

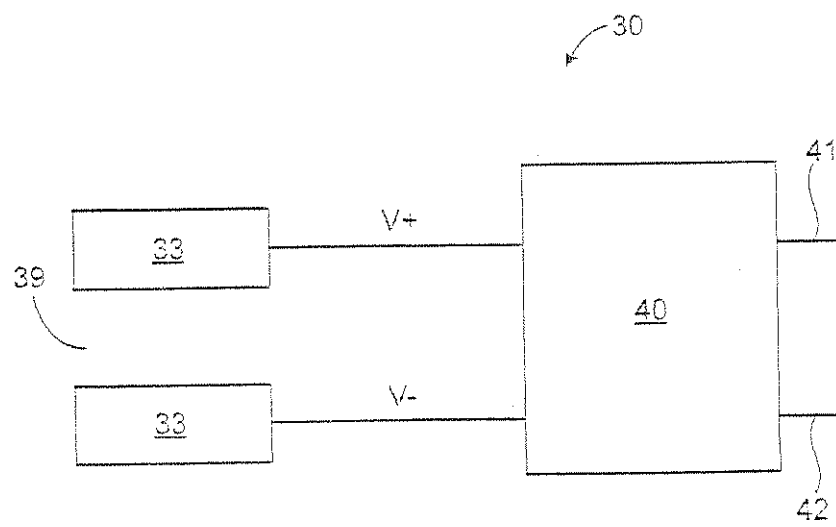


FIG. 1

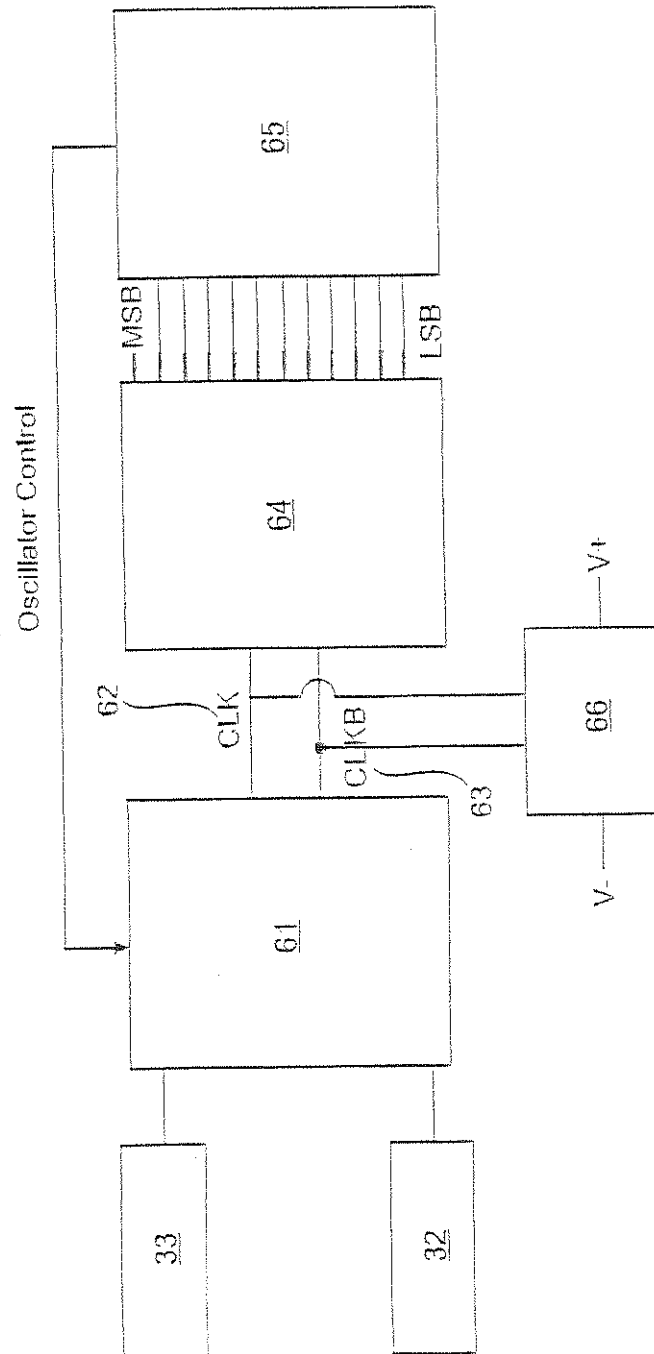


FIG. 2

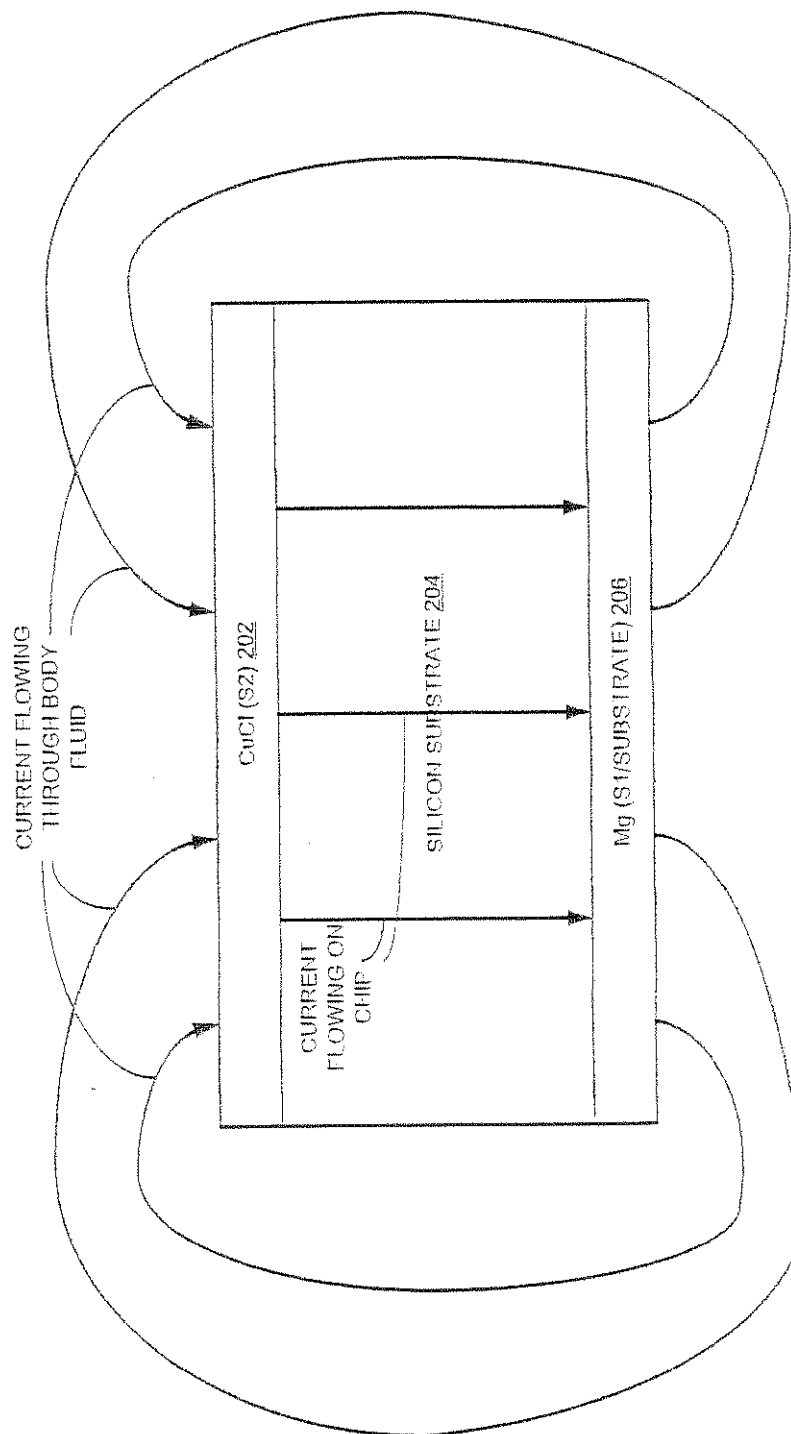


FIG. 3

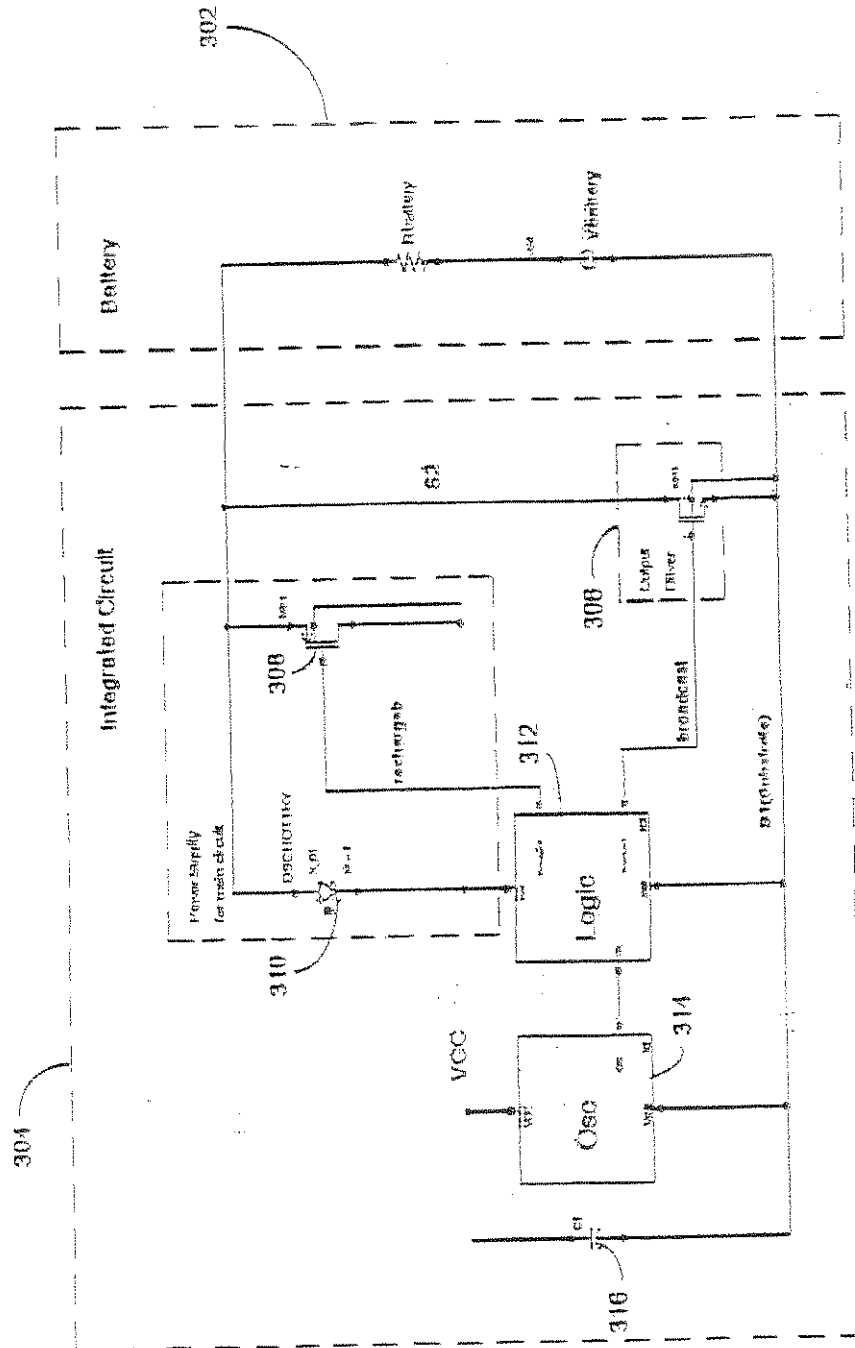
