Fig.1

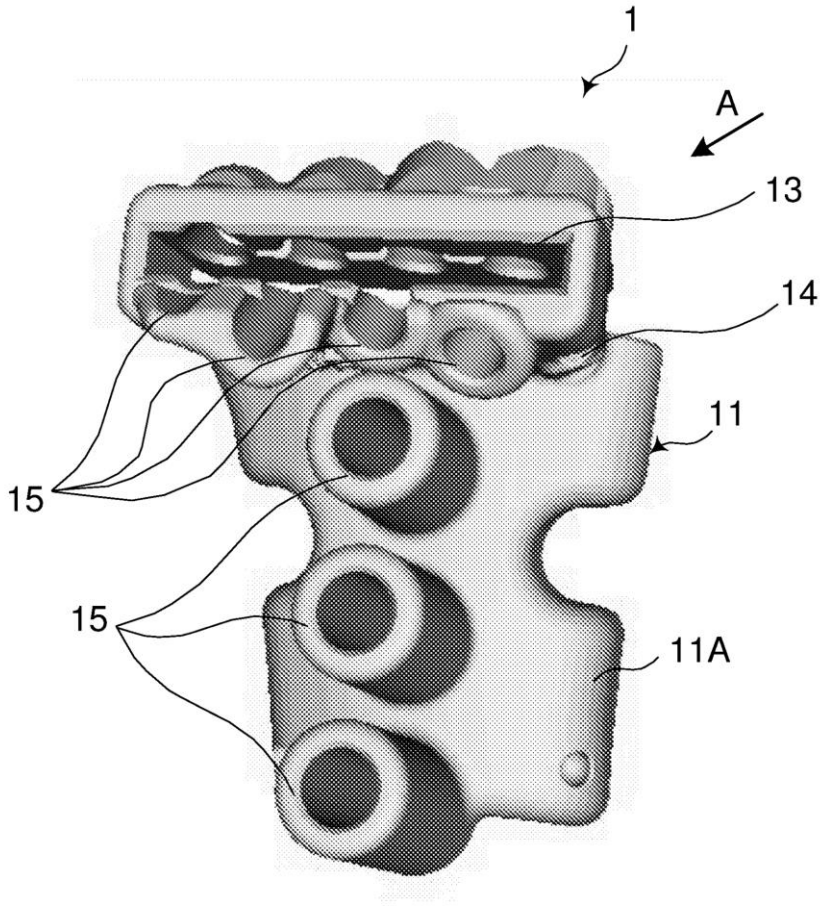


Fig.2

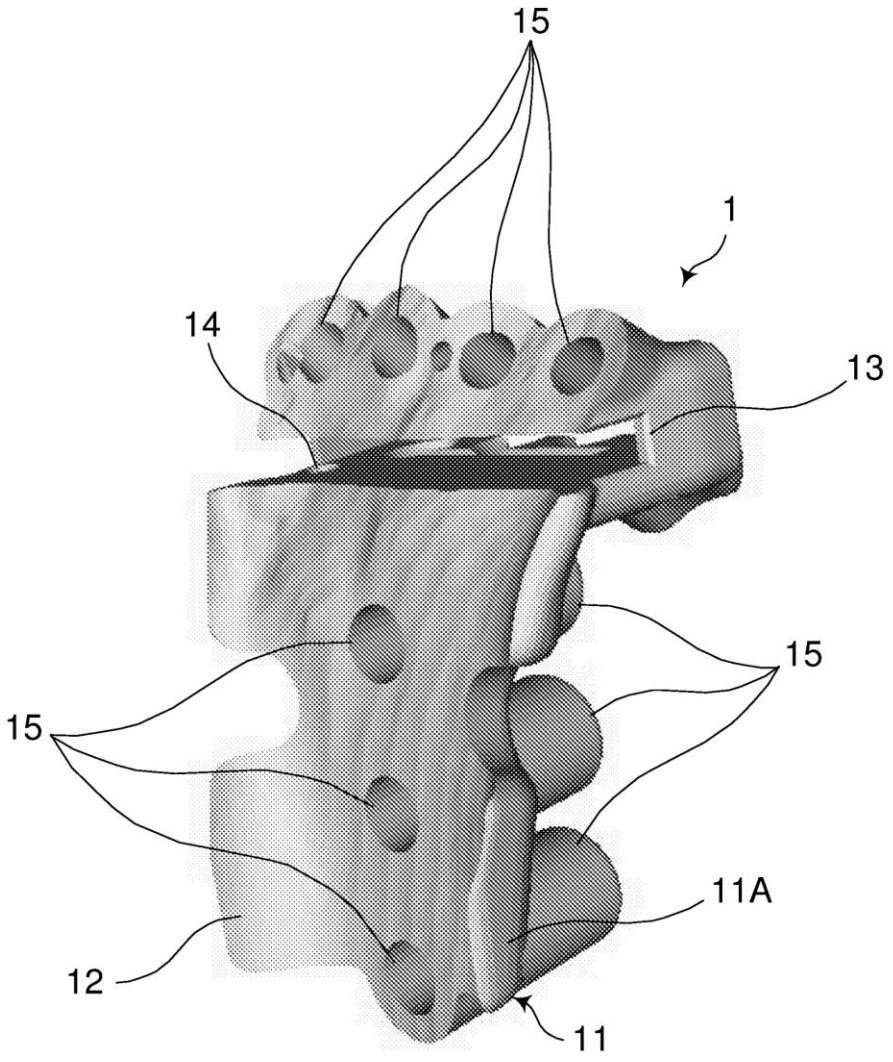


Fig.3

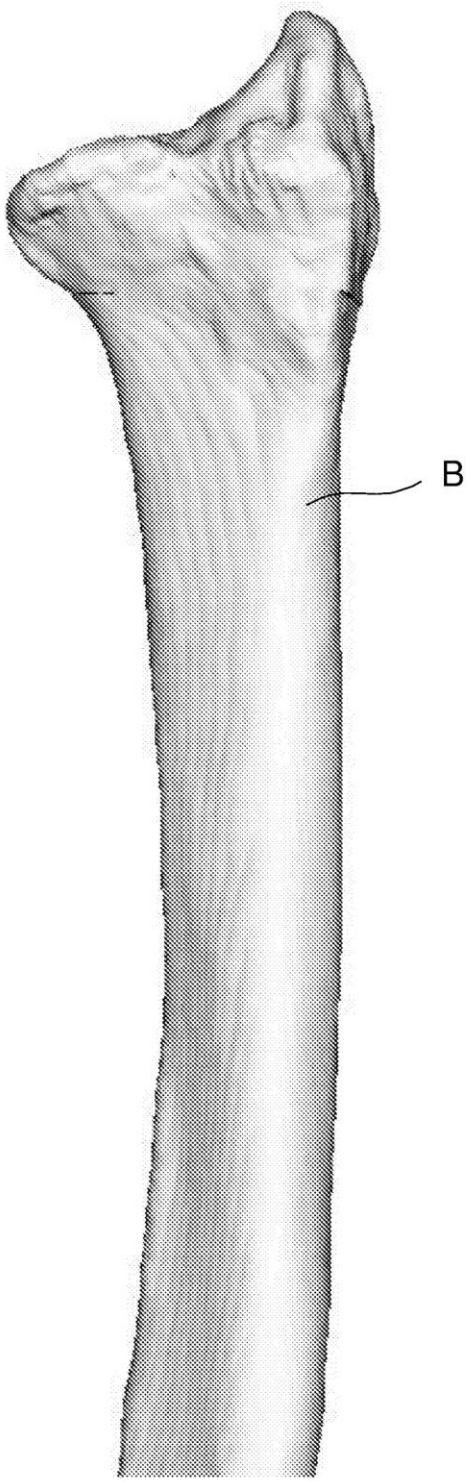


Fig.4

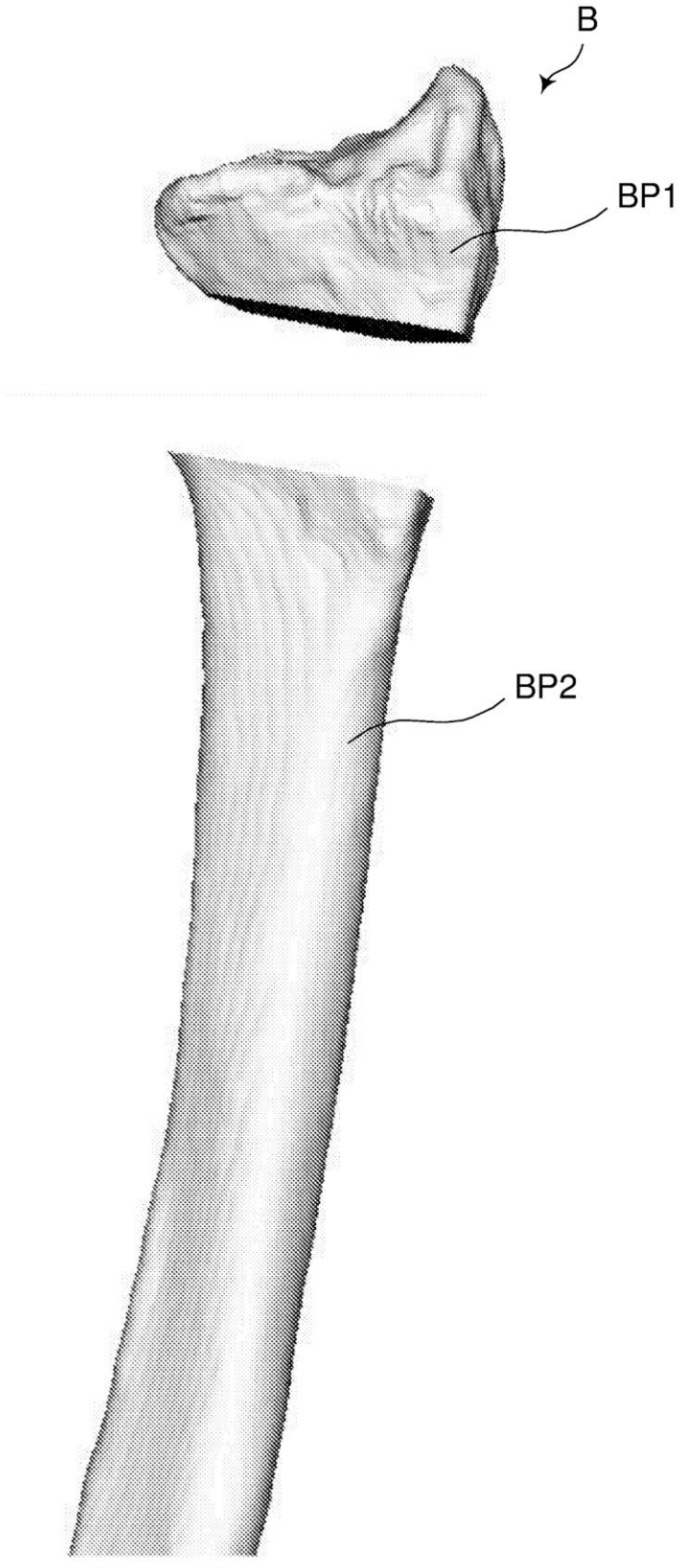


