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(31) Priority Document No	:NA	(72)Name of Inventor : <b>1)Rajesh Kumar Thimmulappa</b>
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(57) Abstract :

Active Plant biofiltration apparatus and method for indoor air purification Abstract The present invention provides an eco-friendly, hybrid, indoor air purifier utilizing passive plant-based biofiltration combine with active mechanical filtration technique. The indoor air purifier comprises modular filtration cassette (08) with sequential layers of dust pre-filter (13&18) and activated carbon pad (14), optionally combined with a HEPA Filter. The apparatus operates through a synergistic process involving plant foliage (23), dust filters (13 and 19), activated carbon media (14), and activated carbon pellets (21). Unlike conventional air purification systems, the invention ensures continuous purification via active and passive mechanisms, while simultaneously enhancing indoor aesthetics and promoting biophilic satisfaction through the integration of living plants.

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