United States Patent [19]

Brugger et al.

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[45] **Date of Patent:** **Dec. 2, 1997**

[54] **DIALYSIS BLOOD TUBING SET**

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[21] Appl. No.: **480,856**

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[51] Int. Cl.^{6} **A61M 37/00**

[52] U.S. Cl. **604/4**; 604/86; 128/672

[58] Field of Search 604/30, 83, 86, 604/118, 122, 125, 128, 141, 4, 5, 6, 64, 65, 280, 283, 905; 73/715, 716; 128/668, 672

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[57] **ABSTRACT**

A combination pressure pod and access site apparatus is suitable for use in a medical tubing set. The combination pressure pod and access site comprises a pressure sensing chamber and a measured fluid chamber separated by a pressure transmissive diaphragm. An access site having a needle or needle-less septum is in fluid communication with the measured fluid chamber and permits and withdrawing fluids from, the measured fluid chamber through the access site. One or more of the combination pressure sites and access sites may be provided in a simplified blood tubing set for an extracorporeal blood treatment apparatus, such as a hemodialysis apparatus.
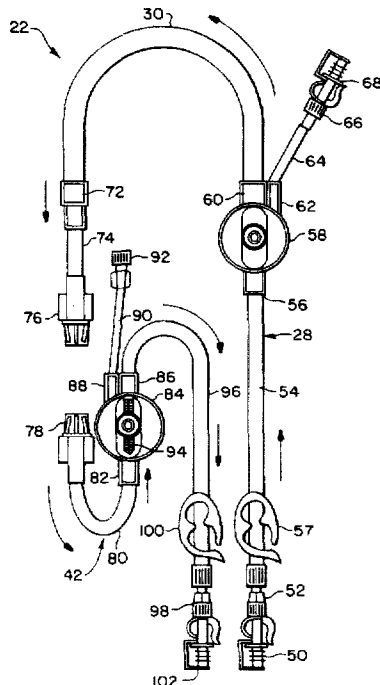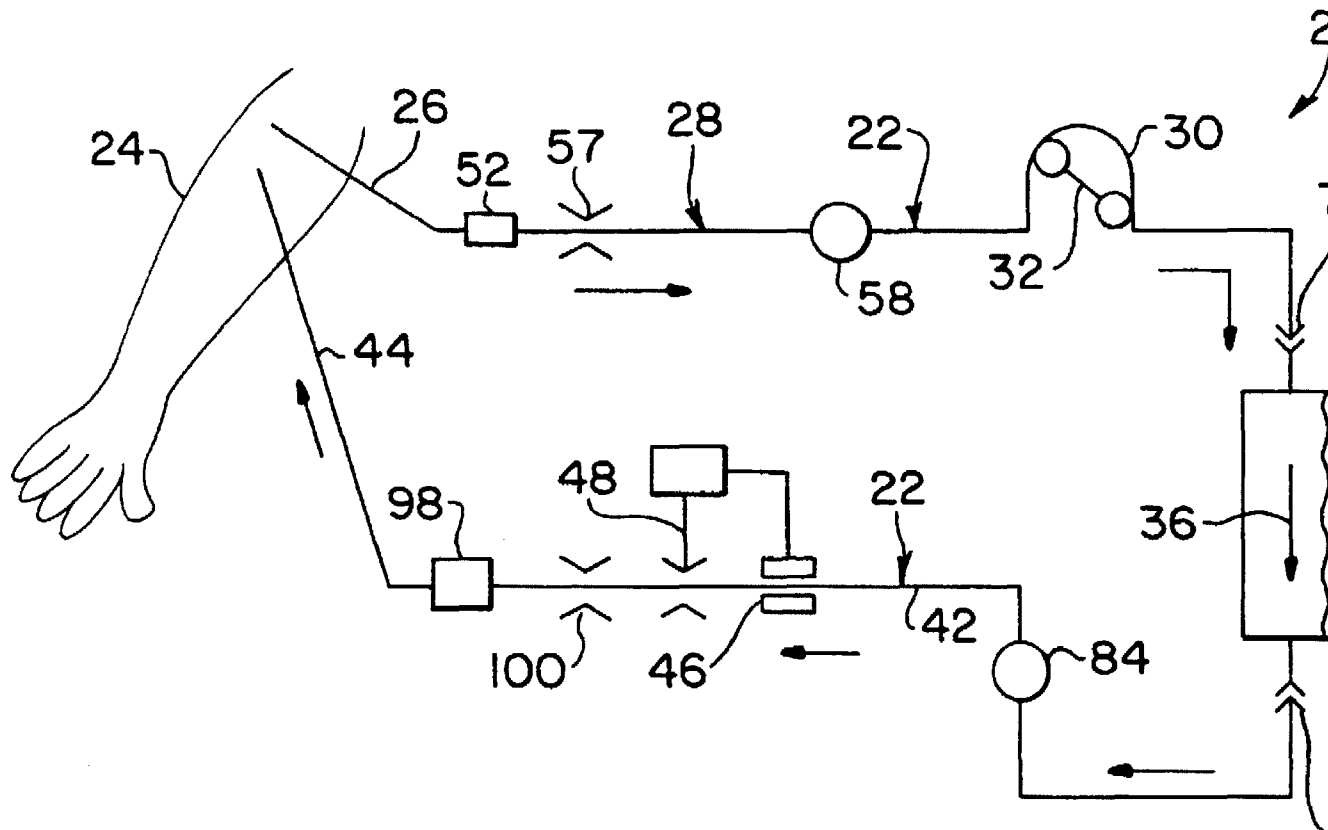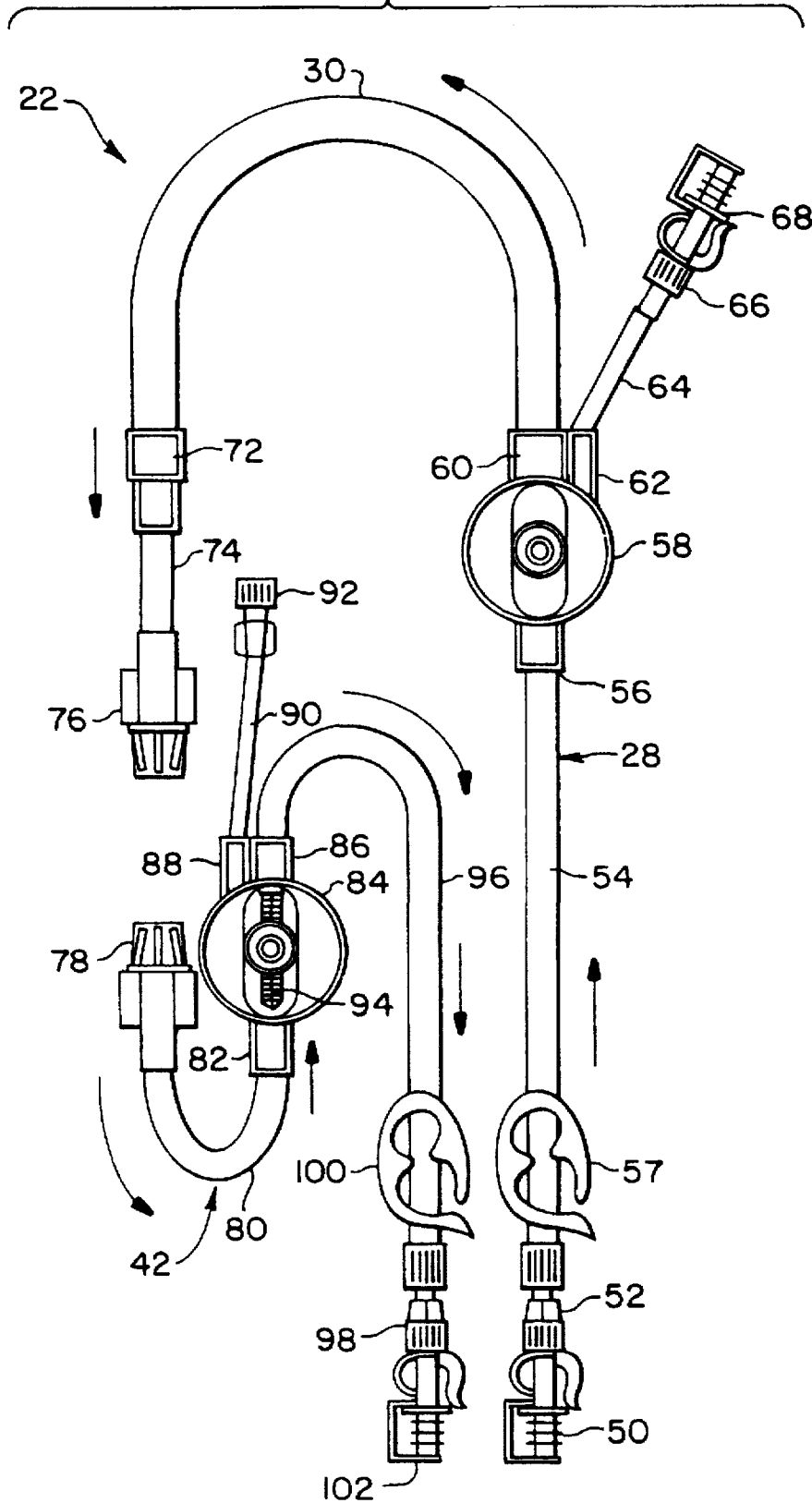
20 Claims, 4 Drawing Sheets

