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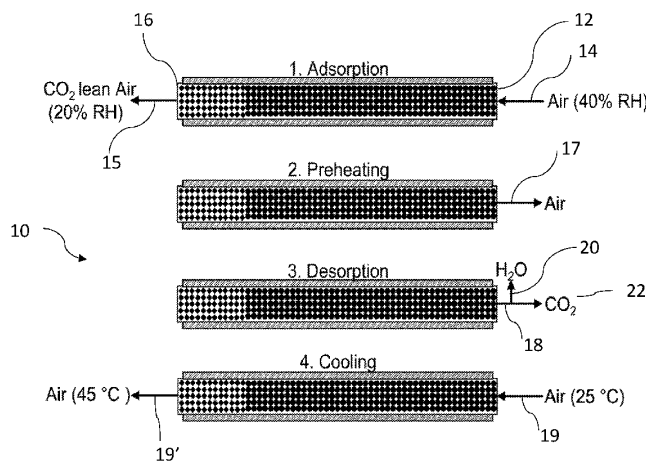


Figure 1

(57) Abstract: Disclosed herein is method of extracting carbon dioxide from a gas stream, the method comprising: contacting a CO₂ adsorbent with a first stream, such as moist gas stream, containing CO₂ to capture CO₂ from it; capturing a portion of the water from the moist gas stream or a second stream using a moisture sorbent material; and regenerating the CO₂ adsorbent to produce an output stream comprising steam and CO₂, the regenerating comprising: heating the moisture sorbent material to release water captured by the moisture sorbent material as steam; and exposing the CO₂ adsorbent to the steam to liberate captured CO₂ from the CO₂ adsorbent and to generate the output stream. Also disclosed herein are systems suitable for implementing the method.

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