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E36 H04 (H06)

AIRL 12.09.88

E(31-A1) H(4-E4)

AIR LIQUIDE L'

\*EP -359-629-A

12.09.88-FR-011883 (21.03.90) B01d-53/22 C01b-03/50 C10k-01

**Carbon mon-oxide and hydrogen in predetermined ratio - prodn. ;  
uses reformed hydrocarbon feedstock**

C90-037421 R(AT BE CH DE ES FR GB GR IT LI LU NL SE)

hydrated in (3) and then passed to the high pressure side of the permeator (4). The latter gives a permeate consisting of low pressure  $H_2$  and residue consisting essentially of methane and CO.

At this stage the parameters of the process can be regulated by a by-pass valve (21) and the desired  $H_2$ :CO ratio obtd. The gas contg.  $H_2$ :CO in this ratio passes to columns (7) and (8) where  $H_2$  and CO are obtd.

Methane is obtd. as a residue gas from the installation, via (27) and is used as a fuel gas. (6pp2003CGDwgNo1 3).  
(F) ISR: DE1767751 EP--21756 EP-213525 US3251652  
EP-100923 EP-186843 US4732583

Process for the simultaneous prodn. of  $H_2$  and CO, giving a pre-determined  $H_2$ :CO ratio, is claimed.

A synthesis gas e.g. obtd. from a re-formed hydrocarbon mixt. is treated and has an excess  $H_2$  to CO ratio such that the ratio is adjusted by eliminating excess  $H_2$  by permeation.

Appts. for carrying out the above process is also claimed.

#### USE/ADVANTAGE

Gases obtd. from hydrocarbon re-forming processes contain  $H_2$  and CO in a ratio not suited to prodn. needs. The aim of the invention is to correct the ratio economically.

#### APPARATUS

The synthesis gas, at 30-100°C, is sent to the base of column (9) and de-carbonated by an amine wash, it is then passed into column (10) and  $CO_2$  is drawn off from the head.

The treated gas is completely de-carbonated and de-

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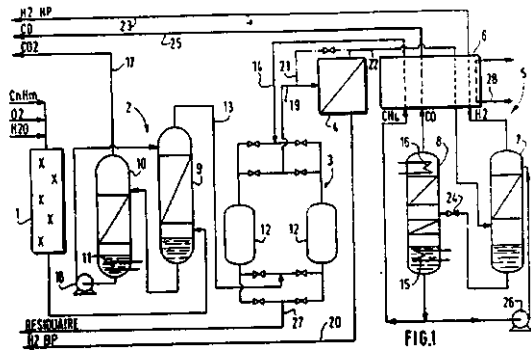


FIG. 1