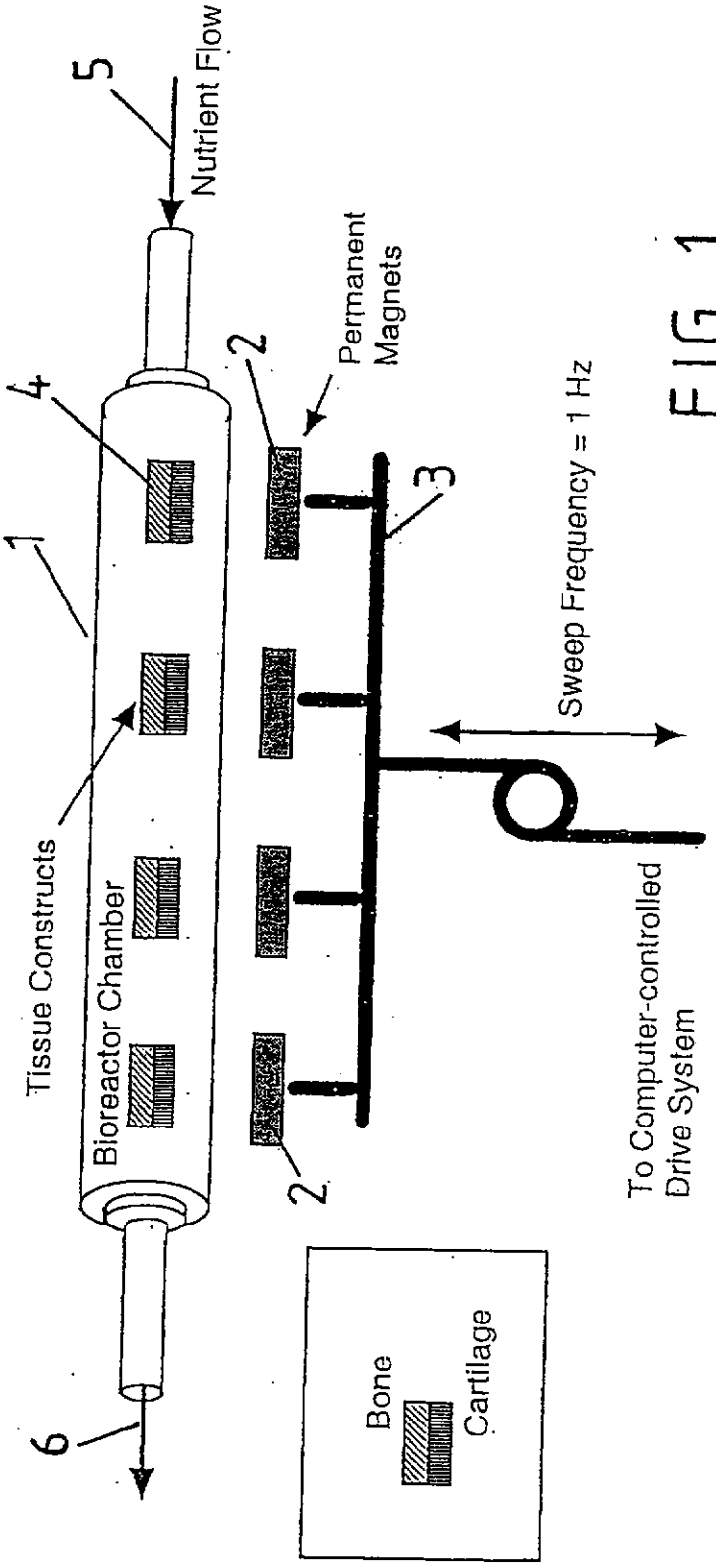

5
Nutrient Flow
2
Permanent Magnets
4
1
3
Sweep Frequency = 1 Hz
Tissue Constructs
Bioreactor Chamber
2
To Computer-controlled Drive System
6
Bone
Cartilage

