March 7, 1967 A. JONES ETAL 3,307,547

SURGICAL DRESSING CLAMPS

Filed Feb. 1, 1965

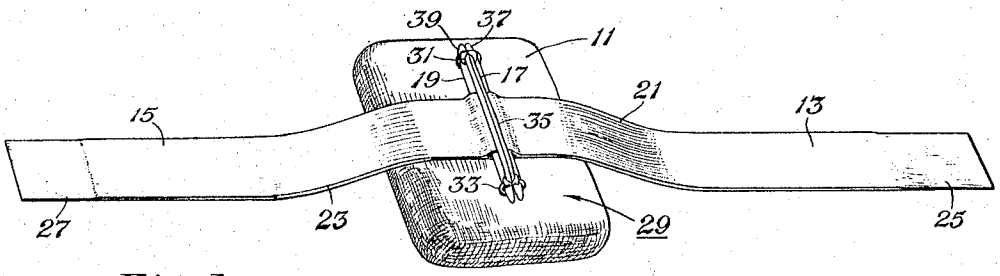


Fig. 1

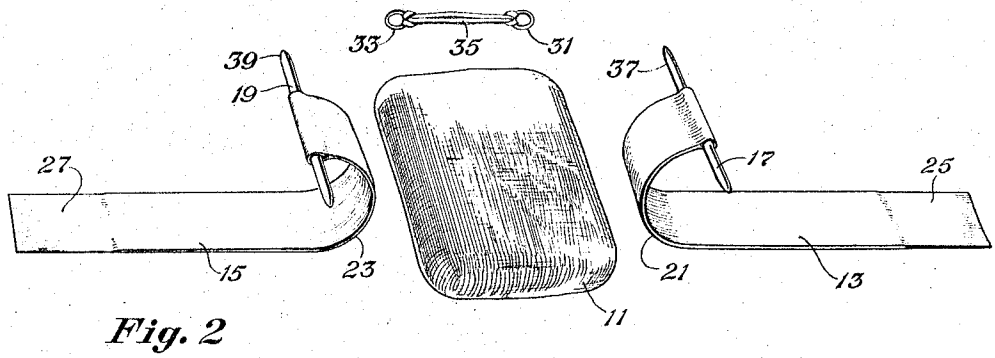


Fig. 2

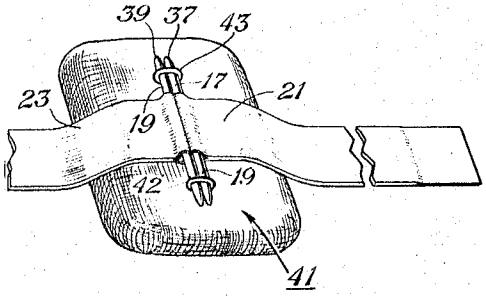


Fig. 3

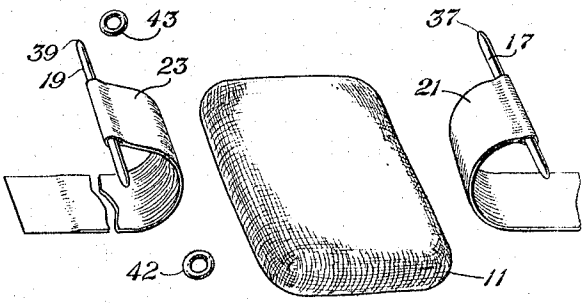


Fig. 4

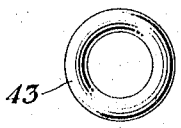


Fig. 5

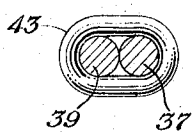


Fig. 6

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SURGICAL DRESSING CLAMPS

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The surgical dressings used to cover incisions or wounds must be occasionally (and in some instances frequently) changed. Consequently, a surprisingly large amount of time is often expended in changing surgical dressings. For this reason, clamping devices for retaining such dressings and being capable of comparatively fast manipulation have been developed previously. One common type of prior art surgical dressing clamp has two rods transversely connected to the confronting ends of a pair of straps of adhesive tape. A dressing, generally formed of gauze pad, is placed over the incision or wound, and the confronting ends of the adhesive tape and their transversely disposed rods are placed over the gauze pad. A rubber band is wrapped around each pair of adjacent ends of the cross members so that the band is stretched over the top of the cross members. If the tape is of the correct length, the rubber band (cooperating with the cross members and the tape) holds the gauze pad firmly in place. The gauze pad may be changed by unwrapping the rubber band from the ends of the cross members and folding the tape backwards. Thus, the tape and the clamping device may be used over and over and only the gauze pad need be changed.

