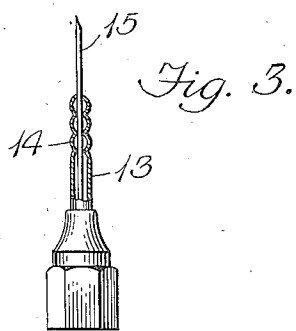
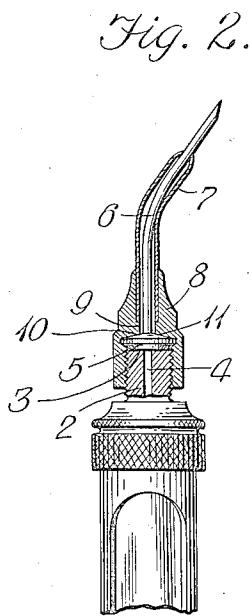
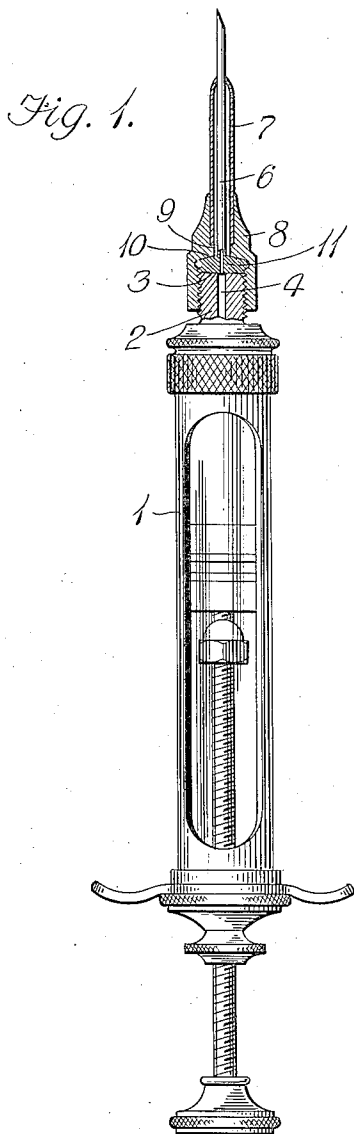


G. R. SCHIMMEL.
 HYPODERMIC SYRINGE.
 APPLICATION FILED APR. 8, 1914.

1,125,887.

Patented Jan. 19, 1915.



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GUSTAV R. SCHIMMEL, OF DETROIT, MICHIGAN.

HYPODERMIC SYRINGE.

1,125,887.

Specification of Letters Patent.

Patented Jan. 19, 1915.

Application filed April 8, 1914. Serial No. 830,331.

To all whom it may concern:

Be it known that I, GUSTAV R. SCHIMMEL, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Hypodermic Syringes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to hypodermic syringes, and more particularly to the needles thereof.

The object of my invention is to provide a syringe needle with a bendable guard or shield that permits of a needle being safely bent to a desired angle or inclination, without danger of the needle being injured, cracked, or the walls thereof collapsed by the pliers or instrument employed for bending the needle.

To conveniently and correctly use a hypodermic syringe, it is often necessary to bend the needle thereof whereby it can be easily and properly inserted in the integument of a body, and as the needle is often injured by such operation, it has been found that a guard or shield surrounding the needle not only protects the same, but assists in maintaining the needle at the angle to which it is bent, thus preventing the insertion of the needle in the flesh from changing the angularity of the same.

My invention will be better understood when reference is had to the drawing and the detailed description thereof.

In the drawing, Figure 1 is an elevation of the syringe partly broken away and partly in section; Fig. 2 is a longitudinal sectional view of the needle, and Fig. 3 is an elevation of a coupling member illustrating a modified form of guard or shield.

The reference numeral 1 denotes a conventional form of hypodermic syringe and the outer end of said syringe has a nipple 2 that is exteriorly screw threaded and formed with an annular seat or recess 3 in communication with the longitudinal port 4 of the nipple.

Mounted in the recess or seat 3 is a compressible head 5 made of soft or malleable metal and said head is formed integral with the inner end of a needle 6 which is in communication with the port 4 of the nipple 2. The needle 6 is made of bendable material and surrounding said needle, for the greater

part of its length, is a guard or shield 7 also made of bendable material. The guard or shield is cylindrical or in the form of a sleeve and the outer end thereof is reduced or contracted to snugly embrace the needle 6. The inner end of the guard or shield is mounted in a coupling member 8 screwed upon the nipple 2 and said member has the bore 9 thereof flared or enlarged, as at 10, to receive the conical shaped end 11 of the head 5. By tightening the member 8 upon the nipple 2, the head 5 is compressed sufficiently as to establish a non-leakable connection between the nipple and the needle, besides preventing the needle from becoming accidentally displaced.

