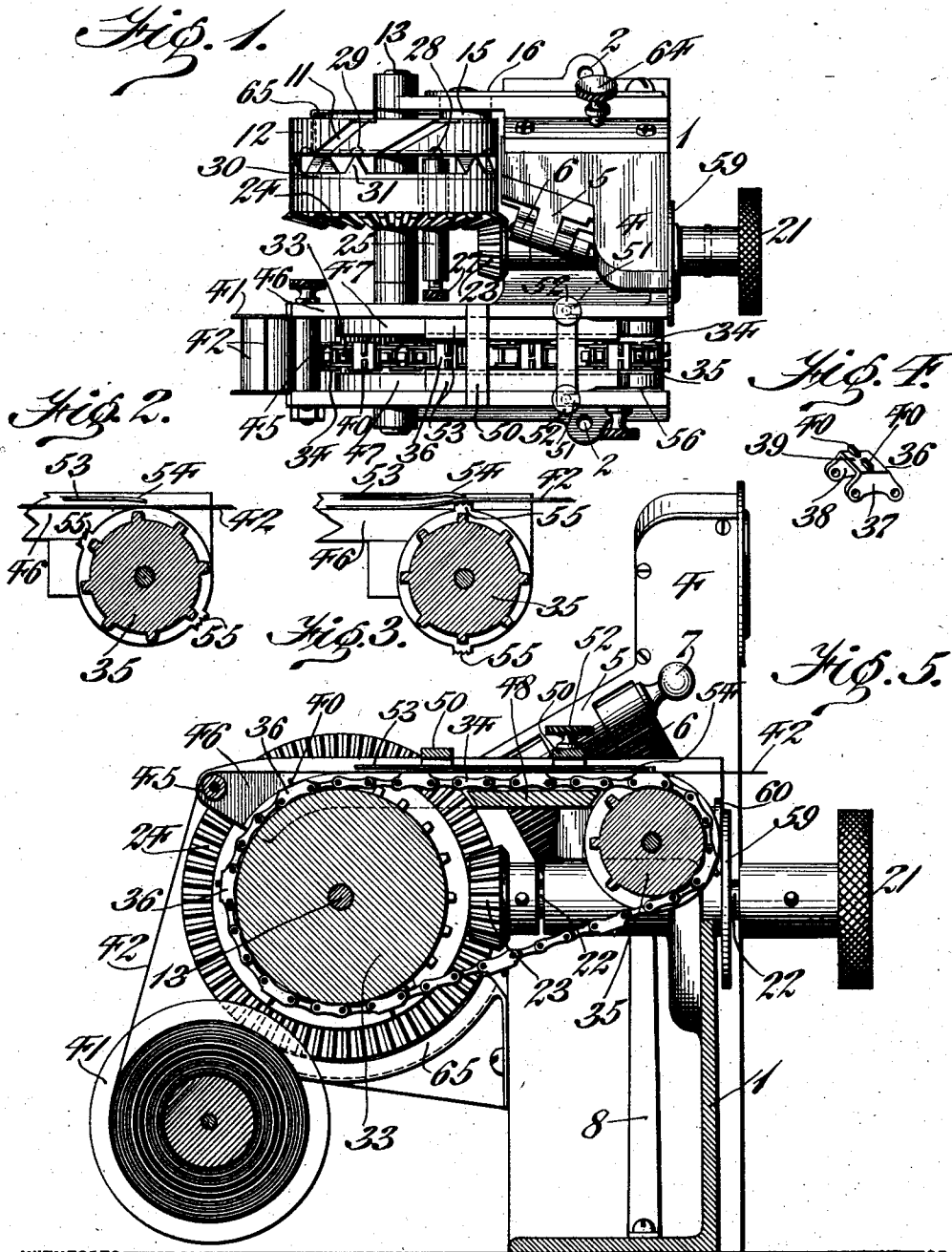


J. FRITSCHÉ.
 VENDING MACHINE.
 APPLICATION FILED NOV. 5, 1910.

1,010,888.

Patented Dec. 5, 1911.

2 SHEETS—SHEET 1.



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JOHN FRITSCHÉ, OF PHILADELPHIA, PENNSYLVANIA.

VENDING-MACHINE.

1,010,888.

Specification of Letters Patent.

Patented Dec. 5, 1911.

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To all whom it may concern:

Be it known that I, JOHN FRITSCHÉ, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Vending-Machine, of which the following is a specification.

