June 30, 1953 W. S. NISSLY 2,643,930

CIGARETTE LIGHTER

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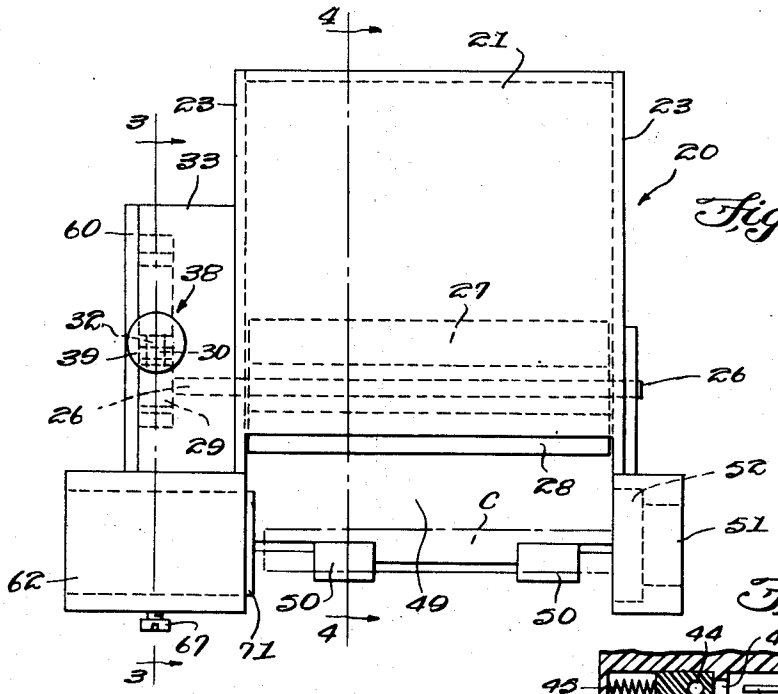


Fig. 1.

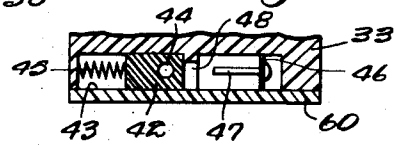


Fig. 10.

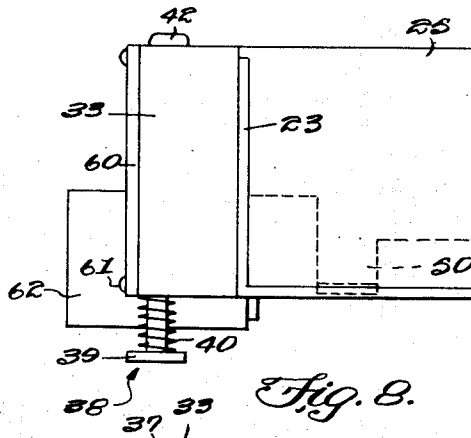


Fig. 2.

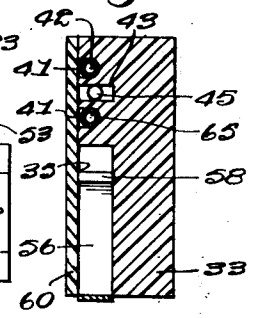


Fig. 9.

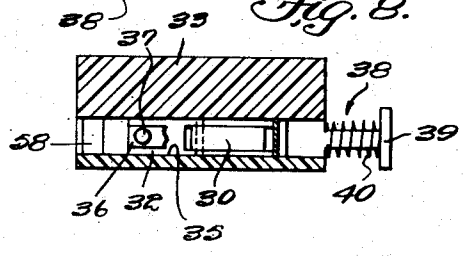


Fig. 8.

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Fig. 3.