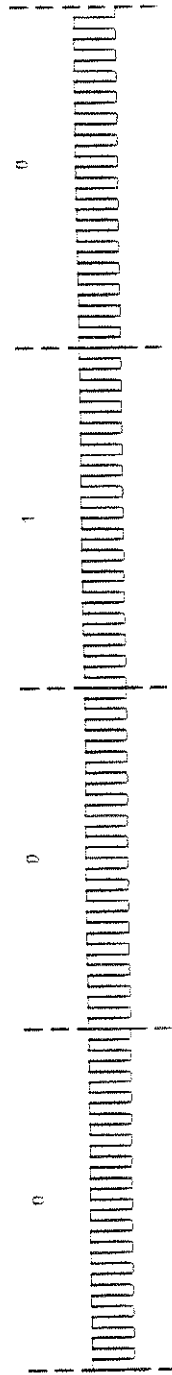
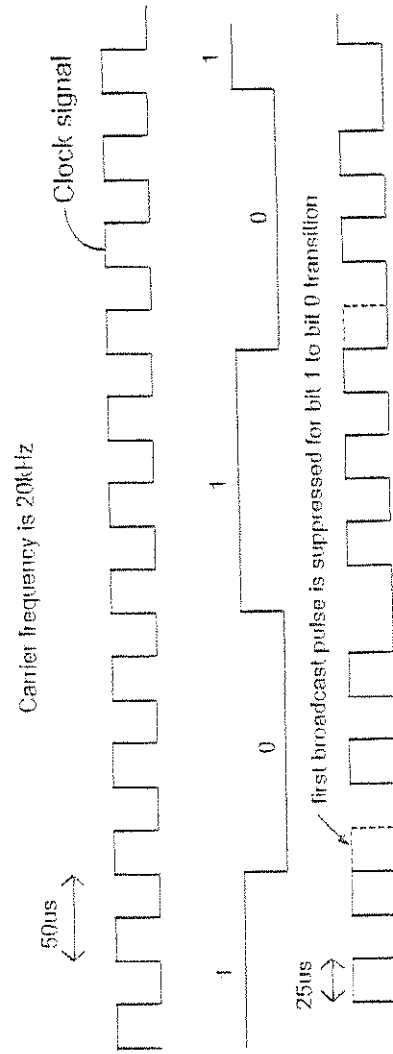


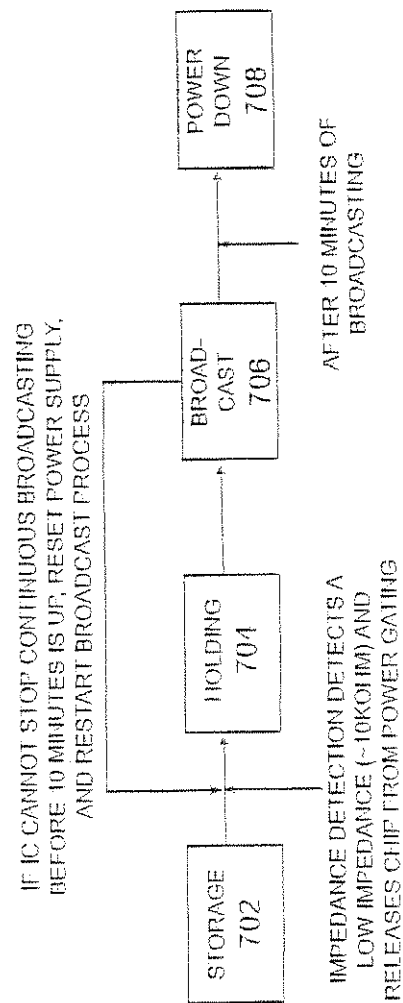
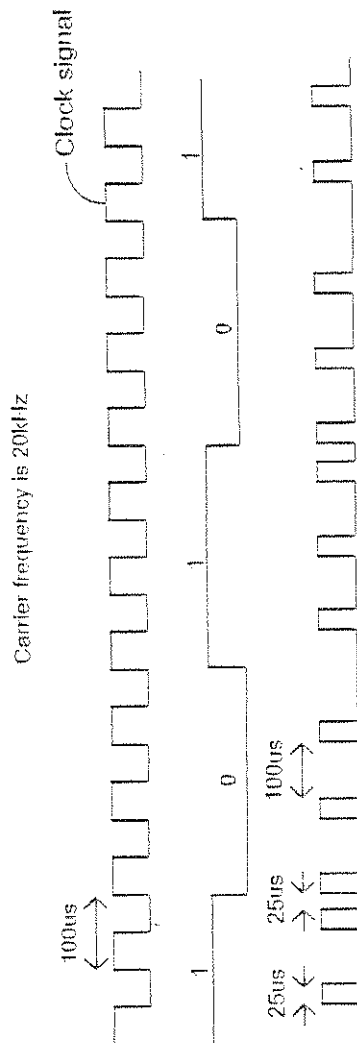
FIG. 4