Fig.5

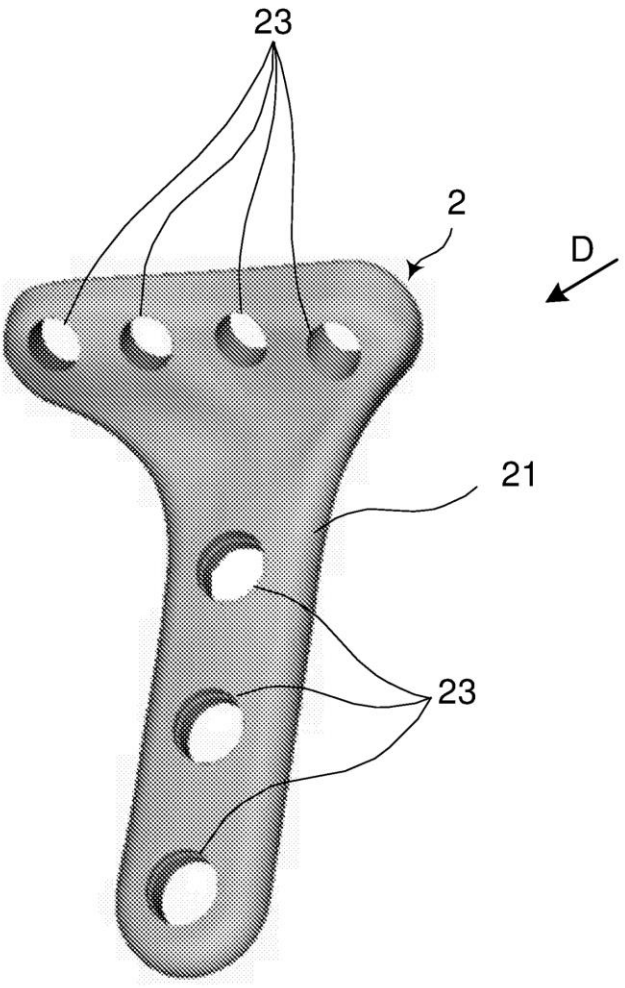


Fig.6

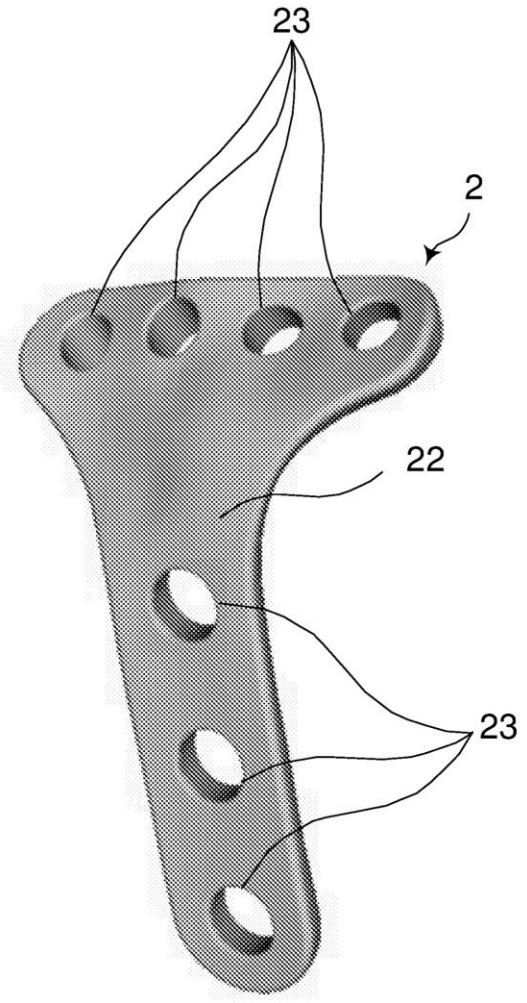


Fig.7

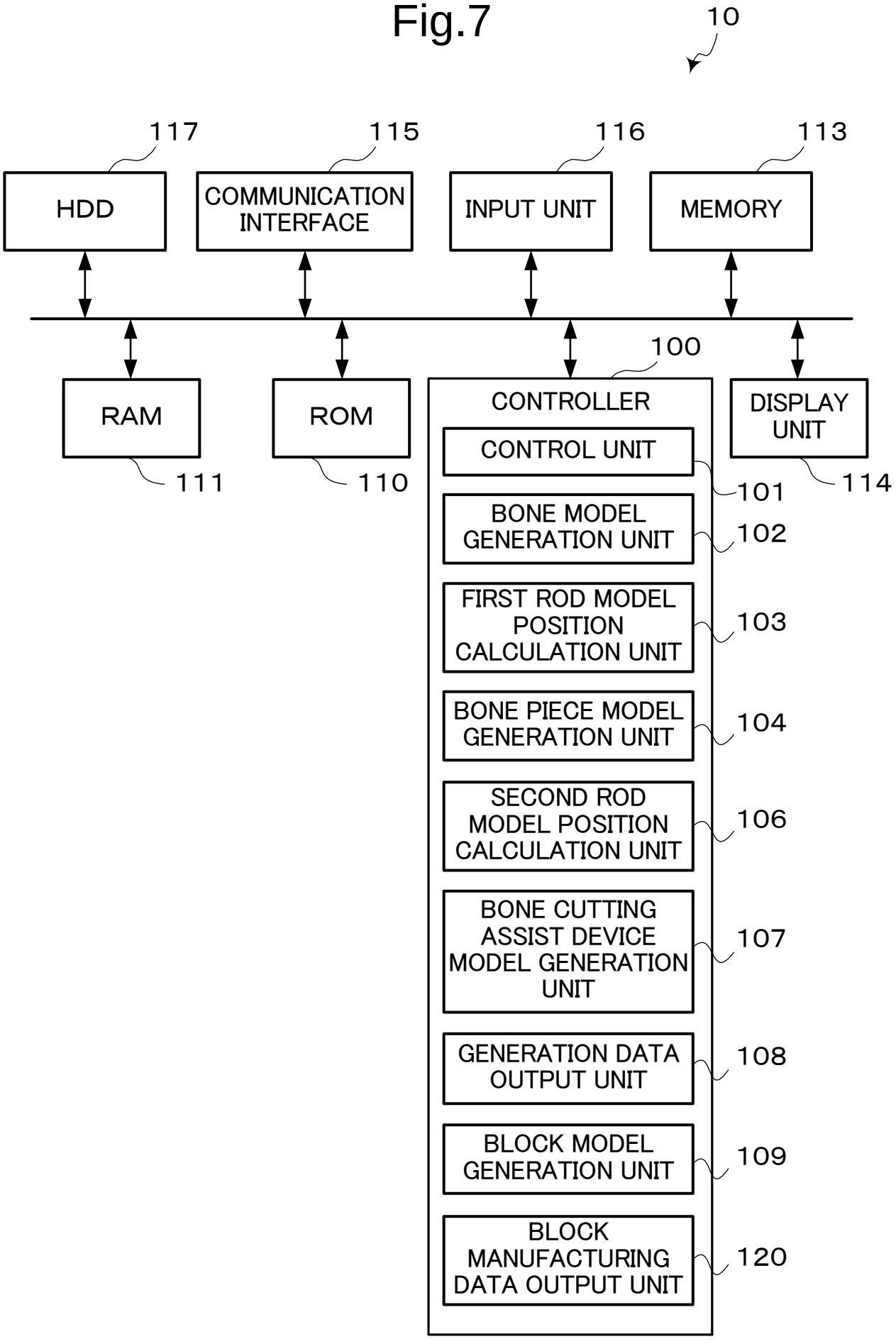

10
117
115
116
113
HDD
COMMUNICATION INTERFACE
INPUT UNIT
MEMORY
100
RAM
ROM
CONTROLLER
DISPLAY UNIT
111
110
114
CONTROL UNIT
101
BONE MODEL GENERATION UNIT
102
FIRST ROD MODEL POSITION CALCULATION UNIT
103
BONE PIECE MODEL GENERATION UNIT
104
SECOND ROD MODEL POSITION CALCULATION UNIT
106
BONE CUTTING ASSIST DEVICE MODEL GENERATION UNIT
107
GENERATION DATA OUTPUT UNIT
108
BLOCK MODEL GENERATION UNIT
109
BLOCK MANUFACTURING DATA OUTPUT UNIT
120

