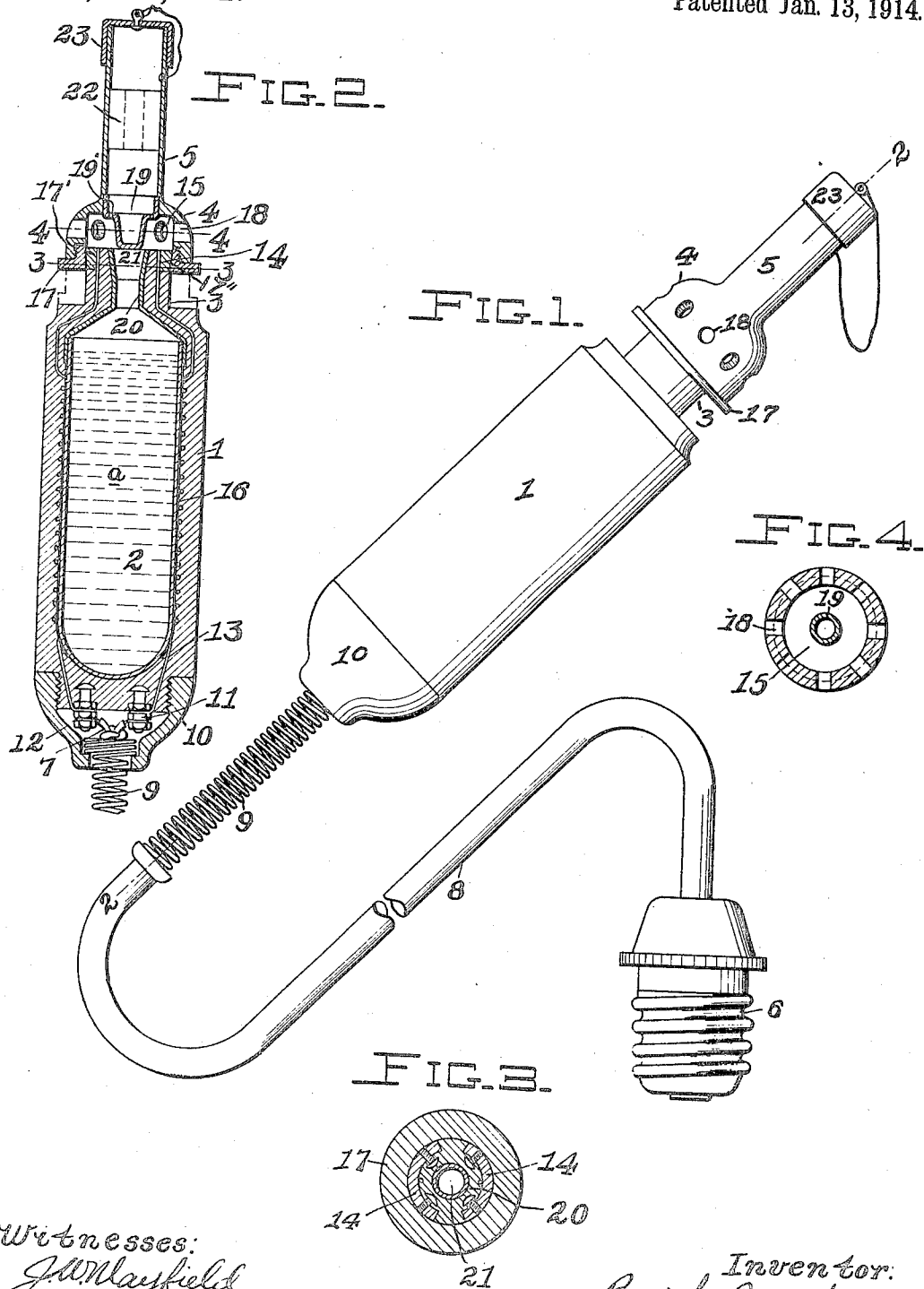


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 INHALING DEVICE.  
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1,084,304.



