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(54) Title: PROCESS FOR CRACKING A HYDROCARBON-CONTAINING FEED

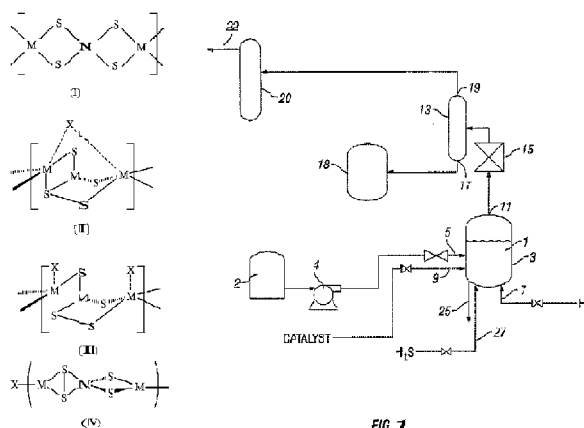


FIG. 1

(57) Abstract: A process for treating a hydrocarbon-containing feed is provided in which a hydrocarbon-containing feed comprising at least 20 wt.% of heavy hydrocarbons is mixed with hydrogen, hydrogen sulfide, and a catalyst to produce a hydrocarbon-containing product, where hydrogen sulfide is provided at a mole ratio relative to hydrogen of at least 0.5:9.5. The catalyst is comprised of a material comprised of a first metal and a second metal, where the first metal is selected from the group consisting of Cu, Fe, Ni, Co, Bi, Ag, Mn, Zn, Sn, Ru, La, Ce, Pr, Sm, Eu, Yb, Lu, Dy, Pb, and Sb and the second metal is Mo, W, V, Sn, and Sb. The material of the catalyst may have a structure according to formula (I), formula (II), formula (III), or formula (IV): where M is either the first metal or the second metal, and at least one M is the first metal and at least one M is the second metal; where M is either the first metal or the second metal, and at least one M is the first metal and at least one M is the second metal, and X is selected from the group consisting of SO₄, PO₄, oxalate (C₂O₄), acetylacetonate, acetate, citrate, tartrate, Cl, Br, I, ClO₄, and NO₃; where M is either the first metal or the second metal, and at least one M is the first metal and at least one M is the second metal, and X is selected from the group consisting of SO₄, PO₄, oxalate (C₂O₄), acetylacetonate, acetate, citrate, tartrate, Cl, Br, I, ClO₄, and NO₃; where M is either the first metal or the second metal, and at least one M is the first metal and at least one M is the second metal, and X is selected from the group consisting of SO₄, PO₄, oxalate (C₂O₄), acetylacetonate, acetate, citrate, tartrate, Cl, Br, I, ClO₄, and NO₃.



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