July 11, 1933. V. S. WERNER 1,917,563

CIGARETTE CONTAINER, IGNITER, AND EJECTOR

Filed Sept. 3, 1931 2 Sheets-Sheet 1.

Fig. 1.

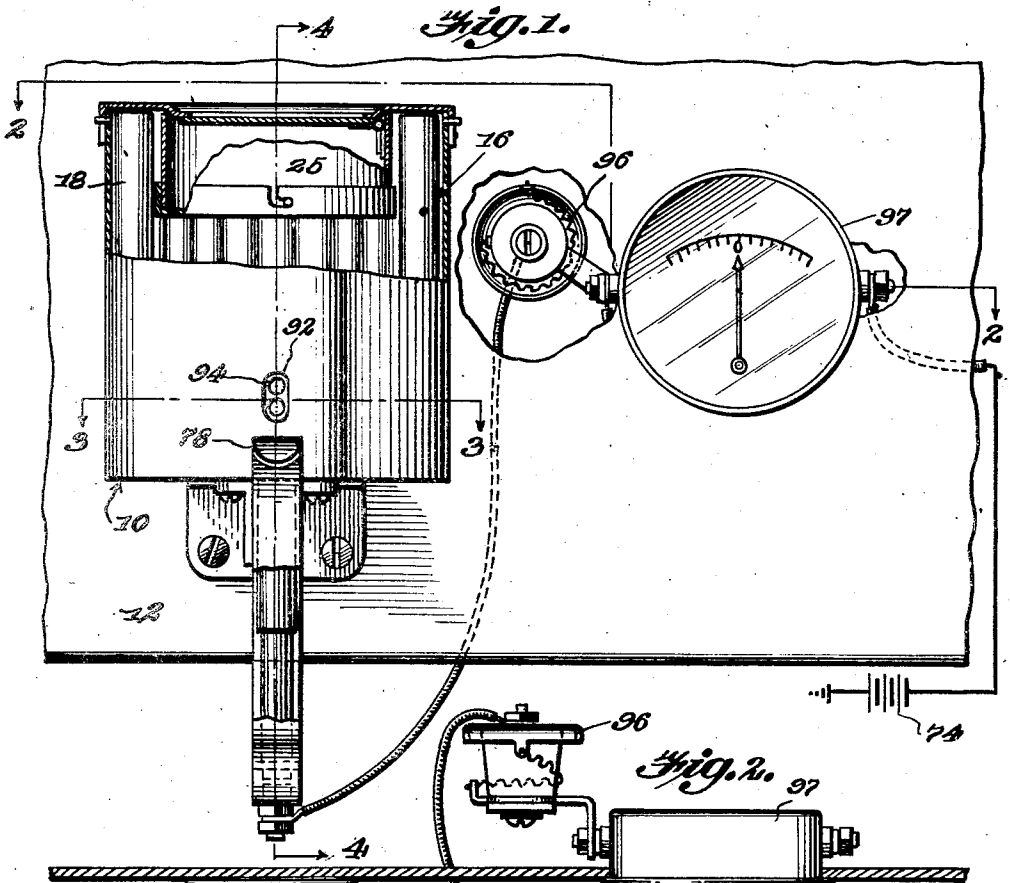
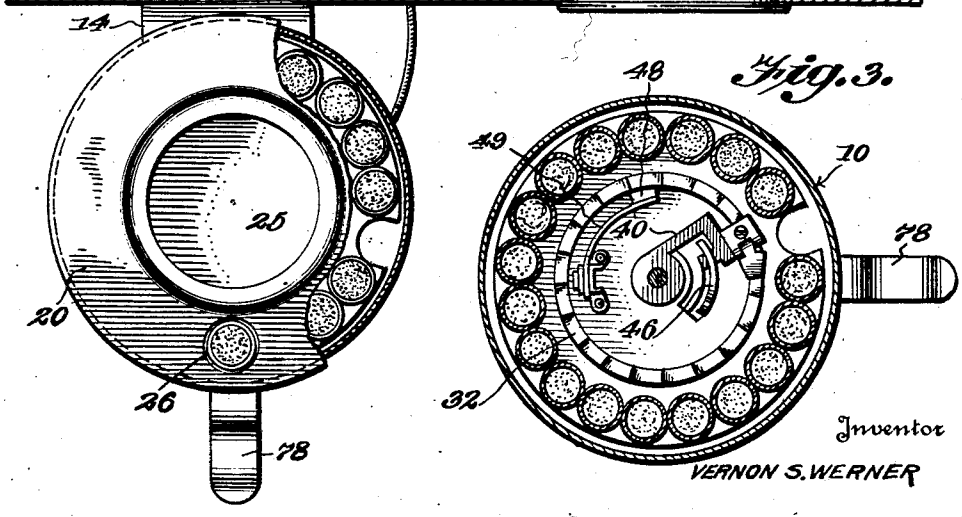