FIG.1

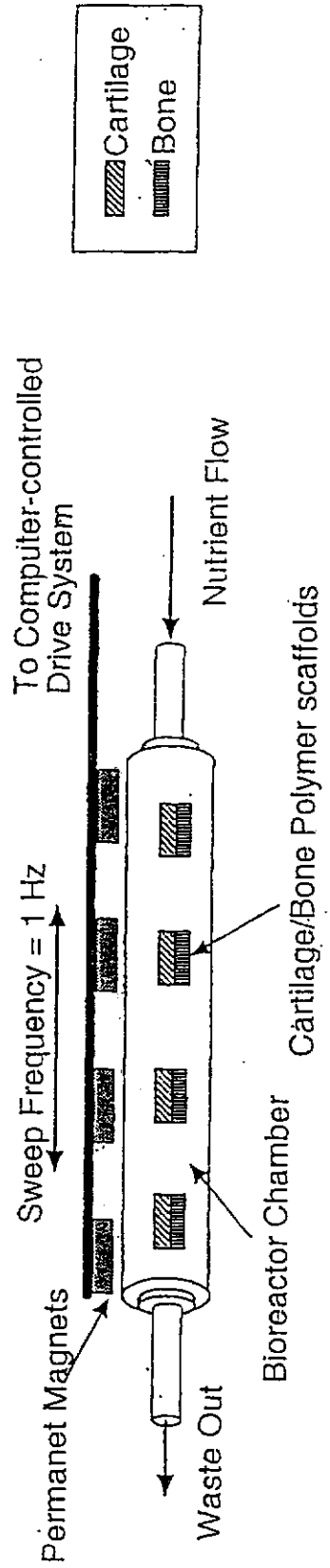
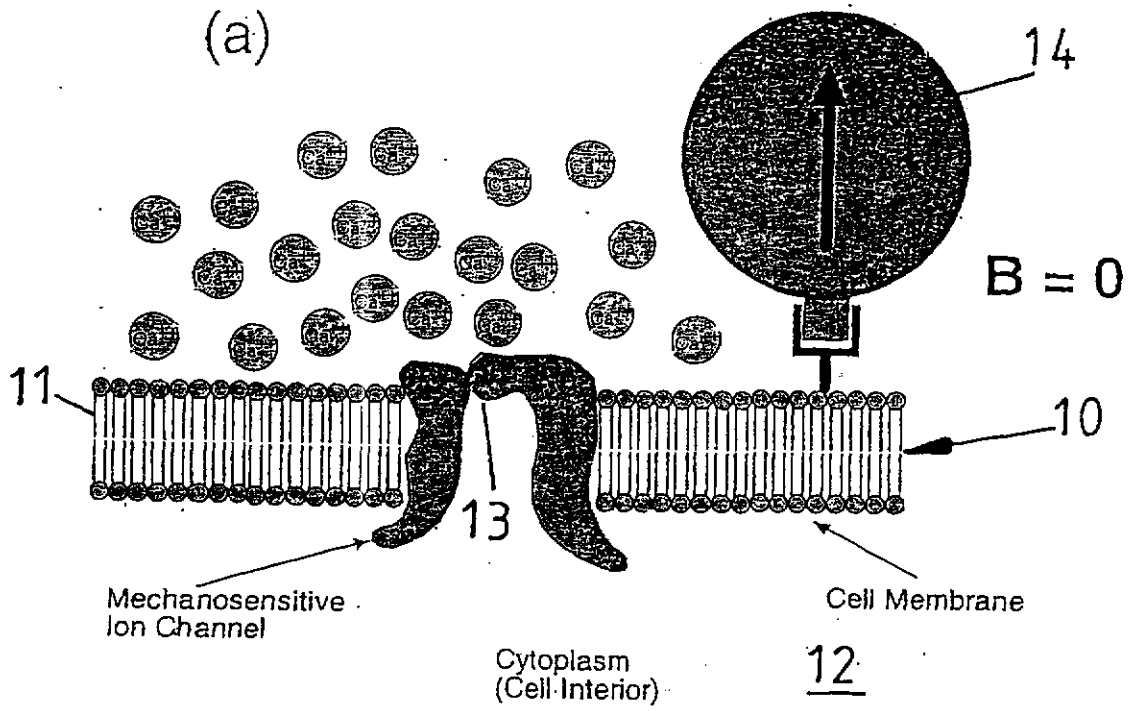