My present invention relates especially to that class of vending machines in which articles are fed from the machine in the form of a strip which, if desired, may be divided into tickets or checks, such as stamps, soda checks, or predetermined lengths of strips having any desired identifying characters thereon, although as is apparent, my novel device may be readily adapted to feed any desired article into a position accessible to the intending purchaser.

My invention consists of a novel construction of a vending machine wherein novel means are employed for feeding the stamps, novel means for locking the feeding mechanism in inoperative position and novel means for preventing the purchaser from obtaining more than the predetermined number of stamps for the money which has been inserted in the machine.

It further consists of a novel construction of a vending machine which may be readily operated to vend stamps of any desired denomination.

It further consists of a novel construction of a detent.

It further consists of a novel construction of a feeding device for the stamps.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings a preferred form thereof, since this embodiment has been found in actual, practical use to give very satisfactory and reliable results, although it is of course to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a plan view of a stamp vending machine embodying my in-

vention. Fig. 2 represents a sectional view of a portion of the feed mechanism. Fig. 3 represents a sectional view similar to that seen in Fig. 2 but showing the parts in a different relation with respect to each other. Fig. 4 represents a perspective view of one of the sprocket chain links. Fig. 5 represents a sectional elevation of Fig. 1. Fig. 6 represents a perspective view of a portion of the stamp strip. Fig. 7 represents a side elevation of my device. Fig. 8 represents a perspective view of one type of detent which may be employed. Fig. 9 represents a perspective view showing another type of detent which may be employed. Fig. 10 represents a section on line $x-x$, Fig. 7. Fig. 11 represents a front elevation of my device. Fig. 12 represents a sectional elevation on line $y-y$ Fig. 7.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a housing frame or casing adapted to carry the various mechanisms which cooperate to cause the stamp or article to be delivered into a position accessible to the purchaser upon the insertion in the machine of a coin or check of proper dimensions. The housing or casing 1 is secured in position in any desired manner and, in the present instance, I have shown the base portion thereof as being provided with the apertures 2, as shown in Fig. 1, which are adapted to receive suitable fastening devices, it being understood that a suitable cover is provided in which the housing or casing 1 is inclosed and in practice a portion thereof, such as for example, the top portion, is preferably constructed of transparent material.

Any desired type of coin mechanism may be employed but for the purpose of illustrating one type of such mechanism, I have preferred to show a construction such as is described and broadly claimed in my former patent for fraud preventative device, No. 852,111, granted April 30, 1907.

3 designates the inlet opening for the coin or check of dimensions the size of which will vary in accordance with the dimensions of the check or coin which is to be used to operate the machine. The inlet slot 3 communicates with the inlet passage 4, which latter is provided with a stationary side 5 having a movable side 6 pivoted thereto at

7, the pivoted side 6 being normally maintained in its closed position by means of a spring 8, one end of which is suitably secured to a fixed point while the other end thereof bears against the pivoted side 6. The lower inner edge of the pivoted member 6 is suitably beveled as at 9, in order to form a V-shaped groove at the bottom of the coin slot, the upper end of the slot being provided with a longitudinally extending groove 10 so that when a coin of proper dimensions has been inserted in the inlet opening 3, it will pass directly through the coin slot into one of the slots 11 of coin wheel 12, which latter is fixedly secured on a shaft 13 suitably mounted in the housing 1.

The slots 11 are preferably angularly inclined and the outer face of the coin wheel 12 in proximity to the slots 11 is suitably recessed, as indicated at 14, thereby adapting the same to receive the stop or detent 15, the forward end of which extends into said recess or seat and is normally maintained therein owing to the manner in which the same is mounted and, in the present instance, I secure the stop 15 to the free end of the resilient member 16, the opposite end of which, as most clearly seen in Fig. 7, is secured by means of a suitable fastening device 17 to the housing 1.

In case the machine is to be operated with two coins, I preferably employ a detent or stop such as is indicated in Fig. 8, wherein it will be seen that the forward end thereof is provided with a beveled face 18 which at one end extends completely to the end of the stop, while at the other end thereof it terminates in the shoulder 19, so that two coins will operate the machine. In case the machine is to be operated with a single coin, I employ a detent or stop, such as is seen in Fig. 9, wherein simply a beveled face 20 is employed, which will permit one coin to operate the machine.

