



Commercial Opportunity

Respirator Technology

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The UK MoD's Defence Science & Technology Laboratory (Dstl) has developed a number of novel full face respirator technologies that provide enhanced protection against toxic chemical and bacterial agents. Ploughshare Innovations, the technology transfer company of Dstl, is actively seeking suitable licensees to commercially exploit these patented technologies in military, civilian emergency response and industrial protection markets.

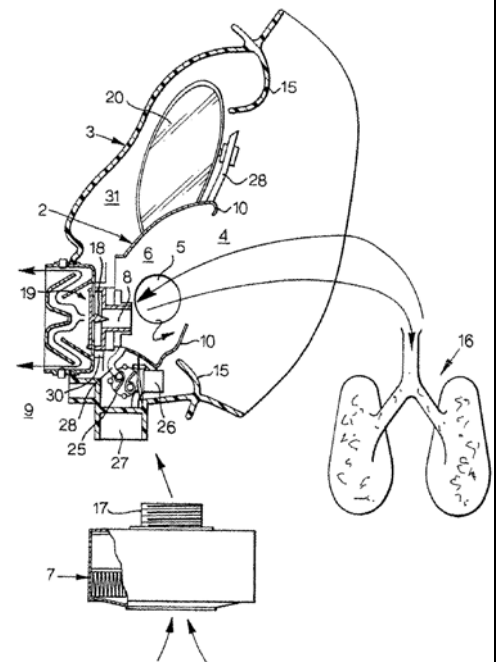
P1272 - Dual Seal Respirator

The invention discloses a respirator comprising an inner oronasal mask enclosed within an outer face sealing mask. Filtered air is inhaled and exhaled solely through the inner oronasal mask. An integral air pump with control means is used to feed filtered air to the outer cavity so as to create and maintain a positive pressure and to demist the eyepiece(s). Pressurised air is also used to purge the exhaust valve. In the event of pump failure, a switch mechanism can divert some inhaled air to the eyepiece(s) to prevent misting. Options describing the use of a third ocular mask are also described. Control means can also be used to provide real time assessment of fit.

PCT Pub: WO 02/11816, 14 Feb 02

Granted: GB, US

Pending: Europe, Japan



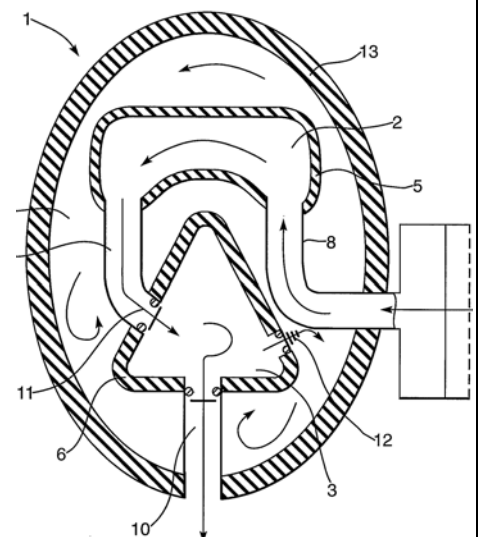
P1314 - Triple Mask

The invention discloses a respirator comprising inner oronasal and ocular masks, connected by valve controlled ducts, within an outer face sealing mask. Filtered air is first drawn through the ocular mask to prevent eyepiece misting before passage into the oronasal mask for inhalation. A portion of the exhaled air is then used to pressurize the main mask cavity via a non-return valve in the oronasal mask.

PCT Pub: WO 03/068318, 21 Aug 03

Granted: US, GB, DE, FR

Pending: Hong Kong and Japan



Ploughshare Innovations Limited

25th July 2007
Commercial in Confidence

Commercial Opportunity

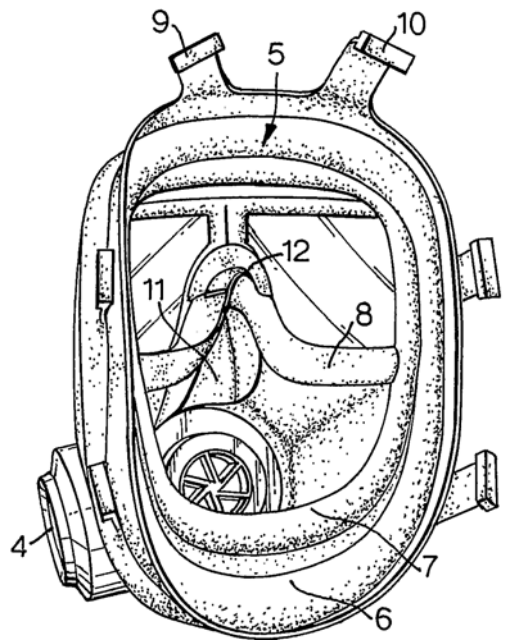
P1326 – Triple Cavity

The invention discloses a respirator comprises two outer sealing elements that define a first inner cavity enclosing the face (oronasal and ocular areas) and a second outer cavity (between the two seals) capable of being pressurized with filtered air to maintain a positive pressure. A third sealing means sub-divides the oronasal and ocular regions into separate cavities to prevent exhaled air from misting the eyepiece(s). In addition, inhaled air can be directed onto the eyepieces to also prevent demisting. Inhaled air and pressurized air are drawn through separate air pathways through a common filter so as to isolate the air pump from the negative pressures caused by inhalation and thus prevent overworking. Pressurised air is also used to continuously purge the exhaust valve mechanism with an air curtain.

PCT Pub: WO 04/028639, 08 Apr 04

Granted:

Pending: EPO, Canada, Japan, US



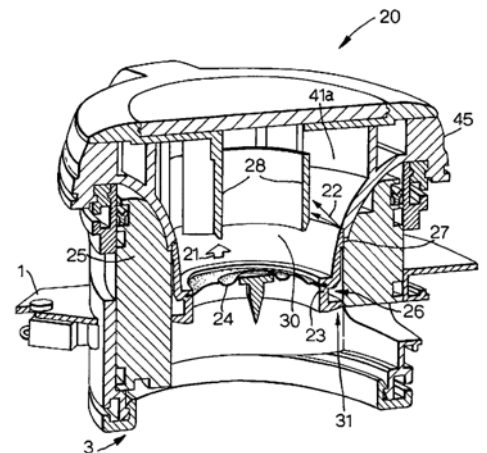
P1350 – Valve Assembly

As per P1326 with the improved valve purge assembly mechanism as the main claim.

PCT Pub: WO 04/028640, 08 Apr 04

Granted:

Pending: EPO, Japan and US



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