 355 thereon actuates the bell crank 194 (Figs. V, XI and XXVII), and, through the vertical link 196 and the horizontal lever 173, causes the slide 176 to be depressed with attendant automatic disconnection of the disk 181 from the gear wheel 185 (Figs. XII and XIII), whereupon the said cam shaft comes to rest. Concurrently with stoppage of the cam shaft 121, the roller on the arm 421 falls back into the notch of the rotary cam 422 as in Fig. XXVII, with resultant withdrawal of the bolt 415 and unlocking of the horizontal link 408. As a consequence, the mercury tumble switch 316 is swung to "off" position after the manner described in section H to interrupt the supply of electric current to the motor 314. The machine thus comes to rest automatically in condition for immediate re-use after the performance of a ticket withdrawing, stamping and delivering cycle.

When coins deficient in the amount are deposited in the machine, either by inadvertence or with fraudulent intent, the rack bar 152 is not elevated sufficiently to bring the latch pin 164 to the level of the stop 170 which was withdrawn incident to depression of the pre-setting push button 6. It therefore follows that the cam shaft 121 is not set into motion to perform a ticket withdrawing and delivering cycle. The motor 314 is however started by depression of the pre-setting button 6*d*; but upon discovery of his mistake, the purchaser may at any time receive his money back and restore the machine to its normal condition by turning the finger knob 17 in the manner described in section H.

In the event of excess deposit of coins, by mistake, the latch pin 164 carried by the rack bar 152 is elevated beyond the level of the stop 170 withdrawn incident to depression of the presetting push button. Thus again, the cam shaft 121 is not set into motion to perform a ticket withdrawing and delivering cycle. In this connection it is to be particularly noted that passage of the latch pin 164 across the region of the withdrawn stop 170 is made possible through restraint imposed upon the bell crank lever 168 (Fig. XXI) and temporary arrest of the ratchet bar 157 at each actuation against depression under the influence of the spring 165 acting on the said latch pin, by the detent 162.

Having thus described my invention, I claim:

1. In a machine for vending different articles, a multiplicity of serially-arranged holders for

the different articles; means for selecting between the holders; a withdrawing means adapted to traverse the holders; and means operative to arrest the withdrawing means at a predetermined holder and to actuate it so as to remove an article from such holder; drive means; means to eject the withdrawn article from the machine; and coin controlled means operated upon deposit in the machine of coins aggregating the value of the article, to govern performance of the operations aforesaid and subsequent restoration of the parts to their normal positions after delivery of an article by the machine, through motion derived from the drive means.

2. In a machine for vending railroad tickets and the like, a multiplicity of serially arranged holders for tickets to different destinations; means to select between the holders; a ticket withdrawing means to traverse the holders; a screw shaft for progressing the ticket withdrawing means; means operative to disconnect the withdrawing means from the screw shaft for arrest at a predetermined holder and to actuate the ticket withdrawing means so as to remove a ticket from such holder upon deposit in the machine of coins aggregating the value of the ticket; drive means; and coin-controlled means governing the performance of the several operations aforesaid and the return of all the parts to their normal position upon delivery of a ticket by the machine through movement derived from the drive means.

3. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a selecting means corresponding to each holder; a withdrawing means adapted to traverse the holders; and means actuated by the selecting means to determine arrest of the withdrawing means at the corresponding holder and actuation of the withdrawing means to remove an individual article from such holder; means for ejecting the withdrawn article from the machine; drive means; and coin-controlled means governing the performance of the several operations aforesaid and the return of all the parts to their normal positions upon delivery of an article by the machine, under movement derived from the drive means.

4. In a machine for vending different articles, a multiplicity of serially arranged holders containing the different articles; a withdrawing means adapted to traverse the holders; an arresting means coordinated with each holder; selective means whereby the arresting means may be individually operated to arrest the withdrawing means at the corresponding holder and at the same time to actuate it so as to remove an article from such holder; means for ejecting the withdrawn article from the machine; drive means; and coin-controlled means governing the performance of the aforedescribed operations and the return of all the parts to their normal positions upon delivery of an article by the machine, through movement derived from the drive means.

5. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a selecting push button corresponding to each holder; a withdrawing means adapted to traverse the holders; means set by each push button to arrest the withdrawing means to remove an individual article from such holder; means for ejecting the withdrawn article from the machine; drive means; and coin-controlled means governing the performance of the various operations aforesaid and the return of all the parts to their normal positions upon delivery of an article by the machine, through movement derived from the drive means.

6. In a machine for vending different articles, a multiplicity of serially-arranged holders for the different articles; means for selecting between the holders; a withdrawing means adapted to traverse the holders; means operative to arrest the withdrawing means at a predetermined holder and to actuate it so as to remove an article from such holder; means for ejecting the withdrawn article from the machine; drive means; and control means governing the performance of the operations aforesaid and return of all the parts to their normal positions after delivery of an article by the machine through movement derived from the driving means.

7. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a withdrawing means adapted to traverse the holders; means for moving the withdrawing means as aforesaid; selective push buttons corresponding respectively to the holders; means actuated upon depression of a push button to connect the withdrawing means to its motivating means; means pre-set by each push button to arrest the withdrawing means at the corresponding holder and to actuate the withdrawing means to remove an article from such holder; drive means; and coin-controlled means governing the performance of the aforedescribed operations and the return of the various parts to their normal positions upon delivery of an article by the machine, through movement derived from the drive means.

8. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a withdrawing means adapted to traverse the holders; a screw shaft for moving the withdrawing means; a series of selecting push buttons corresponding respectively to the several holders; means operative upon depression of a push button to release a normally retracted bolt on the withdrawing means for engagement with the screw shaft aforesaid; means pre-set by the push button to effect withdrawal of such bolt from the screw shaft for the purpose of arresting the withdrawing means at the corresponding holder, and at the same time actuate the withdrawing means to remove an article from such holder; drive means; and coin-controlled means governing the performance of the operations aforesaid and the return of the several parts to their normal positions upon delivery of an article by the machine through movement derived from the drive means.

9. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a withdrawing means adapted to traverse the holders; a screw shaft for moving the withdrawing means as aforesaid, a series of selecting push buttons corresponding to the several holders; means operated upon depression of a selecting button to release a normally retracted bolt on the withdrawing means into engagement with the screw shaft aforesaid; means individual to and pre-set by each button to retract the bolt when the withdrawing means reaches the corresponding holder, and to concurrently actuate the said withdrawing means so as to remove an article from such holder; drive means; and coin-controlled means governing the operation of the screw shaft for performance of the aforedescribed functions by the

drive means and coin-controlled means governing operation, by the drive means, of the screw shaft for performance of the aforedescribed function and the restoration of all the parts to their normal positions upon delivery of an article by the machine.

10. In a machine for vending railroad tickets and the like, a multiplicity of serially arranged holders for tickets to different destinations; a carriage adapted to traverse the ticket holders; means for moving the carriage along the holders; a ticket puller with a friction roller fulcrumed on the carriage; a series of selecting push buttons corresponding respectively to the several ticket holders; interposed means set when a push button is depressed, to arrest the ticket puller at the corresponding ticket holder and swung to effect removal of a ticket from such holder by its roller; drive mechanism; and coin-controlled mechanism governing actuation by the drive means of the carriage and the ticket puller and the return of all the parts to their normal positions upon delivery of a ticket by the machine.

11. In a machine for vending railroad tickets and the like, a multiplicity of serially arranged holders for tickets to different destinations; a carriage adapted to traverse the ticket holders; a ticket puller with a friction roller and a ticket receiving clip fulcrumed on the carriage; a series of selecting push buttons corresponding respectively to the several ticket holders; interposed means whereby as a push button is depressed, the ticket puller is temporarily arrested at the corresponding holder and at the same time swung to effect removal of a ticket from such holder by its friction roller and to place it within the receiving clip aforesaid; a conveying means to subsequently receive the ticket from the clip of the puller and to deliver the ticket to a point of ejection from the machine; drive means, and coin-controlled means governing actuation by the drive means of the carriage and the ticket puller operating means and the return of all the parts to their normal positions upon delivery of a ticket by the machine.

12. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a carriage adapted to traverse the holders; a withdrawing means fulcrumed on the carriage; an actuator coupled with the withdrawing means; a channel track extending along the holders to guide a roller on the actuator, the said track having movable sections respectively adjacent the holders; selecting push buttons corresponding to the several holders; interposed means whereby, as a selecting button is depressed, the track section adjacent the corresponding holder is moved out of alignment with the track so that when the withdrawing means reaches such track section the roller of the actuator is diverted to swing the withdrawing means so as to remove an article from the holder; drive means, and coin-controlled means governing the operation, by the drive means of the carriage and the withdrawing means as aforesaid, and subsequent return of all the parts to their normal positions upon delivery of an article by the machine.

13. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a conveying means; a means for withdrawing individual articles from the holders and delivering them to the conveying means for progression to a point of ejection from the machine; means operative during each actuation of the machine for moving the withdrawing means back and forth relative to the conveying means and along the holders; a selecting push button corresponding to each of the holders; means coordinated with such selecting push button whereby the withdrawing means is temporarily disconnected from its motivating means at the corresponding holder to remove an article therefrom; means and the actuating means for the drive means; and coin-controlled means governing operation, by the drive means, of the conveying means and the actuating means for the withdrawing means as aforesaid and the return of all the parts to their normal positions upon delivery of an article by the machine.