10
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14



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6
6
6





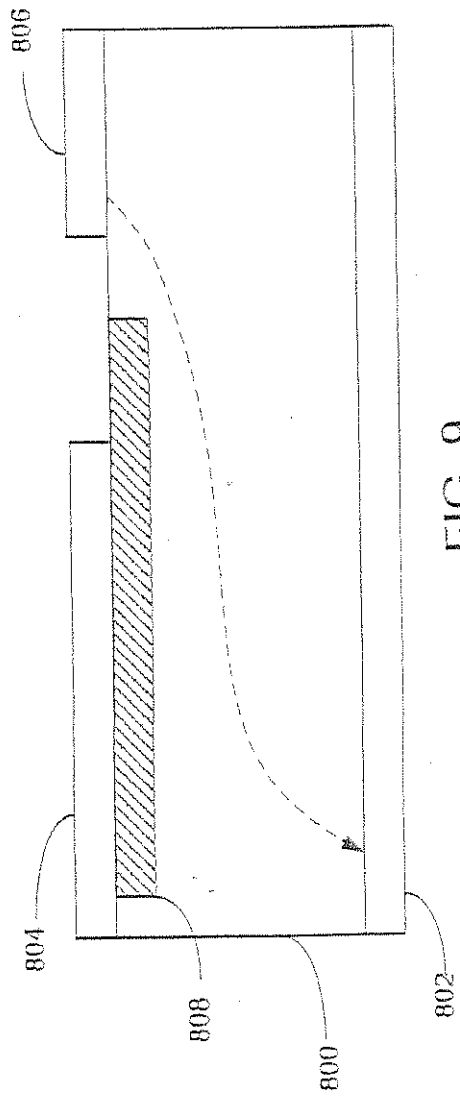



FIG. 9

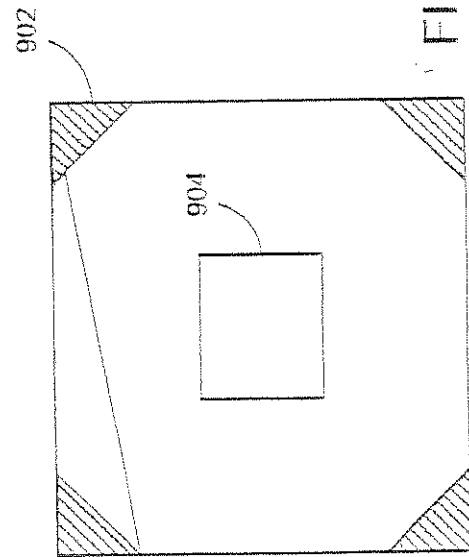


FIG. 10

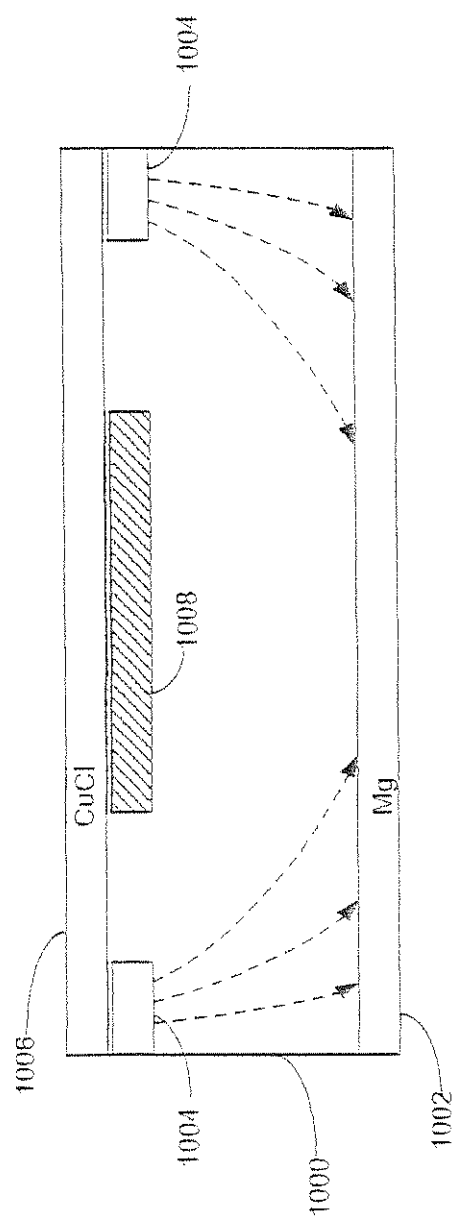


FIG. 11

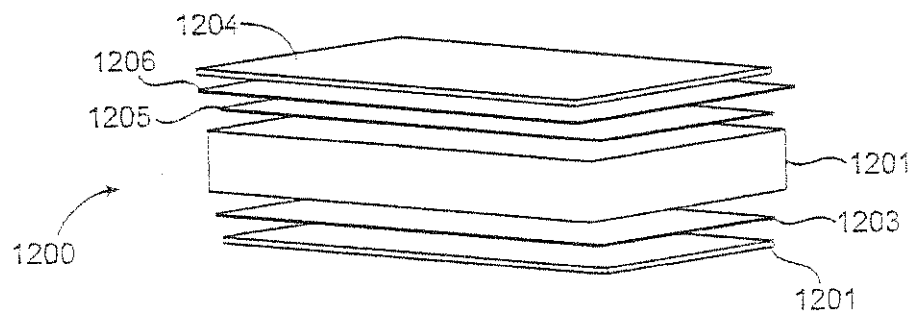


FIG. 12

