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(54) Title: SMOKING DEVICE

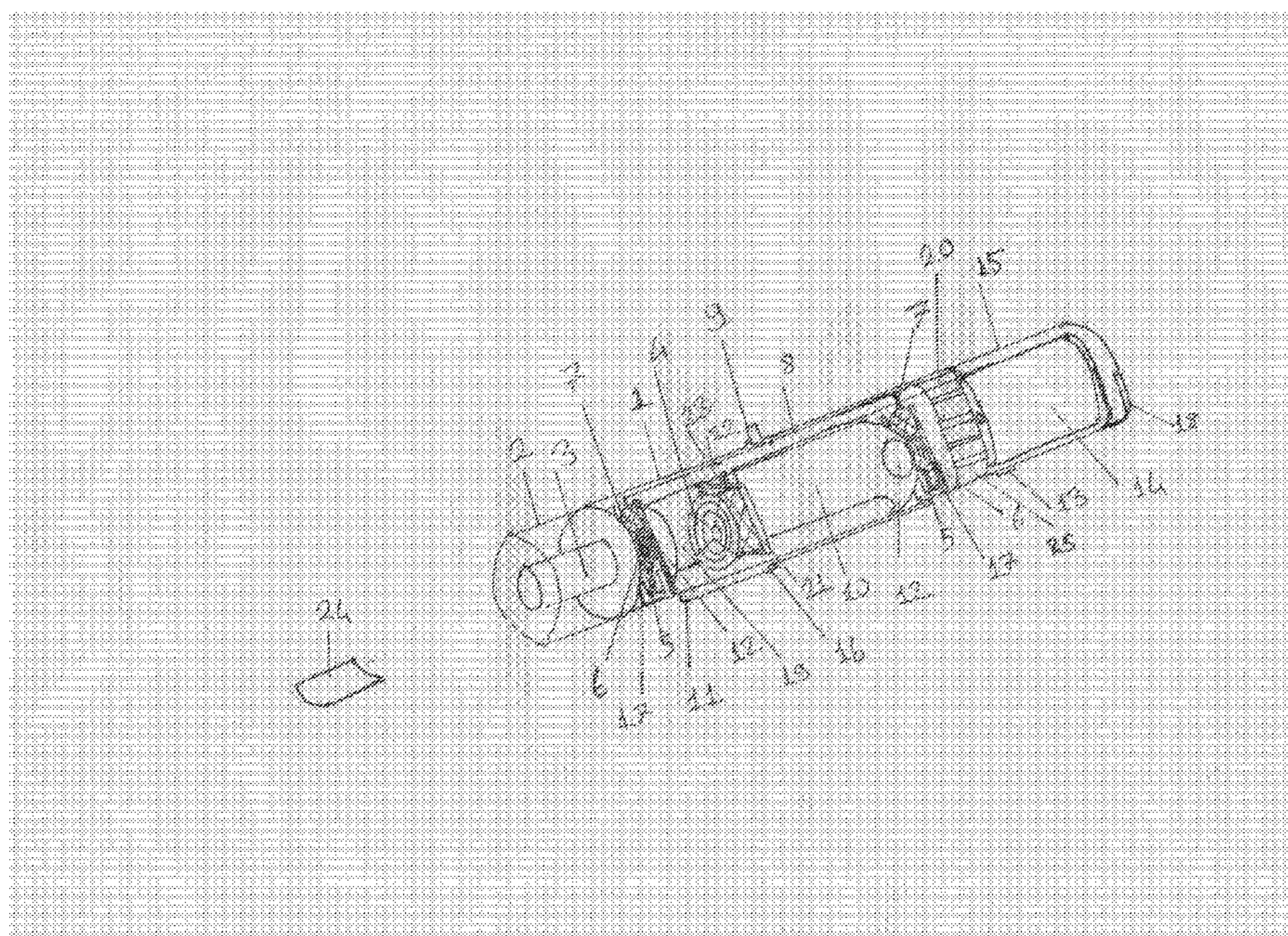


Figure-1

(57) Abstract: The invention is about the smoking device developed to protect smokers from the smokes of materials other than tobacco (paper), eliminate the time spent for rolling up cigarettes and allow users to determine the exact time during which they want to smoke. The rechargeable battery in the device powers the heating coil for burning tobacco placed in a closed chamber and the device is capable to cut the power fed to the heating coil and air supplied to the tobacco section to stop smoking. The invented device performs all these functions in a very convenient and fast manner.