While the above surgical dressing clamp and the technique for its use are improvements over such techniques as attaching the dressing to the injured person with a new piece of adhesive tape each time the dressing is changed, yet these clamps have some aggravating and time consuming disadvantages. For one thing, the need to wrap and unwrap the rubber band is time consuming and requires the development of a degree of skill before a successful technique can be developed. In addition, frequent and severe stress reversals in the rubber during wrapping and unwrapping frequently cause the rubber band to break. This, of course, is a time consuming mishap, especially when time is of the essence (as it frequently is in these circumstances).

It is the object of my invention to provide an improved surgical dressing clamp, the use of which helps circumvent many of the disadvantages of prior art devices, including those explained above.

This and other objects are effected by my invetnion as will be apparent from the following description taken in accordance with the accompanying drawing, forming a part of this application, in which:

FIG. 1 is a perspective view of a surgical dressing clamp and an underlying gauze pad, the clamp being constructed in accordance with the principles of my invention;

FIG. 2 is a perspective view of the FIG. 1 clamp, showing it as it appears when disassembled;

FIG. 3 is a perspective view of a modified form of my surgical dressing clamp, showing it in an operative position;

FIG. 4 is a perspective view of the FIG. 3 clamp, showing it as it appears when disassembled;

FIG. 5 is an end view of one element of the modified form of clamp shown in FIGS. 3 and 4; and

FIG. 6 is an end view, showing the FIG. 5 device as assembled.

Referring to the drawing, FIG. 1 illustrates my clamping device and a common type of surgical gauze pad or dressing **11** which, it may be assumed, covers a patient's incision or a wound. The dressing **11** is held in place by

the slight downward pressure exerted by a pair of straps **13, 15** having mutually confronting ends, each of said straps being commonly formed of a strip of ordinary adhesive tape which has been folded around a suitable cross member **17** or **19** and back on itself so that the tape has region **21** or **23** of double thickness.

The nonconfronting or opposite end portions **25, 27** of the straps **13, 15** are normally in adhesive contact with the patient's body. The mutually confronting, folded end portions **21, 23** of the straps, in which the suitable cross members **17, 19** are fixed, are brought into closely adjacent or abutting relationship and secured together by a surgical dressing clamp **29**. The clamp **29** includes a pair of rings **31, 33** which are adapted to encompass and join the end portions of the cross members and which are interconnected by an elastic strip member **35**.

The cross members **17, 19** may be of any suitable material such as wood, plastic, metal, or the like, and it may be noticed by referring to FIG. 1 that the cross members have pointed or tapered end portions **37, 39**. The rings **31, 33** are preferably fabricated of an inelastic material such as metal. The essential characteristic of the rings, however, does not derive so much from the materials from which they are made, but rather from their dimensioning so that they engage portions of the cross members and have limited longitudinal movement thereon. Hence, the inner dimensions of the rings are such that each ring is held in a selected position by a portion of the engaged cross members **17, 19** and preferably by the tapered end portions **37, 39** thereof. The rings are also effective when formed to interferingly engage the untapered portions of the cross members but this arrangement is not quite as convenient to use as the arrangement wherein the rings merely engage the tapered portions of the cross members **17, 19**. In either arrangement, however, the rings effectively hold the cross members **17, 19** and the straps **13, 15** together, and thus the dressing **11** is retained in its selected position and may be conveniently changed. The elastic strip member **35** is ordinarily a rubber band which has been looped to encircle the rings, as shown in FIG. 2. However, the strip **35** may be formed of any other suitable type of elastic material. The purpose of the elastic strip member **35** is to exert a force on each ring **31, 33** and thus to urge and retain the rings and the cross members **17, 19** into closely adjacent relationship.

FIGS. 3 through 6 depict a modified surgical dressing clamp **41**, which includes a pair of rings **42, 43** (preferably formed of an elastic material) that are adapted to engage the end portions of the cross members **17, 19**. In this instance it is again preferable that the end portions **37, 39** be tapered, and yet it is not essential, particularly if the rings **42, 43** are fabricated of an elastic material such as rubber. The inner diameter of each resilient type is slightly larger than the diameter of one of the cross members. It will be noticed, by referring to FIGS. 3 and 6, that each ring may be conveniently held and maintained in place on the pointed end portions **37, 39** simply by stretching the resilient ring **43** so that it assumes the shape shown in FIG. 6. It should be appreciated that the tapered or pointed end portions **37, 39** make it easier to thread the ring thereon, but it should be noted that this is not necessary. If the diameter of the individual cross members is not too large, and if a clamp device **41** of proper size is selected, it is a simple matter to thread the resilient O-type rings there, even though the end portions of the cross members are not pointed.

