Dec. 3, 1963 H. J. E. HAMBERG 3,112,843

CIGARETTE DISPENSING APPARATUSES

Filed May 31, 1960 2 Sheets-Sheet 1

FIG. 1

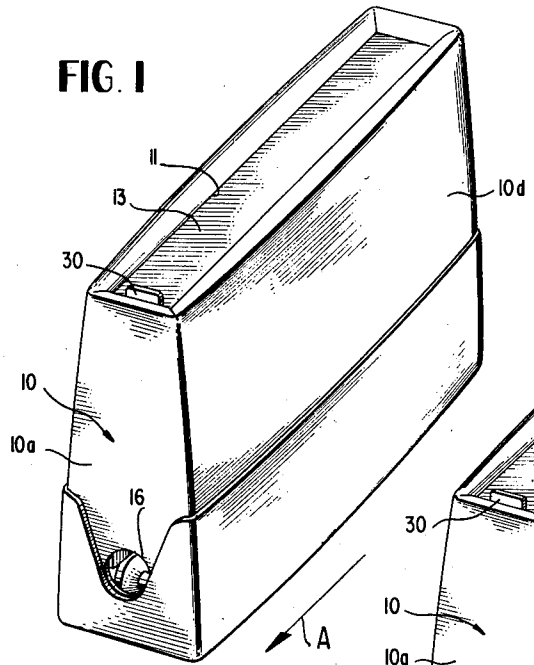


FIG. 2

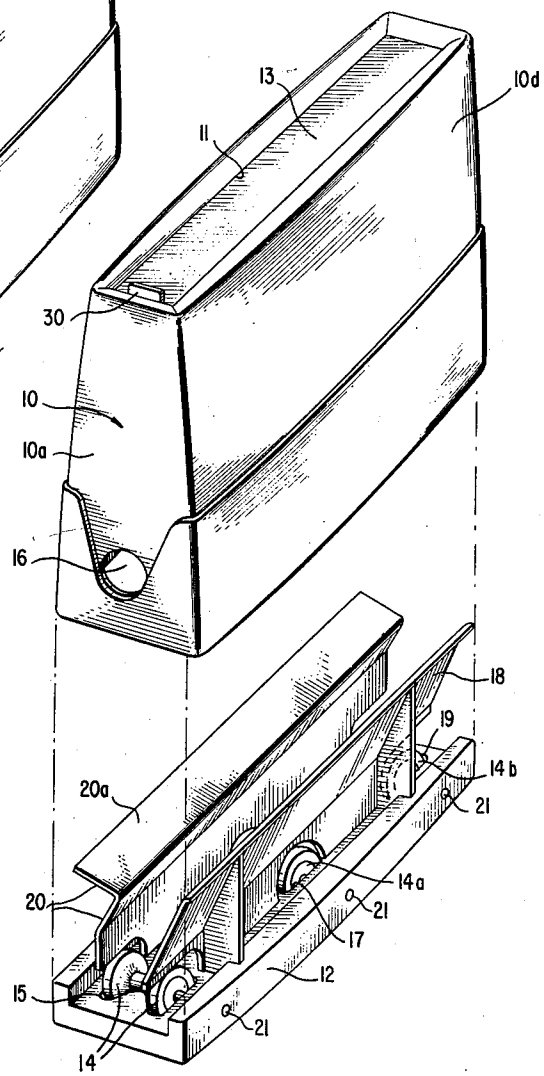
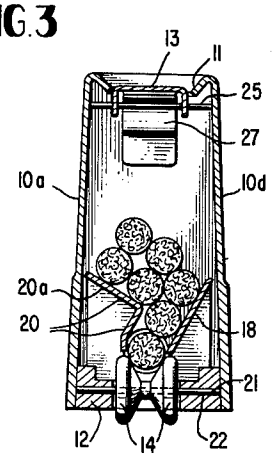


