United States Patent [19]

Sehmel

[11] **4,159,635**

[45] **Jul. 3, 1979**

[54] **ISOKINETIC AIR SAMPLER**

[75] Inventor: **George A. Sehmel**, Richland, Wash.

[73] Assignee: **The United States of America as represented by the United States Department of Energy**, Washington, D.C.

[21] Appl. No.: **936,461**

[22] Filed: **Aug. 24, 1978**

[51] **Int. Cl.**[2] **G01N 15/00**

[52] **U.S. Cl.** ..... **73/28**; 73/170 R; 73/421.5 R

[58] **Field of Search** ..... 73/28, 170 R, 421.5 R

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,699,679	1/1955	Munger	73/28
3,252,323	5/1966	Torgeson	73/28
3,261,199	7/1966	Raynor	73/28

Primary Examiner—S. Clement Swisher

Attorney, Agent, or Firm—Dean E. Carlson; Frank H. Jackson

[57] **ABSTRACT**

An isokinetic air sampler includes a filter, a holder for the filter, an air pump for drawing air through the filter at a fixed, predetermined rate, an inlet assembly for the sampler having an inlet opening therein of a size such that isokinetic air sampling is obtained at a particular wind speed, a closure for the inlet opening and means for simultaneously opening the closure and turning on the air pump when the wind speed is such that isokinetic air sampling is obtained. A system incorporating a plurality of such samplers provided with air pumps set to draw air through the filter at the same fixed, predetermined rate and having different inlet opening sizes for use at different wind speeds is included within the ambit of the present invention as is a method of sampling air to measure airborne concentrations of particulate pollutants as a function of wind speed.

6 Claims, 2 Drawing Figures