Oct. 26, 1943. S. B. SHAPIRO 2,333,049

CIGARETTE FLAVORING MEANS

Filed Dec. 15, 1939

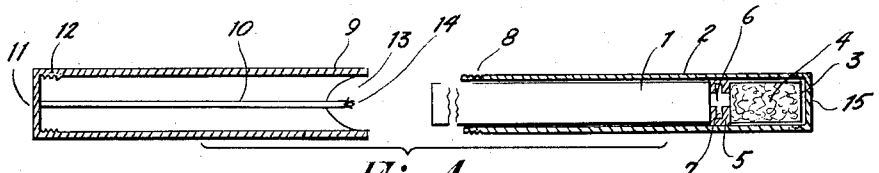


Fig1

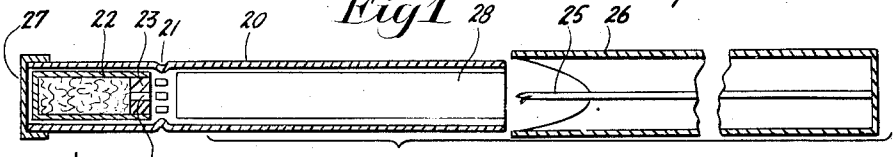


Fig. 2

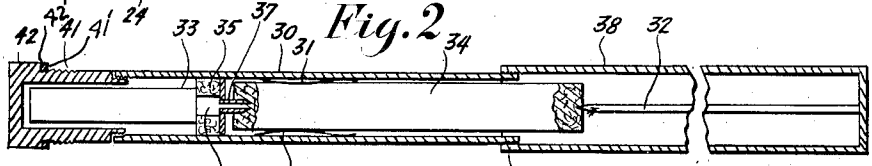


Fig. 3

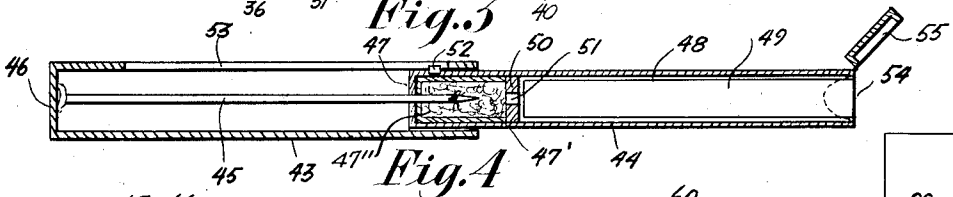


Fig. 4

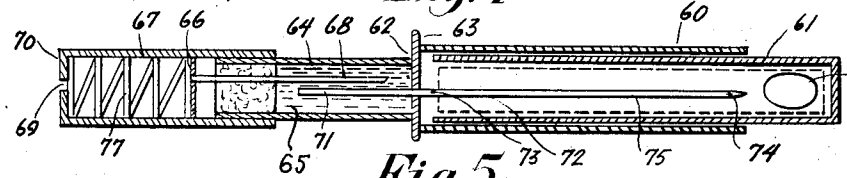


Fig. 5

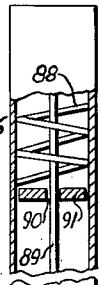


Fig. 11b

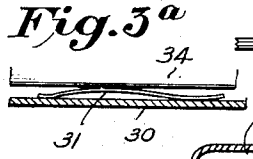


Fig. 3a

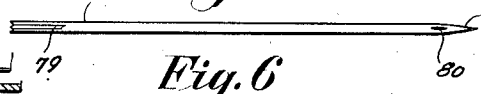
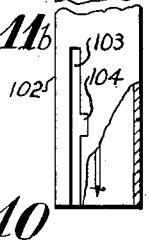