Fig. 2.

Fig. 3.



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Fig. 4.

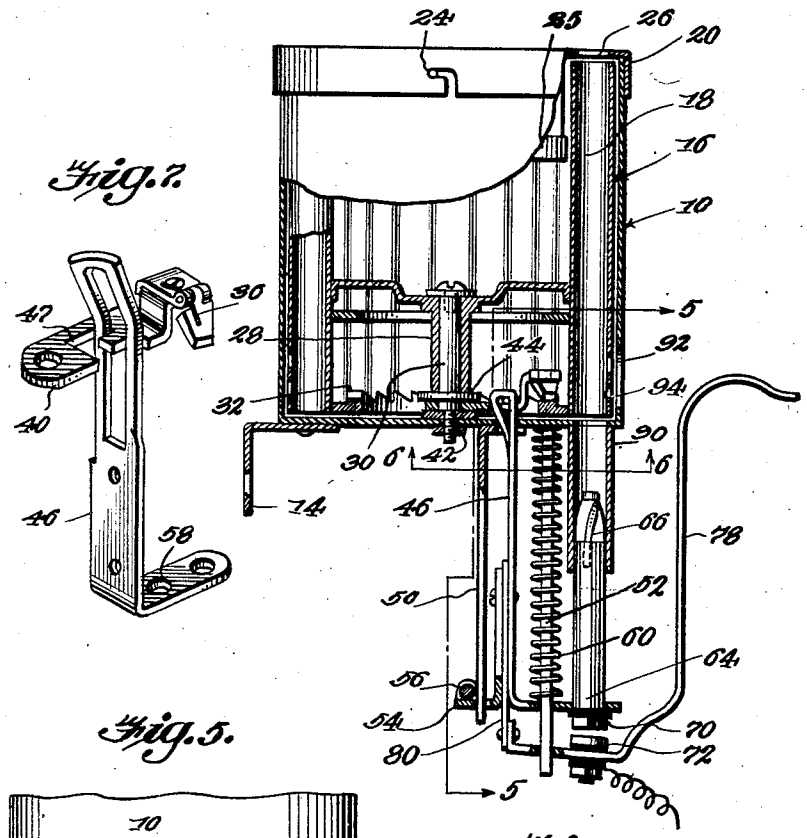


Fig. 7.

Fig. 8.

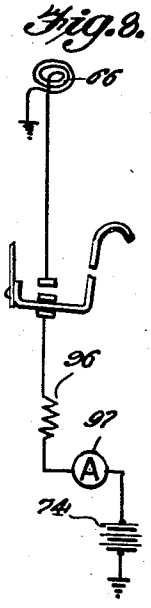


Fig. 5.