Fig.8

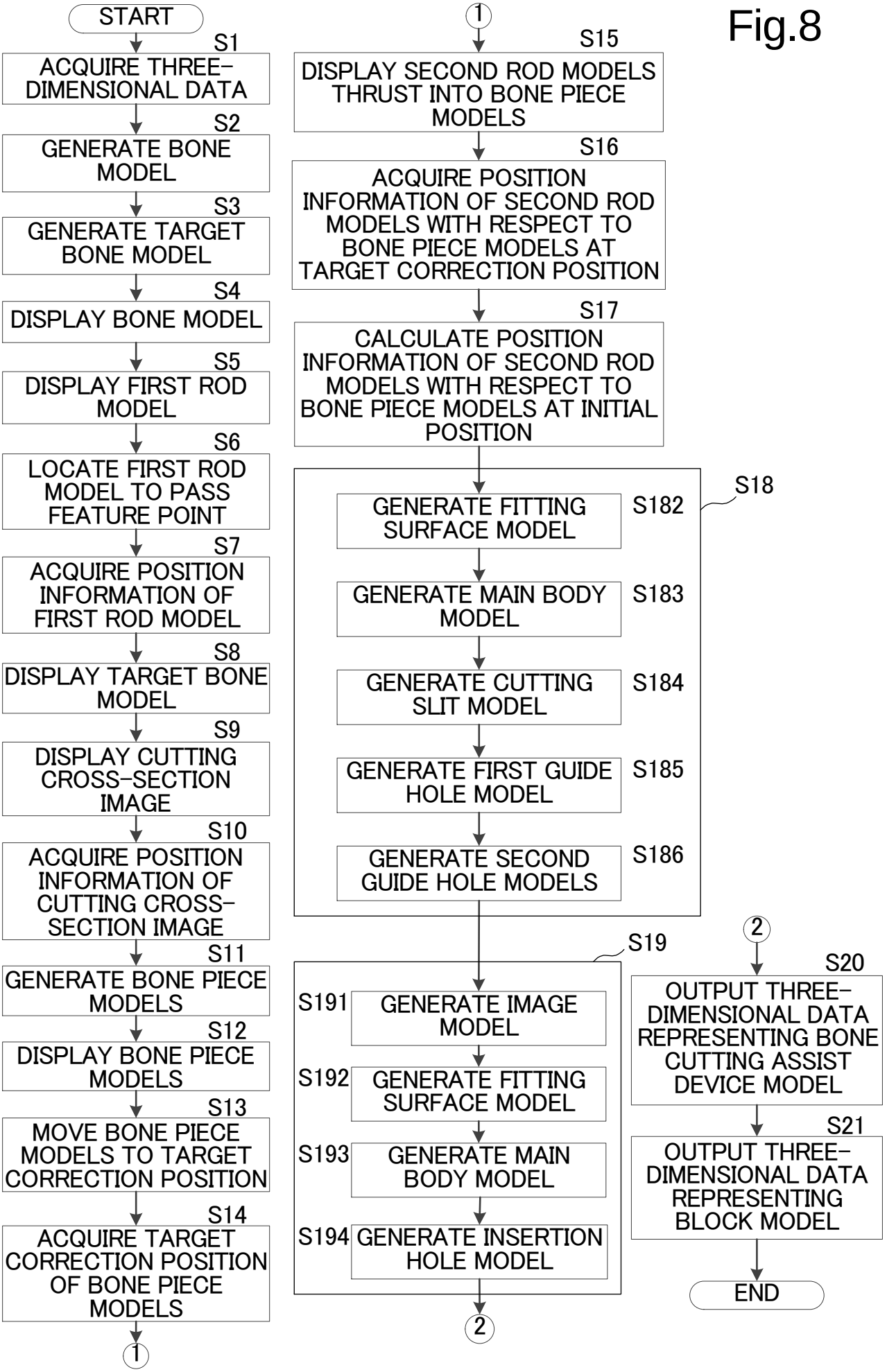

START
S1
ACQUIRE THREE-DIMENSIONAL DATA
S2
GENERATE BONE MODEL
S3
GENERATE TARGET BONE MODEL
S4
DISPLAY BONE MODEL
S5
DISPLAY FIRST ROD MODEL
S6
LOCATE FIRST ROD MODEL TO PASS FEATURE POINT
S7
ACQUIRE POSITION INFORMATION OF FIRST ROD MODEL
S8
DISPLAY TARGET BONE MODEL
S9
DISPLAY CUTTING CROSS-SECTION IMAGE
S10
ACQUIRE POSITION INFORMATION OF CUTTING CROSS-SECTION IMAGE
S11
GENERATE BONE PIECE MODELS
S12
DISPLAY BONE PIECE MODELS
S13
MOVE BONE PIECE MODELS TO TARGET CORRECTION POSITION
S14
ACQUIRE TARGET CORRECTION POSITION OF BONE PIECE MODELS
1
1
S15
DISPLAY SECOND ROD MODELS THRUST INTO BONE PIECE MODELS
S16
ACQUIRE POSITION INFORMATION OF SECOND ROD MODELS WITH RESPECT TO BONE PIECE MODELS AT TARGET CORRECTION POSITION
S17
CALCULATE POSITION INFORMATION OF SECOND ROD MODELS WITH RESPECT TO BONE PIECE MODELS AT INITIAL POSITION
S18
S182
GENERATE FITTING SURFACE MODEL
S183
GENERATE MAIN BODY MODEL
S184
GENERATE CUTTING SLIT MODEL
S185
GENERATE FIRST GUIDE HOLE MODEL
S186
GENERATE SECOND GUIDE HOLE MODELS
S19
S191
GENERATE IMAGE MODEL
S192
GENERATE FITTING SURFACE MODEL
S193
GENERATE MAIN BODY MODEL
S194
GENERATE INSERTION HOLE MODEL
2
2
S20
OUTPUT THREE-DIMENSIONAL DATA REPRESENTING BONE CUTTING ASSIST DEVICE MODEL
S21
OUTPUT THREE-DIMENSIONAL DATA REPRESENTING BLOCK MODEL
END

