

The
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United States Patent

Granted on October 30, 1973 to

Robert C. Nemeth

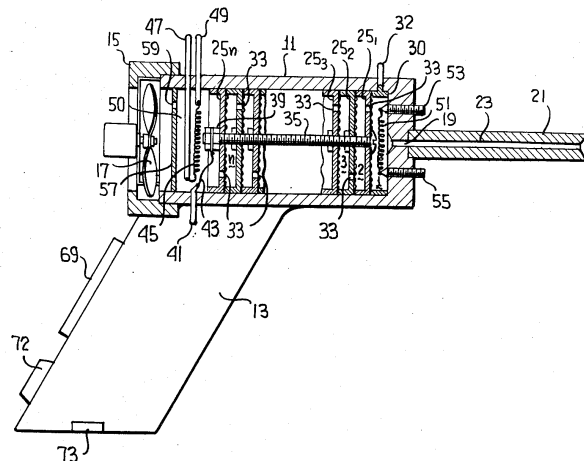
-INVENTOR-

Patent No. 3,768,300

Vacuum Instrument Corporation

DIFFERENTIAL SORPTION CHROMATOGRAPHY

Chromatographic analysis of fluids is effected with a compact structure having a housing segmented into sequential compartments by interconnected heater elements coated on one surface by molecular sieve material. The compartments are differentially heated and sample fluid is caused to flow sequentially through compartments of decreasing temperature. Molecular components of the fluid are adsorbed by molecular sieve material in the first compartment in the flow path having a lower temperature than the adsorption temperature of those components. After a sample is adsorbed the entire housing is allowed to cool and is then heated to a temperature above the highest desorption temperature of sample fluid components. The adsorbed components thus desorb and are exhausted from the housing while being monitored by a temperature sensing resistor. The time each group of molecules passes the resistor is related to the compartment from which it was desorbed, which in turn is an indication of the adsorption temperature of those molecules.



The Commissioner of Patents and Trademarks has received an application for a patent for a new and useful invention. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law, Therefore, this

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grants to the person or persons having title to this patent the right to exclude others from making, using or selling the invention throughout the United States of America for the term of seventeen years from the date of this patent, subject to the payment of maintenance fees as provided by law.

Rene D. Tegtmeyer

Acting Commissioner of Patents