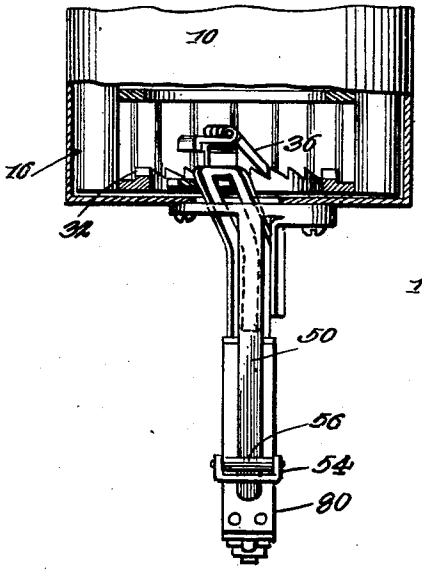
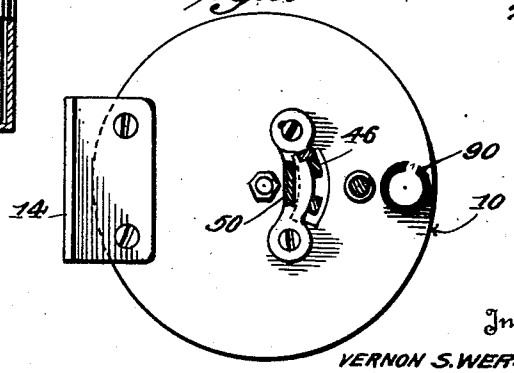


Fig. 6.



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UNITED STATES PATENT OFFICE

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CIGARETTE CONTAINER, IGNITER, AND EJECTOR

Application filed September 3, 1931. Serial No. 561,082.

This invention relates to a combination cigarette holder, lighter and ejector, especially adapted for use on motor vehicles although, of course, the same may be employed to advantage in the home of elsewhere.

Briefly stated, an important object of the invention is to provide an article of the character alluded to in which the manual actuation of a single member will bring about the lighting and partial ejection of a single cigarette to relieve the operator of the necessity of selecting a cigarette from a number of others in a package and then lighting the same through the medium of a match or a separate lighter with the result that when the article is used on an automobile the operator may obtain and light a cigarette without inconvenience or the danger of accident that ordinarily attends this.

Another and equally important object of the invention is to provide an article of the kind herein described in which the arrangement of parts for bringing about the successive feeding, lighting, and ejecting operations is simple and rugged and is such that the possibility of jamming of parts is reduced to a minimum making the device reliable and positive in use.

A further object of the invention is to provide a combination cigarette holder, lighter and ejector which is simple to apply, neat in appearance, and cheap 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 employed to designate like parts throughout the same.

Figure 1 is a side elevation illustrating the application of the device, parts being broken away.

Figure 2 is a horizontal sectional view taken on line 2—2 of Figure 1, the view being taken in the direction of the arrows,

Figure 3 is a horizontal sectional view taken on line 3—3 of Figure 1, the view being taken in the direction of the arrows.

Figure 4 is a vertical sectional view taken on line 4—4 of Figure 1, the view being taken in the direction of the arrows.

Figure 5 is a vertical detail sectional view taken on line 5—5 of Figure 4, the view being taken in the direction of the arrows.

Figure 6 is a horizontal sectional view taken on line 6—6 of Figure 4, the view being taken in the direction of the arrows.

Figure 7 is a perspective illustrating a cigarette feed mechanism embodied in the invention.

Figure 8 is a diagram of the wiring arrangement.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 10 generally designates a cylinder holder adapted to be secured in an upright or other convenient position to an automobile dash 12 or any other support. For example, it is entirely within the scope of the invention to mount the holder 10 on the steering column or in a position convenient to the occupants of the rear seat of an automobile. Also, when the device is employed in places other than an automobile it may be attached to a chair, a table, a lamp or in fact, to an endless number of supports.

Figure 1 illustrates that a bracket 14 of L-shaped formation may be employed to attach the device to the dash 12, in which case, suitable fastening devices such as small bolts may be employed to connect the bracket to the dash.

