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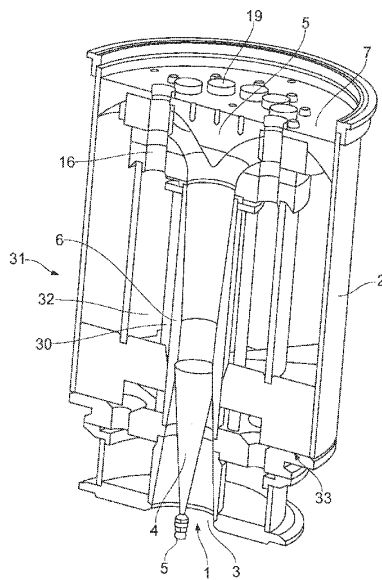


FIG. 1

(57) Abstract: A separator for separating contaminants suspended within an effluent stream is disclosed. The separator comprises: an inlet conduit configured to receive from an abatement apparatus the effluent stream containing contaminants flowing in a first major direction from a lower portion of said separator towards an upper portion of said separator; a spray nozzle configured to spray an entraining fluid within the inlet conduit in the first major direction to entrain the contaminants within the effluent stream; a first flow redirection structure located downstream of the inlet conduit; and a first separation conduit located downstream of the first flow redirection structure, wherein the first flow redirection structure is configured to redirect flow of the effluent stream and the entraining fluid from an axial flow from the inlet conduit to a circumferential flow in a second major direction opposing the first major direction within the first separation conduit. In this way, separation of the contaminants entrained by the entraining fluid from the effluent stream is encouraged since the change in the direction of flow helps to create a longer flow path while keeping the footprint and dimensions of the separator to a minimum. Also, this can provide a separator that exhausts effluent containing less entraining fluid than conventional venturi-ejector scrubbers. This can obviate the need for additional downstream apparatus such as cyclone separators which add to the cost and size of the apparatus.

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