

**CARBON DIOXIDE SEQUESTRATION INVOLVING TWO-SALT-BASED  
THERMOLYTIC PROCESSES**

**ABSTRACT**

The present invention relates to an energy efficient carbon dioxide sequestration  
5 processes whereby calcium silicate minerals and CO<sub>2</sub> are converted into limestone and sand  
using a two-salt thermolytic process that allows for the cycling of heat and chemicals from  
one step to another.

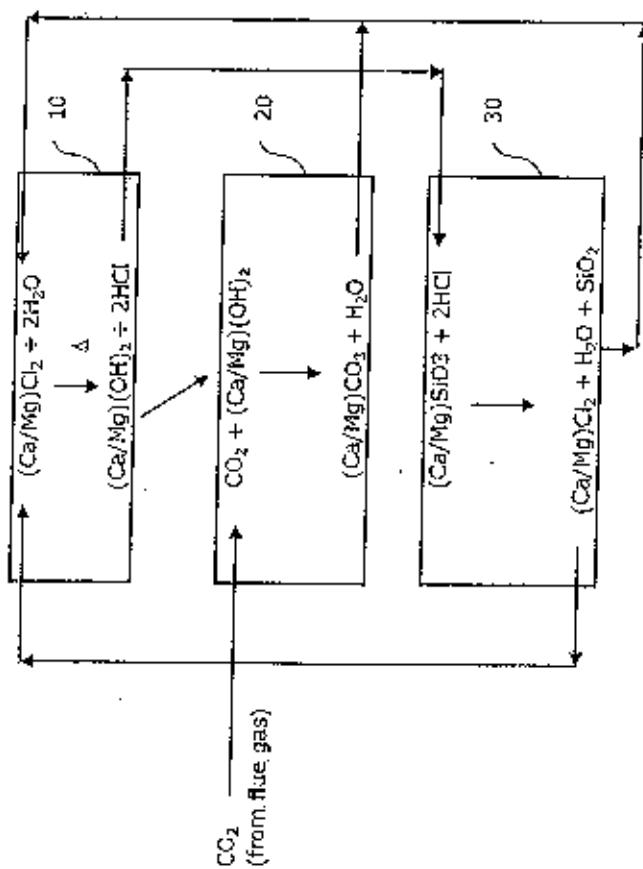


FIG. 1

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

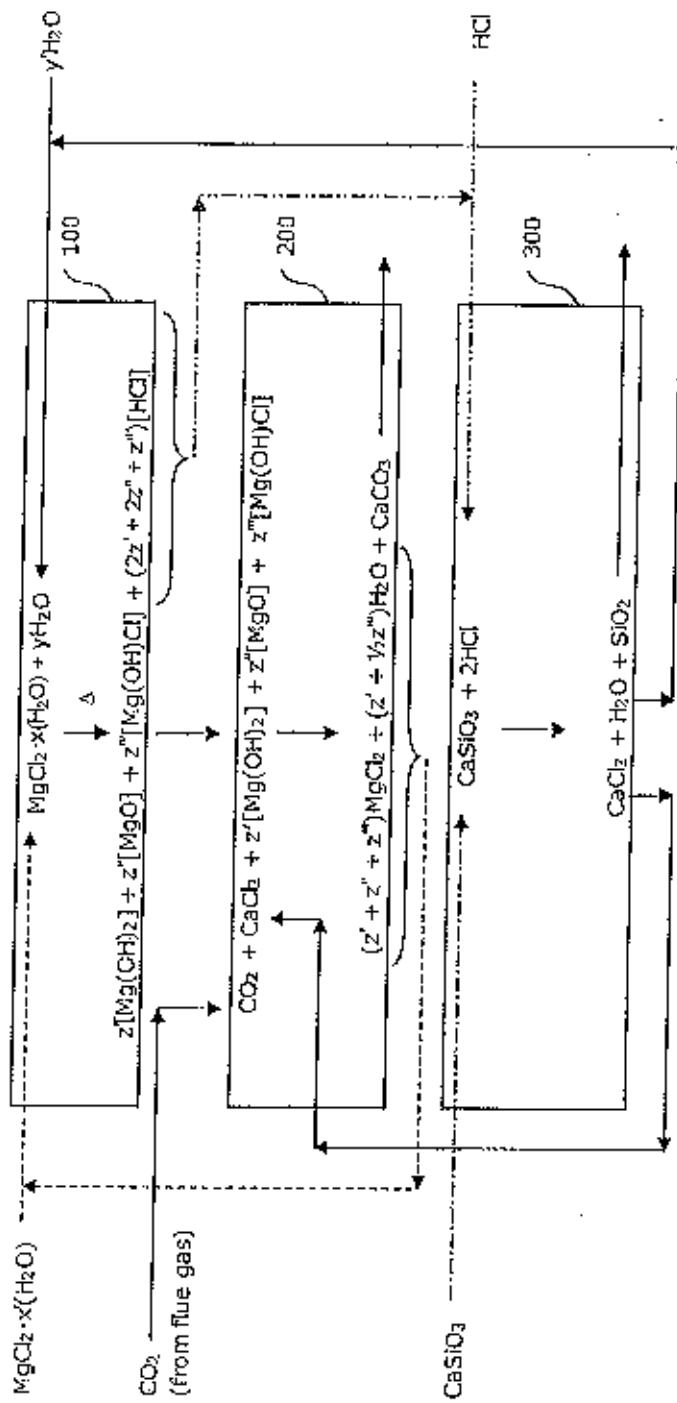


FIG. 2

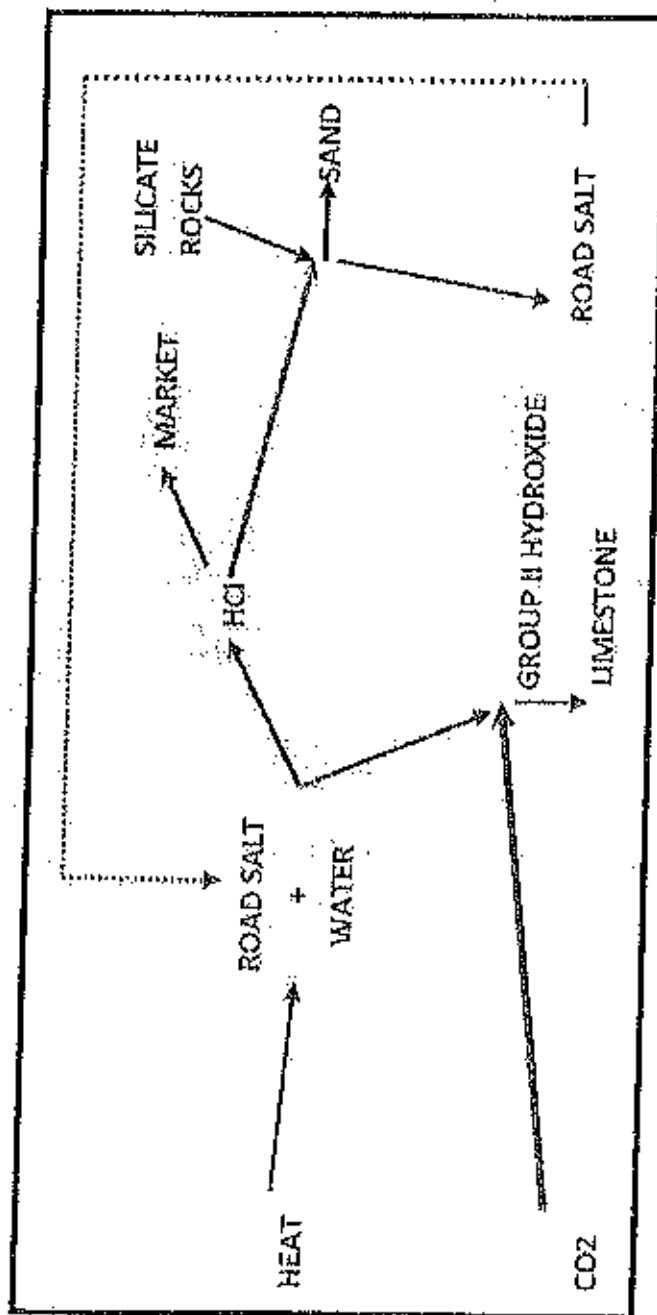


FIG. 3

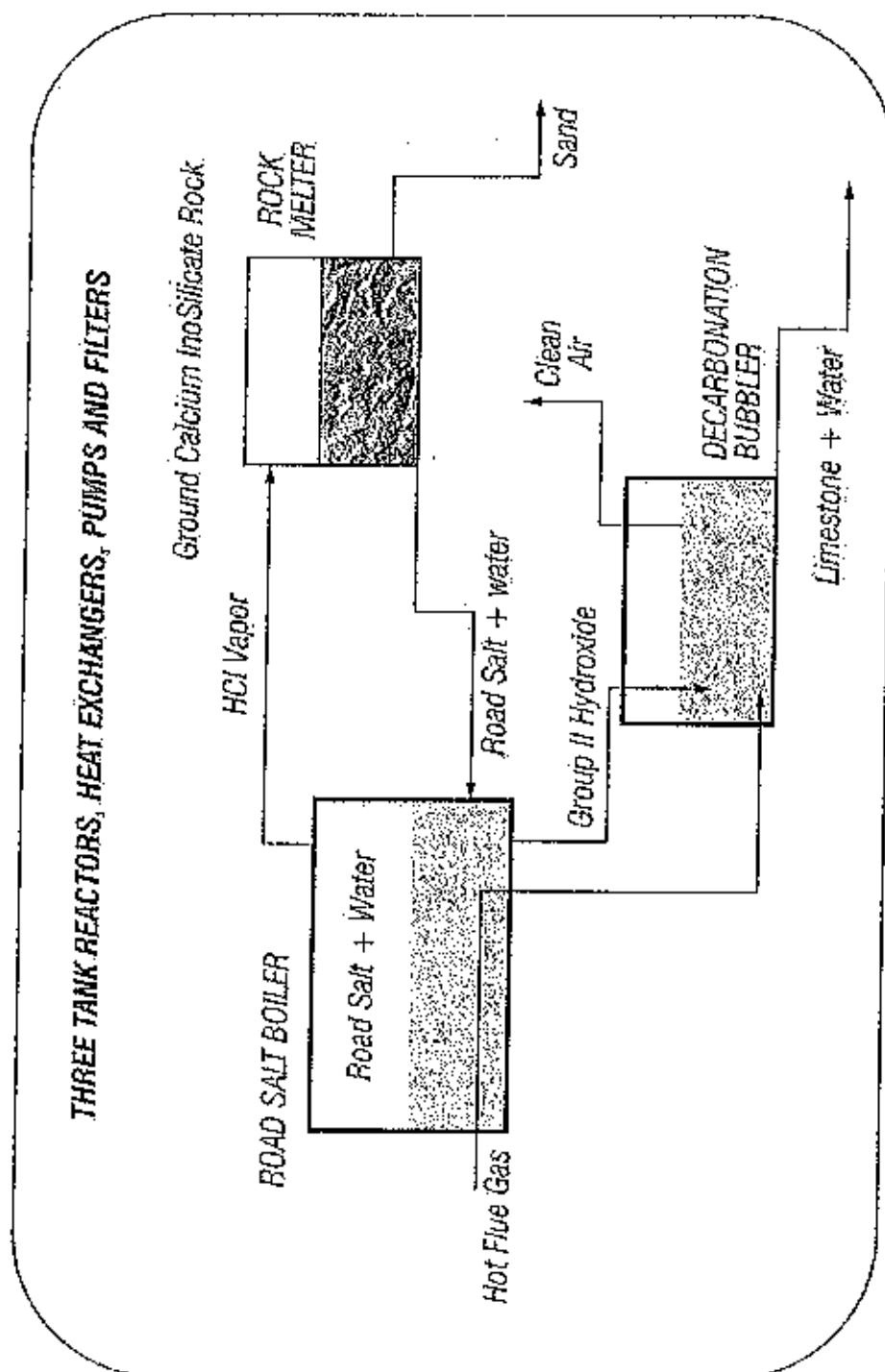
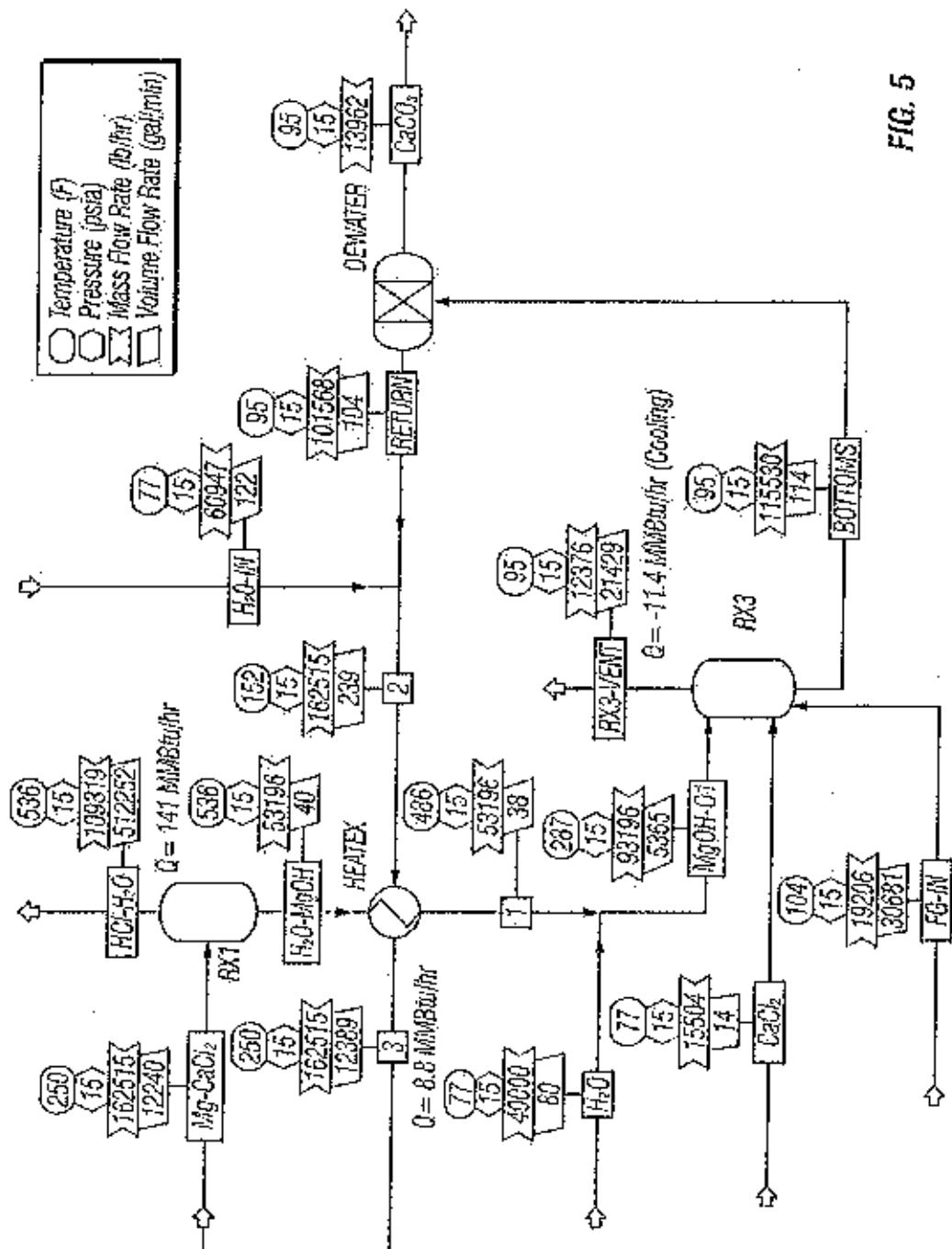


FIG. 4



5

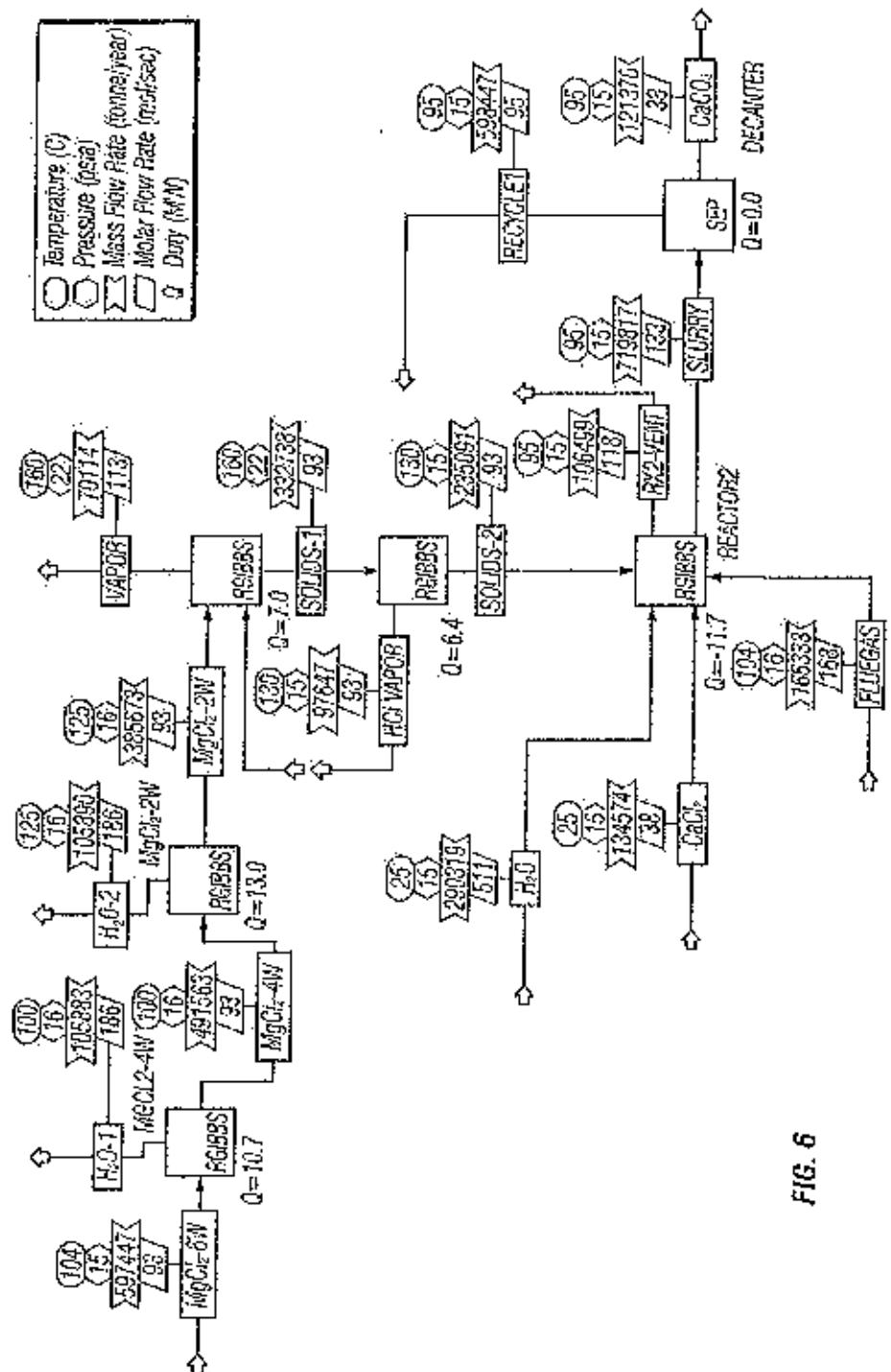


FIG. 6

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

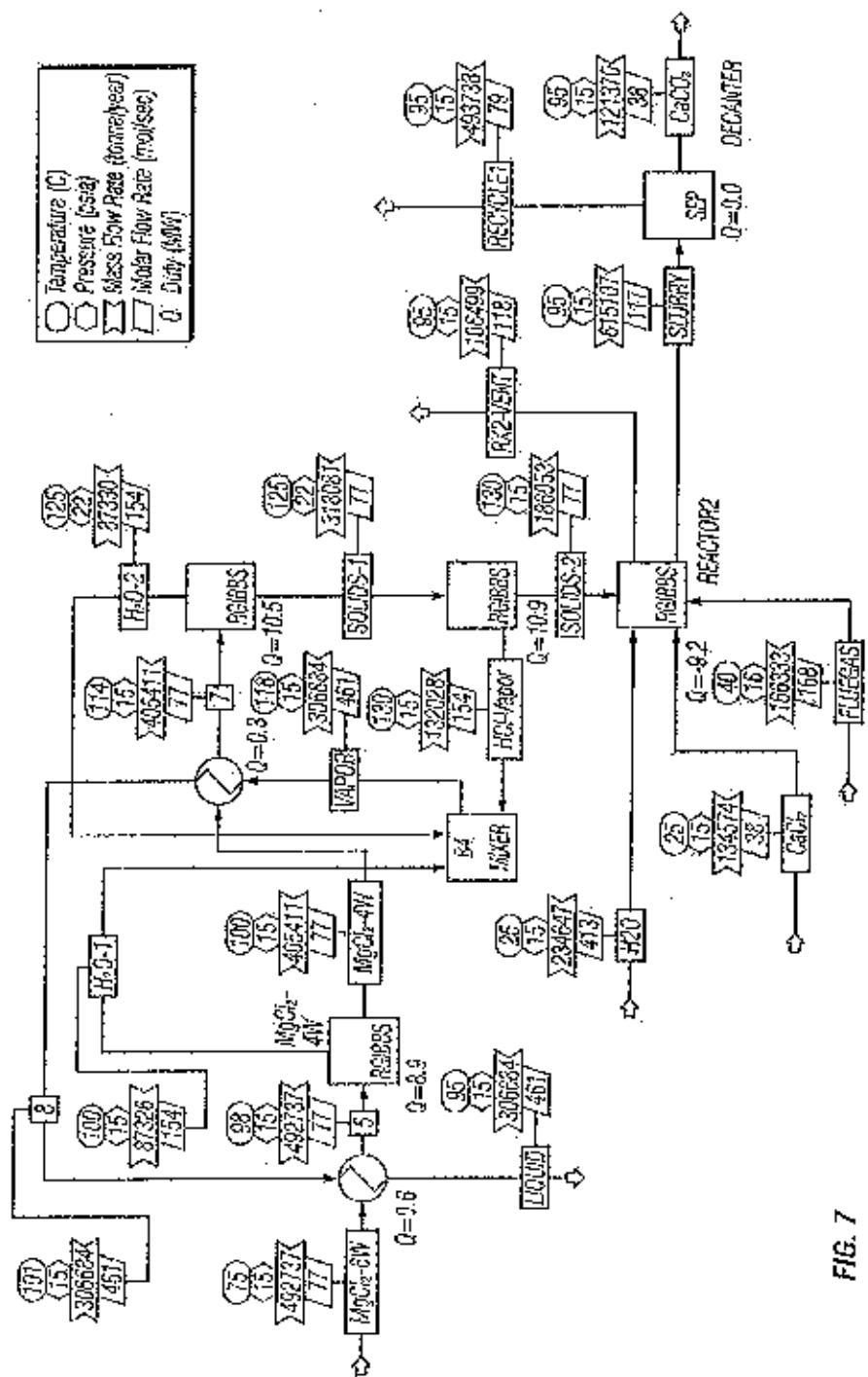
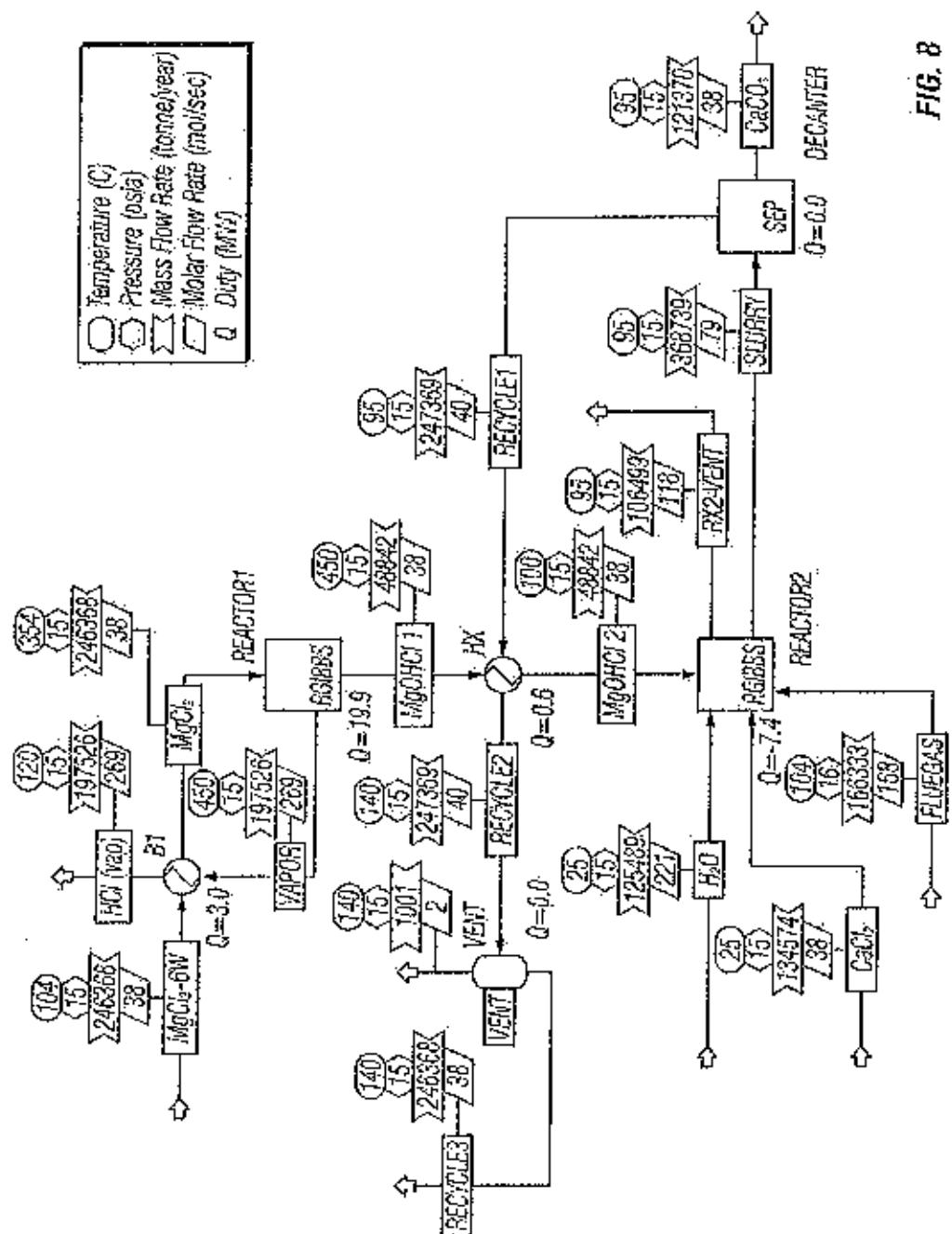
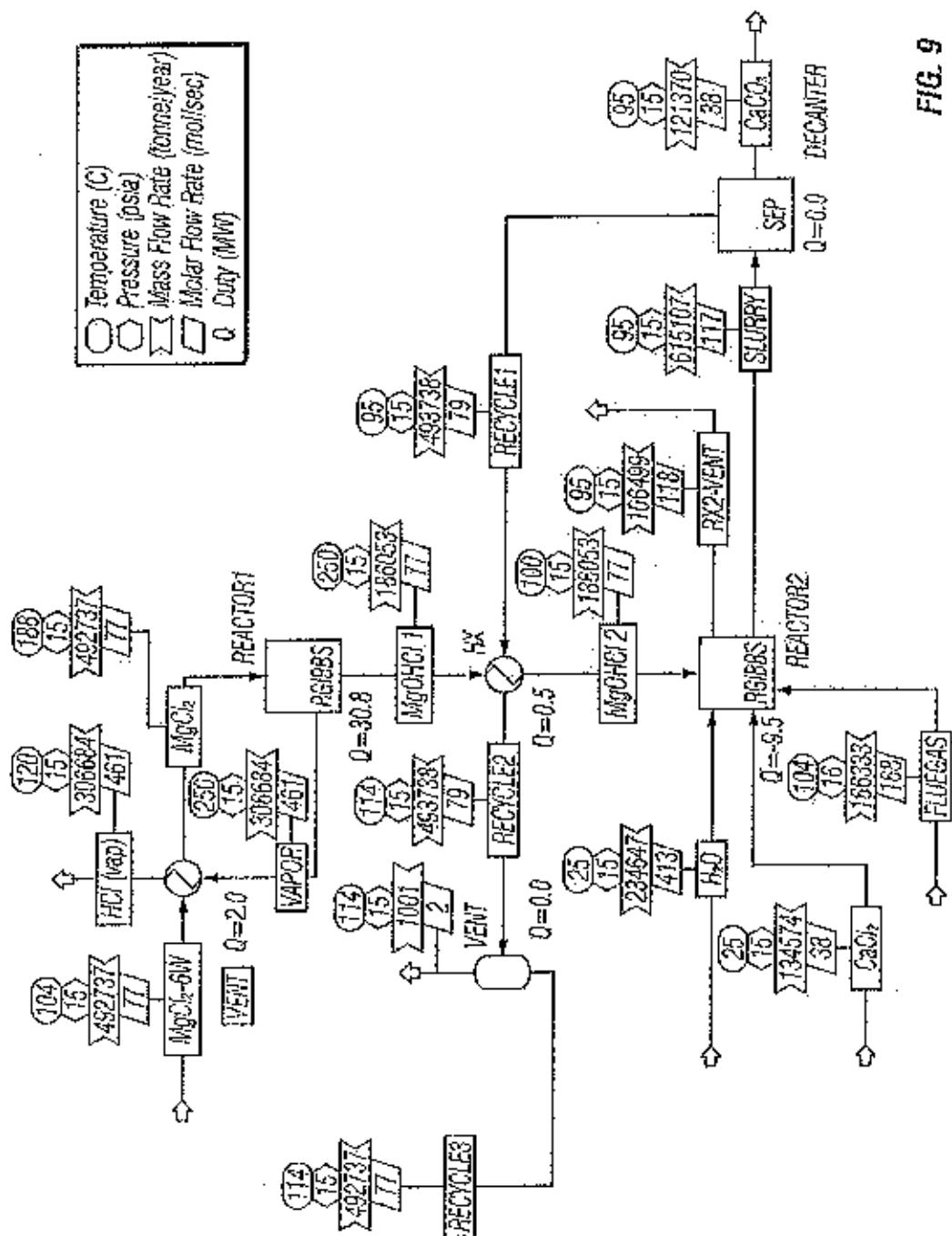