Fig. 6



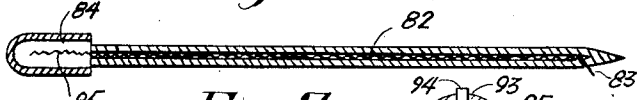


Fig. 7



Fig. 10

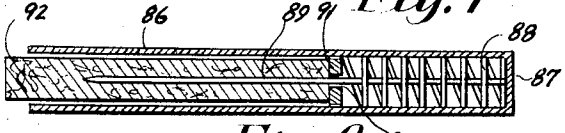


Fig. 8

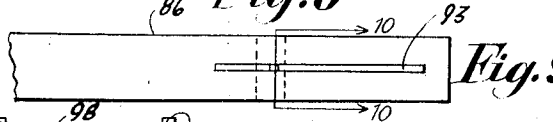


Fig. 9

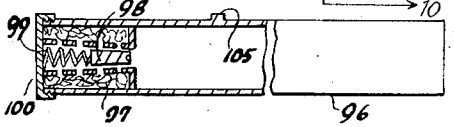


Fig. 11a

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CIGARETTE FLAVORING MEANS

Samuel B. Shapiro, Mattapan, Mass.

Application December 15, 1939, Serial No. 309,384

4 Claims. (Cl. 131—133)

The present invention relates to a means for treating or flavoring cigarettes after the cigarette has been made.

It is quite customary in the manufacture of cigarettes to produce a particular flavor by flavoring the tobacco before the cigarette is made. Most cigarette tobacco in standard brands of commercial cigarettes are usually put through a special process to produce in the finished cigarette the exact flavor desired and while the flavors of many cigarettes do not vary one from the other to a great extent, nevertheless, many smokers are able to detect and differentiate between the various cigarette blends and usually have a preference of one brand over another.

The present invention does not relate to the production of the distinctive cigarette flavors, but rather to the addition of other flavors of a known tobacco type, such as that obtained by the use of menthol, cubeb, clove and various essential and flavoring oils and perfumes, a long list of which may, if desired be set forth.

In the present invention, these flavors are injected into the cigarette any time before being used, and for that purpose the special device described in the annexed specification provides a specially useful function in the preparation of the cigarette. The device or article may be carried by the smoker in his pockets or in any suitable manner so that just before smoking the cigarette may be impregnated.

The present invention may be carried out through a number of different constructions, the embodiment of some of which are illustrated in the drawing attached, in which:

Figure 1 shows one form of the invention in section with the two parts thereof separated from each other.

Figures 2, 3, 3*a*, 4 and 5 show modifications of the invention set forth in Figure 1.

Figure 6 shows a detail of an element of Figure 5.

Figure 7 shows in section a further detail of a modification of the element illustrated in Figure 6.

Figure 8 shows a still further modification of the invention illustrating a portion of the device in section.

Figure 9 shows a portion of the device of Figure 8 in full view, and,

Figure 10 shows a section on the line 10—10 of Figure 9, and Figure 11*a* and Figure 11*b* show fragmentary sections of a modification of the device.

In Figure 1 a cigarette is shown at 1, placed in a cylindrical casing 2 a little larger than the cigarette so as to hold the cigarette reasonably secure in a fixed position. At the closed end of the casing there is provided a chamber 3 in which may be inserted means 4 for impregnating the cigarette with the desired flavor. This chamber 3 on the forward end is blocked off from the cigarette holder by a wall 5 in which there is a central passage 6 having a radially extending recess 7, the purpose of which will be explained later.