14. In a machine for vending different articles, a multiplicity of serially arranged holders for the different articles; a conveying means; means for withdrawing individual articles from the holders and delivering them to the conveying means for progression to a point of ejection from the machine; a screw shaft with means for rotating it first in one direction and then in the other during each actuation of the machine to move the withdrawing means back and forth relative to the conveying means and along the holders; a selecting push button corresponding to each holder; means coordinated with each push button whereby the withdrawing means is temporarily disconnected from its actuating screw shaft at the corresponding holder to remove an article therefrom; drive means; and coin-controlled means governing actuation of the screw shaft by the drive means.

15. In a machine for vending articles of different values, a multiplicity of serially arranged holders for the different articles; a conveying means; means for withdrawing individual articles from the holders and delivering them to the conveying means for progression to a point of ejection from the machine; means operative during each actuation of the machine for moving the withdrawing means back and forth relative to the article conveying means and along the holders; a selecting push button corresponding to each of the holders; means coordinated with each push button whereby the withdrawing means is temporarily disconnected from its motivating means at the corresponding holder to remove an article therefrom; drive means; and governing means determining operation of the withdrawing means as aforesaid upon deposit in the machine of coins aggregating the value of the article selected through depression of the button.

16. In a machine for vending articles differing in value, a multiplicity of serially arranged holders for the different articles; a conveying means; means for withdrawing individual articles from the holders and delivering them to the conveying means for progression to a point of ejection from the machine; a screw shaft with means for rotating it first in one direction and then in the other during each cycle of the machine to move the withdrawing means back and forth relative to the conveying means and along the holders; a selecting push button corresponding to each of the holders; means coordinated with each push button whereby the withdrawing means is temporarily arrested at the corresponding holder to remove an article therefrom; drive means including a reversing clutch for actuating the screw shaft as aforesaid; and governing mechanism for controlling operation of the reversing clutch upon deposit in the machine of coins aggregating the value of the selected article.

17. In a machine for vending articles of dif-

ferent values, a multiplicity of holders for stacks of different articles; mechanical means for selecting between the holders; means for withdrawing individual articles from the holders; value designations individually associated with the selecting means; drive means; ejecting means; and coined controlled mechanical means governing actuation of the withdrawing means by the driving means to withdraw an article from the proper holder, in accordance with selection and transfer it to the ejecting means, upon deposit in the machine of standard coins regardless of denomination, order or number, providing that they aggregate the corresponding indicated value.

18. In a machine for vending railroad tickets and the like, a multiplicity of stationary holders for stacked tickets to different destinations; mechanical means for selecting between the holders; mechanical means for withdrawing individual tickets from the holders; means for ejecting the withdrawn tickets from the machine; destination and fare rate designations individually associated with the selecting means; drive means; and coin controlled mechanical means governing actuation of the withdrawing means by the drive means to determine withdrawal of a ticket from the proper holder, in accordance with selection and ejection thereof upon deposit in the machine of standard coins regardless of denomination, order or number providing that they aggregate the corresponding fare rate designation.

19. In a machine for vending different articles, a multiplicity of holders for the different articles; pre-setting buttons with interposed operating connections corresponding respectively with the holders and enabling selection between them; means for locking the buttons where depressed drive means set in motion upon depression of any one of the pre-setting buttons; means driven by the said drive means to withdraw an article, in accordance with selection, from the proper holder and to eject such article from the machine; and means for subsequently releasing the button and for stopping the drive means.

20. In a machine for vending different articles, a multiplicity of holders for the different articles; pre-setting buttons with interposed operating connections corresponding respectively with the holders and enabling selection between them; means for locking the buttons when depressed drive means; means actuated upon depression of any one of the buttons to lock all the others against use and at the same time set the drive means in motion; means driven by the drive means to withdraw an article, in accordance with selection, from the proper holder, and to eject such article from the machine; and means for subsequently actuating the locking means to release the depressed button and to unlock the others and at the same time stop the drive means.

21. In a machine for vending different articles, a multiplicity of holders for the different articles; a series of pre-setting buttons with interposed operating connections corresponding respectively to the several holders and enabling selection between them; means for withdrawing individual articles from the holders; means for locking the buttons when depressed; an electric motor; a control switch in circuit with the motor; means operative upon depression of any one of the buttons to throw the switch and thereby start the motor; and means governed by coin controlled means to effect operation of the withdrawing means for withdrawal of the selected article from the proper holder and ejection of such article from the machine, and to subsequently effect release of the button and throwing of the switch to stop the motor.