FIG. 3



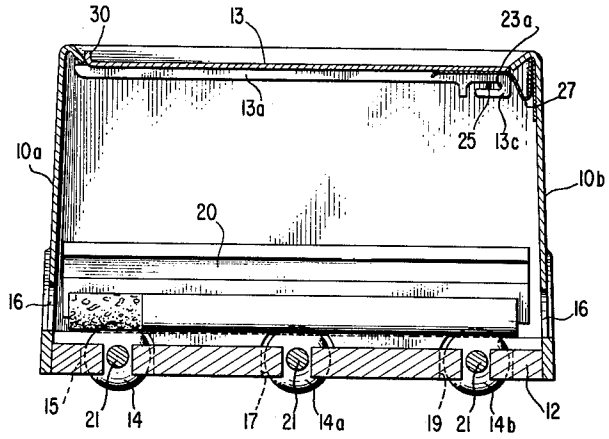
INVENTOR.
HOLGER J. E. HAMBERG
BY Dicke & Craig
ATTORNEYS

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CIGARETTE DISPENSING APPARATUSES

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FIG. 4



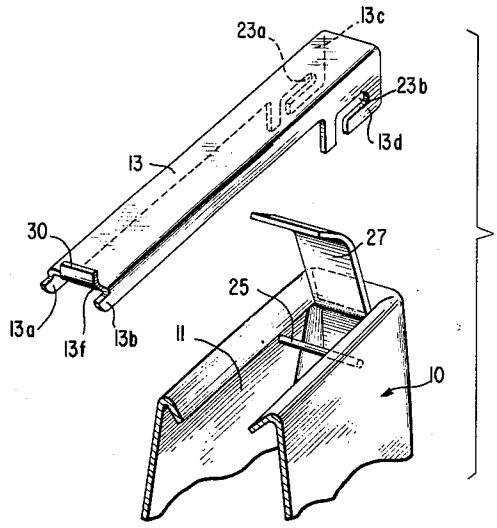


FIG. 5

INVENTOR.
HOLGER J. E. HAMBERG
BY Dicke & Craig
ATTORNEYS

United States Patent Office 3,112,843 Patented Dec. 3, 1963

3,112,843

CIGARETTE DISPENSING APPARATUSES

Holger J. E. Hamberg, Copenhagen, Denmark, assignor to Aktieselskabet Gavereklame, Copenhagen, Denmark, a corporation of Denmark

Filed May 31, 1960, Ser. No. 32,841
Claims priority, application Denmark July 22, 1959
5 Claims. (Cl. 221—185)

The present invention relates to dispensing apparatuses for cigarettes.

It is the purpose of the invention to provide a cigarette dispensing apparatus in the form of a cigarette box to be used standing on a desk in which a cigarette will be dispensed when the box is moved on the desk.

It is a further purpose of the invention to provide a desk type cigarette box constructed as dispenser in which the cigarettes will be dispensed in sequence to a position partly projecting through an aperture in the box when the box is moved in the direction towards a person to whom a cigarette is offered.

It is a further object of the invention to provide a simple, inexpensive and efficient transportation device which will move a cigarette from the casing lengthwise to project through an opening in the casing when the casing is moved over a surface such as a table top.

Further objects of the invention will appear from the following description of the invention with reference to the accompanying drawing, in which:

FIGURE 1 is a perspective view of a dispensing apparatus according to the invention,

FIGURE 2 is an exploded view of the dispensing apparatus shown in FIGURE 1,

FIGURE 3 is a vertical cross-sectional view of the dispensing apparatus shown in FIGURE 1,

FIGURE 4 is a vertical, longitudinal section through the dispensing apparatus shown in FIGURE 1, and

FIGURE 5 is an exploded perspective view showing a detail of the lid hinge structure for the dispensing apparatus.

Though the invention in the following is described specifically with reference to a cigarete dispensing apparatus, it will be understood that the use of the dispenser is not limited thereto, and that it is possible within the scope of the invention to design the apparatus also for dispensing other similar articles.