The guard or shield 7 can be easily bent to correctly position the end of the needle with respect to the syringe and in some instances the contracted end of the guard or shield serves as a stop to limit the insertion of the needle under the flesh. With the guard or shield spaced from the needle 6, the guard or shield assumes a greater angle than the needle, thus producing a gradual curve of the needle without any danger of the walls thereof becoming collapsed or injured. As a matter of fact, the needle is sprung to a desired position and maintained in said position by the bendable guard or shield.

In Fig. 3 the guard or shield 13 is illustrated as having a plurality of integral globular or bead sections 14 embracing a small needle 15. The sections 14 are hollow and are adapted to facilitate the shortening of the guard or shield when a short needle forms part of the coupling member. The guards or shields can therefore be made a uniform length and should the user of a syringe require a longer needle, it is only necessary to cut off an outer section of the guard or shield, whereby the end of the guard or shield will be a prescribed distance from the outer end of the needle. With this form of guard or shield the walls of the needle are engaged and firmly braced to preclude any possibility of the needle accidentally bending.

The guard or shield 13 may have a series of constrictions or circumferentially arranged depressions that are not necessarily globular or bead-shaped, but it is preferable that the constrictions or depressions be of such shape that when the guard or shield is

reduced in its longitudinal dimension, the end thereof will be rounded and snugly embrace the needle.

It is thought that the utility of the guard or shield will be apparent without further description, and while in the drawing there is illustrated the preferred embodiments of the invention, it is to be understood that the structural elements are susceptible to such changes as fall within the scope of the appended claims.

What I claim is:

1. In a hypodermic syringe a needle, a bendable guard surrounding the greater part of the needle and maintaining the same at an inclination relative to said syringe.

2. In a hypodermic syringe, a detachable needle, a bendable guard surrounding the greater part of said needle, and a coupling member adapted to simultaneously hold said needle and said guard relative to said syringe.

3. In a hypodermic syringe, a nipple forming part thereof, a needle having a head seated against said nipple, a coupling member for retaining the head of said needle in engagement with said nipple, and a bendable guard forming part of said coupling member and surrounding a portion of said needle.

4. In a hypodermic syringe, a nipple forming part thereof, a needle having the inner end thereof in engagement with said nipple, means engaging said nipple for retaining said needle in engagement therewith, and bendable means supported by the first mentioned means and adapted to retain said needle at an inclination relative to said nipple.

5. In a hypodermic syringe, a nipple, a bendable needle in communication therewith, and bendable means spaced relative to said needle and adapted to maintain said needle at an angle relative to said nipple.

6. In a hypodermic syringe, a nipple forming part thereof, a bendable needle having a compressible head engaging said nipple, a coupling member detachably engaging said nipple and retaining the head of said needle in engagement therewith, and a cylindrical guard forming part of said

coupling member and spaced from the greater part of said needle and having a contracted end engaging said needle at a point removed from the outer end thereof.

7. In a hypodermic syringe, a nipple, a bendable needle having a compressible head seated against said nipple and having a recess, a coupling member screwed upon said nipple to receive and retain the head of said needle in engagement therewith and establish a non-leakable connection between said needle and said nipple, and a bendable guard carried by said coupling member and spaced from the greater part of said needle, said guard having the outer end thereof contracted to engage said needle adjacent the outer end thereof.

8. In a hypodermic syringe having a needle, a bendable guard having globular sections at the outer end thereof embracing said needle.

9. In a hypodermic syringe, a bendable needle having a guard of greater rigidity than said needle.

10. In a hypodermic syringe a needle, a bendable guard surrounding the greater part of the needle and having hollow sections adjacent the outer end of said needle.

11. In a hypodermic syringe, a bendable needle, and a guard surrounding the greater part of said needle and having circumferentially arranged depressions engaging said needle.

12. In a hypodermic syringe a needle, a bendable guard surrounding the greater part of the needle and having a series of constrictions, engaging said needle.

13. In a hypodermic syringe, a needle, and a bendable guard surrounding the greater part of said needle and having sections capable of being detached in a manner as to leave the remaining portion of said guard with a rounded end embracing said needle.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAV R. SCHIMMEL.

Witnesses:

ANNA M. DORR,
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