The outer end of the casing 2 is threaded on the outside at 8 as indicated in Figure 1. As shown in Figure 1 the cigarette normally extends somewhat beyond the end of the case. The case 2 at the end has a smaller diameter than the opposite portion of the case 9 into which the case 2 fits for impregnating the cigarette. At the center of the case 9 there is provided a needle 10 mounted securely at the back end 11 of the casing 9. The interior of the casing 9 is threaded adjacent the end 11 as indicated at 12 to receive the external threads 8 on the casing 2. When the two casings are telescoped together, the needle 10 passes through the center of the cigarette. Thereafter when the casing 2 is pulled away from the casing 9, the cigarette may remain in the casing 9 and may be extracted therefrom by placing the fingers at the curved cut out portion 13 of the casing 9. When the cigarette is removed from the casing 9 it will be fully impregnated by the charge which the needle carried. After the cigarette has been removed, the casing 2 may again be inserted in the casing 9 and the two parts securely fastened together by means of the threaded ends 8 and 12 so that the impregnating elements if volatile, will be sealed and prevented from escaping. In this position the needle initially becomes charged when the tip 14, which may or may not have a wick of cotton or other kind of absorbent fibre or material, passes through the passage 6 into the impregnating means 4. If a menthol essence is used, or other volatile essence that is characterized by crystallization along the surfaces which come in contact with the air, the block 5 is provided with a recess 7 to prevent such crystallization from creeping up beyond this recess. The container having the impregnating element 4 in Figure 1, may be renewed when desired by removing the end 15 from the casing 2 which may be threaded to the casing as indicated in the figure or tightly fitting thereto.

The form illustrated in Figure 2 is somewhat similar to that shown in Figure 1, except that

the container 20 may have embossed spots 21 extending around the circumference separating the reservoir in which the impregnating fluid or compound is contained from the rest of the casing.

The reservoir, as indicated in Figure 2, may comprise a cartridge 22 having an open end in which a collar 23 is inserted having a central passage 24 through which the needle 25 is positioned to pass when the two portions of the casing 20 and 26 are brought together. An external cap 27 is provided at the end of the casing 20 away from the chamber in which the cigarette 28 is held. The device of Figure 2 operates in the manner similar to that of Figure 1.

Figure 3 shows a further modification in which the casing 30 is provided with one or more internal flat springs 31, 31, adapted to hold the cigarette in place and prevent it from being pulled out with the needle 32 after it has pierced the center of the cigarette. A reservoir 33 for the impregnating compound may be placed at the end of the casing 30 away from the chamber in which the cigarette 34 is held. This reservoir which may be in the form of a cartridge somewhat similar to that shown in Figure 2 is positioned against a collar 35 having a central passage 36 from which extends a circular sharp ended flange 37 adapted to pierce the end of the central portion of the cigarette and prevent the needle from coming in contact with this end of the cigarette as the needle 32 is forced through the cigarette and into the cartridge or reservoir of the impregnating compound.

In the arrangement shown in Figure 3, the needle passes through the center of the cigarette and enters through the collar 37 and the passage 36 into the impregnating compound. The end cap or casing 38 is then drawn out, the cigarette 34 being held in place by means of the spring 31, 31, so that when the casing 38 is finally removed, the cigarette still remains within the casing 31. The cigarette may then be removed from the chamber 30.

When the cigarette 34 is in position in the chamber 30, the needle as the two casings are collapsed together, enters the reservoir 33 but not so fully as it does when the cigarette is removed. When the cigarette is removed from the casing the threads 40 on the inside of the casing 38 meshes with the threads 41 on the cap 42 covering the cartridge or reservoir 33. In this way a tight seal is made when the device is not in use, thus preventing the volatile gases from escaping from the reservoir. If desired the cover 42 may be provided with a shoulder 42' with a gasket 41' sealed to its face against which the edge of the casing 38 will press when screwed in position, thereby making a better air seal between the two casings.

In the arrangement shown in Figure 4, there are provided two elements 43 and 44, cylindrical in shape and working in one another in a manner somewhat different from that shown in the preceding figures. The cylinder or chamber 43 has a needle centrally positioned and supported from the end 46 of the chamber 43. The chamber 44 carries its closed end 47 on the same side as the end 46 of the chamber 43, the needle 45 passing therefore through the end 47 of the cylindrical casing 44. At the closed end of the casing 44 there is provided the impregnating cartridge 47'' in reservoir 47' which is separated from the chamber 48 holding the cigarette 49 by the wall element 50 which is provided with a perforation 51 through which the needle 45 is positioned to pass. The cylinders 44 and 43 are permanently held together by the key 52 working in the key-way 53 which may be closed at the top and may therefore consist of a groove on the inside of the casing 43 or which may be a slot in the casing in which the key 52 rides. In this modification, when the device is not in use, it is collapsed and the open end 54 where the cigarette is inserted, closed by a cap 55. When the device is to be used, the cylinder 44 is extended outward from the cylinder 43. The cigarette is then inserted in the tube 44 and a finger placed on the end and the two tubes telescoped together. During this process, the needle 45 passes through the impregnating chamber 47' through the opening 51 in the wall 50 and through the center of the cigarette. The tubes are then telescoped out from each other during which process the needle is withdrawn from the cigarette and enters the impregnating chamber. The cigarette may then be withdrawn from the chamber 48 and the device again collapsed and the cap closed. By partially telescoping the tubes together with the cap 55 open, the cigarette 49 will stay fixed on the needle and therefore begin to extend beyond the casing 44 so that in this operation as the tubes are telescoped together, the cigarette is easily removed from the casing 44.