In broad terms the dispensing apparatus comprises a magazine or casing which as shown in the drawing has a top portion 10 and a bottom portion 12 defining a hollow casing or magazine for receiving a plurality of cigarettes C. The bottom 12 of the casing is provided with a plurality of rotatable rollers 14 for supporting the casing on a surface. The supporting rollers 14 will rotate by frictional engagement with said surface in response to movement of the casing by hand across the surface. Means are provided for sequentially dispensing the cigarettes through at least one aperture 16 in the magazine wall in response to rotation of the rollers by movement of the magazine on the supporting surface.

In more specific terms each roller has a lower exposed portion extending below the bottom of the casing to provide a support for the casing and an upper exposed portion extending above the bottom of the casing inside the casing. The rollers are located in linear disposition to define a roller conveyor for a cigarette supported on the exposed roller portions inside the casing so that when the rollers are caused to rotate by movement of the casing on the surface of a table the cigarette supported on the top surfaces of the rollers is conveyed in longitudinal direction and protruded through the aperture 16.

In more specific terms the magazine or casing is

in the form of a downwardly open top member 10 defining an elongated hollow casing for receiving a plurality of cigarettes positioned in parallel-stacked relationship within the casing. The casing has end walls 10*a* and 10*b* and side walls 10*c* and 10*d* and in a top aperture 11 a lid or cover 13 is pivotally supported adjacent one end in a manner to be more fully described with reference to FIGURE 5.

The top portion 10 of the casing may be moulded in a suitable synthetic resinous material, or if desired, made from metal.

The bottom 12 of the casing is preferably in the form of a substantially plane member of a configuration fitting in the open downwardly facing side of the top portion 10. As shown the top portion tapers upwardly whereby it is possible to assemble the two parts and hold them in desired mutual relationship by friction only by pressing the bottom portion up in the open underside of the top portion. If desired, suitable downwardly facing shoulders can be provided inside the top portion 10 to secure the correct mutual disposition between the bottom 12 and the top portion. As it will be understood also the bottom portion can be secured to the top portion by means of some suitable adhesive, because in view of the simplicity of the structure no disassembly will be necessary because there are no parts which can be subjected to damage and will have to be replaced.

In the bottom member 12 a plurality of apertures are provided, in the embodiment shown three apertures referred to by 15, 17 and 19. In each of these apertures a conveyor roller 14 is rotatably supported. With reference to FIGURE 3 the roller 14 is in the form of a duplex roller rotatably supported on a pin 21 in a transverse bore 22. Two other duplex rollers referred to as 14*a* and 14*b* in FIGURE 2 are located relatively to the front roller 14 in linear disposition behind each other so as to define a roller conveyor for a cigarette supported on the rollers.

As apparent from FIGURES 2 and 3 the surfaces of the duplex rollers facing each other are of conical configuration and may even be slightly arcuate so as to provide a substantial contact surface in engagement with a cigarette supported on the rollers. In order to secure safe protruding of the cigarettes supported on the rollers 14, 14*a*, 14*b* the surfaces in engagement with the cigarettes may be roughened or otherwise provided with increased friction.

The rollers may for example be moulded from a semi-soft snythetic resinous material, such as polyvinyl chloride or any other suitable synthetic resinous material, or the rollers may be made from semi-hard synthetic or natural rubber.

In order to guide the cigarettes sequentially to the conveying position supported on the rollers suitable guiding means is provided in the interior of the casing or magazine. Such guiding means is illustrated in FIGURES 2 and 3 as in the form of an inclined guiding plate 18 and an oppositely disposed inclined guiding plate 20 between which a narrow channel is defined of a width less than the thickness of two cigarettes so as to assure that one cigarette only is supplied to the conveying position. From the top edge of the guiding plate 20 a further inclined guiding plate 20*a* extends upwardly towards near the side wall 10*c* of the casing. The slope of the walls 18 and 20*a* should be sufficient to enable the cigarettes stacked in parallel relationship within the casing to pass down through the casing so that a cigarette is always supported on the exposed top surfaces of the rollers which extend above the top of the bottom member 12.