In order to operate the machine I provide a manually actuated handle 21 which is carried by a shaft 22 suitably journaled in the housing 1 and the end of the shaft has suitably connected therewith a gear 23, and, in the present instance, I have shown this as consisting of a bevel gear, the same being adapted to mesh with a gear 24 loosely mounted on the shaft 13, as is best seen in Fig. 12. The gear 24 is suitably apertured to receive a container 25 having any desired contour but shown, in the present instance, as cylindrical, said container being adapted to pass through the apertured gear 24 and be secured therein in any desired manner. The container 25 has located therein a spring 26 one end of which abuts against an adjustable stop 27, the other end thereof engaging a plunger 28, the forward end of which is suitably rounded, thereby adapting

the same to be seated in the recesses 29, the number of the same preferably corresponding to the number of slots 11 in the coin wheel 12. The gear 23 will thus be frictionally connected with the coin wheel 12, so that when the coin wheel 12 is released the gear 23 and coin wheel 12 may revolve in unison. The cylinder 25, in the present instance, passes through the apertured disk 30, which, if desired, may be integral with the gear 24, as is apparent, but for convenience of manufacture the same is shown as being a separate disk secured thereto by fastening devices 31. The disk 30 near its outer periphery is provided with the cams 32. The shaft 13 has also mounted thereon a sprocket wheel 33 around which passes a sprocket chain 34, said sprocket chain also passing around a sprocket wheel 35 rotatably mounted in the housing 1. Certain of the links of the sprocket chain 34 are formed by or provided with the feeding members 36 which, in the present instance, consist of a plate deflected to form the sides 37 and 38 which are suitably apertured in order to adapt them to be secured with respect to the links of the sprocket chain, the sides being connected by a top portion 39 which is provided with a desired number of upwardly extending members 40, it being apparent that the number and contour of such members may vary in accordance with the varying conditions met with in practice.

41 designates a reel mounted in the housing 1 and adapted to carry a strip 42 which is suitably scored, weakened, apertured or slotted and in the strip which I have illustrated the same is perforated as is indicated at 43 and provided with the slotted portions 44 although, as is evident, the character of the perforations or slots is immaterial in so far as the working of the machine is concerned. The strip 42 passes over a roller 45 mounted in a guide 46 which is carried by or forms a part of the housing 1. The guide 46 is provided with the guide members 47 on which the strip 42 travels, said guide members having an opening therebetween through which travels the sprocket chain 34, the parts being arranged in such a manner that the feeding members 40 will extend above the upper surface of the guide members 47. The guide members 47 at their rear end are curved downwardly in order that the feed or contact members 40 will contact with the perforations 43 or 44 at the proper time, it being noted that the forward end of the guide members 47 terminate in proximity to the sprocket wheel 35. If desired, the guide 46 may be provided with the stationary table 48 or equivalent means to cause the upper stretch of the sprocket chain 34 to travel in substantially the same horizontal plane.

49 designates a tension member which con-

sists of the cross bars 50 adapted to be seated on the upper portion of the guide 46 and one of said bars is suitably recessed, as indicated at 51, in order that they may be placed in position without necessitating the complete removal of the screws 52 which maintain the tension device in assembled position. The cross bars 50 have secured thereto the longitudinally extending bars 53 in such a manner that there is a space between said bars 53 and the bottom guides 47 for the strip 42 to freely pass. The forward ends of the strips 53 are resilient and preferably deflected slightly downwardly as best seen at 54. The sides of the sprocket wheel 35 are provided with the cams 55 which travel in the path of the spring arms 54, as will be best understood by reference to Figs. 2 and 3. The forward end of the guide for the strip 42 is preferably provided on each side with the ledge 56 which forms a continuation of the bottom guide member 47, in order that the stamp will be accurately guided to a position accessible to the purchaser.

In order to positively prevent the rearward feed of the shaft 13 the latter has mounted thereon a ratchet 57 with which coacts the free end of a spring 58, the opposite end of which is suitably fixed to the housing, so that the strip may be only fed in a forward direction.

The shaft 22 has mounted thereon a disk 59 which carries a cam member 60 provided with the reversely inclined cam faces 61, as seen in Fig. 11, said cam faces coacting with the roller 62 mounted on the movable member 6 of the coin slot, so that when the lever is actuated in either direction the coin slot will be opened in order to permit any coin, check or counterfeit thereof which has been retained in the coin chute, to drop therefrom into the return passage 63 which will deliver such coin, check, or counterfeit thereof to a position accessible to the purchaser.