22. In a machine for vending articles of different values, a multiplicity of holders for the different articles; a series of pre-setting buttons with interposed operating connections corresponding respectively to the different holders and enabling selection between them; means for withdrawing the articles from the holders; an electric motor; a control switch in circuit with the motor; a slide bar shifted upon depression of any one of the buttons, to throw the switch aforesaid and start the motor, and to concurrently lock all the other buttons in the series against use until a selected article is delivered by the machine; and coin-controlled means governing the performance of the operations aforesaid and the return of all the parts to their normal positions after delivery of an article by the machine through motion derived from the motor.

23. In a machine for vending articles of different values, a multiplicity of holders for stacks of different articles; mechanical means for selecting between the holders; drive means; mechanical integrating mechanism influenced by standard coins successively deposited in the machine regardless of denomination, order or number; and means controlled by registration of the integrating mechanism and motivated by the drive means to withdraw from the selected holder and eject from the machine an article upon deposit of coins totaling its value.

24. In a machine for vending articles of different values, a multiplicity of holders for the different articles; means for selecting between the holders; a moving member for momentarily retaining standard coins successively deposited in the machine irrespective of denomination, order or number; automatic self-registering integrating mechanism actuated by the coins successively retained in the moving member as aforesaid; driving means; and mechanical means controlled by the integrating mechanism and motivated by the drive means to withdraw from the selected holder and eject from the machine, an article upon deposit in the machine of coins corresponding in value to the selected article.

25. In a machine for vending articles of different values, a multiplicity of holders for the different articles; means for selecting between the holders, a moving member for momentarily retaining standard coins successively deposited in the machine irrespective of denomination, order or number; automatic self-registering integrating mechanism actuated by the coins successively retained in the moving member as aforesaid; driving means; and mechanical means controlled by the integrating mechanism and motivated by the drive means to withdraw from the selected holder and eject from the machine, an article upon deposit in the machine of coins corresponding in value to the selected article.

26. In a machine for vending articles of different values, a multiplicity of holders for the different articles; means for selecting between the holders; a movable member for momentarily retaining within it at different allocations, coins successively deposited in the machine; a series of levers in the paths of coins momentarily retained at different allocations in the moving member as aforesaid; integrating mechanism operated by the levers; drive means; and means controlled by

the integrating mechanism and actuated by the drive means to withdraw from the selected holder, an article corresponding in value to the sum-total of the coins deposited.

27. In a machine for vending articles of different values, a multiplicity of holders for the different articles; means for selecting between the holders an oscillating sector having a stepped coin channel of progressing decreasing widths to temporarily arrest at different allocations, coins of different denominations and diameters successively deposited in the machine; levers in the path of the coins momentarily arrested in the oscillating sector; integrating mechanism actuated by the said levers; drive means; and means controlled by the integrating mechanism and actuated by the drive means to withdraw from the proper holder an article corresponding in value to the sum total of the coins deposited.

28. In a machine for vending articles of different values, a multiplicity of holders for the different articles; mechanical means for selecting between the holders an integrating ratchet means progressively moved to varying extents by coins successively deposited in the machine; drive means and means controlled by the integrating ratchet means and actuated by the drive means to withdraw an article from the selected holder, upon deposit in the machine of coins aggregating the value of the selected article.

29. In a machine for vending articles of different values, a multiplicity of holders for the different articles; means for selecting between the holders an integrating mechanism including a series of levers adapted to be moved respectively by coins of different denominations and size successively deposited in the machine, and a series of ratchets fast in common on a shaft and adapted to be progressed to different extents by individual pawls controlled respectively by the levers; drive means and means governed by the ratchet shaft of the integrating mechanism and motivated by the drive means to withdraw from the proper holder an article corresponding in value to the sum total of the coins deposited in the machine at each actuation.

30. In a machine for vending articles of different values, a multiplicity of holders for the different articles; means for selecting between the holders; an integrating mechanism including a series of levers adapted to be moved respectively by coins of different denominations and size successively deposited in the machine, a series of ratchets fast in common on a shaft and corresponding in number to the levers, guards adapted to be actuated respectively by the levers to release into action pawls individually associated with the ratchets, and stationary cover sectors respectively associated with the ratchets to govern the extent of picking by the pawls; drive means; and means governed by the ratchet shaft of the integrating mechanism and motivated by the drive means to withdraw from the proper holder, an article corresponding in value to the sum total of the coins deposited in the machine at each operation.

31. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for ejection from the machine; drive means; integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons, a member adapted to be moved along the stops a distance proportionate to the aggregate value of coins deposited in the machine at each operation, and a spring urged latch on the member adapted to ride the stops aforesaid until it reaches the void created in the series by retraction of the stop corresponding to a previously depressed push button; means actuated through the latch to effect operation of the withdrawing means by the drive means to withdraw an article from the selected holder; and means for releasing the latch for restoration of the parts to their normal positions after delivery of an article by the machine.

32. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for ejection from the machine; drive means; integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons; a member adapted to be progressively moved along the stops, incident to successive deposit of coins into the machine, a distance proportionate to the aggregate value of the coins deposited at each operation, a detent to hold the member in successively shifted positions, a spring urged latch carried by the member and adapted to ride the stops aforesaid until it reaches the void created in the series by retraction of the stop corresponding to the previously depressed push buttons; means actuated through the latch pin to effect operation by the drive means of the withdrawing means aforesaid; and means to subsequently withdraw the latch pin and the detent to permit the member to be moved back to the normal position when the machine has performed its operative cycle.

33. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for ejection from the machine; drive means; integrating mechanism including a vertical series of stops respectively coordinated with the pre-setting buttons; a gravity-influenced member adapted to be moved upward of the series of stops a distance proportionate to the aggregate value of coins deposited in the machine at each operation, and a spring urged latch on the member and adapted to ride the stops aforesaid until it reaches the void created in the series by retraction of the stop corresponding to the previously depressed push button; means controlled by the latch and actuated by the drive means to determine operation of the withdrawing means aforesaid; and means to subsequently effect retraction of the latch to release the member for gravitation to the normal position as the machine is completing its operative cycle.

34. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for ejection from the machine; drive means; integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons, a member adapted to be moved along the stops a distance proportionate

to the aggregate value of the coins deposited in the machine at each operation, a spring urged latch on the member adapted to ride the stops aforesaid and to enter the void created in the series by retraction of the stop corresponding to the previously depressed push button; means controlled by the latch pin and actuated by the drive means to effect operation of the withdrawing means aforesaid; means to temporarily restrain the latch to permit it to pass the void in the event of an excess deposit of coins in the machine for the selected article, thereby to prevent the operation of the withdrawing means; and means to release the latch for return of the member aforesaid to normal position upon delivery of an article by the machine.

35. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for ejection from the machine; drive means; integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons; a member adapted to be moved along the stops a distance proportionate to the aggregate value of the coins deposited in the machine at each operation, and a spring urged latch on the member adapted to ride the stops aforesaid until it reaches the void created in the series by retraction of the stop corresponding to a previously depressed push button; means controlled by the latch and actuated by the drive means to effect operation of the withdrawing means; and means for releasing the depressed push button to restore the retracted stop and thereby dislodge the latch so that the said member may resume its normal position upon the completion of the operative cycle of the machine.

36. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for rejection from the machine; drive means; coin-controlled integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons, a member adapted to be moved along the stops a distance proportionate to the aggregate value of the coins deposited in the machine at each operation, a spring urged latch on the member adapted to ride the stops aforesaid and to enter the void created in the series by retraction of the stop corresponding to a previously depressed push button, means controlled by the latch and actuated by the drive means to effect operation of the withdrawing means aforesaid, means for temporarily restraining the latch to permit it to pass the void in the event of an excess deposit of coins in the machine for the selected article; and manual means operable, in the event of an erroneous deposit of coins, to release the depressed button, to restore the latch carrying member of the coin-controlled integrating mechanism to normal position with the machine in readiness for a re-setting, and to return deposited coins to the purchaser.

37. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for rejection from the machine; drive mechanisms; integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons, a member adapted to be moved along the stops a distance proportionate to the aggregate value of the coins deposited in the machine at each actuation, a spring-urged latch on the member adapted to ride the stops aforesaid until it reaches the void created in the series by retraction of the stop corresponding to a previously depressed push button, and an element carried by the said member for actuation by the latch; and means controlled by the said element and actuated by the drive mechanism to operate the withdrawing means; and means for releasing the latch for return of the member to normal position upon delivery of an article by the machine.

38. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for rejection from the machine; drive means; integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons, a gravity influenced member adapted to be moved along the stops a distance proportionate to the aggregate value of coins deposited in the machine at each operation, a spring urged latch on the member adapted to ride the stops until it reaches the void created in the series by retraction of the stop corresponding to a previously depressed push button, a ratchet bar carried by the member and adapted to be moved independently of the latter by the latch, and a detent to engage the teeth of the ratchet bar; means actuated through the detent to effect operation of the withdrawing means aforesaid by the drive means; and means for restoring all the parts to their normal position upon delivery of an article by the machine.

39. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for ejection from the machine; integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons, a gravity influenced member adapted to be moved along the stops a distance proportionate to the aggregate value of coins deposited in the machine at each operation, a spring urged latch on the member adapted to ride the stops until it reaches the void created in the series by retraction of the stop corresponding to a previously depressed push button, a ratchet bar carried by the member and adapted to be moved independently of the latter by the latch, and a detent to engage the teeth of the ratchet bar; and drive mechanism including a clutch actuated by the detent of the integrating mechanism; and interposed means whereby the withdrawing means aforesaid is operated by the said driving means.

