PATENTS EXAMINATION BOARD

Subject: The Drafting of Patent Specifications - Paper 2

Date: June/July 2017

Time: 09h00 -13h00 (although candidates requiring extra time are entitled to an additional two hours)

Examiners: J Fiandeiro
V Williams

Moderator: J D Whittaker

Attached is an instruction from your client detailing an invention.

You are required to draft a full patent specification for your client's invention. The full patent specification must include: (1) a background to the invention, (2) a summary of the invention, i.e. consistory clauses, (3) a brief description of the drawings, (4) a detailed description of the invention, (5) a set of patent claims, and (6) an abstract.

Marks will be allocated as follows:

- 50% of the marks will be allocated to the claims.
- 50% of the marks will be allocated to the rest of the specification.

In order to obtain a pass for this paper, candidates must obtain not less than 40% for each of these two sections.

Your client writes:

“I have developed a safety device for hypodermic syringes. As you know, accidental hypodermic needlestick injuries are a source of major concern for medical practitioners in view of possible transmission of potentially fatal infections such as HIV and Hepatitis B or C.

Numerous solutions have been proposed for reducing the risk of an accidental needlestick injury. In one proposed solution, a cap is provided which needs to be manually fitted to cover the needle tip when not in use. This still poses a risk and is clearly not an ideal solution. In another proposed solution, as shown in the attached drawing labelled PRIOR ART, a collapsible needle cover is provided. In this version, the needle cover is integrally bonded to a disposable needle cannula of a hypodermic syringe, and comprises a pair of opposed arms 6-1 and 6-2, each pair being hingedly connected together. This hinged arrangement enables the cover to be moved between an open, retracted configuration, with the needle tip being exposed for administering an injection of the fluid contents of the syringe, as shown, and a closed, extended configuration, with the needle tip being fully shielded by the cover. The main problem with this invention is that the arms 6-1 and 6-2 still need to be manually manipulated by a user, thus still posing a risk for a needlestick injury.

I have developed an improved safety device, which addresses the above shortcomings.

As best shown in Figures 1 to 3, my cover 10 includes a cap member 12 having a needle channel 14 for passage of the needle 18 through the cap member 12. The cap member 12 extends from a base 20 of the needle by a resilient support 22. The support 22 has spring arms 16 that resiliently bias the cap member 12 over the tip of the needle 18 and permit retraction of the cap member 12 along

the shaft 24 of the needle 18 to expose the needle tip 26 for use, as shown in Figure 3.

The support 22 preferably biases the cap member 12 over the needle tip 26 in a cover position in which the tip 26 rests in the channel 14. During administration, as shown in Figure 3, the patient's skin 28 exerts pressure on the cap member 12 causing it to retract along the shaft 24 of the needle 18, against the resistance of the resilient support 22, to expose the needle tip 26. This arrangement ensures that no manual intervention or manipulation is required, during administration.

My invention further includes an internal locking arrangement, as shown in Figure 4. The locking arrangement provides a tip storage bore 30 adjacent the channel 14 linked by a narrow locking path 32. The storage bore 30 extends from the bottom of the cap member 12 substantially parallel to the channel 14 but terminates short of the top of the cap member 12. Preferably, the depth of the storage bore 30 is slightly greater than the depth of the needle tip 26 in the cover position and can be even greater. In the cover position, the needle 18 can be shifted to the storage bore 30 through the narrow locking path 32 without removal from the cap member 12.

