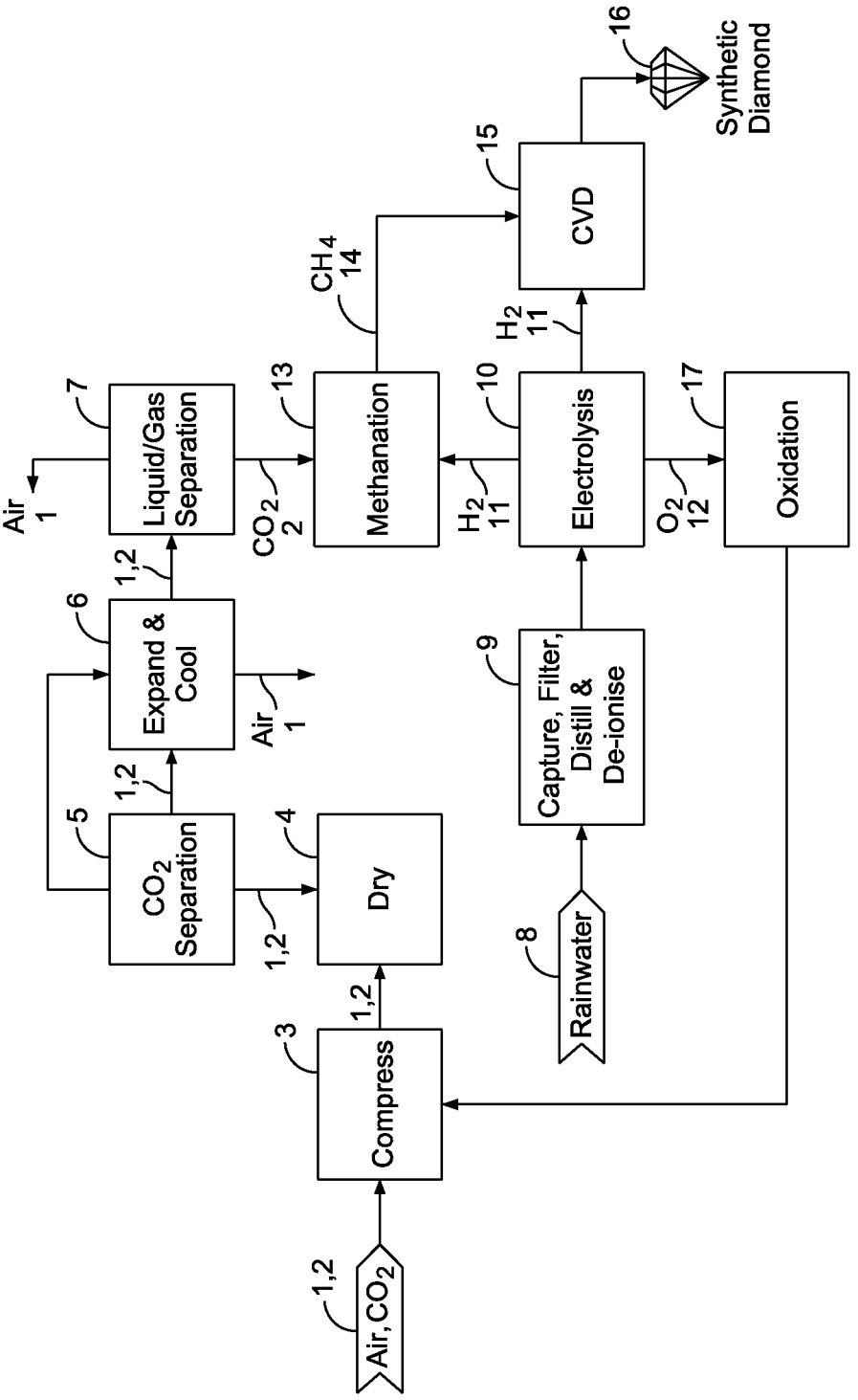

Air, CO_2
1,2
Compress
3
Dry
4
CO_2 Separation
5
Expand & Cool
6
Liquid/Gas Separation
7
Air
1
CO_2
2
Methanation
13
CH_4
14
CVD
15
Synthetic Diamond
16
Rainwater
8
Capture, Filter, Distill & De-ionise
9
Electrolysis
10
H_2
11
O_2
12
Oxidation
17

