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CLAMPING MEANS FOR WOUND CLIPS

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FIG. 1.

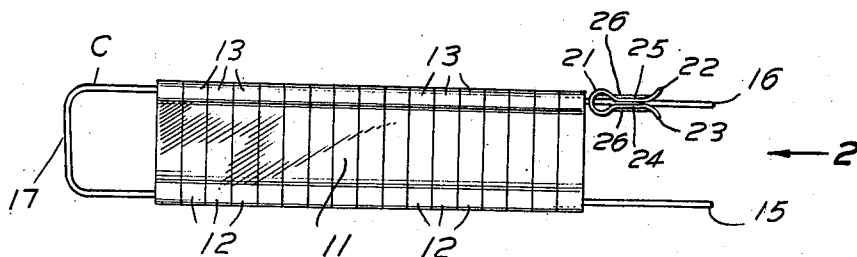


FIG. 2.

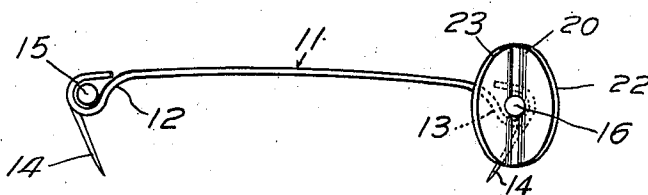


FIG. 3.

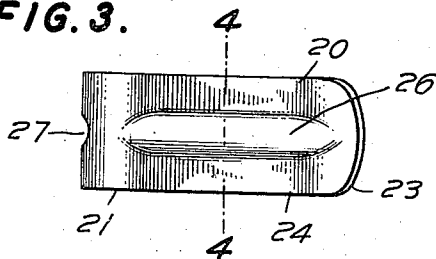


FIG. 4.

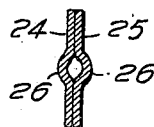
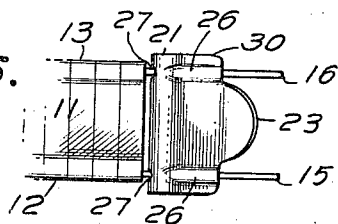


FIG. 5.



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CLAMPING MEANS FOR WOUND CLIPS

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3 Claims. (Cl. 1-56)

This invention relates to wound clips and more particularly to the manner of their assembly for sale and subsequent use. A wound clip is used for suturing a wound in man and animals resulting from an operation or an accident. Such a clip comprises a generally arch-shaped piece of rather easily bendable metal that terminates at each end in a prong adapted to enter the flesh. The arch bridges the suture and the prongs hold the adjacent edges of the wound in healing contact. Wound clips are used as substitutes for stitches. They are quicker applied than stitches and are easier removed.

Wound clips usually terminate in a loop from which the prong extends. Such clips are now usually sold in groups or racks held together on a U-shaped wire that resembles a hair-pin. Each leg of the pin is threaded through a loop of adjacent clips. When a surgeon is ready to use some clips, he or his nurse unthreads from the U-shaped wire as many clips as are likely to be needed. The ends of the wire that are thus exposed are bent back to hold the remaining clips in place. When clips are needed again, the bent ends of the wire are straightened and more clips slipped off, but the ends of the wire never bend back into place straight. Indeed, a hump or bend usually comes in the wire which interferes with the removal of further clips.

Sometimes an operator will snip off the protruding extra wire but that is likely to leave a burr that may tear the operator's rubber gloves.

It is an object of this invention therefore to devise better means for holding the clips together in a group while yet permitting more ready dissociation of one clip from its neighbors.

The invention may be said to comprise clamping means for holding a group or rack of wound clips in edge to edge disposition on their aligning carrier while permitting ready removal of as many clips as may be needed. Another feature of the invention is the provision of means associated with the wire carrier that is easily removable and replaceable with respect to the wire, without disturbing the aligned relationship of the clips. And a further factor is that the clamping or clip retaining means is capable of complete and easy sterilization along with the clips.

