April 2, 1940. L. E. ESTLER 2,195,771

SURGICAL SUCTION DRAINAGE CUP

Filed Nov. 9, 1937 2 Sheets-Sheet 1

Fig. 1.

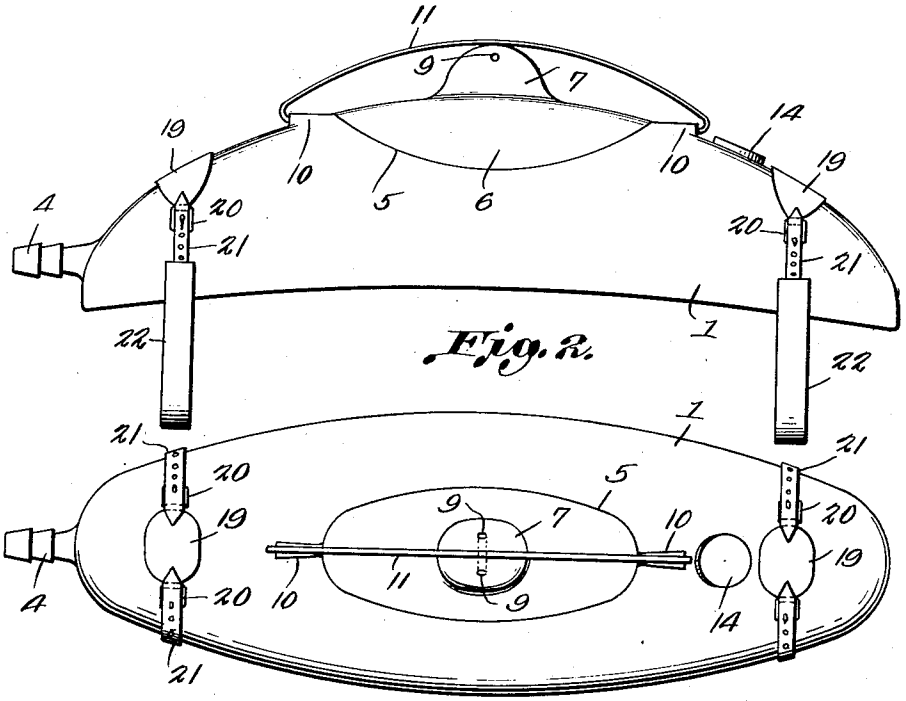

Fig. 2.

Fig. 3

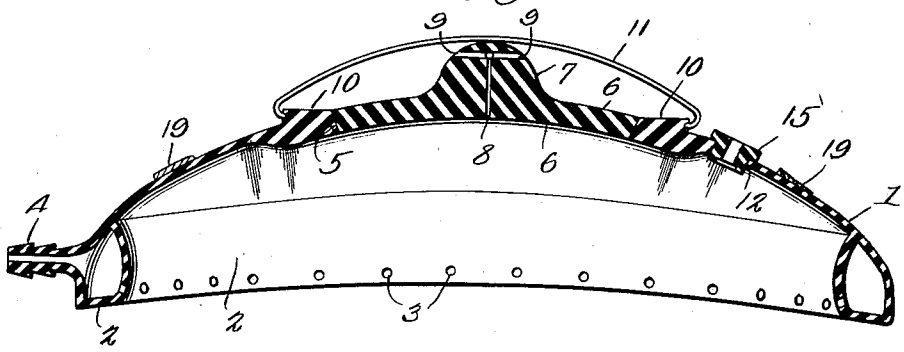

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Fig. 4.

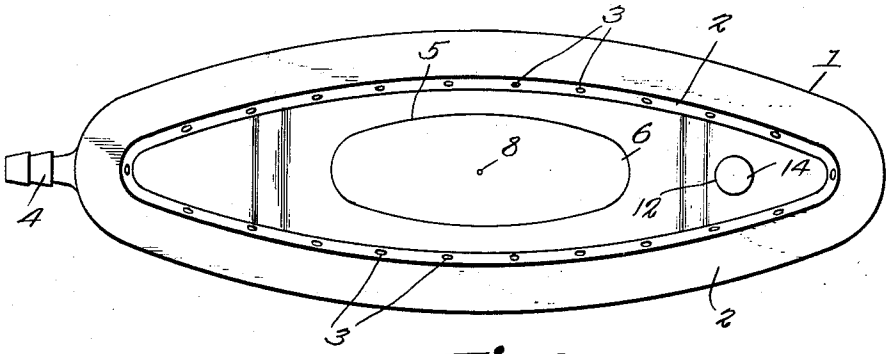

Fig. 5.

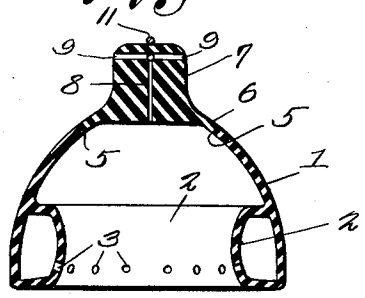

Fig. 7.

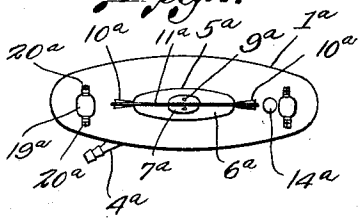

Fig. 6.

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Patented Apr. 2, 1940 2,195,771

UNITED STATES PATENT OFFICE

2,195,771

SURGICAL SUCTION DRAINAGE CUP

Louis Edmond Estler, Jamaica, N. Y.

