

[54] ACUPUNCTURE NEEDLE

[76] Inventor: Philip M. Toyama, 400 Staffordshire Rd., Winston-Salem, N.C. 27104

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[51] Int. Cl.² A61B 17/34

[58] Field of Search 128/215, 220, 314, 315,
128/329 A, 329 R, 347

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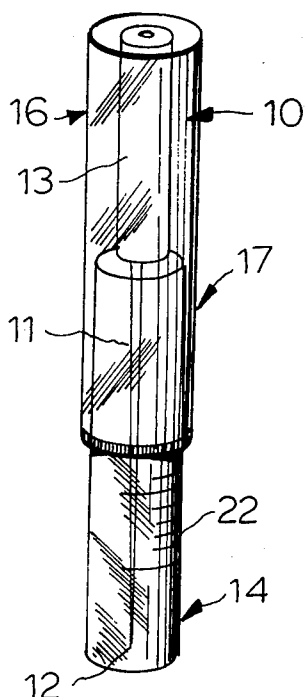
Primary Examiner—Channing L. Pace

Attorney, Agent, or Firm—Sherman & Shalloway

[57] ABSTRACT

An acupuncture needle having a shank portion for insertion through the skin and a handle portion or gripping portion is provided with a shield which prevents contact of the shank portion by the person providing treatment. The needle is held in fixed relation with the shield by cooperation between a membrane positioned at the end of the shield and a plunger which fits over the handle portion and into telescoping engagement with the shield. To insert the needle beneath the skin, the plunger is depressed, forcing the handle portion through the membrane and the shank portion to project beyond the shield and into the skin. In order to determine the depth to which the shank portion is inserted beneath the skin, the shield is made of a transparent material and has a linear gauge marked thereon. To preserve the sanitary state of the acupuncture needles for their use, they are conveniently packaged in a conventional air-tight container.

13 Claims, 7 Drawing Figures



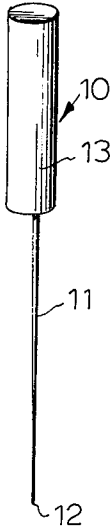


FIG. 1

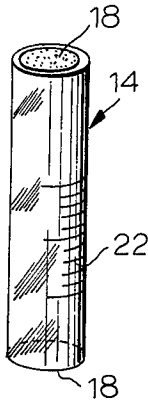


FIG. 2

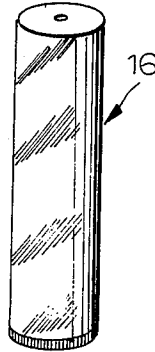


FIG. 3

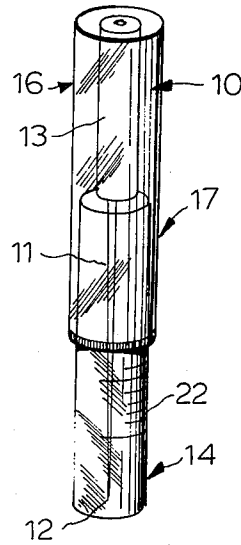


FIG. 4

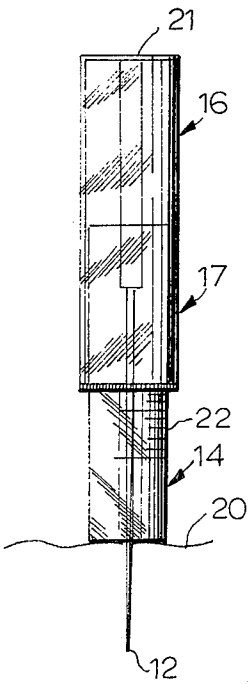


FIG. 5

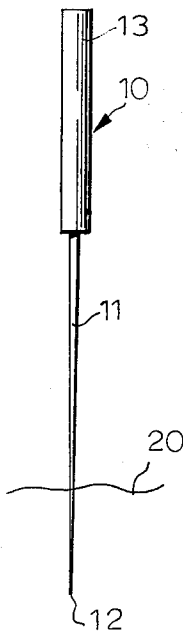


FIG. 6

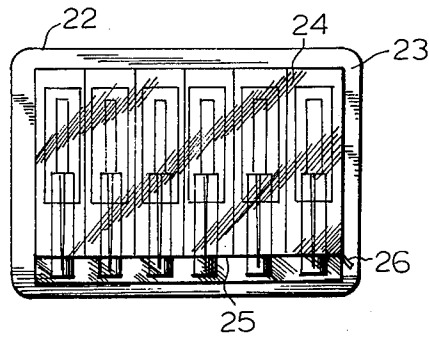


FIG. 7

ACUPUNCTURE NEEDLE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to acupuncture needles. More particularly, this invention relates to an acupuncture needle which is configured to preserve the sanitary condition thereof.

