

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 December 2001 (27.12.2001)

PCT

(10) International Publication Number
WO 01/98701 A1

(51) International Patent Classification⁷: **F16L 13/14**,
33/213

(21) International Application Number: PCT/US01/16553

(22) International Filing Date: 21 May 2001 (21.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/595,985 16 June 2000 (16.06.2000) US

(71) Applicant: **COOPER CAMERON CORPORATION**
[US/US]; Suite 1200, 515 Post Oak Boulevard, Houston,
TX 77027 (US).

(72) Inventor: **BUNCH, Paul, D.**; 8813 Echo Valley Drive,
Houston, TX 77055 (US).

(74) Agent: **HARTMANN, Michael, P.**; Cooper Cameron
Corp., Manager, Patent Services, P.O. Box 1212, Houston,
TX 77251-1212 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

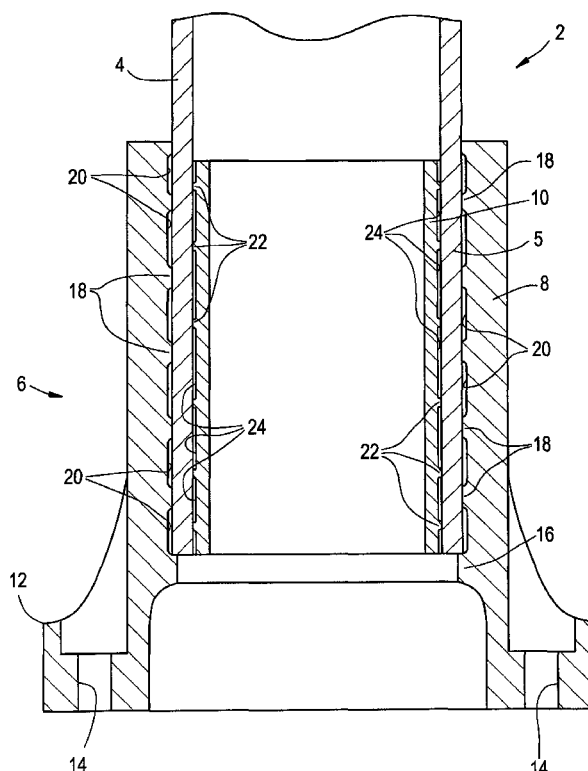
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: COMPOSITE PIPE ASSEMBLY AND METHOD FOR PREPARING THE SAME



(57) Abstract: A composite pipe assembly comprises a pipe having a pipe wall, a housing comprising a tubular portion having an inner surface, said tubular portion being disposed around the outside of the pipe, and a tubular force member having an outer surface. The force member is disposed within the housing whereby a portion of the pipe wall is disposed between the inner surface of the tubular portion of the housing and the outer surface of said force member. The force member is deformed radially outwards against the pipe and the housing, preferably to beyond its yield point, and the tubular portion of the housing is thereby deformed radially outwards to a partial yield point. As a result, the tubular portion of the housing applies a compressive force radially inwards against the pipe wall and the force member applies a force radially outwards against the pipe wall which serves to secure the housing to the pipe and provide a seal between the pipe and the inner surface of the tubular portion of the housing. The assembly is useful for providing an end fitting to a composite pipe, providing a repair to a section of damaged pipe, or providing a joint between two sections of pipe. The force member and housing may both be applied to an existing composite pipe in order to prepare the assembly. Alternatively, the composite pipe may have its end portion formed around the force member, for subsequent installation of a housing. The assembly may be employed with a composite pipe comprising a metallic liner, in which the end portion of the metallic advantageously forms the force member.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.