As shown in FIGURE 5 the lid 13 has a pair of side flanges 13*a* and 13*b* which are of increased height adjacent

the rear end at 13*c* and 13*d*. In each of the flanges having increased height a pair of L-shaped slots 23*a* and 23*b* is provided each having a portion extending substantially parallel with the lid 13 and a portion extending to the edge of the flange for enabling a pivot pin 25 extending transversely inside the casing between the side walls 10*c* and 10*d* to be introduced in the slots. A leaf spring 27 secured to the end wall 10*b* as shown in FIGURE 4 extends underneath the lid 13 and serves to tilt the lid outwardly in the direction of the arrow B shown in FIGURE 4. The side flanges 13*a* and 13*b* extend slightly beyond the front edge 13*f* of the lid so as to latch the lid in closed position under a downwardly extending edge 10*f* at one end of the aperture 11. At the front end 13*f* of the lid 13 an outwardly extending flap 30 is provided as a finger grip to unlatch the lid and open the box for the purpose of filling.

In operation when the box is filled with a supply of cigarettes as shown in FIGURE 3 the cigarettes are located in parallel stacked relationship resting on the sloping walls 18 and 20*a* with the lowest cigarette in the channel between the sloping walls 18 and 20 being supported on the interior exposed top surfaces of the conveying rollers 14, 14*a* and 14*b*. As it will be understood the aperture 16 in the end wall 10*a* is so disposed relatively to the bottom that the aperture 16 is in alignment with the lowest cigarette in the stack within the box. When the dispensing apparatus is supported on a surface such as a table top surface and is pushed by hand across the surface in the direction of a person to whom a cigarette is offered, the roller conveyor moves the cigarette forward so as to assume a projecting position in the direction of the person to whom a cigarette is offered.

It will be understood that the dispensing apparatus is of great simplicity and has no other movable parts than the rollers. Therefore there are no parts which can be damaged and the cigarette dispenser will therefore be an article which will last practically forever.

It will also be appreciated that with the entire mechanism included in the bottom of the magazine box there are no mechanical parts which have to be considered in the designing of the external appearance of the box which therefore can be designed exclusively with a view toward a neat appearance.

Though the invention in the foregoing has been described in great detail it will be understood that the embodiment shown and described is an example only and that various modifications of the design of the parts may be possible within the scope of the invention.

Such as for example, the rollers do not need to be duplex rollers but may within the scope of the invention be in the form of cylindrical rollers, if desired cylindrical rollers having an annular groove of cylindrical configuration to receive a cigarette.

In the embodiment illustrated the means for guiding the cigarettes to the conveying position, i.e., the sloping walls 18, 20, 20*a* are supposed to form a unitary structure with the bottom member 12 and can be moulded in one piece together therewith. If desired the guiding walls may, however, be in the form of a loose insert resting on the bottom member. It will be understood that also other modifications are possible within the scope of the invention as defined by the appended claims.

I claim:

1. An automatic cigarette dispenser operable to sequentially dispense cigarettes when moved along a surface, comprising:

a hollow casing for storing therein cigarettes to be sequentially dispensed including a bottom member and wall means constituting side and end walls extending upwardly from said bottom member,

the interior space of said hollow casing formed by said bottom member and said wall means being longer in the direction of a side wall than the axial length of the cigarettes to be stored therein, and being of such width and height as to enable storing therein the cigarettes to be dispensed,

an aperture provided in an end wall of said wall means of such size as to enable dispensing of a cigarette in the axial direction thereof,