40. In a machine for vending articles of different values, a multiplicity of holders for the different articles; pre-setting push buttons with interposed operating connections enabling selection between the several holders; means for withdrawing an article, in accordance with selection, from the proper holder for ejection from

the machine; coin-controlled integrating mechanism including a series of stops respectively coordinated with the pre-setting buttons, a gravity influenced member adapted to be moved along the stops a distance proportionate to the aggregate value of coins deposited in the machine at each operation, a spring urged latch on the member adapted to ride the stops until it reaches the void created in the series by retraction of the stop corresponding to a previously depressed push button, a ratchet bar carried by the member and adapted to be moved independently of the latter by the latch, a detent to engage the teeth of the ratchet bar; drive mechanism including a shaft with a clutch actuated by the detent of the integrating mechanism; and means coordinated with the shaft of the driving means to operate the withdrawing means aforesaid, to release the depressed push button with incidental dislodgment of the latch and to retract the detent so that the member carrying the latch and the ratchet bar may gravitate to normal position; and means to unclutch the shaft at the completion of the operative cycle of the machine.

41. In a machine for vending articles of different values, a multiplicity of holders for the different articles; individual pre-setting means with interposed operating connections enabling selection between the several holders; means for withdrawing an article in accordance with selection from the proper holder for ejection from the machine; a coin and integrating mechanism including a shaft adapted to be rotated to an extent proportionate to the aggregate value of coins deposited in the machine at each operation, a series of stops respectively coordinated with the individual pre-setting means, a rack bar adapted to be moved along the stops by an intermeshing pinion on the shaft aforesaid, a spring urged latch on the bar adapted to slide over the stops until it reaches the void created by retraction of the stop corresponding to a previously depressed pre-setting means; drive means; mechanism controlled through the latch and motivated by the drive means to effect actuation of the withdrawing means; and means for restoring the parts to their normal positions upon delivery of an article by the machine.

42. In a machine for vending articles of different values, mechanical selecting means whereby the machine may be pre-set for delivery of any one of the articles; drive means; mechanical coin-controlled means; and mechanical means set in motion under the governance of the coin-controlled means and driven by the drive means to deliver the selected article from the machine upon deposit therein of standard coins regardless of denomination, order or number provided that they total a corresponding value.

43. In a machine for vending articles of different values, selecting means whereby the machine may be pre-set for delivery of any one of the articles; coin-controlled means; and means governed by the coin-controlled means to deliver the selected article from the machine upon deposit therein of coins aggregating the article in value; and manually operable means enabling the purchaser to receive his money back at any time up until the operation of the delivery means is initiated.

44. In a machine for vending articles of different values, selecting means whereby the machine may be pre-set for delivery of any one of the articles; coin-controlled means; means governed by the coin-controlled means to deliver the selected article from the machine upon deposit therein of coins aggregating the article in value; a temporary receiver for the coins deposited in the machine at each actuation; manually operable means enabling the purchaser to open the receiver for the return of his money at any time up until the operation of the delivery means is initiated; means to lock the manually operable means against use upon initiation of the delivery cycle; and separate means concurrently actuated to release the coin from the temporary receiver into a till for permanent retention in the machine.

45. In a machine for vending articles of different values, selecting means whereby the machine may be pre-set for delivery of any one of the articles; a temporary receiver for coins deposited in the machine at each actuation; coin-controlled means; means governed by the coin-controlled means to deliver the selected article from the machine upon deposit of coins aggregating the value of the article; means actuated upon initiation in the operation of the delivery means to release the coins from the temporary receiver into a till for permanent retainment by the machine; and means whereby deposited coins not aggregating the value of the selected article are automatically released to a return coin cup after lapse of a predetermined time period.

46. In a machine for vending articles of different values, selecting means whereby the machine may be pre-set to deliver any one of the articles; a temporary receiver for coins deposited in the machine at each actuation; coin-controlled means; means governed by the coin-controlled means to deliver the selected article from the machine upon deposit therein of coins aggregating the value of the article; and manually operable means whereby the purchaser may at any time, up until the operation of the delivery means is initiated, open the temporary receiver for return of his money.

47. In a machine for vending articles of different values; selecting means whereby the machine may be pre-set for delivery of any one of the articles; a temporary receiver for the coins deposited in the machine at each actuation; a coin return cup; coin-controlled means, means governed by the coin-controlled means to deliver a selected article from the machine upon deposit therein of coins aggregating the value of the article; means for releasing the coins from the temporary receiver into a till for permanent retention in the machine upon initiation in the operation of the delivery means; and manually operable means whereby coins deposited in the machine may be released into the return cup at any time up until the initiation of the delivery cycle.

