1/3

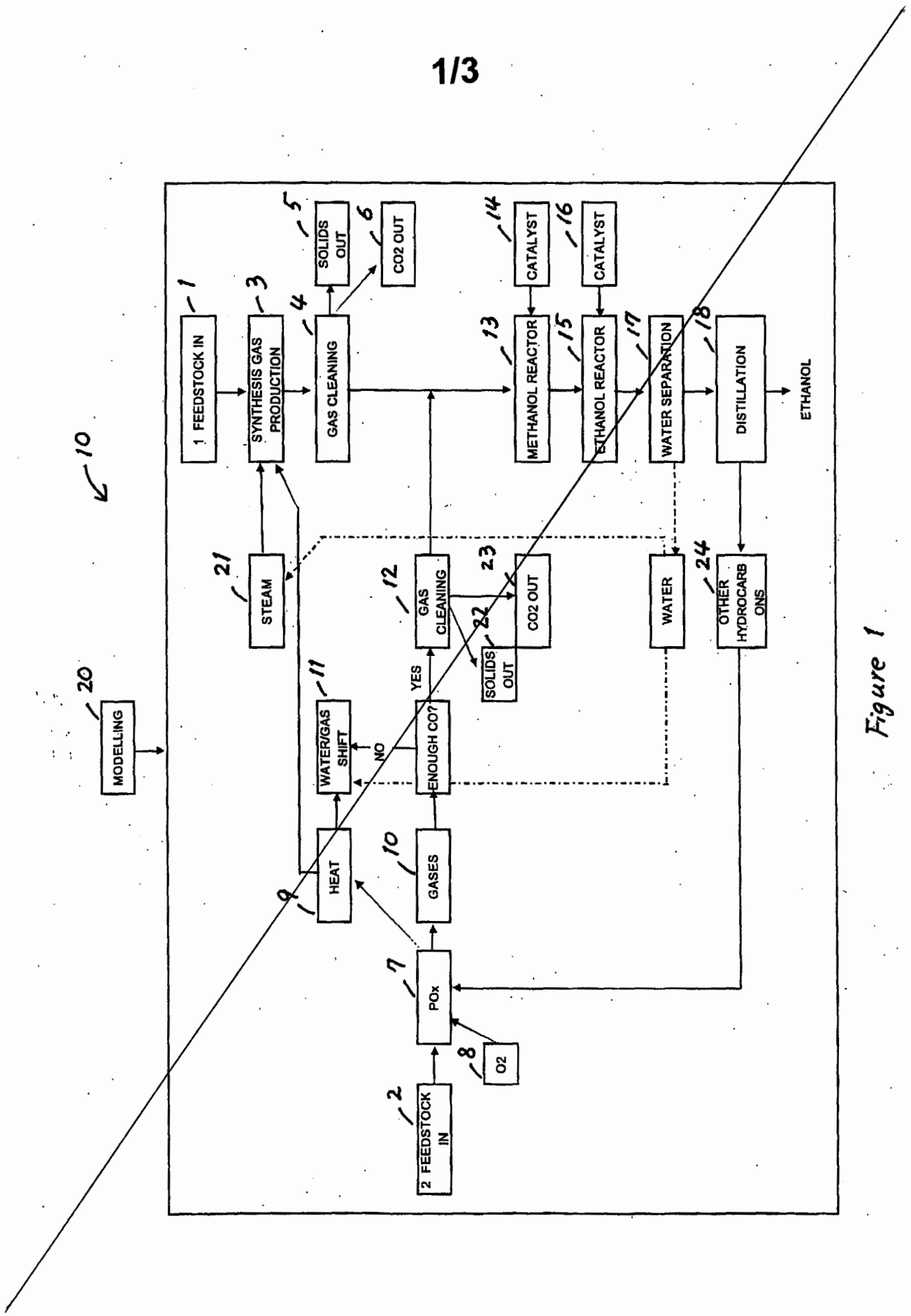

10
1 FEEDSTOCK IN
SYNTHESIS GAS PRODUCTION
GAS CLEANING
SOLIDS OUT
CO2 OUT
METHANOL REACTOR
CATALYST
ETHANOL REACTOR
CATALYST
WATER SEPARATION
DISTILLATION
ETHANOL
STEAM
GAS CLEANING
CO2 OUT
SOLIDS OUT
WATER
OTHER HYDROCARBONS
MODELLING
WATER/GAS SHIFT
ENOUGH CO?
YES
NO
HEAT
GASES
POx
O2
2 FEEDSTOCK IN