Fig.9

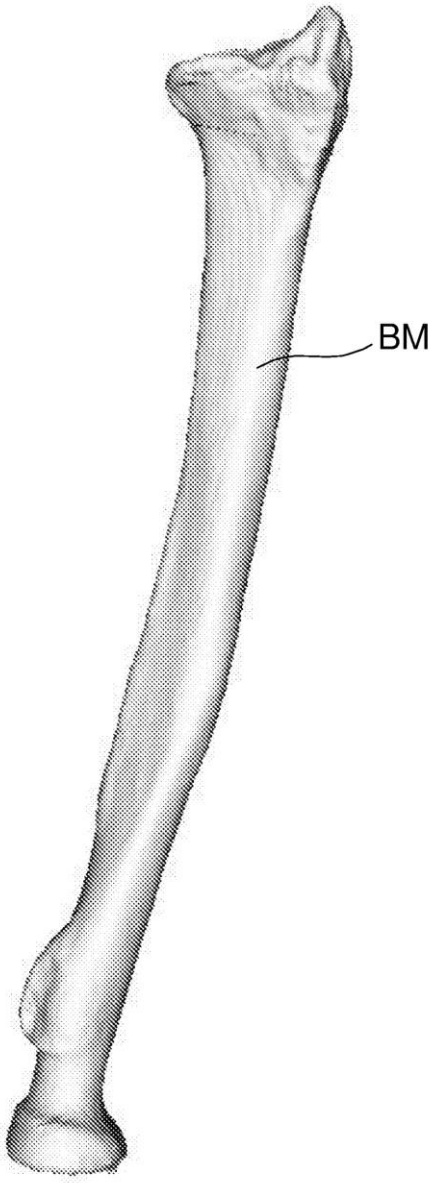


Fig.10

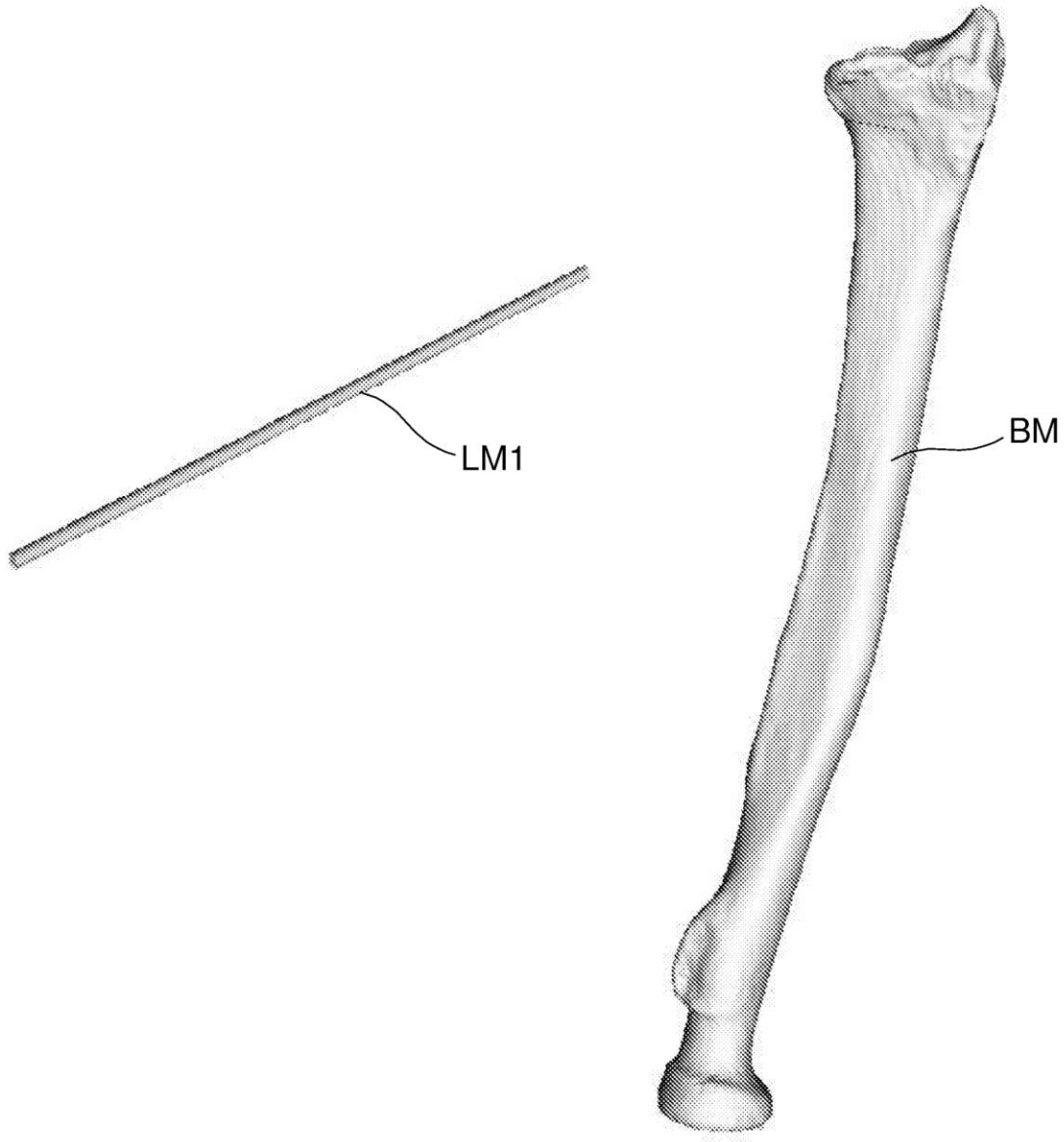


Fig.11

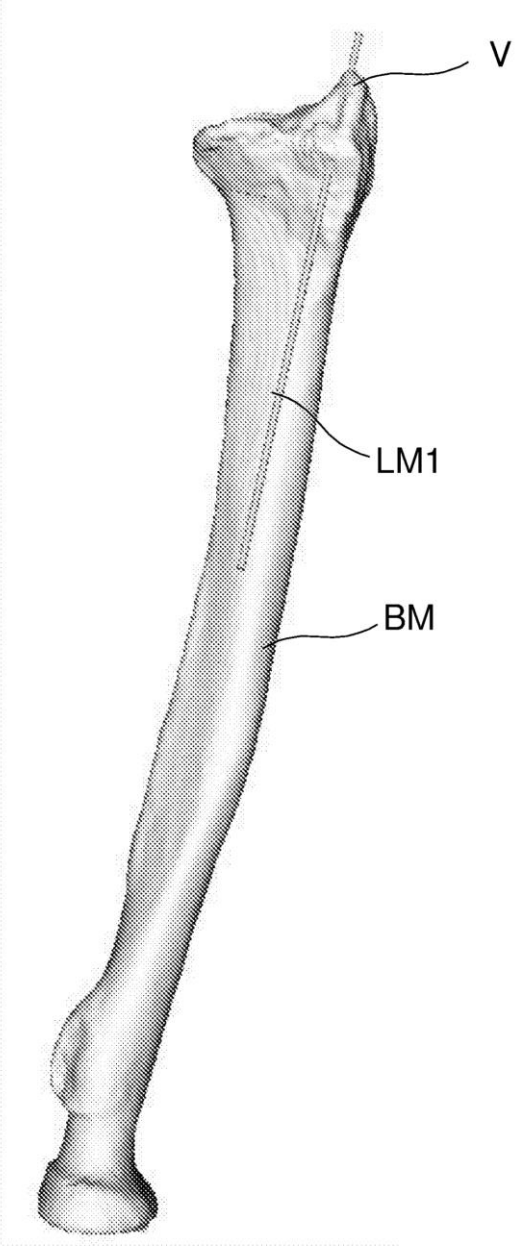