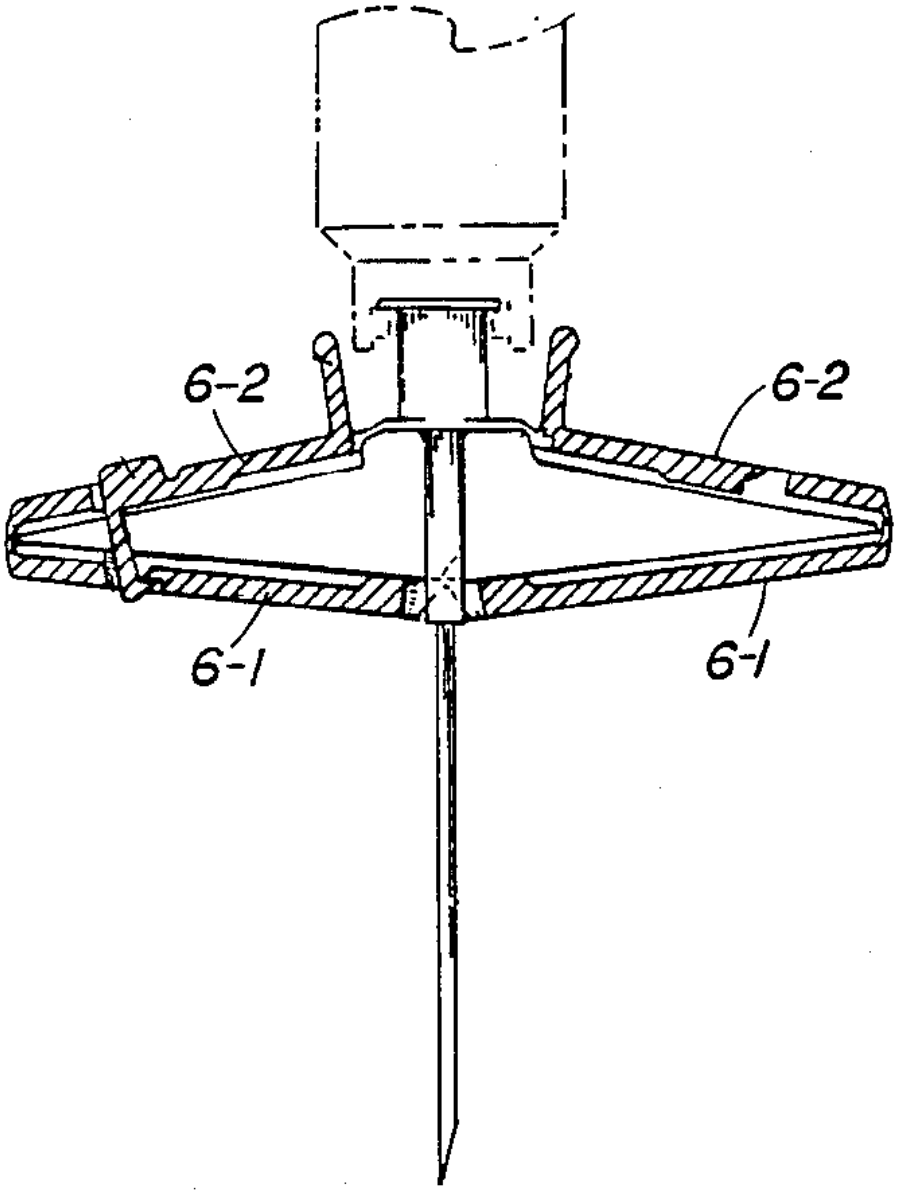
When the needle 18 is transferred to the storage bore 30, the tip 26 cannot be axially exposed because the terminus of the bore 30 prevents retraction of the cap member 12. The preferred plastic terminus formed by the cap member 12 can be reinforced such as by a small metal plate 34 to further prevent the needle tip 26 from passing through the plastic and being exposed.

Although preferred features of the invention have been described with a relatively great degree of detail, it should be understood that many variations that still fall within the intended scope of the invention are possible. For example, the cap member 12 is preferably round, but can be formed in other shapes and

made of one material or a composite of materials. The support 22 preferably includes a pair of bendable spring arms, but can have more arms. Alternatively, any resiliently bendable or compressible structure, such as a coiled shroud, can be utilized to support the cap member 12.

The support 22 can be integrally formed with the plastic base of a conventional, disposable cannula. Alternatively, the support 22 can provide a base ring which threadably or otherwise securely mounts to a needle base to provide retrofit possibilities.

Please prepare a patent specification for my invention.”



