a fixed gas from hydrocarbons and steam, which consists in first heating the hydrocarbons, conveying the same in small jets or quantities from the heater and converting it into vapour, and then superheating the vapour, whereby the vapour is converted into a fixed gas by superheating it, and then uniting the fixed gas formed from the steam with that formed from the hydrocarbon, substantially as shown and described. 3rd. The method of producing gas from hydrocarbons and hydrogen, which consists in first heating the hydrocarbons; second, converting the heated hydrocarbons into vapour; third, mingling hydrogen with the vapour of the hydrocarbons, and fourth, superheating the product, substantially as shown and described. 4th. In an apparatus for producing gas from hydrocarbons, the combination with a hydrocarbon heater, of a vaporizer in communication therewith, and a retort in communication with the vaporizer above the bottom thereof, substantially as shown and described. 5th. In an apparatus for producing gas from hydrocarbons, the combination with a hydrocarbon heater, of a vaporizer in communication therewith, a retort in communication with the vaporizer at or near the bottom thereof for carrying away residuum or substances that cannot be vaporized, substantially as shown and described. 6th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a retort located therein, a vaporizer in combination therewith by means of a pipe as 13, and a hydrocarbon supply and heater, also in communication with the vaporizer by means of a small jet pipe, substantially as shown and described. 7th. In an apparatus for producing gas from hydrocarbons, the combination with a retort furnace and retort located therein, of a hydrocarbon supply, a vaporizer having an inner and an outer tube or casing, and an annular space between said tube or casings closed at the top and bottom, the inner tubes or casing being open at the top and bottom, and the annular space being in communication with the hydrocarbon supply and with the retort, substantially as shown and described. 8th. In an apparatus for producing gas from hydrocarbons, the combination, with a retort furnace and hydrocarbon supply, of a vaporizer consisting of an inner and an outer tube or casing, and having an annular space closed at the top and bottom between said tubes or casings, a steam coil within said space, and means for conducting the products of combustion from the furnace through the central tube or casing, substantially as shown and described. 9th. In an apparatus for producing gas from hydrocarbons, the combination, with a retort furnace, of a vaporizer having an inner and an outer tube or casing, and an annular space between said tubes or casings closed at the top and bottom, the inner tube being open at the top and bottom and grooved or corrugated, and provided with projections on its outer surface, and means for conducting the products of combustion from the retort furnace through the inner tube of the vaporizer, substantially as shown and described. 10th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort located within the furnace in communication with the annular chamber, and escape flues communicating with the furnace and with the inner casing of the vaporizer, substantially as shown and described. 11th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort within the furnace communicating with the annular chamber, escape flues communicating with the furnace and with the inner casing of a vaporizer, substantially as shown and described. 12th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort within the furnace communicating with said annular chamber, a steam coil located in said annular chamber and a steam coil within the furnace in communication therewith, substantially as shown and described. 13th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having an inner and an outer casing, and an annular chamber between said casings, a retort within the furnace communicating with the annular chamber, a steam coil arranged within said chamber in communication with a steam coil within the retort furnace, and means for conducting the products of combustion from the retort furnace through the central casing of the vaporizer, substantially as shown and described. 14th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer consisting of an inner and an outer tube, and having an annular chamber between said tubes, a steam coil arranged within said chamber, a hydrocarbon supply and heater communicating with said chamber, a retort within the furnace and communicating with the steam coil within the annular chamber of the vaporizer, and means for conducting the hot gases of combustion through the central tube of the vaporizer, substantially as shown and described. 15th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace having a retort located therein, of a vaporizer having a steam coil located therein, and a hydrocarbon supply and heater communicating with the vaporizer, the vaporizer being located outside of the furnace and in communication with the retort, the construction being such that the hydrocarbon is admitted to the vaporizer in small jets or quantities, substantially as shown and described. 16th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a vaporizer having a steam coil arranged therein in communication with a steam coil arranged within the furnace, also in communication with the vaporizer, and a hydrocarbon supply and heater in communication with the vaporizer, substantially as shown and described. 