In the modification indicated in Figure 5, there are provided two casings, one fitting within the other, the external case 60 fitting over the internal case 61. The case or cylinder 60 is provided with an end plate 62 having a flange 63 projecting beyond the walls of the casing 60. At the rear of the plate 62 there is provided a chamber 64 in which a liquid or semi volatile substance 65 is contained. The chamber 64 has an end 66 which works as a piston of a pump within the cylinder 67. A small pipe 68 extends through the end 66 of the chamber and permits the air within the cylinder 67 to be forced through the pipe 68 when the hole 69 at the end of the cylinder 67 is covered and the piston 66 is moving towards the end 70 of the chamber. The air pressure from the pipe 68 into the chamber 64 forces the liquid or volatile gas through the pipe 71 which is an extension of the needle 72 within the cylinder 60. A small aspirator hole 73 is provided in the hollow needle 72 so that as the liquid or fluid is forced through the needle, air mixes with it. The chamber 64 is sealed by the plate 62 at the end of the cylinder 60. The plate 62 and the chamber 64, are all held together as a single piece. As therefore the plate 62 is drawn towards the end plate 70 of the cylinder 67, the spray or liquid comes through the end opening 74 at the end of the needle.

In the operation of the device, the operator removes the cylinder 61, places the cigarette therein, and then inserts the cylinder 61 in the cylinder 60, forcing the needle 72 through the cigarette. The operator then grips the cylinder at the openings 76, one of which is on either side of the cylinder 61, and with the other hand draws together the plate 62 towards the spring 77 within the cylinder 67. For this purpose the thumb may be placed over the opening 69 and the second and third fingers used to draw backwards the plate 62, as the cylinder 60 is withdrawn from the cylinder 61. During this motion the needle passes through the cigarette impregnating it during this passage.

In Figure 6 the needle of Figure 5 is illustrated in enlarged form. This comprises a tube

78 having a hollow center 79 communicating at the end to an opening 80 adjacent the tip 81 of the needle. A wick of fiber or other material may be inserted in the length of the needle as indicated at 82 of Figure 7 and a portion of this wick 83 may extend from the end of the needle. The needle may well take other forms and may have a tuft or collar or be shaped like a spoon at or near the pointed end or away from the needle point sufficiently so that the needle will easily pierce through the tobacco of the cigarette. If desired the needle may be used simply with a reservoir 84 at its end in which a wick 85 may be inserted to conduct the fluid down the length of the needle. A further form of the invention is shown in Figures 8, 9 and 10.