Rings **42, 43** work satisfactorily if formed of an inelastic material such as metal, especially if the end portions **37, 39** of cross members **17, 19** are tapered. In such instance the inner dimension of each ring is adapted to engage the adjacent cross members **17, 19** and pref-

erably their tapered portions, and a tight fit retains the rings on the cross members.

It should be noted that the rings of the various embodiments described above need not be in the form of a classical torus since other ring-like geometric forms are satisfactory.

To understand the use of the surgical clamp device **29** reference may be made at first to FIG. 2 and then to FIG. 1. As mentioned hereinbefore, the surgical dressing **11** is usually made in a convenient size pad form and the pad is placed over the incision or wound and beneath the double fold end portions **21, 23** of the adhesive straps **13, 15**. After the surgical dressing **11** is placed over the incision or wound, the folded end portions **21, 23** of the straps **13, 15** are laid over the top of the pad and the cross members **17, 19** are brought into closely adjacent relation. It will be remembered that the other end portions of the adhesive straps **13, 15** are adhesively secured to the patient's skin and remain fixed. Then, one of the rings **31** is threaded onto the pointed end portions **37, 39** on one side of the strap and the elastic strip member **35** is stretched enough to allow the other ring **33** to be threaded onto the other pointed end portions **37, 39**. The rings **31, 33** will be urged toward each other by the elastic strip member **35** and they will urge both the pointed end portions **37, 39** and the folded end portions **21, 23** into a more closely adjacent relation, as shown in FIG. 1. To remove the clamp device **29**, it is only necessary to unthread ring **31** or **33** from the pointed end portions on one side, and then to unthread the other ring from the other side.

To understand the use of the modified form of clamp device **41**, reference may be made at first to FIG. 4 and then to FIG. 3. As previously explained, the folded end portions **21, 23** are laid over the top of the pad **11** and brought into adjacent relation. One of the rings **43** may be threaded onto the pointed end portions **37, 39** on one end of the cross members as shown in FIG. 6. Then the other ring may be threaded onto the pointed end portions **37, 39** on the other end of the cross members. In this instance, the clamp device **41** will appear as shown in FIG. 3 and the pad **11** will be maintained in position by a slight downward pressure of the straps **13, 15**.

It should be apparent from the foregoing that I have provided an invention having significant advantages. My device when compared to the prior art technique of wrapping a rubber band around each pair of adjacent ends of the cross members, for example, is much easier and faster to use since the use of my rings lessens the degree of skill required to manipulate the clamp. Moreover, my clamp

is much more durable since I have eliminated the problem of frequent breakage of the prior art rubber bands by the use of my rings, since the frequent and severe stress reversals of the rubber band of prior art devices have been eliminated.

While I have shown my invention in several forms, it will be obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit thereof.

We claim:

1. In a surgical dressing clamp of the type having a pair of adhesive straps which have transversely disposed elongated cross members in the mutually confronting ends thereof, said clamp comprising:

(a) a first ring encompassing and joining one pair of the end portions of said cross members;

(b) a second ring encompassing and joining the other pair of the end portions of said cross members; and

(c) an elastic strip connecting said rings and urging said rings toward each other when the respective end portions of said cross members are encompassed by said rings.

2. The invention as defined by claim **1** wherein said cross members have tapered end portions, and said ring members are metallic and engage the tapered portions of said cross members.

3. In a surgical dressing clamp of the type having a pair of adhesive straps which have transversely disposed elongated cross members in the mutually confronting ends thereof, said clamp comprising:

(a) a first ring member encompassing and urging together in substantially abutting relation the end portions of adjacently disposed cross members; and

(b) a second ring member encompassing and urging together in substantially abutting relation the opposite end portions of the adjacently disposed cross members.

4. The invention as defined by claim **3** wherein said cross members have tapered end portions and the ring members are metallic and engage the tapered portions of said cross members.

5. The invention as defined by claim **3** wherein the ring members are elastic.

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