Application November 9, 1937, Serial No. 173,700

4 Claims. (Cl. 128—276)

This invention aims to provide novel means for securing proper drainage from a wound, novel means being provided whereby irrigation may be secured if desired, it being possible to inspect the wound, locate the device properly, and carry out routine work in connection with the wound, whilst the device forming the subject matter of this application remains in place. Another object of the invention is to supply novel means whereby suction may be applied to secure a drainage from the wound, without distorting the surrounding tissue, due to suction.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Fig. 1 shows in side elevation, a device constructed in accordance with the invention;

Fig. 2 is a top plan;

Fig. 3 is a longitudinal section;

Fig. 4 is a bottom plan;

Fig. 5 is a transverse section;

Fig. 6 is a diagrammatic elevation showing one way in which the device may be hooked up for use;

Fig. 7 is a fragmental top plan showing a slight modification.

In carrying out the invention, there is provided a cup-shaped body 1, of approximately oval configuration, and concaved slightly on its lower surface, if desired, as shown in Fig. 1. The body 1 may be made of any suitable material, such as hard rubber, glass or the like, and is rigid. On its lower edge, the body 1 is supplied with an inwardly extended annular conduit 2, having spaced means of inlet drainage communication in its inner wall, such as small perforations 3. A nipple 4 is connected to one end of the body 1 and communicates with the conduit 2, as shown in Fig. 3.

In the top of the body 1 there is an opening 5, having beveled edges, the opening being adapted to receive an approximately oval closure 6 of any preferred area. Intermediate its ends, the closure 6 has an upstanding lug 7. A port 8 extends vertically upward through the closure 6 and into the lug 7, the port 8 communicating with larger lateral ports 9, located in the lug. On opposite sides of the opening 5, the body 1 is supplied with ears 10, with which is detachably and pivotally engaged, a curved spring retainer or bail 11 which, bearing in its intermediate portion on the lug 7 of the closure 6, serves to hold the closure in place detachably at the will of an operator.

Near to one end of the body 1, or elsewhere, there is formed an opening 12 shown in Fig. 3. The opening 12 may be closed by an imperforate plug 14, as shown in Fig. 2, or if desired, the opening 12 may receive a perforated plug 15, through which may extend the lower end of a supply tube 16 for irrigating fluid, shown in Fig. 6, an inspection bulb 17, preferably made of glass, being interposed in the supply tube 16, with a view to ascertaining how the irrigating liquid is flowing through the tube 16 from a reservoir 18 connected to the upper end of the tube 16.

Near to its ends, and on its upper surfaces, the body 1 carries anchor strips 19 to which are secured buckles 20, attached to the resilient end portions 21 of bands 22. By means of the bands 22, the body 1 may be secured in place over a wound. A tube 23 is connected to the nipple 4, and to the tube 23 is connected a suction device 24 of any desired sort. It is not necessary that the nipple 4 be located at one end of the body 1. The nipple may be located wherever desired. This is made evident from Fig. 7, wherein parts hereinbefore described are designated by numerals already used, with the suffix "a".

By means of a suction device, such as that shown at 24 in Fig. 6, the pus or other substance draining from the wound may be drawn away, the pus entering the conduit 2 by way of the opening 3, leaving by way of the nipple 4 and the tube 23.

If irrigation is not desired, the solid plug 14 of Fig. 2 is mounted in the opening 12 of the body 1, but if irrigation is desired, the perforated plug 15 is used, irrigating tube 16 being extended through the plug 15, as indicated in Fig. 6.

The closure 6 may be taken off by detaching the bail or retainer 11, whilst the device is in place over the wound. In this way, the attendant can determine whether or not the edges of the wound are located properly with respect to the device. Because the lid or closure can be

removed, the wound may be irrigated and routine inspection can be carried out.

The vent means shown at 8—9 prevents the formation of a vacuum of sufficient strength to create distortion of the tissues in the involved area, but, at the same time, the vent means 8—9 is not large enough to prevent proper suction by way of the conduit 2. The straps 22 and attendant parts constitute a convenient means for holding the device in position, but some other means to this end may be used if desired. Very often, the body 1 will be held in place by strips of ordinary adhesive tape, not shown in the drawings, or necessary to be shown, since a person skilled in the art will understand that adhesive tape may be employed in the place of the straps 22 if desired. It is preferable to coat the tissue adjacent to the wound with vaseline or similar substance, so that the body 1 may acquire a firm hold, this being a detail of surgical practice.

The device is simple in construction but will be found thoroughly advantageous for the ends in view.

What is claimed is:

1. In a device for draining a wound, a cup-shaped body, the portion of the body which engages the tissue in which the wound is located being formed as a circumscribing tubular conduit, integral with said body and provided with spaced means of inlet drainage communication with the interior of the body, and means for connecting a source of suction to the conduit.

2. In a device for draining a wound, a rigid cup-shaped body the lower end of which forms a mouth for application to wounded tissue, the body being provided in its top with an opening of such size as to afford examination of the wound and treatment thereof, a removable closure extended across the opening, the space between the closure and the mouth being open and unencumbered throughout an area as large as the closure, means engaging both the body and the closure for holding the closure releasably in place, and means for connecting a source of suction to the body.

3. In a device for draining a wound, a rigid cup-shaped body provided with an opening of sufficient size to afford examination of the wound and treatment thereof, a removable closure extended across the opening, means engaging both the body and the closure for holding the closure removably in place, said means being a resilient bail, engaged intermediate its ends with the closure, the body having elements wherewith the ends of the bail are detachably engaged, and means for connecting a source of suction to the body.

4. In a device for draining a wound, a cup-shaped body and means for connecting a source of suction to the body, the body being provided with an opening of sufficient size to afford examination of the wound and treatment thereof, a closure for the opening and provided with a lug through which extends a vent of such size as to reduce suction and prevent distortion of the tissue wherein the wound is located, means for holding the closure in place, the last-specified means being a resilient bail the intermediate portion of which is engaged detachably with the lug, and means on the body for holding the ends of the bail.

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