United States Patent [19]

Boothby

[11] **3,760,803**

[45] **Sept. 25, 1973**

[54] **METHOD OF SELF-INJECTION USING MUSCLE ELEVATING ARM CLAMP**

[76] Inventor: **Laura A. Boothby**, 22 Poplar St., Hudson Falls, N.Y. 12839

[22] Filed: **Oct. 27, 1971**

[21] Appl. No.: **193,000**

[52] **U.S. Cl.** **128/215**, 128/346

[51] **Int. Cl.** **A61m 5/00**

[58] **Field of Search** ..... 128/215, 214 R, 327, 128/325, 326, 346, 303 R, 303 A, 321, 354, 322–324, 330, 333, 218 R; 24/262

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Primary Examiner—Richard A. Gaudet
Assistant Examiner—J. C. McGowan
Attorney—Harvey B. Jacobson

[57] **ABSTRACT**

A method for self-injection using a special purpose arm clamp or band whereby diabetic when called upon, without aid or assistance, can prepare and condition a predetermined arm site for self-injecting the needle of an insulin syringe. The clamp comprises a resilient C-shaped arm band having normally spaced terminal ends provided with integral horizontally elongated jaws. The band and jaws are unified, made of a non-corrodible sheet material and have requisite resilient and constrictive properties. The opposed, spaced, parallel jaws have inwardly disposed faces covered with compatibly usable, compressively resilient pads.