17th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace and retort, of a vaporizer consisting of an inner and an outer casing and having an annular chamber between said casings in communication with the retort, a steam coil located in said chamber, and a hydrocarbon supply and a heater communicating with said annular chamber, substantially as shown and described. 18th. In an apparatus for producing gas from hydrocarbons, the combination, with a retort, consisting of a U-shaped pipe, of a series of vaporizers in communication with one branch of the retort, another vaporizer consisting of an inner and an outer tube or casing forming an annular chamber also in communication with the same branch of the retort, and means for connecting the retort with the inner tube or casing of the last mentioned vaporizer, substantially as shown and described. 19th. In an apparatus for producing gas from hydrocarbons, the combination of two or more vaporizers, one of which consists of an inner and an outer tube or casing, forming an annular chamber, a gas retort in communication with said vaporizers, and means for conducting the heated gases from the retort through the inner tube or casing of one of said vaporizers, whereby the heated gases from the retort are caused to assist in the process of vaporization, substantially as shown and described. 20th. In an apparatus for producing gas from hydrocarbons, the combination of two or more vaporizers, one of which consists of an inner and an outer tube or casing, forming an annular chamber between said tubes of casings, a steam coil arranged in said annular chamber, a gas retort in communication with each of said vaporizers, and means for conducting the heated gases from the retort through the inner tube of the vaporizer having the inner and the outer tube or casing, substantially as shown and described. 21st. In an apparatus for producing gas from hydrocarbons, the combination with a vaporizer consisting of an inner and an outer tube or casing, and an annular chamber between the same, of a gas retort having a series of branches, one of which is in communication with the annular chamber of the vaporizer, and one of which is in communication with the inner tube or casing, substantially as shown and described. 22nd. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a series of vaporizers provided with steam coils, in communication with steam coils arranged within the furnace, a retort within the furnace, and means for conducting the heated gases from the retort through one of said vaporizers, substantially and shown described. 23rd. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a series of vaporizers consisting of an inner and an outer tube or casing, and an annular chamber between the same, steam coils arranged within the furnace, a gas retort in communication with the annular chamber in each of said vaporizers, and means for conducting the the heated gases from the retort through the inner tube or casing of one of said vaporizers, substantially as shown and described. 24th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a series of veporizers each of which is provided with a steam coil, in communication with a steam coil or coils arranged within the furnace, and a retort within the furnace in communication with each of the vaporizers, substantially as shown and described. 25th. In an apparatus for producing gas from hydrocarbons, the combination with a retort furnace of a series of vaporizers each of which is provided with a steam coil in communication with a steam coil or coils within the furnace in communication with each of said vaporizers, and means for conducting the products of combustion from the furnace through one or more of said vaporizers, substantially as shown and described. 26th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace and retort located therein of a series of vaporizers, each of which is in communication with the retort, one or more of said vaporizers being provided with a steam coil in communication with a steam coil arranged within the furnace, and means for conducting the heated gases from the retort through one of said vaporizers, whereby said heated gases are caused to assist the steam in the process of vaporization, substantially as shown and described. 27th. In an apparatus for producing gas from hydrocarbons, the combination with a retort furnace, of a series of vaporizers provided with steam coils arranged therein in communication with steam coils arranged within the furnace, each of said vaporizers being in communication with the gas retort located within the furnace flues or passages by which the products of combustion are conducted from the furnace through one or more of said vaporizers, and means for conducting the heated gases from the retort through one of said vaporizers, whereby the products of combustion and the hot gas from the retort are each caused to assist the steam in the process of vaporization, substantially as shown and described. 28th. In an apparatus for producing gas from hydrocarbons, the combination with a furnace, of a vaporizer, a retort within the furnace in communication therewith, in which the vapour is superheated, a steam supply, and means for superheating the steam and a pipe, as 24, in communication therewith for conducting the superheated steam into the gas retort, and mingling the same with the superheated gas formed from the hydrocarbons, substantially as shown and described. 29th. In an apparatus for producing gas from hydrocarbons, the combination, with a furnace, of a retort located therein, a vaporizer in communication therewith by means of a pipe, as 13, and a hydrocarbon supply and heater in communication with the vaporizer by means of