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(54) Title: PROCESS FOR RECOVERING PROPYLENE

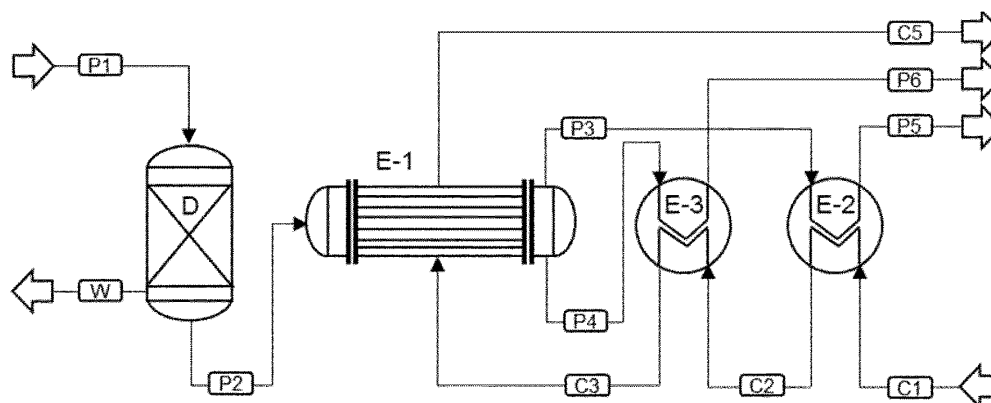


Fig. 3

**(57) Abstract:** The present invention relates to a process for recovering propylene from a gaseous stream comprising propylene and a light-boiling compound, the light-boiling compound having a boiling point at 1013 mbar(abs.) below - 50 °C, in a condensing unit wherein the condensing unit has a first zone, preferably being a condensing zone, and a second zone, preferably being an evaporation zone, wherein first and second zone are spatially separated from each other but are thermally conductive coupled to each other, the process comprising (i) providing a gaseous stream comprising propylene and a light-boiling compound; (ii) providing a liquid cooling medium stream having a temperature  $T_1$ ; (iii) cooling the liquid cooling medium stream in two or more cooling steps to a temperature  $T_4$ , which is lower than the temperature  $T_1$ , thereby obtaining a liquid cooling medium stream having temperature  $T_4$ ; (iv) feeding the gaseous stream comprising propylene and a light-boiling compound from (i) into the first zone of the condensing unit and feeding the liquid cooling medium stream having the temperature  $T_4$  obtained from (iii) to the second zone of the condensing unit; (v) expanding the liquid cooling medium stream, preferably adiabatically, within the second zone, thereby obtaining from the first zone an at least partially

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liquid stream comprising propylene, which is depleted in light-boiling compounds compared to the stream provided in (i).