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2,544,459

SURGICAL CLAMP FOR CIRCUMCISING

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Fig. 1

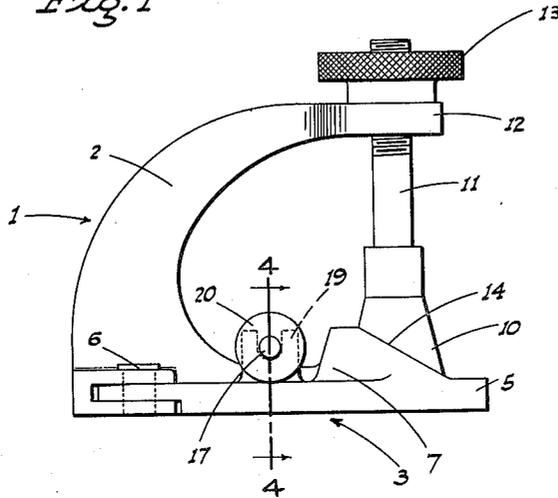


Fig. 2

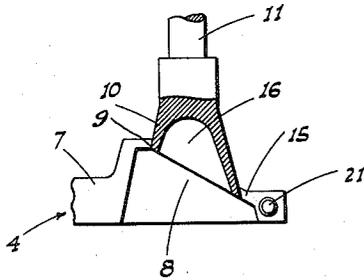


Fig. 3

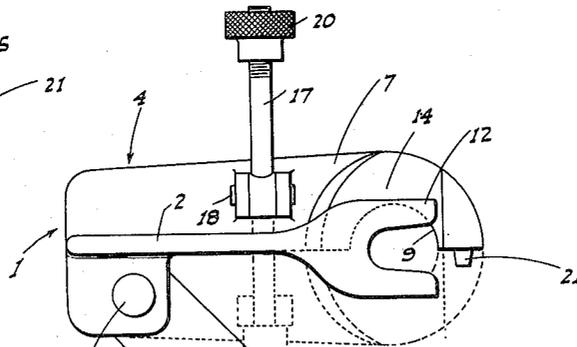
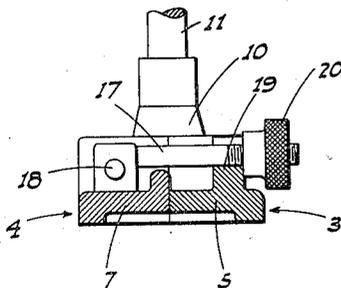


Fig. 4



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SURGICAL CLAMP FOR CIRCUMCISING

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4 Claims. (Cl. 128—346)

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This invention is directed to, and it is an object to provide, an improved surgical clamp for use in connection with the performing of circumcisions.

Another object of the invention is to provide a surgical clamp, for circumcision operations, which is designed to facilitate its placement and removal.

A further object of the invention is to provide a surgical clamp, as above, which includes an effective structural arrangement to crush the foreskin about the intended line of severance, and to aid in the proper diagonal incision of said skin.

A further object of the invention is to provide a simple, practical, and convenient surgical clamp, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings:

Fig. 1 is a side elevation of the improved surgical clamp as closed; i. e. with the parts in the position of use.

Fig. 2 is a fragmentary, sectional elevation illustrating the cone as engaged in the taper bore of the base.

Fig. 3 is a plan view of the clamp in open position, and with the cone removed.

Fig. 4 is a cross section on line 4—4 of Fig. 1.

Referring now more particularly to the characters of reference on the drawings, the improved surgical clamp comprises a generally C-shaped body, indicated generally at 1, which body includes an outer arm 2 and a generally parallel inner arm 3.

The inner arm 3 is split longitudinally to form a stationary section 4 and a laterally swingable section 5; the latter section being pivoted to said section 4, as at 6. With this arrangement the section 5 is swingable from a closed position abutting the stationary section 4, as in dotted lines in Fig. 3, laterally outwardly to an open position, as in full lines in said figure.

The inner arm 3, comprised of the stationary section 4 and normally adjacent laterally swingable section 5, is formed, adjacent its outer end, with a base 7 which projects toward the outer arm 2; said base 7 being split in half, with one half on the stationary section 4 and the other half on the swingable section 5 of the inner arm 3.

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The base 7 is hollow, as at 8, with the hollow opening outwardly, and a taper bore 9 extends through said base, with the taper, as well as the axis of said bore, extending in the direction of the arm 2.

A tapered head or cone 10 engages through the taper bore 9 from the hollow 8, and said cone 10 includes a stem 11 which projects toward and through a forwardly opening fork 12 on the free end of the arm 2. A finger nut 13 is threaded on the stem 11 and normally bears against the outer surface of the fork 12; the stem 11 being removable from said fork upon loosening of the finger nut 13.

The base 7 is formed with an exposed diagonal cutting surface 14 which extends about the cone 10 when the latter is in its position of use, as in Fig. 1; the high point of said diagonal cutting surface 14 being inward with respect to the back of the generally C-shaped body 1.

