May 12, 1931. W. L. WHITESIDES 1,804,580

CIGARETTE DISPENSER

Filed March 15, 1929 2 Sheets-Sheet 1

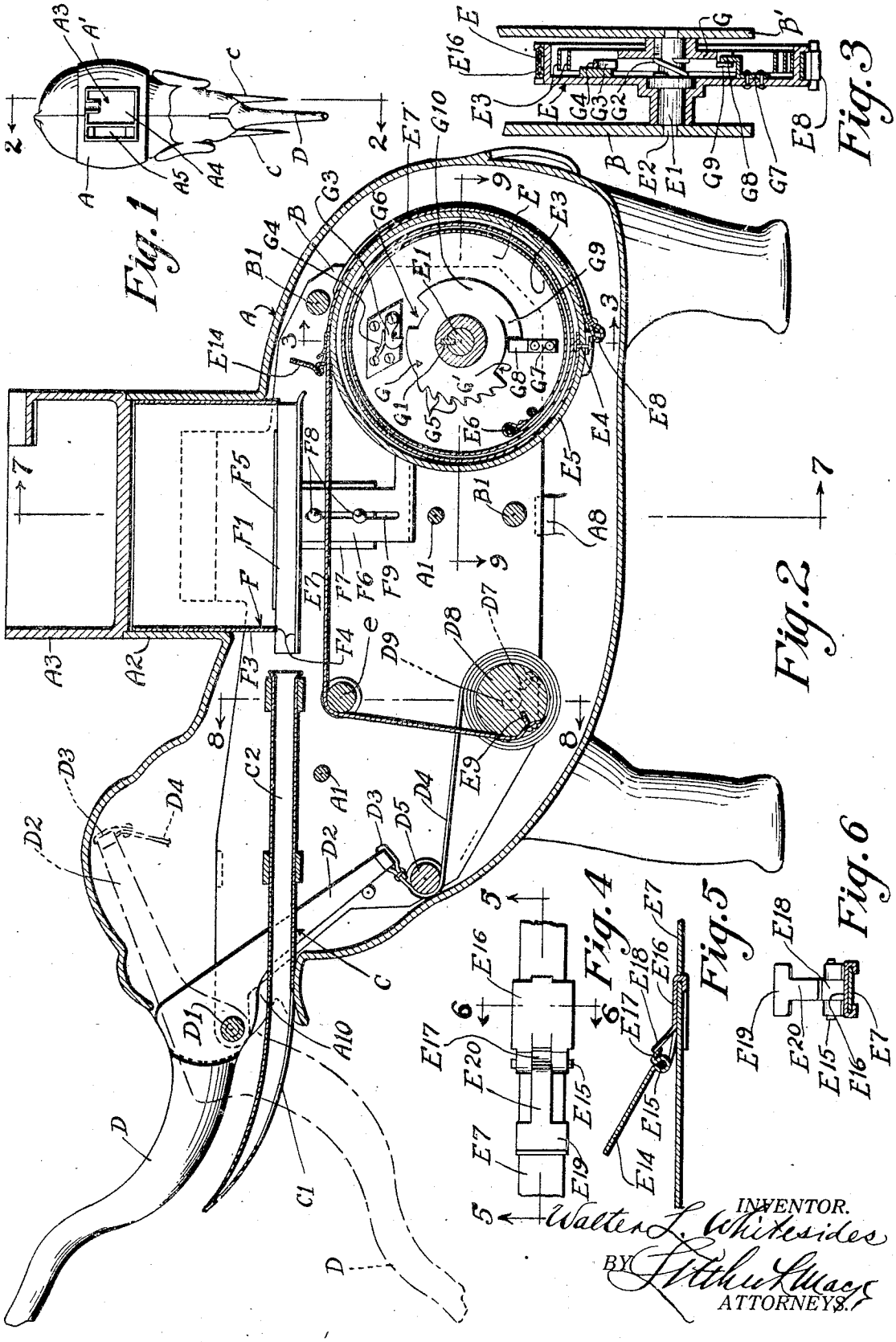


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

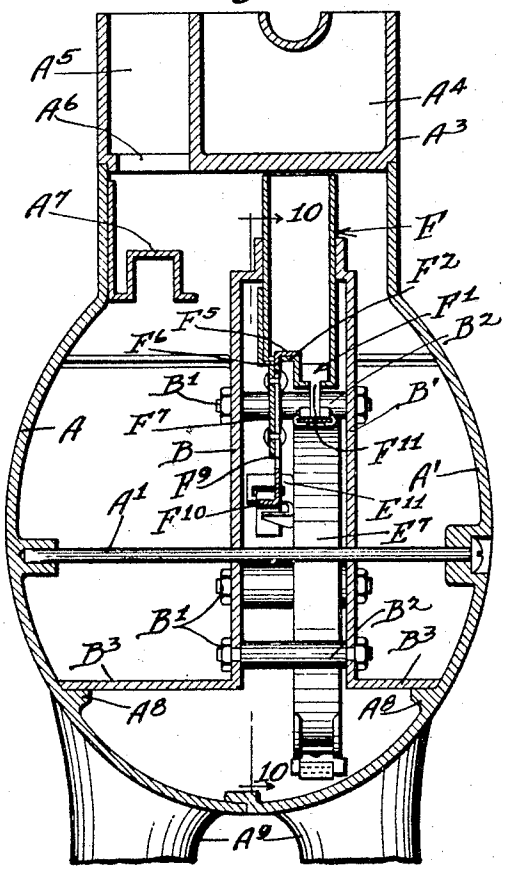
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Fig. 7



