~~THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS~~CLAIMS:

1. A process for producing a fluid transfer surface, which process comprises:
providing a titanium or titanium alloy surface;
subjecting the titanium or titanium alloy surface to surface hardening by interstitial element absorption to provide a hardened surface; and, if required,
engraving the hardened surface to provide a desired surface topography.

2. The process of claim 1, wherein surface hardening may be achieved by localised melting of the surface in the presence of a gas including the relevant element(s).

3. The process of claim 2, wherein the gas including the relevant element(s) is used as a mixture with an inert gas.

4. The process of claim 2 or 3, wherein the gas is nitrogen.

5. The process of claim 2 or 3, wherein the gas is carbon dioxide.

~~5~~6. The process of claim 2 or 3, wherein the gas is air.

~~6~~7. The process of any one of the preceding claims, wherein localised melting of the surface is carried out using a laser.

~~7~~8. The process of any one of the preceding claims, wherein the hardened surface is engraved using a laser.

~~8~~9. The process of any one of the preceding claims, wherein the hardened surface is engraved by embossing or knurling.

~~9~~10. The process of any one of the preceding claims, wherein the hardened surface is engraved by chemical etching.

~~10~~11. The process of any one of the preceding claims, wherein the titanium or titanium alloy surface is the outer surface of a cylinder.

~~11~~12. The process of any one of the preceding claims, wherein the titanium or titanium alloy surface has been produced by cold spraying titanium or titanium alloy powder.

~~12~~13. The process of any one of the preceding claims, wherein the titanium or titanium alloy surface has been produced by cold spraying of titanium or titanium alloy particles onto the surface of a base component.

~~13~~14. The process of claim ~~12~~13, wherein the base component is a cylinder, plate or die.

~~14~~15. The process of any one of the preceding claims, wherein the titanium or titanium alloy surface is a composite material comprising one or more functionally effective additives.

~~15~~16. The process of claim 1, wherein the titanium or titanium alloy surface is subjected to treatment cycles comprising one or more engraving steps and one or more hardening steps.

~~16~~17. A method of repairing a fluid transfer surface, which comprises providing on the fluid transfer surface a layer of titanium or titanium alloy by cold spraying onto the surface titanium or titanium alloy particles and subjecting the titanium or titanium alloy layer to surface hardening by interstitial element absorption to provide a hardened surface and, if required, engraving the hardened surface to provide a desired surface topography.

~~17~~18. A fluid transfer surface when produced by the process of any one of claims 1 to ~~16~~17.

~~18~~19. A method of providing a fluid on a secondary surface, which method comprises providing a fluid to be transferred on a fluid transfer surface as claimed in claim ~~17~~18, and contacting the fluid transfer surface with the secondary surface to transfer the fluid from the fluid transfer surface to the secondary surface.

~~19~~20. The use of a fluid transfer surface as claimed in claim ~~17~~18 in a fluid transfer process.