Referring now to Figure 4 it will be seen that the holder 10 encloses a revolving cylinder 16 embodying an annular series of parallel tubes 18 open at the ends thereof and having the upper ends thereof more or less flush with the upper end of the holder 10 for the convenient reception of cigarettes.

A cover 20 is applied to the holder and is provided with an attaching flange detachably secured to the holder through a pin and bayonet slot connection 24 or any other means found desirable. The pin and bayonet slot connection 24 not only secures the cover 20 in place but at the same time provides a means by which the opening 26 in the cover is positioned in line with the ejecting position of

the device so that upon the actuation of the devices the unlighted end of the cigarette will be projected up through the opening 26 for convenient manual engagement.

In carrying out the invention, the cover 20 may be provided with a centrally located ash tray 25 which may be conveniently removed and emptied by the simple removal of the cover.

With further reference to Figure 4 it will be seen that the cylinder 16 is provided with an axial hub 28 in the form of a sleeve receiving a spindle 30. The spindle is, in turn, carried by the bottom of the holder 10 and allows the cylinder 16 to be turned in a manner to be described, for the successive presentation of the cigarettes to the lighting and ejecting position.

Referring now to the means by which the cylinder 16 is turned, always in the same direction of course, attention is invited to Figures 3, 4 and 5 in which it is illustrated that the annulus forming the lower end of the cylinder 16 is extended inward of the tubes and is provided on the upper surface thereof with an annular series of ratchet teeth 32 engaged by an arcuately movable pivoted pawl 36.

In Figure 3 it is illustrated that the annulus upon which the ratchet teeth 32 is formed may be engaged by a felt or other friction member 48 mounted on one end of a leaf spring 49 the latter being suitably anchored to the holder and being tensioned to press the felt into contact with the annulus and thereby hold the cylinder 16 in a set position.

The pawl 36 is horizontally pivoted to the upwardly off-set outer terminal portion of a radial arm 40 the inner portion of the arm being rotatably mounted on the spindle 30.

Figure 4 illustrates that the lower portion of the spindle 30 is reduced to define a shoulder resting on a washer 42 at a point spaced above this washer, the spindle is formed with or carries a boss 44. It is between the washer 42 and the boss 44 that the arm 40 is mounted with the result that freedom of movement of the arm is allowed at all times, it being noted in this connection that the space between the washer 42 and the boss is slightly greater than the thickness of the arm 40 so that there can be no binding of these parts.

It is believed to be apparent that arcuate movement of the arm 40 in a clockwise direction as viewed in Figure 3 will bring about similar movement of the cylinder 16 for the single presentation of the cigarettes to the lighting and ejecting position.

The arm 40 is shown in Figure 7 to be engaged by a vertically movable cam 46. More particularly, the arm 40 is provided between the ends thereof with an L-shaped slot 47 opening out through one side thereof and receiving one of the spaced parallel arms or sides of the cam 46. The cam 46 has the upper portion thereof extended angularly so that upward movement of the cam will bring about arcuate movement of the arm 40.

As might otherwise be expressed, the cam 46 is provided with a longitudinal cam slot slidably receiving a finger or other portion of the cam 40 thereby producing a motion transmitting connection between the cam and the associated arm. The lower portion of the slot in the cam 46 is straight as is the adjacent portion of the cam so that the final phase of the upward movement of the cam 46 will not further change the position of the radial arm 40. It might be noted that downward movement of the cam 46 will bring about the retraction of the arm 40 and the spring actuated pawl 36 carried thereby so that the pawl will be in position for again imparting the desired arcuate movement to the cylinder 16.

As shown in Figure 4 the cam 46 is located between and in spaced parallel relation to a pair of depending guide members 50 and 52, the cam 46 being provided at the lower portion thereof with a member 54 having a slot receiving the depending guide member 50. A roller 56 is carried by the member 54 adjacent the slot therein and is adapted for contact with the depending guide 50 to avoid excessive friction between the members 50 and 54.