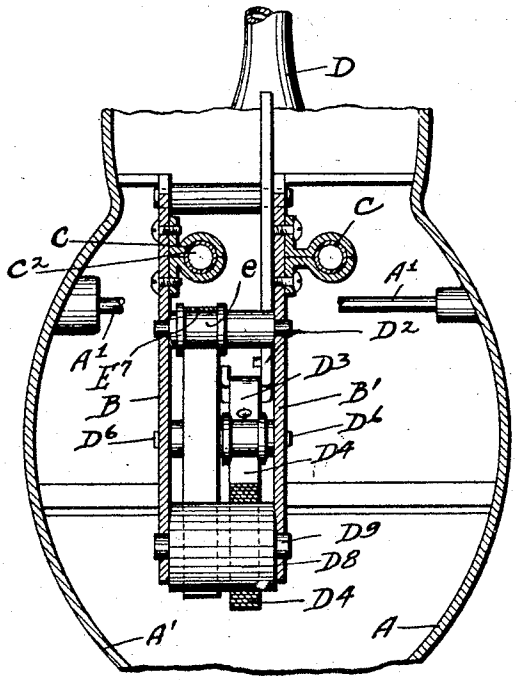


Fig. 8

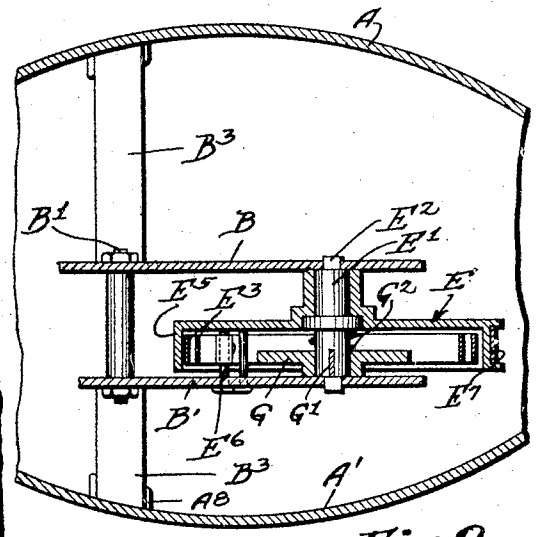


Fig. 9

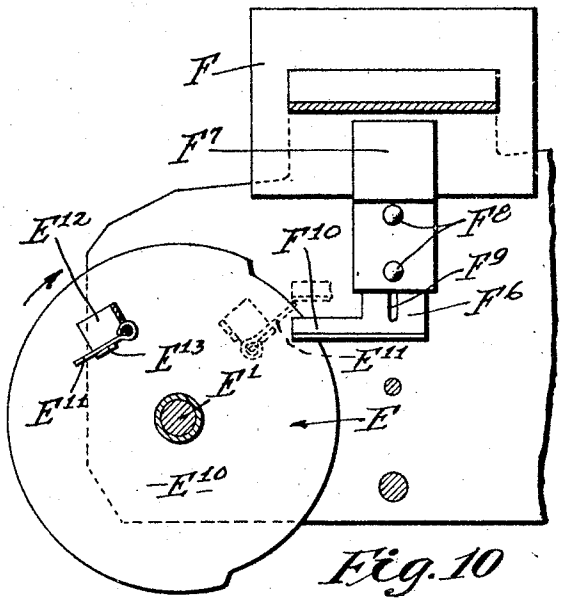


Fig. 10

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UNITED STATES PATENT OFFICE

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CIGARETTE DISPENSER

Application filed March 15, 1929. Serial No. 347,387.

This invention relates to and has for a main object the provision of an improved type of dispensing mechanism arranged to support a plurality of articles such as cigarettes and to eject one cigarette at each operation of the dispensing mechanism.

Another object is to provide a cigarette dispenser of novel character capable of being arranged in any suitable form for use, but adapted particularly to be supported on a body having the form of an elephant or representation of other animals.

Still another object is to provide a hollow body in which the dispensing mechanism is enclosed and means supported on the body and accessible for holding a quantity of cigarettes or the like so that they may be fed one at a time to and ejected by means of the dispensing mechanism.

Other objects will appear as the description progresses.

I have shown a preferred form of my invention, subject to modification within the scope of the appended claims, without departing from the spirit thereof, in the accompanying drawings, in which

Fig. 1 is a top plan view of my dispenser on a reduced scale.

Fig. 2 is a longitudinal sectional elevation thereof on line 2—2 of Fig. 1.

Fig. 3 is a section of the same on line 3—3 of Fig. 2.

Fig. 4 is a fragmentary view of the dispensing means proper.

Fig. 5 is a longitudinal section of the same on line 5—5 of Fig. 4.

