

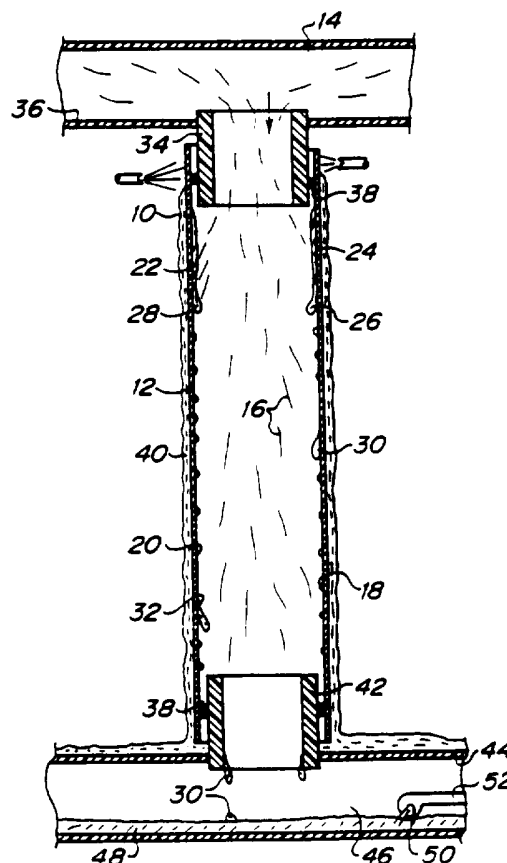


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(21) International Application Number: PCT/US91/07228 (22) International Filing Date: 9 October 1991 (09.10.91) (30) Priority data: 598,013 10 October 1990 (10.10.90) US (71) Applicant: T & G TECHNOLOGIES, INC. [US/US]; Suite 203, 3260 Cameron Park Drive, Cameron Park, CA 95682 (US). (72) Inventors: STOUT, Timothy, R. ; 2240 Lotus Road, Placer- ville, CA 95667 (US). WRIGHT, Floyd, T. ; 4207 Patri- cia Street, Fremont, CA 94536 (US). (74) Agents: MELSER, Allen, S. et al. ; Mason, Fenwick & Law- rence, 1225 Eye Street, Suite 1000, Washington, DC 20005 (US).		(81) Designated States: AT, AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH, CH (European patent), CI (OAPI patent), CM (OAPI patent), CS, DE, DE (European patent), DK, DK (European patent), ES, ES (European patent), FI, FR (European patent), GA (OAPI patent), GB, GB (Eu- ropean patent), GN (OAPI patent), GR (European pa- tent), HU, IT (European patent), JP, KP, KR, LK, LU, LU (European patent), MC, MG, ML (OAPI patent), MN, MR (OAPI patent), MW, NL, NL (European pa- tent), NO, PL, RO, SD, SE, SE (European patent), SN (OAPI patent), SU ⁺ , TD (OAPI patent), TG (OAPI pa- tent). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i> (88) Date of publication of the international search report: 29 May 1992 (29.05.92)

(54) Title: CONDENSER USING BOTH FILM-WISE AND DROP-WISE CONDENSATION**(57) Abstract**

A vapor is condensed onto a condenser whose upper portion (24) promotes film-wise condensation and whose lower portion (20) promotes drop-wise condensation. One embodiment uses a plastic condensing tube (12) which has a metal condenser pipe (70) inserted into the tube (12) in its upper end. Grooves (78) and apertures (82) in the wall of the pipe (70) encourage the flow of condensate between the pipe and plastic tube to facilitate heat conduction between the two. Heat conduction between the plastic tube and metal pipe is facilitated by a liquid such as heat-sink grease. An alternate embodiment features a plastic-only heat condenser (12) whose upper portion (24) is treated to make it condense the vapor as a film (22) and whose lower portion (20) is untreated so as to condense the vapor as drop (18).



+ DESIGNATIONS OF "SU"

Any designation of "SU" has effect in the Russian Federation. It is not yet known whether any such designation has effect in other States of the former Soviet Union.

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