June 5, 1951 H. M. KIRSCHBAUM 2,555,493

ASPIRATING DISSECTOR

Filed Feb. 14, 1949

FIG.1.

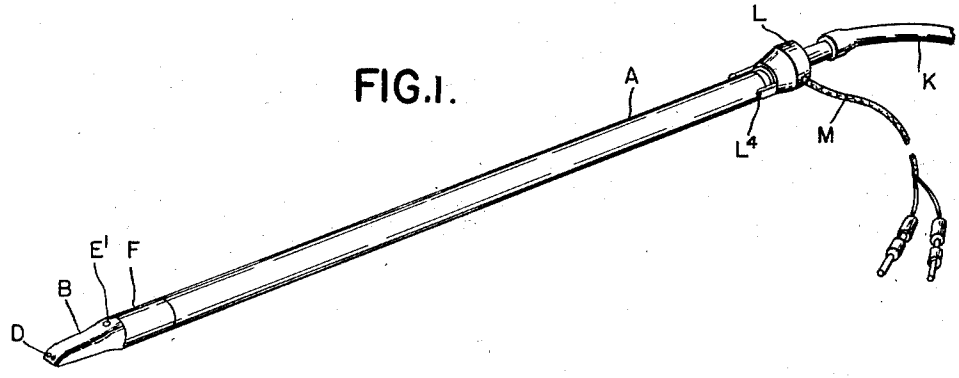


FIG.2.

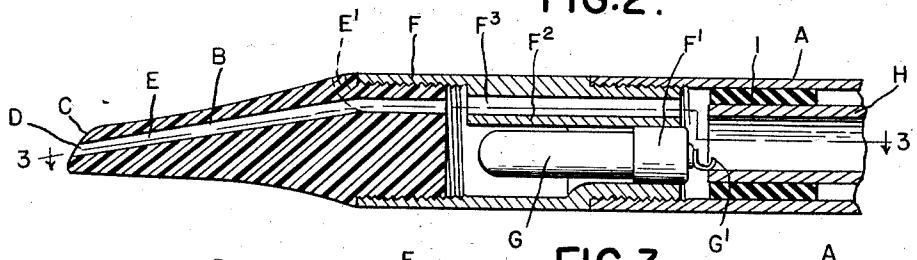


FIG.3.

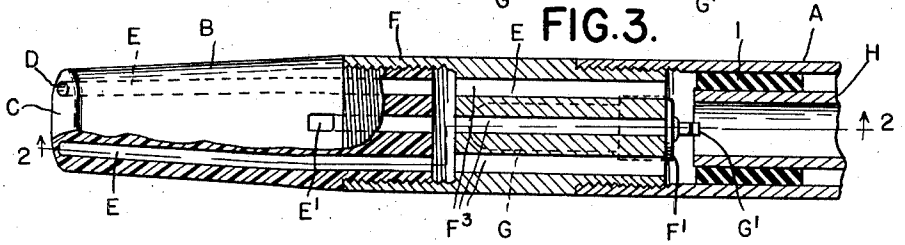


FIG.4.

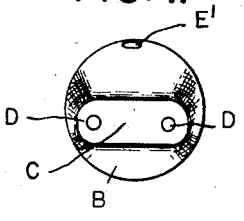
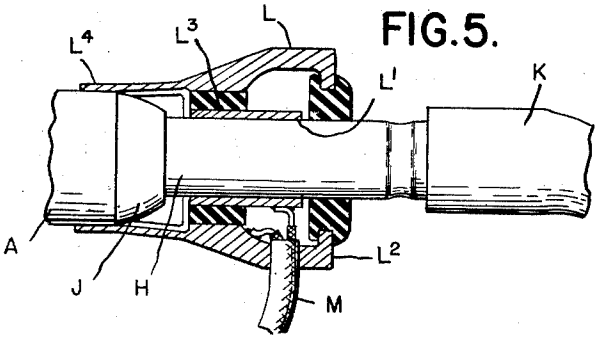


FIG.5.



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Patented June 5, 1951

2,555,493

UNITED STATES PATENT OFFICE

2,555,493

ASPIRATING DISSECTOR

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Application February 14, 1949, Serial No. 76,263

5 Claims. (Cl. 128—20)

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The invention relates to surgical instruments of that type designated as dissectors and which are used for the separation of tissues without the cutting of the same. Such instruments have a more or less rounded, tapering end portion devoid of sharp edges, which may be used for pressing against superposed tissues to separate the same from the blood vessels, arteries, or other underlying portions of the anatomy. However, in the performance of such operations it is impossible to avoid bleeding which obscures the tissues and requires cleansing with the loss of valuable time.

It is the object of the invention to obtain a dissector instrument which automatically removes the blood to avoid obscuration.

It is a further object to illuminate the end of the dissector so as to enable the surgeon to at all times observe the progress of the work.

With these objects in view the invention consists in the construction as hereinafter set forth.

In the drawings:

Figure 1 is a perspective view of the dissector;

Figure 2 is an enlarged longitudinal section through the end portion of the dissector substantially on line 2—2, Figure 3;

Figure 3 is a section on line 3—3 of Figure 2;

Figure 4 is an end elevation of the instrument;

Figure 5 is a sectional elevation illustrating the switch for controlling the light.