FIG. 7

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of Lall Lahiri & Salhotra  
Agents for the Applicant



8  
FIG.



63

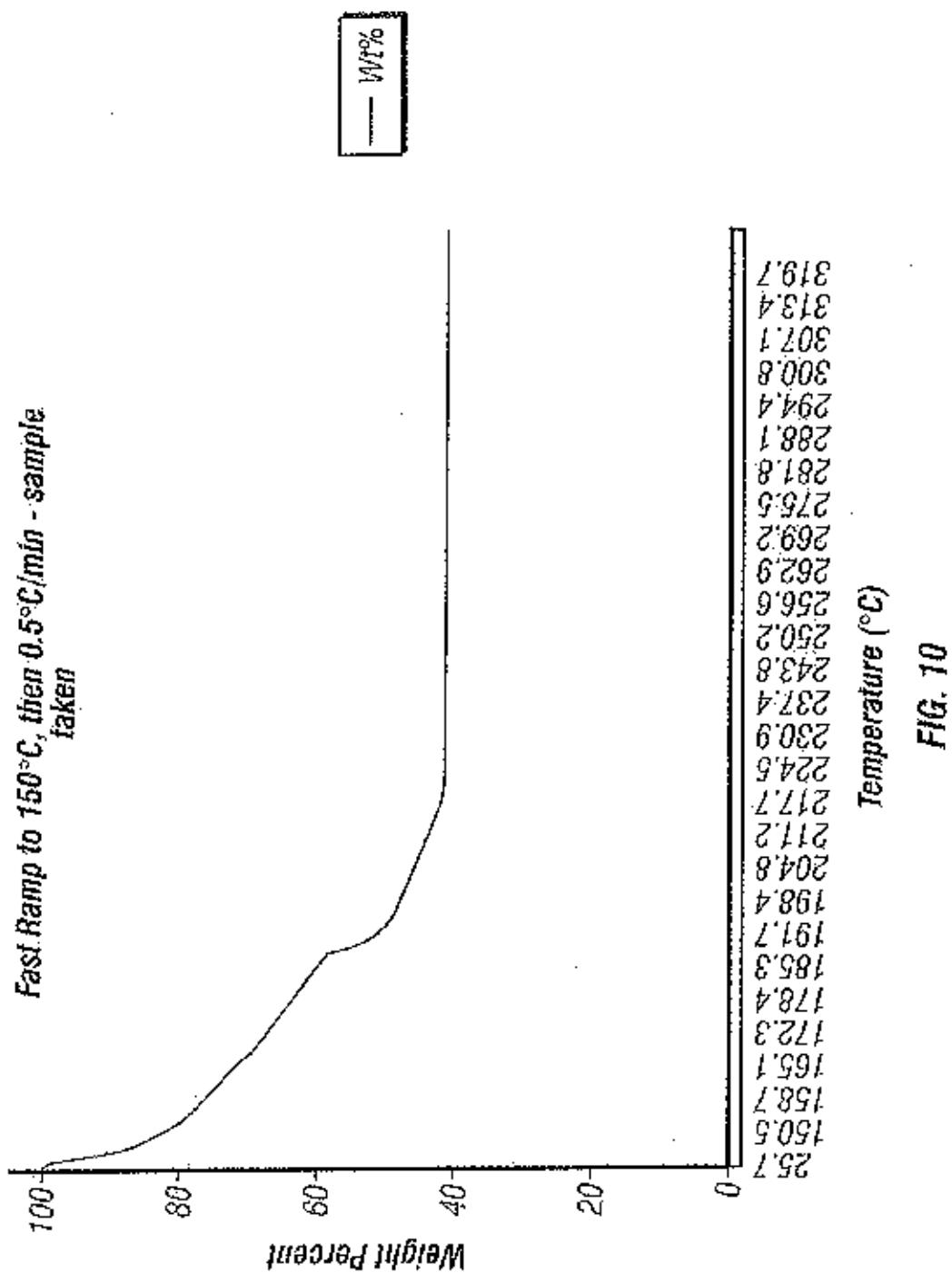


FIG. 10

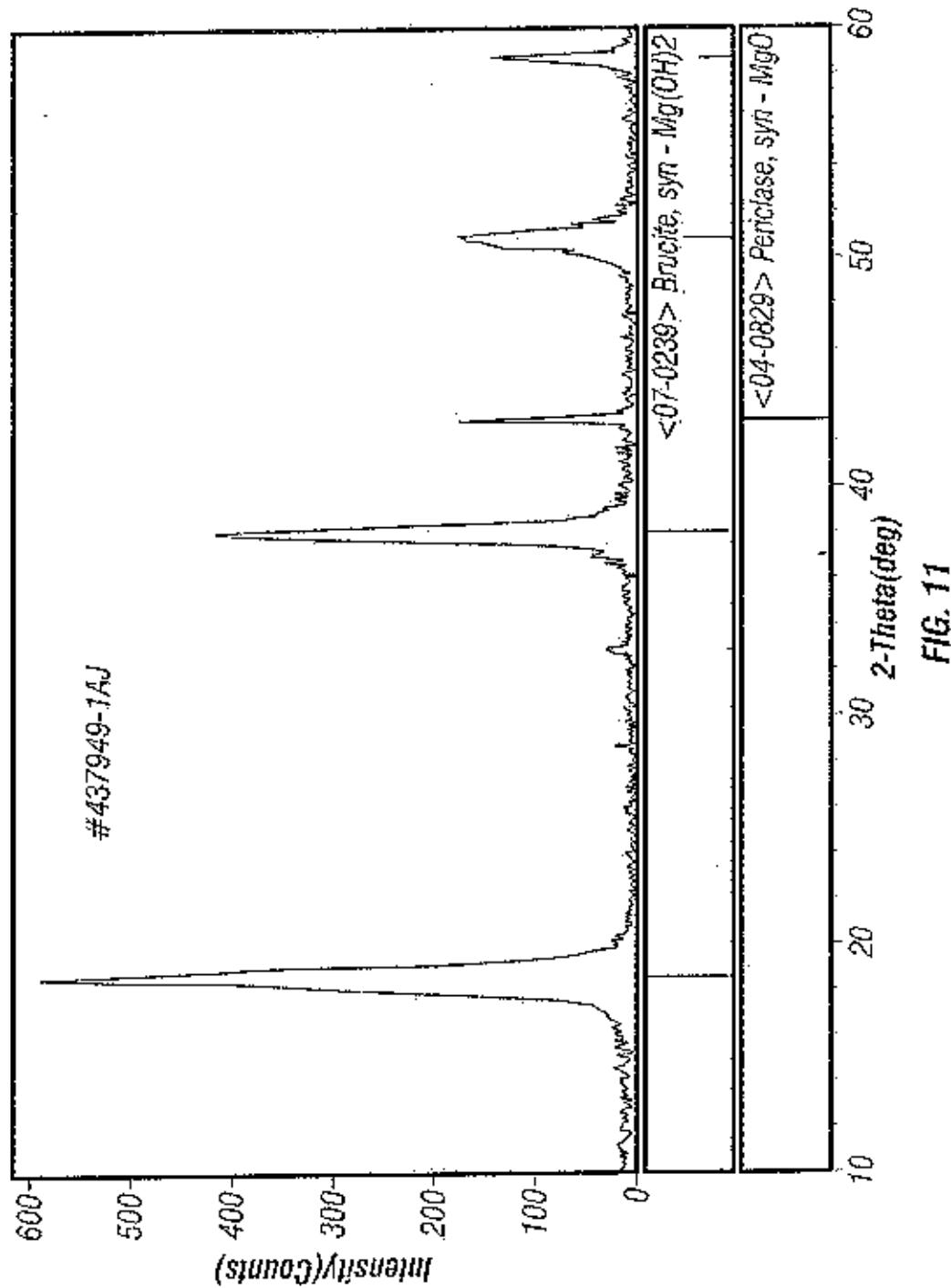


FIG. 11

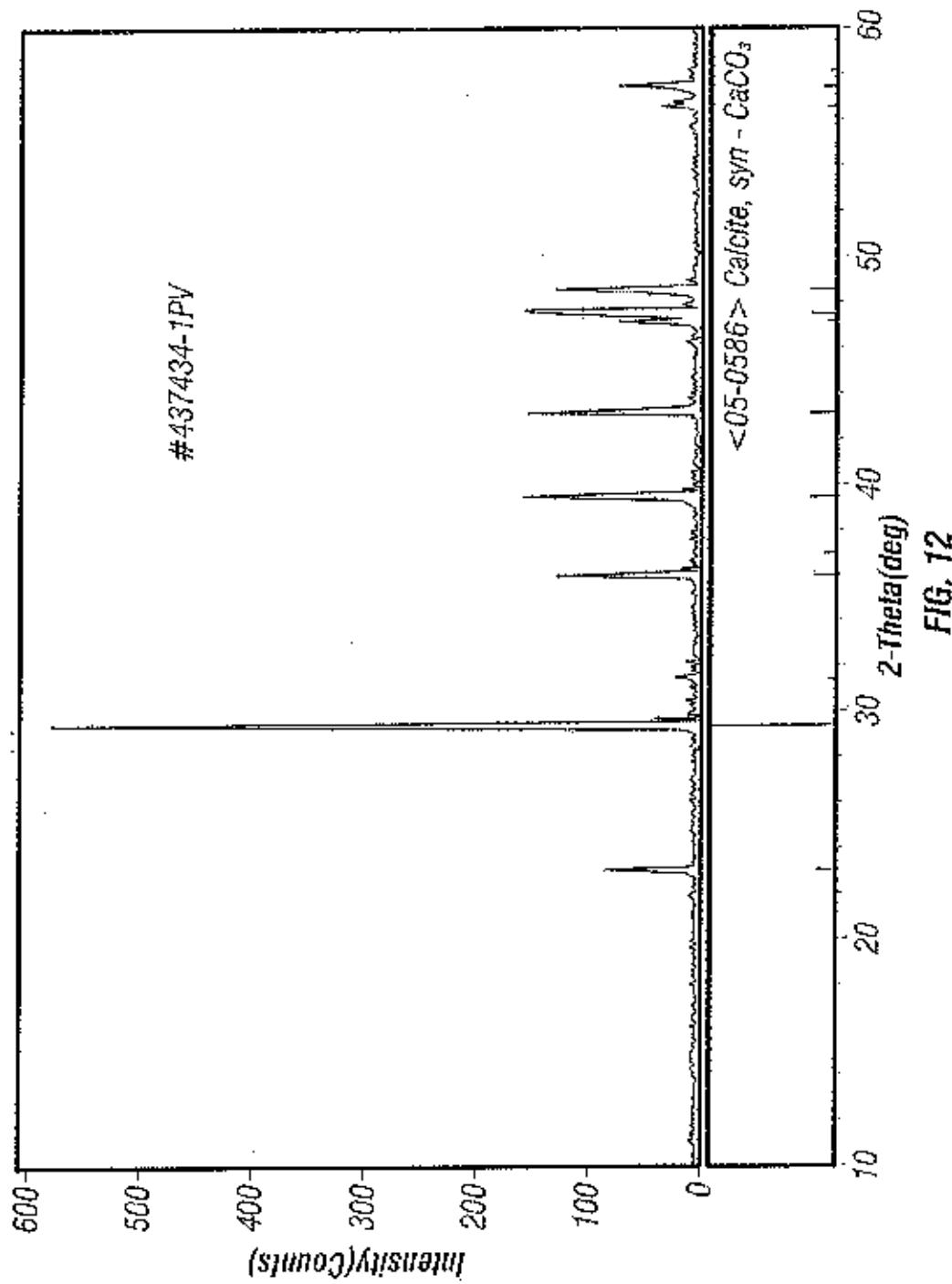


FIG. 12

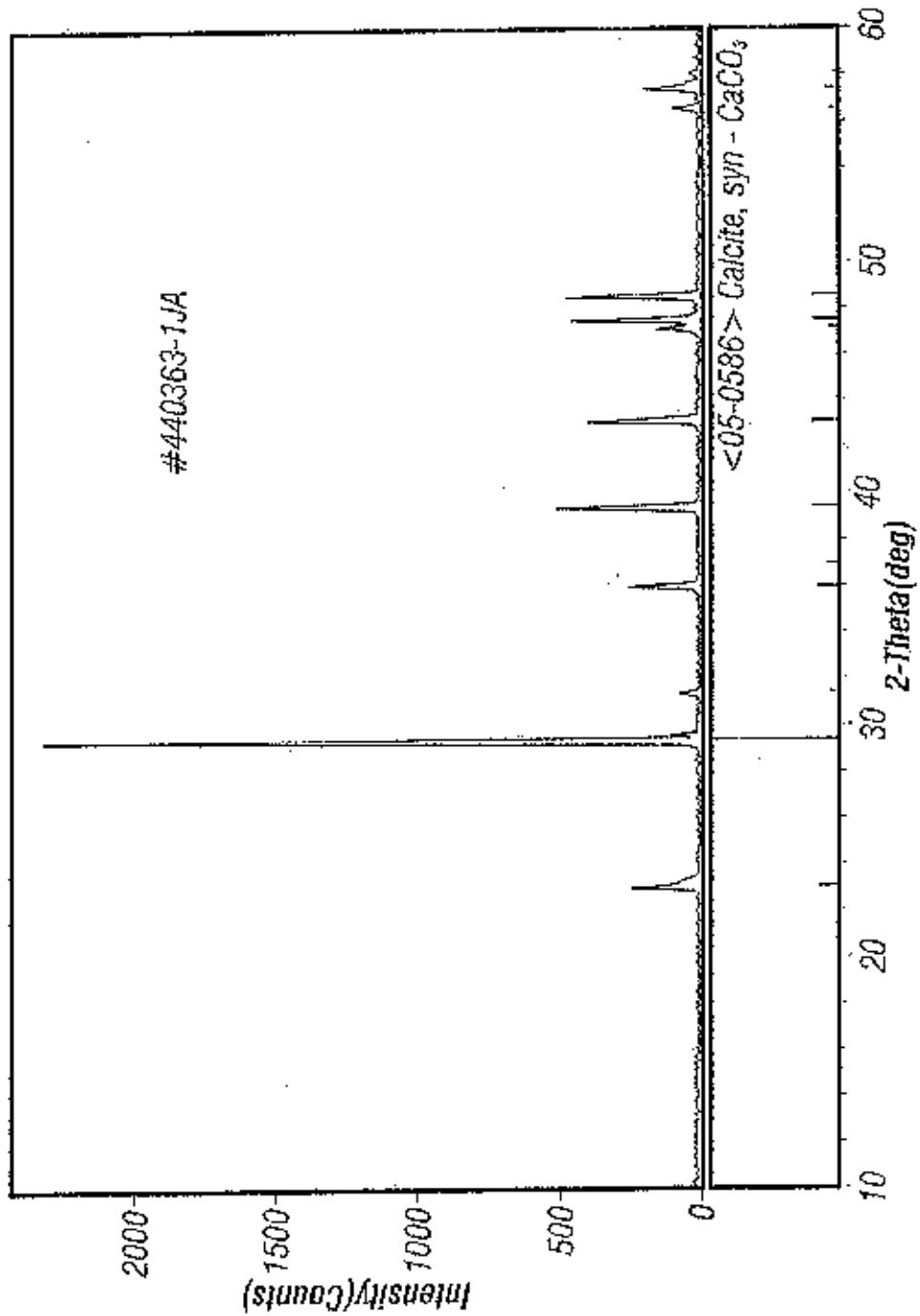


FIG. 13

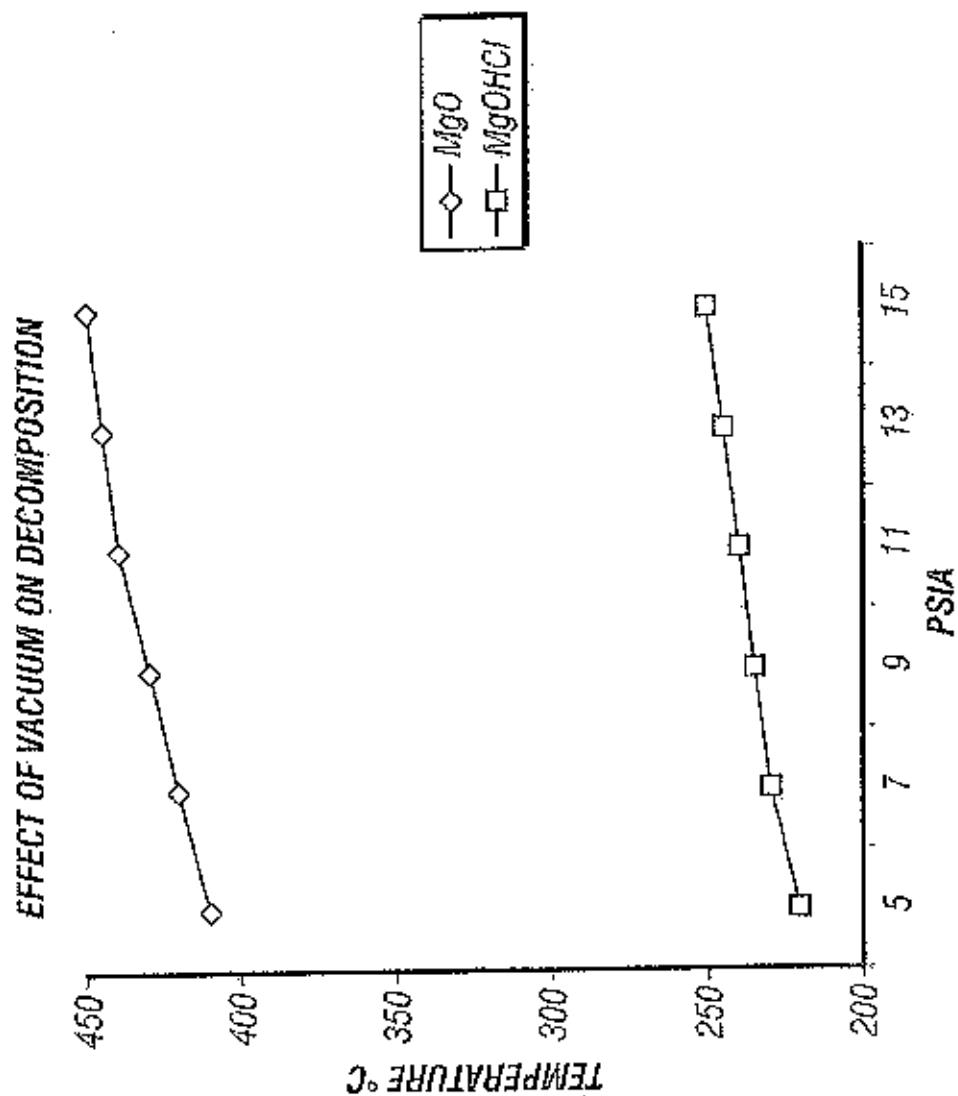


FIG. 14

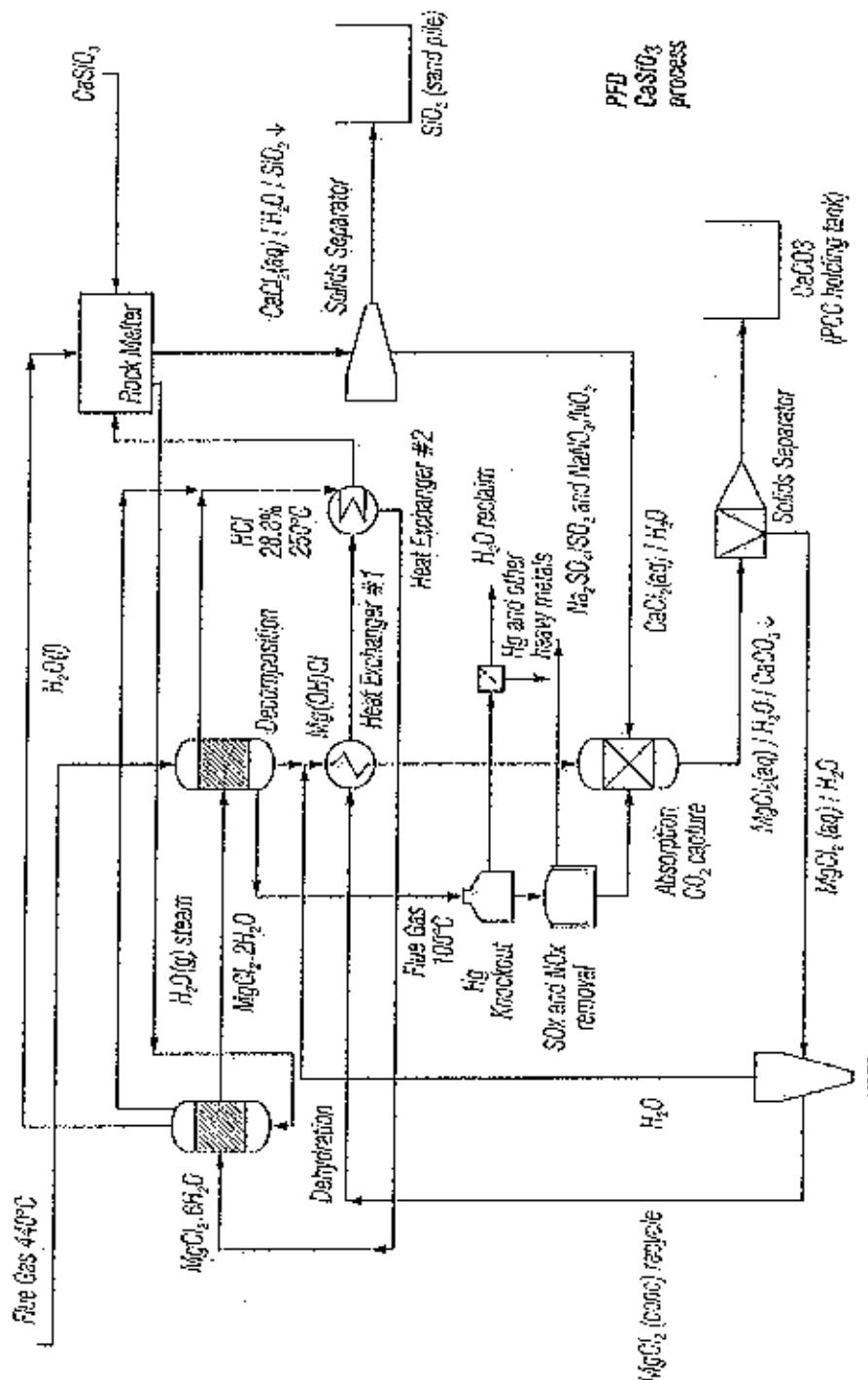
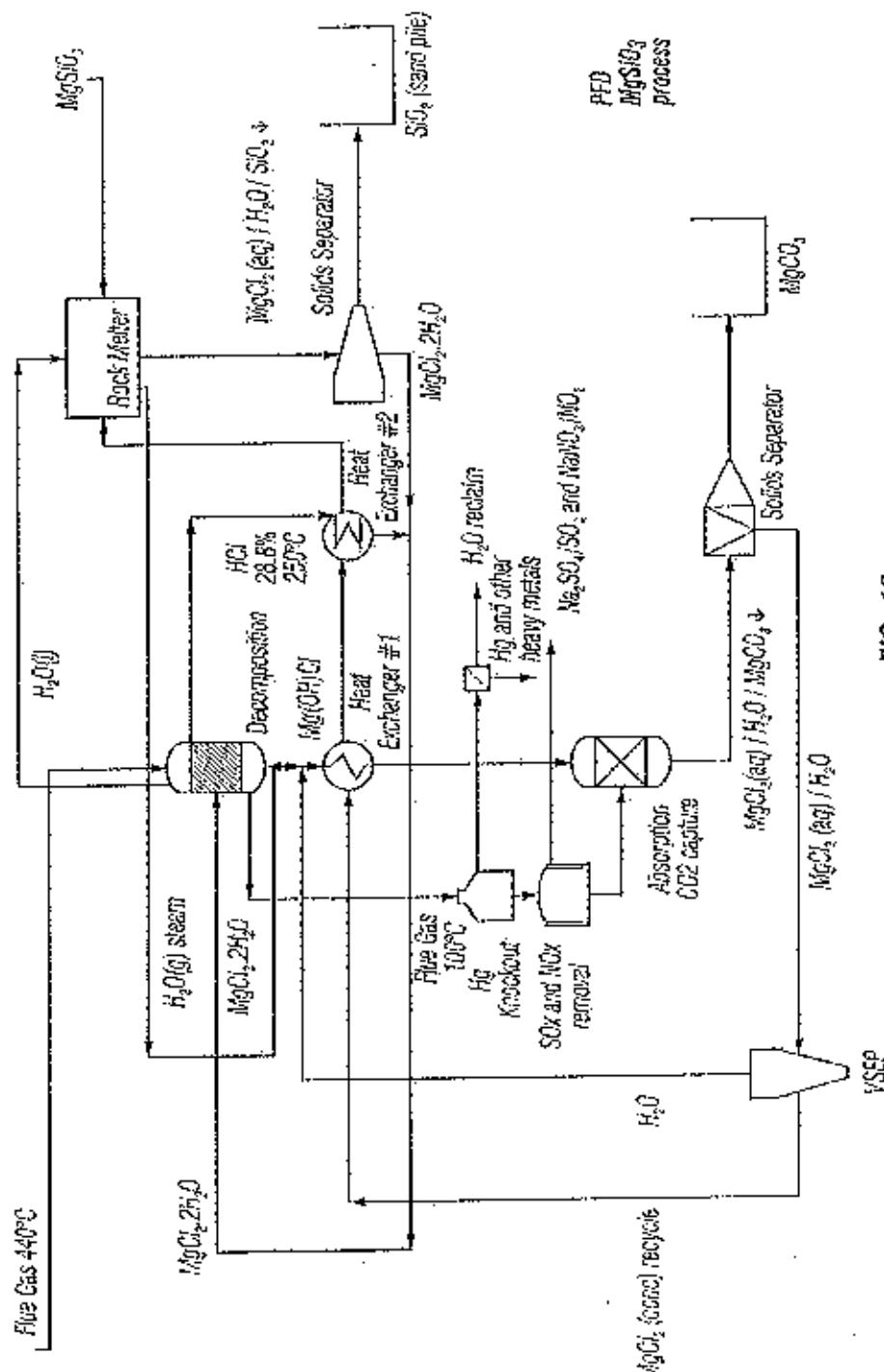


FIG. 15.



