

F. M. ST. OMER ROY.
THERMOCAUTER.

Patented Dec. 20, 1892.



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THERMOCAUTER.

SPECIFICATION forming part of Letters Patent No. 488,454, dated December 20, 1892.

Application filed May 26, 1892. Serial No. 434,511. (No model.)

To all whom it may concern:

Be it known that I, FERNAND M. ST. OMER ROY, a citizen of France, residing at New York, in the county and State of New York, have
5 invented new and useful Improvements in Cauterizers, of which the following is a specification.

This invention relates to an improvement in cauterizers and the invention consists in certain novel features pointed out in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1, is a side elevation of the cauterizer. Fig. 2, is a longitudinal section of Fig. 1 enlarged. Fig. 3, is a section along xx Fig. 4. Figs. 4, and 5, illustrate different positions of the regulating cock. Figs. 6 and 7 illustrate different positions of the mixing cock. Fig. 8 shows a sectional view of a blow pipe. Fig.
20 9 is a section along yy Fig. 8.

In the drawings the letter A designates a forcing device such as an elastic bulb for forcing or pumping air into the regulating chamber or bulb B and thence through the hose or
25 connection C into the carburetor D. This carburetor or chamber D is made of convenient size to serve as a handle. From the carburetor D the air passes to the cauter E and to the chamber F where the combustion takes
30 place. The combustion is effected by conducting the carbureted or impregnated air at the required density through the channel or tube, a , in cauter E to the tube, b , of platinum or like substance. The tube, b ,
35 conveys the impregnated air to the end or point of platinum chamber F at which point the combustion takes place. The products of combustion pass into tube c extending through cauter E and escape at the mouth d . The
40 combustion chamber F is of any suitable form and dimension. The cauter E is secured or screwed to the carburetor D. The carburetor is readily made of tubing of suitable material, such as metal, hard rubber or the like
45 and is provided with a mixing cock f . The mouth or tube G of the mixing cock is for conveying unimpregnated air and the mouth or tube H for producing impregnated air. The cock f has a nipple K for connection
50 with the tube or hose C. When the plug of cock f is in the position shown in Fig. 2 part

of the air from conduit C passes through the tube G extending entirely through the carburetor D so that such air is not impregnated, while another part of the air from conduit C
55 passes through the tube H into the carburetor D and after becoming impregnated said air passes through tube I. When the plug of the cock is in the position shown in Fig. 6 all the air from conduit C passes through the
60 tube H while in the case of Fig. 7 all the air passes through tube G. The carbureting can thus be regulated as required.

To prevent the spongy or absorbent filling of the carburetor from entering the tube I,
65 the mouth of the latter is protected by a perforated hood or screen. The cap or stopper Q closes an opening through which hydrocarbon or impregnating liquid can be supplied to the carburetor. The carburetor is
70 also provided with a distributing or regulating cock L to the end or screw M of which the cauter E is secured. The tubes G I lead into the mouth or opening O of the cock L and the latter has a nipple N for supplying
75 the combustible to a blowpipe for lighting the cauter.

The plug P of cock L has two channels or ways. When it is desired to supply combustible material to a blowpipe the plug P is
80 turned to the position shown in Fig. 5. The blowpipe can be connected to the nipple N by a tube or connection and the flame from the blowpipe is allowed to play on the outside of chamber F until the latter is sufficiently
85 heated. The plug P is then turned to the position shown in Fig. 4 when the combustible will pass into chamber F and will become ignited therein from the heated surface of the
90 latter.

The cauter E is closed at each end by a plate or stopper e and is filled with an insulating material such as asbestos, so that the surface of the cauter will keep cool.

As the combustion is effected in a closed
95 chamber F the heat generated is thoroughly utilized in maintaining the incandescence of the combustion chamber. The mixing cock as already noticed can be made to supply unimpregnated air as well as impregnated air
100 through the mouth O, so that the combustion can be regulated to the exact degree re-

quired. This device can be readily carried in the pocket or on the person since it is capable of compact construction. The bulbs or chambers A B as also the carburetor handle D may be of small size and as the carburetor handle D is adapted to supply the heat for the preliminary as well as the subsequent heating of the combustion chamber F an additional source of heat such as an alcohol or other lamp can be dispensed with.

The blow pipe U for the preliminary heating of the combustion chamber F can be secured or held by a clamp or attaching device R as seen in Fig. 1 and connected by a tube or hose S to nipple N. The blow pipe has a flat faced mouth having a series of perforations or jets and a hood T for guiding the flame from the mouth to the chamber F.

What I claim as new and desire to secure by Letters Patent, is—

1. The combination with a cauter, of a carburetor provided at one end with a mixing cock and at the opposite end with a regulating cock located between the cauter and the carburetor and adapted to connect with a blow pipe, substantially as described.

2. The combination with a cauter, and a combustion chamber having a pipe or tube *b* communicating with the interior of the cauter,

of an escape tube *c* extending from the combustion chamber through the cauter and discharging the products of combustion laterally therethrough to the exterior thereof, said cauter being provided with an insulating layer and a central tube through which the carbureted air is conducted to the tube in the combustion chamber, substantially as described.

3. The combination with an impregnator or carburetor D, a combustion chamber F, and a bulb or forcing device A connected with the impregnator or carburetor, of a valve casing having two channels interposed between the cauter and impregnator or carburetor, one channel leading to the combustion chamber and the other channel leading to the exterior for the purpose of supplying the combustible to the exterior of the combustion chamber for the preliminary heating thereof, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FERNAND M. ST. OMER ROY.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.