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**United States Patent**

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*Jon W. I. Dudas*

*Director of the United States Patent and Trademark Office*

(12) **United States Patent**  
**Cogotzi**

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(54) **ADSORPTION PROCESS AND APPARATUS FOR NITROGEN PRODUCTION AND DRINK DISPENSING DEVICE MAKING USE OF THE APPARATUS**

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(\* ) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(57) **ABSTRACT**

In a process for the production of nitrogen by adsorption on carbons or similar molecular sieves contained in a cylinder (2), the amount of Q1 of nitrogen obtainable from the cylinder at the required purity at the cylinder pressure Pp is calculated; compressed air is fed to the cylinder which is brought to a pressure value at least equal to the pressure Pp and in any case greater than the pressure present in a collecting reservoir (3); at any cycle a fixed amount Q2 (where Q1 ≥ Q2) of gas is transferred from the adsorber cylinder to the reservoir (3) and the cylinder is depressurised after each transfer to regenerate carbons. Also claimed are an apparatus for the production of nitrogen, the use of such an apparatus is a drink dispensing device and a drink dispensing device comprising such an apparatus.

**10 Claims, 6 Drawing Sheets**

