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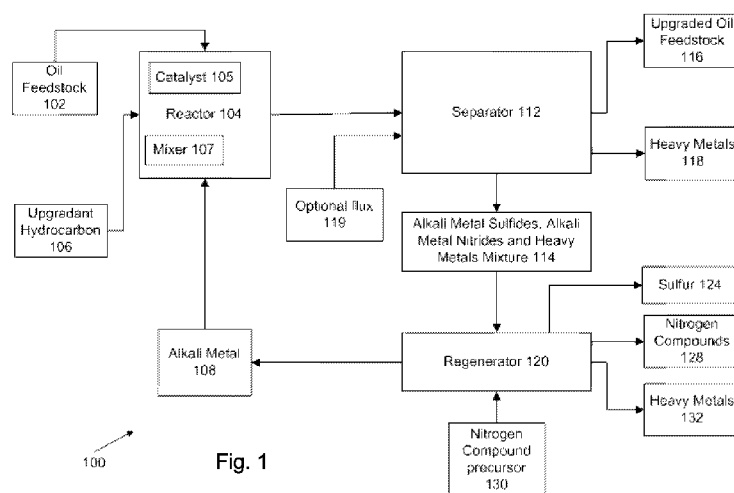


Fig. 1

(57) **Abstract:** A process to facilitate gravimetric separation of alkali metal salts, such as alkali metal sulfides and polysulfides, from alkali metal reacted hydrocarbons. The disclosed process is part of a method of upgrading a hydrocarbon feedstock by removing heteroatoms and/or one or more heavy metals from the hydrocarbon feedstock composition. This method reacts the oil feedstock with an alkali metal and an upgradant hydrocarbon. The alkali metal reacts with a portion of the heteroatoms and/or one or more heavy metals to form an inorganic phase containing alkali metal salts and reduced heavy metals, and an upgraded hydrocarbon feedstock. The inorganic phase may be gravimetrically separated from the upgraded hydrocarbon feedstock after mixing at a temperature between about 350°C to 400°C for a time period between about 15 minutes and 2 hours.