Oct. 5, 1954 M. D. STEINBERG 2,690,750

SURGICAL INSTRUMENT FOR TREATING INGROWING NAILS

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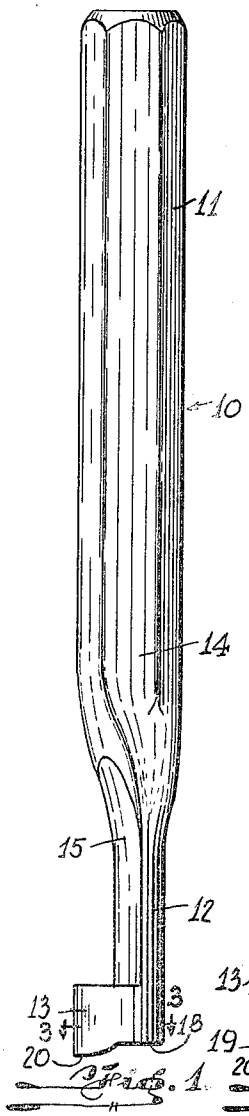

Fig. 1.

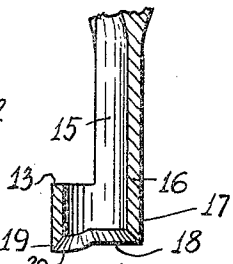

Fig. 2.

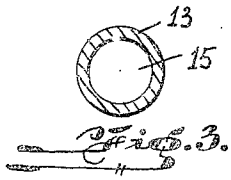

Fig. 3.

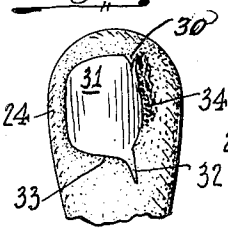

Fig. 4.

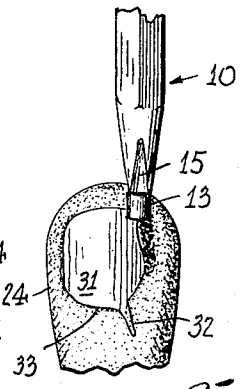

Fig. 5.

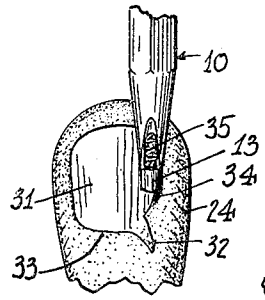

Fig. 6.

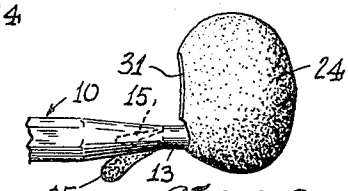

Fig. 8.

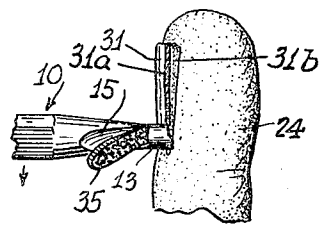

Fig. 7.

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SURGICAL INSTRUMENT FOR TREATING INGROWING NAILS

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2 Claims. (Cl. 128—305)

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The present invention relates to surgical methods and apparatus employed therein, and is particularly directed to a novel method of surgically treating ingrowing nails, and an instrument for use therein.

As is well known in the fields of medicine and podiatry, the condition of ingrowing nails often fails to respond to normal treatment, and, where there is recurring infection and the presence of granulations and fibrotic tissue, surgical intervention is required. Heretofore, such surgery was frequently performed under general anesthesia in a hospital operating room, the matrix being removed by excision, after which thorough currettage was necessary. It was necessary to separately remove the nailbed and offending nail, the operation requiring about 30 to 40 minutes after anesthesia and producing much surgical trauma.

Accordingly, it is a principal object of the present invention to provide a highly improved method and apparatus for surgically treating ingrowing nails, wherein the operating time is substantially reduced, the operation being performed under local anesthesia and accompanied by a minimum of surgical trauma. By the present invention, the offending nail, nailbed, and matrix are removed simultaneously in one simple maneuver, actual operating time being less than 30 seconds. Further, the operation may be satisfactorily performed in a doctor's office, the patient requiring little preparation and being able to walk away unassisted after the operation is completed.

It is another object of the present invention to provide a method and apparatus for surgically treating ingrowing nails, in which the patient suffers a minimum of pain both during and after the operation, and in which the wound heals quickly and with little scar tissue or deformity.

It is still another object of the present invention to provide an instrument for use in surgical treatment of ingrowing nails, which instrument is adapted to quickly and easily separate the involved pathological tissues and which is provided with novel means for cleanly severing said tissues from the body.

The present invention includes the method of approaching the matrix with a cutting instrument from anterior to posterior, the cutting instrument arriving underneath the matrix, thereby separating same from the rough surface of the plalanx cleanly and with ease.

The correct area of the matrix for excision is automatically arrived at by virtue of the fact

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that it is continuous with the pathological tissues already contained in the tissue groove of the instrument.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings which form a material part of this disclosure.