Figure 1

1/3

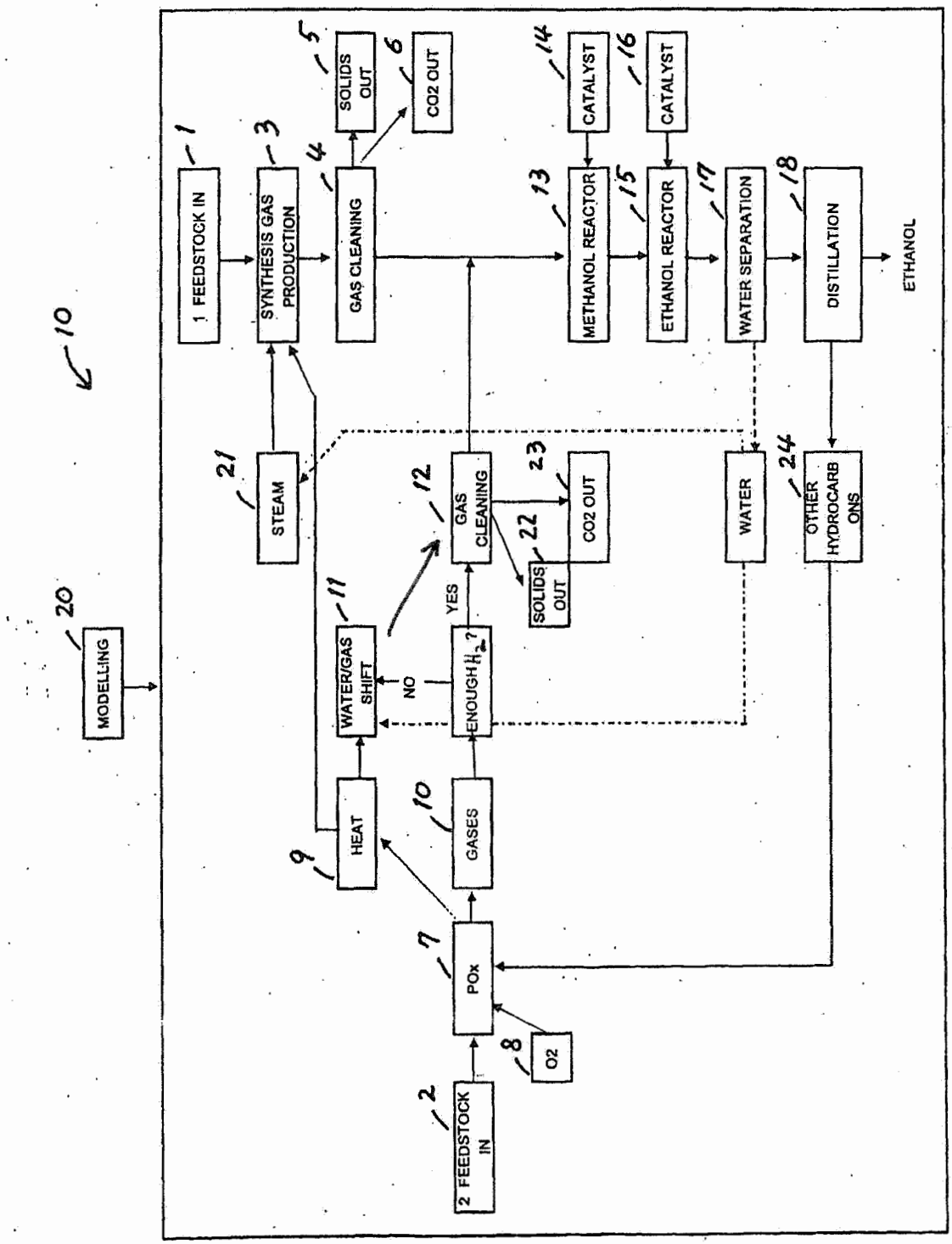

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1 FEEDSTOCK IN
SYNTHESIS GAS PRODUCTION
GAS CLEANING
SOLIDS OUT
CO2 OUT
METHANOL REACTOR
ETHANOL REACTOR
WATER SEPARATION
DISTILLATION
ETHANOL
CATALYST
CATALYST
STEAM
GAS CLEANING
CO2 OUT
SOLIDS OUT
WATER
OTHER HYDROCARBONS
MODELLING
WATER/GAS SHIFT
ENOUGH H2?
YES
NO
HEAT
GASES
POx
O2
2 FEEDSTOCK IN