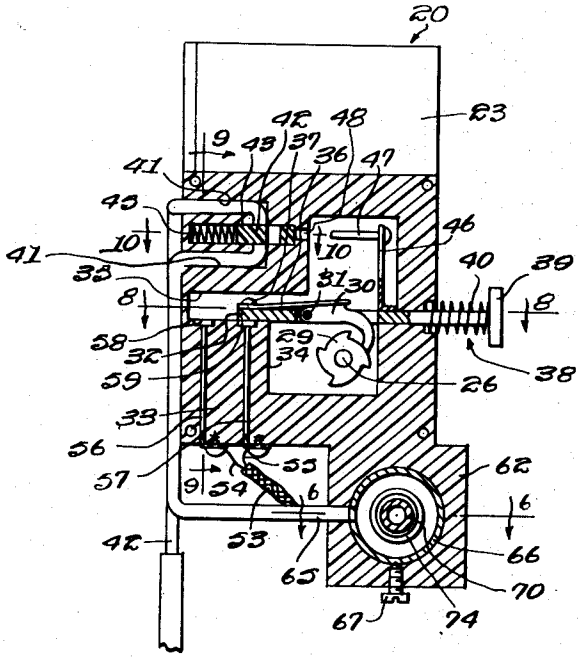


Fig. 4.

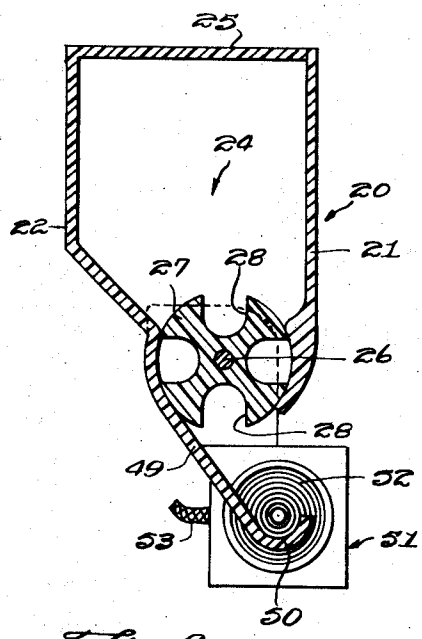
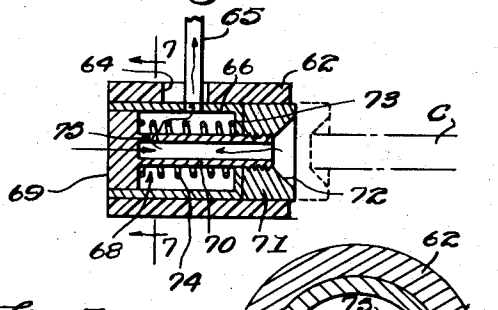


Fig. 6.



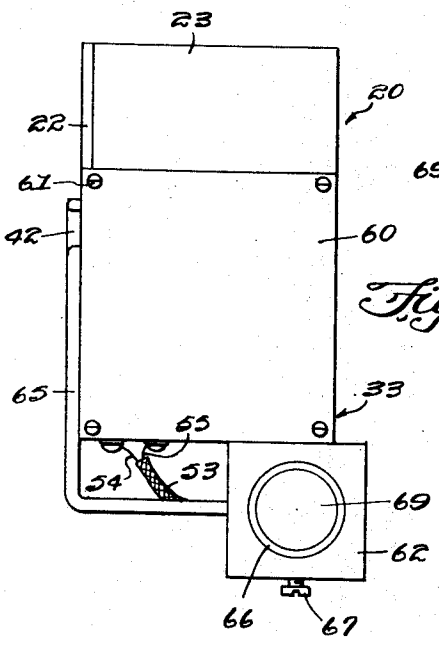


Fig. 5.

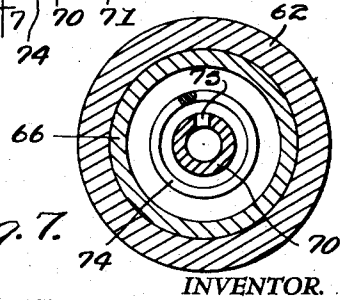


Fig. 7.

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CIGARETTE LIGHTER

Walter S. Nissly, York, Pa.

Application March 28, 1950, Serial No. 152,446

1 Claim. (Cl. 312—84)

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This invention relates to a smoking appliance, and more particularly to a combination cigarette holder and lighter, and is adapted to be used in a vehicle.

The object of the invention is to provide a combination cigarette holder and lighter which is adapted to be positioned in a vehicle, such as an automobile, whereby occupants of the vehicle can readily obtain a lighted cigarette whenever desired.

