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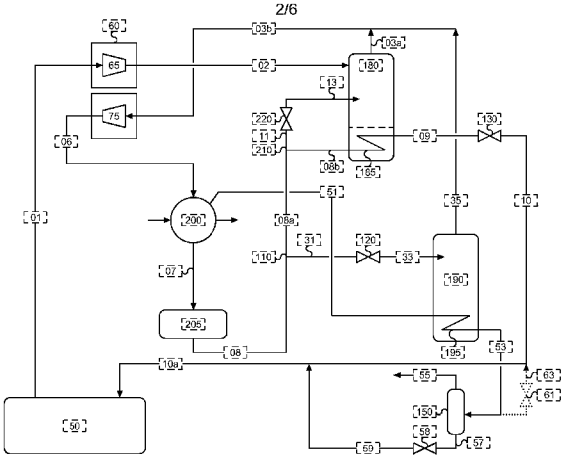
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(54) **Title**: METHOD OF COOLING BOIL OFF GAS AND AN APPARATUS THEREFOR

Figure 2



(57) **Abstract**: The disclosure relates to a method and apparatus for cooling, preferably liquefying a boil off gas (BOG) stream from a liquefied cargo in a floating transportation vessel, said liquefied cargo having a boiling point of greater than -110 °C at 1 atmosphere and comprising a plurality of components, said method comprising at least the steps of: compressing a boil off gas stream (01) from said liquefied cargo in two or more stages of compression comprising at least a first stage (65) and a final stage (75) to provide a compressed BOG discharge stream (06), wherein said first stage (65) of compression has a first stage discharge pressure and said final stage (75) of compression has a final stage suction pressure and one or more intermediate, optionally cooled, compressed BOG streams (02, 03, 04) are provided between consecutive stages of compression; cooling the compressed BOG discharge stream (06) to provide a cooled vent stream (51) and a cooled compressed BOG stream (08); expanding, optionally after further cooling, a portion of the cooled compressed BOG stream (08) to a pressure between that of the first stage discharge pressure and the final stage suction pressure to provide an expanded cooled BOG stream (33); heat exchanging the expanded cooled BOG stream (33) against the cooled vent stream (51) to provide a further cooled vent stream (53).

WO 2012/143699 A1