The lower portion of the cam 46 is extended at right angles to the plane of the cam and is provided with an opening 58 slidably receiving the depending guide stem 52. An expansion coil spring 60 is confined between the angularly extending lower portion of the cam 46 and the bottom of the case 10 and serves as a means for returning the cam 46 to the lower position shown in Figure 4 subsequent to the manual elevation of this part.

The angularly extending lower portion of the cam 46 also carries the cylindrical support 64 of a lighting element 66 so that the ascent of the cam is accompanied by similar movement of the lighting element.

The lighting element 66 has constant electrical engagement with a contact 70 in the path of travel of and adapted for engagement by a second contact 72. The contact 72 has connection with a source of current 74 and since the element 66 is grounded as shown in Figure 8, only one wire need extend to the device. With reference to Figure 8, it will be seen that a resistance element 96 may be positioned between the source of current 74 and the lighting element 66 to protect the lighting element. The numeral 97 designates an ammeter from which the electrical feed may be taken.

In carrying out the invention, the contact 72 is mounted on the lower portion of a handle 78 which lower portion of the handle is attached to the cam 46 through the intervention of a leaf spring 80. That portion of the leaf

spring 80 between the handle 78 and the cam is free and therefore a lifting force applied to the handle 78 will bring about engagement of the contacts 70 and 72 and in the elevation of the cam 46.

As previously described, elevation of the cam 46 will turn the cylinder 16 to bring a cigarette to the lighting and ejecting position which position is, of course, directly in line with the path of movement of the element 66. Now, it is important to observe that upon the application of the lifting force to the handle 78 the supply of current to the heating element 66 is brought about and this is followed by the partial rotation of the cylinder 16 and the engagement of the element with the lower end of the cigarette. Since the lighting element 66 is energized as the first step in the procurement of a cigarette, sufficient time is allowed the lighting element to reach a critical temperature before contact with the cigarette is lost.

The ejecting stem 64 is slidable within a depending guide barrel 90 suspended from the holder 10 and located so that the tubes 18 are successively brought into alignment therewith. Of course, the arrangement of parts is such that the partial rotation of the cylinder 16 is completed before the element 66 is caused to enter the tube immediately above. Also when the handle 78 is released, the spring 52 will return the heating element 66, the support 64, and the cam 46 to the lower position shown in Figure 4, placing the parts in position for actuation in the procurement of another lighted cigarette.

In carrying out the invention, the lower portion of the holder 10 is provided at the lighting and ejecting position with an aperture 92 while the lower portions of the tubes 18 are provided with additional apertures 94 all to furnish the air necessary for the lighting of the tobacco.

In the use of the invention the tubes 18 are loaded with cigarettes and in passing, it might be noted that the employment of an annular series of connecting and yet individual tubes avoids crushing of the cigarettes.

When it is desired to obtain a cigarette it is simply necessary to manually raise the handle 78 to first bring about contact to the members 70 and 72 and then raise the cam 46 to bring one of the tubes 18 into cigarette lighting and ejecting position after which the energized lighting element enters the tube and raises the cigarette therein so that the unlighted end of the cigarette is caused to project above the holder 10 for convenient manual engagement.

A cigarette device constructed in accordance with this invention will be recognized as having comparatively few parts and the arrangement of these few parts is such that unusual reliability is obtained along with economy and durability.

It is to be understood that the form of invention herewith shown and described is to be taken merely as a preferred example of the same, and that such minor changes and arrangement in construction of parts may be made as may remain within the spirit of the invention and scope of what is claimed.