Fig.12

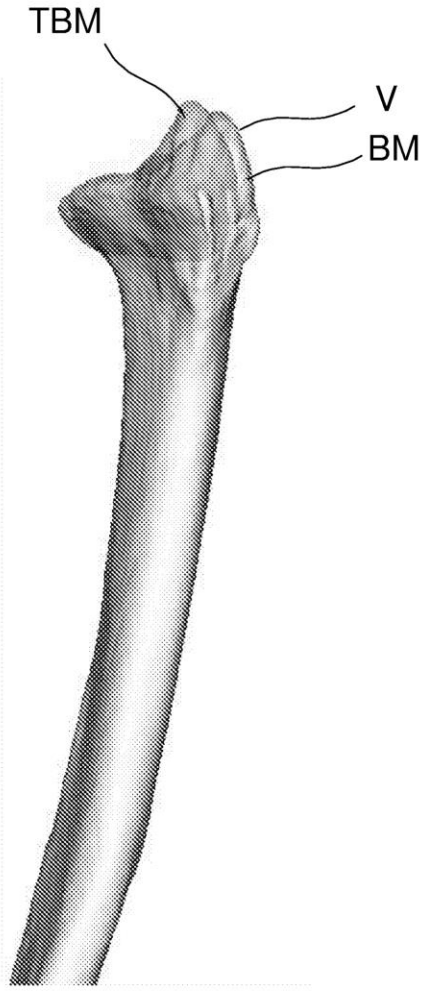


Fig.13

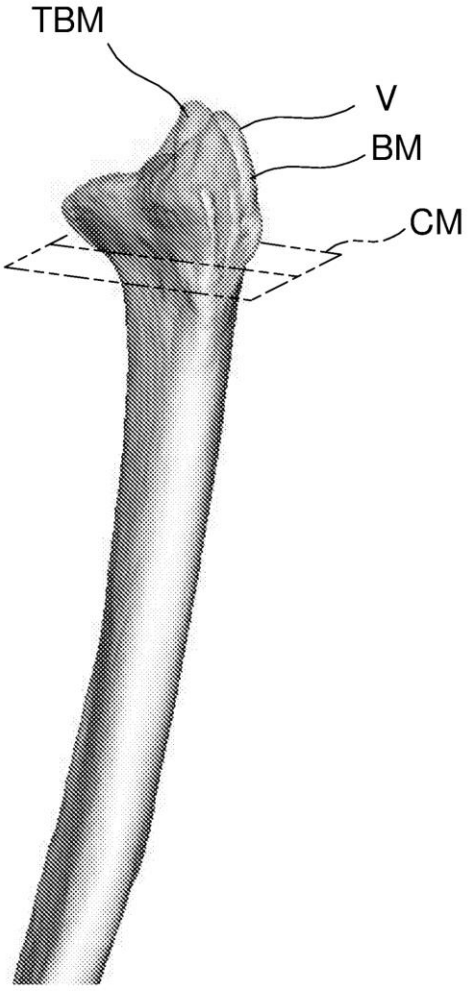


Fig.14

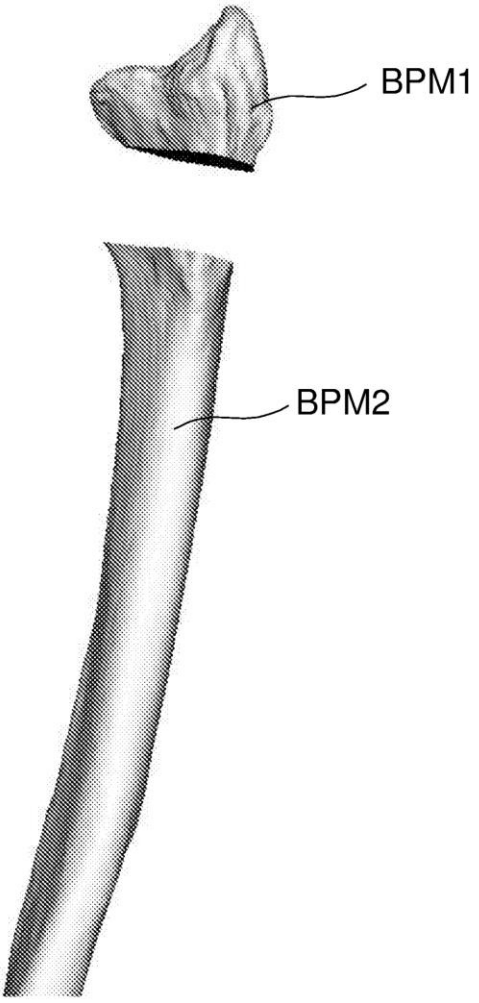


Fig.15