PRIOR ART

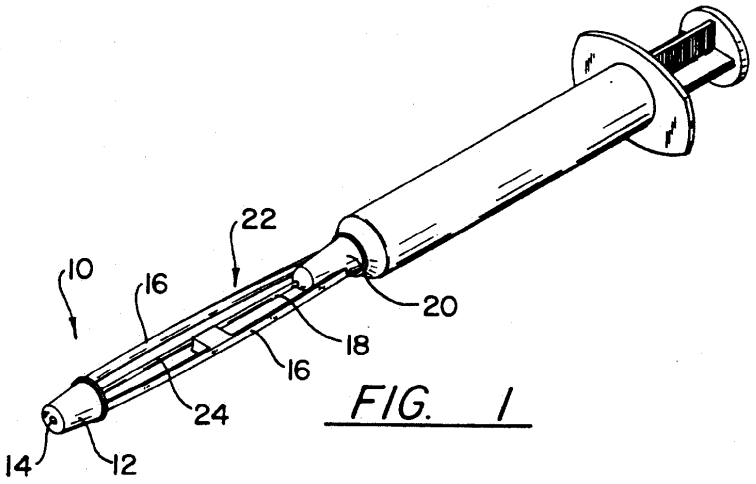


FIG. 1

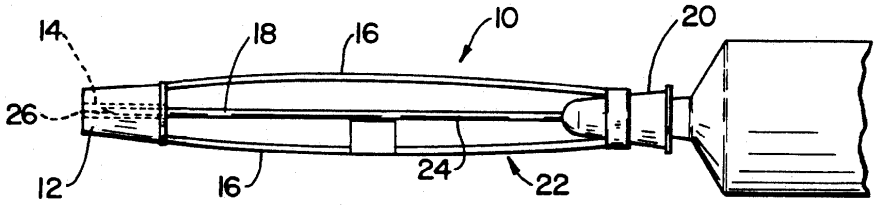


FIG. 2

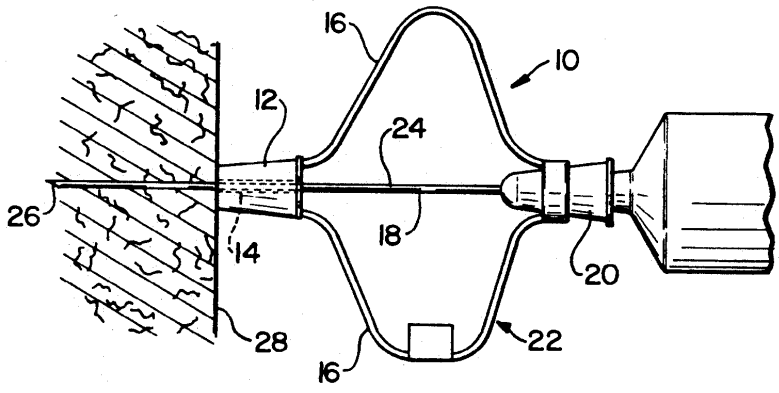


FIG. 3

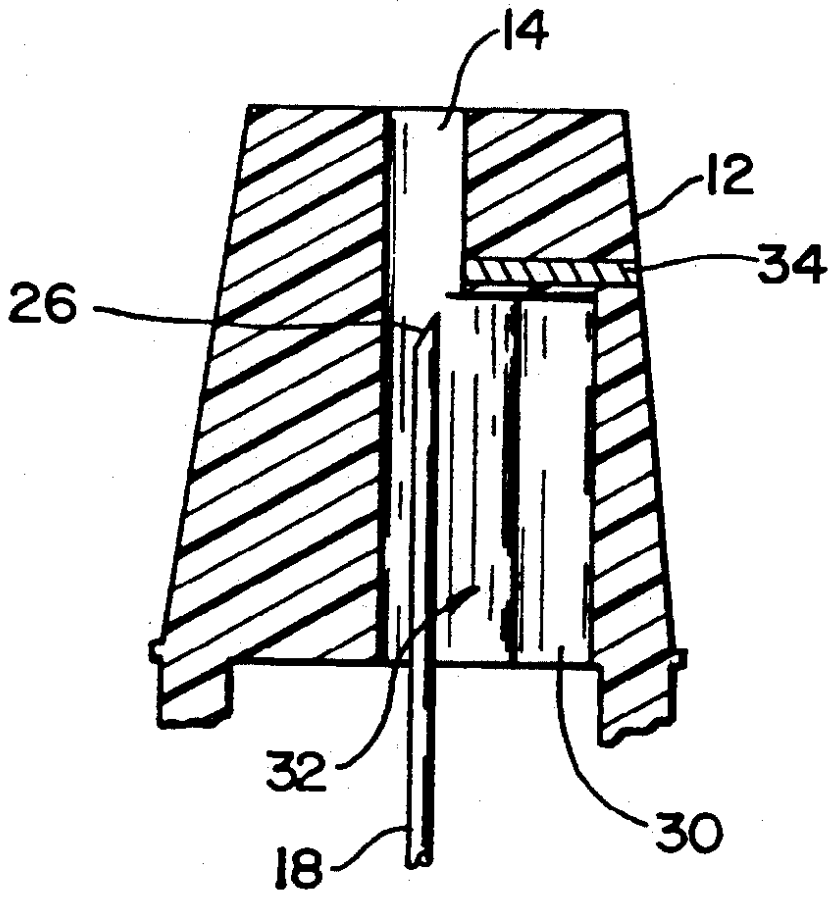


FIG. 4