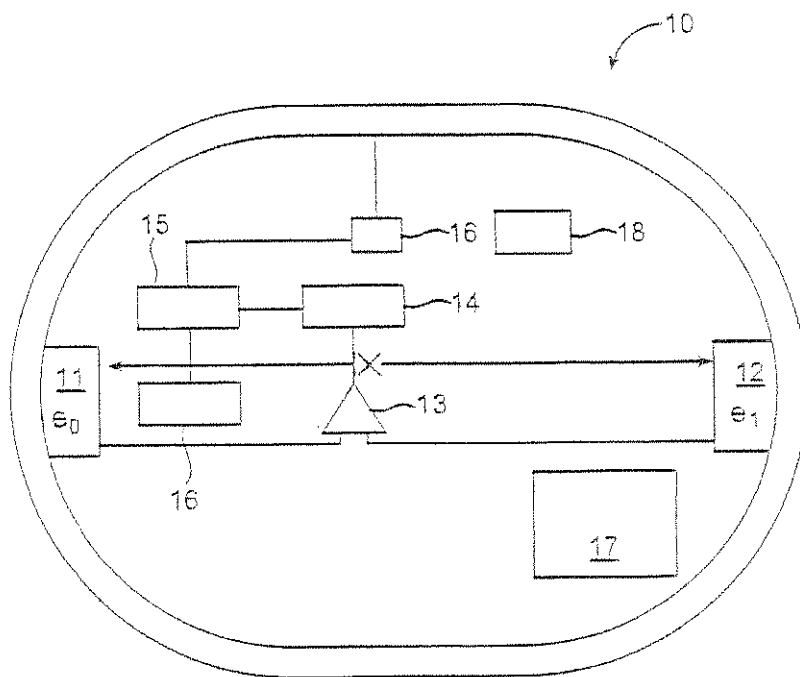


FIG. 13

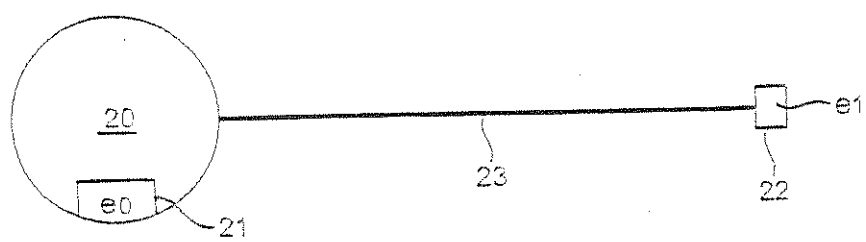


FIG. 14

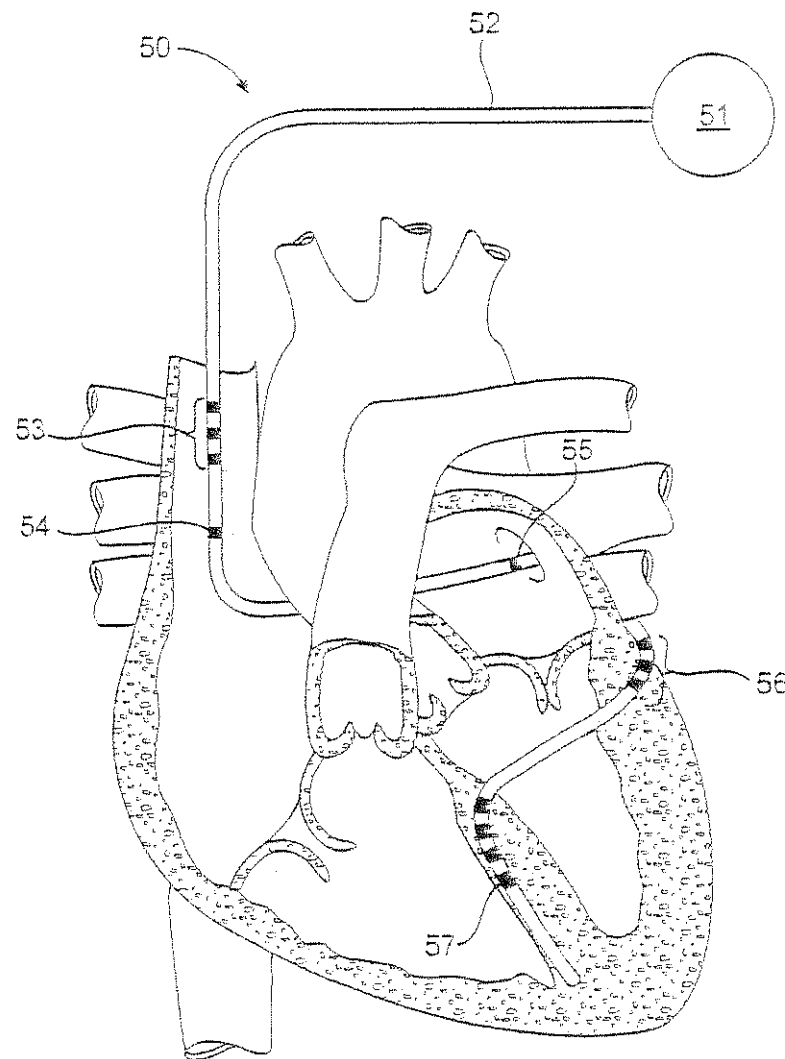


FIG. 15

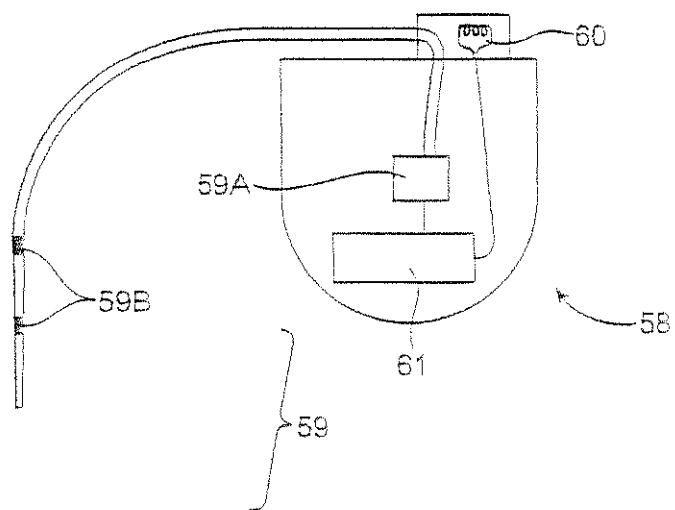


FIG. 16

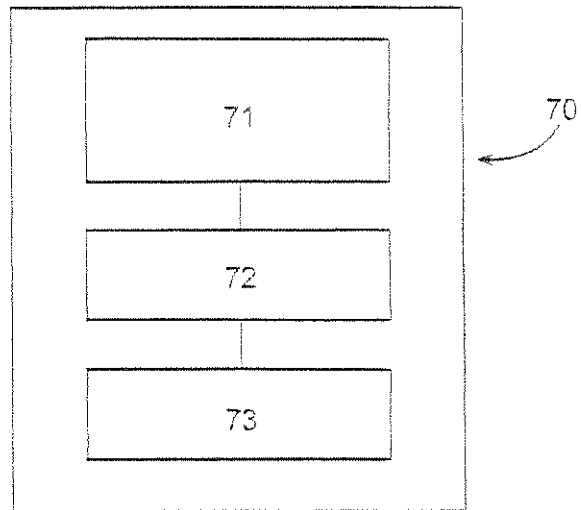


FIG. 17A

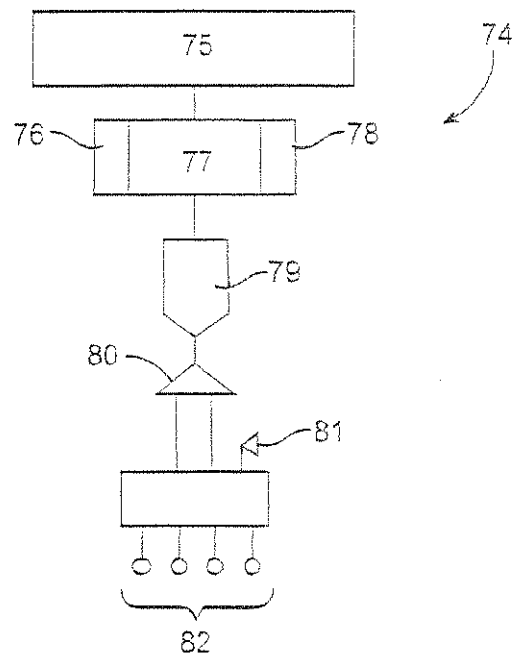


FIG. 17B

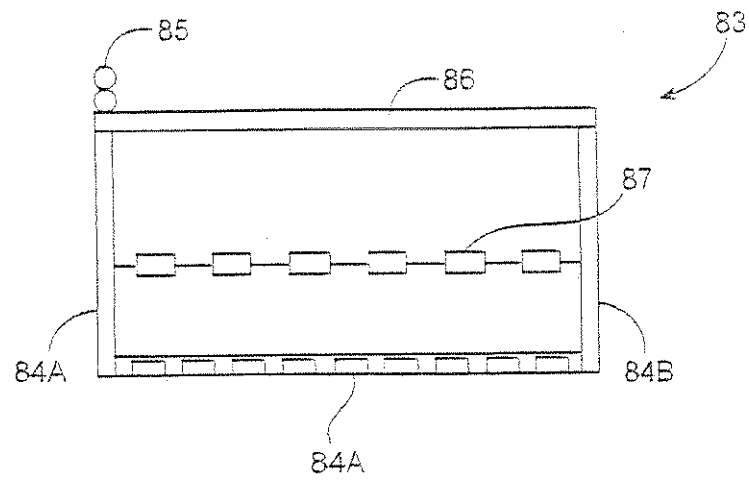