16

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

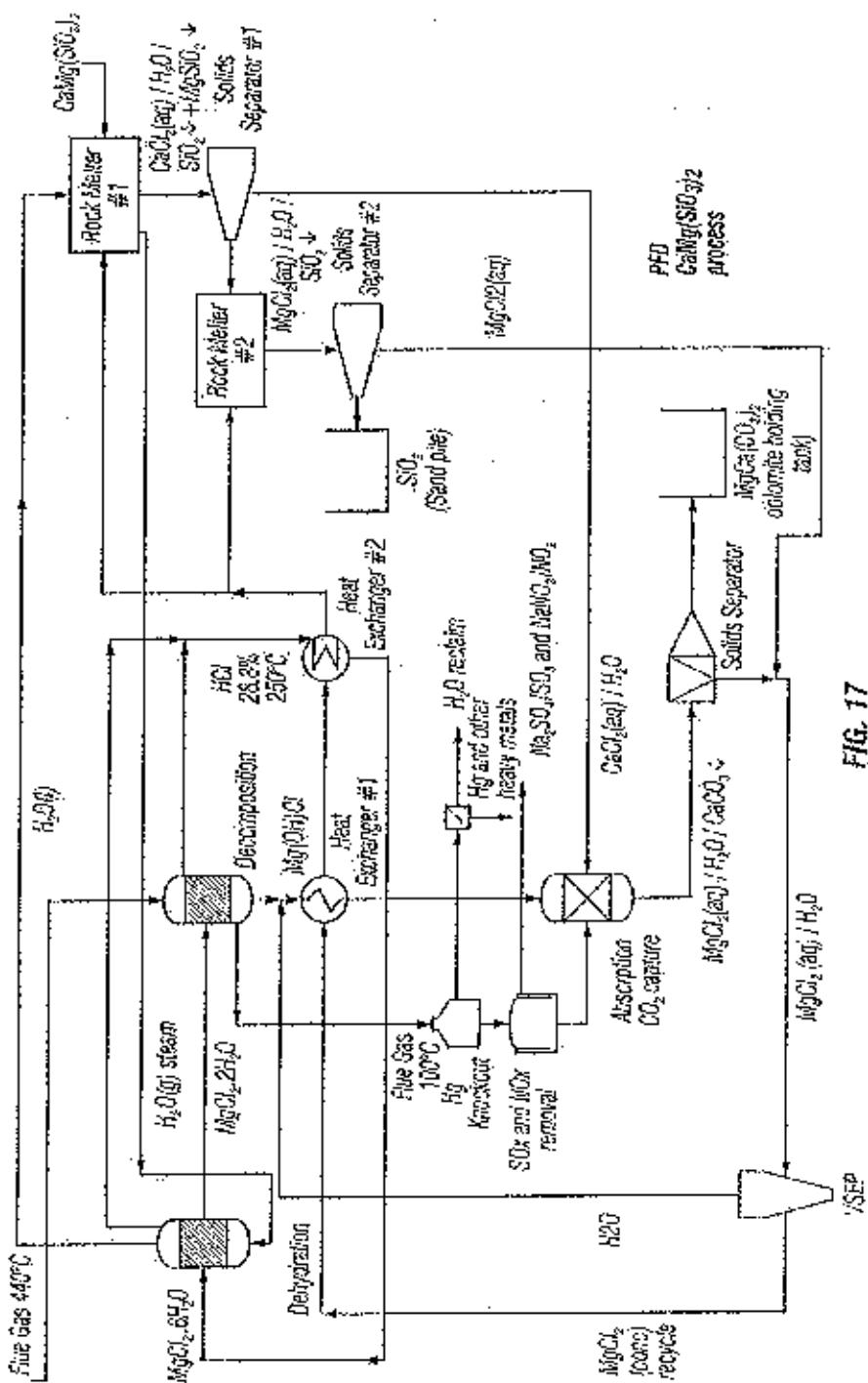
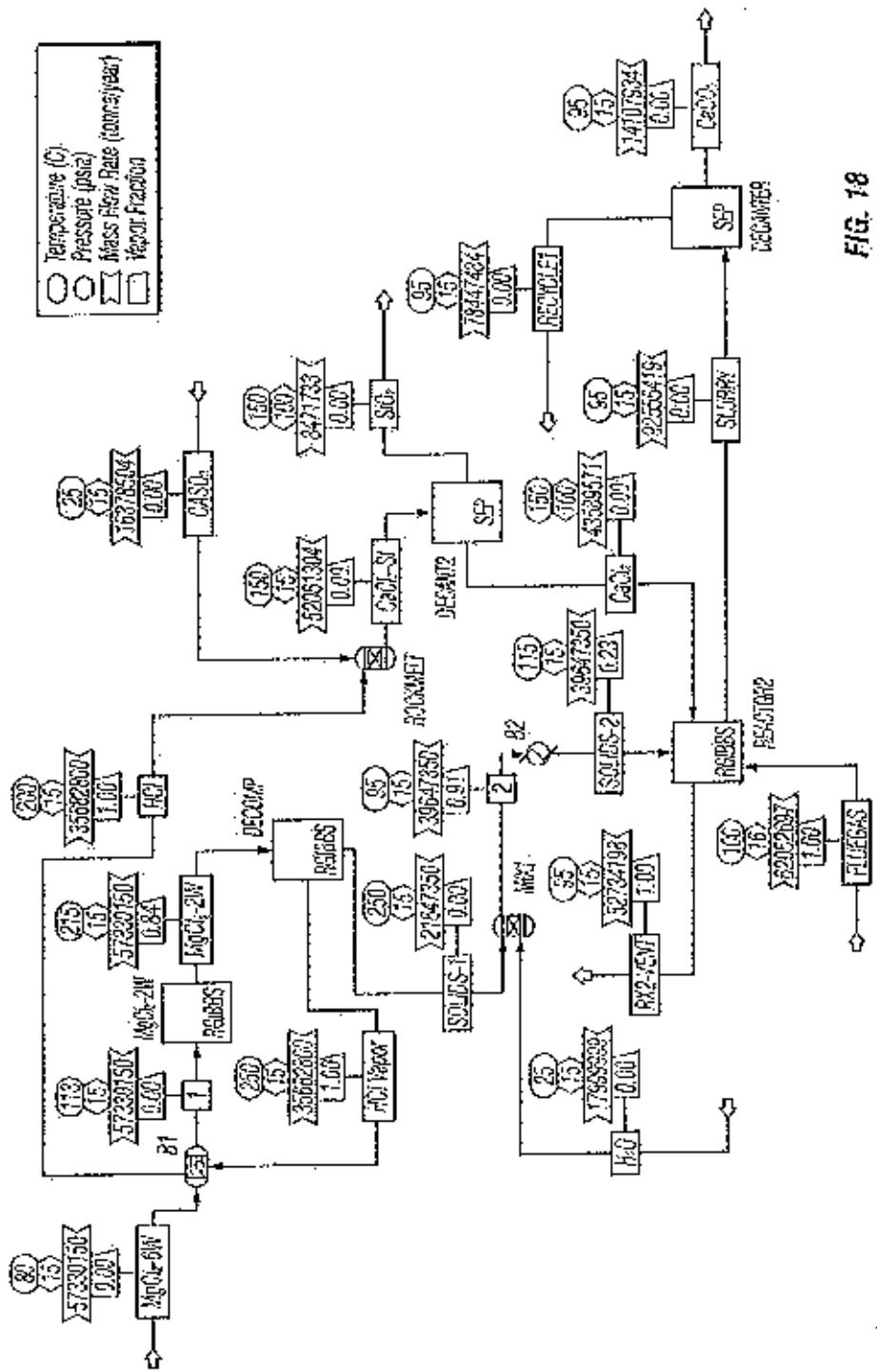


FIG. 17

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of Lall Lahiri & Salhotra  
Agents for the Applicant



18  
55

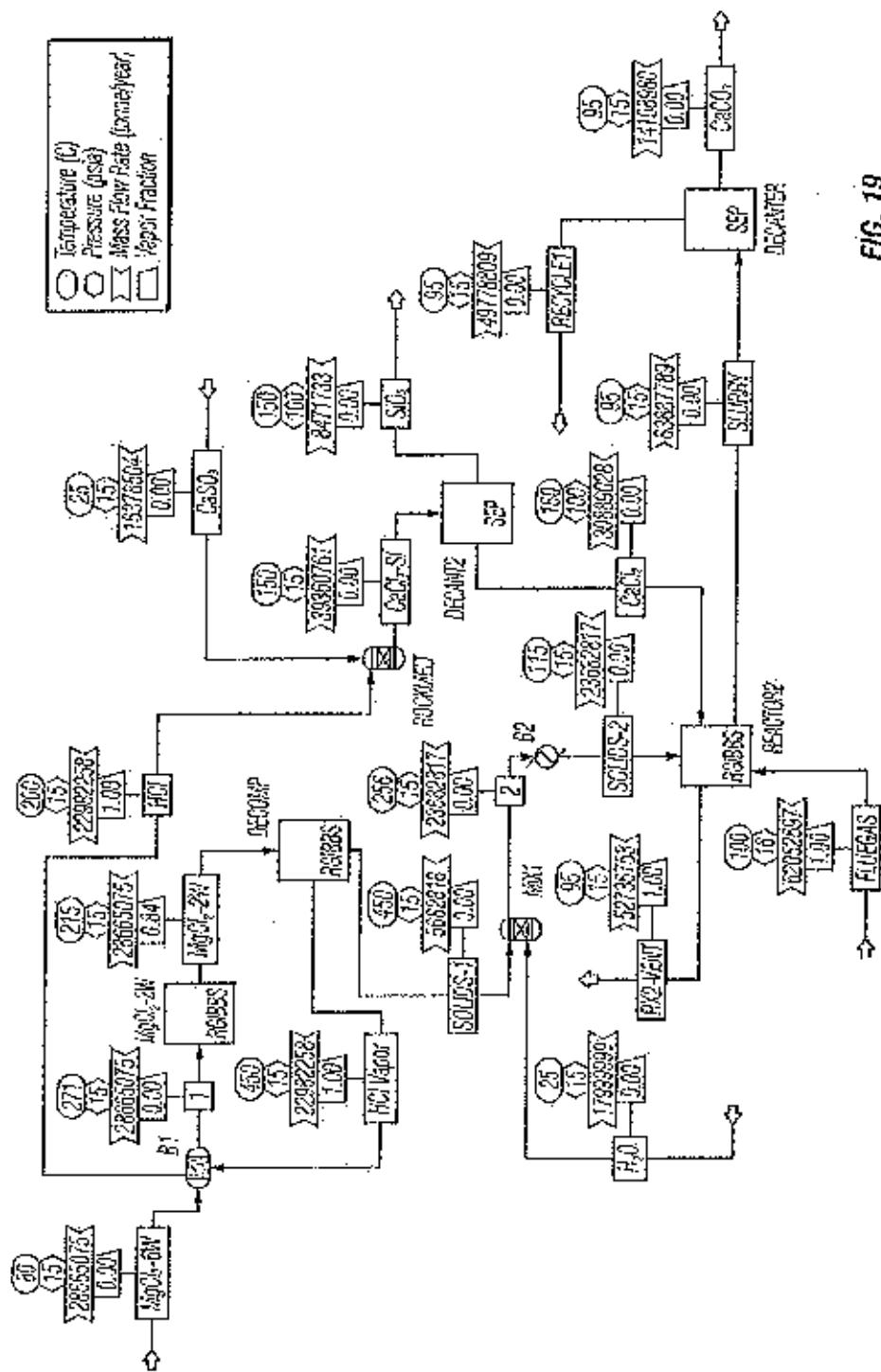


FIG. 19

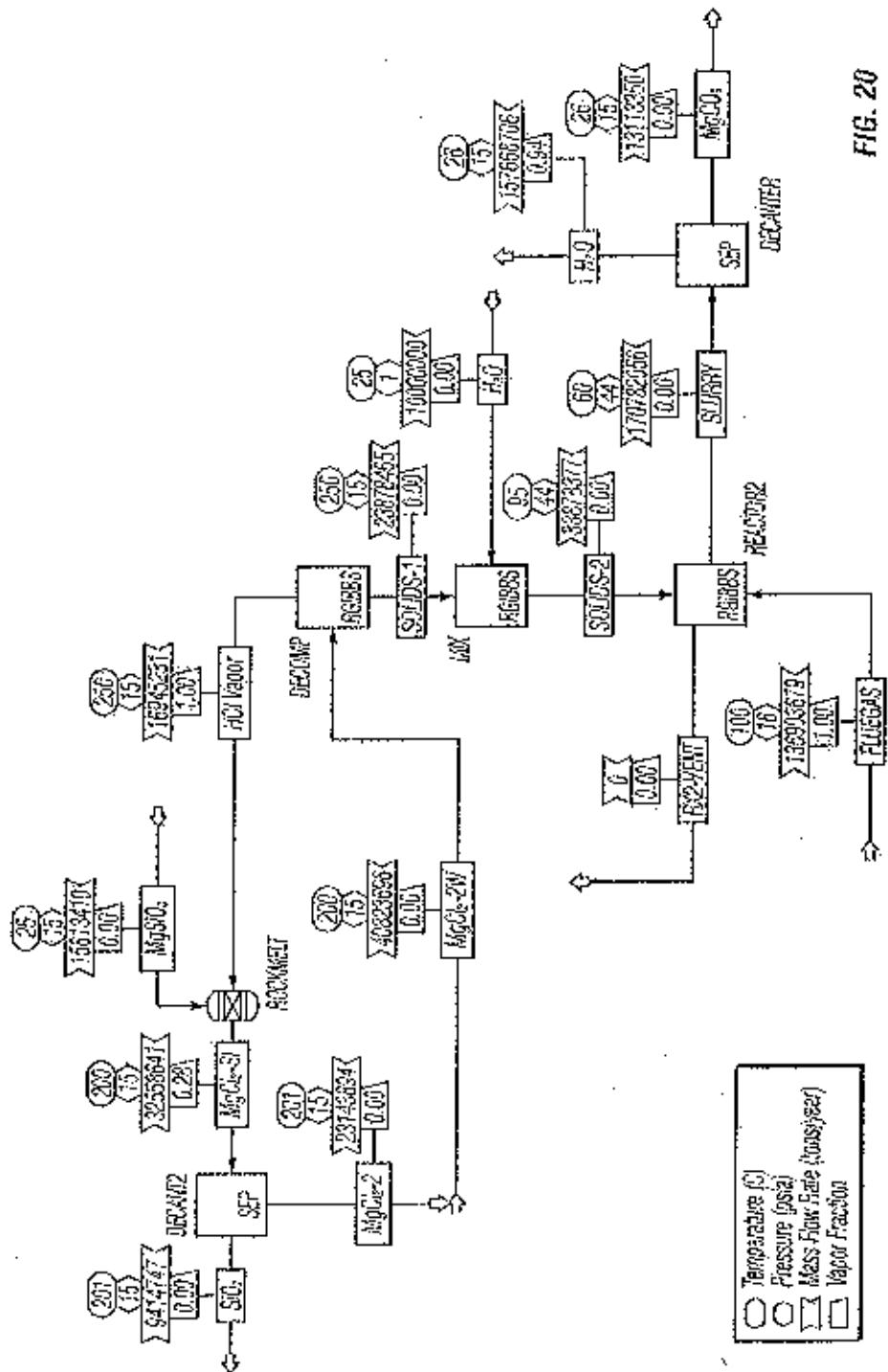


FIG. 20

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of Lall Lahiri & Salhotra  
Agents for the Applicant