Cartilage
Bone
To Computer-controlled Drive System
Nutrient Flow
Sweep Frequency = 1 Hz
Cartilage/Bone Polymer scaffolds
Bioreactor Chamber
Permanet Magnets
Waste Out

FIG. 2


(a)
14
B = 0
11
10
13
Mechanosensitive Ion Channel
Cell Membrane
Cytoplasm (Cell Interior)
12

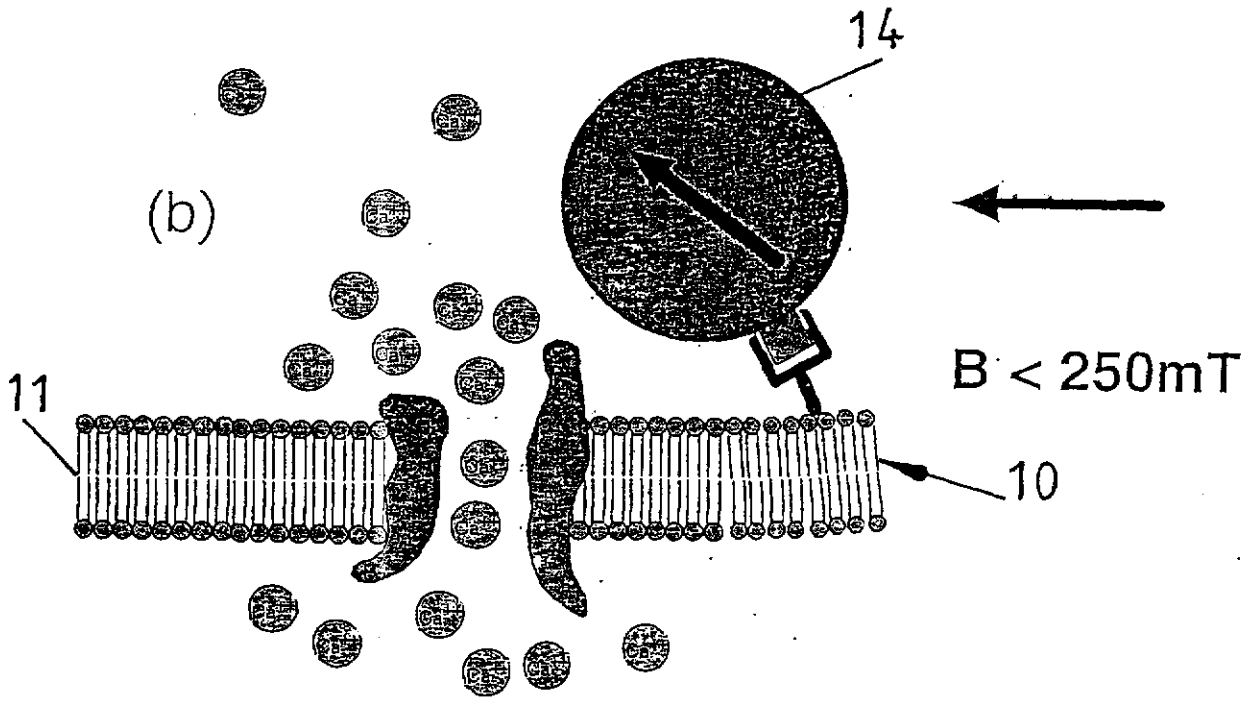

14
(b)
B < 250mT
11
10

FIG. 3