FIG. 18

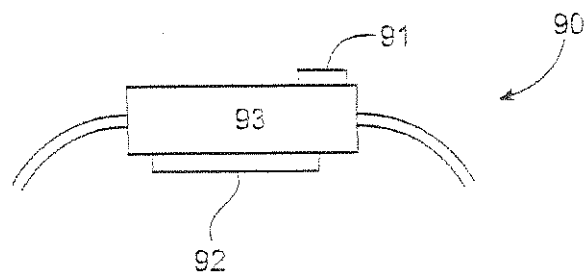


FIG. 19

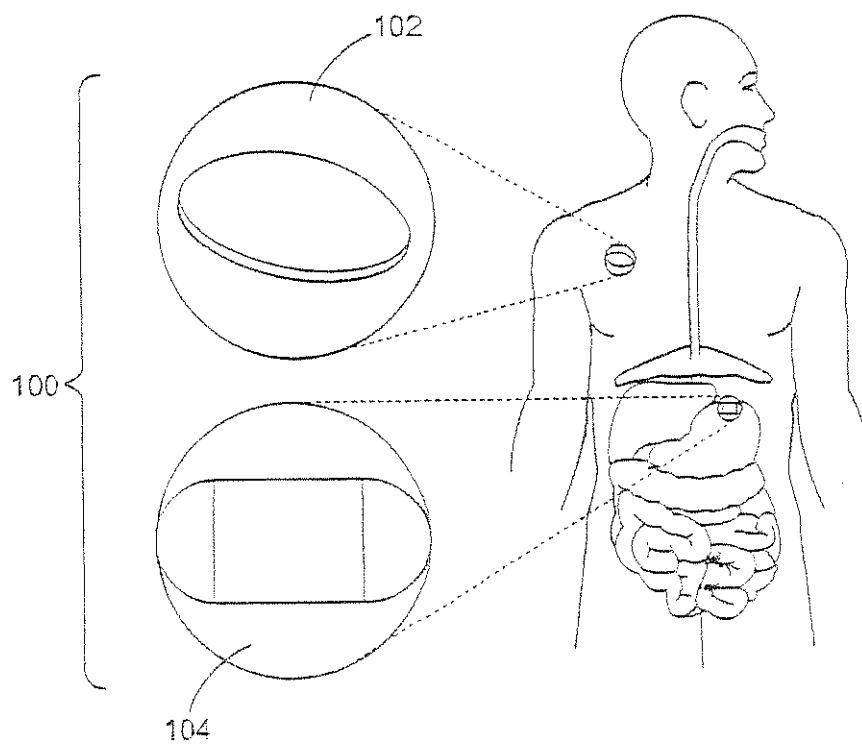


FIG. 20

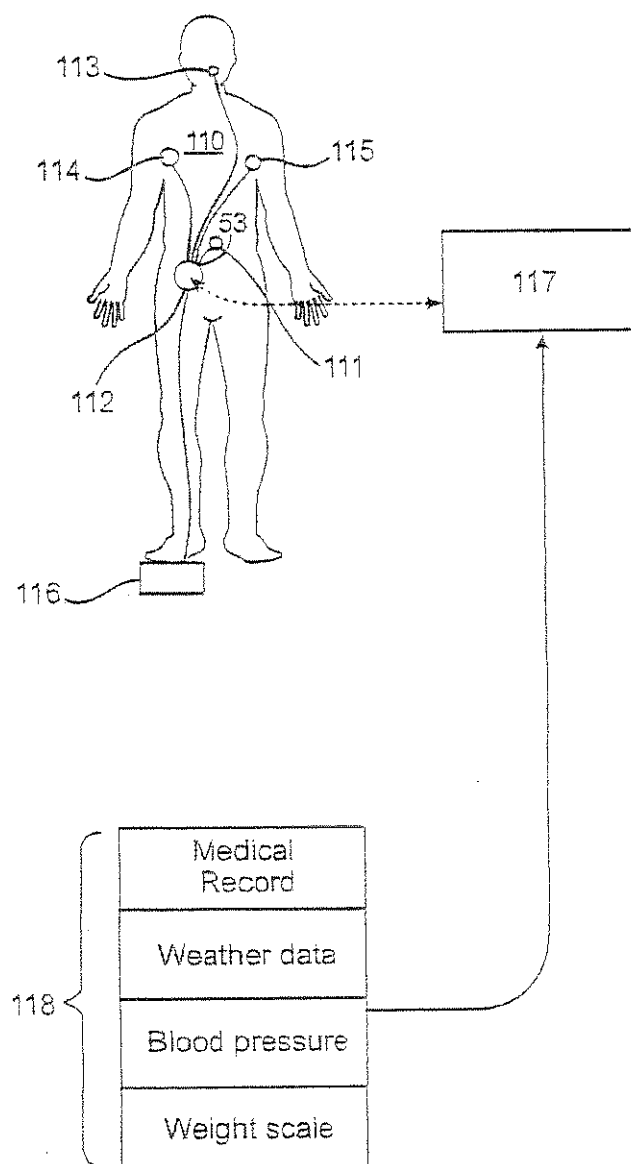


FIG. 21

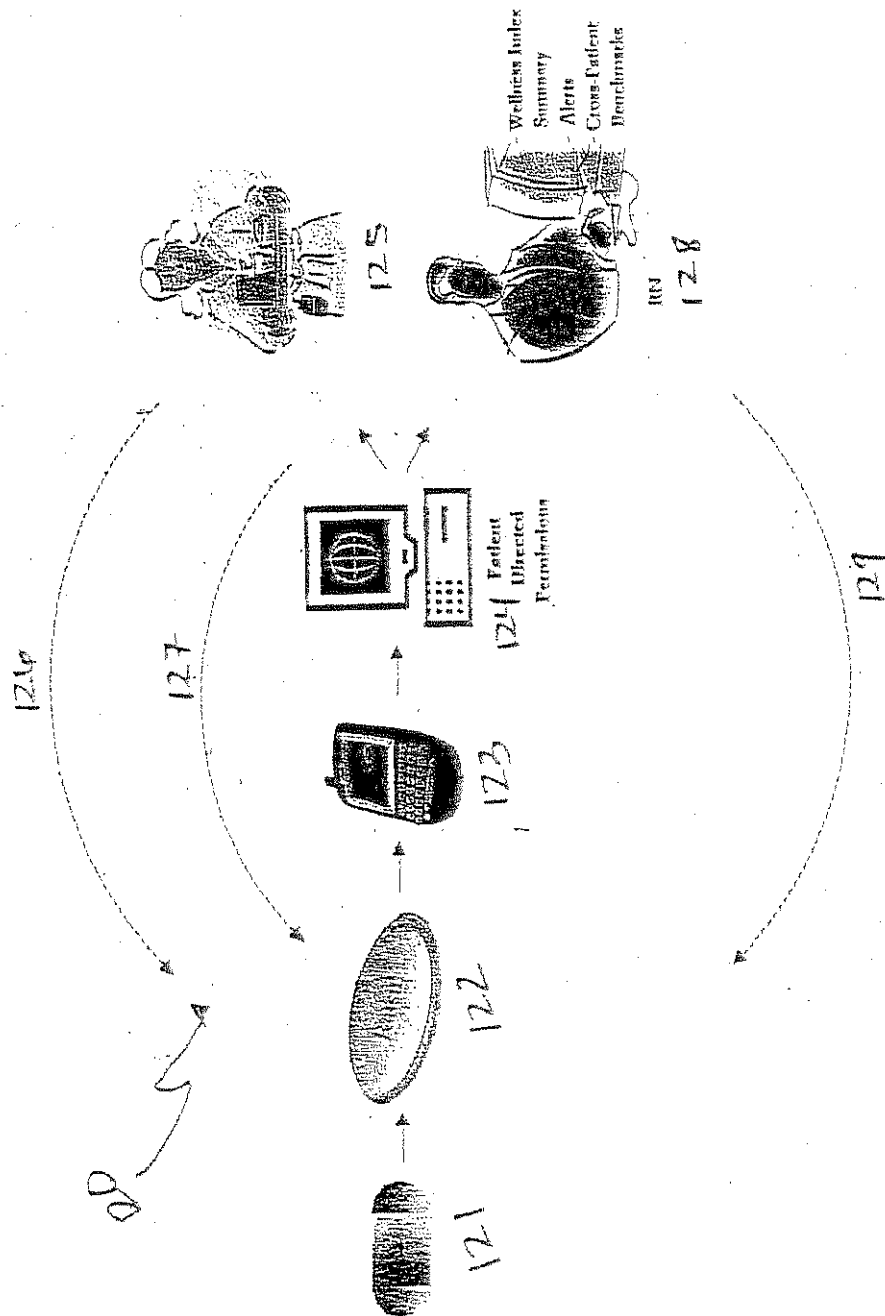


FIG. 22

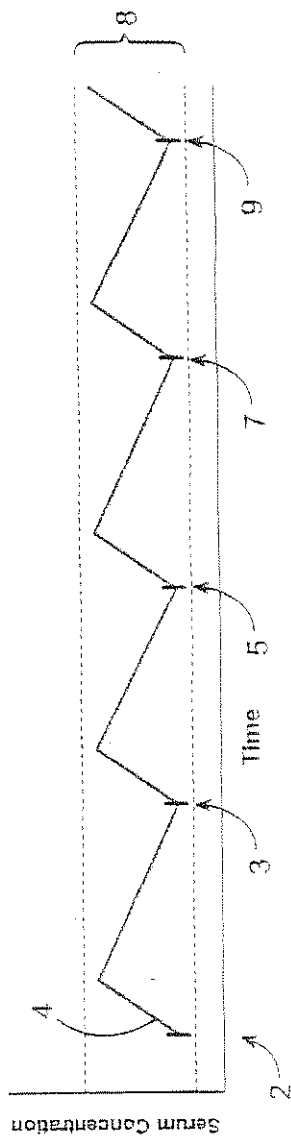


FIG. 23

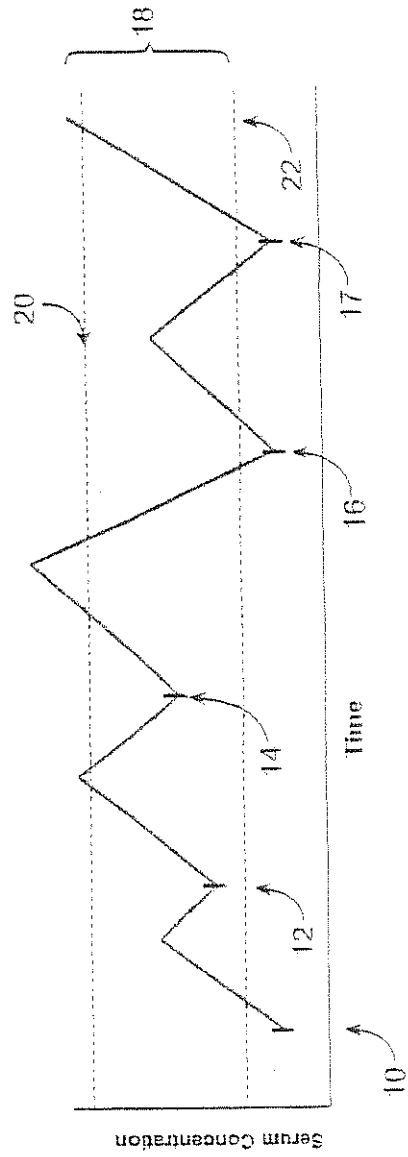


FIG. 24

