Ergonomically Designed Flexible Water Bottle

Availability of drinking water is a major concern for people engaged in long duration outdoor activities such as military troops in strategic operations and long duration marching. Presently soldiers are using water bottle of one litre capacity/lesser capacity and it is made up of materials which are not classified under food/ medical grade. Furthermore, in areas which do not have direct access to safe drinking water, an alternate solution is required to provide safe drinking water from backcountry sources (pond, rivers) during field operations. Hence, design and development of new water bottle with integrated filter is required to directly drink water from different water sources and to store water in the bottle and drink from bottle through the filter.

The present invention offers unique features like:

1. Ergonomic design with a capacity of 1.3L.
2. Light-weight and reusable portable water bottle comprising a rigid cap and flexible water bottle with following features:
3. Bottle Cap: that can be attached and removed from the bottle. The cap has a mouthpiece/spout on the outside and an air vent for easy suction of water.
4. Thermal stability of the bottle material within the temperature range of -45°C ± 5°C to +100°C ± 5°C, making it useful under different climatic conditions
5. Provision for detachable filter, which ensures the use of the product as standalone water bottle if filtration of water is not required.
6. Provision for attachment of a two-stage (activated charcoal and hollow membrane) filter in the cap of the water bottle.
7. Made with BPA-free (≤ 0.05 mg/kg) / food grade material.
8. Provision for use as a pillow because the water bottle can be simply folded when empty due to its inherent flexible characteristics.
9. Provision for use as a Hot-pack as well as an Ice-pack because of its broad-range thermal stability.
10. Capability of retaining water in the bottle in liquefied state for a minimum of 4 hours, even when the environmental temperature is sub-zero (-20°C).