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G. W. WALLERICH

1,496,438

CAUTERIZER

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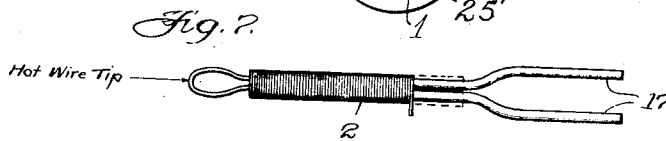
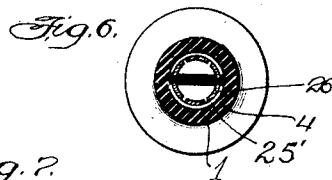
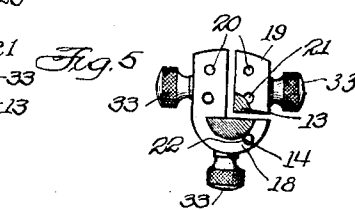
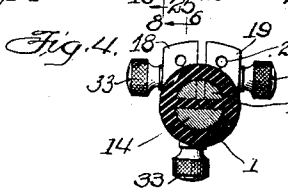
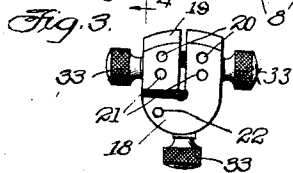
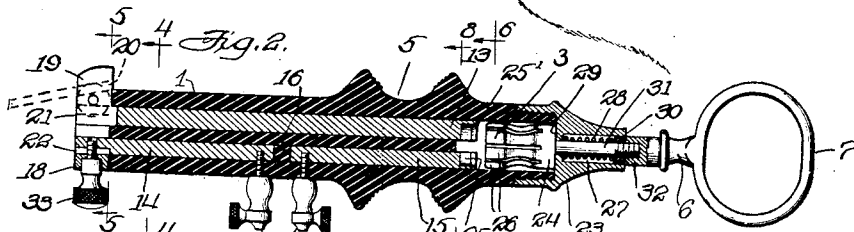
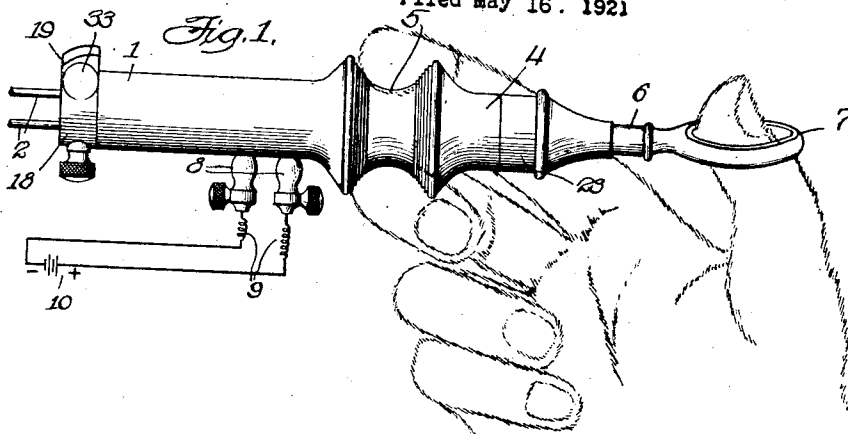
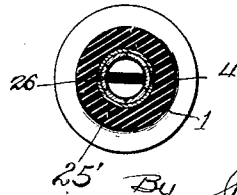


Fig. 8.



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UNITED STATES PATENT OFFICE.

GEORGE W. WALLERICH, OF CHICAGO, ILLINOIS, ASSIGNOR TO V. MUELLER & CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CAUTERIZER.

Application filed May 16, 1921. Serial No. 469,829.

To all whom it may concern:

Be it known that I, GEORGE W. WALLERICH, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Cauterizers, of which the following is a specification.

This invention relates to cauterizers, structural features thereof, and to the methods of operating same.

Heretofore cauterizers of the general character referred to have usually been provided with switching contacts, levers, springs or the like, mounted on the side of the instrument or handle as a result of which, the operation of the switch in such instruments is sometimes awkward and results in a tendency to throw the cauterizer sidewise.

The main objects of the invention are to provide an improved form of cauterizing instrument adapted for greater facility in use, and especially having a more convenient form and arrangement of switching means; to provide and arrange a switch in such manner as to operate in a manner substantially similar to the method of operating numerous other surgical instruments, that is to say, by longitudinal thrust movement by means of the thumb; to provide a more dependable switch contact adapted to insure a positive connection for low voltage currents such as customarily used with such instruments; and to provide for yielding, and more or less rotary action of the switch members, whereby their contact surfaces may be kept clean and operative.

An illustrative embodiment of this invention is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of the instrument as held in the hand of the operator, the switch handle being in its open position.

Fig. 2 is a vertical longitudinal section through the instrument, positioned substantially as shown in Figure 1.

Fig. 3 is an end elevation of the instrument as viewed from the left of Fig. 2.

Fig. 4 is a cross-section on the line 4—4 of Fig. 2.

Fig. 5 is a cross-section at the line 5—5 on Fig. 2.

Fig. 6 is a cross-section at the line 6—6

of Fig. 2, and shows the switch in its open position.

