



(12) **United States Patent**
Becker et al.

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(54) **CONTAINERS AND METHODS FOR
STORING AND ADMIXING MEDICAL
SOLUTIONS**

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154(a)(2).

Subject to any disclaimer, the term of this
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| | | |
|-----------|---------|-----------------|
| 3,749,620 | 7/1973 | Montgomery . |
| 3,804,077 | 4/1974 | Williams . |
| 3,830,475 | 8/1974 | Inoue et al. . |
| 3,847,279 | 11/1974 | Montgomery . |
| 3,940,905 | 3/1976 | Perry, 3rd . |
| 3,964,604 | 6/1976 | Prenntzell . |
| 3,983,994 | 10/1976 | Wyslowsky . |
| 4,110,303 | 8/1978 | Gergen et al. . |
| 4,294,247 | 10/1981 | Carter et al. . |
| 4,340,049 | 7/1982 | Munsch . |
| 4,362,242 | 12/1982 | Cheetham . |
| 4,386,622 | 6/1983 | Munsch . |

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

| | | |
|-----------|-----------|--------|
| 1 227 382 | 10/1966 | (DE) . |
| 44 10 875 | 10/1995 | (DE) . |
| 0875231A2 | * 11/1998 | (DE) . |

(List continued on next page.)

OTHER PUBLICATIONS

Black et al., "A Study of Intravenous Emulsion Compatibil-
ity: Effects of Dextrose, Amino Acids, and Selected Elec-
trolytes", *Drug Intelligence and Clinical Pharmacy*, vol. 15,
1981, pp. 184-193.

(List continued on next page.)

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(57) **ABSTRACT**

Containers and methods for storing medical solutions are
provided. More specifically, containers and methods for
storing components that are to be admixed together to create
a final solution, one of the components comprising a lipid.
In an embodiment, a container including an interior defining
at least two chambers. The first chamber includes a lipid
containing liquid. The second chamber includes a liquid that
does not include a lipid. The first and second chambers are
separated by an openable seal.

6 Claims, 3 Drawing Sheets

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1996, now abandoned.

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604/410; 604/87; 206/221; 206/568

(58) **Field of Search** 604/87-91, 49,
604/409-410, 500, 518, 520, 522, 403,
408; 206/219, 221, 222, 568

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | |
|-----------|---------|--------------------|
| 2,882,692 | 4/1959 | Robbins . |
| 2,898,744 | 8/1959 | Robbins . |
| 3,036,894 | 5/1962 | Forestiere . |
| 3,074,544 | 1/1963 | Bollmeier et al. . |
| 3,478,871 | 11/1969 | Sager . |
| 3,722,833 | 3/1973 | Inoue et al. . |