2. Technical Considerations and Prior Art

Acupuncture is an ancient healing art which is most frequently utilized to relieve pain and to prevent the occurrence of pain during surgical and other operations. Generally, an acupuncture treatment requires the insertion of numerous needles through the skin of and into the body of a patient. Consequently, there is a great danger of infection if the needles utilized are not perfectly sterile.

The prior art does not disclose any convenient way of ensuring that needles utilized in acupuncture will be sterile. Even if the needles are initially contained in a sterile package for shipment and distribution, when the package is opened the shanks of the needles are likely to be touched by the hand of the acupuncture practitioner. When the shanks of the needles are passed beneath the skin, material from the fingers of the practitioner may also pass beneath the skin, possibly creating an infection in the patient. This is the problem that is solved by the device of the current invention.

SUMMARY OF THE INVENTION

It is consequently an object of the instant invention to provide new and improved devices for practicing the art of acupuncture wherein needles used in practicing acupuncture are maintained in a sterile condition up until the time they are used.

It is an additional object of the instant invention to provide a readily detachable shield for preventing tactile engagement of acupuncture needle shanks before the shanks are inserted beneath the skin of a patient.

It is a further object of the instant invention to provide a shield which prevents tactile engagement of the acupuncture needle shanks and provides a convenient scale for measuring the depth to which the shanks are inserted beneath the skin.

In view of these and other objects, a device for practicing acupuncture contemplates a needle having a first portion which is inserted beneath the skin and a second portion which thereafter remains exposed. The first portion is contained within a shield and a structure is provided for securing releasably the needle to the shield while providing a plunger for projecting the shank of the needle beyond the shield.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing an acupuncture needle which is to be protected by a device according to the instant invention;

FIG. 2 is a perspective view of a shield which is used to protect a first shank portion of the needle shown in FIG. 1;

FIG. 3 is a perspective view of a plunger which is combined with the acupuncture needle of FIG. 1 and the shield of FIG. 2 to assemble the device according to the instant invention;

FIG. 4 is a perspective view of a device for practicing acupuncture according to the principles of the instant

invention showing the elements of FIGS. 1, 2 and 3 in assembled condition;

FIG. 5 is a side view showing how the device of FIG. 4 is utilized to project the shank of an acupuncture needle beneath the skin;

FIG. 6 is a view of the acupuncture needle of FIG. 1 inserted beneath the skin with the elements of FIGS. 2 and 3 removed; and

FIG. 7 is a top view of a package containing a plurality of devices according to the instant invention.

DETAILED DESCRIPTION

Referring now to FIG. 1 there is shown a conventional acupuncture needle, designated generally by the numeral 10, which includes a shank portion 11 having a sharp point 12 which is intended to be inserted through the skin of a patient receiving acupuncture treatment. The needle 10 also has a handle portion 13 which is used to manipulate the needle after the needle has been inserted and is used to withdraw the needle. The handle portion 13 may be made of plastic and the shank portion 11 may be made of stainless steel or, on the other hand, the entire needle may be made of stainless steel.

Referring now to FIGS. 2, 3 and 4, there is shown a shield, designated generally by the numeral 14; a plunger, designated generally by the numeral 16; and an assembly, designated generally by the numeral 17. The assembly 17 is achieved by first projecting the shank 11 of the needle 10 through a membrane 18 positioned at the top end of the shield 14. The needle 10 is pushed so that the shank 11 passes through the membrane 18 until the handle portion 13 abuts the membrane 18 and rests thereon. The diameter of the handle 13 is slightly less than the inner diameter of the shield 14, so that if the handle 13 is pressed with sufficient pressure to rupture the membrane 18, the handle 13 will slide within the shield 14.

After the shank 11 is inserted through the membrane 18 so that the handle 13 rests on the membrane, the plunger 16 is telescoped over both the handle 13 and the upper end of the shield 14. The plunger 16 is longer than the handle 13 so that it projects past the handle 13 and over the shield 14. In order to assure that the resulting assembly 17 will not fall apart, the coefficient of friction between the inner surface of the plunger 16 and the outer surface of the shield 14 is sufficiently high to hold the plunger and shield together, but is sufficiently low so that the plunger 16 will slide relative to the shield 14 upon applying pressure to the plunger.