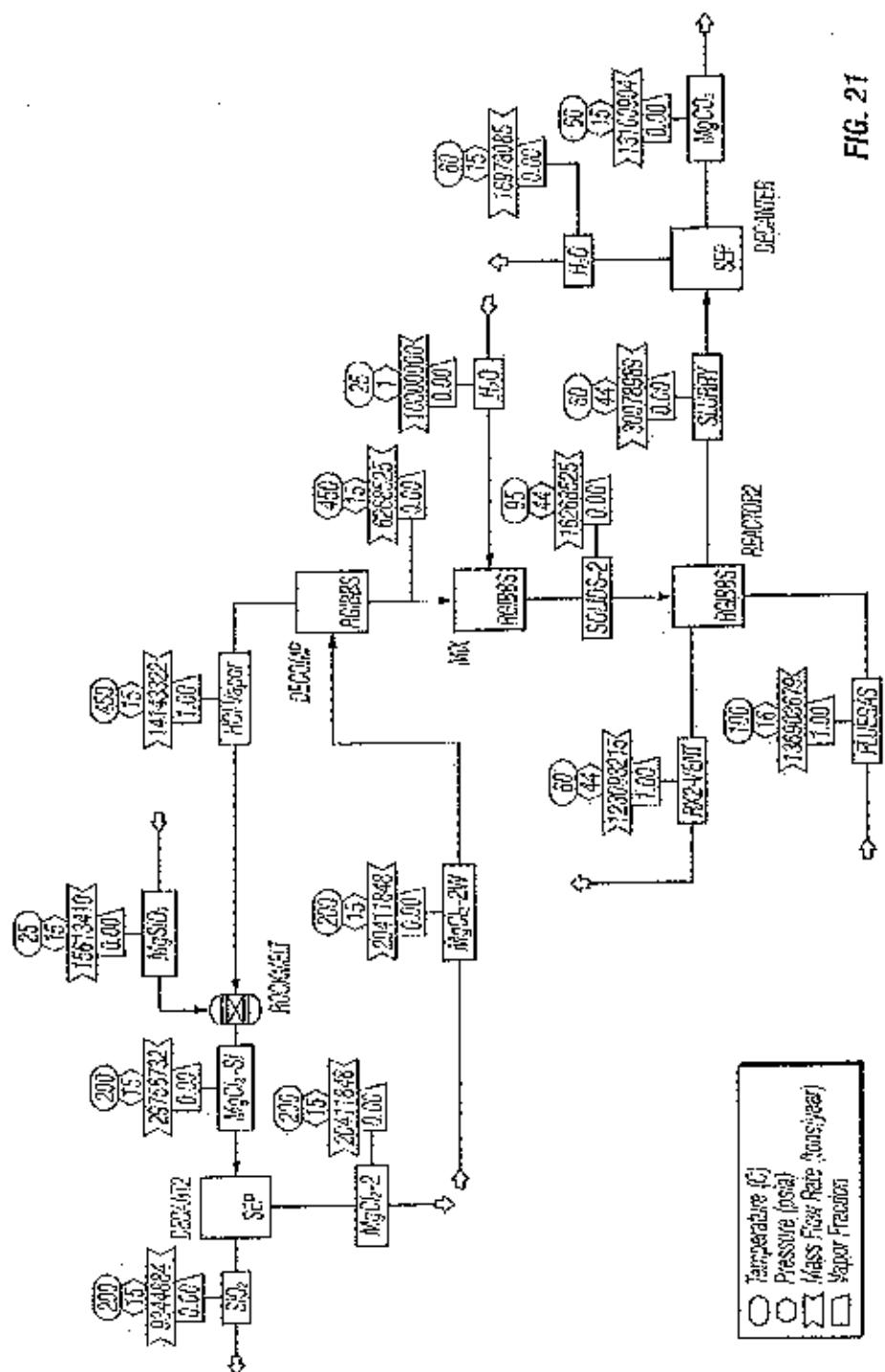


FIG. 21

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

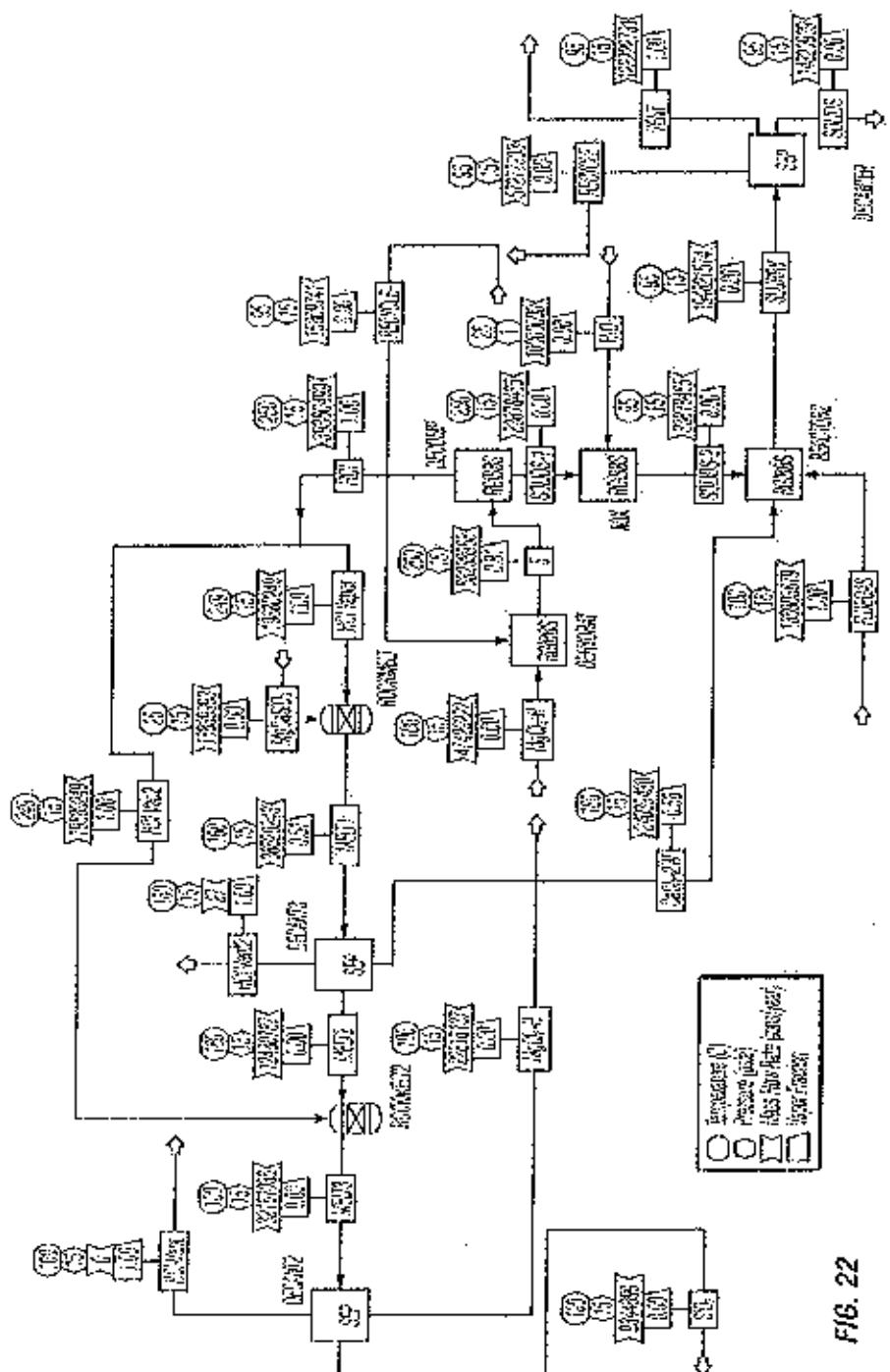


FIG. 22

(Ramesh C. Dhawan)  
of Lall Lahiri & Sallhotra  
Agents for the Applicant

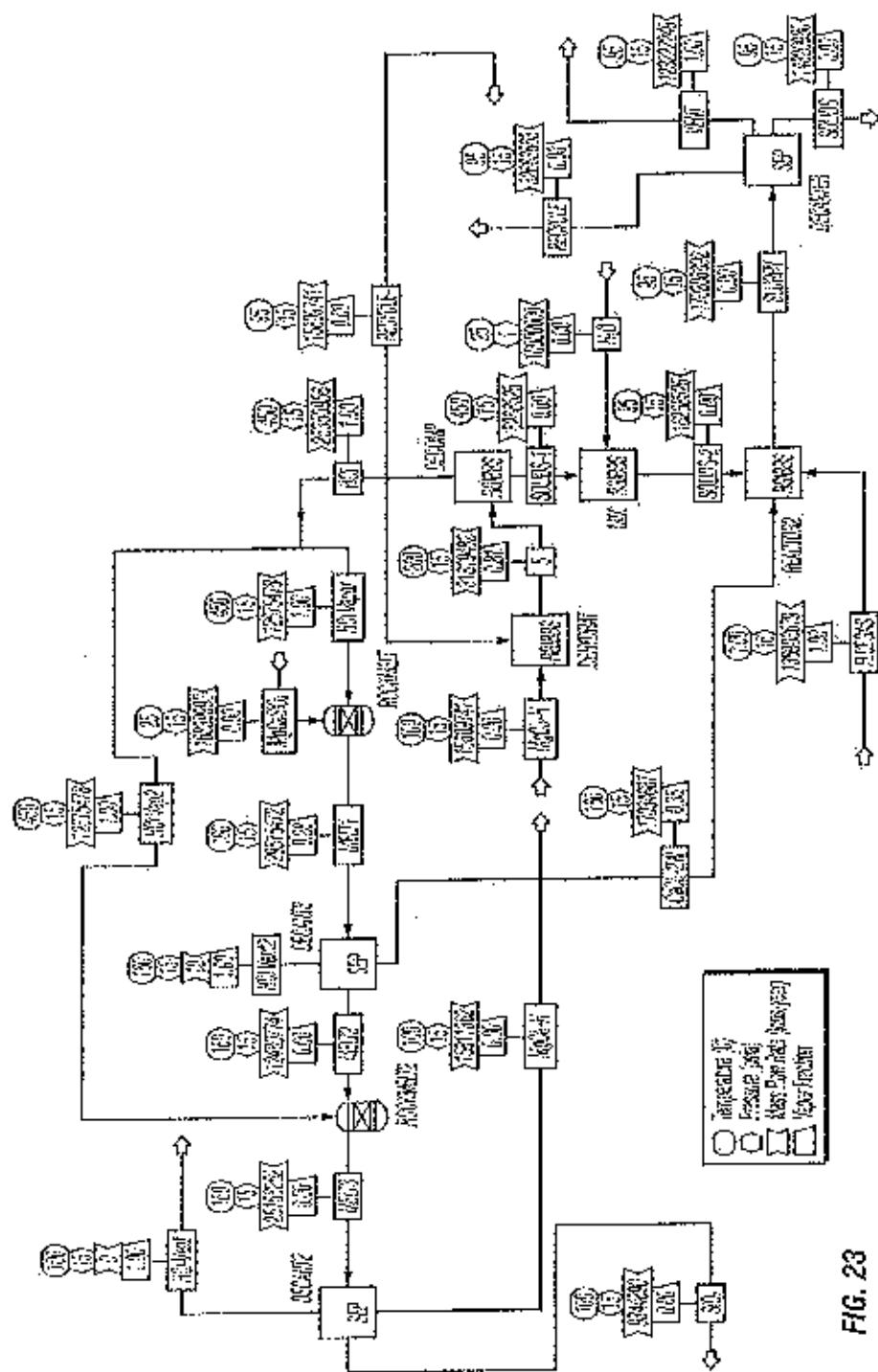


FIG. 23

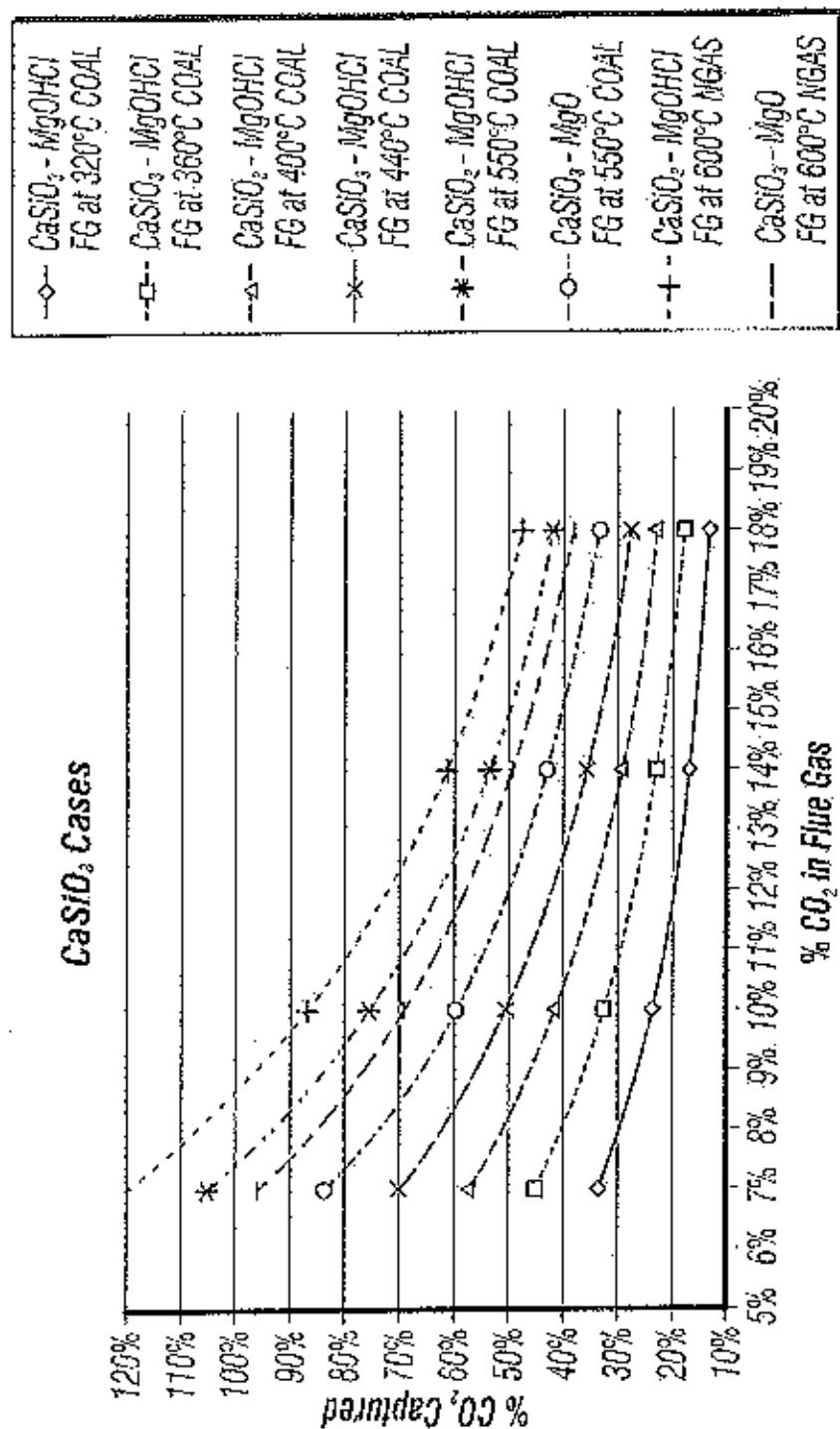


FIG. 24

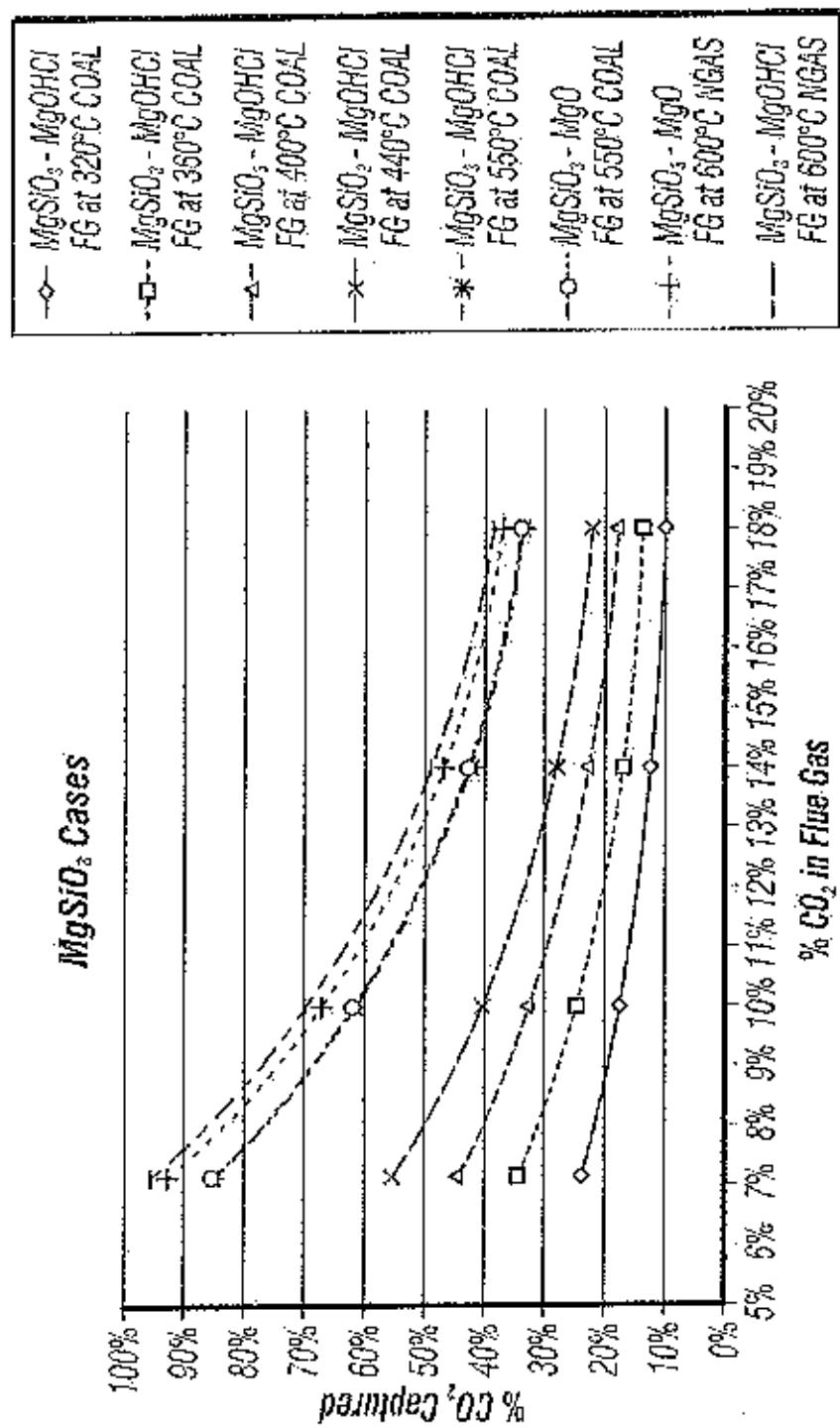


FIG. 25

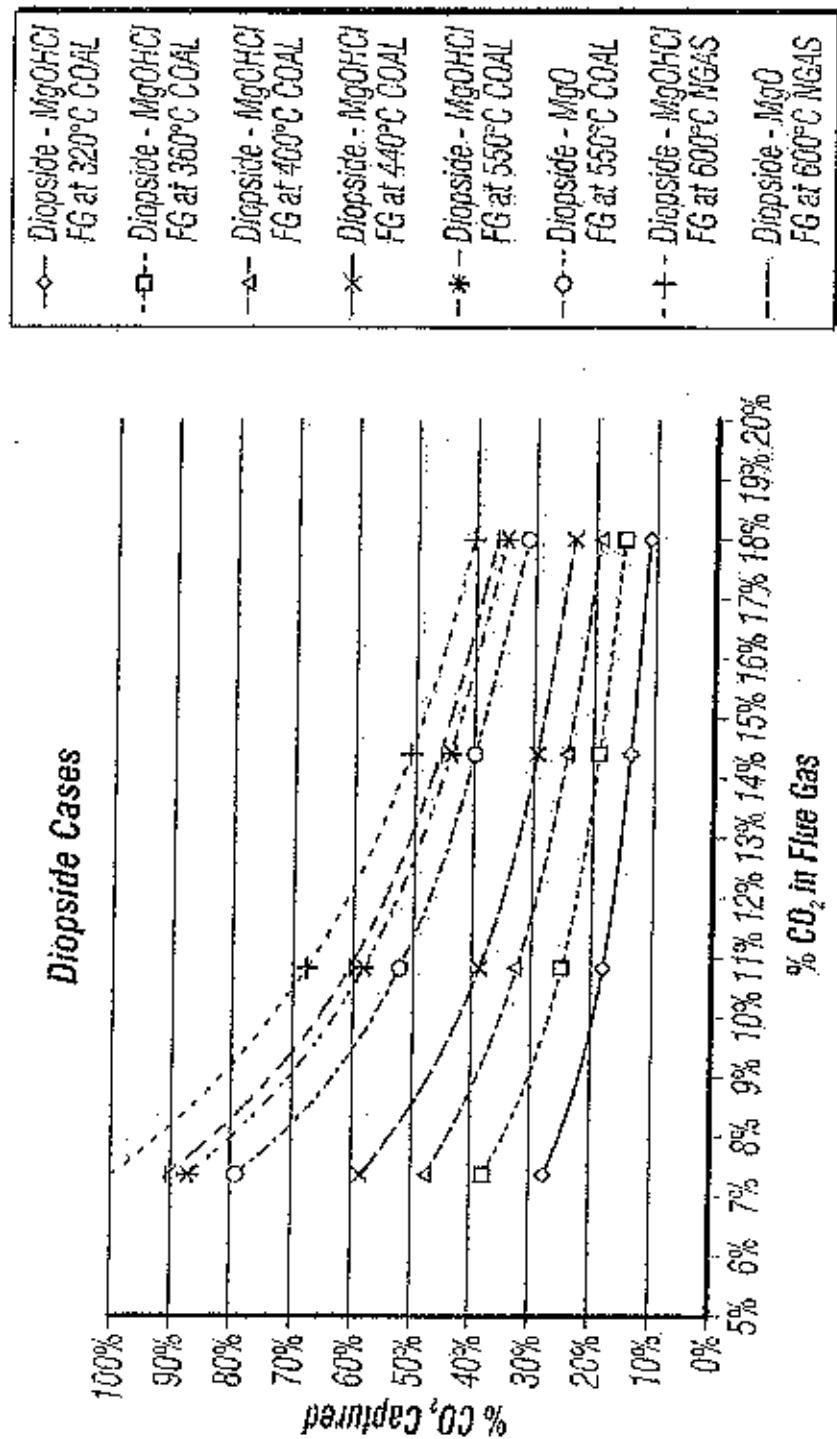


FIG. 26

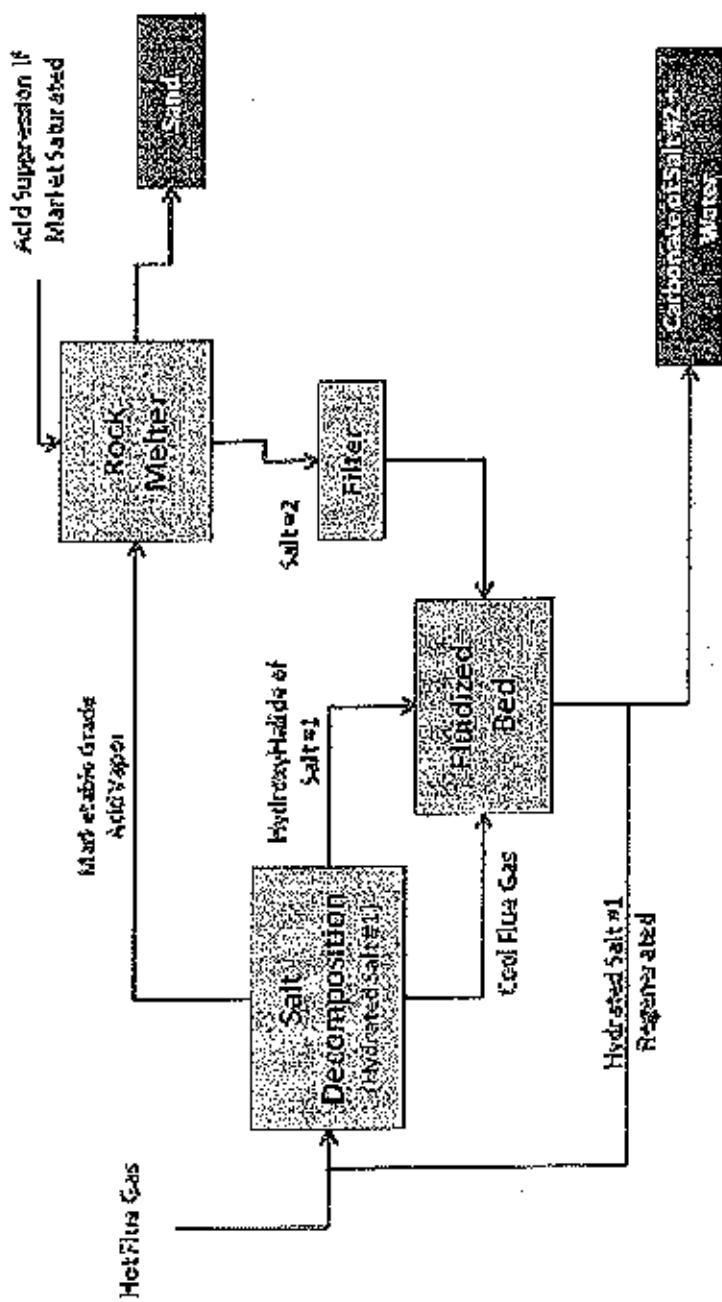


FIG. 27

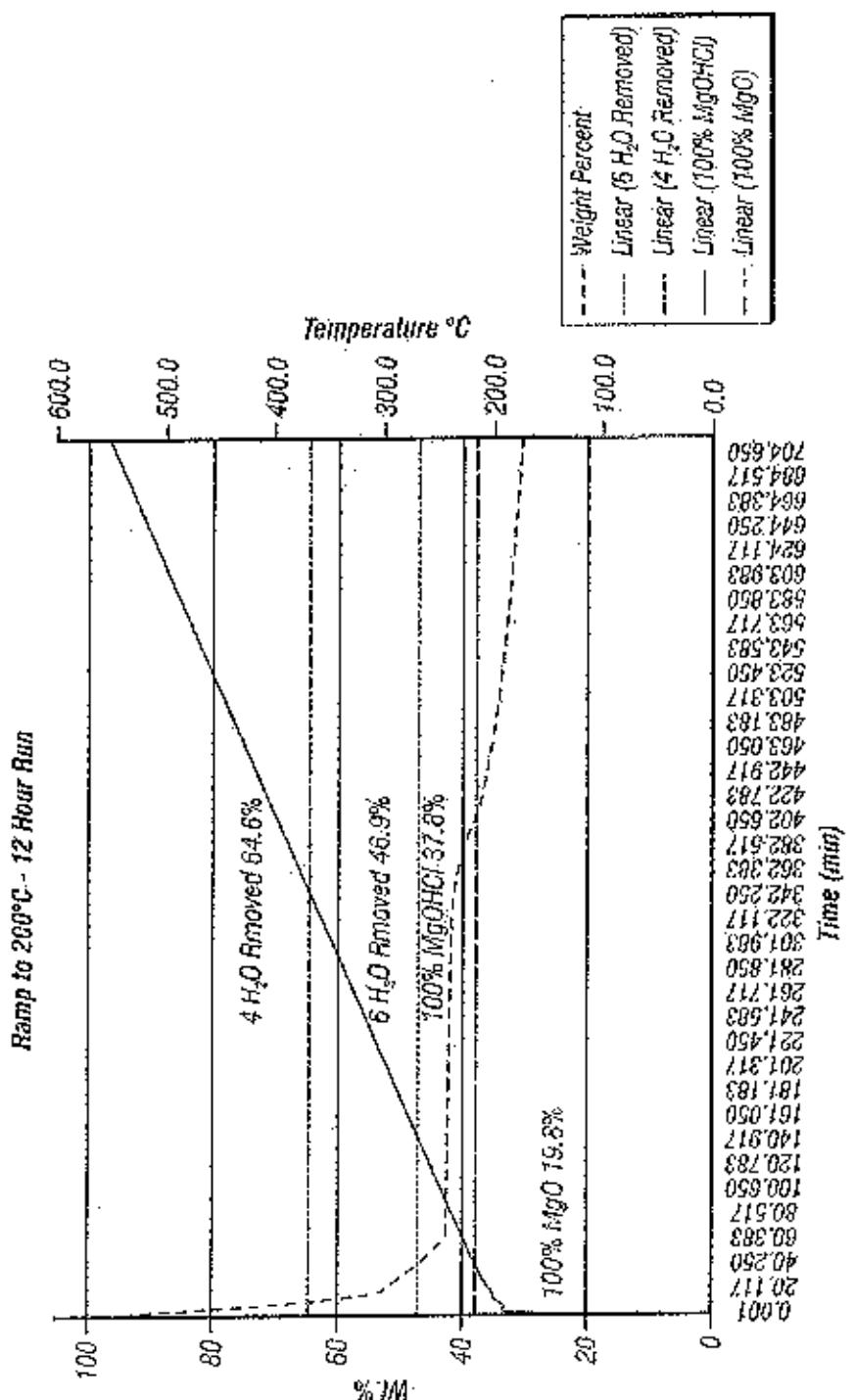


FIG. 28

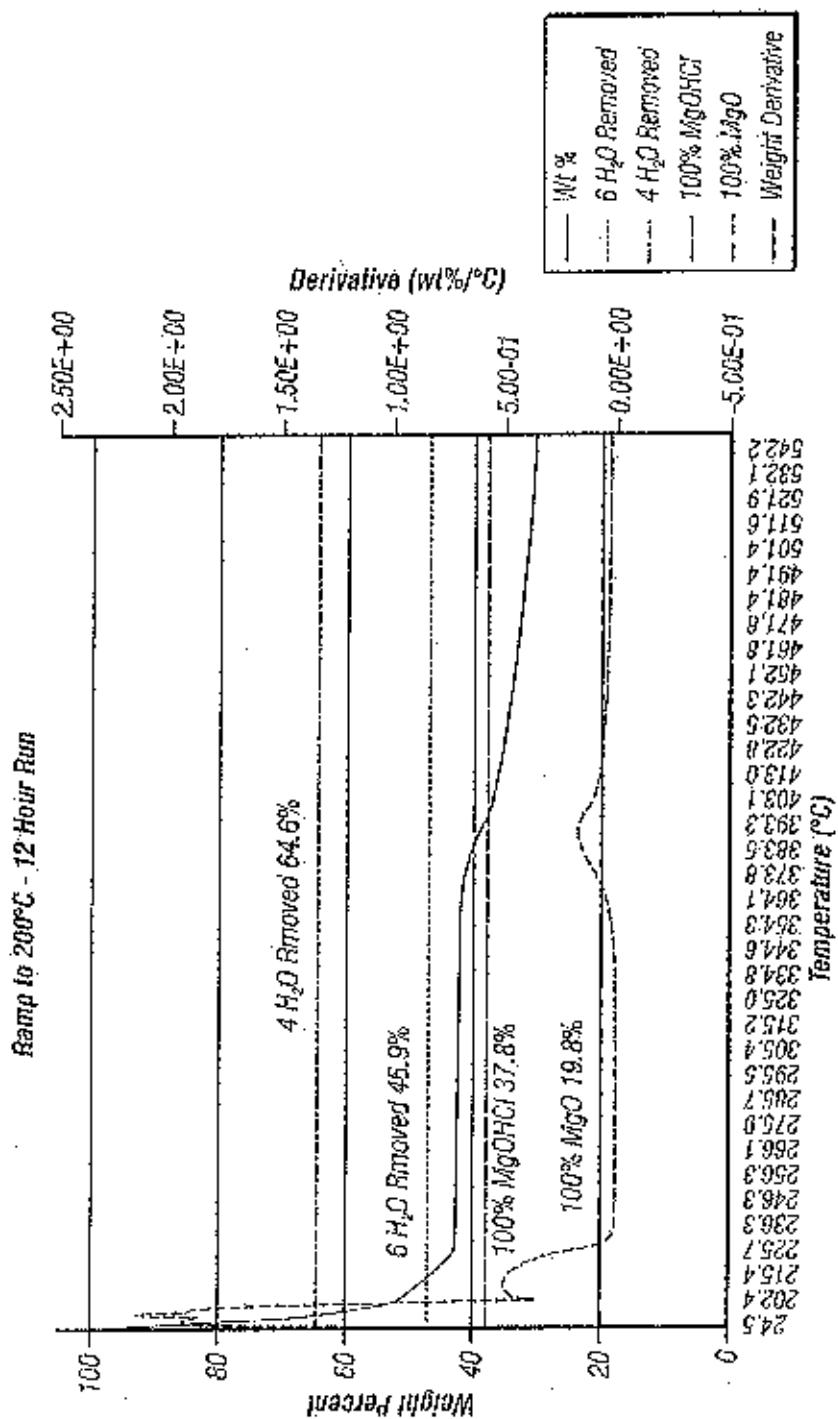


FIG. 29

(Ramesh C. Dhawan)  
of Lali Lahiri & Salhotra  
Agents for the Applicant

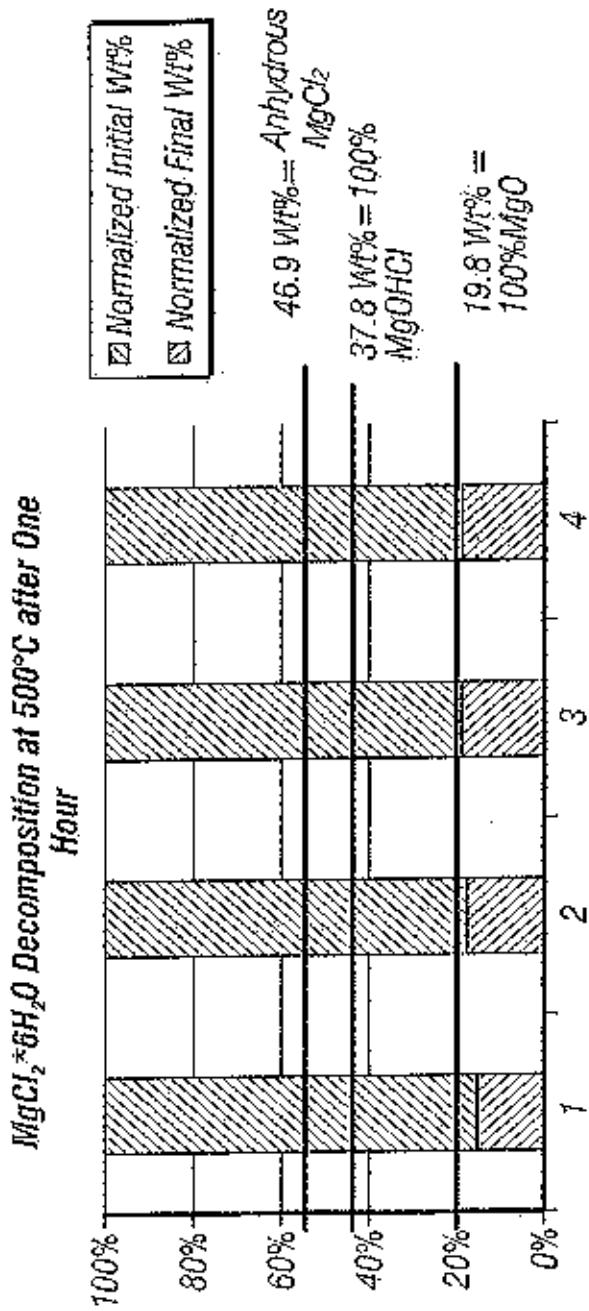


FIG. 30

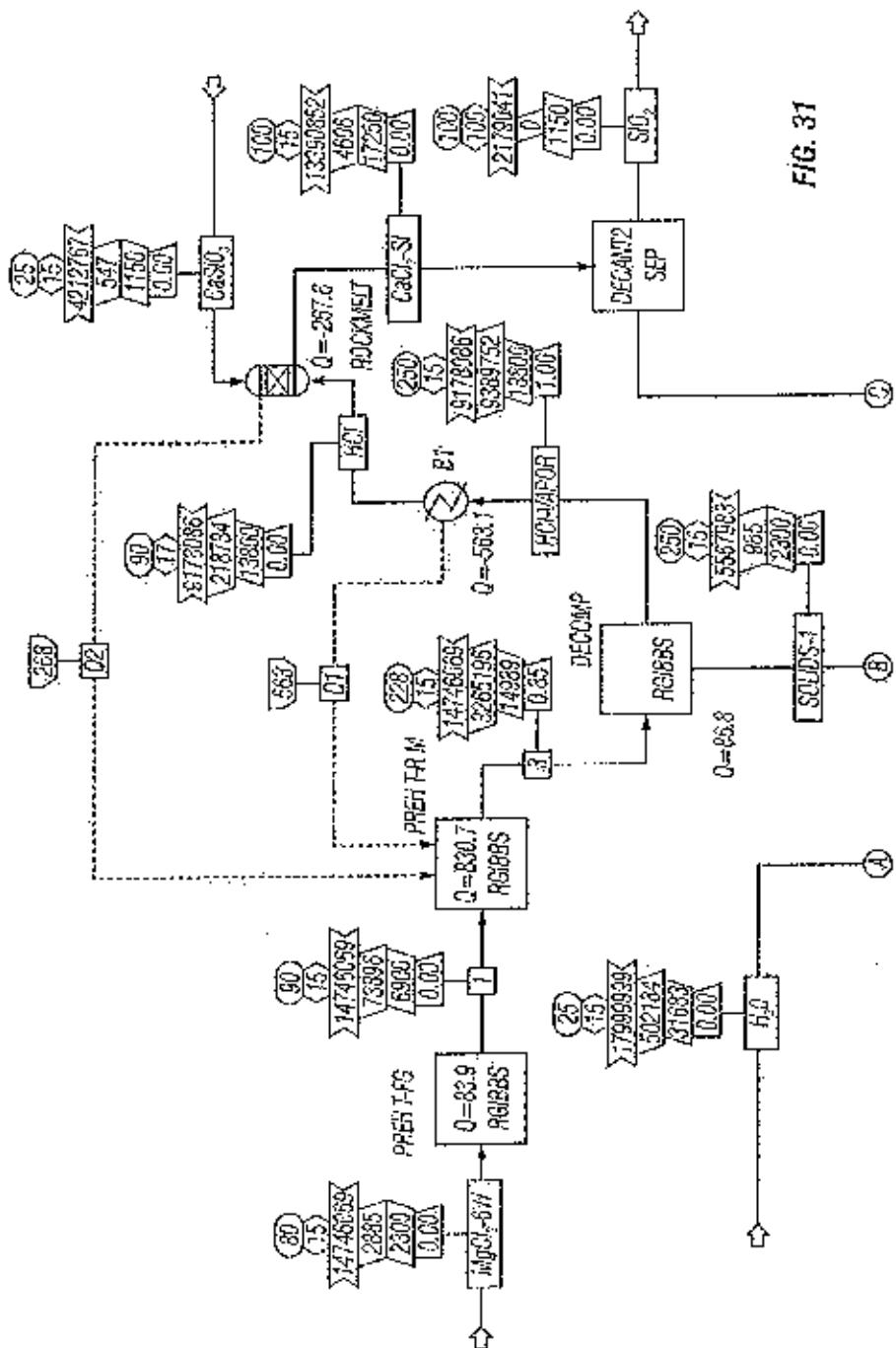


FIG. 31

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

