has a small footprint. The other advantages are that the filter apparatus does not need electricity to operate and is easy to maintain and clean.

[005] In one embodiment, the present invention provides a water filter apparatus as defined in claims 1-13.

[006] In another embodiment, the present invention provides a water filtering and integrated water treating or enriching process as defined in claims 14-18.

[007] In yet another embodiment, the present invention provides a kit for a water filter apparatus as defined in claims 19-24.

Brief Description of the Drawings

[008] This invention will be described by way of non-limiting embodiments of the present invention, with reference to the accompanying drawings, in which:

[009] FIG. 1A illustrates an exploded view of a water filter with water enrichment/ enhancement according to an embodiment of the present invention; and FIGs. 1B-1C illustrate the outline shapes of the base member as seen respectively at the top and bottom;

[0010] FIG. 2A illustrates a water filter shown in FIG. 1A for use with a screw adaptor matching a fitting of an existing filter element already in use by a user; and FIG. 2B illustrates a series of adaptors which fit with matching fittings of existing filter elements;

[0011] FIG. 3A illustrate a sectional view through an assembly of the filter element and two stick capsules; FIG. 3B illustrates an exploded view of an assembly of two stick capsules, whilst FIG. 3C illustrates an end view of the stick capsule and FIG. 3D illustrates an end view of a pair of connectors joining two stick capsules; FIGs. 3E-3F illustrate an end cap of the filter element shown in FIG. 1A; and FIG. 3G illustrates a sectional view of an interior of the end cap and an end of the stick capsule showing channels for creating a dynamic water flow pattern;

CLAIMS:

1. A water filter apparatus comprising:

a water inlet and a water outlet separately connected to a base member;

the water inlet fluidly leading to a filter housing, in which is disposed a filter element; and

a stick capsule, which hollow interior contains a water treating material, is disposed inside the filter element, with the stick capsule having:

a tapered end being located in a hollow interior of a cap that seals a proximal end of the filter element;

rows of holes formed along a length of the stick capsule; and

a plurality of holes formed at a terminal face of the tapered end;

so that treated water drawn from the interior of the stick capsule is mixed with filtered water flowing around the tapered end, and the mixed water is fluidly discharged through the water outlet for use.

2. The apparatus according to claim 1, wherein the cap has a projected neck that fits into the base member.

3. The apparatus according to claim 2, wherein the cap further comprises two concentric sidewalls, namely, an outer sidewall and an inner sidewall, with the outer sidewall to fit an exterior surface of the filter element and the inner sidewall to fit an interior surface of the filter element, and a plurality of T-shaped posts extend radially from the inner sidewall.

4. The apparatus according to claim 3, wherein the stick capsule has a plurality of ribs so that filtered water flows in channels formed between the stick capsule and the T-shaped posts.

5. The apparatus according to any one of claims 1- 4, wherein the water treating material comprises nutrient-rich, anti-bacterial, anti-chlorine, inorganic ions, organic ions, oxygen-reduction potential (ORP) negative potential ceramic, negative ion ceramic, far infra-red stone, magnetic, inhibiting scale or magnesium material.

6. The apparatus according to any one of the preceding claims comprising two stick capsules, wherein the two stick capsules are butt connected through a pair of matching male and female connectors.

7. The water filter apparatus according to any one of claims 2-6, further comprising:

a screw adaptor, with an internal opening and an external thread, the internal opening for receiving the projected neck of the cap, and the external thread for connecting with the base member.

8. The apparatus according to any one of claims 2-7, wherein the projected neck of the cap is threaded or non-threaded.

9. The apparatus according to any one of the preceding claims, further comprising a shell capsule for fitting in the base member.

10. The apparatus according to claim 9, wherein the shell capsule is hollow and is made up of an upper half and a lower half, with pins on an exterior of the upper half to facilitate fluid flow through holes in the shell capsule.

11. The apparatus according to any one of the preceding claims, further comprising a hydrogen capsule for fitting in the base member.

12. The apparatus according to claim 11, wherein the hydrogen capsule is hollow and is made up of a left hand shell and a right hand shell, with a pin located on an exterior end of the left hand shell, and the right hand shell is substantially tapered to ensure one way of fitting into a cavity in the base member for receiving the hydrogen capsule.

13. The apparatus according to claim 12, further comprising a closure cap for fitting with a port of the hydrogen capsule receiving cavity.

14. A water filtering and integrated water treating or enriching process comprising:

allowing water to flow into a base member;

directing the water into a filter housing;

passing the water through a filter element disposed in the filter housing;

disposing a stick capsule containing a water treating material, so that a tapered end of the stick capsule is located in a hollow interior a hollow cap that seals an end of the filter element, with the stick capsule having rows of holes formed along a length of the stick capsule; and a plurality of holes formed at a terminal face of the tapered end, such that filtered water flowing down the tapered end of the stick capsule creates a low pressure region at the end of the stick capsule, which low pressure region draws or sucks treated water from inside the stick capsule and mixes or blends the two streams of water; and

directing the mixture of water from inside the base member through an outlet for discharge.

15. The process according to claim 14, further comprising contacting the water with nutrients disposed in a shell capsule which fits into the base member.

16. The process according to claim 14 or 15, wherein the water treating material is encapsulated as granules or balls selected from the following: Tourmaline, ORP negative potential ceramic, negative ion ceramic, mineral water ceramic, Maifanshi stone ceramic, far infra-red stone, magnetic energy material, hydrogen rich material, micro-porous antibacterial, inhibiting scale material, filter ceramic, rolled magnesium and chlorine removal material.

17. The process according to any one of claims 14-16, wherein the water treating material comprises nutrients, minerals (organic and inorganic), ions, vitamin, herbs, stones, metal, or ceramic.

18. The process according to any one of claims 14-17, wherein the filtered water is treated with flavor, anti-bacterial, anti-chlorine, hydrogen, or activated carbon.

19. A kit of a water filter apparatus comprising:

an inlet fitting and an outlet fitting;

a base member with an inlet port and outlet port for respectively receiving the inlet and outlet fittings;

a filter housing for fitting with the base member;

a filter element for fitting into the filter housing;

a stick capsule for fitting inside the filter element, which stick capsule has:

a hollow interior that contains a water treating material;

a tapered end located in a hollow interior of a cap that seals a proximal end of the filter element;

rows of holes formed along a length of the stick capsule; and

a plurality of holes formed at a terminal face of the tapered end; and

a shell capsule for fitting into the base member;

so that water flows through the inlet fitting into the water filter apparatus and treated water drawn from the interior of the stick capsule is mixed with filtered water flowing around the tapered end, and the mixed water is fluidly discharged through the base member and the outlet fitting for use.

20. The kit according to claim 19, further comprising a hydrogen capsule for fitting into the base member.

21. The kit according to claim 19 or 20, wherein the hollow interior of the cap is shaped and dimensioned to receive the stick capsule.

22. The kit according to claim 21, further comprising a pair of matching male and female connectors for connecting two stick capsules in a butt joint.

23. The kit according to any one of claims 19-22, further comprising a set of screw adaptors for fitting with the base member.

24. The kit according to claim 23, further comprising a key, which has teeth to engage notches on the screw adaptors, teeth to engage a closure cap on a port on the base member associated with the hydrogen capsule, or a notch to operate on a bleed valve located on the filter housing.