Dec. 22, 1953 C. B. CRONAN 2,663,606

MAGAZINE CIGARETTE LIGHTER FOR AUTOMOBILES

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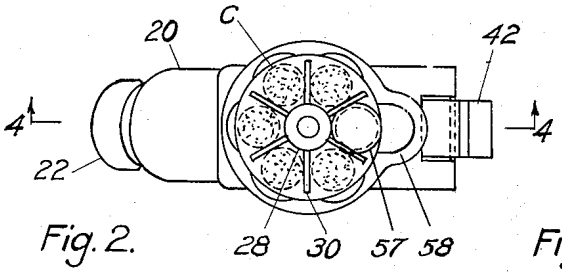


Fig. 2.

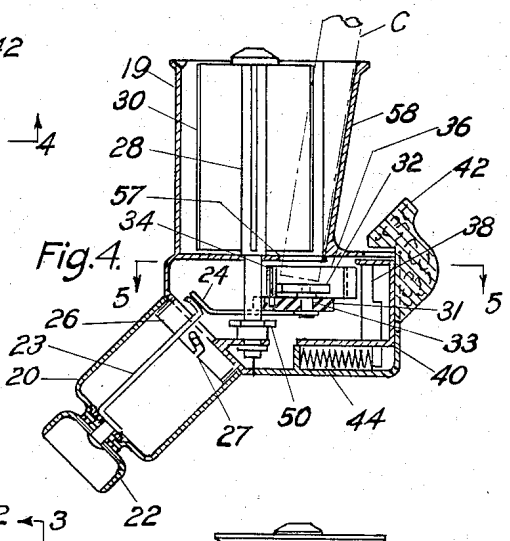


Fig. 4.

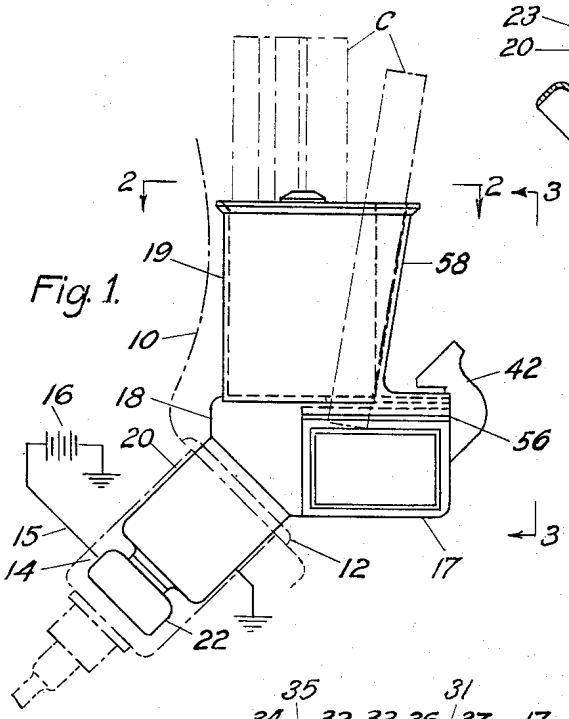


Fig. 1.

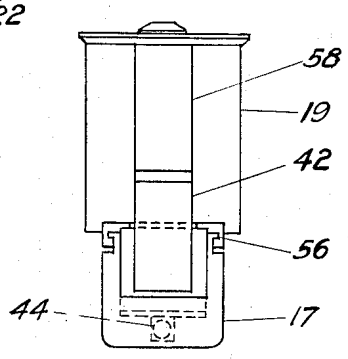


Fig. 3.

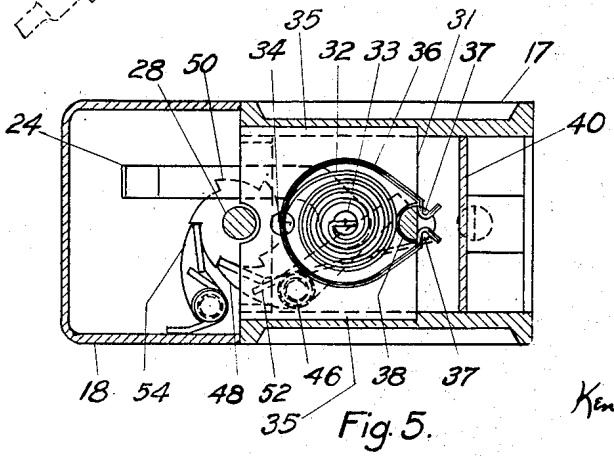


Fig. 5.

