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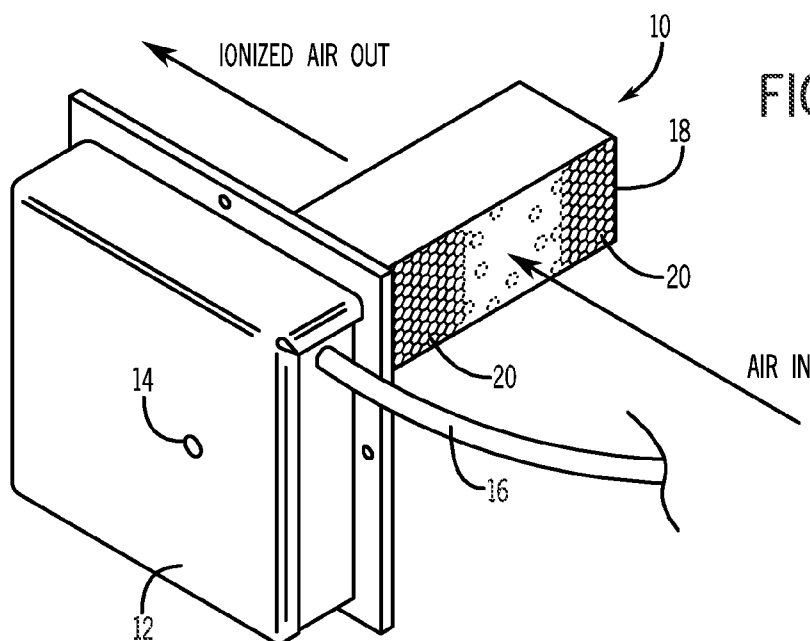
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(57) Abstract: According to an embodiment of the present invention, an apparatus for ionizing air includes a first reflector and a first target. The first reflector receives direct UV energy (from a UV emitter) and reflects it to form reflected UV energy. The first target has an inner face that also receives direct UV energy (from the UV emitter). The first target also has an outer face that receives the reflected UV energy from the first reflector. The faces of the first target are coated with a photo-catalytic coating. The first target may also have passages between the faces.