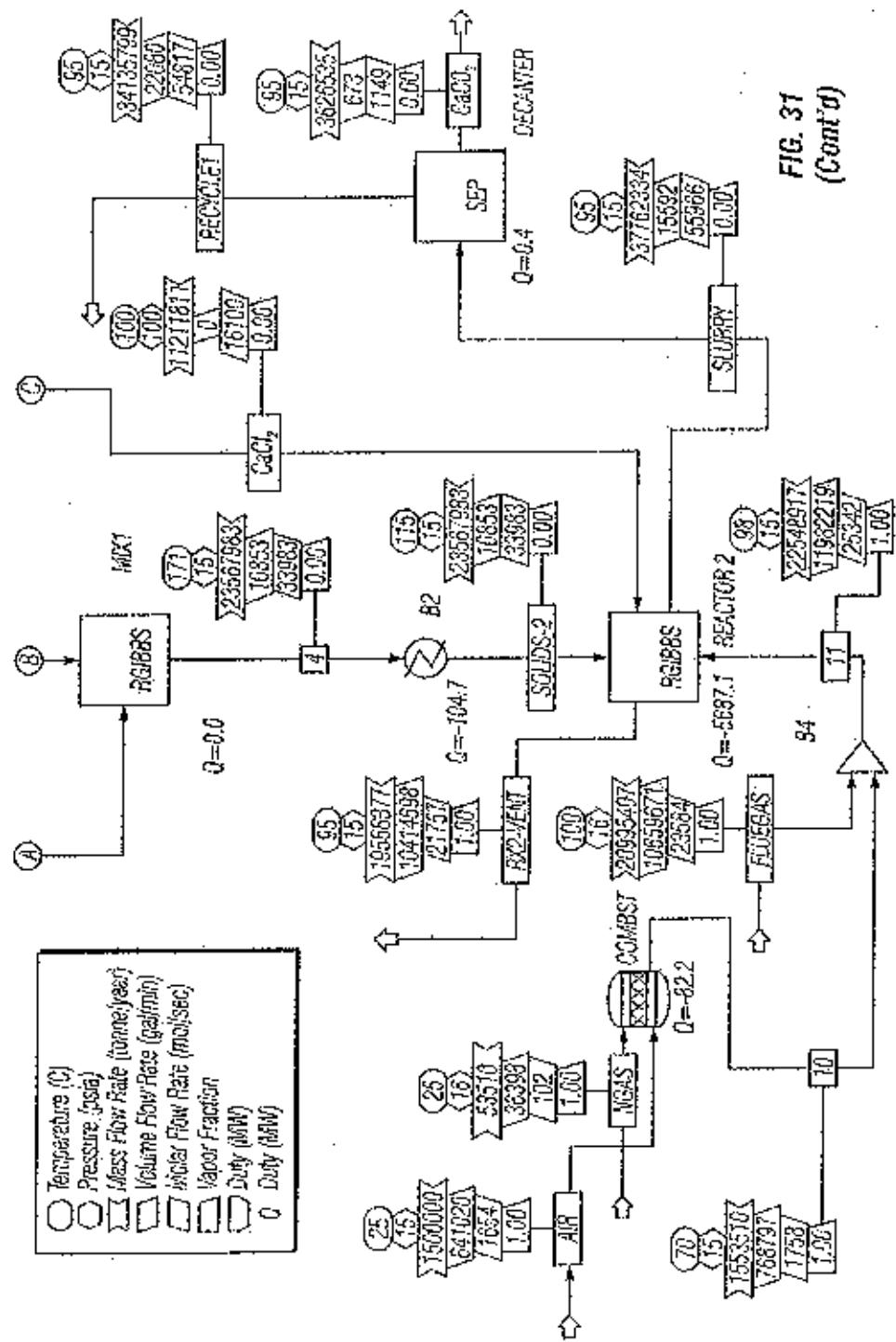


FIG. 37  
(Cont'd)

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

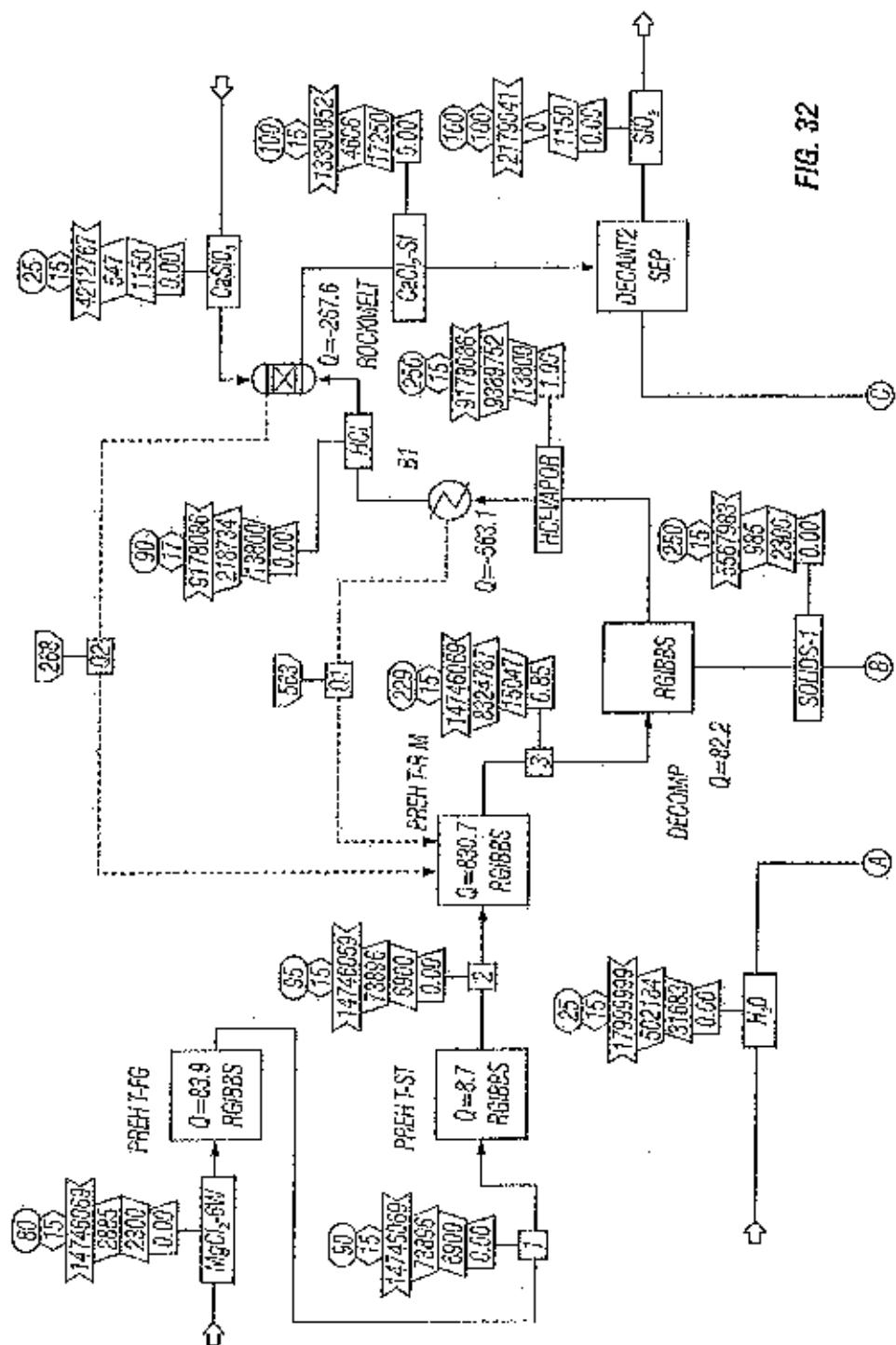


FIG. 32

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

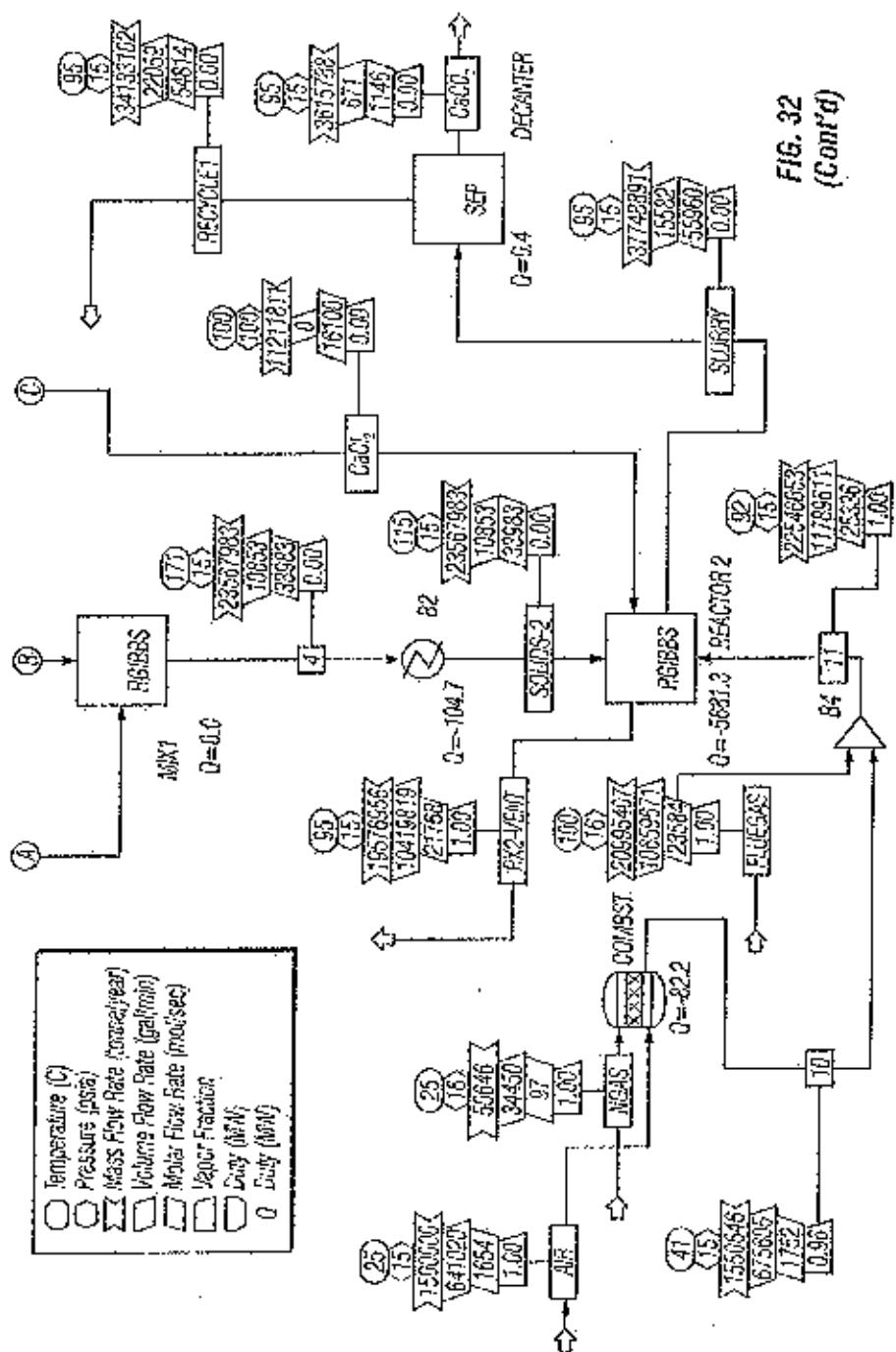


FIG. 32  
(Cont'd)

○ Temperature (°C)  
 ○ Pressure (psig)  
 □ Mass Flow Rate (mol/sec)  
 □ Volume Flow Rate (cm/min)  
 □ Molar Flow Rate (mol/sec)  
 □ Vapour Fraction  
 □ Sat. (atm)  
 ○ Density (kg/m<sup>3</sup>)

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

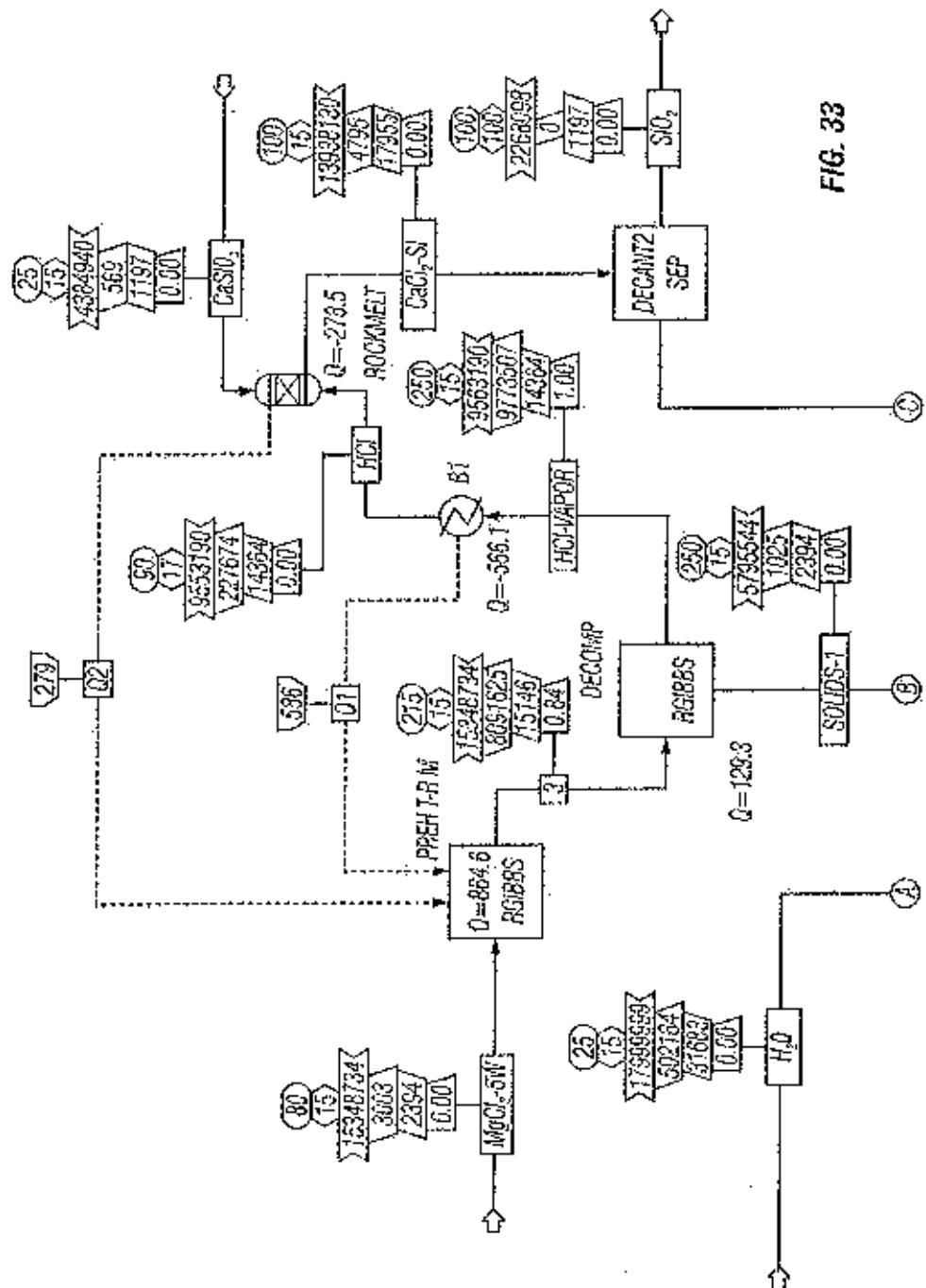


FIG. 33

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

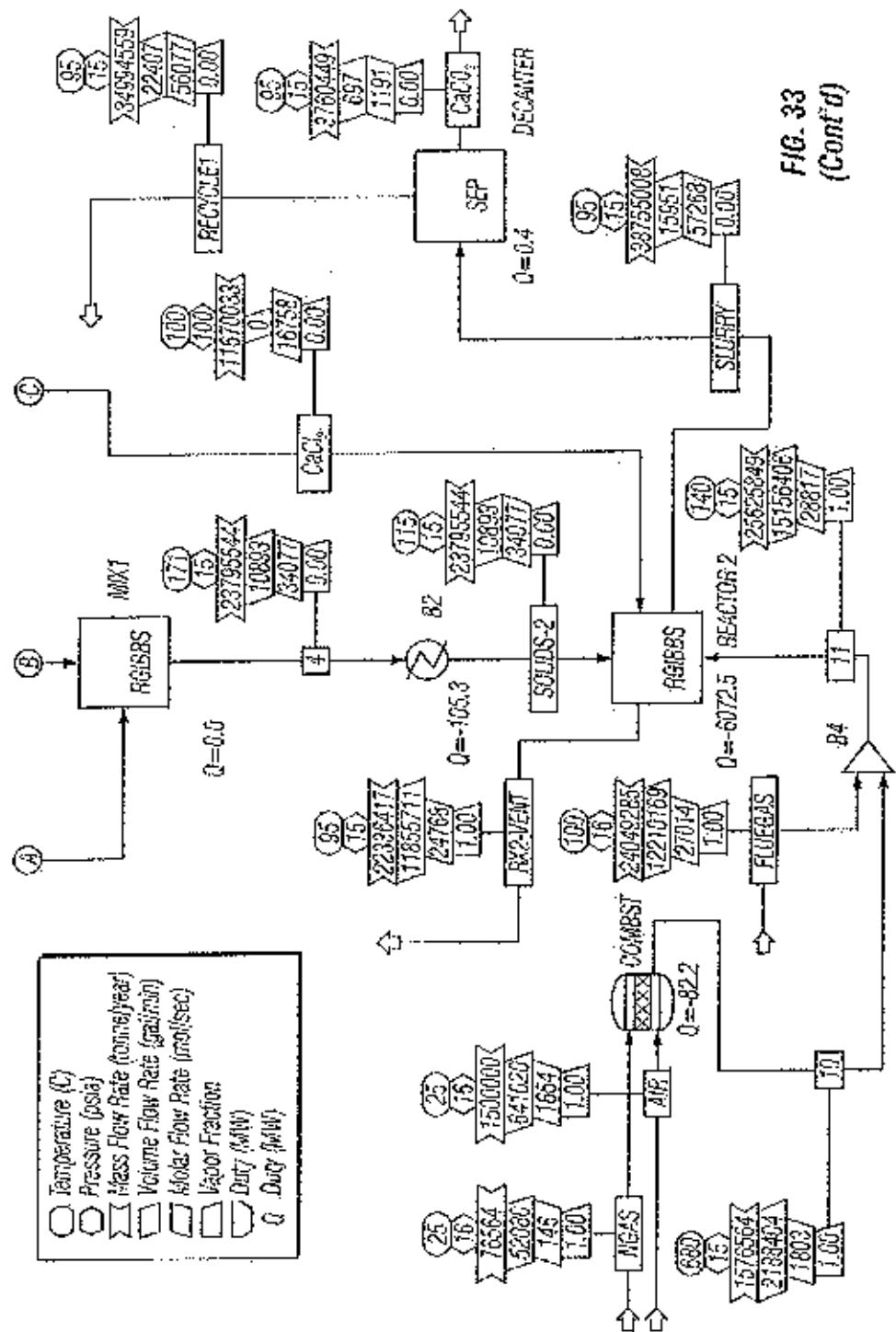


FIG. 33

- Temperature (°)
- Pressure (psi)
- Mass Flow Rate (kg/m³/s)
- Volume Flow Rate (m³/sec)
- Molar Flow Rate (mol/sec)
- Vapor Fraction
- Duct (M)
- Duct (A)