In Figure 8 one half of the device is indicated. This half may be used with the arrangement such as shown in Figures 1, 2 or 3. In this case the cylinder 86 which is capped by a cap 87 at the end has a helical spring 88 positioned at the inside end of the cylinder. The needle 89 extends through the center of the spring and through a slot 90 in the disc 91. This disc 91 may be attached to the end of the spring 88 and is freely moveable back and forth in the cylinder 86. When the cylinder described in Figure 8 is used together with the unit in the left portion of Figure 2, the cigarette 92 is forced over the needle and open end of 20 (see Figure 2) comes against the plate 91 compressing the spring 88. After the needle has been forced through the cigarette, the cigarette is released and the plate 91 through the action of the spring forces the cigarette back and outward through the end of the cylinder. The needle has of course already been impregnated by its contact with the fluid or liquid cartridge in the container 20 when that is inserted within the casing 86, or if a form such as shown in Figure 3 is used, the needle as it passes through the end of the cigarette will pass into the chamber 33 and be charged at that time afterwards to be later deposited in the cigarette as the needle passes through it. In place of the spring shown in Figure 8, the cylinder 86 may be provided with a slot 93 and the disc as indicated in Figure 10 may have a projecting bar 94 extending through the slot. The disc 95 may be pushed in by pushing on the bar 94 as the cigarette is put in the end of the cylinder, and the cigarette may be pushed upward by pushing the bar in the other direction.

In Figure 11 the cylinder 96 in which the cigarette is initially placed has an end chamber 97 which is closed by the valve 98. Any type of valve may be used as for instance a conical valve as indicated in the figure in which the valve head is held against the seat by a spring 99. The chamber 97 may contain the flavoring fluid or material. The end of the chamber is sealed by the cap 100 which may be removed to refill the chamber with the flavoring fluid. The cylinder 102 is made of a size just to fit over the cylinder 96. This cylinder may be constructed in a manner similar to the cylinder described in Figure 8 and may be provided with a disc 91 and a spring 88, the disc having a central opening 90 for the needle 89. In the cylinder 102, there is provided a slot 103 which has an offset recess 104. In the cylinder 96 there is provided a projecting pin or bar 105 which is positioned on the cylinder 96 in such a manner that it may engage the slot 103. By turning then, the cylinder 102, the pin 105 may be brought to rest in the recess 104. In this position the end of the needle 89 rests just in front of the valve head and does not open the valve in this position. When the pin 105 is disengaged from the recess 104 and is forced towards the back end of the slot 103, the point of the needle pushes the valve 98 to the left as shown in Figure 11 and thereby impregnates the end of the needle. As the two cylinders are then drawn apart the needle passes through the cigarette and imparts to it the flavor in the manner as previously described. When the pin 105 engages in the recess 104, the open end of the cylinder 96 forces the disc 91 inward thereby tensioning the pin 105 against the shoulder of the recess 104 and locking the two cylinders together.

Having now described my invention I claim:

1. A portable device for flavoring cigarettes, comprising a cylinder having a flavoring reservoir contained at one end thereof, and having length and diameter dimensions adapted to hold securely said cigarette, a container of a size to fit over said cylinder and having centrally located therein in its longitudinal axis, an impregnating needle, said needle being of a sufficient length to enter into said reservoir when the cylinder and container are telescoped together.

2. A portable device for flavoring cigarettes, comprising two cylindrical chambers, the smaller fitting and sliding in the larger, the larger of said cylinders having a needle mounted at an end of said larger cylinder and extending longitudinally therethrough in the axis of the cylinder, the smaller of said cylinders having a reservoir at one end through which the needle passes, a wall partitioning said smaller cylinder into the reservoir and a chamber for holding the cigarette, said wall having a central opening therein and said needle passing through said wall as said cylinders are telescoped together.

3. A portable device for flavoring cigarettes, comprising two cylindrical chambers, the smaller fitting and sliding in the larger, the larger of said cylinders having a needle mounted at an end of said larger cylinder and extending longitudinally therethrough in the axis of the cylinder, the smaller of said cylinders having a reservoir at one end through which the needle passes, a wall partitioning said smaller cylinder into the reservoir and a chamber for holding the cigarette, said wall having a central opening therein and said needle passing through said wall as said cylinders are telescoped together, said smaller cylinder having a cap at the end thereof closing over the cigarette contained in said smaller cylinder.

4. A portable means for flavoring cigarettes comprising two telescoping cylindrical chambers one fitting into the other, the larger having a needle centrally located therein and approximately the length of the cigarette to be flavored, said smaller cylinder containing the cigarette and having an end section containing a flavoring cartridge from which the end of the needle picks up the flavor with which the cigarette is impregnated.

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