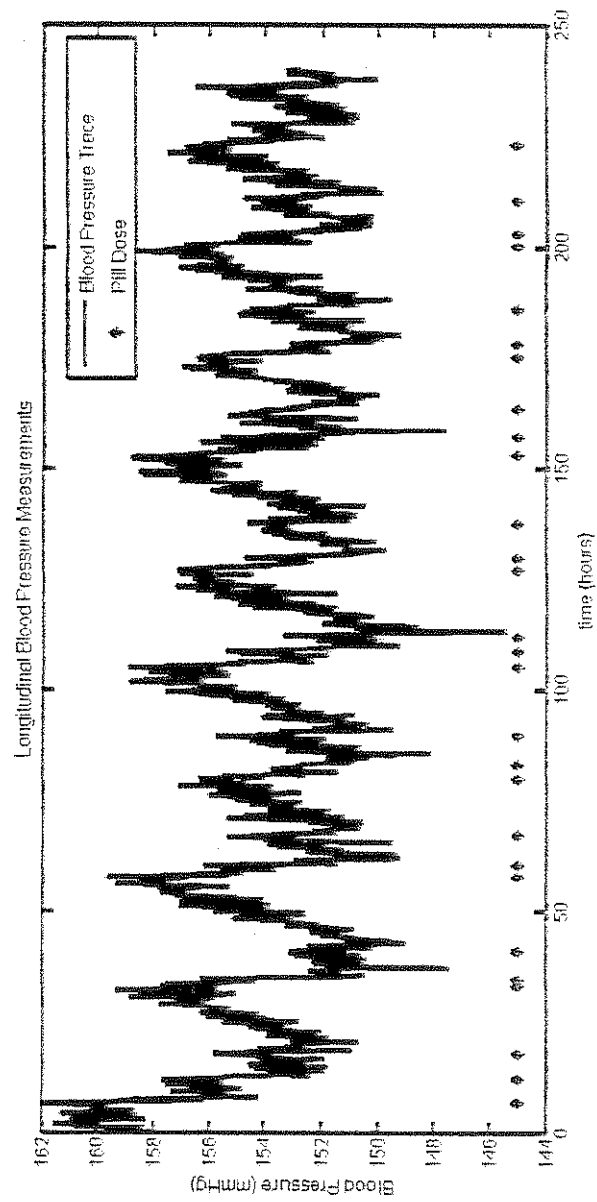


FIG. 25

Blood pressure trace (n-time points) Dosing Pattern Dose response (m-time points)

$$y_{n \times 1} = X_{n \times m} h_{m \times 1}$$

Solve the linear equation for the dose response, h

$$h = (X^T X)^{-1} X^T y$$

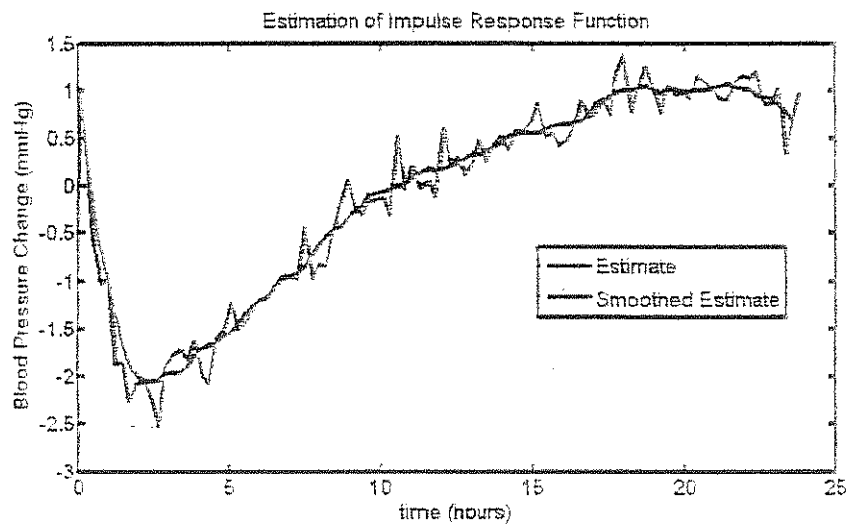
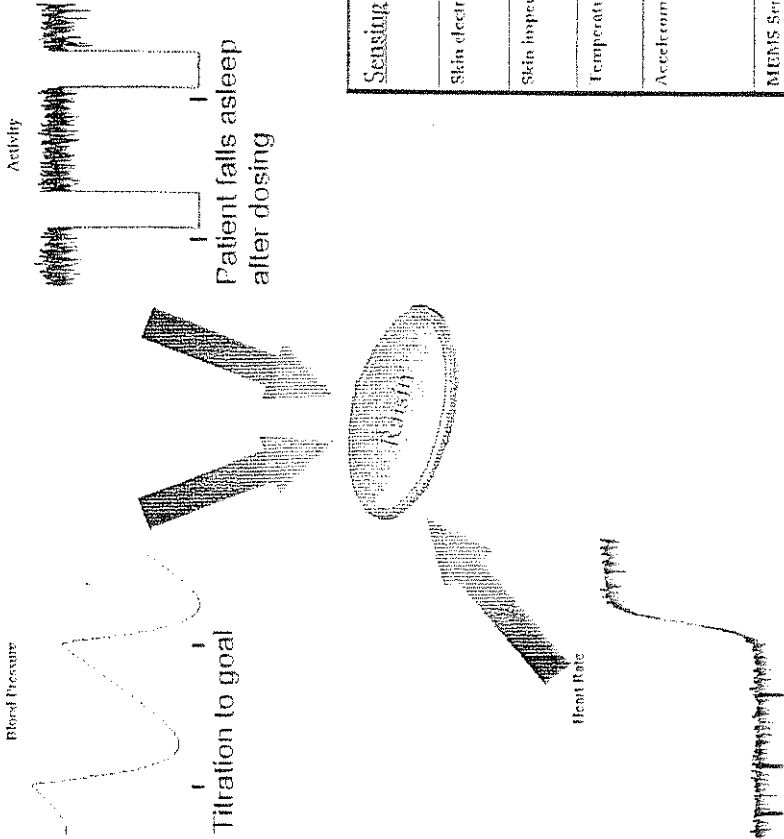