FIG. 1

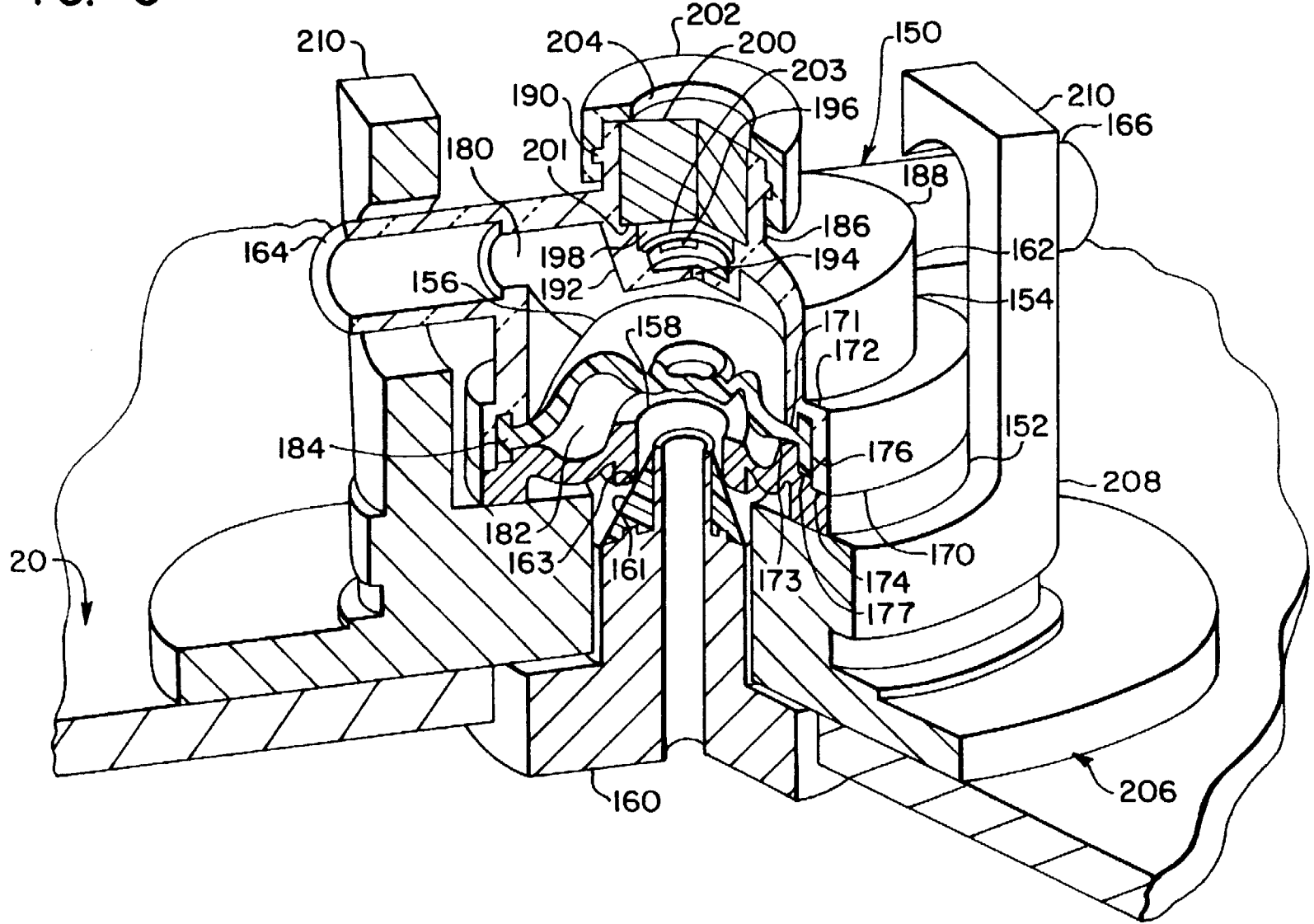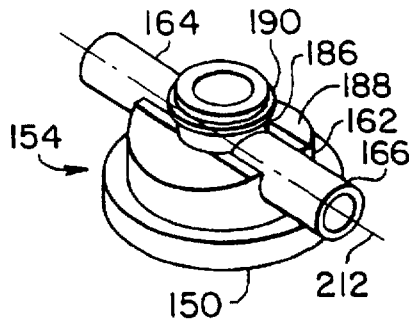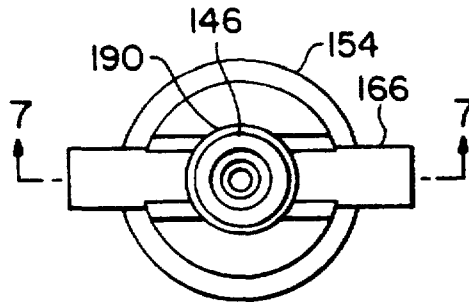24 26 52 57 28 22 30
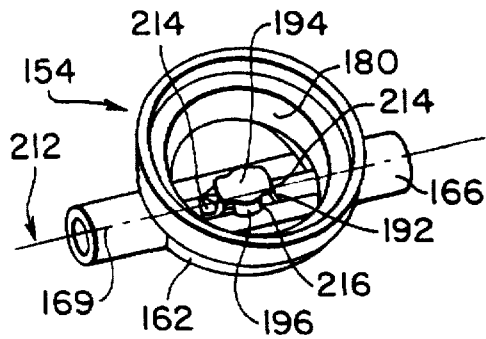58 32
44
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36
100 46 42 84