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SMOKING DEVICE

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Technical field

The invention is about the smoking device developed to protect smokers from the smokes of materials other than tobacco (paper), eliminate the time spent for rolling up cigarettes and allow users to determine the exact time during which they want to smoke. The rechargeable battery in the device powers the heating coil for burning tobacco placed in a closed chamber and the device is capable to cut the power fed to the heating coil and air supplied to the tobacco section to stop smoking. The invented device performs all these functions in a very convenient and fast manner.

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State of the Art

In the current state of the art, tobacco consumed in several ways by being rolled up in a paper, burnt in pipe or rolled up as a cigar. However, the invented smoking device is unique, since it lights up and puts off tobacco depending on the will of the user, produces a pleasant smell and it can be easily carried.

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Purpose of the Invention

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The invented smoking device aims to protect smokers from the smokes of materials other than tobacco.

The invented smoking device also aims to eliminate the cost of paper used for rolling up cigarettes.

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The invented smoking device also aims to reduce the amount of materials carried by smokers.

10 The invented smoking device also aims to allow users smoke in the exact amount they want. With the invented smoking device, the user smokes when he or she wants and then the device switches off and waits until the next smoking cycle.

The invented smoking device also aims to reduce the costs incurred by smokers in relation to their smoking habits.

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The invented smoking device also aims to allow users to control the amount of smoking to reduce smoking to more reasonable levels, as a result of which the health problems caused by smoking can be minimised.

20 The invented smoking device also aims to make users feel better during smoking by producing a pleasant smell.

The smoking device developed for the abovementioned purposes is shown in the annexed figure as follows:

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Figure 1- View of the parts and use of the invented smoking device.

Explanations of the references given in the figure are as follows:

- 30 1- General view of the device
2- Front unit (mouthpiece) lid
3- Filter and mouthpiece connection unit
4- Tobacco burning coil
5- Spring
35 6- Heat resistant, movable lower air cut off part
7- Heat resistant, movable upper air inlet grid part

- 5 8- Connection piece between the movable parts
- 9- Air inlet and heating coil on/off button
- 10- Middle (container) part metal container
- 11- Skidded lid of the tobacco burning and container units
- 12- Metal container air inlet unit
- 10 13- Battery unit lid opening part
- 14- Battery
- 15- Battery housing
- 16- Scented cartridge installation unit
- 17- Support bracket
- 15 18- Charging slot
- 19- Tobacco burning unit
- 20- Device air inlet unit
- 21- Gridded tobacco burning unit wall
- 22- Battery positive pole connection piece
- 20 23- Heating coil positive pole connection piece
- 24- Scented cartridge
- 25- Air unit filter

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Disclosure of the invention

The invented smoking device can be designed in several models, all of which have the following 4 main units:

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1. Front unit (mouthpiece): It is the unit allowing the connection of the filter and the mouthpiece, equipped with a protection lid. The quality of the filter connected will be suitable for daylong use. The filter firmly sits on the movable upper gridded part. Smoke produced in the burning chamber directly passes through the
- 35 filter.

5 2. Middle unit (container unit): In line with the shape of the device and the outer
body material, the middle unit allow the mouthpiece and air inlet units to be
connected and removed. It has an outer body and the tobacco container made of
heat resistant material and placed inside the outer body. It consists of the
“movable parts”, connection pieces of movable parts, push button, support
10 brackets in which the movable parts move and the skidded lid providing access
inside the metal container. The skidded lid is equipped with a part on which the
scented cartridge is placed.

The middle metal container unit is made of heat resistant metal. There are air
15 inlets on both sides of this unit and there are two sections inside, which are
divided by a gridded wall. The said two sections are the tobacco burning and
tobacco storage sections. The tobacco burning section is located on the
mouthpiece side of the unit. The tobacco burning section consists of the chamber
in which tobacco is placed and the heating coil. Battery connections of the heating
20 coil are as follows: Positive and negative poles from the battery are brought out at
the ceiling of the container. The negative pole from the battery is directly
connected to the negative pole of the heating coil, while the positive pole is
connected to the positive pole connection piece of the movable parts' connection
piece. When the button is pushed, positive pole connection poles contact each
25 other, in which way the heating coil is switched on and off.

Middle unit skidded lid: It has lid located on the bottom for the discharge of ash
and placement of tobacco. On the tobacco burning section of the skidded lid, there
is a part for the placement of the scented cartridge. Suitable cartridges with
30 different scents can be placed on this part. The cartridge produces and emits
pleasant smell by the effect of the heat generated in the tobacco burning section.
The smell never gets in touch with tobacco.