Fig. 6 is a transverse section of the same on line 6—6 of Fig. 4.

Fig. 7 is a sectional elevation on line 7—7 of Fig. 2.

Fig. 8 is a section on line 8—8 of Fig. 2.

Fig. 9 is a horizontal section on line 9—9 of Fig. 2.

Fig. 10 is a fragmentary side view of the ejecting mechanism on line 10—10 of Fig. 7.

In order to provide a fanciful and attractive novelty dispenser I prefer to form the body of the dispenser to correspond to that of an elephant within which the dispensing mechanism is mounted and enclosed, and on the saddle of which is carried the cigarettes to be dispensed.

I prefer to arrange to operatively connect the dispensing mechanism with a representation of the trunk of the elephant so that the movement of the trunk downwardly will eject a cigarette through a tubular outlet corresponding to one of the tusks at each operation of the trunk. It will be understood, however, that I may mount my improved dispensing and ejecting mechanism in any other suitable form or type of body. As shown in the drawings, the body of the device is in the form of an elephant and is made in two sections, A and A′, which may be permanently or detachably secured together by means of a plurality of bolts or screws A1, A1 etc., or otherwise.

The saddle of the body is provided with a rectuangular upwardly projecting hollow extension A2 which may be covered by a receptacle A3 detachably held on the open upper end of the portion A2. The receptacle A3 may be formed with an ash compartment A4 and a match compartment A5, or otherwise, as may be desired.

As shown in Fig. 7, the match compartment A5 may have an opening A6 at the bottom through which a match box may extend so that it may be supported on a suitable bracket A7 attached to one of the body members A or A′.