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# UNITED STATES PATENT OFFICE.

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## INHALING DEVICE.

1,084,304.

Specification of Letters Patent.

Patented Jan. 13, 1914.

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*To all whom it may concern:*

Be it known that I, BERT C. VAUGHN, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Inhaling Devices; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to inhaling devices and has special reference to an apparatus for holding medical compounds which are heated by electric means in order to provide vapors for inhalation.

The object of my invention is to provide a cheap, simple and efficient form of inhaling device which can be quickly or permanently attached to an electric circuit and which will heat medicinal compounds placed within the same so that vapor will be generated when the electric circuit is closed.

A further object of my invention is to provide an instrument whereby medicinal compounds which must be heated in order to generate vapor can be used with great efficiency and without any waste of such compounds.

To these ends my invention consists, generally stated, in the novel arrangement construction and combination of parts as hereinafter more specifically set forth and described and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved inhaling device, I will describe the same more fully referring to the accompanying drawing in which:—

Figure 1 is a side view of my improved inhaling device, showing the same in a position ready to be connected to an electric circuit. Fig. 2 is a longitudinal sectional view of the same on the line 2—2, Fig. 1. Fig. 3 is a cross sectional view on the line 3—3, Fig. 2. Fig. 4 is a cross sectional view on the line 4—4, Fig. 1.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing my improved inhaling device consists of a body or handle 1 which may be made from wood or other material or may be molded from any desired material, such as composition rubber, and has a hollow interior 2 and is

provided at its upper end with a reduced shank portion 3 for entering a cap portion 4 on the inhaling tube 5.

The inhaling device is adapted to be connected to an electric circuit by having an attachment plug 6 for engagement with a suitable socket and the wires 7 of the same extend through a flexible tube 8 and through a coil spring 9 and within a terminal cap 10 on the bottom of the body 1 where they are adapted to be connected to suitable binding posts 11 and 12. The binding posts 11 and 12 are also provided with the terminals of a resistance coil 13 which coil extends around the circular surface of the hollow interior of the body portion 1. The ends of the resistance coil 13 pass into the reduced shank portion 3 and each one of the same is connected to a contact portion 14 which is tapered inwardly on its outer face as hereinafter described.

Fitting within and inclosed or surrounded by the resistance coil 13 within the hollow interior of the body 1, which is properly insulated, is a bottle or container 16, preferably of aluminum, in order to form a compartment for holding medicinal compounds *a*.

The cap 4 is provided at its outer end with a contact bushing 17 which is secured in said cap by any suitable means such as screw threads 17' and such cap is provided above said contact bushing with a mixing chamber 15 into which air is admitted through a series of openings 18 in the side of the same. The inner face of the contact bushing 17 is tapered inwardly for the purpose of engaging with the outer face of the contact portions 14 on the reduced portion 3. The inhaling tube 5 is provided with a stopper 19 which has a series of small holes 19' and is formed preferably of aluminum and such stopper is adapted to fit within an aluminum portion 20 within the neck opening 21 of the body 1 when the device is not in use. The inhaling tube 5 is provided with suitable absorbents 22 within the same, while the outer end of said tube is covered by a cap 23 when the device is not being used with electric current.

The use and operation of my improved inhaling device is as follows:—The attachment plug 6 is placed in a suitable socket (not shown) in an electric circuit and the current passes up through the wires 7 con-

