(No Model.)

J. E. LEE.

THERMOCAUTER.

No. 490,969. Patented Jan. 31, 1893.

FIG. 1.

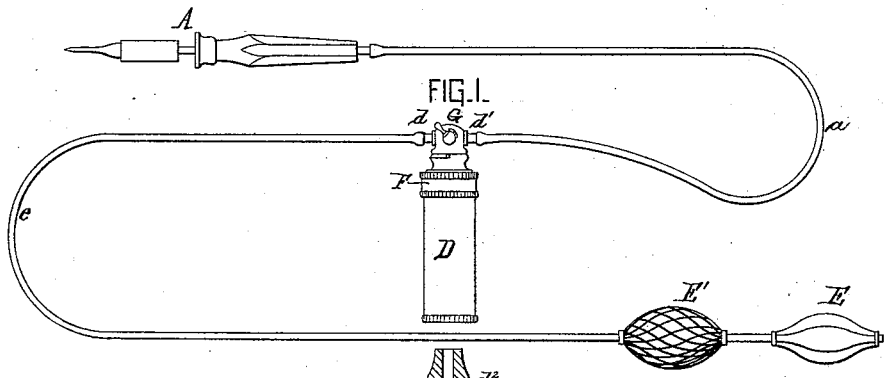


FIG. 4.

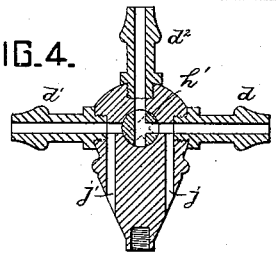


FIG. 2.

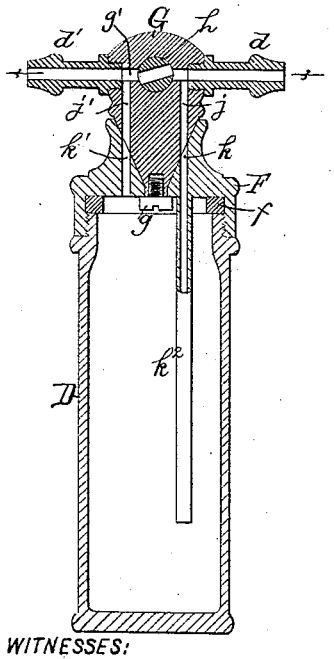
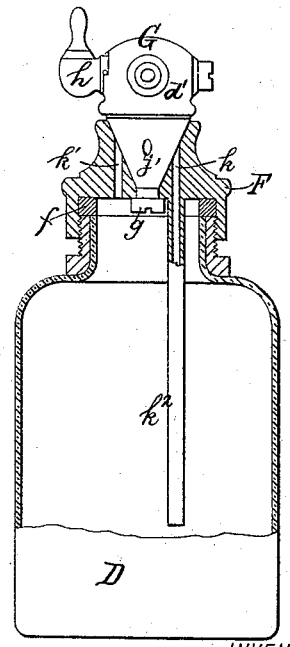


FIG. 3.



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THERMOCAUTER.

SPECIFICATION forming part of Letters Patent No. 490,969, dated January 31, 1893.

Application filed October 22, 1892. Serial No. 449,560. (No model.)

To all whom it may concern:

Be it known that I, JOHN ELLWOOD LEE, a citizen of the United States, and a resident of Conshohocken, Montgomery county, Pennsylvania, have invented an Improved Thermo-cauterizing Apparatus, of which the following is a specification.

My invention is more especially designed for application to thermo-cauterizing apparatus, and particularly that portion of such appliance which is usually termed the carburetor.

The object of my invention is to improve the construction of this device for the purpose of facilitating the regulation of the flow of air or carbureted air and admixture of the two to the cauterizing instrument.

In the accompanying drawings, Figure 1 is a general view of the cauterizing apparatus provided with my improvements: Fig. 2 is a vertical section of the carburetor drawn to an enlarged scale: and Fig. 3 is an elevation partly in section of my improvement as applied to another form of carbureting vessel. Fig. 4 is a view of a modification.

Referring to Fig. 1, A is the cauterizing instrument of any suitable or well known construction connected by a flexible tube *a* with the discharge outlet *d'* of the carbureting vessel D. The inlet side *d* of the carbureting vessel or receptacle is connected by a flexible tube *e* with the usual air bulb E' and air supply bulb or pump E.

In Figs. 1 and 2 I have shown the carbureting vessel as consisting of a cylindrical bottle of metal, rubber or similar material closed by a screw cap F with a gasket *f*.

In Fig. 3 the receptacle is shown as of a somewhat larger form, of glass or similar material, but closed by a cap F with a gasket *f*, as in the case of the carburetor shown in Figs. 1 and 2. In this cap is a conical opening to form a seat for a two-way conical plug valve G which is held to its seat by a screw *g* inserted into the bottom of the plug from the inside of the cap. This plug G carries the inlet and outlet nipples *d* and *d'*, which may have direct communication with each other through a passage *g'* closed by a cock *h*. Leading from these inlet and outlet openings respectively are passages *j* and *j'* in the plug G, which when the plug is turned to the proper position, as shown in Fig. 2, may be made to coincide with the passages *k* and *k'* respectively in the cap F. The passage *k* is continued in a pipe k^2 leading toward the bottom of the receptacle in order that the air admitted through this pipe may be carried toward the lower end of the receptacle to thence find its way up through the sponge or other material saturated with hydrocarbon contained in the vessel E before passing out to the outlet nipple *d'*. By giving a quarter turn to this two-way valve G, as shown in Fig. 3, the connection with the carburetor may be entirely cut off. The air cock *h* being independent in its operation of the two-way valve G can be manipulated to supply any amount of fresh air directly to the cauterizing instrument, whether the valve G be open or closed, and therefore whether or not air be allowed to pass through the carbureting vessel. By this means any desired admixture of fresh air and carbureted air, or fresh air alone or carbureted air alone may be supplied to the cauterizing instrument.

In the modification shown in Fig. 4, I have replaced the cock *h* by a three-way cock *h'*, by manipulating which the passage from the inlet to the outlet nipples *d d'* may be opened or closed, as before, the closed position in this view being shown by dotted lines. I have in this case added a third nipple d^2 to which may be connected a rubber tube, so that on turning the cock *h'* to the position shown by full lines in Fig. 2, cool air may be blown through this nipple d^2 and its attached tube to cool a hot cauterizing instrument or supply air to an attached blow-pipe.

I claim as my invention:—

1. A thermo-cauterizing apparatus having a carburetor carrying two independently operated valves, one controlling the supply of air to the carburetor and the other the supply of fresh air to the cauterizer, substantially as described.

2. A thermo-cauterizing apparatus provided with a closing cap having a valve controlling the supply of air to the carburetor and a cock in the said valve controlling the supply of fresh air to the cauterizer, substantially as described.

3. A thermo-cauterizing apparatus, pro-

vided with a valve controlling the supply of air to the carburetor and having three nipples, of which one is for the air supply in combination with a three-way cock controlling the connections between said three nipples, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN ELLWOOD LEE.

Witnesses:
HUBERT HOWSON,
JOSEPH H. KLEIN.