Within the body I prefer to mount all of the operating mechanism on and between a pair of plates or frame members B and B′ which may be transversely connected by means of a plurality of bolts B1, B1 etc., and held in spaced relation by means of tubular spacers B2, B2 etc., carried on said bolts. The operating mechanism, including the plates B and B′, may be supported on the bolts A1, and additionally by means of one or more feet as at B3, formed on each of said plates and adapted to rest upon suitable lugs A8, A8 formed internally of the body members.

The body is supported on legs A9, A9 etc., which simulate the legs of the elephant or animal typified in the body. The body is entirely closed except at the mouth

A10 through which a tubular ejector tube C extends and the projecting end of said tube is bent upwardly and tapered to a point to correspond to the form of a tusk. Externally of the mouth A10, however, the tube C may be provided with an opening C1 through which the cigarette may be ejected.

The trunk D of the elephant is pivotally mounted on a pin or bolt D1 above the mouth A10 and held in the body members. Said trunk constitutes an operating member and has an inwardly projecting arm D2 which connects with a loop D3 on the end of a flexible belt or band D4. Said band operates over a roller D5 pivoted at its ends D6, D6 in the plates B and B'. The band D4 is attached at its opposite end by means of a screw D7 to a roller D8 which is mounted on a pin D9 journaled in the plates B and B' and is adapted to wrap around said rollers for a plurality of convolutions, as shown in Fig. 2, when the trunk is in normal position.

At the rear end of the body I provide a drum E which is carried on a shaft E1 journaled in the plates B and B'. The shaft E1 may have squared ends E2, E2 which are held in the plates B and B' so as to prevent the rotation of the shaft. Internally of the drum I provide a spiral spring E3, the outer end of which is fixed at E4, by suitable means to the flange E5 of the drum, while the inner end of said spring is attached to a pin E6 which is held in the plate B' so as to hold the drum in tension.

The flange E5 carries on its outer face a flexible band E7 which is attached at its end E8 to the face of the drum and extends around the drum, as shown in Fig. 2, and thence forwardly in a horizontal plane below a cigarette receptacle F which is supported within the extension A2 of the body. The band E7 extends thence forwardly over an idler roller *e*, and thence downwardly to and is attached to the roller D8 by means of a screw E9 or otherwise. The cigarette receptacle F is formed of sheet metal or other suitable material and the bottom thereof is provided with a longitudinal narrow portion F1 which will accommodate but one cigarette, and a ledge F2 thereabove, as shown in Fig. 7. The front end F3 of the receptacle F has an opening F4 at the forward end of the channel F1 which registers with the passage C2 in the ejector tube C, as shown in Fig. 2.

Seated on the ledge F2 of receptacle F I provide an agitator plate F5 which has an arm F6 extending downwardly through a slot in the ledge F2. Said arm slidably engages a plate F7 which is attached to receptacle F and carries a pair or more of pins F8 which extend through an elongated slot F9 in the arm F6, as shown in Fig. 10, for reciprocably supporting the agitator on the arm F6 and within the receptacle F. Externally of the drum E, the web E10 of the drum is provided with a flap E11 which is pivotally mounted on a fixture E12 so that as the drum is rotated in a clockwise direction, as seen in Fig. 10, the flap E11 will yield relative to an extension F10 on the member F6, which intercepts the flap in its arcuate path of movement. On a movement of the drum in a counter-clockwise direction the flap will engage the extension F10 and elevate the arm F6 together with the agitator F5 within the receptacle F for displacing a cigarette from the ledge F2 and moving a cigarette into the channel F1 of said receptacle.

This operation is accomplished by means of a lip E13 which engages the flap E11, as shown in Fig. 10.

Shaft E1 has a ratchet G fixed thereto and held against rotation by means of a key G1. Said ratchet is slidable on the shaft E1 against the tension of spring G2, which is held on the shaft E1 between the web of drum E and the ratchet G, as shown in Fig. 3. Thus the spring G2 normally holds ratchet G out of the plane of a pawl G3, which is pivotally mounted on the web of drum E and is urged in the direction of the ratchet by means of a spring G4 attached to the drum. It will be noted that a portion of the periphery of ratchet G is provided with a series of notches G5 adapted to be engaged by pawl G3.

