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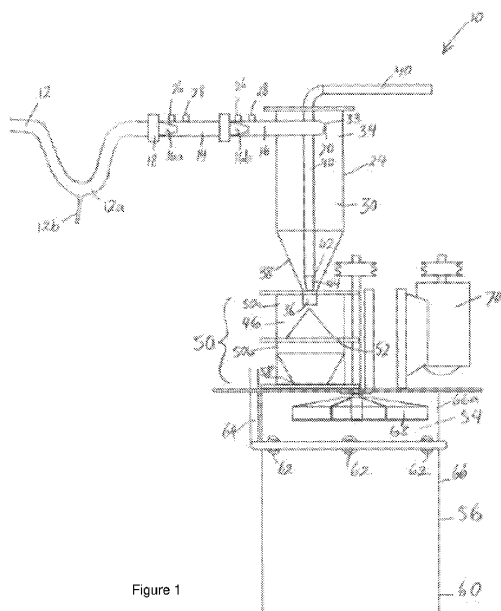


Figure 1

(57) Abstract: An apparatus for treating diesel exhaust emissions is disclosed. The apparatus includes an intake manifold in fluid communication with a diesel engine exhaust outlet, wherein the intake manifold is provided with an inlet for ingress of an ammonia gas stream in an arrangement whereby, in use, the ammonia gas stream mixes with the diesel exhaust emission to produce a gas mixture. The apparatus includes a conditioning chamber in fluid communication with the intake manifold to receive the gas mixture therefrom. The conditioning chamber is configured to pass the gas mixture to a first gas-liquid contact zone where it is reacted with a first stream of aqueous ammonia solution via a first conduit and a high pressure nozzle, thereby producing a gas-liquid mixture in the first gas-liquid contact zone. The apparatus further includes a static mixer in fluid communication with the first gas-liquid contact zone, and interposed between the first gas-liquid contact zone and a second gas-liquid contact zone. The second gas-liquid contact zone is provided with a spray head configured to spray a second stream of aqueous ammonia solution therein and an impellor to induce turbulence in the second gas-liquid contact zone. Said second stream is delivered to the spray head via a second conduit arranged in fluid communication with a laundry reservoir, whereby in use, the gas-liquid mixture in the second gas-liquid contact zone separates by gravity, liquid collecting in the laundry reservoir and carbon dioxide-depleted gas mixture being vented therefrom.

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