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2,513,771

INCISION CLOSER

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FIG. 1.

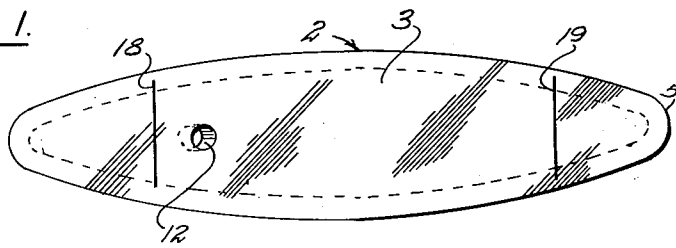


FIG. 2.

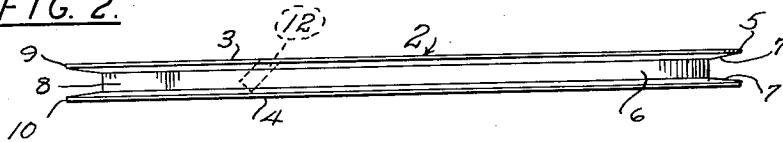
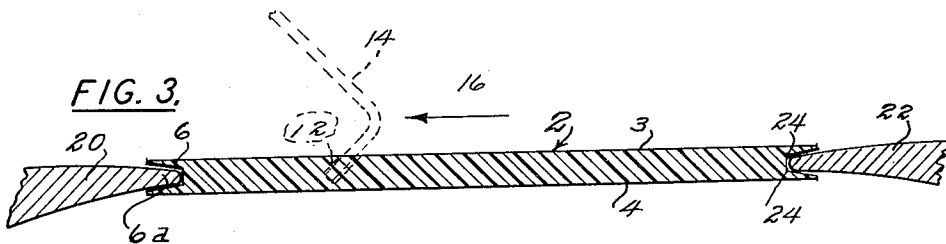


FIG. 3.



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INCISION CLOSER

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2 Claims. (Cl. 128—335)

1

This invention pertains to incision closers.

Heretofore embalmers, after making incisions for the removal of blood and body fluids, and for the injection of preserving fluids, have closed these incisions by suturing. Since there is no life in the skin the tightness of the seam depended entirely on the care used in applying the sutures. This operation takes a great deal of time and if not done properly leaks occur causing highly undesirable conditions.

In view of this, one of the objects of my invention is to provide a closing device which may be inserted into any incision of the type mentioned and which will quickly, easily, and securely close incisions;

A second object is to provide a flat, oval shaped flanged body which may be inserted into any ordinary type of straight incision so that the flexibility of the skin will enclose around the perimeter of the body and form a seal adapted to close the incision fluid tight;

A third object is to provide a flat oval shaped transparent body having a groove around its perimeter, formed by edge flanges, adapted to receive and retain the edges of an incision to form a closure therefor;

Other objects will appear hereinafter.

I attain the foregoing objects by means of the construction and devices shown in the accompanying drawing in which—

Figure 1 is a plan view of my incision closer;

Figure 2 is a side elevation thereof and Figure 3 a mid-sectional elevation thereof showing one manner of use.

Similar numerals refer to similar parts in the several views.

The body 2 of the incision closer is preferably made of plastic for example, one of the synthetic resins. This should be of a type not effected by body fluids or embalming compositions. Ordinarily it should be opaque and flesh colored.

The body 2 is flat and has an elliptical, or oval, plan. The upper and lower faces, 3 and 4, respectively, are smooth, and the peripheral edge 5 conforms to the elliptical plan. While the thickness of the body may vary, it is intended to approximate that of the skin in which the incision to be closed is made. Ordinarily this varies from $\frac{1}{8}$ inch to $\frac{3}{8}$ of an inch.

A groove 6 is formed around the peripheral edge. This groove has sides 7 which converge somewhat from the edge 5 toward its bottom 8, making a wedging action possible when the edges of an incision are impressed into the groove.

The groove may also be described as being

2

formed between two edge flanges 9 and 10, having somewhat converging inner faces.

A positioning hole 12 is drilled into the upper face 3 near one end of body 2. It is slanted from the center outward toward the near end so as to receive the hooked end of a positioning tool 14 and permit pressure to be applied in the direction of the near end, as indicated by arrow 16. Hole 12 is centrally located on what would amount to the major axis of the ellipse forming the shape of upper face 2, and slightly inward from the focus at the end where it is positioned.

Two parallel lines 18 and 19, respectively, are grooved and marked on the upper face 3 extending transversely thereon substantially to the edges. These constitute indicia which will show the length of the incision into which a particular closer should be fitted. The location of these lines varies with the nature of the skin of the subject on which the device is used. These locations are first determined by experiment. Thereafter the distances between the lines may be used as a measure for the incision to be made.

It is to be noted that, as illustrated, the ratio of the minor axis to the major axis of the elliptical plan of the closer, is approximately as 1 is to 4. While this ratio is not critical, nevertheless, I have found that it should be generally followed when closing straight incisions.

In use, after an incision has been made in a dead body, and the fluids extracted or injected, as desired, one end of the closer is placed in the incision so that the skin, 20, adjacent that end slips into groove 6, as at 6a, Figure 3.

The hooked tool 14 is then inserted in the angular hole 12 and the closer pulled toward the skin 20 in order to stretch the skin away from that at the other end, marked 22. When the skin around the incision is sufficiently stretched, and the incision is lengthened to admit the closer, it may be slipped into position so that the stretched skin contracts into groove 6 around its entire perimeter. This effectively closes the incision. Removal of the closer can be had, in a similar manner, by a reverse procedure.

I have found that a more permanent closure can be had by filling groove 6 with liquid cement, such as collodion, just prior to insertion but this is not essential. The edges of the stretched incision are rounded while sharp corners are formed between the bottom of the groove and its angular sides. This difference in sectional structure forms two annular pockets 24 to retain cement and aid in maintaining a fluid tight seal between the skin and the closer. While the

3

closer should be fitted tightly into an incision, obviously there is a limit to which the skin may be stretched. Therefore the length of the incision should be matched with the indicia marks 18 and 19. These can be made to indicate the length of an incision which will provide a tight closure on any given closer, but which will not tear the skin.

While I have described this incision closer primarily as a device for closing incisions in dead bodies it is conceivable that it also can be made of transparent material and used for viewing the interiors of living bodies. In this event the size and thickness may be varied but the essential features of the device remain the same.

Having now fully described my incision closer and explained its use, I wish to be limited only by the claims.

I claim:

1. An incision closer composed of a rigid body, having flat faces and an elliptical plan aspect, a groove formed around the peripheral edge thereof having inwardly converging sides and a flat bottom, an inclined positioning hole extending partially through said body near one end thereof,

4

and spaced indicia lines on one face of said body adapted to show the length of incision into which the closer body should be inserted.

2. An incision closer composed of a flat rigid body having parallel flat faces and a plan outline shaped as an ellipse with the major axis thereof approximately four times the length of the minor axis, a groove formed around the peripheral edge of said body having converging sides and a flat bottom, an inclined positioning hole extending from one face partially through said body, positioned near one focus of said ellipse and transverse indicia lines on one face thereof adapted to show the length of incision into which said body should be inserted.

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REFERENCES CITED

The following references are of record in the file of this patent:

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