The wall 15 of the base 7 which provides the diagonal cutting surface 14 is relatively thin so that the edge of such wall, which defines the taper bore 9, forms in effect a crushing edge; the innermost end of the cone 10 having the same slope or diagonal as said wall. See Fig. 2.

The cone 10 is hollow, as at 16, and opens at the end opposite the stem 11 into the hollow 8 of the base 7.

The clamp is shown closed, i. e. with the parts in their position of use in Figs. 1, 2, and 4; the cone 10 and stem 11 being held in place by the finger nut 13, while the sections 4 and 5 of the inner arm 3 are held together by the following locking device:

A transverse locking bolt 17 is hinged, as at 18, on the stationary section 4 intermediate its ends, and normally extends across the inner arm 3 to engagement in a fork 19 on the laterally swingable section; there being a finger nut 20 threaded on said bolt and bearing against the fork 19. In this manner the sections 4 and 5 of the arm 3 may be maintained in tightly closed position with the segmental base 7 likewise closed, so that the taper bore 9 and the diagonal cutting surface 14 are then circumferentially continuous. When the clamp is to be opened, the finger nut 20 is unscrewed and the bolt 17 swung to an out-of-the-way position, as in Fig. 3.

To assure of proper alignment of the sections 4 and 5, when the clamp is closed, the free ends of said sections include, at adjacent faces, a dowel or locator pin 21 and a receiving socket 22, respectively.

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The above described surgical clamp is used in the following manner:

The foreskin is freed from the glans and a dorsal slit performed; the extent of the slit acting as a guide for the amount of foreskin to be removed. This slit should be a little shorter than the amount of skin it is intended to remove, and a complete circumference of intact foreskin near the corona will help to hold the cone in position, as hereinafter described, and make it easier to complete the application of the clamp.

After the foreskin has been freed from the dorsal slit performed, the cone 10 is placed inside of the foreskin, the hollow 16 of said cone engaging over the anterior surface of the glans. Placement of the cone 10 is facilitated by applying three hemostats, one on each side of the dorsal slit and the third on the foreskin at the frenum.

After the cone 10 is placed inside of the foreskin, the two anterior hemostats are held together, thereby approximating the skin edges of the dorsal slit, and the third hemostat at the frenum is removed. The latter hemostat is then applied to the skin edges under the other two hemostats to hold the foreskin closed over said cone.

The stem 11 of the cone and the single remaining hemostat are then held together and the initially open base 7 is applied around the cone 10 and closed; the sections 4 and 5 then being locked together by bolt 17. Thereupon, the stem of the cone is engaged in the fork 12 on the upper arm of the clamp, and the cone is lightly tensioned by partial tightening of the finger nut 13, which compresses the skin slightly between said cone and the crushing edge formed by bore 9 in wall 15. At this point the remaining hemostat may be removed, and the cone is manually pressed upward. This maintains the foreskin in the device, and adjustment of said foreskin can be made to attain the position desired for circumcision. Thereafter, pressure is applied to crush the foreskin between cone 10 and said crushing edge, by fully tightening the finger nut 13 on the stem 11 of the cone 10. The excess of skin is now excised by incision around the foreskin at the base of the cone on the diagonal cutting surface 14 of the base 7. The device is left in place for five to ten minutes, and then removed by loosening and separating the parts thereof.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

1. A surgical clamp comprising a generally

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C-shaped body including an outer arm and an inner arm, a base on the inner arm facing the outer arm, said base having a bore therethrough, the axis of the bore extending toward the outer arm and said bore tapering in said direction, a cone removably engaged in said bore, and a clamping device connected between the cone and the outer arm; the face of the base forming an exposed cutting surface about the cone, said cutting surface being diagonal to the axis of said bore and cone.

2. A surgical clamp for circumcision comprising a generally C-shaped body including an outer arm and an inner arm, a base on the inner arm, said base being hollow and opening away from the outer arm, there being a wall of the base forming a cutting surface facing the outer arm, a bore in said wall, the bore tapering toward said outer arm, a cone engaged in the taper bore from within the hollow base the sides of the cone being in substantial parallelism with the sides of the bore, and a clamping device connected between the cone and the outer arm; the cone being hollow and opening into the hollow, open-ended base, and the wall being disposed so that said cutting surface is diagonal with respect to the axis of the cone.

3. A surgical clamp, as in claim 2, in which the wall is relatively thin with respect to the prepuce, thus forming a crushing edge, about the bore, in cooperative relation to the cone.

4. A surgical clamp comprising a generally C-shaped body including an outer arm and an inner arm, a base on the inner arm facing the outer arm, said base having a bore therethrough, the axis of the bore extending toward the outer arm and said bore tapering in said direction, a cone removably engaged in said bore, and a clamping device connected between the cone and the outer arm; the inner arm, together with the base, being split lengthwise of said inner arm into relatively separable sections, and means to releasably secure said sections in matching relation; said means comprising a transverse locking bolt hinged on one section, a fork on the other section to receive said bolt, and a finger nut threaded on the bolt for engagement with the fork.

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

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