Another object of the invention is to provide a cigarette holder and lighter which is adapted to be manually actuated to dispense cigarettes one at a time, the cigarettes that are dispensed being lighted and ready to be smoked.

A further object of the invention is to provide a combination cigarette holder and lighter which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a front elevational view of the cigarette holder and lighter of the present invention;

Figure 2 is a top plan view of the cigarette holder and lighter;

Figure 3 is a sectional view taken on line 3—3 of Figure 1;

Figure 4 is a sectional view taken on line 4—4 of Figure 1;

Figure 5 is a side elevational view of the combination cigarette holder and lighter;

Figure 6 is a sectional view taken on line 6—6 Figure 3;

Figure 7 is an enlarged sectional view taken on line 7—7 of Figure 6;

Figure 8 is a sectional view taken on line 8—8 of Figure 3;

Figure 9 is a sectional view taken on line 9—9 of Figure 3;

Figure 10 is a sectional view taken on line 10—10 of Figure 3.

Referring in detail to the drawings, the numeral 20 designates a housing which is made of a suitable non-conductive material, such as a suitable plastic, and the housing 20 includes a front wall 21 and a back wall 22. The housing 20 further includes spaced, parallel, vertically disposed side walls 23, and a top wall or cover 25 is secured to the upper end of the back wall 22, Figure 4. These walls coact to define a compartment 24 for holding a plurality of cigarettes. A

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horizontally disposed shaft or pin 26 extends between the side walls 23 and is rotatably supported thereby, so that in order to fill the compartment 24 with cigarettes, the back wall 22 and cover 25 can be pivoted or swung in a clockwise direction away from the front wall 21.

The cigarette holder and lighter of the present invention is adapted to be used or attached to a vehicle, such as an automobile. The mechanism of the present invention may be attached to the dashboard, the steering column of the vehicle, or may be arranged in the rear portion of the vehicle. However, it is to be understood that the lighter and holder of the present invention is not to be restricted for use in an automobile, but may also be used in homes or on an office desk, as desired.

Mounted on the shaft 26 is a feeder drum or roller 27 which is provided with a plurality of longitudinally extending, spaced, parallel recesses 28 for receiving cigarettes therein. A manually operable means is provided for causing the roller 27 to rotate one-quarter of a turn at a time, so that one cigarette at a time is dispensed from the compartment 24. This means comprises a ratchet wheel 29, Figure 3, which is secured to an end of the shaft 26. Arranged in engagement with the ratchet wheel 29 is a follower cam 30 which is pivotally connected to a plate or bar 32 by means of a pin 31. The ratchet wheel 29 is arranged in a chamber 34 that is formed in a casing 33, the casing 33 being secured to one side of the housing 20, Figure 1. The plate 32 is slidably arranged in a channel 35 that is formed in the casing 33.

The casing 33 is also made of a non-conductive material, such as a suitable plastic, while the plate 32 is made of metal for a purpose to be later described. A spring member 36 is secured to the plate 32 by a suitable securing element, such as a rivet 37, Figure 3, and the spring member 36 serves to normally urge the follower cam 30 into engagement with the ratchet wheel 29. Secured to the front end of the plate 32 is a plunger 38 which is provided with a finger-engaging knob 39 on its outer projecting end. A coil spring 40 is circumposed on the plunger 38 to normally urge the plunger 38 to its outermost position. Thus, upon inward movement or depression of the plunger 38 by pressure from the user's finger on the knob 39, the plate 32 can be reciprocated or slid inwardly in the channel 35 so as to cause the follower cam 30 to rotate the ratchet wheel 29 which results in the feeder roller 27 being rotated one-quarter of a turn to

thereby dispense one cigarette from the compartment 24.

The casing 33 is also provided with a passageway 41, and a conduit 42 is adapted to connect one end of the passageway 41 to a suitable vacuum source, such as the intake manifold of the automobile engine. A valve 42, Figures 3 and 10, normally blocks the passageway 41, but upon inward depression of the plunger 38 by the user's finger, the valve 42 is moved inwardly so as to permit vacuumatic pressure to be exerted throughout the passageway 41.