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

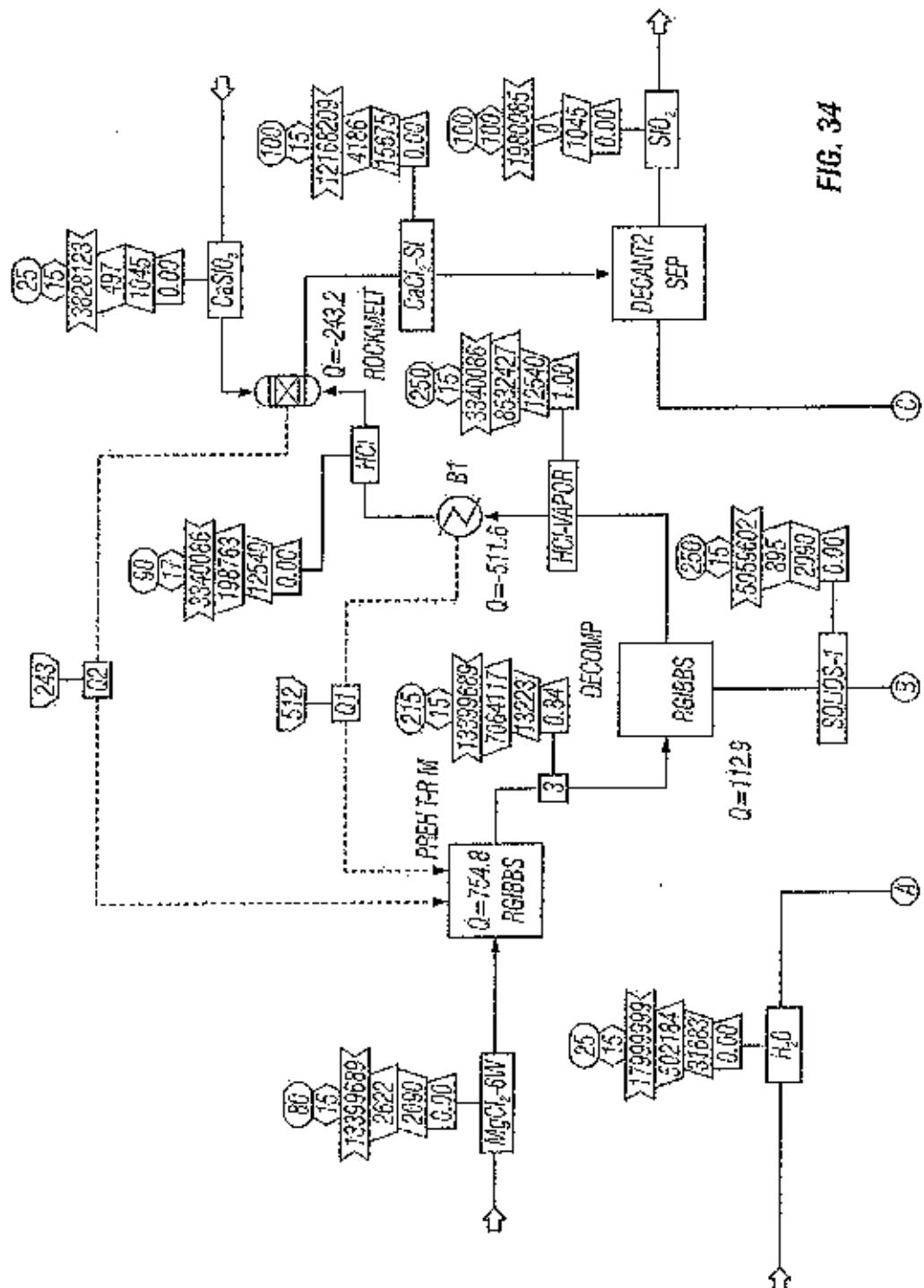


FIG. 34

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

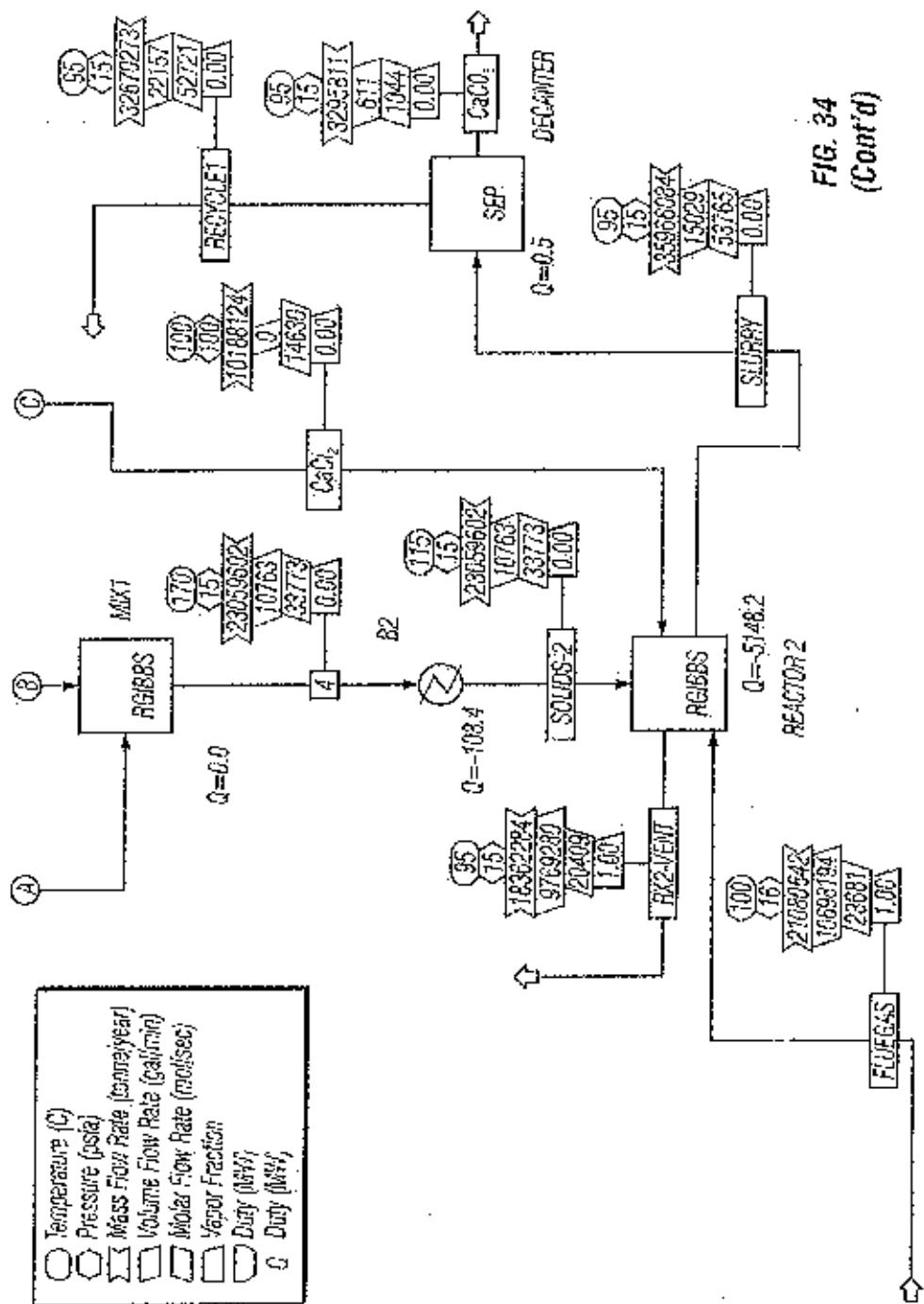


FIG. 34  
(Cont'd)