The instrument comprises an elongated tubular rod or handle portion A having a tapering tip or nose portion B at its inner end. This tip is preferably fashioned as illustrated in Figures 2, 3 and 4 having an end portion C, which is of greater width than thickness and of a more or less acute angle from the bottom side upward, while avoiding any sharp cutting edges. The tip is preferably formed of non-corrodible material, such as a plastic, and is attached by suitable means, such as threading, to a metallic socket F which, in turn, is connected to the handle A. The tip is further provided with one or more apertures D in the end C which connect with channels E extending longitudinally completely through the tip and preferably arranged on opposite sides of the center thereof. A third channel E' is arranged centrally between the channels E having its opening adjacent to the juncture between the tip B and member F, and also extending inward to the end of the tip. Thus, with the instrument as so far described, if the outer end of the handle is connected with suction apparatus any blood issuing adjacent to the working end C will be instantly removed by being drawn inward through the channels D. The channel E' will

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also remove any blood from other parts of the incision.

As has been stated, it is one of the objects of my invention to illuminate the end of the tip, or at the point where the work is being performed. This is accomplished by forming the tip B of a transparent material and preferably of the plastic "Lucite," which is polymerized methyl methacrylate and, which has the property of transmitting light therethrough in one direction and without dispersion. The light is generated by a small electric lamp G, which is located in the metallic socket F centrally in rear of the inner end of the tip B. Thus the light from the lamp will pass longitudinally and centrally through the tip illuminating its end C and without dispersion through the tapering sides. The lamp G is secured in a small socket F' in the socket member F and occupies a chamber which is beneath a wall portion F^2 having a plurality of longitudinally extending channels F^3 therethrough. These channels F^3 line up with the channels E and E' in the tip B so that the blood removed will pass therethrough without contact with the lamp G. The current for energizing the lamp is conducted thereto through the metallic tube A and an inner smaller metallic tube H, which latter is insulated from the tube A by dielectric bushings I. The central contact G' of the lamp G is a resilient member which is pressed into contact with the tube H. The tube H projects rearward from the handle tube A passing through an insulator head J and at its rear end said tube is connected to a flexible conduit K leading to the source of suction. Between the head J and conduit K there is sleeved upon the tube H a switch member L which has connected thereto a conductor cord M leading from a source of electrical current. The member L has an inner metallic lining L' which slides upon the tube H and an outer annular metallic member L^2 separated from the member L' by an insulator bushing L^3. One terminal of the conductor cord M is attached to the metallic lining L', while the other terminal is connected to the member L^2. The latter member has one or more projecting resilient prongs L^4, which by the movement of the member L may be placed in conducting contact with the tube A to close the circuit through the lamp G. On the other hand, when the member L is moved rearward the prongs L^4 are moved out of contact, which would cut off the light. The member L is a rounded knob-like structure which will not catch on anything or interfere with the manipulation of the instrument.

With the construction as described, when the

instrument is being used for the separation of tissues or the clearing of the same from blood vessels or arteries, any blood resulting from bleeding will be instantly removed through the channels E, E' and F[3]. At the same time the end C of the tip is illuminated by light from the lamp G conducted longitudinally through the "Lucite" body of the tip. If this light is not required the operator can move the switch member L to open the circuit. Thus, in performing operations where speed is of the utmost value, no time will be lost by the necessity of wiping away, or otherwise cleansing, the tissues from blood.

What I claim as my invention is:

1. A surgical dissector comprising a tubular handle portion, a tapering transparent tip portion having one or more channels extending therethrough and opening from the outer end surface thereof, a lamp in rear of said tip for transmitting light therethrough and an additional independent channel opening from a side surface near the rear of the tip, and aspirating means connected to the outer end of said handle.

2. A surgical dissector comprising a tubular handle portion, a transparent tip connected to said handle portion and having one or more channels extending therethrough, aspirating means flexibly connected to the outer end of said handle, and a lamp in rear of said tip for transmitting light therethrough to the working end.

3. A surgical dissector comprising a tubular handle portion, a transparent tip formed of polymerized methyl methacrylate having one or more channels extending therethrough, aspirating means flexibly connected to the outer end of said tube, and a lamp in rear of said tip for transmitting light longitudinally therethrough to the working end thereof without dispersion through the sides.

4. A surgical dissector comprising a metallic tubular handle, a transparent tip having one or more channels extending therethrough, a flexible tube for connecting the rear end of said tubular handle with aspirating means, a lamp in rear of said transparent tip for transmitting light therethrough, a smaller metallic tube within said handle and insulated therefrom, and connections between said lamp and said inner and outer metallic tubes through which current is conducted to the lamp.

5. A surgical dissector comprising a metallic tubular handle, a transparent tip having one or more channels extending therethrough, a flexible tube for connecting the rear end of said tubular handle with aspirating means, a lamp in rear of said transparent tip for transmitting light therethrough, a smaller metallic tube within said handle and insulated therefrom, connections between said lamp and said inner and outer metallic tubes through which current is conducted to the lamp, and a switch member slidable on a rearwardly extending portion of said inner tube to alternatively close or open electrical connections to said outer tube.

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