

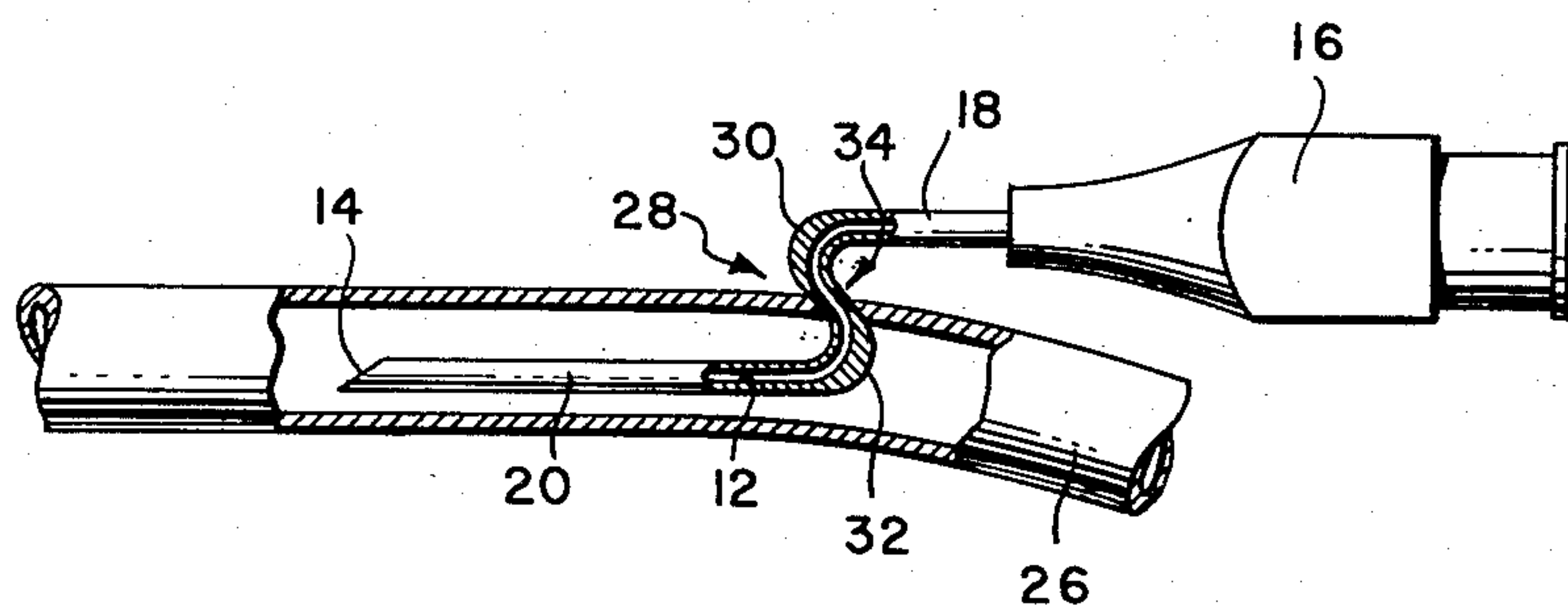
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HYPODERMIC NEEDLE

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2,850,014

## HYPODERMIC NEEDLE

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4 Claims. (Cl. 128—221)

This invention relates to a hypodermic needle especially adapted for intravenous injections.

The conventional hypodermic needle has a straight shank. When it is inserted in the vein and moved until the proper position for injection is attained, the pointed end frequently scratches the vein wall causing pain.

Pain is also caused when the limb is moved frequently as in the case of children, post-operative cases, psychotics, wounded persons in transport and animals. Limb movement causes rocking of the straight shank about its insertion locus whereupon the pointed end strikes the vein wall. Besides pain, excessive limb movement may cause the needle to slip out thus requiring reinsertion or taping down of the needle.

The primary object of the present invention is to provide a hypodermic needle which overcomes the disadvantages of the conventional hypodermic as mentioned hereinabove. This is accomplished by altering the shank so that it has a medial off-set portion which serves properly to position the needle in the vein and to thereby restrain pain-producing relative movement between the needle and the vein. Another object of the invention is to provide a hypodermic needle of the character described which has a shorter shank, is inexpensive to manufacture, requires no special manipulative techniques for its use and, because of its self-locking feature, releases doctors and nurses for other duties.

These and other objects will become more apparent as the following description proceeds in conjunction with the accompanying drawing wherein the invention is shown in elevational view with parts broken away and shown in section to reveal internal construction.

Specific reference is now made to the drawing wherein similar reference characters are used for corresponding elements throughout.

The hypodermic needle comprises a shank 10 with a bore 12 therethrough, one end of which has an insertion point 14 and the other end of which has an adapter 16 for attachment to a syringe, a tube connected to a suspended container having an injectable fluid therein and so forth all as is well known in the art of intravenous injection. The shank is medially off-set so that the shank includes an upper portion 18, a lower portion 20 substantially parallel thereto and an intermediate portion 28. The axis of the intermediate portion extends at an acute angle to the axis of the upper and lower

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portions 18 and 20, the angle being preferably in excess of 45°.

The junctures of the portions 18 and 20 with the intermediate portion 28 are enlarged beyond the normal outer diameter of the shank as at 30 and 32. And, since the outer diameter of the intermediate portion 28 at its center is the same as that of the shank generally but less than the enlarged portions or corners 30 and 32, a constriction 34 is produced in the portion 28.

When the needle is inserted in the vein and moved until the vein wall engages the constriction 34 of the intermediate portion 28, the proper position of the needle is automatically attained, as shown in the drawing. In this position pivotal as well as axial movement of the needle relative to the vein is even more effectively limited because the constriction 34 serves as a locking means. And, since the constriction 34 does not narrow the internal bore 12 of the needle, there is no resistance to flow of fluid through the needle. Also, the enlargements 30 and 32 strengthen the corners of the needle where strengthening is most required.

Because the needle is shorter in length than conventional needles, parallels the vein and minimizes repeated insertions, it is less traumatic and more physiologic.

Minor variations may be made by skilled artisans without departing from the spirit of the invention and the scope of the appended claims.

I claim:

1. A hypodermic intravenous needle comprising an elongated hollow shank terminating in an insertion point, said shank including two parallel portions joined by an intermediate portion which extends at an acute angle to the axis of each portion.

2. A hypodermic intravenous needle comprising an elongated hollow shank terminating in an insertion point, said shank including two parallel portions joined by an intermediate portion which extends at an acute angle to the axis of each portion, said intermediate portion being centrally constricted to provide a means to lockingly receive the vein wall after needle insertion.

3. A hypodermic intravenous needle comprising an elongated hollow shank terminating in an insertion point, said shank including two parallel portions joined by an intermediate portion which extends at an acute angle to the axis of each portion, the corners at which said intermediate portion and said parallel portions join being enlarged beyond the outer surface of said shank thereby enforcing the corners and providing a constricted area centrally of said intermediate portion serving as a means to lockingly receive the vein wall after insertion.

4. A hypodermic intravenous needle comprising an elongated hollow shank terminating in an insertion point, said shank including two parallel portions joined by an intermediate portion, and means on said intermediate portion to lockingly receive the vein wall after needle insertion.

### References Cited in the file of this patent

#### FOREIGN PATENTS

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