nected to the binding posts 11 and 12, thence  
 through the resistance coil 13 which lies  
 around the container 16 and one end of such  
 resistance coil then passes up through the  
 reduced shank portion 3 and is connected to  
 one of the contact portions 14 on said shank.  
 When the device is not in use it may be  
 left in the electric circuit but the cap por-  
 tion 4 will be in a position shown in the  
 dotted lines in Fig. 2 so that the contact  
 bushing 17 on said cap portion will not be  
 in engagement with the contact portions 14  
 on the reduced shank portion 3 and the  
 stopper 19 will be within the neck opening  
 21 and resting against the surfaces of the  
 aluminum portion 20. The container 16  
 is filled with a medicinal compound *a* and  
 the stopper 19 will prevent such compound  
 from escaping from said container when  
 such stopper is in the neck opening 21.  
 When it is desired to use the inhaling device  
 with electric current, the cap 23 is removed  
 from the outer end of the inhaling tube 5  
 and such tube is then inserted in the mouth  
 or nostril and said tube and cap portion 4  
 are pulled to a position such as shown in  
 Fig. 1 so that the stopper 19 will leave the  
 neck opening 21 and the contact bushing  
 17 will come in contact by its tapered inner  
 face 17' with the tapered outer face of the  
 contact portions 14. This will close the  
 electric circuit so that the current will pass  
 from one of the wires 7, through the binding  
 post 11, through the resistance coil 13 to  
 the contact portion 14, then through the con-  
 tact bushing 17, the other contact portion  
 14, the second half of the resistance coil 13,  
 the binding post 12 and the other wire 7.  
 As the current thus passes through the re-  
 sistance coil 13, such coil will be heated and  
 the medicinal compound *a* within the in-  
 terior of the container 16 will be heated so  
 that a vapor will be generated, which vapor  
 will pass upward through the neck opening  
 21 into the mixing chamber 15, thence  
 through the small holes 19' in the cork 19,  
 through the absorbent 22 and out through  
 the open end of the inhaling tube 5. The  
 person using the inhaling device can inhale  
 all the vapor which they desire as such vapor  
 will pass up through the small holes 19'  
 and in case there is an excess amount of  
 vapor being generated by the heat from the  
 resistance coil 13, such excess vapor will be  
 absorbed by the absorbent 22 in the inhaling  
 tube 5, as later explained. When the person  
 has finished using the device, electrically  
 heated, the cap 23 is placed over the open  
 end of the inhaling tube 5, and such tube  
 and cap portion 4 pushed downward so that  
 the contact bushing 17 will rest against the  
 body portion 1 as shown by the dotted lines  
 in Fig. 2, and the contact between such con-  
 tact bushing and the contact portions 14  
 broken. At the same time the stopper 19

will enter the neck opening 21 so as to pre-  
 vent the escape of the medicinal compound  
 from the container 16.

When the device is being used with the  
 electrical heating of the container the ex-  
 cess vapor is all absorbed by the absorbents  
 22, in the tube 5, so that if it is desired to  
 later use the inhaler without heating the  
 medicinal compound *a* in the container 16  
 the absorbent 22 will carry enough of said  
 medicinal compound for such use and oxy-  
 gen will be supplied from the mixing cham-  
 ber 15 and openings 18. If desired the in-  
 haling tube 5 and cap 4 may be removed  
 from the device by unscrewing the same  
 from the screw threads 17' and such tube  
 containing the absorbent 22 can be carried  
 in the pocket or otherwise and used as an  
 ordinary inhaler.

It will thus be seen that in the use of my  
 improved inhaling device, the medicinal  
 compound within the same may be heated  
 and vapor generated as desired, while the  
 contents of such container will be entirely  
 shut off from the atmosphere when the de-  
 vice is not in use.

Various modifications and changes in the  
 design, construction and operation of my  
 improved inhaling device may be resorted  
 to without departing from the spirit of the  
 invention or sacrificing any of its advan-  
 tages.

What I claim as my invention and desire  
 to secure by Letters Patent is:—

1. An inhaling device comprising a body,  
 a container within said body for holding a  
 medicinal compound, an electric coil within  
 said body and around said container adapt-  
 ed to be connected to an electric circuit, and  
 a slidable inhaling tube adapted to simul-  
 taneously open said container and close said  
 electric circuit to generate vapors of said  
 medicinal compound for inhalation.