Having thus described the invention, what is claimed is:

1. In a smoker's article of the character specified, a holder, a rotatable cigarette carrier within said holder, means for intermittently turning the holder for the successive presentation of the cigarettes carried thereby to a lighting and ejecting position, a leaf spring rigidly attached to said means, a handle rigidly attached to said leaf spring in spaced relation to said means, leaving the intervening portion of the spring free to be flexed, a combined lighter and ejector mounted on said means, electrical contacts carried by said handle and said combined lighter and ejector and adapted for mutual engagement upon the flexing of said spring, and a spring to normally hold said means and said combined lighter and ejector in retracted positions.

2. In a smoker's article of the character specified, a holder, a rotatable cigarette carrier within said holder, means for intermittently turning the holder for the successive presentation of the cigarettes carried thereby to a lighting and ejecting position, a leaf spring rigidly attached to said means, a handle rigidly attached to said leaf spring in spaced relation to said means, leaving the intervening portion of the spring free to be flexed, a combined lighter and ejector mounted on said means, electrical contacts carried by said handle and said combined lighter and ejector and adapted for mutual engagement upon the flexing of said spring, and a spring to normally hold said means and said combined lighter and ejector in retracted positions, and guiding elements arranged on opposite sides of said means in spaced parallel relation thereto.

3. In a smoker's article, a cigarette holder having a plurality of cigarette receiving chambers open at both ends thereof, means to successively present said chambers to a cigarette lighting and ejecting position and embodying a vertically movable member provided with an angularly extending terminal portion, a guide stem passing through said angularly extending portion, a spring mounted on said stem and engaging said angularly extending terminal portion to urge the same to a retracted position, a handle having a leaf spring connected to said member with a portion of the leaf spring free to allow the handle to move with respect to the member, a combined cigarette lighter and ejector carried by said angularly extending portion of said member, electrical contacts carried by

said angularly extending portion and by said handle and adapted for mutual engagement, and a guiding tube for said combined lighter and ejector.

4. A dispensing device of the class described comprising a holder, a cylinder rotatably mounted within the holder, a ratchet carried by one end of said cylinder, an arm rotatably mounted within the holder and having a pawl for engaging said ratchet, a cam carried by said holder for actuating said arm and pawl thereof, depending guiding members suspended from said holder and provided with means for engaging said cam for guiding said cam in its movement, said cylinder being provided with a series of individual cigarette chambers, said holder having an ejecting opening and ejecting means connected to said cam and simultaneously operable therewith for moving said pawl over said ratchet as said ejecting means engages a cigarette for ejecting same from said holder, the pawl being adapted to engage said ratchet and rotate said cylinder upon the return movement of said ejecting means for moving a succeeding cigarette in the path of movement of said ejecting means.

5. A dispensing device of the class described comprising a holder, a cylinder rotatably carried by said holder and being provided with a ratchet spaced inwardly of the periphery of the cylinder, a pawl carrying arm pivotally mounted within said holder, a pawl carried by said arm for engaging said ratchet, a vertically moving cam suspended below said cylinder and carried by said holder, said cylinder being provided with an annular series of individual cigarette chambers, depending guide members secured to said holder and arranged on opposite sides of said cam in spaced parallel relation, means carried by said arm and engaging said guide members for guiding said cam in its longitudinal movement, and a spring carried by one of said guide members and interposed between said holder and one end of said cam member for normally holding said cam member in a retracted position.

6. A dispensing apparatus of the class described comprising a holder, a dispensing cylinder mounted therein, a ratchet carried by one end of said cylinder, an arm rotatably mounted within said holder and having a pawl engaging said ratchet, a longitudinally movable cam engaging said arm for actuating said arm and pawl thereof, said cylinder being provided with a series of individual cigarette chambers, depending guide members carried by said holder and arranged upon opposite sides of said cam member in parallel spaced relation thereto, guiding means carried by said cam member and engaging said guide members, spring means interposed between said holder and said guiding means for normally holding said cam in an extended position, a cam operating means, and a combined lighter and ejector operable simultaneously with said cam.

In testimony whereof I affix my signature.

VERNON S. WERNER.