FIG. 2

FIG. 3

FIG. 4

FIG. 6

FIG. 5

FIG. 7
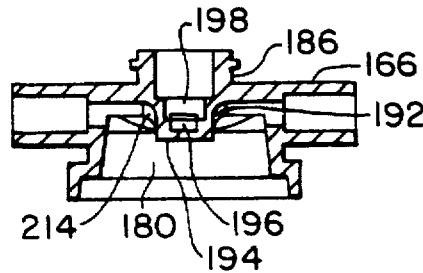
FIG. 8
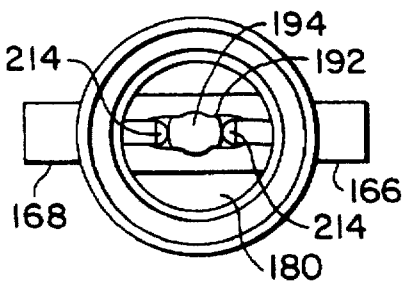
FIG. 9

FIG. 10

FIG. 11

DOCKET ALARM
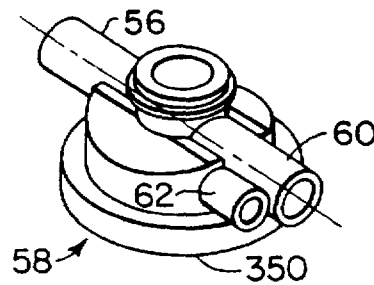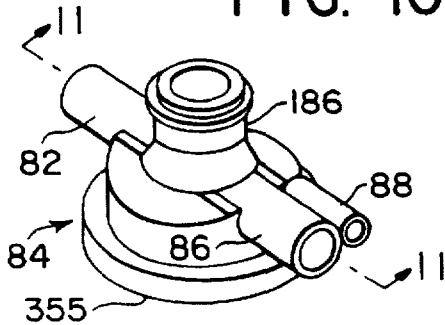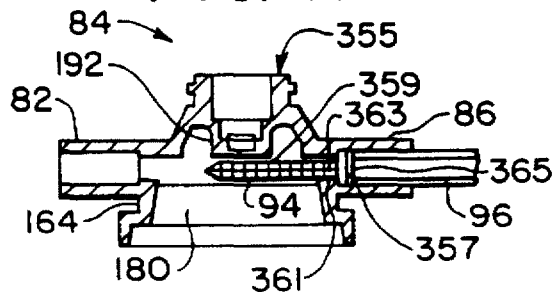
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