At substantially diametrically opposite points the ratchet is cut away at G' and G6 to provide clearance for a fixture G7 which is attached to the web of a drum E and has a lug G8 normally in the plane of ratchet G when the drum is retracted. The ratchet also has an inclined approach segment G9 which is adapted to engage the inner surface of lug G8 so that on a counter-clockwise movement of the drum and during an ejecting operation the lug G8 will move upon the arcuate portion G10 of the ratchet and thus will cam the ratchet inwardly into the plane of and for engagement with the pawl G3. The lug G8 will continue its engagement with the ratchet during the forward movement of the drum and ejector until it registers with the notch G6 of the ratchet, whereupon the ratchet will be permitted to restore to normal position out of engagement with the pawl G3, due to the tension of spring G2.

It will be observed that normally when the drum is at rest the lug G8 rests in the cut away portion G' of the ratchet. As the drum moves forwardly the pawl G3 also moves in a corresponding direction and to a corresponding extent for engagement with successive notches G5 for the purpose of preventing the restoration of the drum to normal position until the completion of an

operation of the ejector. The ejecting operation is completed simultaneously with the registration of the lug G8 with notch G6, and thereafter the drum may be freely restored to normal position.

The ejecting band E7 carries on its outer surface a flap E14 which is pivotally mounted at E15 on a clip E16 suitably attached to the band E7. A portion E17 of the flap is arranged for engagement with a portion E18 of the clip, as shown in Fig. 5, to limit the forward movement of the flap, which position the flap assumes during the restoration of the ejecting mechanism to normal position.

The channel F1 of the cigarette container F is provided in its bottom with an elongated aperture F11 which is open at both ends of the channel for the reception and movement of the flap E14 therethrough. Said flap, as shown in Fig. 6, has a head E19 corresponding in width to the width of the channel F1 and a shank E20 which corresponds to and moved freely through the aperture F11. Thus at each operation of the ejector the flap E14 will be moved through the channel F1 against the rear end of the cigarette which rests in said channel so that the cigarettes will be forced outwardly from said channel into the passage C2 of the ejector tube C, after which it may be dropped through the aperture C1 into the hand. At the end of the ejecting operation the flap E14 disengages the forward end of channel F1, and the reverse movement of drum E and band E7 will incline the flap forwardly, as shown in Fig. 5, whereupon the flap will move beneath the channel F1 until the drum has reached normal position.

The operation of my mechanism is as follows:

A quantity of cigarettes are placed in the receptacle F, the lowermost of which will assume a position in the channel F1. When the operating member D is moved downwardly the drum E is correspondingly rotated against the tension of spring E3 in a counter-clockwise direction. The initial movement of the drum engages the ejector E14 with the cigarette in the channel F1 and as hereinbefore described forces the cigarette outwardly through tube C. As the drum is moved forwardly, the flap E13 moved beneath the arm F10 so that the ensuing reverse rotation of the drum will effect the engagement of the flap E13 with arm F10 for elevating the agitator F5 at each operation of the drum. Thus the cigarettes are jostled in the receptacle F so that one of the cigarettes will fall into the channel F1 in preparation for a succeeding operation. It will be noted that it is necessary to move the operating member D downwardly to a maximum extent before a second ejecting operation can be accomplished. This is due to the selective engagement of the ratchet G with the pawl G3. Otherwise, a partial operation of member D would only partially eject a cigarette from channel F1 and would permit a second cigarette to fall into the channel rearwardly of the first, so that the channel might be congested in an ensuing operation. The operation of member D quickly is sufficient to discharge the cigarette from the tube C for use.

I have provided a simple and effective dispenser for cigarettes in which the mechanism may be enclosed against unauthorized access or enclosed against the entrance of dirt, and in such a manner that damage will be prevented thereto yet permitting access to the mechanism for any necessary purpose. I may, of course, modify the structure, form and arrangement of parts shown without enlarging the scope of my invention beyond the appended claims.