Inventor:
Clifford B. Cronan.
per
Kenway, Jenney, Witter & Hildreth
attys

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# UNITED STATES PATENT OFFICE

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## MAGAZINE CIGARETTE LIGHTER FOR AUTOMOBILES

Clifford B. Cronan, West Newton, Mass.

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6 Claims. (Cl. 312—86)

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This invention relates to magazine cigarette lighters particularly adapted for use in automobiles. Most automobiles are equipped with a cigarette lighter socket into which is plugged a lighter unit including a coil adapted to be electrically heated to incandescence when the unit is forced inwardly to contacting position. The driver, desiring a cigarette, is required first to find his pack and extract a cigarette and then operate the lighter and apply it to the cigarette. These operations are not only inconvenient but dangerous unless the driver stops his car. The primary object of my invention resides in the production of an improved lighting cigarette dispenser adapted to plug into the socket and provided with a magazine for holding a plurality of cigarettes. When the driver desires a cigarette he merely pushes a button inwardly and one of the cigarettes is delivered to him lighted and ready for use.

My improved cigarette lighting dispenser is preferably made conveniently small and open at the top to receive a small number of cigarettes of either standard or king size and either round or oval. The magazine preferably comprises an open cup within which is a turret provided with compartments to receive the cigarettes. When the operator starts on a trip he drops a cigarette into each compartment with the exception of the delivery station and these cigarettes are thereupon ready to be dispensed as required. The cup is furthermore formed with an inclined recess at its forward portion into which the lighted cigarette drops by gravity to a position conveniently available to the user.

Further novel features of the invention include a thermostat disposed about the igniting coil in such position that the thermostat shields the coil against the escape of heat and the heat of the coil aids the operation of the thermostat. The thermostat is of horseshoe shape and includes two relatively adjacent ends arranged to cooperate with a switch contact pin. Movement of the manually operated dispenser button inwardly serves simultaneously to index the turret and move the switch contact pin into latching engagement with said two ends of the thermostat. Heating and expanding of the thermostat a predetermined amount thereafter causes release of the pin and breaking of the heating circuit. The production of an improved mechanism of this nature comprises a further object of the invention.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment of the invention selected for purposes of illustration and shown in the accompanying drawing ing in which—

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Fig. 1 is a side elevation of my lighting cigarette dispenser,

Fig. 2 is a plan view,

Fig. 3 is front elevation,

Fig. 4 is a sectional view taken on line 4—4 of Fig. 2, and

Fig. 5 is a plan section taken on line 5—5 of Fig. 4.

In the drawing, 10 indicates the dash of an automobile and 12 the cigarette lighter socket mounted therein. The socket has a terminal contact at 14 from which a wire 15 leads to the battery 16. The grounded wall of the socket serves as the other terminal contact. The socket is adapted to receive the usual cigarette lighting unit embodying a coil with terminals disposed to engage the contact 14 and the grounded contact when pushed into the socket to operative position.

My improved lighting cigarette dispenser, as illustrated in the drawing, comprises a box-like body 18 having a cup-shaped cigarette magazine 19 thereon and an adapter 20 carried by and extending laterally from the body, the adapter being constructed to plug into the cigarette lighter socket and including electro-conductive contacts arranged to engage the contacts in the socket when the adapter is plugged thereinto as illustrated in Fig. 1. The cylindrical body of the adapter serves as the ground-contact and the other contact comprises a member 22 riveted to and insulated from the cylindrical body and carrying a conductive bar 23 arranged to make contact with a leaf 24 in the body 18. The adapter is detachably mounted on a collar 26 carried by the body and secured thereto by a bayonet joint 27. This construction provides for employing adapters of different lengths to accommodate sockets of different lengths in various automobiles.

A cigarette holding turret including a shaft 28 and a plurality of radial vanes 30 is mounted in the cup 19, the shaft being rotatably supported at its bottom end in the body 18. A cigarette lighting coil 32 is mounted in the body forwardly of the shaft 28 and the inner end of the coil is supported on a post 33 connected to the conducting leaf 24. The outer end of the coil is connected to a post 34 on which is mounted a thermostat 36. The thermostat is of horseshoe shape and embodies two arms substantially surrounding the coil and extending from the post 34 to relatively adjacent free ends 37. As illustrated in the drawing, the cup 19 together with the turret 28—30 and the cigarettes therein are disposed vertically whereby the cigarettes can

be dropped endwise into the turret and the foremost cigarette can drop endwise by gravity into contact with the lighting coil 32. It will be apparent that by "vertical" I mean sufficiently vertical to perform these functions of the invention which obviously do not require exact vertical disposition of these parts.