In the drawings:

Fig. 1 is a side elevational view, showing an instrument constructed in accordance with the present invention.

Fig. 2 is a partial, sectional side view of the device of Fig. 1.

Fig. 3 is a section taken on line 3—3 of Fig. 1.

Fig. 4 is a top plan view showing a toe in one stage of preparation for the treatment of the present invention.

Figs. 5 and 6 are top plan views showing a toe in different stages of being operated upon by the instrument and method of the present invention.

Fig. 7 is a side elevational view showing a later stage in the operation of the present invention.

Fig. 8 is an end view of Fig. 7.

Referring now more particularly to the drawing, and specifically to Figs. 1 and 2, the device illustrated therein comprises a trephine, generally designated 10, having a handle 11, a shank 12 and a cutter 13.

The handle 11 is preferably elongated in configuration, having a polygonal section for facility in manually gripping and working the trephine while exerting considerable force. Adjacent the lower end 14 of the handle 11, as seen in Fig. 1, there is formed a shank 12 of reduced cross section and provided with a longitudinally extending groove 15. The shank 12 may be formed integrally with the handle 11, or fabricated separately therefrom and fixedly secured thereto by any suitable means. In either case, the shank 12 is preferably arranged longitudinally of the handle 11 and has one end 16 projecting outwardly from the handle.

The shank 12 is formed with an annular cutter 13. The cutter 13 may be cylindrical in shape, and arranged with its axis longitudinally of the handle 11 and shank 12. One side 17 of the cutter 13 merges with the shank 12 at its projecting end 16, and forms a smooth continuation thereof. To form a sharp outer cutting edge 18, the annular cutter 13 is beveled interiorly, as at 19, adjacent its outer end. The cutter portion 19, opposite to and remote from the shank 12 and cutter portion 17 is formed at its outer end with

a knife edge extension or cutting lip 20, for a purpose appearing hereinafter.

The operation of the above described trephine will become apparent from the following description of the method of surgical treatment of the present invention. While the method and instrument are equally well adapted for surgical treatment of ingrowing toe and finger nails, the invention has been primarily developed for treating ingrowing toe nails and will be described with particular reference thereto.

In preparing the patient for surgery, normal procedures should be followed to control infection, the toe area cleaned and swabbed with a germicide and a local anesthetic injected or otherwise applied to the toe 24. A nick or cut 30 (see Fig. 4) is made in the free edge of the nail 31 approximately one-eighth inch from the affected edge. An incision 32 is made in the posterior nail fold 33 at the posterior corner adjacent the affected area 34, which incision extends posteriorly for approximately one-fourth to one-half inch and is directed downwardly to the phalanx.

The trephine 10 (Fig. 5) is arranged in alignment with the affected area 34 with the cutting edge 18 engaged in the nick 30, and the groove 15 facing upwardly away from the toe 24. The nick 30 serves to guide the trephine at the start of the operation, whereupon the trephine is moved posteriorly with a somewhat rotary, oscillatory movement. The trephine will then separate the lateral edge of the nail and offending tissues, which form a compact mass 35 extending through the cutter 13 and into the groove 15. Keeping the trephine close to the phalanx, the former is moved posteriorly, as shown in Fig. 6. When the trephine is within approximately one-fourth inch of the base of the phalanx corresponding to the limits of the posterior matrix, it is retracted approximately one-eighth inch and turned substantially normal to the toe (see Fig. 7). The lip 20 of the cutter 13 is then adjacent to the posterior end of the incision 32, and in cutting engagement with the mass 35 of nail and offending tissue. The mass of tissue 35 in the groove 15 is then excised by pressing the trephine down so that the lip 20 completely severs the tissues.

Normal aseptic procedures follow the operation, and post-operative care may be continued for several days. It has been found that the patient can walk away unassisted when the operation is complete, and that the wound heals relatively quickly with excellent cosmetic results.

Thus, it will be noted that a maximum of pathological tissue is removed with a minimum of surgical trauma, and that the method and apparatus of the present invention are well adapted to accomplish their intended objects.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. An instrument for surgically treating an ingrowing nail, said instrument comprising a handle, a shank on said handle and having one end projecting outwardly therefrom, there being a longitudinally extending groove formed in said shank and opening through the projecting end thereof, an annular cutter on the projecting end of said shank, said cutter opening into said groove to permit the passage of a mass of partially severed tissue to pass through said cutter and into said groove, and a cutting lip on said cutter remote from said shank, whereby said handle may be turned to bring the lip into engagement with said mass to completely sever the same.

2. A surgical instrument for removing a mass of affected tissue, said instrument comprising a handle, a shank on said handle and having one end projecting outwardly therefrom, there being a longitudinally extending groove formed in said shank and opening through the projecting end thereof, an annular cutter on the projecting end of said shank, one portion of said cutter merging with said shank to form a continuation of said groove, to thereby permit the passage of a mass of partially severed tissue to pass through said cutter and into said groove, and a knife-edge extension on said cutter opposite said shank, whereby said handle may be turned to bring said extension into engagement with said mass to completely sever the same.

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