48. In a machine for vending articles of different values, selecting means whereby the machine may be pre-set for delivery of any one of the articles; coin-controlled means; means governed by the coin-controlled means to deliver a selected article from the machine upon deposit therein of coins aggregating the article in value; a temporary receiver for the coins deposited in the machine at each actuation; manually operable means enabling the purchaser to open the receiver for the return of his money at any time up until the operation of the delivery means is initiated; means to lock the manually operable means against use upon initiation of the delevry cycle; and means to automatically unlock the manually operable means and to release the pre-

setting means upon delivery of the article by the machine.

49. In a machine for vending railroad tickets and the like, a multiplicity of holders for tickets to different destinations; means for selecting between the holders; means for withdrawing a ticket from the selected holder, dating it, and ejecting it from the machine upon deposit of coins aggregating the value of such ticket driving means; and coin-controlled means to govern actuation of the ticket withdrawing, dating and ejecting means by the drive means.

50. In a machine for vending railroad tickets and the like, a multiplicity of holders for tickets to different destinations; means for selecting between the holders; means operative to withdraw a ticket from the selected holder upon deposit in the machine of coins aggregating the value of such ticket; a conveying means to receive the ticket from the withdrawing means; a stamping means along the path of the conveying means for dating the ticket; means to subsequently take the ticket from the conveying means and eject it from the machine; drive means; and coin-controlled means to govern actuation of the ticket withdrawing, conveying and stamping means by the drive means.

51. In a machine for vending railroad tickets and the like, a multiplicity of holders for tickets to different destinations; means for selecting between the holders; drive means; coin-controlled means to govern means driven by the drive means to withdraw a ticket from the selected holder upon deposit in the machine of coins aggregating the value of such ticket; conveying means with a clasp; means for opening the clasp as it approaches the withdrawing means to receive the ticket from the latter; means along the path of the conveying means to date the ticket; and means for subsequently ejecting the ticket from the machine.

52. In a machine for vending railroad tickets and the like, a multiplicity of holders for tickets to different destinations; means for selecting between the holders; drive means; coin-controlled means to govern means actuated by the drive means to withdraw a ticket from the selected holder upon deposit in the machine regardless of denomination, order or number of standard coins aggregating the value of such ticket; a conveying means to receive the ticket from the withdrawing means; a stamping means along the path of the conveying means; means for driving the conveying means with provision for a dwell at the stamping means to permit dating of the ticket; and means to subsequently take the ticket from the conveying means and eject it from the machine.

53. In a machine for vending different articles, a multiplicity of holders for the different articles arranged one above the other in a series of contiguous columns; a withdrawing means adapted for movement vertically of each column; means to select between the invidual holders; means pre-set by the said selecting means to determine operation of the withdrawing means associated with that column containing the selected holder, to remove an article, driving means; and coin-controlled means to govern the actuation of the withdrawing means by the drive means.

54. In a machine for vending different articles; a multiplicity of holders for the different articles arranged one above the other in a series of contiguous columns; a withdrawing means adapted for movement vertically of each column; means to select between the individual holders; means pre-set by the selecting means to determine operation of the withdrawing means associated with that column containing the selected holder to remove an article therefrom; a conveying means travelling crosswise of the bottom of the holder columns to receive the article from the withdrawing means actuated as aforesaid and to progress the article to a point where it is ejected from the machine, drive means; and coin-controlled means to govern actuation of the withdrawing and conveying means by the drive means.

55. In a machine for vending articles of different values; a multiplicity of stationary holders for stacks of different articles arranged one above the other in a series of contiguous columns; mechanical means to select between the individual holders; mechanical mechanism operative to withdraw an article from the proper holder; drive means; and mechanical coin-controlled means operative upon deposit in the machine regardless of denomination, order or number, of standard coins aggregating the value of a selected article to determine actuation of the withdrawing mechanism by the drive means for withdrawal of such article.

56. In a machine for vending articles of different values; a multiplicity of holders for the different articles arranged one above the other in a series of contiguous columns; a withdrawing means adapted for movement vertically of each column; means to select between the individual holders; mechanism pre-set by the said selecting means to determine operation of the withdrawing means associated with that column containing the selected holder to remove an article therefrom; drive means; and coin-controlled means operative upon deposit in the machine of coins aggregating the value of a selected article to govern actuation of the withdrawing means by the drive means for delivery of such article by the machine.

