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(71) Applicant: **TECHNIP ENERGIES FRANCE** [FR/FR];
2126 Boulevard de la Défense, Immeuble Origine – CS
10266, 92741 Nanterre Cedex (FR).

(72) Inventors: **RISSEEUW, Izaak Jacobus**; C/O TECHNIP
ENERGIES FRANCE, 2126 Boulevard de la Défense, Im-
meuble Origine – CS 10266, 92741 Nanterre Cedex (FR).
WALSPURGER, Stephane; C/O TECHNIP ENERGIES
FRANCE, 2126 Boulevard de la Défense, Immeuble Orig-
ine – CS 10266, 92741 Nanterre Cedex (FR). **LIOUTA,**
Maria; C/O TECHNIP ENERGIES FRANCE, 2126 Boule-
vard de la Défense, Immeuble Origine – CS 10266, 92741
Nanterre Cedex (FR).

(74) Agent: **WITHERS & ROGERS LLP**; 2 London Bridge,
London SE1 9RA (GB).

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(54) Title: AMMONIA CRACKING PROCESS WITH A RECUPERATIVE HEAT EXCHANGE REACTOR

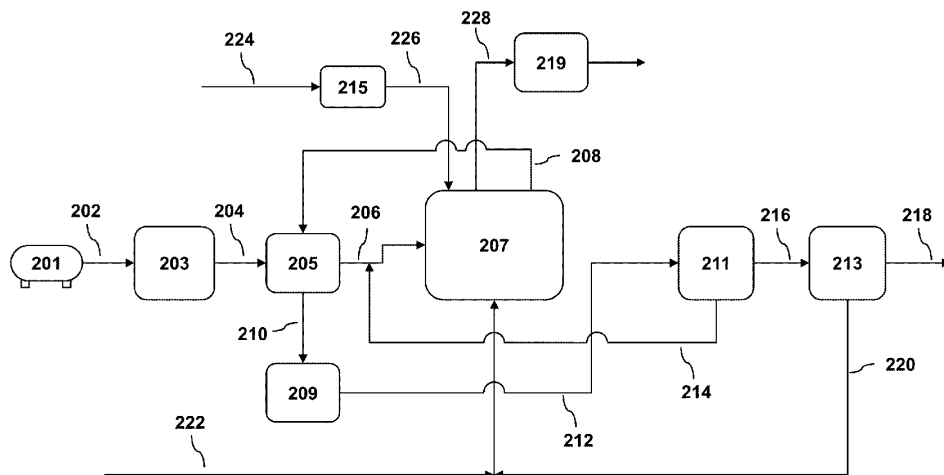


FIG 2

(57) Abstract: The present disclosure relates to a plant and process low energy intensity cracking ammonia and to a plant. The process comprises: supplying a gaseous process flow comprising ammonia (204); preheating the process flow at a preheater (205) upstream an ammonia cracker; feeding the process flow as a feed to a reaction zone of the reactor; cracking at least part of the ammonia comprised in the feed at the reaction zone yielding a hot process mixture comprising hydrogen and nitrogen, and providing a heat duty for the cracking and the preheating by a firing at a combustion zone of the reactor. The process comprises a recuperative transfer of heat from the hot process mixture to the process feed at the reaction zone by passing the hot process mixture received from the catalytic reaction zone through an internal recuperative heat exchanger of the cracking reactor.

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