1 Claim, 3 Drawing Figures

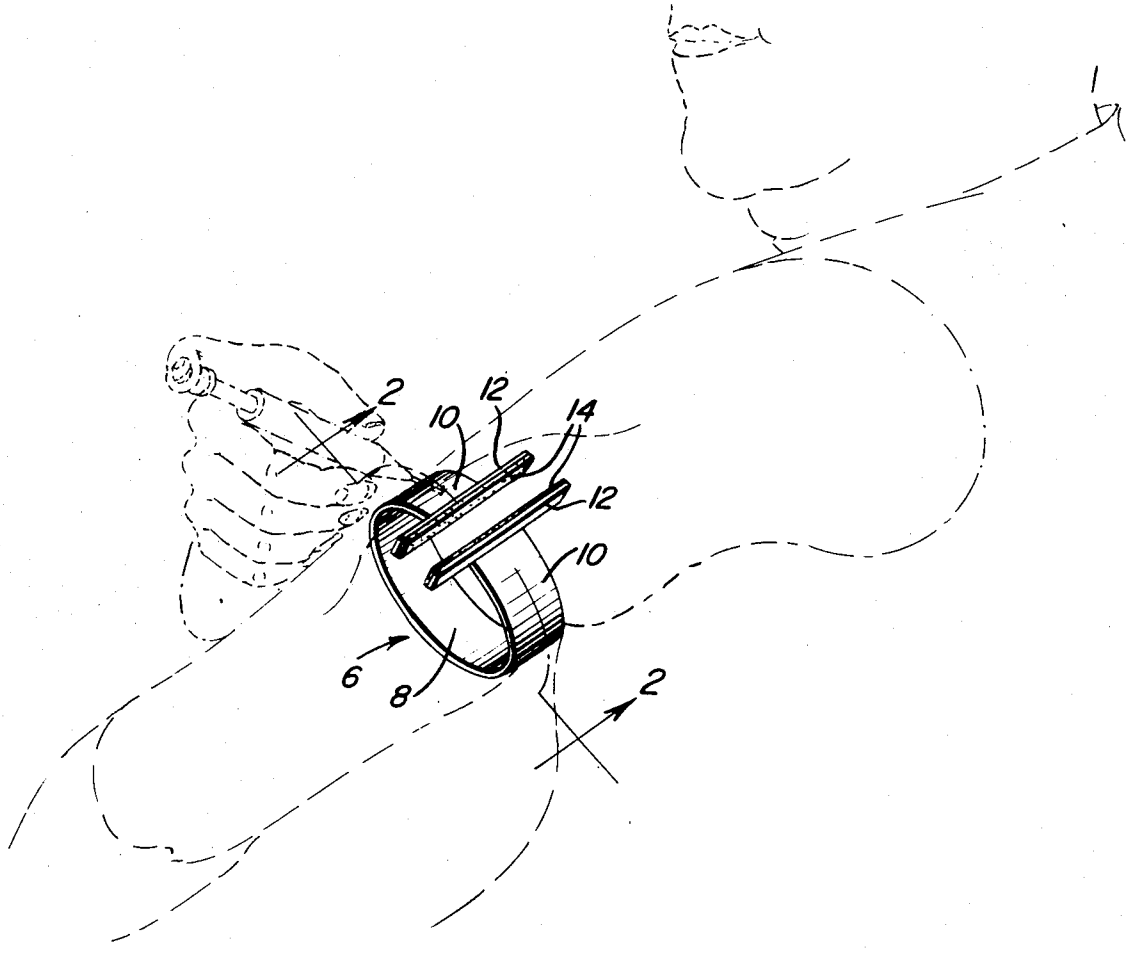


Fig. 1

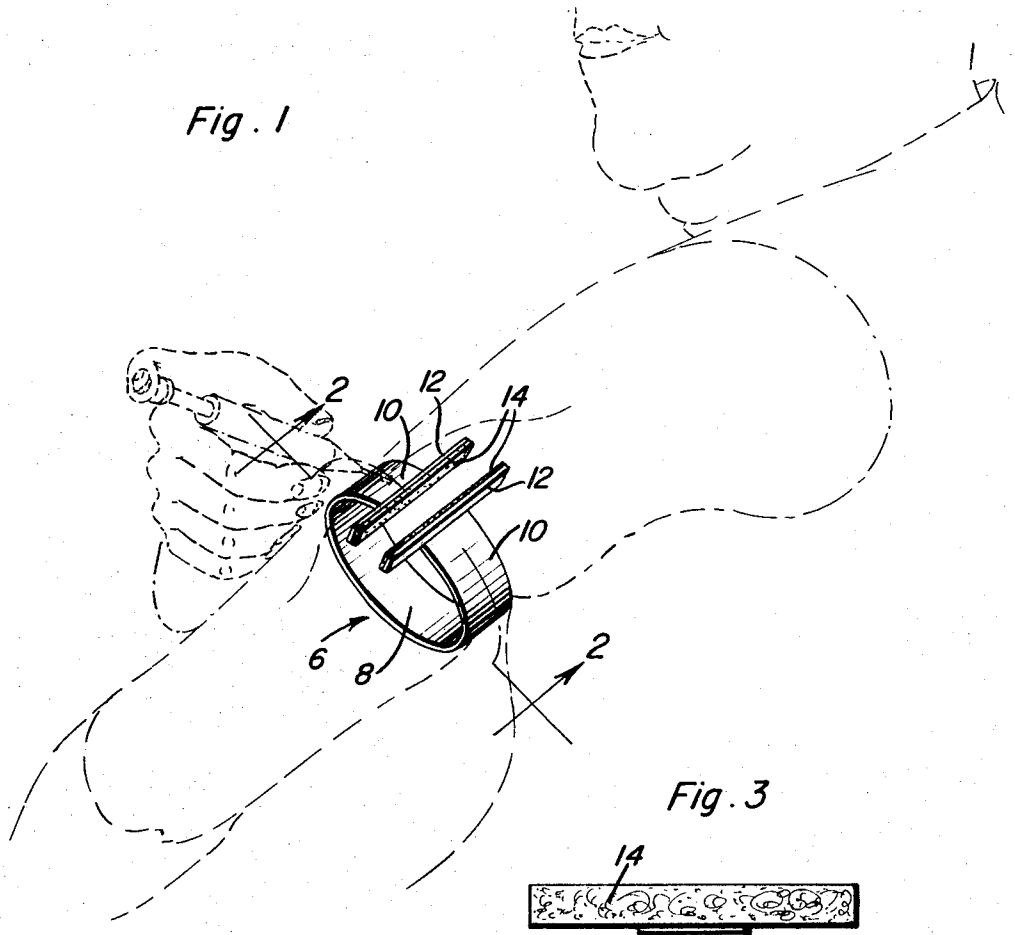


Fig. 3

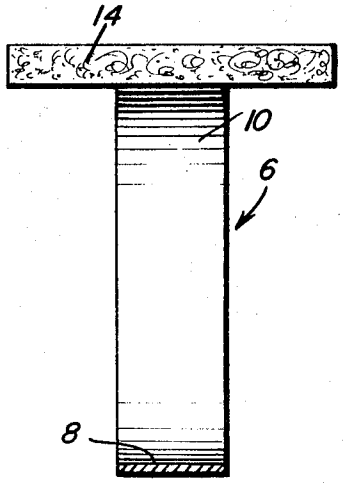
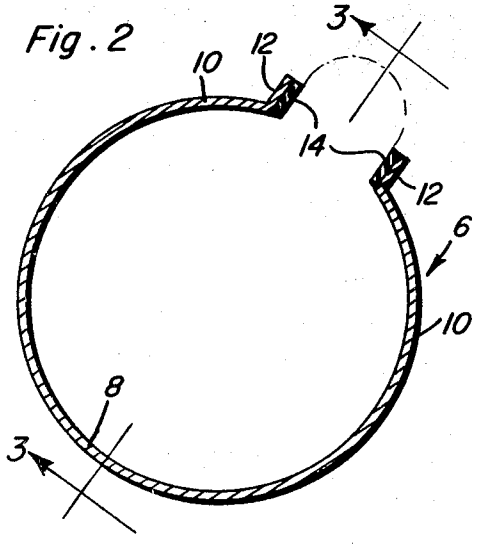