Support bracket and movable parts: On both sides of the metal container, there are
35 support brackets with the movable parts and springs in the middle of them. Inside
the support brackets, the movable parts supported by springs move. The movable

5 parts consist of two sections. Lower sections of the movable parts close the air inlet of the container to prevent air passage. The lower section is made of materials suitable for this function. When the air inlets are closed, the container becomes air-proof. On the other hand, the upper section of the movable parts has a gridded structure to allow air inlet to the container and placement of the filter.

10 Movable parts located on each side are connected to each other on the top by use of a connection piece. The connection piece is equipped with both the switch on/off button and the battery positive pole connection part. When the button is pushed, the positive pole connection part moves to contact the heating coil positive pole connection. In this way, the power from the battery reaches the

15 heating coil, the circuit is completed and the heating coil functions, during which the movable parts also function. The part closing the air inlet of the container moves downwards to allow air passage to the container. When the button is released, it acts in two stages. Firstly, the button moves upwards a little to cut the heating coil connection, but the air inlets are still open, since the button has not

20 completed its movement. In this position, tobacco continues to burn and the user can continue smoking. When smoking is wanted to be stopped, the button is pushed again, upon which the device is completely switched off. The springs on the support brackets move movable parts upwards. Air inlets of the container are closed by the pieces on the lower section of the movable part and air passage to

25 the container is cut, which stops burning of tobacco.

The middle section (container section) consists of the following parts:

3. Air section: It is located between the battery section and the middle section and enables air inlet to the device. It can be shaped by use of different types of grids. There is a thin air filter inside the air section, which filters dust, hazardous substances and moisture in the air.

4. Rear section (battery section): It consists of the battery placement compartment, connection cables transferring power from the positive and negative poles of the

35 battery and charging parts. The negative pole of the battery is directly connected

5 to the heating coil. When the button is pushed, the movable parts move downwards to provide connection between the cable from the positive pole of the battery and positive pole connection part on the moving parts. The rechargeable battery is strong enough to operate the heating coil. Different power systems can be used to operate the heating coil. The battery compartment is equipped with a
10 lid allowing the battery to be removed when necessary. The device has a slot for charging the battery. Cables from the battery are removable by use of a socket.

The device consists of the abovementioned four units, all of which are detachable.

15 Use of the device

The battery of the device is charged or the device is connected to a suitable power source. The skidded lid on the middle unit of the device is opened and sufficient amount of tobacco is put in the tobacco burning and storage containers. Tobacco
20 can be supplied in specially prepared packages or in bulk. A mouthpiece or filter is attached to the filter and mouthpiece section on the front side of the device. Afterwards, the button on the device is pushed to switch on the heating coil and let air in the storage container. Smoke is inhaled through the mouthpiece or filter and the button is released when. The button moves in two stages. Firstly, the
25 button moves to the 1st stage, in which electric supply to the heating coil is cut, but air inlets are open and tobacco continues to burn. When pushed again, the button moves to the 2nd stage, in which the movable part closes the air inlet and tobacco stops burning. Front section lid is closed and the filter or mouthpiece is secured by the user. Ash discharge and tobacco placement is done thanks to the
30 skidding lid system. If pleasant smell is desired during smoking, a scented cartridge can be placed on the skidding lid. The device can be used for indefinite time in the manner described here.

5 Industrial application of the invention

The invented smoking device allows users to smoke conveniently in any environment, in the exact amount and duration they want. The device can be switched off to stop burning at any time.