Figure 1

3/3

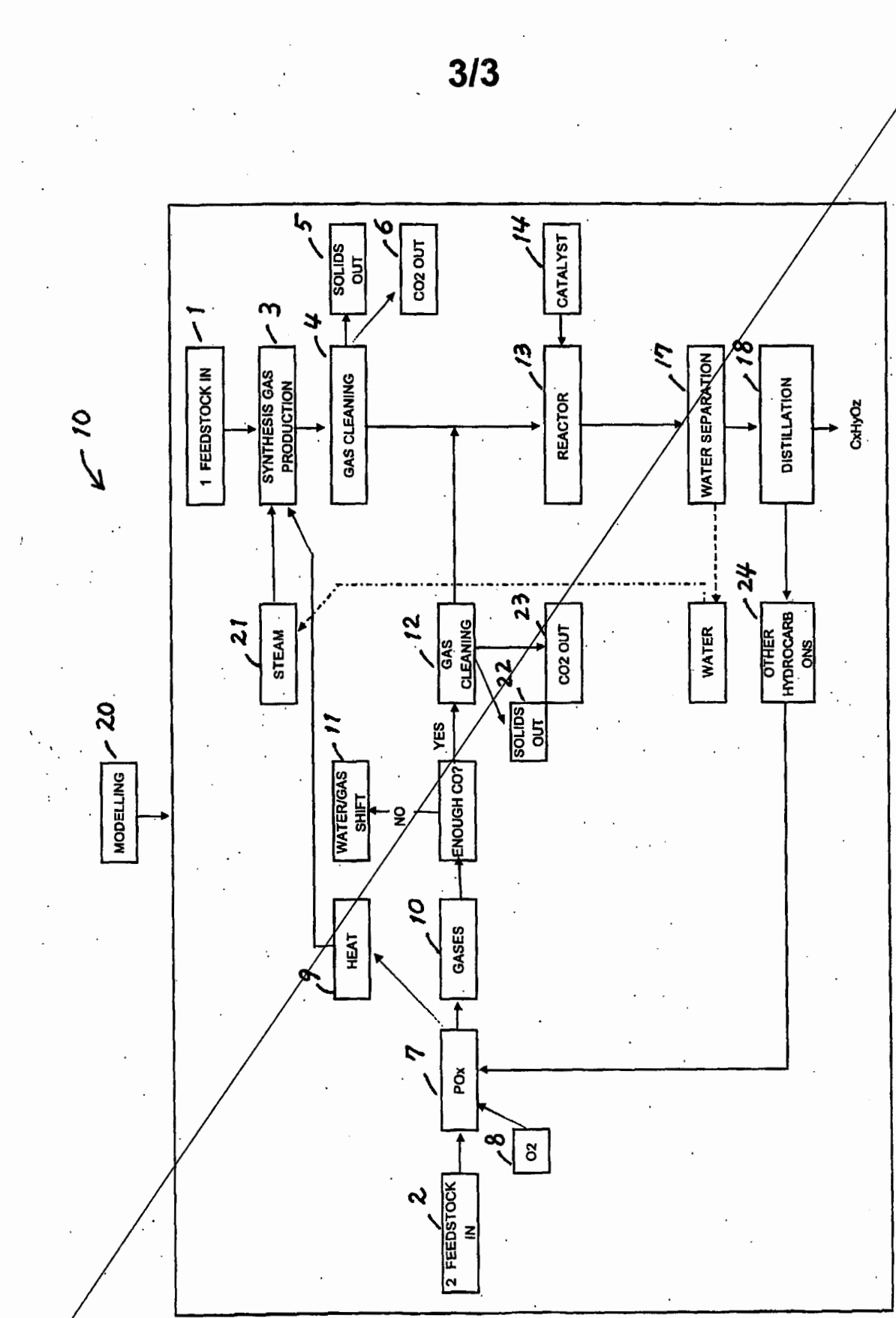

10
1 FEEDSTOCK IN
SYNTHESIS GAS PRODUCTION
GAS CLEANING
SOLIDS OUT
CO2 OUT
CATALYST
REACTOR
WATER SEPARATION
DISTILLATION
CxHyOz
STEAM
GAS CLEANING
CO2 OUT
SOLIDS OUT
WATER
OTHER HYDROCARBONS
MODELLING
WATER/GAS SHIFT
ENOUGH CO?
YES
NO
HEAT
GASES
POx
O2
2 FEEDSTOCK IN