The size of the coin slot is adjusted by means of the screw 64 which controls the relative position of the pivoted member 6 in relation to the stationary side 5.

Located beneath the coin wheel 12 is a coin guide 65 whereby the coin or coins in the coin wheel will be carried around with the coin wheel and exposed to view and finally be discharged into the bottom of the device or a suitable coin container therein.

The operation will now be readily apparent and is as follows:—The reel 41 is provided with a strip 42 which is passed over the roller 45 and thence over the bottom guides 47 and beneath the longitudinal bars 53 so that the end of the strip will be held in position between the resilient end 54 of the member 53, and the cams 55 on the

sprocket wheel 35. The coin slot is now adjusted by means of the set screw 64 so that only a coin of predetermined size will pass therethrough. Having the parts thus adjusted, the machine is ready to be operated. When one or more coins are passed through the coin inlet 3, if they are of the proper dimensions, they will pass completely through the coin slot and be received in one of the slots 11 in the coin wheel 12, as indicated in Fig. 10, and abut against the detent or stop 15 which closes one side of such slot 11. The handle 21 is now rotated to the right, whereupon the gear 24 will be rotated, thereby causing the cam 32 to co-act with the coin and cause the stop or detent 15 to be moved out of its engagement with the seat 14, whereupon the gear 24 and the coin wheel 12 are rotated in unison until the detent or stop 15 comes into engagement with the next successive recess or seat 14 in such coin wheel 12. As the coin wheel 12 is frictionally connected with the gear 24, as soon as the detent or stop 15 moves out of engagement with the coin wheel, the shaft 13 will be rotated, thereby rotating the sprocket wheel 33 and causing the sprocket chain 34 carried thereby to travel a predetermined distance. The feed members 40 are preferably arranged so that they will contact with the perforations in the strip 42 and, in the present instance, they are arranged so that they will pass through the slots 44 and cause the strip 42 to be positively fed forwardly, the parts being so arranged that if a stamp or check strip is in the machine when a single stamp or a desired number of stamps have been fed into such a position as to be readily removed from the machine, one of the cams 55 has been moved into the position seen in Fig. 3, in which position the stamp strip is securely held between a cam 55 and the resilient members 54, the end of the stamp strip being at this time exterior of the machine, as indicated in Fig. 5, whereupon when the purchaser pulls on the strip the same will become detached, so that it may be withdrawn from the machine. As soon as the cam 55 passes beyond the resilient strips 54 the same will be relieved from tension and the stamp strip will again be fed forwardly upon the introduction of a proper coin.

In the present instance I have shown the coin wheel as provided with five coin slots, the relation between the parts being such that while the coin wheel 12 is provided with five coin slots, the sprocket wheel 35 is provided with eight teeth while the sprocket wheel 33 is provided with twenty teeth. In the construction which I have shown for the purpose of illustrating my invention, the slots in the coin wheel are adapted to receive two coins but the pe-

riphery of only one of these coins will extend beyond the side of the coin wheel sufficiently to cooperate with one of the cam members 32, as seen in Fig. 10.

5 Particular attention is directed to the fact that in my present construction I have rendered practically all of the movement positive and have eliminated the necessity of
10 employing a large number of springs, it being noted that the only springs employed are the spring 8 for maintaining the coin slot normally closed, the spring 16 which carries the detent and the spring pressed
15 plunger which causes the frictional engagement between the gear 24 and the coin wheel 12 as will be readily understood by reference to Fig. 12 of the drawings. Particular
20 attention is also directed to the novel manner in which the strip of tickets or other device is positively fed so that a predetermined length of the strip is uniformly fed
25 under all conditions which arise from practice. It is also to be noted that I have devised a device which is practically fool proof, since the handle 21 may be manipulated
30 in either direction without any liability of the operating parts becoming strained or distorted, and there can be no undue strain on the working parts owing to the manner in which the coin wheel is
frictionally connected with the driving mechanism.

In the present instance I have shown the cams 32 as corresponding in number to the
35 number of coin slots, but the number of cams which are employed is immaterial since the only difference in the operation, in case one or more cams are employed, is that a shorter revolution of the actuating handle 21 is necessary
40 when a larger number of cams are used.

In practice a number of machines constructed in accordance with my invention may be placed in a single case so that if it is
45 desired to vend articles such as stamps of various denominations, this may be accomplished and as hereinbefore pointed out, my present type of machine may be readily adapted for the feeding of any predetermined
50 length of strip or readily adapted to be operated by any desired type of coin, check or other element with which it is desirable to have the coin mechanism cooperate.