What I claim is:

1. A cigarette dispenser comprising a hollow body including a receptacle accessible from the top for filling, an ejecting mechanism enclosed by said body, an ejector tube leading from said receptacle outwardly through said body, an operating member mounted on said body and operatively connected with said ejecting mechanism, said ejecting mechanism including a band provided with an ejector thereon movable through said receptacle into engagement with and for moving a cigarette into said tube when moved in one direction, spring means connected with said bands for moving the band and ejector rearwardly and externally of said receptacle for restoring the ejector to normal position.

2. A cigarette dispenser comprising a body including a receptacle for cigarettes, said receptacle having a channel capable of accommodating only one cigarette at a time, an ejector movable through said channel in engagement with a cigarette in an ejecting operation and movable externally of said channel when and as the same is restored to normal position, a spring held drum, a band connected therewith and supporting said ejector and means for operating said ejector, said drum serving to restore the ejector.

3. A cigarette as characterized in claim 2, including means for preventing the restoration of said ejector except at the completion of an ejecting operation.

4. A cigarette dispenser comprising a body having a receptacle for cigarettes, and an outlet permitting the ejection of one cigarette therethrough, a reciprocable ejector movable through said receptacle in an ejecting operation for discharging a cigarette from said outlet, a spring held rotatable drum, a band connected therewith and supporting said ejector means for operating

said ejector, and means for disengaging said ejector from said receptacle, said drum operating to restore the ejector to normal position externally of said channel.

5. A cigarette dispenser as characterized in claim 4, including means for preventing the restoration of said ejector except at the completion of an ejecting operation.

6. A cigarette dispenser comprising a body having a cigarette receptacle provided with a channel for supporting a single cigarette in ejecting position, said channel open at both ends, an ejector slidably mounted in said body and movable through said channel for ejecting a cigarette therefrom, means for operating said ejector, and means for restoring said ejector externally of said channel to normal position.

7. A cigarette dispenser comprising a body having a cigarette receptacle provided with a channel for supporting a single cigarette in ejecting position, said channel open at both ends, an ejector slidably mounted in said body and movable through said channel for ejecting a cigarette therefrom, a spring held band supporting said ejector means for operating said ejector, means for restoring said ejector externally of said channel to normal position, and means for preventing the restoration of said ejector except at the completion of an ejecting operation.

8. A cigarette dispenser as characterized in claim 6, including means in said receptacle for agitating the cigarettes so as to deposit successive cigarettes in said channel.

9. A cigarette dispenser comprising a body having a cigarette receptacle provided with a channel open at opposite ends, a spring held drum adjacent said channel, an operating member, means connecting said operating member with said drum including a flexible band movable externally of said channel, an ejector attached to said band and movable through said channel in an ejecting operation and movable externally of said channel for restoration to normal position by the tension of said band, an agitator including a member in said receptacle engaging said cigarettes, and means on said drum for actuating said agitator at each operation of the ejector.

10. A cigarette dispenser as characterized in claim 9, including means for preventing the restoration of said ejector except at the completion of an ejecting operation.

11. A cigarette dispenser comprising a body having a cigarette receptacle thereon, a drum rotatably mounted therein, an operating member mounted on said body, means connecting said operating member with said drum, including a flexible band, means for holding said band in tension, an ejector channel formed at the bottom of said receptacle, said band being externally of said channel, an ejector pivotally attached to said flexible band and movable through said channel in an ejecting operation, and means associated with said drum for restoring said drum, said operating member, and said ejector to normal position, said ejector being movable externally of said channel upon restoration to normal position.

12. A cigarette dispenser as characterized in claim 11, including means for preventing the restoration of said ejector except at the completion of an ejecting operation.

13. A cigarette dispenser as characterized in claim 11, including means in said receptacle operatively connected with said drum for depositing the cigarettes successively in said channel.

WALTER L. WHITESIDES.