In order to utilize the assembly 17 as shown in FIG. 4, the acupuncture practitioner rests the open end 19 of the shield 14 against the skin 20 of the patient, as seen in FIG. 5. Tactile pressure is then applied to the upper end 21 of the plunger 16 to push the handle 13 of the needle 10 through the membrane 18 which is designed to rupture upon application of a pre-determined pressure. When the membrane 18 ruptures, the point 12 punctures the skin and the shank 11 is pushed into the skin. As this happens, the plunger 16 telescopes down over the shield 14.

In order to determine the depth to which the point of the needle 10 penetrates, a linear gauge 22 is inscribed or otherwise disposed on the shield 14, which is most conveniently made of a transparent material. As the lower end of the handle 13 passes graduations on the

scale 22, the practitioner can determine how deep the point 12 has penetrated.

After the shank 11 of the needle 10 has been inserted through the skin 20, the assembly 17 is removed from around the needle by simply sliding it up away from the needle. Since the membrane 18 has been broken, it no longer presents any resistance to the handle of the needle as the handle slides therein. Consequently, the assembly 17 may be simply lifted from the needle 10.

In order to preserve the sanitary condition of the needles 10 and the assembly 17, the needles mounted in the assembly are packaged in a sterile package 22, as shown in FIG. 7. Since numerous needles 10 are utilized in a single acupuncture treatment, it is most convenient to pack the needles in numbers of six or more so that handling of the needles is made convenient. The package 22 is of a standard design, wherein the needles 10-10 contained within the assembly 17 are mounted on a backing 23 and covered by a plastic film 24 which has a seam 25 that may be opened by pulling a tab 26 to the left.

After the treatment is completed, the needles 10 may be withdrawn by simply pulling on the handle 13 and then disposed of.

By utilizing the device of this invention, the acupuncture needle 10 may be inserted beneath the skin without the practitioner touching the shank 11 or point 12 of the needle.

The afore-described embodiment is merely illustrative of the principles of the invention. Accordingly, the invention is to be limited only by the recitations of the following appended claims.

What is claimed is:

1. A device for practicing acupuncture wherein needles are utilized to penetrate beneath the skin comprising:

- a needle having a shank for insertion through the skin and a handle which remains exposed after the shank is inserted,
- a shield for protecting the shank from tactile contact prior to inserting the shank, and
- means for releasably securing the needle to the shield with the shank disposed completely within the shield wherein said releasable securing means includes plunger means which engages both the handle and the shield and which projects said shank from said shield as said needle is inserted beneath the skin and is released from the shield.

2. The device of claim 1 wherein the handle of the needle has a substantially greater diameter than the shank and wherein the means for releasably securing the needle to the shield includes a holding member at

one end of said shield through which the shank projects and upon which the handle rests.

3. The device of claim 2 wherein the means for projecting said shank engages both said handle and said shield to normally retain the shield and needle in rigid relation but is slidable relative to the shield to release the needle from the holding means and to project the shank.

4. The device of claim 3 wherein said holding means is a rupturable membrane.

5. The device of claim 3 wherein plunger means and the shield telescope relative to one another to release the needle and project the shank.

6. The device of claim 3 wherein both the shield and plunger means are cylindrical in shape.

7. The device of claim 5 wherein the plunger means slides over the shield as the plunger means and shield telescope.

8. The device of claim 5 wherein the shield and plunger means are made of tubular plastic material.

9. The device of claim 8 wherein the handle of the needle is made of plastic.

10. A device for practicing acupuncture wherein needles are utilized to penetrate beneath the skin comprising:

- a needle having a shank for insertion through the skin and an enlarged handle which remains exposed after the shank is inserted,
- a shield for surrounding the shank prior to inserting the shank,
- a membrane extending across the shield through which the shank projects and upon which the handle rests, and
- a plunger engaging the end of the handle and fitting in sliding relationship with said shield to hold the handle in engagement with the membrane until the plunger is pushed relative to the shield to telescope relative thereto and project said handle through said membrane and said shank out of said shield.

11. The device of claim 10 wherein the handle, the shield and the plunger are made of plastic material.

12. The device of claim 11 wherein the coefficient of friction between the shank and the subject into which it is inserted is greater than the coefficient of friction between the ruptured membrane and the handle so that the shield and plunger may be easily removed from the needle after the needle is inserted.

13. The device of claim 5 wherein the shield is made of a transparent material and wherein the shield has indicia thereon to indicate the depth to which the needle has been inserted beneath the skin.

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