Figure 3

3/3

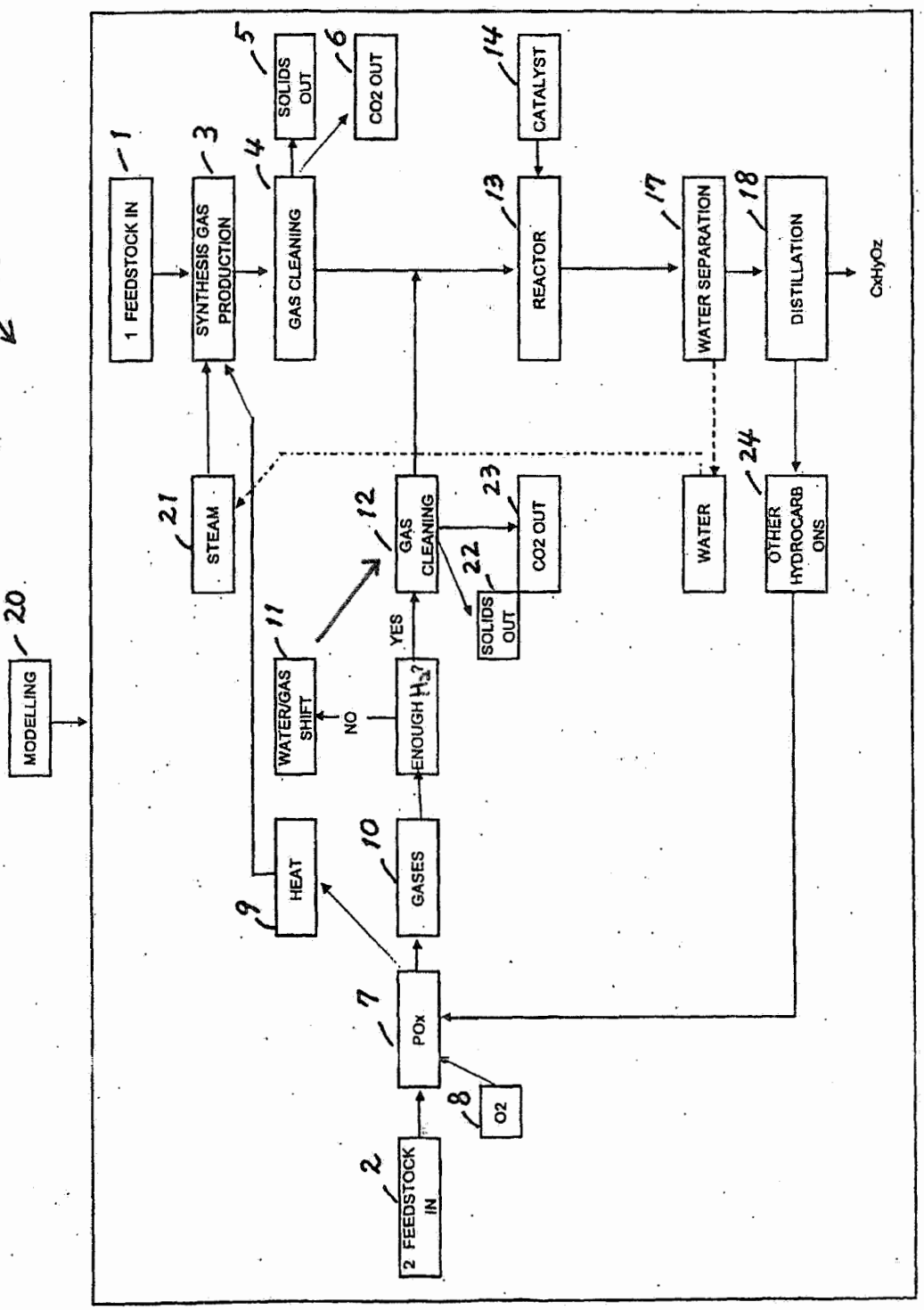

10
1 FEEDSTOCK IN
SYNTHESIS GAS PRODUCTION
GAS CLEANING
SOLIDS OUT
CO2 OUT
REACTOR
CATALYST
WATER SEPARATION
DISTILLATION
CxHyOz
STEAM
GAS CLEANING
CO2 OUT
SOLIDS OUT
WATER
OTHER HYDROCARBONS
MODELLING
WATER/GAS SHIFT
ENOUGH H2?
YES
NO
HEAT
GASES
POx
O2
2 FEEDSTOCK IN

Figure 3