57. In a machine for vending railroad tickets and the like; a multiplicity of stationary holders for stacks of tickets to different destinations arranged one above the other in a series of contiguous columns; means to select between the individual holders; mechanism for withdrawing a ticket from the selected holder, dating such ticket and finally ejecting it from the machine; drive means; and coin-controlled means to govern actuation of the withdrawing means by the drive means upon deposit in the machine of standard coins regardless of denomination, order or number aggregating the value of the desired ticket.

58. In a machine for vending railroad tickets and the like, a multiplicity of holders for tickets to different destinations arranged one above the other in a series of vertical columns; a withdrawing means adapted for movement vertically of each holder column; means enabling selection between the individual holders; means pre-set by the said selecting means to determine operation of the withdrawing means associated with that column containing the selected holder to remove a ticket therefrom; a conveying means moving crosswise of the bottoms of the several holder columns to receive the ticket from the withdrawing means and to present such ticket first to a stamping means for application of the current date, and thereafter to a means whereby the stamped ticket is ejected from the machine; drive means; and coin-controlled means to govern actuation of the withdrawing, conveying stamping and ejecting means by the drive means.

59. In a machine for vending different articles, a series of holders for the different articles; means for selecting between the holders; means for withdrawing the articles from the holders; drive means; coin-controlled means determining actuation of the withdrawing means by the drive means to withdraw from a selected holder an article corresponding in value to the coins deposited in the machine; a coin slot with a closure, and means operated incidental to actuation of any one of the selecting means to withdraw the closure from the coin slot.

60. In a machine for vending railroad tickets or the like, a multiplicity of holders for tickets to different destinations; means for selecting between the holders means for withdrawing individual tickets from the holders; a conveying means with a clasp to receive the preselected ticket from the withdrawing means; ticket ejecting means along the path of the conveying means, the said ejecting means comprising a positionally-fixed roller adapted to be over-travelled by the ticket held in the clasp of the conveying means, a normally elevated driven companion roller, and means for moving the last-mentioned roller toward the positionally fixed roller for cooperation with it to remove the ticket from the clip aforesaid and eject it from the machine; driving means; and coin controlled means governing actuation of the withdrawing and conveying means by the drive means.

61. In a vending machine, a multiplicity of holders for articles of different values; means for selecting between the holders; means to individually withdraw pre-selected articles from the holders; means operative upon deposit in the machine, of coins aggregating the value of a preselected article to actuate the withdrawing means for removal of such article from the proper holder; and means giving a visual indication of the sum totals of the coins successively deposited.

62. In a vending machine, a multiplicity of holders for articles of different values; means for selecting between the holders; means to individually withdraw pre-selected articles from the holders; integrating mechanism operative, upon deposit in the machine of coins aggregating the value of a pre-selected article, to actuate the withdrawing means for removal of such article from the proper holder; and means actuated by the said integrating means giving visual indications of the sum totals of the coins as they are successively deposited

63. In a vending machine, a multiplicity of holders for articles of different values; means to select between the holders; means to individually withdraw pre-selected articles from the holders; integrating mechanism, including a ratchet wheel shaft, operative, upon deposit in the machine of coins aggregating the value of a preselected article, to withdraw such article from the proper holder; and means coordinated with the ratchet wheel shaft, giving visual indications of the sum totals of the coins as they are successively deposited.

64. In a vending machine, a series of horizontally arranged columns each containing a multiplicity of separate holders in superimposition for articles of different values; means enabling selection between the individual holders of the several columns; means capable of withdrawing an article from a selected holder; driving mechanism; and coin-controlled mechanism governing actuation of the withdrawing means by the driving mechanism to effect withdrawal of individual articles from the holders in accordance with selection, for ejection from the machine upon deposit of the latter of standard coins, regardless of denomination, order or number, provided that they aggregate the value of the desired articles.

65. In a vending machine, a series of horizontally arranged columns each consisting of a multiplicity of separate holders in superimposition containing stacks of articles of different values; means enabling selection between the individual holders of the several columns; traversing means for withdrawing an individual article from the stack in a selected holder; and coin-controlled means governing actuation of the withdrawing means by the driving mechanism to effect withdrawal of individual articles from the stack holders, in accordance with selection, for ejection from the machine upon deposit in the latter of standard coins regardless of denomination, order or number, provided that they aggregate the value of the desired articles.

66. In a machine for vending railroad tickets and the like, a series of horizontally arranged columns each consisting of a multiplicity of holders in superimposition respectively containing stacks of tickets to different destinations; means enabling selection between the individual holders of the several columns; traversing means to withdraw a ticket from the selected holder; driving mechanism; and coin-controlled integrating mechanism governing actuation, by the driving mechanism, of the aforesaid withdrawing means to effect withdrawal of the tickets from the holders, in accordance with selection, for ejection from the machine upon deposit therein of standard coins regardless of denomination, order or number, provided that they aggregate the value of the desired tickets.

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