Fig. 7 is a side elevation of the interchangeable cauterizer attachment.

Fig. 8 is a cross-section at the line 8—8 on Fig. 2, except that the switch is shown closed instead of open.

In the construction shown in the drawing, the instrument comprises mainly an insulating casing 1, an interchangeable hot wire cauterizer attachment 2, switching means 3, a handle part 4 provided with a peripheral finger rest or groove 5, and a thumb operated switch plunger 6 having an end ring 7 to receive the thumb. The casing 1 is also provided with a pair of binding post terminals 8 to receive current supply wires 9 leading to a source of current as, for instance, a two-cell battery 10.

Referring to the structural features more in detail, the said casing is of tubular construction and encloses a pair of mutually insulated metallic bars, one of which designated 13, is continuous, and the other comprising two parts 14 and 15, is divided centrally and electrically separated from each other as at 16. The forward ends of members 13 and 14 are enlarged and provided with apertures to receive the supporting ends 17 of the attachment 2. The head part 18 of member 14 is right angular in shape and extends at the left side and over the top of the head part 19 of member 13 as viewed in Fig. 3. The apertures 20 for attachment 2 are inclined downwardly so as to cause the attachment 2 to project upward somewhat. The apertures 21 are parallel with the main axis of the frame 1 so as to hold the attachment 2 parallel with the frame 1. Another aperture 22 in the upper part of head 18 may be used with aperture 21 in head part 19 to hold the attachment 2 in a vertical plane instead of a horizontal plane as provided for by the two apertures 21.

The adjacent ends of bar members 14 and 15 have threaded holes to receive the threaded ends of the binding posts 8, the casing 1 being perforated to receive said binding posts as shown in Fig. 2.

The opposite end of the casing 1 is provided with a threaded metallic cap 23 containing the movable member 24 of the switch.

The switch 3 comprises three parts, namely, the inner ends 25 and 25' of bars 15 and 13 respectively which are hollowed out to form a split cylindrical coupling, and
 5 a short-circuiting member represented by the integral cup-like member 24, having its forward open end split longitudinally to provide numerous tongues 26 to fit yielding-
 10 25 and 25'. In order to insure good contact and positive operation, the adjacent edges of the cup and tongue members are correspond-
 15 25 and 25'. In order to insure good contact and positive operation, the adjacent edges of the cup and tongue members are correspond-
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In order that the switch may be self-restoring and open automatically when released, the cap 23 is provided with a cham-
 20 ber 27 containing a helical compression spring 28 seated at its inner end against the shoulder 29 on cap 23, and a threaded ring nut 30 set tightly on the plunger rod 31 to which the switch part 24 is rigidly con-
 25 nected. The thumb ring 7 has a threaded shank 32 for the outer extremity of rod 31.

The method of using the instrument is as follows:

A suitable cauterizer attachment 2 is inserted in the head of the device where secured by screws 33 and a source of current having proper voltage is connected at the terminals 8. The instrument is then grasped in the hand as shown in Figure 1, and the
 35 point of the cauterizer attachment is applied to the object to be cauterized, whereupon the switch is operated by the thumb to produce the desired or necessary heat control according to the judgment of the user. The
 40 pivotal setting of the thumb ring member and the plunger action thereof facilitate ready and accurate operation of the delicately responsive switch member without any appreciable tendency to throw the in-
 45 strument out of balance or cause undesired movement thereof.

The electrical circuit when the switch is closed, extends through the several parts, which may be enumerated in order as fol-
 50 lows: Starting at the positive side of the battery, the current is carried to one of the binding posts 8 and thence to bar 15, through the switch 3, bar 13, head 19,

cauterizer attachment 2, bar 14, the other binding post 8, and thence back to the nega- 55
 tive side of the battery.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood that numer-
 ous details of the construction shown may 60
 be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. An electric hot-wire cauterizer having 65
 an oblong body provided with a longitudinally operable switch to control the electric circuit, and a rearward thumb piece ro-
 tatively rockable coaxially with said body to accommodate the thumb in various posi- 70
 tions, said thumb piece being operatively connected to said switch.

2. In a cauterizer, an oblong body or frame part adapted for gripping in the hand and a thumb operated plunger switch 75
 mounted coaxially therein, said frame part having electric circuit connections including a pair of spaced rigid stationary switch con-
 tacts of arcuate shape, and the thumb controlled plunger having an annular longi- 80
 tudinally tongued contact member of resilient character to electrically connect said contacts when the plunger is advanced, said
 switch parts, frame and plunger being 85
 formed and arranged to interfit telescopically and rotatably.

3. A cauterizer comprising a hollow body part of insulating material, a cap mounted on one end of said body part, a stationary contact member fixed within said body part, 90
 an axially movable plunger extending through said cap, a movable contact member mounted on the inner end of said plunger and arranged to coact with said fixed con-
 tact member for controlling an electric cir- 95
 cuit, coacting shoulders on said movable contact member and cap arranged to limit the outward movement of said plunger, a
 spring normally urging said plunger axially outwardly for disengaging said contact 100
 members, and a handle arranged on the outer end of said plunger, whereby the latter may be thrust inwardly.

Signed at Chicago this 9th day of May, 1921.

GEORGE W. WALLERICH.