Fig. 2



METHOD OF SELF-INJECTION MUSCLE ELEVATING ARM CLAMP

This invention relates to a readily applicable and removable appliance which is expressly designed and adapted to facilitate convenient single-handed but facile use, broadly stated, of a hypodermic syringe and, more particularly, to an innovation for use by an insulin-using diabetic.

As every self-injecting diabetic has learned from trial and error experience, it is a fearfully troublous and exasperating problem to satisfactorily and safely inject insulin into the arm. The fact is, there has long existed a need for feasible and reliably usable injection assisting means which can be safely relied upon for practical painstaking use and so that self-injecting steps can be systematically and distributively switched not only from leg to leg but from both legs to both arms and back again to the legs. It follows that it is an object of the present invention to provide a simple easy-to-use arm clamp or band which will enable a user thereof to apply the band to an upper arm and, in so doing, to clampingly fold, distend, and elevate the flesh and thus condition the site for guided injection.

Briefly, the clamp comprises a substanitally C-shaped band which embodies a curvate bight portion interconnecting or uniting properly contoured end portions. These end portions have spaced terminal ends which are provided with integral elongated members which constitute jaws. The effective faces of the jaws are provided with resilient anti-slipping pads. These padded jaws constitute appropriate adapters which grippingly embrace the flesh and firmly, but gently, distend the same at the penetration site desired. Following this, the injection step can be carried out.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout and in which:

FIG. **1** is a view in perspective of an arm embracing muscle elevating clamp or band constructed in accordance with the principles of the invention and showing the manner in which it is constructed and used.

FIG. **2** is an enlarged sectional view taken approximately on the plane of the section line **2—2** of FIG. **1** looking in the direction of the indicating arrows.

FIG. **3** is a sectional view taken at right angles on the line **3—3** of FIG. **2.**

The herein disclosed readily applicable and removable appliance is designated, broadly stated, as an arm embracing clamp. More specifically, it comprises a split or C-shaped arm band which may be acceptably used when constructed of spring nickle, stainless steel spring or, if permissably practical, from appropriate plastic material. The band is of the approximate width depicted in FIG. **1** and will vary in circumferential dimension to accommodate arms of ever varying sizes. The band has appropriate planar inner and outer surfaces

and is of a relatively high modulous of elasticity. The overall band is designated by the numeral **6** and can be said to embody a median curvate bight portion **8** and appropriately curved and contoured end portions **10.** The terminals of the end portions are provided with integral horizontally elongated strip members **12** whose median portions are secured to the band-ends to provide the desired result. These members are herein designated as spaced parallel jaws whose opposed faces are covered by compressibly resilient pads or adaptors **14.** The jaws can be slightly resilient but amply firm to provide the gripping and retaining function desired. It will be noted in this connection that the padded jaws are of a length appreciably greater than the width of the arm band with a view toward providing maximal cushioning and holding and muscle squeezing and elevating efficiency.

With the band in the position illustrated in FIG. **1** it will be seen that the needle-equipped syringe can be handled with the available hand and in a manner that the needle can accurately puncture and penetrate the skin and tissues preceding the step of actuating the plunger.

Repeated experience has shown that the user may employ the insulin needle in the arm without the help of another person with the result that it will no longer be necessary to virtually restrict the injection steps to conveniently available portions of the legs. With the aid and assistance of the arm clamp the user is enabled to alternate between both arms and legs and, in so doing, to minimize perplexing annoyances and the possibility of infection.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed as new is as follows:

1. A method for gently squeezing, distending and conditioning a predetermined arm site for self-injecting said site with a needle, for example, of an insulin syringe using a resilient C-shaped arm band having normally spaced terminal ends provided with integral horizontally elongated jaws, said arm band and jaws being made of non-corrodible sheet material having a high modulus of elasticity and inherent constrictive properties, said jaws having median longitudinal edge portions only integrally joined with the respectively coordinating terminal ends of said arm band and also having inwardly disposed elongated faces protectively covered with complemental compressibly resilient anti-slipping squeezing distending pads comprising the steps of; positioning said band around the arm and engaging the flesh at spaced points with said jaws to clampingly elevate the flesh whereby the resiliency of said clamp will act to squeezably distend the arm at the injection site.

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