A contact member or pin 38 is carried by a slide 40 mounted to move forwardly-rearwardly in the body 18 and is disposed to engage the ends 37 of the thermostat when pushed rearwardly by engaging the thumb against the operating button 42 mounted on the forward end of the slide. The pin 38 is grounded to the body and its contact with the ends 37 of the thermostat completes the circuit through the coil and thermostat. Rearward movement of the pin springs the arms apart which thereupon latch the pin in the engagement illustrated in Fig. 5. The heat from the coil and the passage of electric current through the thermostat causes the arms to spring apart to a position releasing the pin after a predetermined cigarette lighting period whereupon a spring 44 moves the slide and pin outwardly to the position indicated in broken lines in Fig. 5.

Also carried by the slide 40 on a post 46 is a pawl 48 arranged to engage a ratchet 50 fixed to the turret shaft 28. A spring 52 on the post normally holds the pawl engaged with the ratchet. Rearward movement of the slide operates through the pawl and ratchet to index the turret and a second pawl 54 is provided to prevent reverse rotation of the ratchet and turret.

The body 18 is preferably made in two parts interengaged by rabbeted guideways at 56 whereby the body and parts therein can be conveniently assembled and disassembled. The top wall of the body 18 serves as a bottom wall for the cup 19 and a hole 57 is provided through this wall above and in alignment with the igniting coil 32 whereby a cigarette brought to a position forwardly of the shaft 28 drops downwardly into the hole and into contact with the coil. The portion of the cup wall disposed adjacent to the hole is inclined outwardly-upwardly at 58 to provide a cigarette receiving pocket into which the cigarette engaging the coil can fall by gravity to the convenient grasping position indicated in Fig. 1. The letter C is used to indicate a cigarette.

The circuit through the heating coil 32 from the positive contact 22 back to the negative contact 20 is as follows: contact 22, contact bars 23 and 24, post 33, coil 32, post 34, thermostat arms 37, grounded switch contact pin 38 and contact 20. As illustrated in Fig. 4, the posts 33 and 34 are mounted on a platform 31 of insulation material. For convenient assembly, this platform is slidably supported at opposite margins 35 on the side walls of the forward portion 17 of the body member 18.

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

1. A lighting magazine cigarette dispenser for automobiles, comprising a box-like body, a substantially vertically disposed cup thereon open at the top, a rotary cigarette holding turret disposed axially in the cup and adapted to hold a plurality of cigarettes disposed substantially vertically about the turret axis, a cylindrical adapter carried by and in electro-conductive contact with and extending laterally from the body and adapted to plug into the cylindrical cigarette lighter socket of an automobile, an electro-conductive contact carried by and insulated from the adapter for engaging a cooperating contact in the socket when the adapter is plugged thereinto, a cigarette lighting coil in the body beneath the cup, means including a thermostatic element and a switch contact associated therewith providing an electric circuit through the coil and to said contact insulated from the adapter, and manually operated means for simultaneously closing said switch contact and rotating the turret to a position dispensing a cigarette therefrom vertically and axially into end contact with the coil, passage of electric current through the circuit being adapted to heat and cause expansion of the thermostatic element to a position opening said switch contact in the circuit.

2. The cigarette dispenser defined in claim 1 plus a supporting bottom wall for the cigarettes with a hole therethrough above and in alignment with the coil, the portion of the cup wall disposed adjacent to said hole being inclined outwardly-upwardly to provide a cigarette receiving pocket into which the cigarette engaging the coil can fall outwardly by gravity to convenient grasping position.

3. The cigarette dispenser defined in claim 1 in which the thermostatic element is adjacent to and substantially surrounds the cigarette lighting coil.

4. The cigarette dispenser defined in claim 3 in which the thermostatic element is mounted on a post in the body at one side of the coil and includes two arms extending therefrom to relatively adjacent free ends at the opposite side of the coil, and said switch contact comprises a contact member carried by said manually operated means and disposed to cooperate with said free ends.

5. The cigarette dispenser defined in claim 4 in which said contact member is disposed to engage and separate said free ends when forced inwardly into contact therewith and said free ends are disposed to snap into latching engagement with said member, and a spring disposed to move the manually operated means and member outwardly when said arms expand sufficiently to release the free ends from latching engagement with said member.

6. The cigarette dispenser defined in claim 1 in which the adapter is detachably supported on an annular collar carried by and disposed laterally of said body.

CLIFFORD B. CRONAN.




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