means for normally maintaining said casing in a substantially upright position with said bottom member spaced from the surface along which the dispenser is moved during operation thereof including a plurality of longitudinally spaced roller means effectively providing at least a four-point support for said casing over a substantial portion of the area of said bottom member to impart stability to the dispenser in its upright position,

and means for rotatably supporting said roller means at said casing so as to extend in part below said bottom member outside said casing and in part above said bottom member into the casing to thereby constitute said roller means with the parts thereof extending below said bottom member the running wheels for the casing and with the parts thereof extending above the bottom member the conveyor means for the cigarette to be dispensed and directly resting thereon,

said aperture being so located in the end wall of the casing that the lowermost of the cigarette stored within said casing is automatically dispensed by the rotary movements of the parts of the roller means constituting the conveyor means, on which it rests, in the axial direction of the cigarette through said aperture and in the direction of movement of the dispenser as the latter is rolled on its running wheels along a surface and thereby produces said rotary movements.

2. An automatic cigarette dispenser operable to sequentially dispense cigarettes when moved along a surface, comprising:

a hollow casing for storing therein cigarettes to be sequentially dispensed including a bottom member and wall means constituting side and end walls extending upwardly from said bottom member,

the interior space of said hollow casing formed by said bottom member and said wall means being longer in the direction of a side wall than the axial length of the cigarettes to be stored therein, and being of such height and width as to enable storing therein the cigarettes to be dispensed,

an aperture provided in an end wall of said wall means of such size as to enable dispensing of a cigarette in the axial direction thereof,

means for normally maintaining said casing in a substantially upright position with said bottom member spaced from the surface along which the dispenser is moved during operation thereof including a plurality of pairs of longitudinally spaced roller means substantially aligned in a row and effectively providing at least a four-point support for said casing over a substantial portion of the area of said bottom member to impart stability to the dispenser in the upright position,

and means for rotatably supporting said roller means at said casing so as to extend in part below said bottom member outside said casing and in part above said bottom member into the casing to thereby constitute said roller means with the parts thereof extending below said bottom member the running wheels for the casing and with the parts thereof extending above the bottom member the conveyor means for the cigarette to be dispensed and directly resting thereon,

said aperture being so located in the end wall of the casing that the lowermost of the cigarettes stored within said casing is automatically dispensed by the rotary movements of the parts of the roller means constituting the conveyor means, on which the lower-

most cigarette rests, in the axial direction thereof through said aperture and in the direction of movement of the dispenser as the latter is rolled on its running wheels along a surface and thereby produces said rotary movements.

3. An automatic cigarette dispenser operable to sequentially dispense cigarettes when moved along a surface, comprising:

a hollow casing including a bottom member and wall means constituting side and end walls extending upwardly from said bottom member,

an aperture provided in an end wall of said wall means of such size as to enable dispensing of a cigarette in the axial direction thereof,

means for normally maintaining said casing in a substantially upright position with said bottom member spaced from the surface along which the dispenser is moved during operation thereof including a plurality of longitudinally spaced pairs of transversely spaced roller means effectively providing at least a four-point support for said casing over a substantial portion of the area of said bottom member to impart stability to the dispenser in the upright position,

and means for rotatably supporting said roller means at the bottom member of said casing so as to extend in part below said bottom member outside said casing and in part above said bottom member into the casing to thereby constitute said roller means with the parts thereof extending below said bottom member the running wheels for the casing and with the parts thereof extending above the bottom member the conveyor means for the cigarette to be dispensed and directly resting thereon, said roller means having means along the outer surfaces thereof to increase frictional engagement and being of at least partly conical shape with the apexes of a respective pair disposed mutually oppositely so as to form therebetween an approximately triangular conveyor channel,

the interior space of said hollow casing formed by said bottom member and said wall means being wider in the direction of an end wall than the diameter of the cigarettes to be stored therein and being longer in the direction of a side wall than the axial length of the cigarettes to be stored therein to enable the cigarettes stored in said casing, when in its normal upright position, to drop sequentially onto said roller means by gravitational forces,

guide means within said casing to provide a sequential supply of cigarettes to said conveyor means,

said aperture being so located in the end wall of the casing that the lowermost of the cigarettes stored in the casing is automatically dispensed by the rotary movements of the parts of the roller means constituting the conveyor means, on which the lowermost cigarette rests, in the axial direction thereof through said aperture and in the direction of movement of the dispenser as the latter is rolled on its running wheels along a surface and thereby imparts said rotary movements to said roller means.