The valve 42 is provided with an opening 44 which is adapted to be arranged in registry with the passageway 41, when the valve 42 is moved inwardly in its groove 43, the groove 43 being arranged in the casing 33. A coil spring 45 serves to normally urge the valve 42 outwardly, so that it is normally arranged in bridging or closing relation with respect to the passageway 41. Projecting upwardly from the plate 32 and secured thereto is a bracket 46 which has a pin 47 mounted on its upper end. The pin 47 is adapted to move into and out of registry with an opening 48, so that the pin 47 can strike or abut the front end of the valve 42 to move the valve 42 inwardly and permit the passageway 41 to be opened upon depression of the plunger 38.

The lower portion of the rear wall 22 terminates in an inclined partition 49, Figure 4, and the partition 49 serves to guide the cigarettes that leave the feeder roller 27 to the vicinity of the lighter element 51. A pair of supporting arms 50, which are arcuate in shape, are arranged on the lower end of the partition 49, and these arms 50 serve to support the cigarette C, Figure 1, while it is being lighted by the lighter element 51. The lighter element 51 is conventional and is electrically actuated or operated, the lighter element 51 including a coil 52, Figure 4, which may be electrically connected to the battery of the automobile.

A means is provided for actuating or energizing the coil 52 of the lighter element 51 when the plunger is depressed. A cable 53, which includes a pair of wires 54 and 55, has one end connected to the lighter coil 52. The wire 54 is connected to a contact 56, and the other end of the wire 54 is connected to a wire leading from the battery of the vehicle. The other wire 55 has one end connected to a similar contact 57 and the other end of the wire 55 is connected to the heater coil 52 which is grounded. Each of the contacts 56 and 57 is provided with a head on its upper end, and these heads are adapted to be bridged by the plate 32 when the plunger 38 is depressed, so as to complete the electric circuit leading to the lighter coil 52. The head on the upper end of the contact 56 is designated by the numeral 58, while the head on the upper end of the other contact 57 is designated by the numeral 59. As previously mentioned, the plate 32 is fabricated of a conductive metal, while the casing 33 is fabricated of a non-conductive material, such as a suitable plastic.

A vertically disposed side member 60 is detachably connected to the side of the casing 33 by suitable securing elements, such as screws 61, Figure 5, so that the various parts of the combination cigarette holder and lighter can be readily assembled or disassembled when it is necessary to replace or repair any of the parts.

A means is provided for urging or moving the cigarette C into engagement with the lighter

coil 52, and also for applying a slight suction or vacuum pressure on the end of the cigarette C, so as to facilitate the ignition of the cigarette when the plunger 38 is depressed, the plunger 38 being maintained in its depressed position during this entire operation. This last-named means comprises a body member 62 which is secured to the lower end of the casing 33 by suitable means, see Figure 1. Adjustably mounted in the body member 62 is a sleeve 66, and a line or conduit 65 extends through a slot 64 in the body member 62 and communicates with the interior of the sleeve 66. The other end of the line 65 is connected to the passageway 41 in the casing 33. A thumb screw or set screw 67 is arranged in threaded engagement with the body member 62, and the set screw 67 normally engages the outer surface of the sleeve 66. Thus, by loosening the set screw 67, the sleeve 66 can be adjusted in the body member 62 so as to permit adjustment of this member in order to accommodate cigarettes of varying length.

Reciprocably or slidably arranged in the sleeve 66 is a piston 68, Figure 6, the piston 68 including a head 69 and a hollow stem 70 which is secured to the head 69. Arranged in threaded engagement with an end of the stem 70 is a block 71 which is provided with a tapered seat 72 that is adapted to engage the end of the cigarette C. Thus, when the plunger 38 is depressed, the passageway 41 will be opened so that vacuum pressure will be applied in the line 65 to thereby draw or move the head 69 of the piston 68 toward the end wall 73 of the sleeve 66. The sleeve 66 and its end wall 73 are immobile or stationary at this time, so that the block 71 moves into engagement with the cigarette C to be ignited and urges the cigarette into engagement with the lighter coil 52 which has been energized by the previously-described electric circuit. A coil spring 74, Figure 6, is circumposed on the stem 70 for normally urging the piston head 69 away from the end wall 73 of the sleeve 66.