55 Since a number of links of the upper stretch of the sprocket chain travel in substantially the same horizontal plane, the contacts or feeding members will simultaneously engage a number of independent tickets
60 so that a positive feed is effected and it will be impossible to tear off more than the ticket or tickets, in payment of which the proper coin or check has been inserted to work the machine.

65 In order to illustrate one manner of form-

ing the feeding or contact members, I have shown the same as being connected with certain of the links, but in actual practice the contact or feeding members preferably constitute in themselves links of the sprocket
70 chain and as is apparent these feeding members may be spaced any predetermined distance apart.

My present machine may be readily adapted to sell a single one cent stamp, a single
75 two cent stamp, five two or five one cent stamps or any other desired number of stamps or tickets.

The coin wheel disclosed herein is similar in some respects to that seen in my former
80 patent for coin wheel, No. 864,527, granted August 27, 1907, wherein I have described and broadly claimed such type of coin wheel.

It will now be apparent that I have devised a novel and useful construction of a
85 vending machine which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred
90 embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from
95 the spirit or scope of the invention or sacrificing any of its advantages.

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

1. In a vending machine, a driving member, a driven member in frictional engagement therewith, means for interlocking said members, an endless feeding member controlled by the driven member, contact
105 devices carried by the feeding member and engaging the articles to be vended, and means for clamping the articles in position at a predetermined time.

2. In a vending machine, a driving member, a driven member in frictional engagement therewith, means for interlocking said members, an endless feeding member having
110 its upper stretch in substantially the same horizontal plane, contact devices for the feeding member engaging the articles to be vended, and means for clamping the articles in position at predetermined intervals.

3. In a vending machine, a driving member, a driven member in frictional engagement therewith, means for interlocking said members, an endless feeding member controlled by the driven member, contact
120 devices carried by the feeding member and engaging the articles to be vended, a tension device normally inoperative and means for rendering said tension device operative at predetermined intervals.

4. The combination of a frame, a sprocket chain mounted therein, means for support-
130

ing the articles to be vended in proximity to the sprocket chain, article engaging devices carried by the sprocket chain, a spring member located on one side of an article to be fed, a cam on the opposite side of the article to be fed, means controlled by the sprocket chain for moving said cam to clamp an article between said cam and said member, and actuating means for the sprocket chain.

5 5. The combination of a frame, a sprocket chain mounted therein so as to cause its upper stretch to travel in substantially the same horizontal plane, article engaging devices on the sprocket chain, a plurality of resilient members on one side of an article
15 be fed, a plurality of cams on the opposite side of such article, means controlled by the movement of said chain for moving the cams into coöperation with the spring members to effect a clamping action on an article, and actuating means for the sprocket chain.

6. The combination of a frame, a reel for the articles carried by the frame, sprocket
25 wheels mounted in the frame, a sprocket chain coöperating with the sprocket wheels, article engaging devices carried by said chain, means for maintaining the articles in operative relation with said devices, a resilient abutment, means carried by one of
30 said sprocket wheels for clamping an article against said abutment, and means for actuating one of said sprocket wheels.

7. The combination of a frame, an endless feeding member mounted therein and having its upper stretch in substantially the same horizontal plane, a strip carrying reel
40 mounted in the frame, means for maintaining the strip in engagement with the upper stretch of the feeding member, means for imparting a predetermined travel to the feeding member, and means for preventing movement of the strip when the feeding member reaches the end of its predetermined travel.

8. The combination of a frame, sprocket wheels mounted therein in different horizontal planes, a sprocket chain for the sprocket wheels, means for causing the upper stretch of the sprocket chain to travel
50 in substantially the same horizontal plane, means for causing the articles to be fed to move in unison with the sprocket chain, devices including a cam and an abutment between which the articles being vended are clamped at a predetermined time and actuating means for one of said sprocket wheels.

9. The combination of a frame, a shaft
60 mounted therein, a gear loosely mounted on said shaft, driving means for said gear, means for interlocking said gear and shaft, an endless feeding member driven by said shaft, a strip carrying reel mounted in the frame, means for maintaining a strip in en-

gagement with the feeding member, and clamping devices co-acting with the strip at predetermined intervals in its travel.