FIG. 1

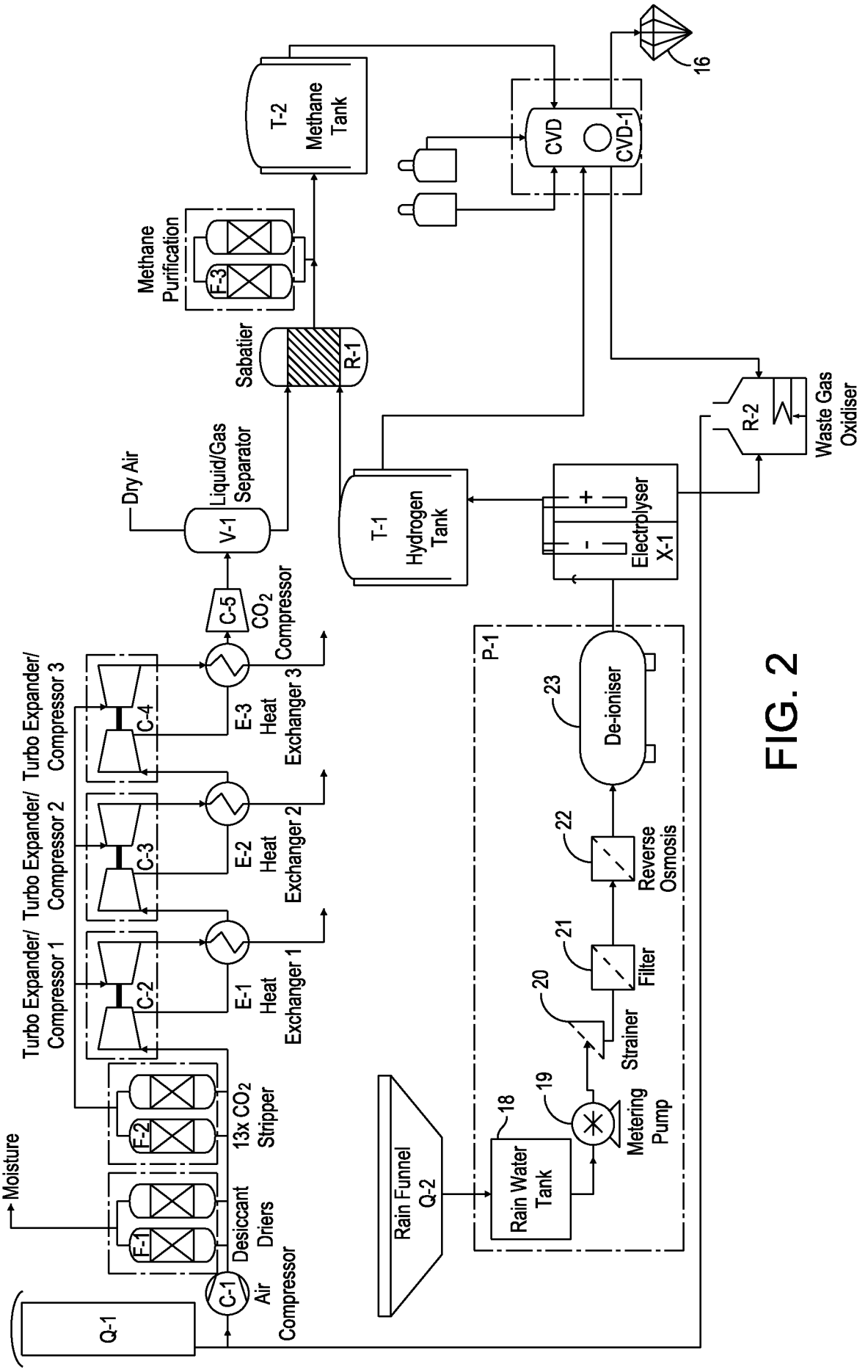

Q-1
C-1
Air Compressor
Desiccant Driers
F-1
F-2
13x CO_2 Stripper
Moisture
Turbo Expander/ Compressor 1
C-2
E-1 Heat Exchanger 1
Turbo Expander/ Compressor 2
C-3
E-2 Heat Exchanger 2
Turbo Expander/ Compressor 3
C-4
E-3 Heat Exchanger 3
C-5
CO_2 Compressor
Dry Air
V-1
Liquid/Gas Separator
Sabatier
R-1
Methane Purification
F-3
T-2 Methane Tank
CVD
CVD-1
16
T-1 Hydrogen Tank
Electrolyser X-1
R-2
Waste Gas Oxidiser
Rain Funnel Q-2
P-1
Rain Water Tank
18
19
Metering Pump
20
Strainer
21
Filter
22
Reverse Osmosis
23
De-ioniser

FIG. 2