A means is also provided for applying a slight suction to the end of the cigarette that is to be inserted in the user's mouth so as to facilitate the ignition of the cigarette by the lighter coil 52. This means includes an aperture or opening 75, Figures 6 and 7, the aperture 75 being arranged in the hollow stem 70. Thus, upon depression of the plunger 38, there will be a movement of the piston 68 and block 71 to urge the cigarette into engagement with the lighter coil 52. Simultaneously, there will be a slight vacuum or suction applied to the other end of the cigarette, since the vacuum will be applied through the line 65, then through the aperture 75, and through the hollow stem 70 and seat 72.

In use, the housing 20 can be attached to any suitable place, such as the dashboard, steering column or other part of an automobile. A plurality of cigarettes are arranged in the compartment 24 and then when the occupant of the vehicle desires to dispense a lighted or ignited cigarette C, the plunger 38 is manually depressed by means of the knob 39. This movement of the plunger 38 causes several things to happen. First, it moves the plate 32 inwardly into the channel 35 so that the ratchet wheel 29 is rotated by means of the follower cam 30. This rotation of the ratchet wheel 29 results in the feeder roller being rotated one-quarter of a turn so that one cigarette, which is positioned in the recess 28, is deposited on the partition 49, and

this cigarette then slides or is guided down onto the supporting arms **50**.

At the same time, the metal plate **32** bridges the contact heads **58** and **59** so as to close the electric circuit leading to the lighter coil **52**, to thereby energize the lighter coil **52** of the lighter element **51**. Also, at the same time, the pin **47** is moved into engagement with the front end of the valve **42** to thereby move the valve **42** so that its opening **44** is in registry with the passageway **41**, whereby vacuum pressure from the intake manifold of the engine can be applied throughout the passageway **41**. This applying of the vacuum pressure in the passage **41** results in the head **69** of the piston **68** being moved or drawn toward the end wall **73** of the sleeve **66**, so that the block **71** engages an end of the cigarette C and moves the cigarette C into engagement with the energized lighter coil **52**. Also, at the same time, a slight vacuum is exerted on the end of the cigarette by means of the aperture **75**, so as to facilitate ignition of the cigarette by the lighter coil **52**. After the cigarette has been properly ignited or lit, pressure on the plunger **38** is released and the electric circuit will again open so that the lighter coil **52** will not be energized. The cigarette C can then be lifted from the supporting arms **50** and can be smoked as desired.

I claim:

In a cigarette dispenser for an automobile, a housing including a front wall, a back wall, a top wall secured to the upper end of said back wall, and a pair of spaced parallel side walls, there being a compartment arranged in said housing for holding a plurality of cigarettes, a shaft extending between said side walls and rotatably supported thereby, a feeder roller mounted on said shaft for receiving cigarettes from said compartment, said feeder roller being provided with a plurality of spaced parallel longitudinally extending recesses, a casing arranged adjacent one side of said housing and secured thereto, there being a chamber arranged in said casing, a ratchet wheel mounted on an end of said shaft and positioned in said chamber, there being a channel arranged in said casing, a plate slidably arranged in said channel, a plunger arranged exteriorly of said casing and connected

to said plate for causing sliding movement of the latter, a cam follower carried by said plate for engagement with said ratchet wheel, a spring for normally urging said plunger to its outermost position, a bracket projecting upwardly from said plate, a pin carried by said bracket, there being a groove arranged in said casing, said casing having a passageway extending therethrough and communicating with said groove, a valve slidably arranged in said groove and adapted to be actuated by said pin, said valve serving to selectively open and close said passageway upon actuation of said plunger, a conduit for connecting one end of said passageway to a vacuumatic source, an electrically operated lighter element supported by the lower end of said housing, an inclined partition for guiding a cigarette from the feeder roller toward said lighter element, a pair of spaced arms arranged on the lower end of said partition for supporting the cigarette during the lighting thereof, a body member arranged along the bottom of said casing, a hollow sleeve mounted in said body member, a piston reciprocably arranged in said sleeve, a line connecting said passageway to said sleeve for causing selective reciprocation of said piston upon movement of said valve by said plunger, and a block carried by said piston for urging an end of the cigarette into engagement with the lighter element upon depression of the plunger.

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