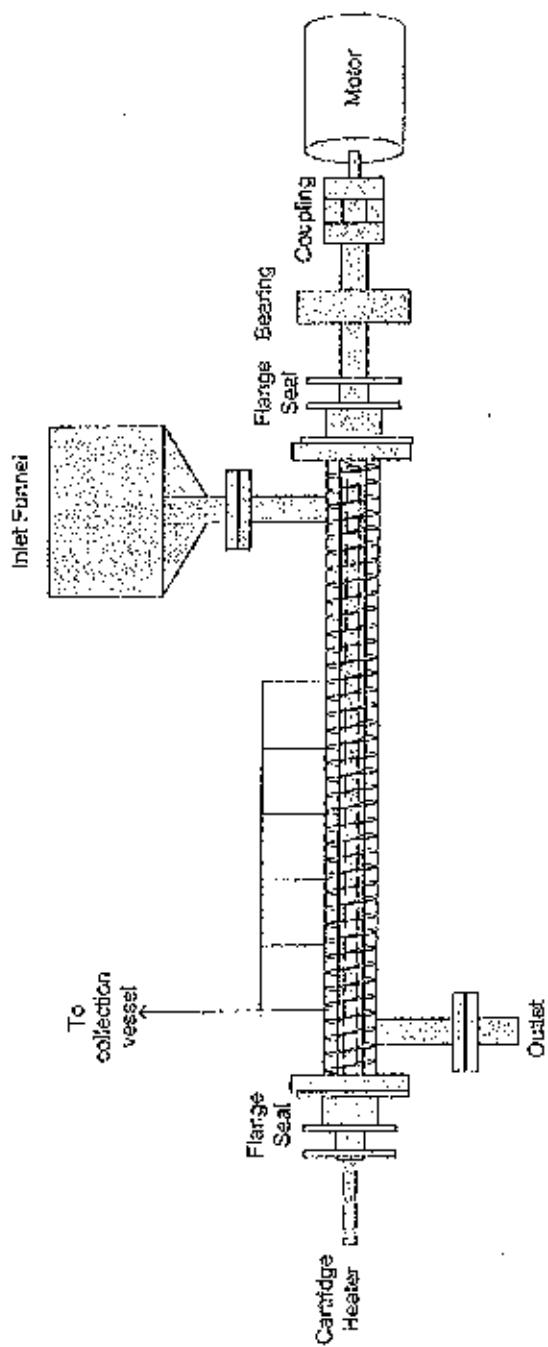


FIG. 35

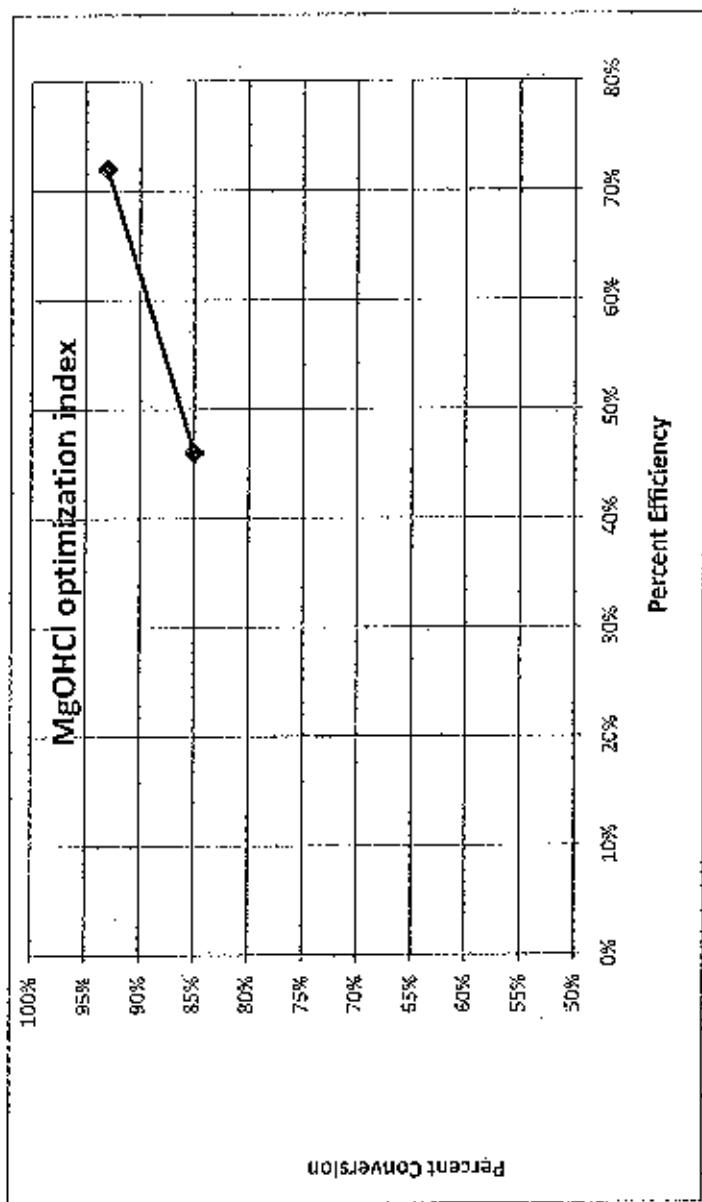


FIG. 36

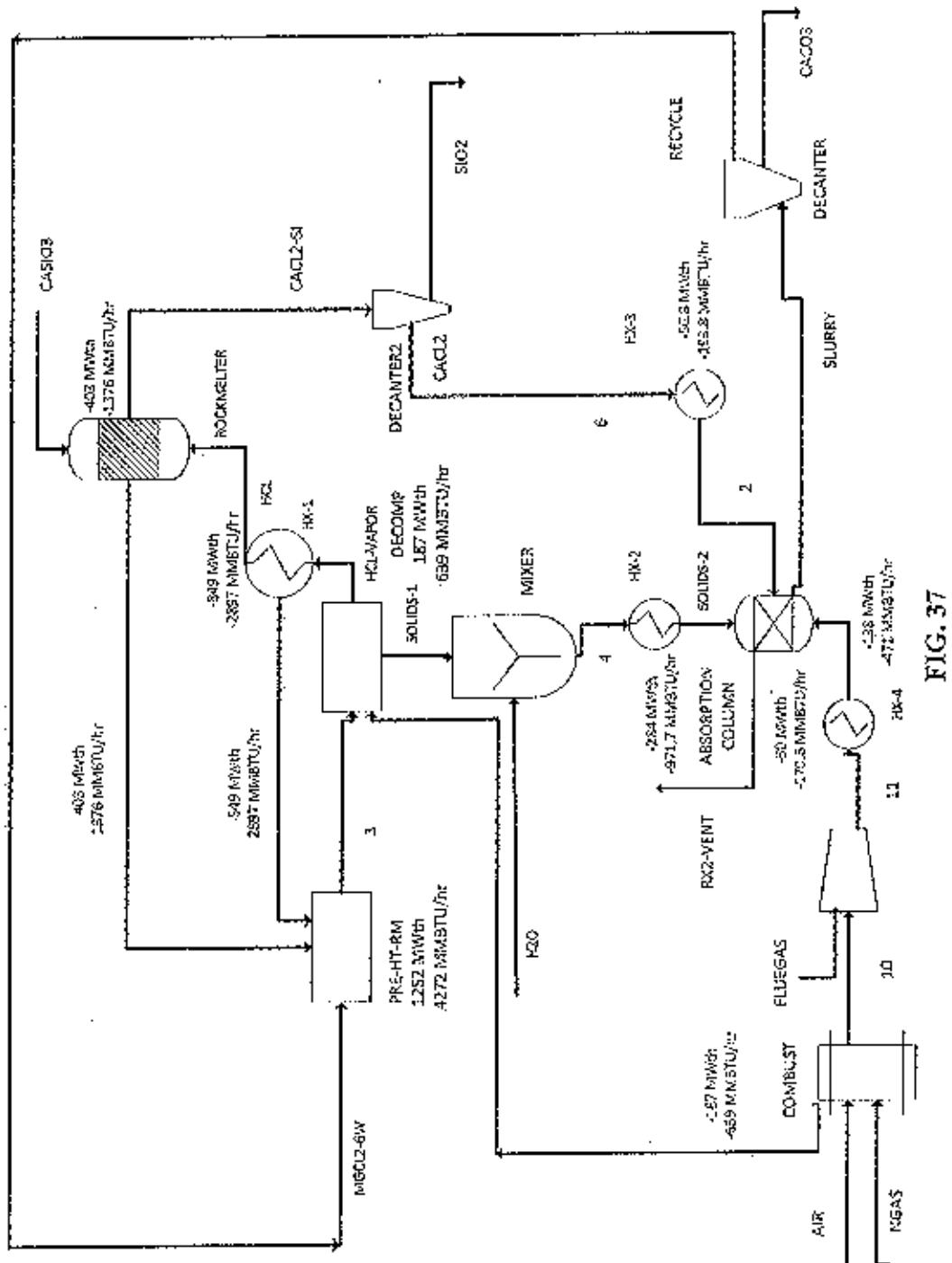


FIG. 37

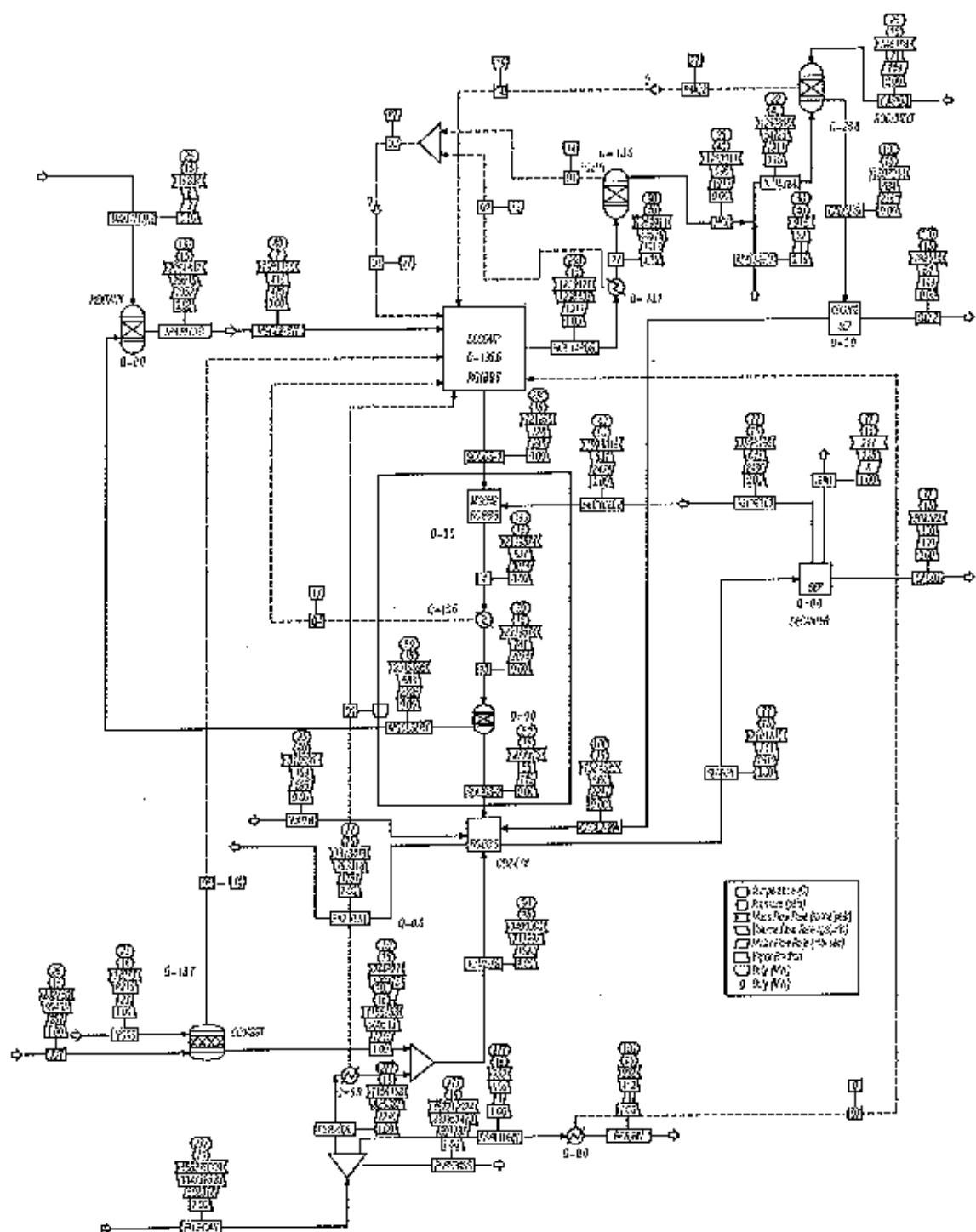


FIG. 38A

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

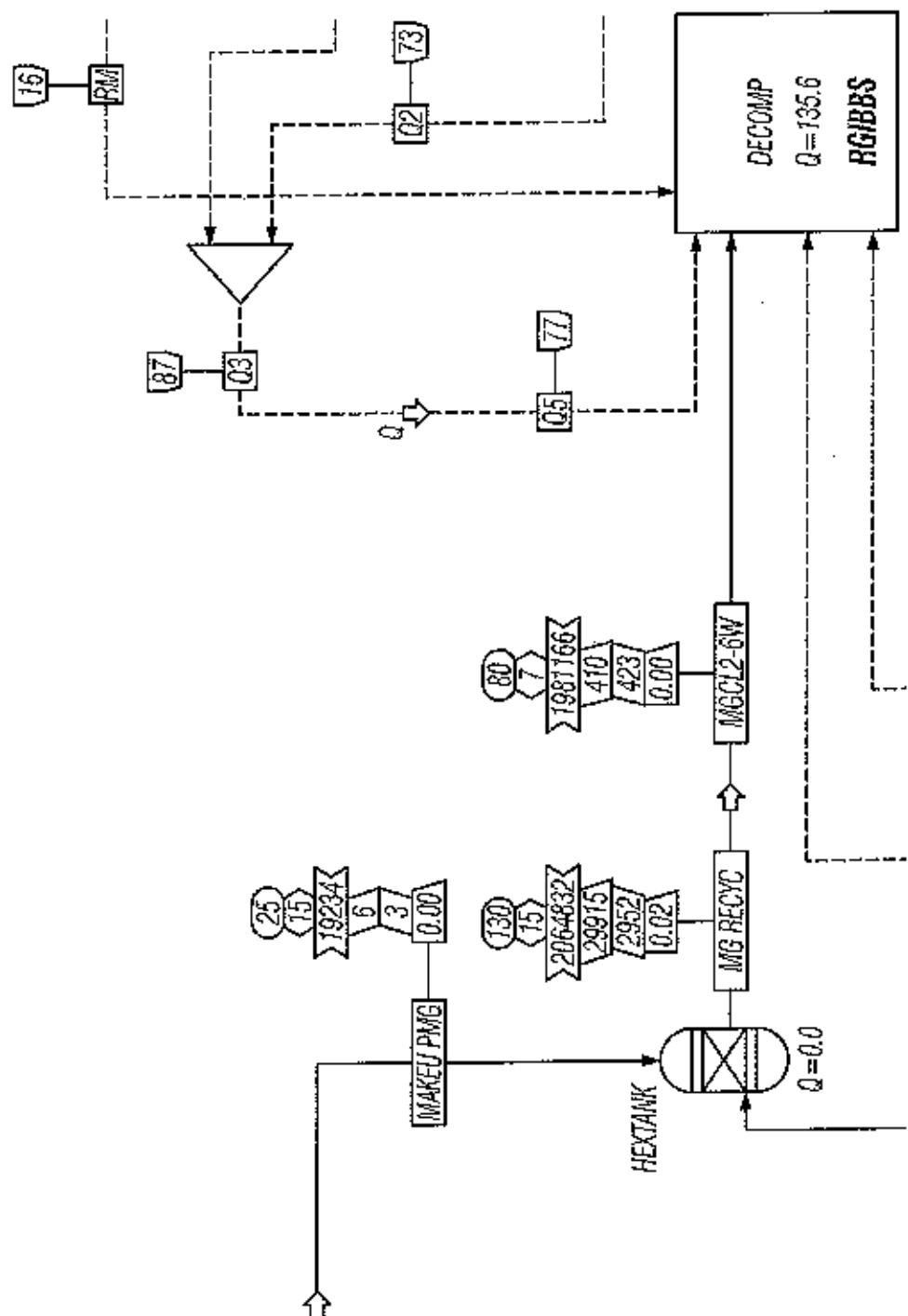


FIG. 38B

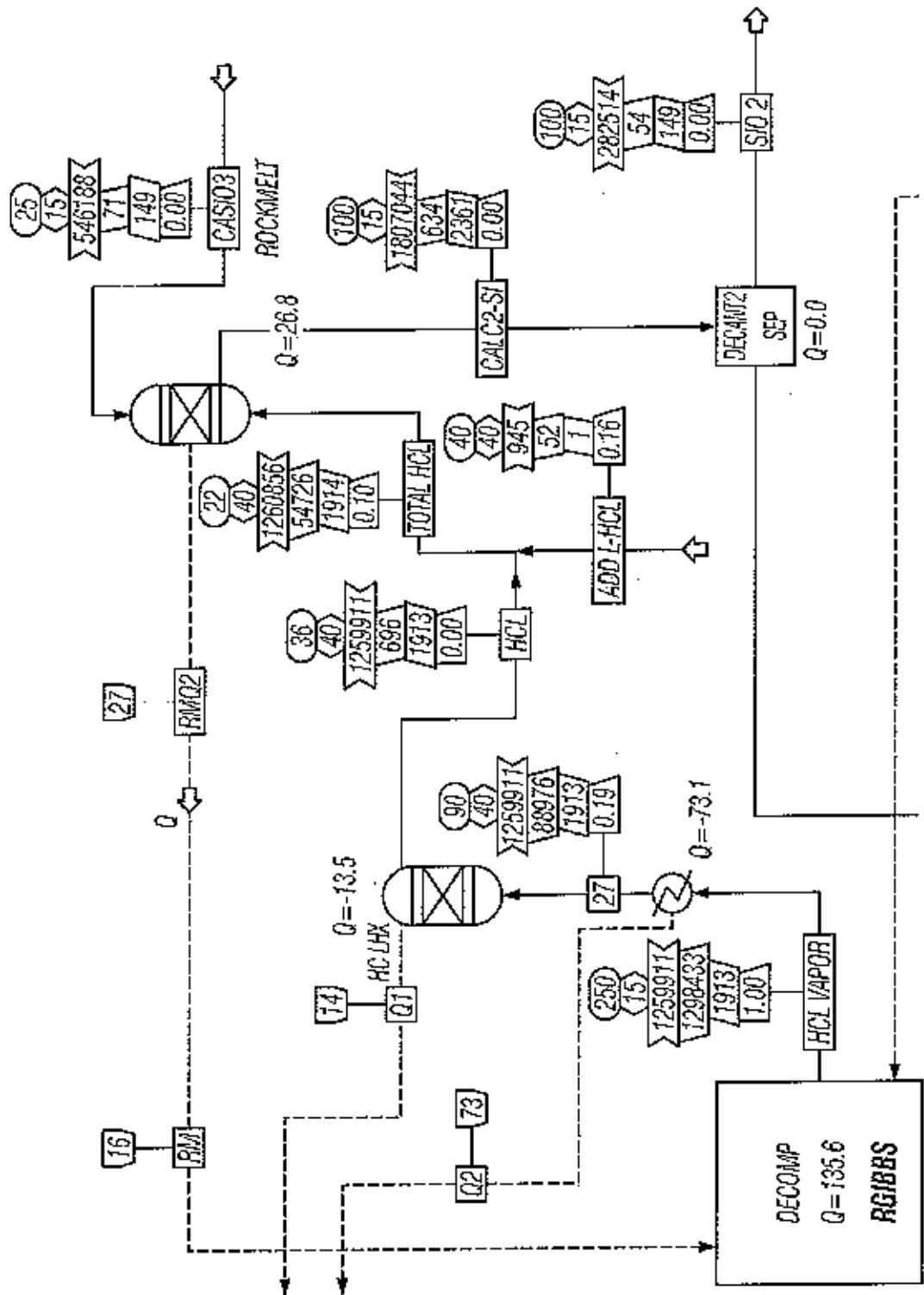


FIG. 38C

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

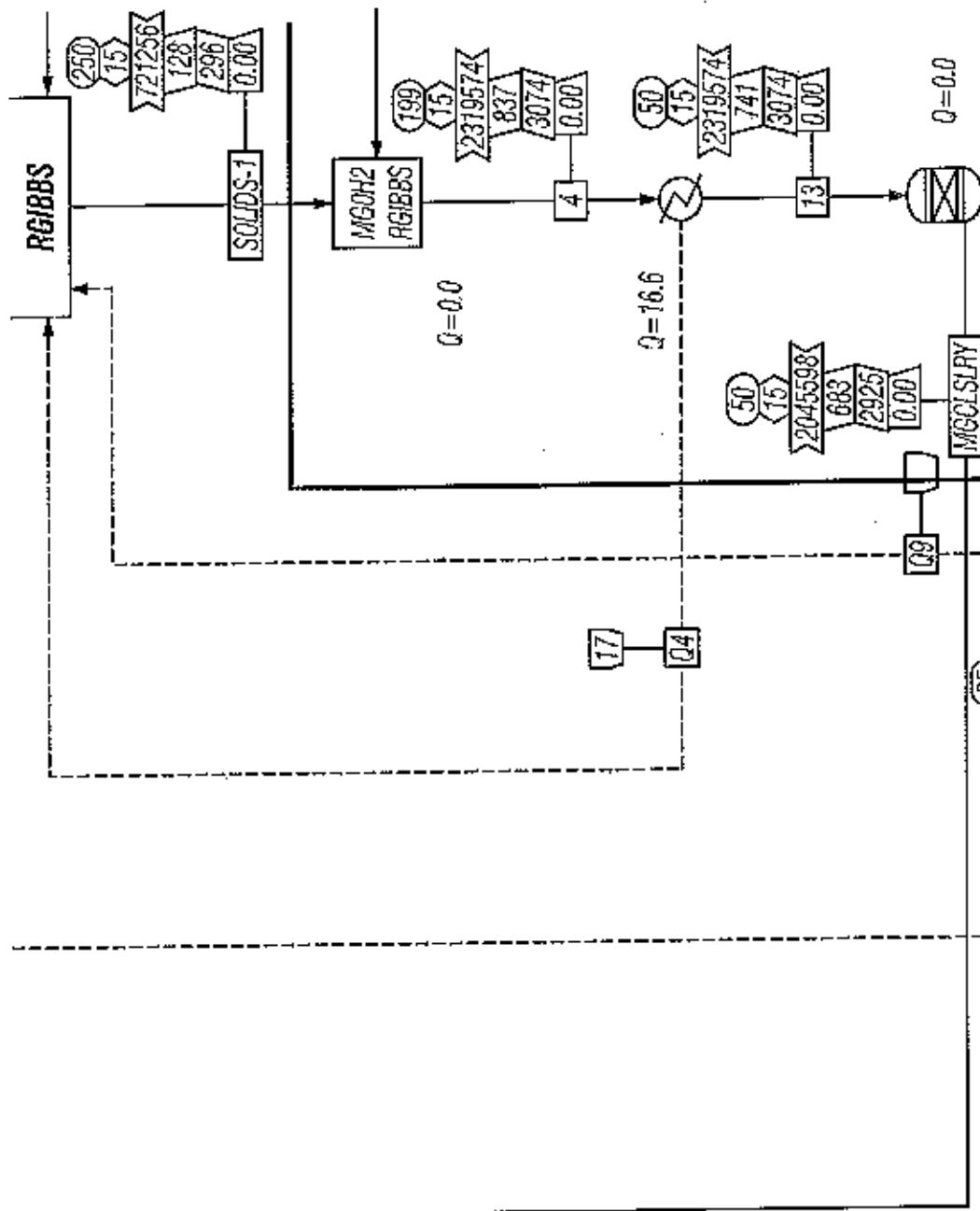


FIG. 38D

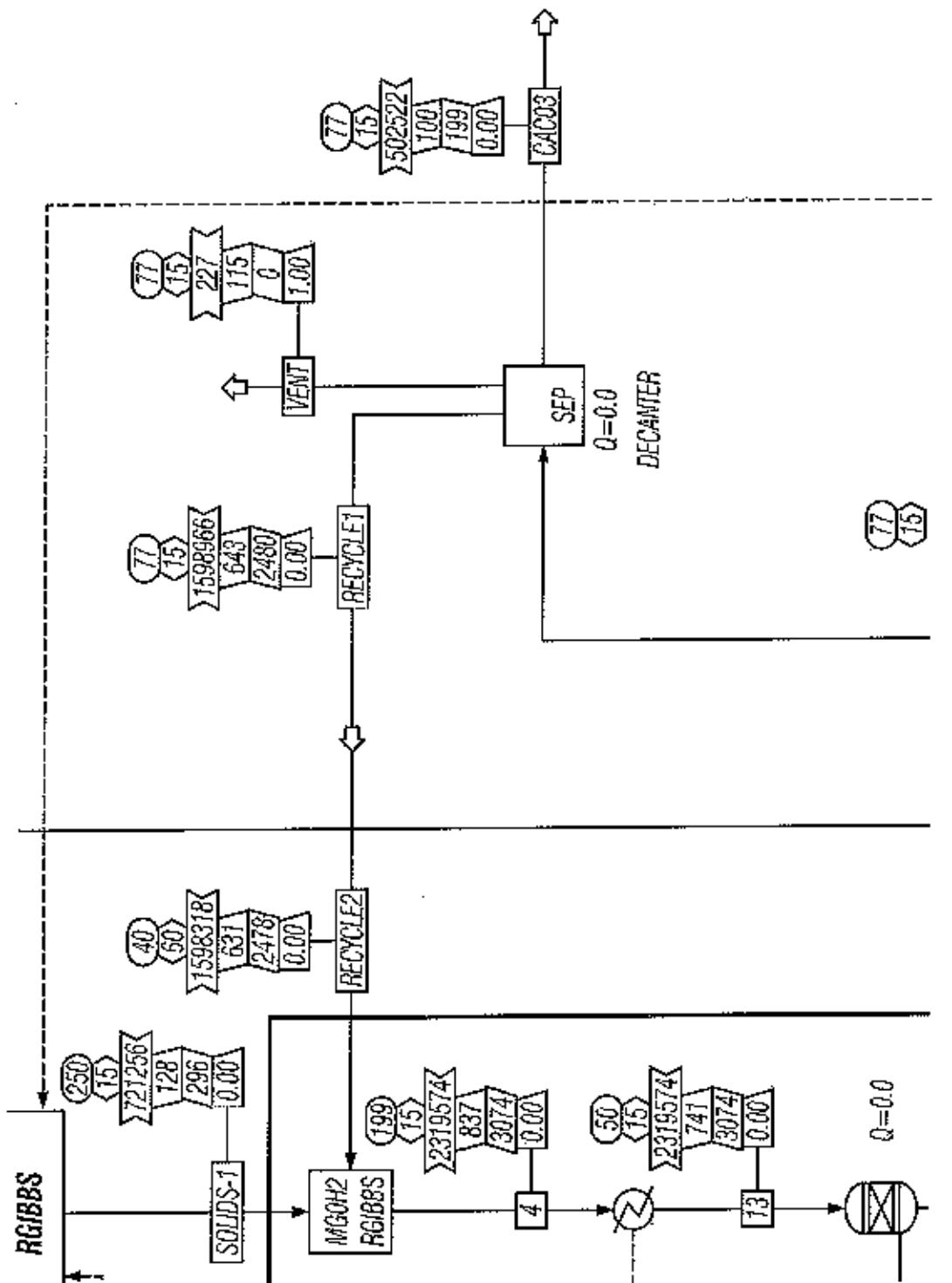


FIG. 38E

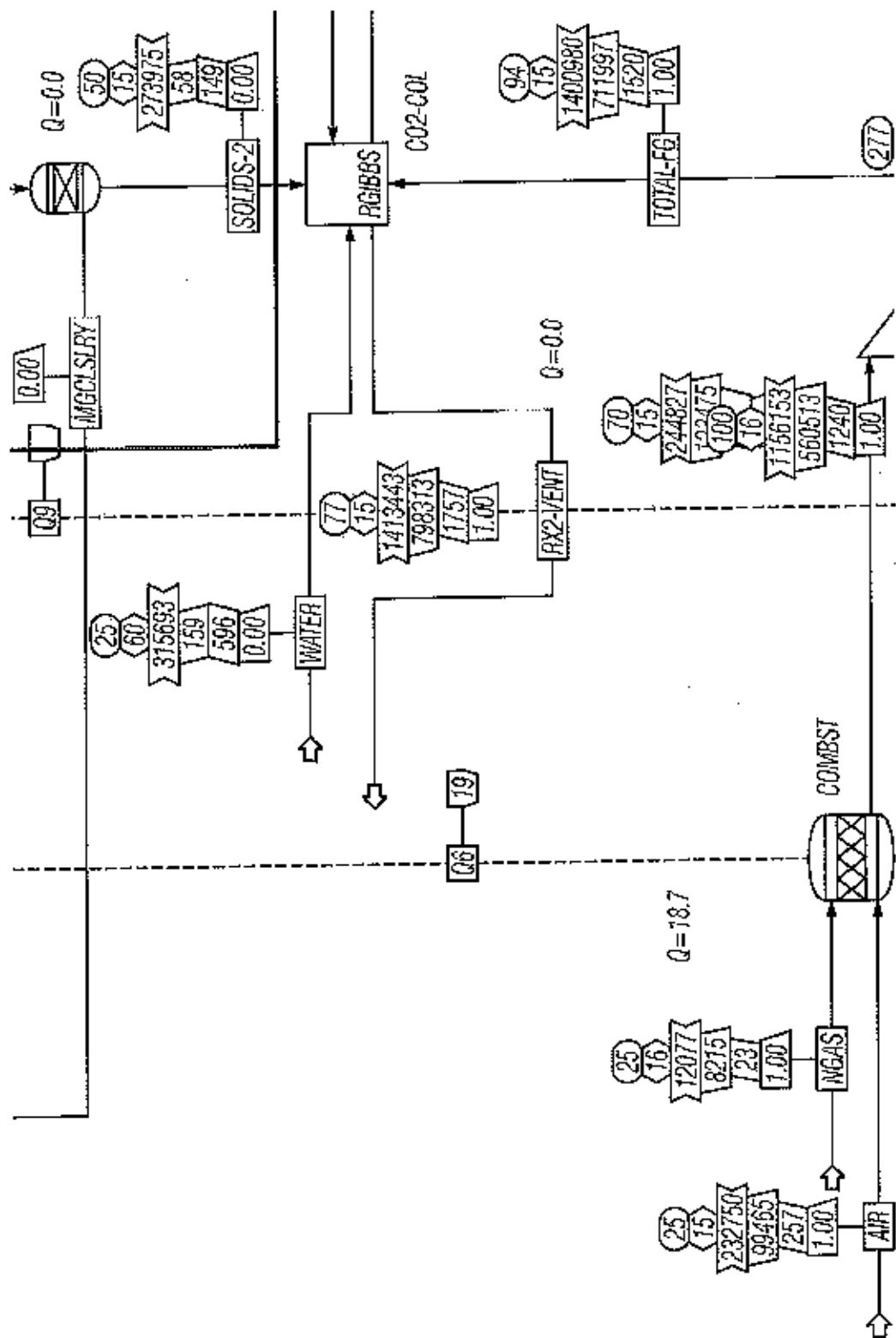


FIG. 38F

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

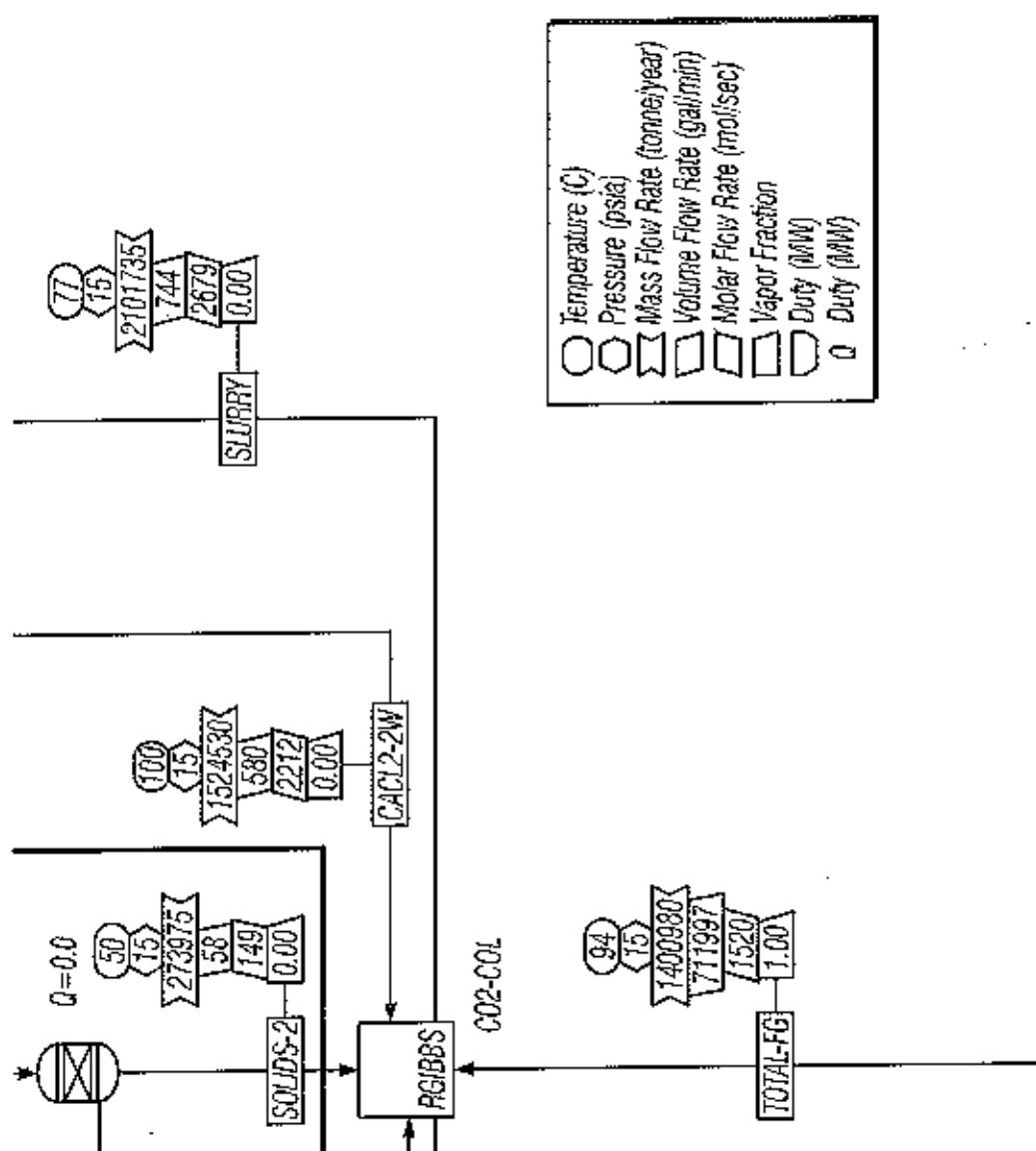
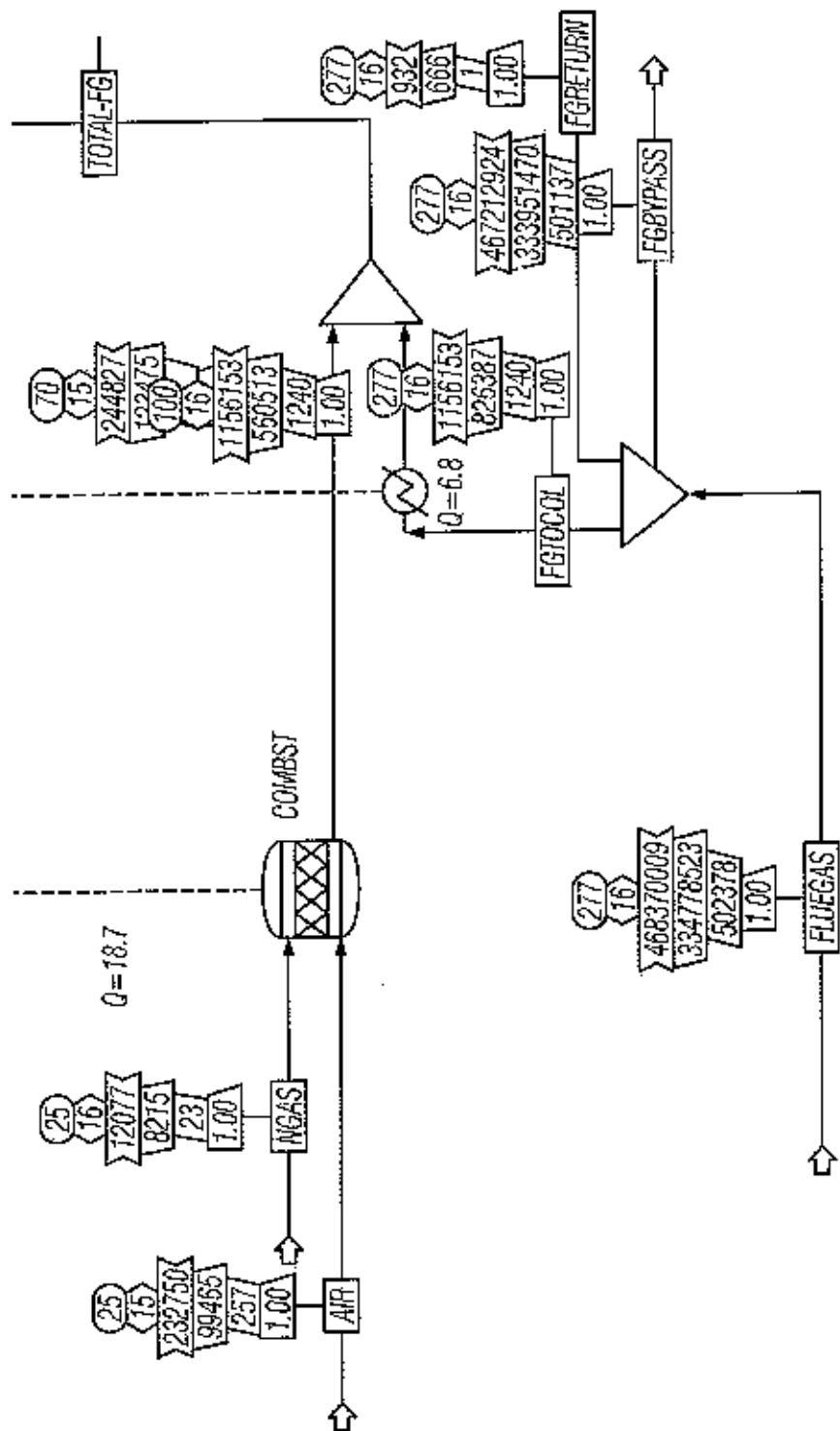


