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(54) Title: FLEXIBLE PRODUCT SEPARATION AND RECOVERY

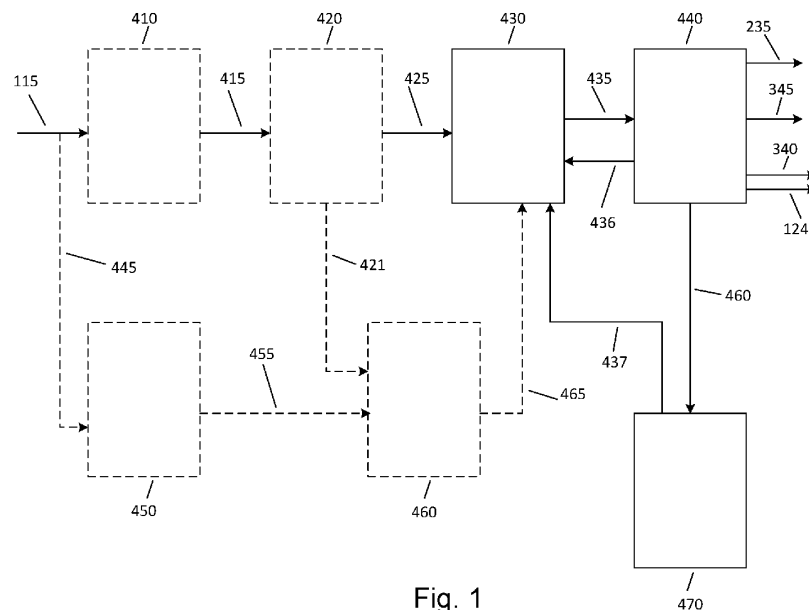


Fig. 1

(57) Abstract: This disclosure is related to a process and apparatus for producing and recovering at least one fermentation product from a fermentation process using a C1-containing gas passed to a fermentation bioreactor, that produces a fermentation broth comprising at least one of a first product stream comprising ethanol and water or a second product stream comprising ethanol, acetone, and water or a third product stream comprising ethanol, acetone, isopropanol, and water. The product is recovered by using a shared product recovery system. Particularly, the shared product recovery system selectively recovers at least one enriched product stream selected from an enriched ethanol stream, an enriched acetone stream, an enriched isopropanol stream or combinations thereof. The shared product recovery system includes at least one of a vacuum distillation unit, a rectification unit, an acetone removal unit, a drying unit, an ethanol-acetone separation unit, an extractive distillation unit or combinations thereof.

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