Abstract

A RETRACTABLE SYRINGE WITH A CUTTING CROWN

A retractable syringe is proposed having a cutting head mounted on a plunger of the syringe. When the plunger is advanced to expel fluid from the syringe, the cutting crown cuts a retention mechanism which holds a needle unit of the syringe, allowing a drive mechanism to drive the needle unit into the syringe. The cutting crown is shaped to reduce the force which has to be applied to cut the retention mechanism. Furthermore, a disposable needle assembly for attachment to a syringe unit is proposed. The disposable needle assembly has a needle and connector element for connecting the needle to the syringe unit. The connector element encircles the needle and has a thread on its outer surface for mating with the syringe unit. When the needle assembly is mated with the syringe, a central bore of substantially constant bore extends from the tip of the needle into the interior chamber of the syringe. Thus, there is very little dead space within the needle assembly itself. Before attachment to the syringe, the needle of the needle assembly is preferably encased in a protector molded as a one-piece unit with the hub. The protector is removed by breaking a frangible portion of the assembly.

[FIG. 6]