FIG. 26

FIGURE 27



Sensing Device	Physiological Measurement	Application
Skin electrode	EEG, Heart rate	Arhythmia detection
Skin impedance	Respiration rate, Fluid status	Apnea detection
Temperature sensor	Body temperature, Energy flux	Fever detection
Accelerometer	Body motion, Activity estimation, Tremor characterization	Fall detection
MEMS Sensor	Blood pressure	Titration to goal

FIG. 27

FIG. 28

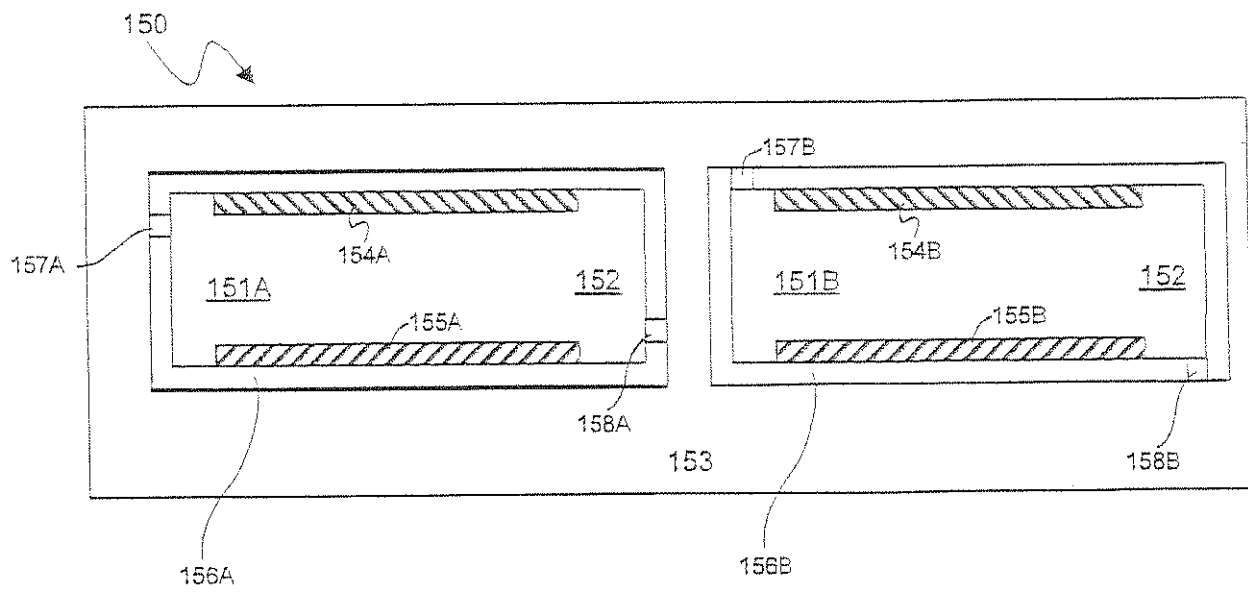
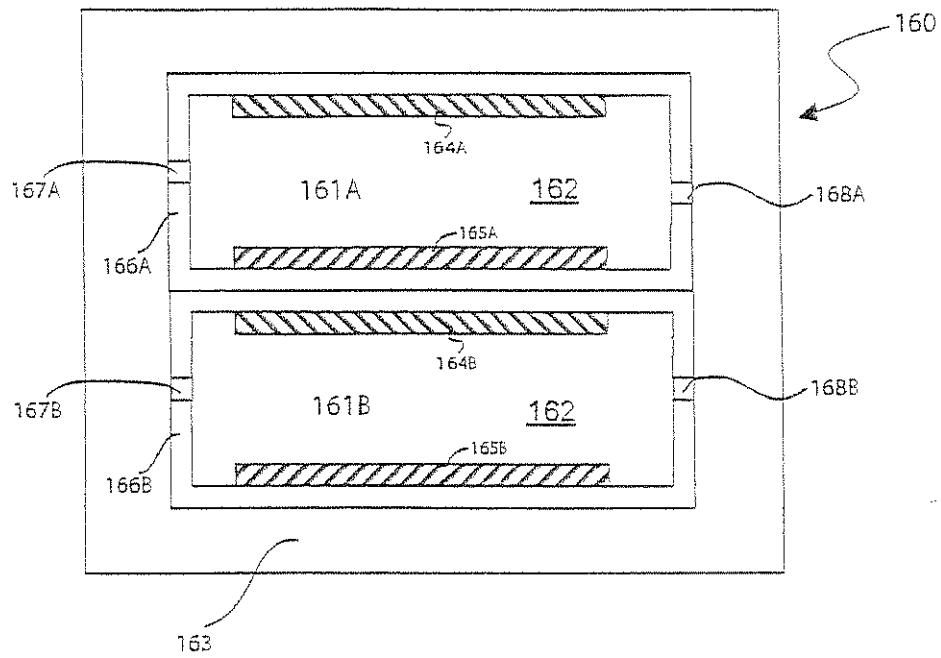