10. The combination with a frame, of a shaft mounted therein, a sprocket wheel
70 mounted on said shaft, means for rotating said shaft, devices for preventing the rotation of said shaft in a reverse direction, a second sprocket wheel mounted in said frame, a cam carried thereby, a sprocket
75 chain co-acting with said sprocket wheel, means for causing the upper stretch of the sprocket chain to travel in substantially a horizontal plane, a spring carried by the frame on one side of the strip and between
80 which and the cam the strip is clamped at predetermined intervals in the travel of the sprocket chain, and means for manually actuating said shaft.

11. The combination of a frame, a ticket
85 reel mounted therein, a ticket guide carried by the frame and provided with guide-ways, an endless feeding member intermediate said guide-ways, means for imparting a predetermined travel to said member, ticket engaging
90 devices carried by said member and extending above the bottom of said guides, means supported above said guides for maintaining a desired number of tickets in engagement with the ticket engaging devices,
95 means for causing the upper stretch of the feeding member to travel in substantially the same horizontal plane, and devices for clamping a ticket at predetermined intervals in the travel of the feeding member.

12. The combination of a frame, a ticket reel mounted therein, a stamp guide carried by said frame and provided with a longitudinally extending slot having guide-ways
105 on each side thereof, an endless feeding member adapted to travel in said slot, ticket engaging devices carried by said member and extending above the horizontal plane of the bottom of the guide-ways, means for maintaining the tickets in operative relation
110 with respect to said ticket engaging devices, a tension device on one side of the tickets and controlled by the feeding member for clamping a ticket in position at predetermined intervals in its travel, and actuating means for said feeding member.

13. The combination of a frame, a ticket carrying device therein, a ticket guide carried by said frame having guide-ways therein, an endless ticket feeding member having
120 its upper stretch in substantially the same horizontal plane and adapted to travel immediately of said guide-ways, a roller carried by said ticket guide over which the tickets pass, guide members located at predetermined distance above the guide-ways
125 and having a resilient portion at their forward end, means for securing said removable guide member in position, cams controlled by the movement of the feeding mem- 130

ber and adapted to coöperate with said resilient portion at predetermined intervals in the travel of the feed member to clamp a predetermined ticket in position, and actuating means for the feeding member.

14. The combination of a frame, a ticket strip carrying device thereon, an endless feeding member, article engaging devices carried by said member, a plurality of which travel in the same horizontal plane and pass into said strip, means for maintaining a predetermined number of tickets in engagement with said feeding member, devices controlled by the feeding member for clamping a predetermined ticket at a predetermined time and including an abutment and a cam adapted to contact with an article being vended, and means for actuating said feeding member.

15. The combination with a frame, of a shaft mounted therein, a gear loosely mounted on said shaft, a manually actuated gear contacting with said first gear, means for interlocking said gear and shaft, an endless feeding member driven by said shaft and having its upper stretch in substantially the same horizontal plane, means for maintaining tickets in operative relation with respect to said member, clamping devices co-acting with a predetermined ticket at a predetermined time, and means for preventing any reverse rotation of said shaft.

16. The combination with a frame, of a shaft mounted therein, a gear loosely mounted on said shaft, a member fixed on said shaft and having frictional engagement with the loosely mounted gear, devices for maintaining said member in normal position, an endless feeding member, clamping means for

the articles to be vended, and actuating means for said gear.

17. The combination with a frame, of a shaft mounted therein, a gear loosely mounted on said shaft, a spring actuated plunger carried by said gear, a member fixed on said shaft and having recesses coacting with such plunger, devices for maintaining the member in normal position, an endless feeding member driven by said shaft, normally inoperative clamping devices controlled by the movement of the feeding member, and driving means for said gear.

18. In a vending machine, frictional driving means, article feeding devices driven thereby, a resilient clamping member engaging an article to be vended to prevent its improper withdrawal from the machine, and a cam controlled by the article feeding device and controlling the clamping action of the resilient clamping member.

19. In a vending machine, a frame, an endless feeding member mounted therein, article engaging devices carried by said member, a resilient abutment on one side of the articles being fed and normally out of engagement therewith, devices controlled by the article feeding devices for moving an article out of its normal path and into engagement with said resilient abutment to prevent a greater number than the articles purchased being withdrawn from the machine, and frictional driving means for said article feeding devices.

JOHN FRITSCHÉ.

Witnesses:

H. S. FAIRBANKS,
C. D. McVAY.