2. An inhaling device comprising a body,  
 a container within said body for holding a  
 medicinal compound, an electric coil within  
 said body and around said container adapt-  
 ed to be connected to an electric circuit, an  
 inhaling tube slidably connected to said  
 body by a cap portion, a mixing chamber  
 in said cap for supplying oxygen, and means  
 on said cap and tube for simultaneously  
 opening said container and closing said  
 electric circuit to generate vapors of said  
 medicinal compound for inhalation.

3. An inhaling device comprising a body,  
 a container within said body for holding a  
 medicinal compound, an electric coil within  
 said body and around said container adapt-  
 ed to be connected to an electric generating  
 means and having an open circuit on said  
 body, and an inhaling tube connected to said  
 body by a cap portion, said cap portion hav-  
 ing a contact plate and having a stopper for  
 closing said container, said tube being slid-

ably mounted and adapted when drawn outward to simultaneously open said container and close said electric circuit by said contact plate to generate vapors of said medicinal compound for inhalation.

4. An inhaling device comprising a body, a container within said body for holding a medicinal compound, an electric coil within said body and around said container adapted to be connected to an electric generating means and having an open circuit on said body, an inhaling tube connected to said body by a cap portion, said cap portion having a contact plate and having a stopper for closing said container, said tube being slidably mounted and adapted when drawn outward to simultaneously open said container and close said electric circuit by said contact plate to generate vapors of said medicinal compound for inhalation, and means for supplying oxygen to said cap.

5. An inhaling device comprising a body, a container within said body for holding a medicinal compound, an electric coil within said body and around said container adapted to be connected to an electric generating means and having an open circuit on said body, an inhaling tube connected to said body by a cap portion, said cap portion having a contact plate and having a stopper for closing said container, said tube being slidably mounted and adapted when drawn outward to simultaneously open said container and close said electric circuit by said contact plate to generate vapors of said medicinal compound for inhalation, and openings in said cap for supplying oxygen thereto.

6. An inhaling device comprising a body, a container within said body for holding a medicinal compound, an electric coil within said body and around said container adapted to be connected to an electric generating means and having an open circuit on said body, an inhaling tube connected to said body by a cap portion, said cap portion having a contact plate and having a stopper for closing said container, said tube being slidably mounted and adapted when drawn outward to simultaneously open said container and close said electric circuit by said contact plate to generate vapors of said medicinal compound for inhalation, and means in said tube for absorbing excess medicinal vapor.

7. An inhaling device comprising a body, a container within said body for holding a medicinal compound, an electric coil within said body and around said container adapted to be connected to an electric generating means and having an open circuit on said body, an inhaling tube connected to said body by a cap portion, said cap portion having a contact plate and having a stopper for closing said container, said tube being slidably mounted and adapted when drawn outward to simultaneously open said container and close said electric circuit by said contact plate to generate vapors of said medicinal compound for inhalation, and means for disconnecting said tube and cap from said container.

8. An inhaling device comprising a body, a container within said body for holding a medicinal compound, an electric coil within said body and around said container adapted to be connected to an electric generating means and having an open circuit, each end of which is connected to a contact plate on said body, said contact plate being tapered outwardly, an inhaling tube connected to said body by a cap portion having a contact ring, said contact ring being tapered inwardly, said cap portion having a stopper for closing said container, said tube being slidably mounted and adapted when drawn outward to simultaneously open said container and close said electric circuit by said contact ring engaging with said contact plates to generate vapors of said medicinal compound for inhalation.

9. An inhaling device comprising a body, a container within said body for holding a medicinal compound, an electric coil within said body and around said container adapted to be connected to an electric generating means, and an inhaling tube connected to said body by a cap portion, said tube being slidably mounted on said body and adapted when drawn outward to open said container to permit the passage of vapors of said medicinal compound from said container into said tube for inhalation.

In testimony whereof, I, the said BERT C. VAUGHN, have hereunto set my hand.

BERT C. VAUGHN.

Witnesses:

T. B. HUMPHRIES,  
J. N. COOKE.