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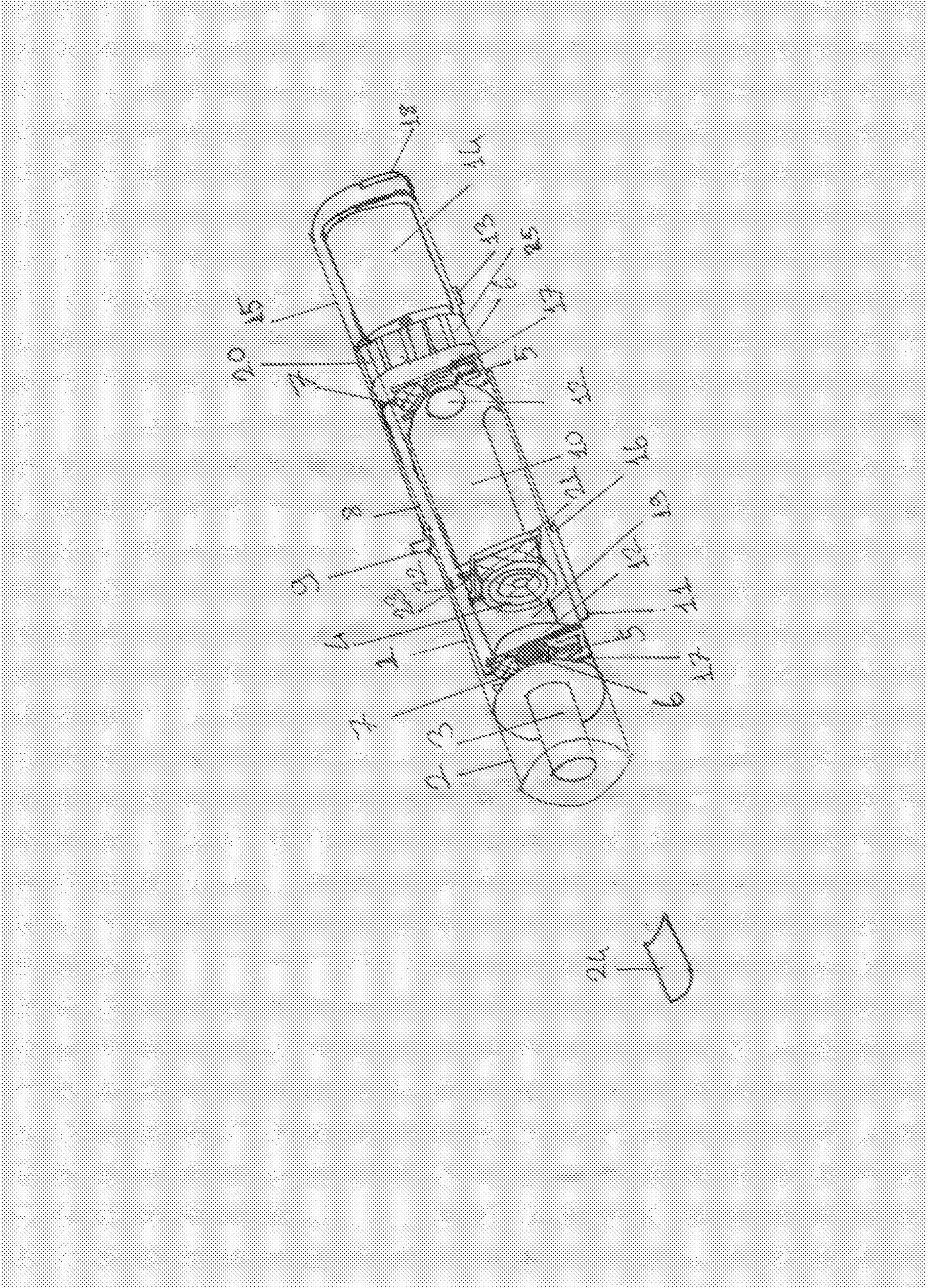
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CLAIMS

- 1- The invention is about the smoking device developed to support smokers for smoking in a more convenient and practical way. It is characterised by being equipped with a front unit (mouthpiece unit).
- 2- Based on the claim 1 above, the invented smoking device is characterised by being equipped with the middle unit (container unit) as the 2nd section.
- 3- Based on the claim 1 above, the invented smoking device is characterised by being equipped with the air unit as the 3rd unit.
- 4- Based on the claim 1 above, the invented smoking device is characterised by being equipped with the rear unit (battery unit) as the 4th section.

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Figure-1



INTERNATIONAL SEARCH REPORT

International application No.

PCT/TR2019/000069

A. CLASSIFICATION OF SUBJECT MATTER

A24F 40/40 (2020.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A24F 40/40

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

TURKPATENT Database

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO Abstract & Fulltext Database, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2015073564 A1 (VMR PRODUCTS LLC [US]) 21 May 2015 (2015-05-21) paragraphs 47-49; figures 1-2	1-4
X	CN 102754924 A (GONGYUN LONG) 31 October 2012 (2012-10-31) figure 2	1-4
X	CN 108514155 A (UNIV TONGJI) 11 September 2018 (2018-09-11) figure 1	1-4
X	CN 106858725 A (ETSONG (QINGDAO) IND CO LTD) 20 June 2017 (2017-06-20) figure 1	1-4

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance
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“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
“&” document member of the same patent family

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INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
WO	2015073564	A1	21 May 2015	US	2015128976	A1	05 December 2014
				WO	2015073564	A1	05 December 2014
				US	2016278436	A1	09 December 2015
				US	10085481	B2	31 October 2017
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				CN	102754924B	B	09 December 2013
CN	108514155	A	11 September 2018	CN	108514155	A	09 December 2017
				CN	108514155B	B	06 December 2019
CN	106858725	A	20 June 2017	CN	106858725	A	06 December 2016