US005318540A

United States Patent [19]

Athayde et al.

[11] Patent Number: 5,318,540

[45] Date of Patent: Jun. 7, 1994

[54] CONTROLLED RELEASE INFUSION DEVICE

[75] Inventors: Amulya L. Athayde, Menlo Park; Rolf A. Faste, Stanford, both of Calif.

[73] Assignee: Pharmetrix Corporation, Menlo Park, Calif.

[21] Appl. No.: 957,446

[22] Filed: Oct. 6, 1992

Related U.S. Application Data

[63] Continuation of Ser. No. 503,719, Apr. 2, 1990, abandoned.

[51] Int. Cl.[5] A61M 37/00

[52] U.S. Cl. 604/141; 604/153; 604/410

[58] Field of Search 604/410, 416, 131, 141, 604/145, 146, 140, 147, 87, 153

[56] References Cited

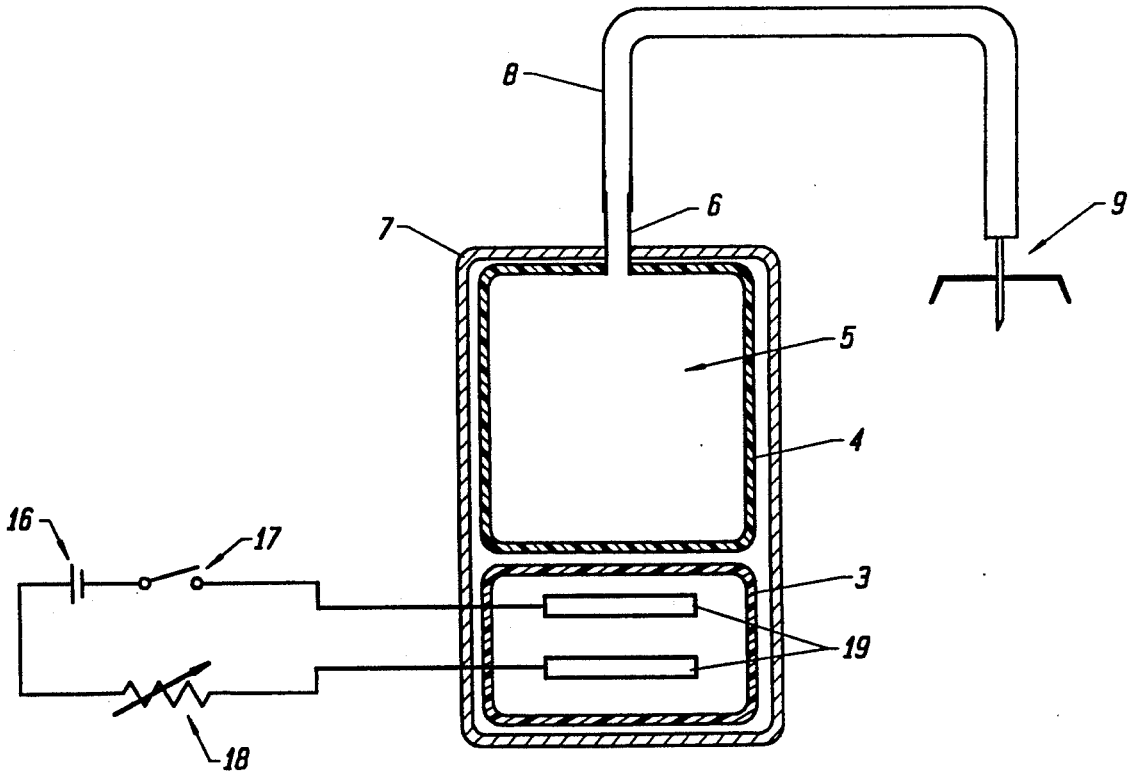
U.S. PATENT DOCUMENTS

3,023,750	3/1962	Baron	604/141
3,895,741	7/1975	Nugent	604/141
4,396,383	8/1983	Hart	604/410
4,432,763	2/1984	Manschot et al.	604/410
4,458,733	7/1984	Lyons et al.	604/410
4,602,910	7/1986	Larkin	604/410
4,608,043	12/1986	Larkin	604/410
4,640,445	2/1987	Yamada	604/145
4,657,160	4/1987	Woods et al.	604/141
4,684,367	8/1987	Schaffer et al.	604/141
4,886,514	12/1989	Maget	604/891.1
4,997,083	3/1991	Loretti et al.	604/410
5,062,834	11/1991	Gross et al.	604/145

Primary Examiner—Paul J. Hirsch

Attorney, Agent, or Firm—Townsend and Townsend Khourie and Crew

[57] ABSTRACT

A portable infusion device assembly, having two pouches in pressure transmitting relationship, the first containing infusate and the second, a driving medium. The driving medium is pressurized by activation of osmotic pump, electrochemical reaction, release of pressurized fluid or gas or mechanical means and the rate of infusion is controlled by a rate controlling means. The infusate pouch is separately manufactured and can be stored apart of the rest of the system.

20 Claims, 6 Drawing Sheets