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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : F24H 1/12, A61M 5/44	A1	(11) International Publication Number: WO 98/14736 (43) International Publication Date: 9 April 1998 (09.04.98)
(21) International Application Number: PCT/US97/17452 (22) International Filing Date: 29 September 1997 (29.09.97) (30) Priority Data: 8/724,686 1 October 1996 (01.10.96) US (71) Applicant: BAXTER INTERNATIONAL INC. [US/US]; One Baxter Parkway, Deerfield, IL 60015 (US). (72) Inventors: SWORD, Randall, Jay; 178 Locust Street, Danvers, MA 01923 (US). COLLINS, John, M.; 24 Stonecrop Road, North Purramurra, NSW 2074 (AU). de CASTRO, Jose, Tadeo; 46 Waldorf Road, Newton, MA 02161 (US). (74) Agents: NICHOLS, Jeffrey, C. et al.; One Baxter Parkway, Deerfield, IL 60015 (US).		(81) Designated States: CA, CN, IL, JP, KR, MX, NO, SG, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: BLOOD WARMING APPARATUS**(57) Abstract**

A detachable assembly for an apparatus (10) for the controlled heating of fluid is provided. The apparatus (10) has a general elongated heating core (16) with an exterior surface (36) formed of a material having a high thermal conductivity and frustoconically shaped to slidably receive an assembly (14) so that the assembly envelops the surface along at least a portion of the length of the core. The assembly (14) forms a sealed passageway (46) for generally unidirectional unrestricted sheet like flow upward along the core (16). A control system (20) selectively operates the heating core (16) so that the fluid, under varying flow rates, is warmed to a desired temperature without overheating, before the fluid flows from the passageway (46).