FIG. 38G



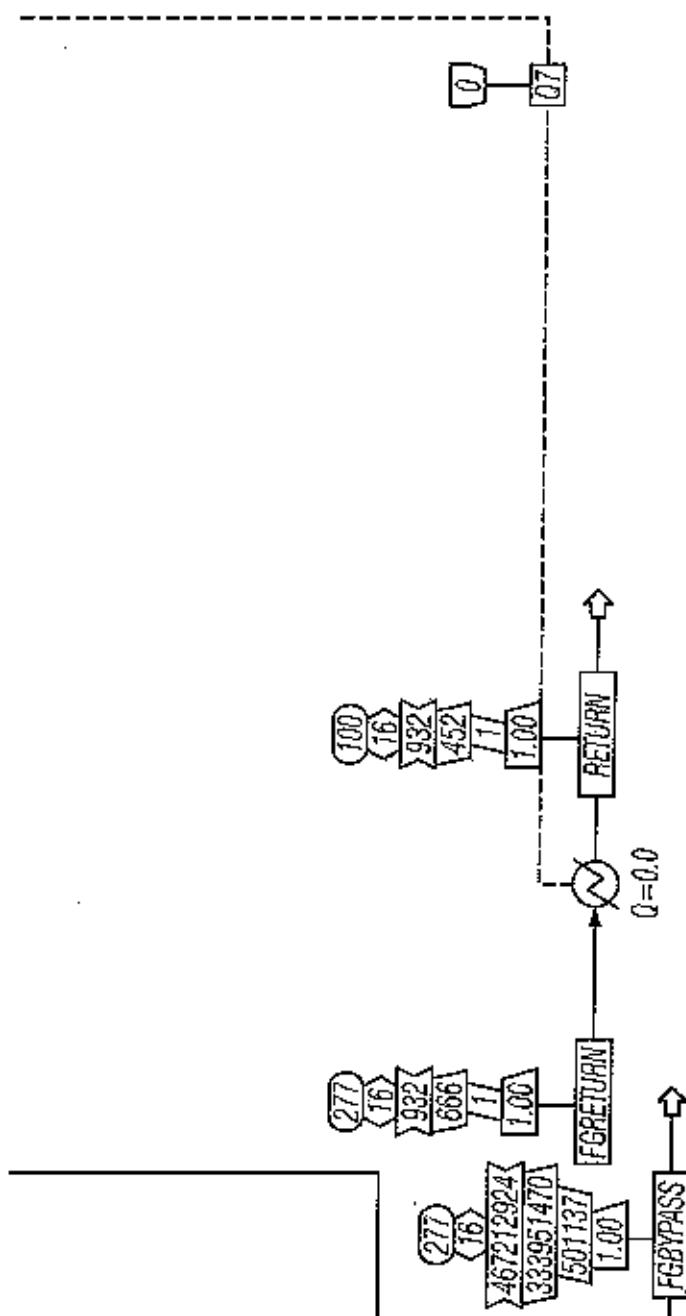


FIG. 38I

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

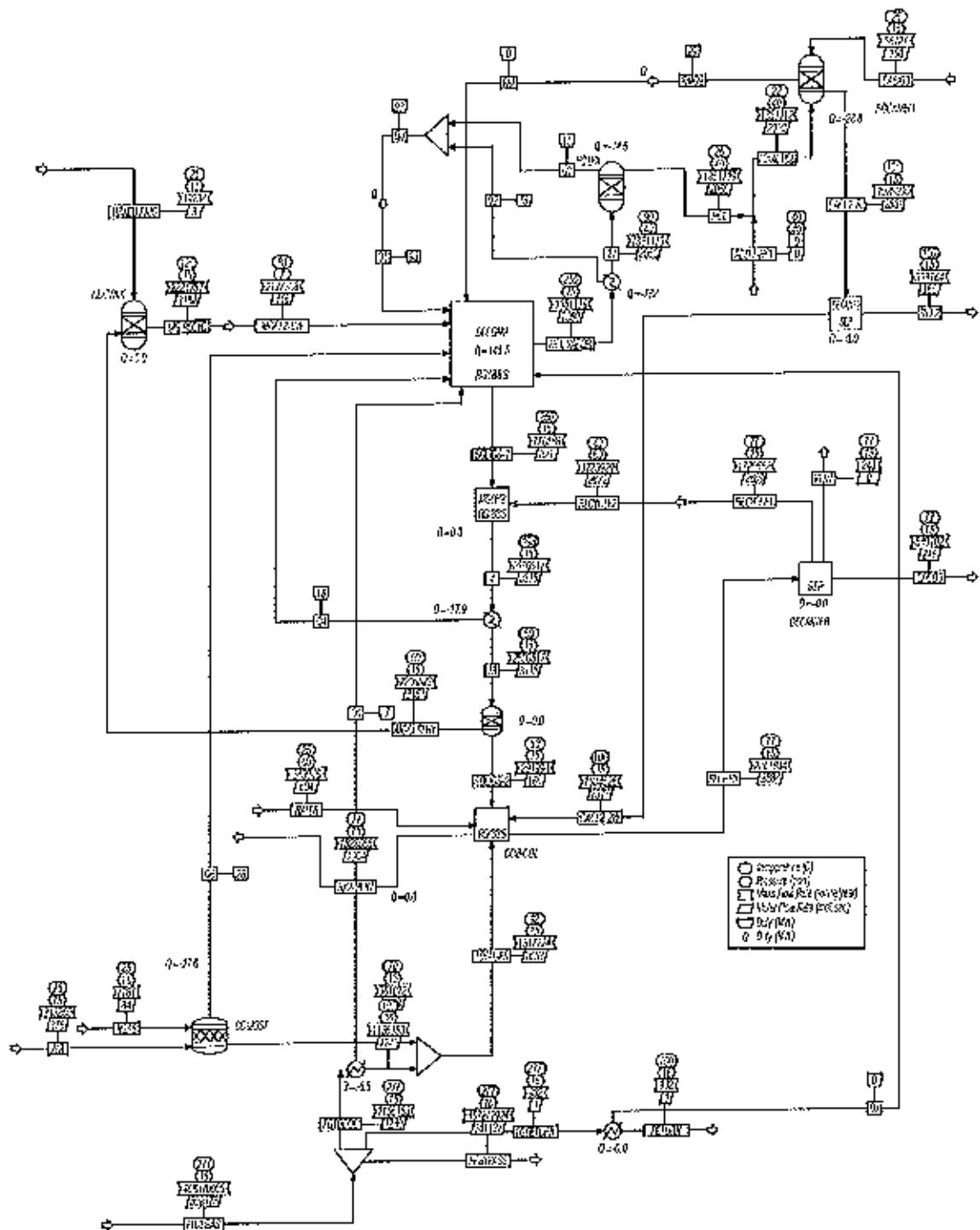


FIG. 39A

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

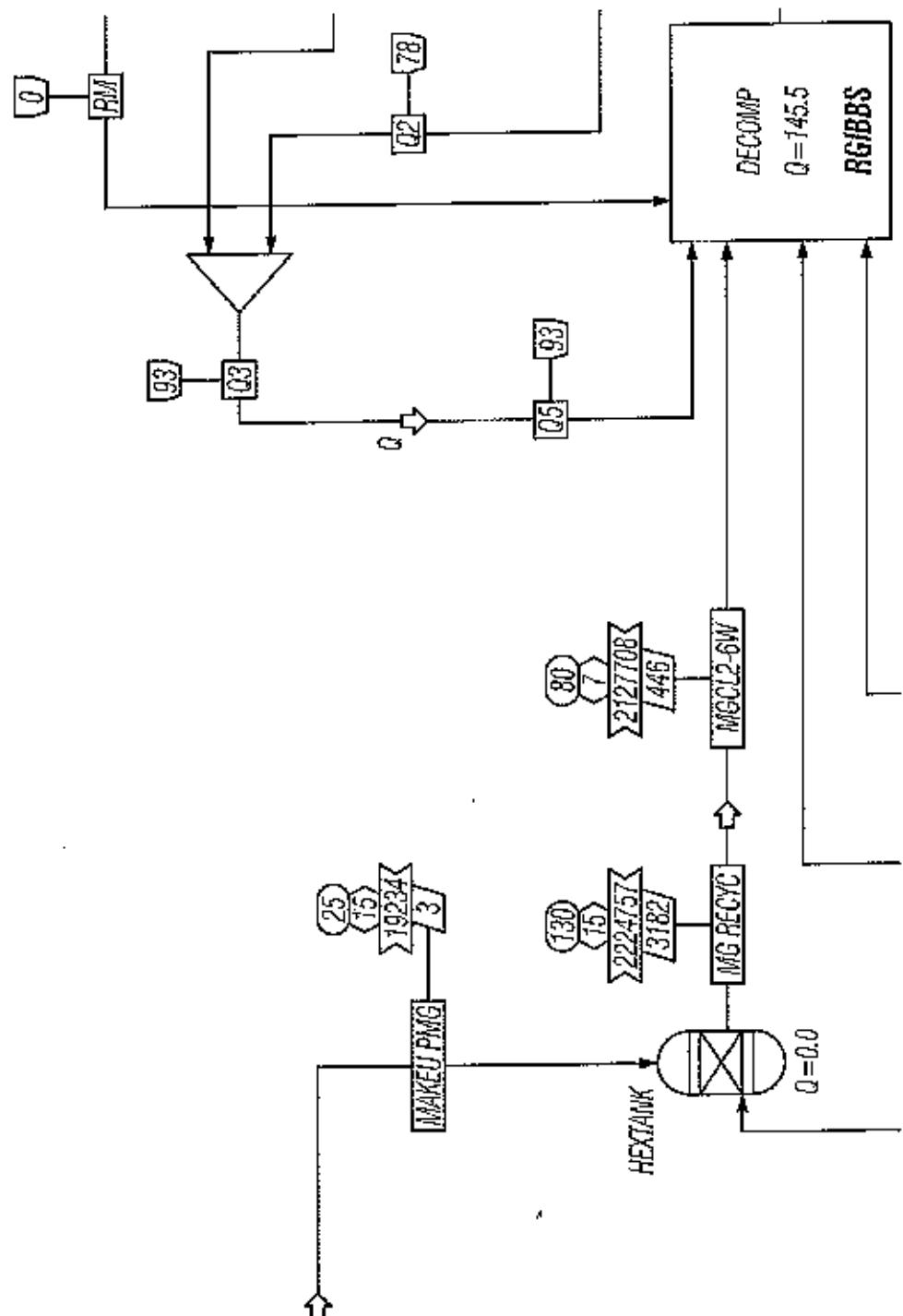


FIG. 39B

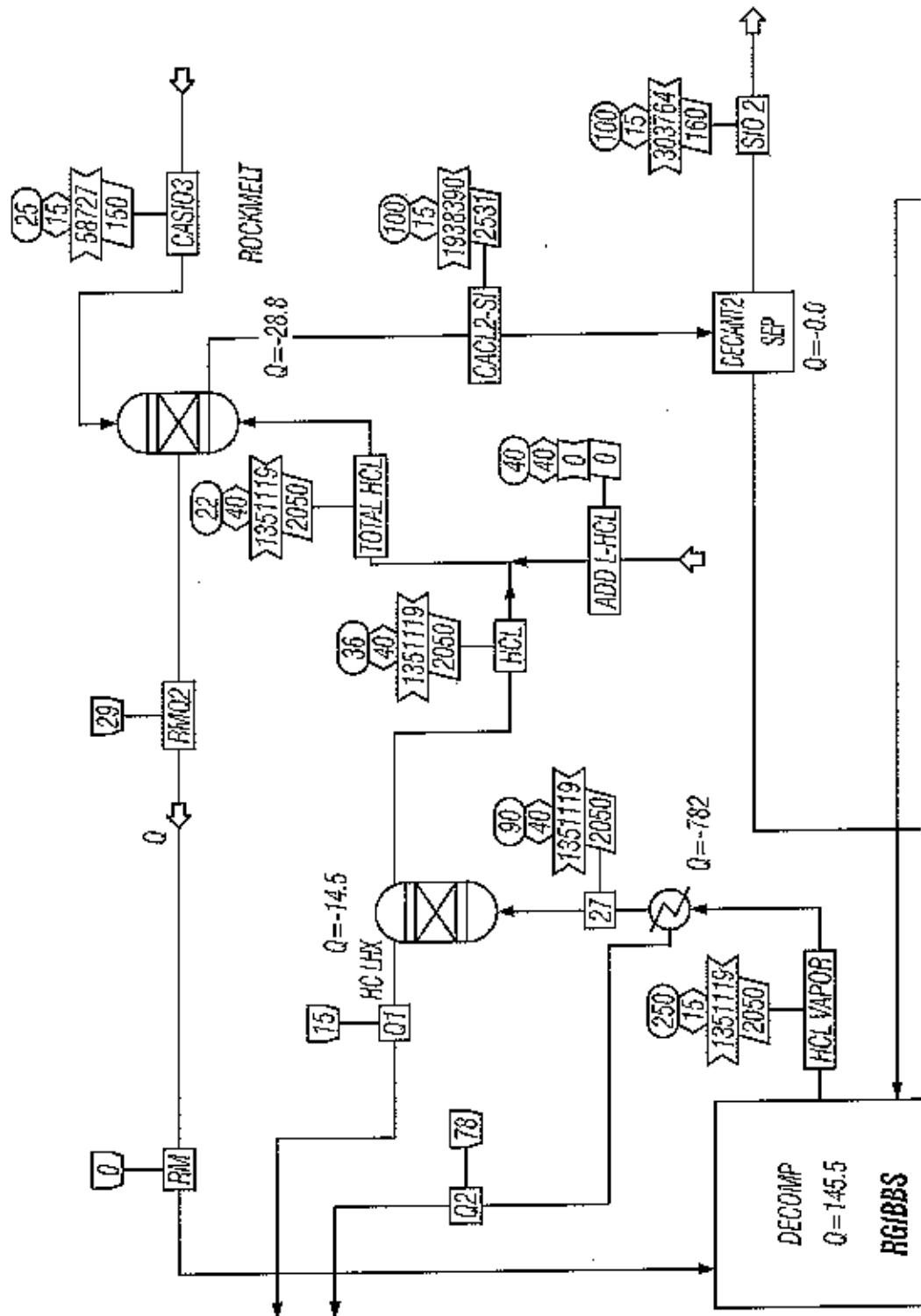


FIG. 39C

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

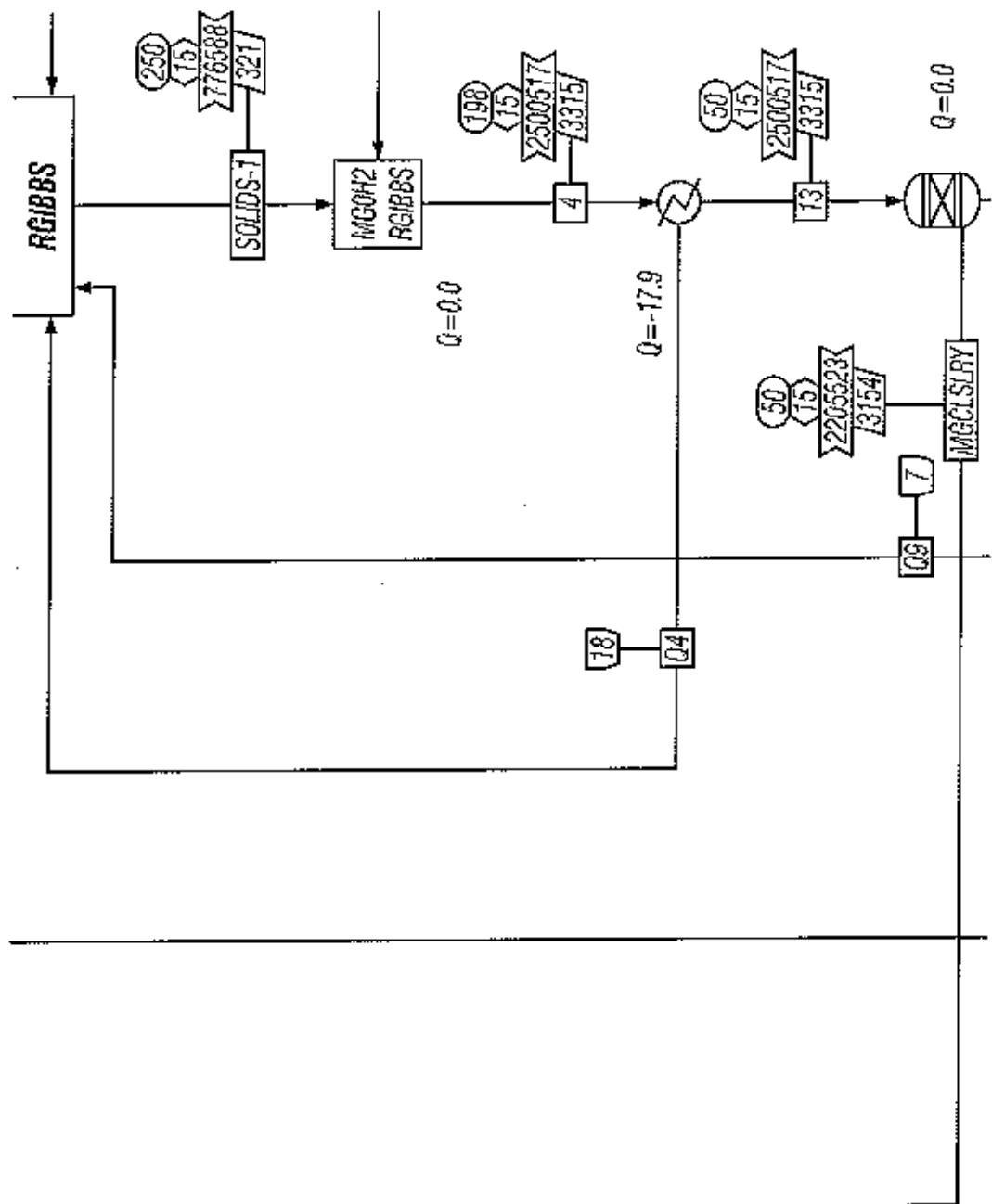


FIG. 390

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

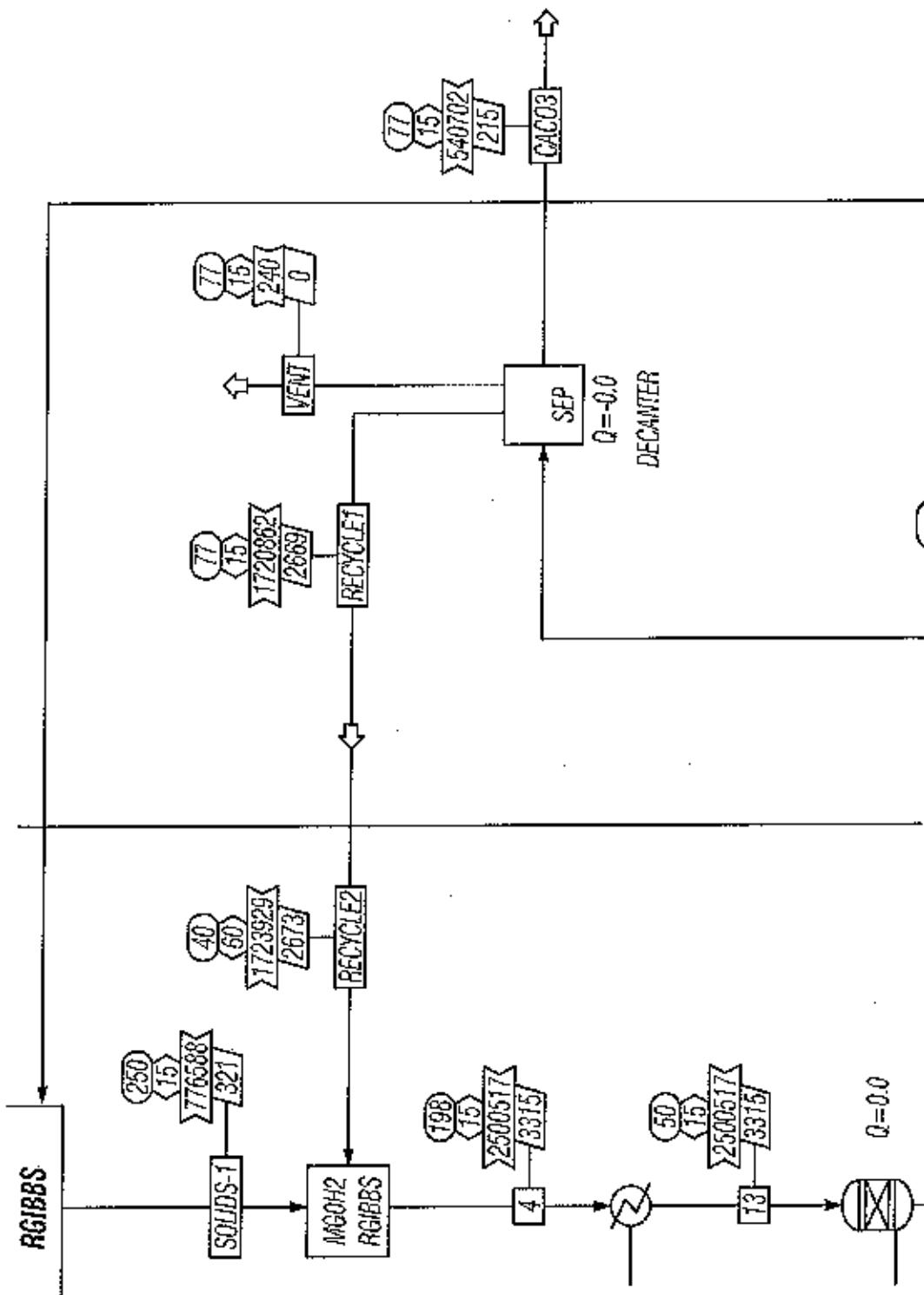


FIG. 39E

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

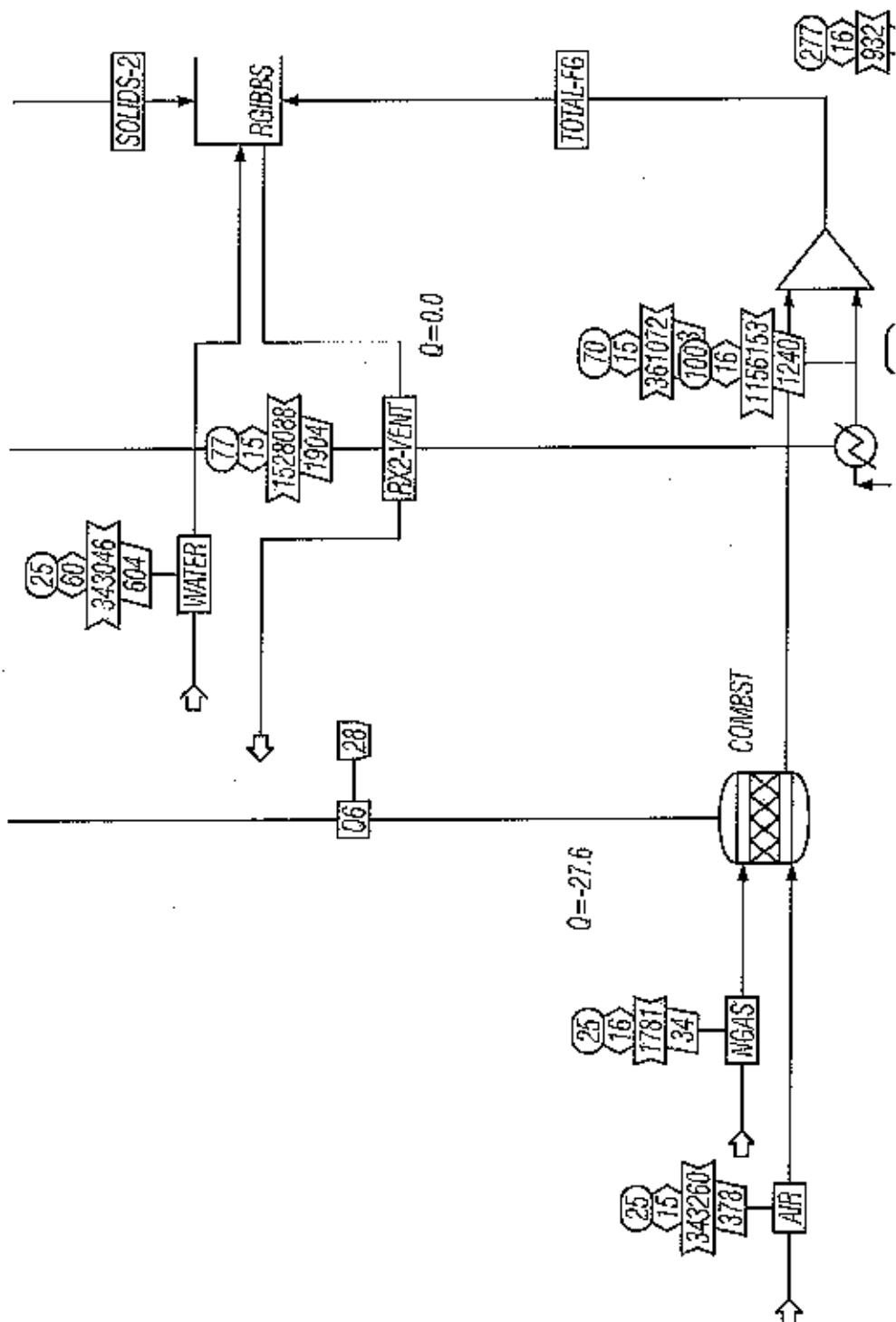


FIG. 39F

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

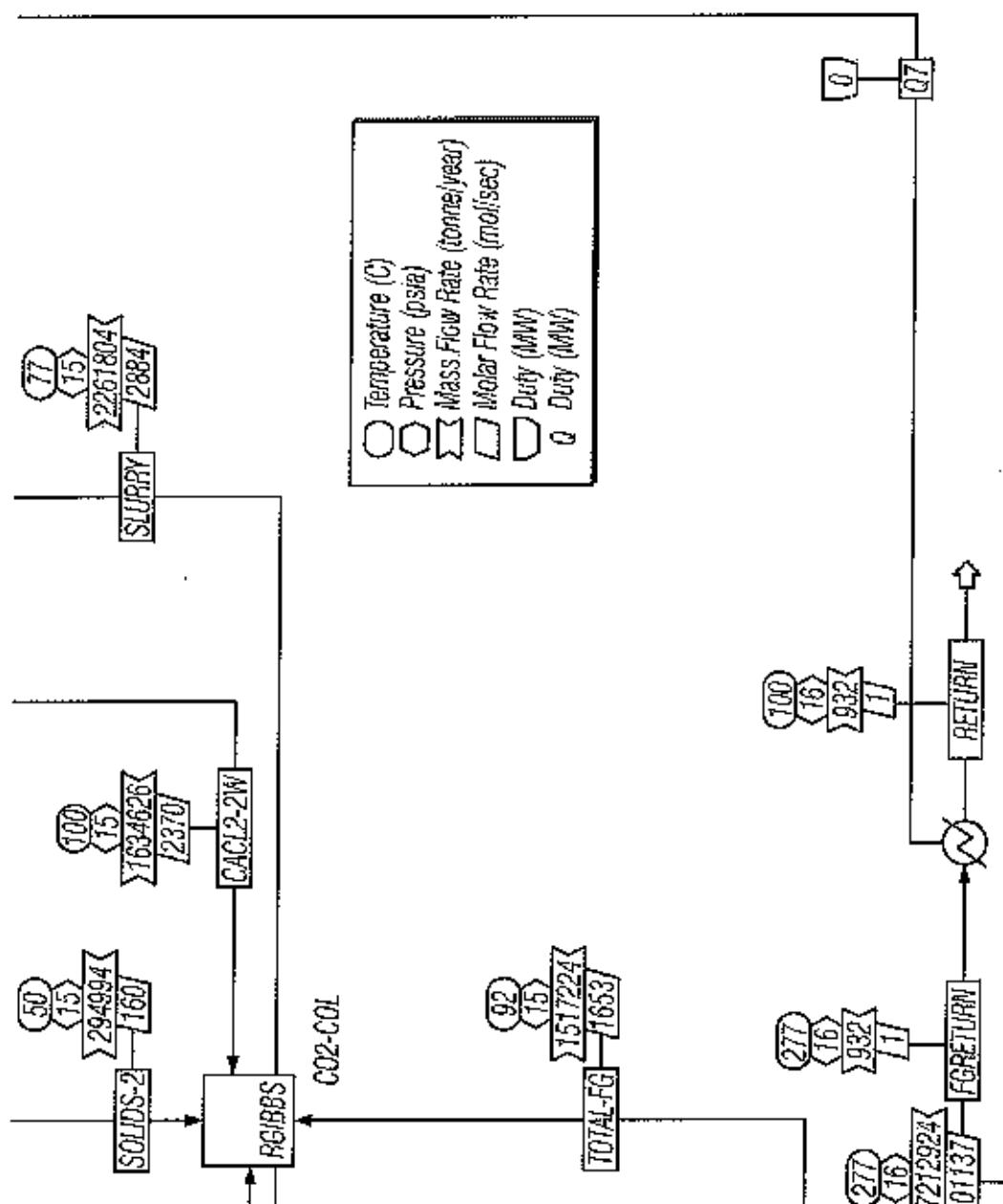


FIG. 396

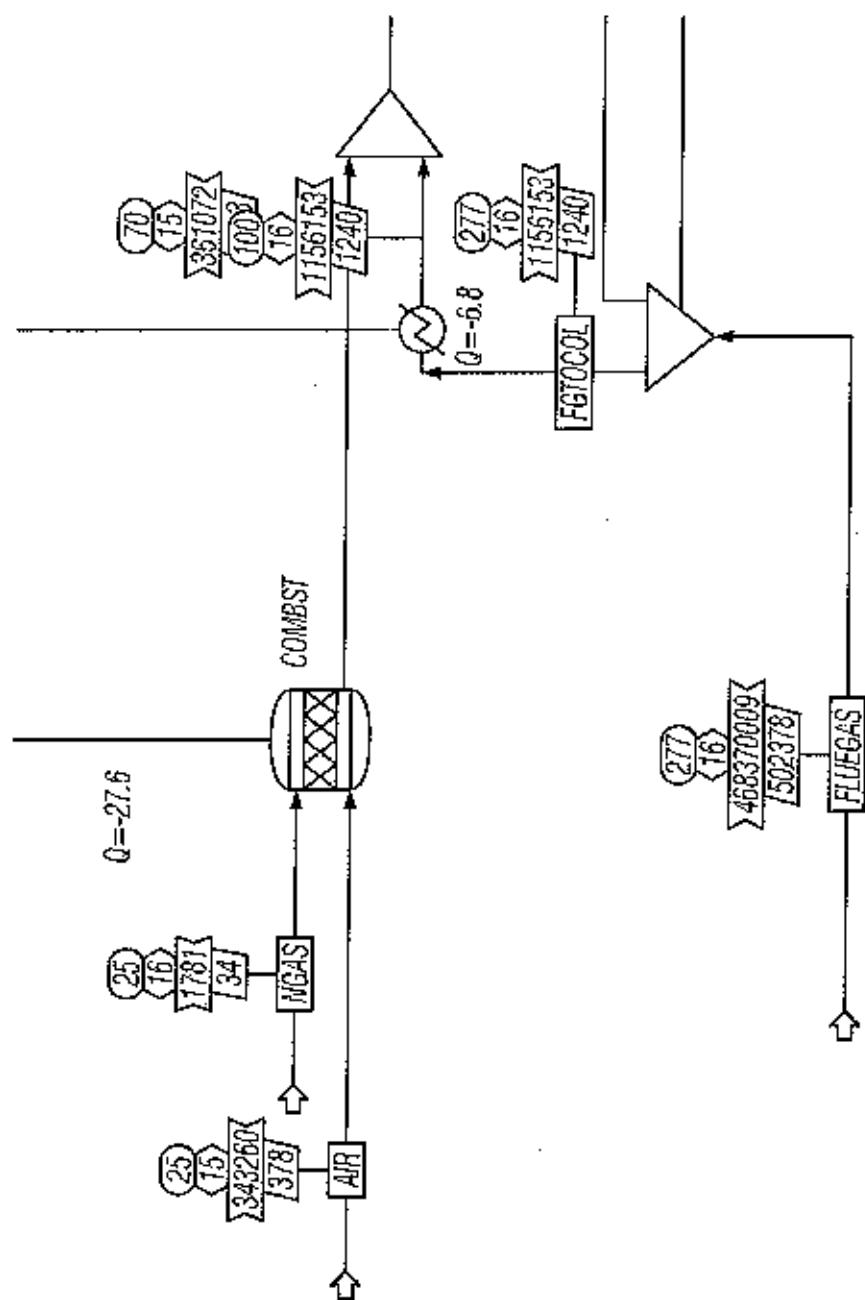


FIG. 39H

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant

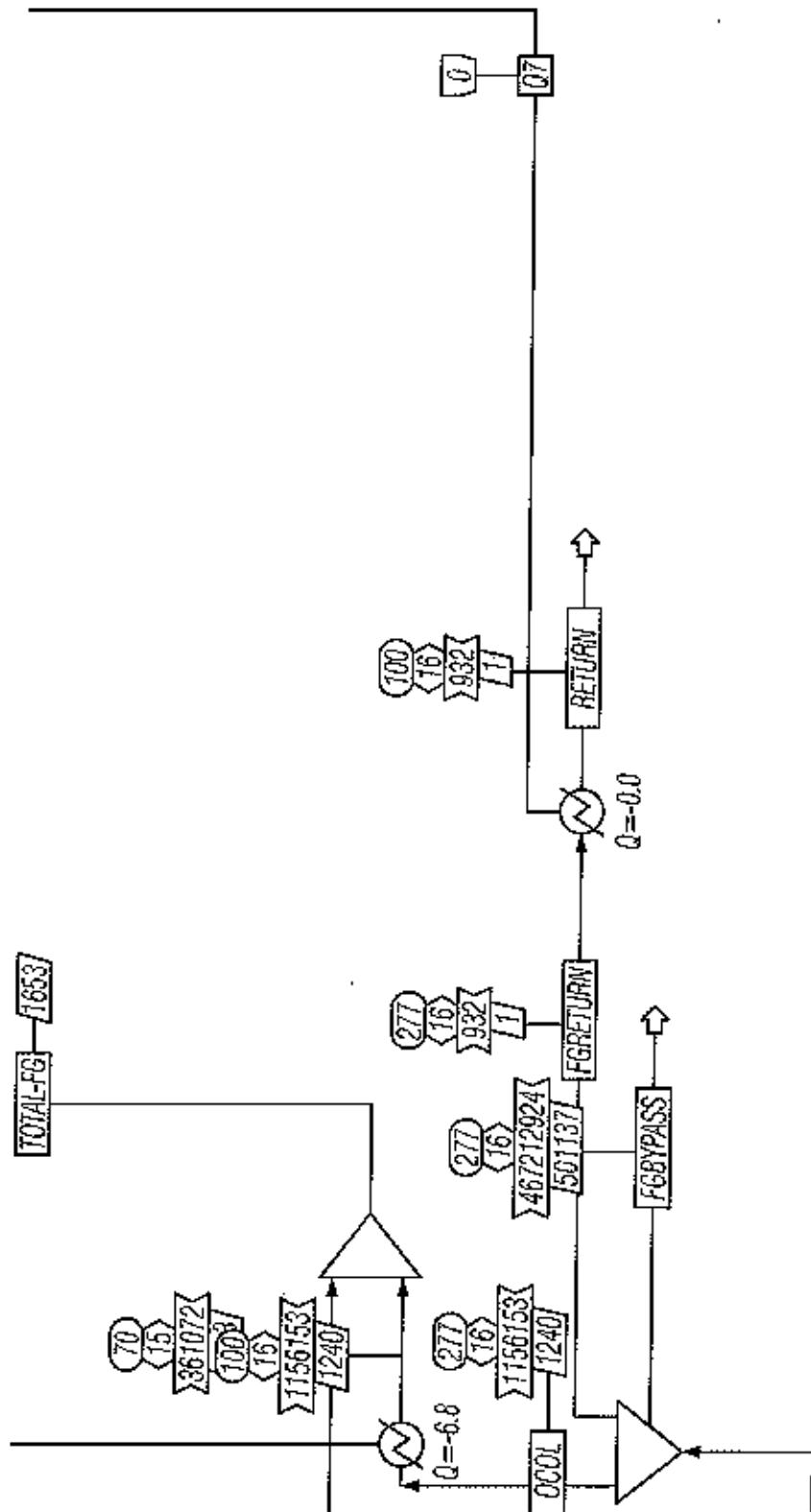


FIG. 39J

(Ramesh C. Dhawan)  
of Lall Lahiri & Salhotra  
Agents for the Applicant