FIG. 29



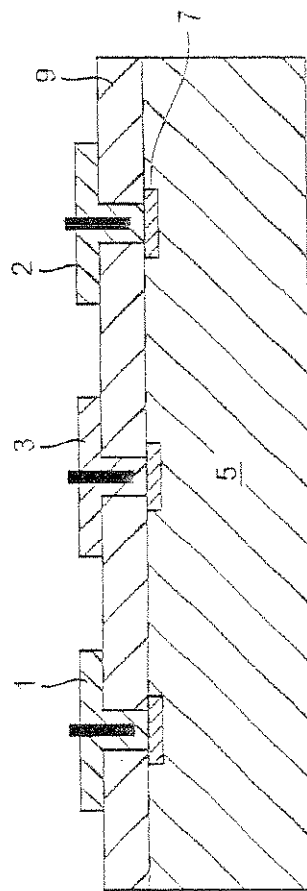


FIG. 30

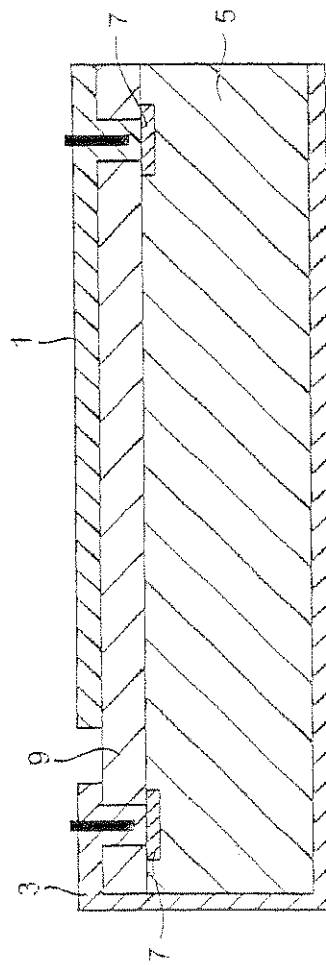


FIG. 31

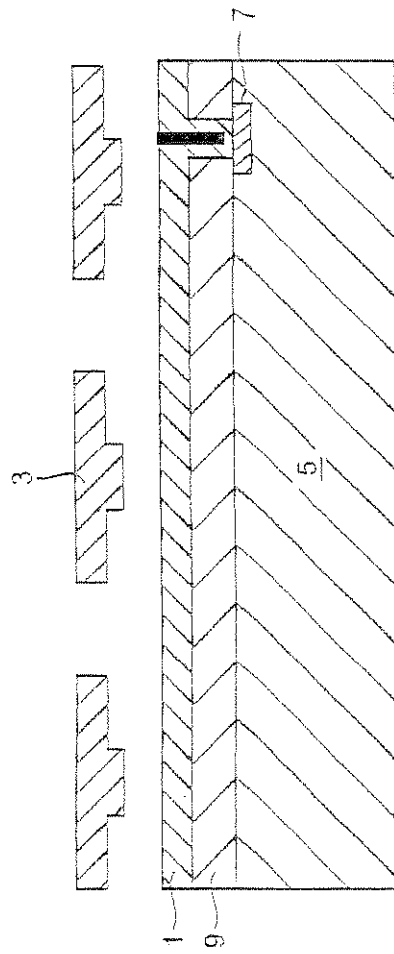


FIG. 32

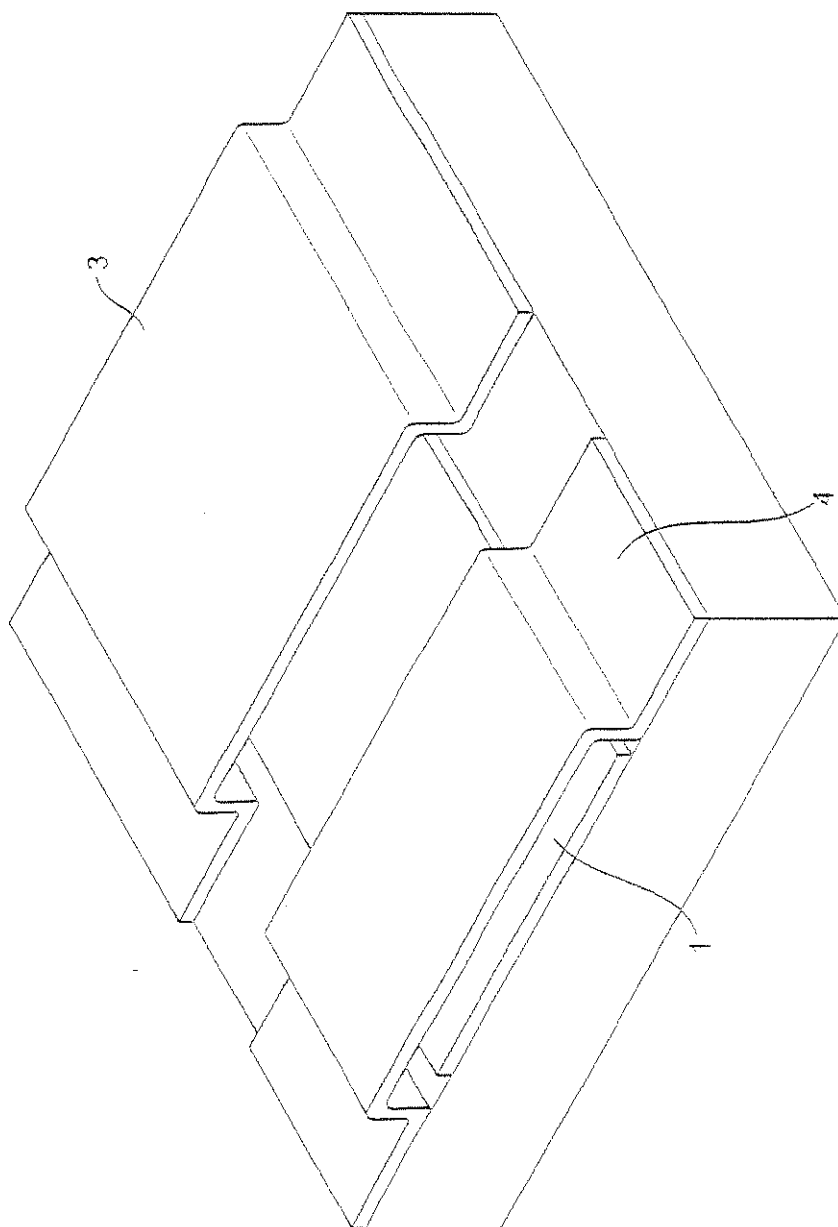


FIG. 33

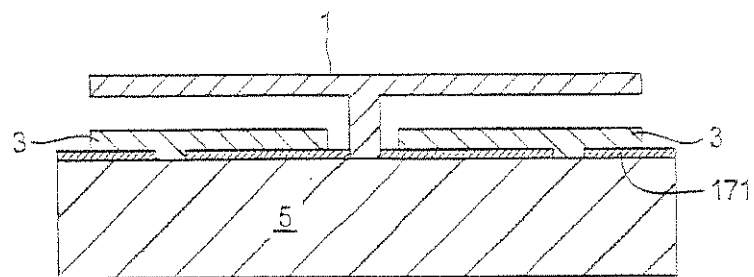


FIG. 34

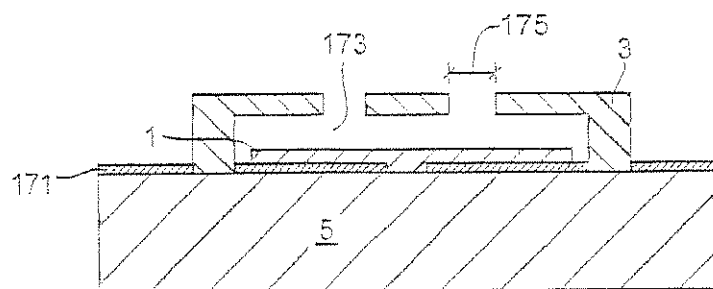


FIG. 35

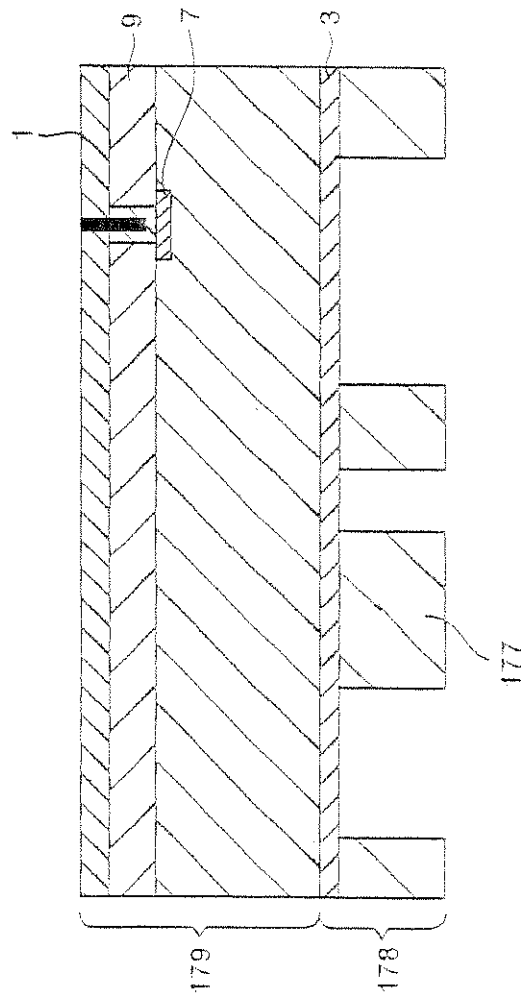


FIG. 36