The invention is illustrated in a preferred embodiment in the accompanying drawing in which—

Fig. 1 shows a plan view of a group of clips with which my clamping device is associated, but some of the clips are removed from the left side

of the figure to show the curvature of the wire carrier for the clips;

Fig. 2 is an enlarged end view of the devices of Fig. 1 looking from right to left;

Fig. 3 is an enlarged plan view of my clamping means, while

Fig. 4 is a similarly enlarged sectional view taken along the lines 4-4 of Fig. 3;

Fig. 5 shows a modification.

Each clip is provided with an arched or main portion or section 11 with each end terminating in looped sections 12 and 13. From each looped section there extends a sharp prong 14. The clip carrier C comprises a U-shaped wire having two legs 15 and 16 and a base or uniting section 17. The clips are threaded on the wire carrier C by having one leg 15 passing through the loops 12 of the clips and another leg 16 passing through loops 13 of the clips. Thus are the clips held in edge to edge alignment.

The clamping means or stop of my invention is shown at 20. It comprises a piece of spring metal having a cylindrical looped section 21 at one end and at the other end laterally and outwardly curved wing-like sections 22 and 23. The body portion of the clamp consists of two flat sections 24 and 25 whose faces abut or touch. These flat sections preferably each have a strengthening rib 26, which is curved outward as shown, forming between them a substantially cylindrical pathway through which the leg 16 (or 15) of the wire carrier C may pass. Since the clamp is of spring metal, there is a friction or gripping action of the curved sections 25 on the wire to hold the clamp in place on the wire. 27 indicates an aperture at the looped end 21 of the clamp through which one leg of the wire carrier is adapted to pass when the clamp is threaded onto the carrier.

In the modification shown in Fig. 5, the clamp 30 is formed much like the clamp 20 except that instead of being threaded on only one leg of the wire carrier, the clamp is broad enough to be threaded onto both legs of the wire carrier. Parts in this modification are given the same reference numerals as corresponding parts in Figs. 1 to 4.

The operation of my clamping device is as follows:

Assuming that the clips 11 are in edge to edge contact or alignment on the wire carrier C, with legs of the carrier passing through looped end sections of the clips, clamping means of my invention are applied thereto as shown in Figs. 1 and 2, by threading the clamp 20 onto one leg

16 of the carrier. The leg 16 passes through the aperture 27 of the clamp and also the longitudinal aperture or channel formed in the body portion 24 of the clamp by one or more of the ribs 26. When it is desired to use the clips, the operator sterilizes the entire package of clips, carrier and clamp. Using rubber gloves, the clamp is removed by gripping the wings 22 and 23 of the clamp and it is pulled off of the leg 16 of the wire carrier C. As many clips as are needed are then removed from the carrier C, whereupon the clamp 20 is re-threaded onto one leg of the carrier, and the package can be stored until ready for re-use.

The operation of the modification of Fig. 5 is the same as above described, except that the clamp is threaded onto both legs of the carrier instead of only one. The clamp has been described as being made preferably of metal, but it is visualized that some other material may be used so long as it is sterilizable, non-corrosive and has sufficient friction properties to hold itself in clamping position on the wire carrier.

I claim:

1. In combination with a plurality of wound clips each having an arched body section terminating at each end in a looped section from which a flesh-engaging prong extends, a U-shaped wire carrier for the clips having two legs with each

passing through and extending beyond an end loop of each clip for holding the clips in edge to edge alignment; and clamping means for maintaining the clips in position on the wire carrier, comprising a clamp member bent back upon itself to provide a looped section at one end thereof, grippable wings at the other end thereof, and a flattened central section with an aperture extending longitudinally therethrough as well as through the looped section, said clamp adapted to have at least one leg of the carrier threaded through said aperture and held in frictional engagement with the central section of the clamp whereby the clamp is parallel to the leg, the entire assembly being readily sterilized and the clamp being removable by one hand without substantial danger of puncturing the operator's rubber gloves.

2. The combination according to claim 1 in which the clamping means has a cross-sectional extent such that its outer limits extend beyond the limits of the clips on the carrier whereby the operator can remove the clamp without touching the clips.

3. The combination according to claim 1 in which the clamping means has a rib provided in the central section on at least one outer face of the clamp.

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