4. An automatic cigarette dispenser operable to sequentially dispense cigarettes when moved along a surface, comprising:

a hollow casing including a bottom member and wall means constituting side and end walls extending upwardly from said bottom member,

an aperture provided in an end wall of said wall means of such size as to enable dispensing of a cigarette in the axial direction thereof,

means for normally maintaining said casing in a substantially upright position with said bottom member spaced from the surface along which the dispenser is moved during operation thereof including a plurality of longitudinally spaced pairs of transversely spaced roller means effectively providing at least a

four-point support for said casing over a substantial portion of the area of said bottom member to impart stability to the dispenser in the upright position,

and means for rotatably supporting said roller means at the bottom member of said casing so as to extend in part below said bottom member outside said casing and in part above said bottom member into the casing to thereby constitute said roller means with the parts thereof extending below said bottom member the running wheels for the casing and with the parts thereof extending above the bottom member the conveyor means for the cigarette to be dispensed and directly resting thereon, said roller means having means along the outer surfaces thereof to increase frictional engagement and being of at least partly conical shape with the apexes of a respective pair disposed mutually oppositely so as to form therebetween an approximately triangular conveyor channel,

said aperture being so located in the end wall of the casing that the lowermost of the cigarettes stored in the casing is automatically dispensed by the rotary movements of the parts of the roller means constituting the conveyor means, on which the lowermost cigarette rests, in the axial direction thereof through said aperture and in the direction of movement of the dispenser as the latter is rolled on its running wheels along a surface and thereby imparts said rotary movements to said roller means.

5. An automatic cigarette dispenser operable to sequentially dispense cigarettes when moved along a surface, comprising:

a hollow casing including a bottom member and wall means constituting side and end walls extending upwardly from said bottom member,

an aperture provided in an end wall of said wall means of such size as to enable dispensing of a cigarette in the axial direction thereof,

means for normally maintaining said casing in a substantially upright position with said bottom member spaced from the surface along which the dispenser is moved during operation thereof including a plurality of longitudinally spaced pairs of transversely spaced roller means effectively providing at least a four-point support for said casing over a substantial portion of the area of said bottom member to impart stability to the dispenser in the upright position,

and means for rotatably supporting said roller means at the bottom member of said casing so as to extend in part below said bottom member outside said casing and in part above said bottom member into the casing to thereby constitute said roller means with the parts thereof extending below said bottom member the running wheels for the casing and with the parts thereof extending above the bottom member the conveyor means for the cigarette to be dispensed and directly resting thereon, said roller means having means along the outer surfaces thereof to increase frictional engagement and being of at least partly conical shape with the apexes of a respective pair disposed mutually oppositely so as to form therebetween an approximately triangular conveyor channel,

the interior space of said hollow casing formed by said bottom member and said wall means being wider in the direction of an end wall than the diameter of the cigarettes to be stored therein and being longer in the direction of a side wall than the axial length of the cigarettes to be stored therein to enable the cigarettes stored in said casing, when in its normal upright position, to drop sequentially onto said roller means by gravitational forces,

said aperture being so located in the end wall of the casing that the lowermost of the cigarettes stored in the casing is automatically dispensed by the rotary

movements of the parts of the roller means constituting the conveyor means, on which the lowermost cigarette rests, in the axial direction thereof through said aperture and in the direction of movement of the dispenser as the latter is rolled on its running wheels along a surface and thereby imparts said rotary movements to said roller means.

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