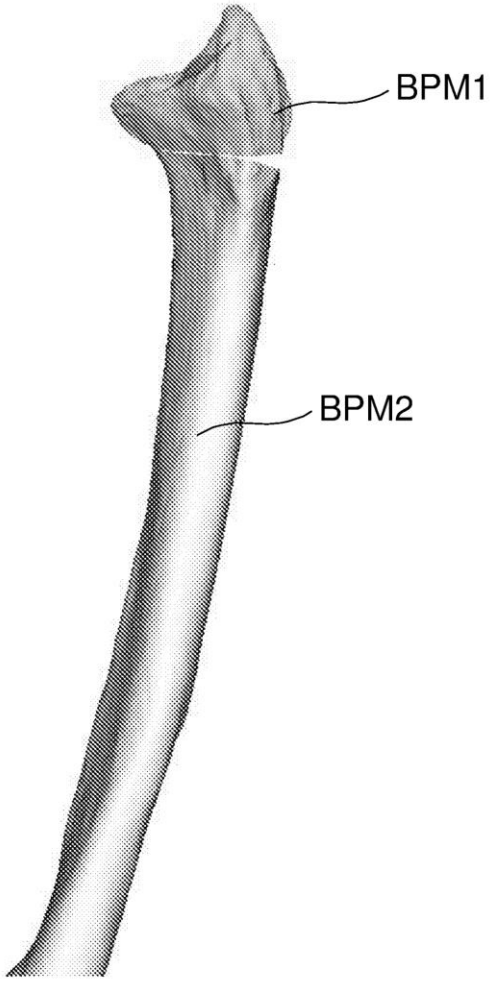


Fig.16

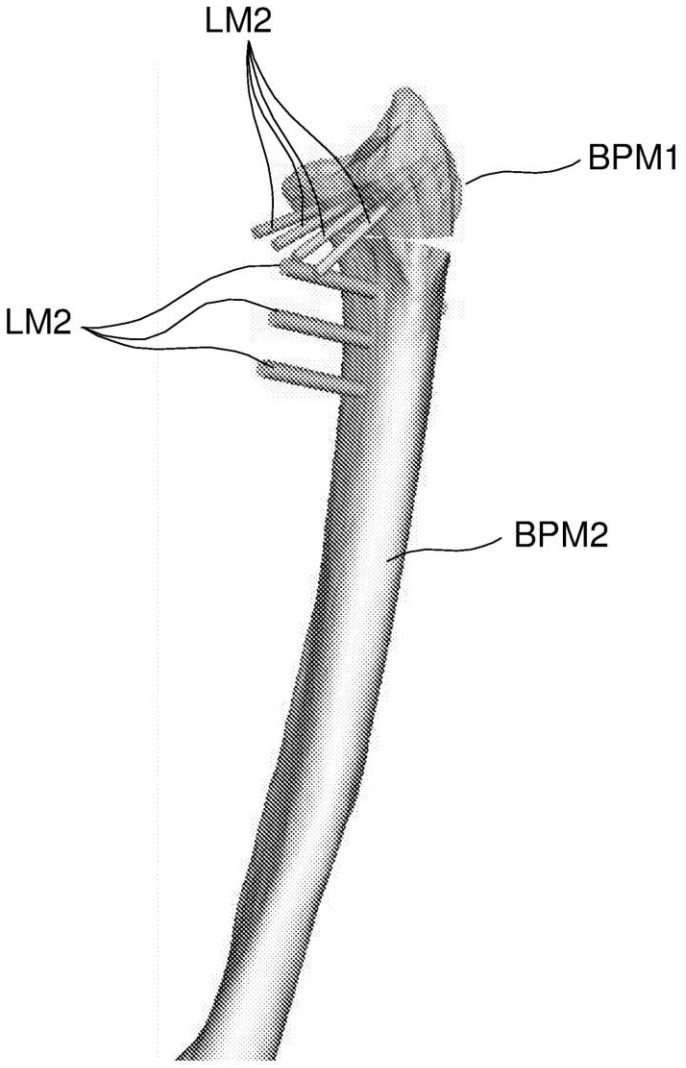


Fig.17

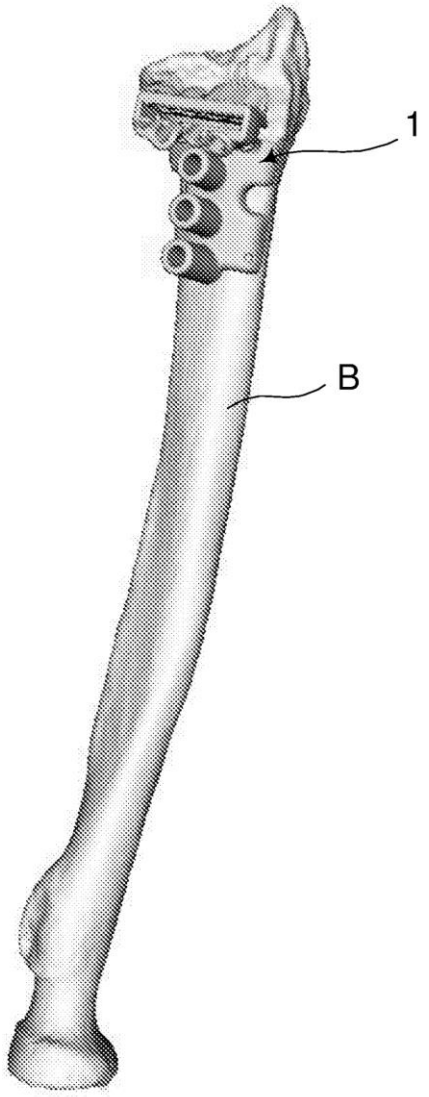


Fig.18

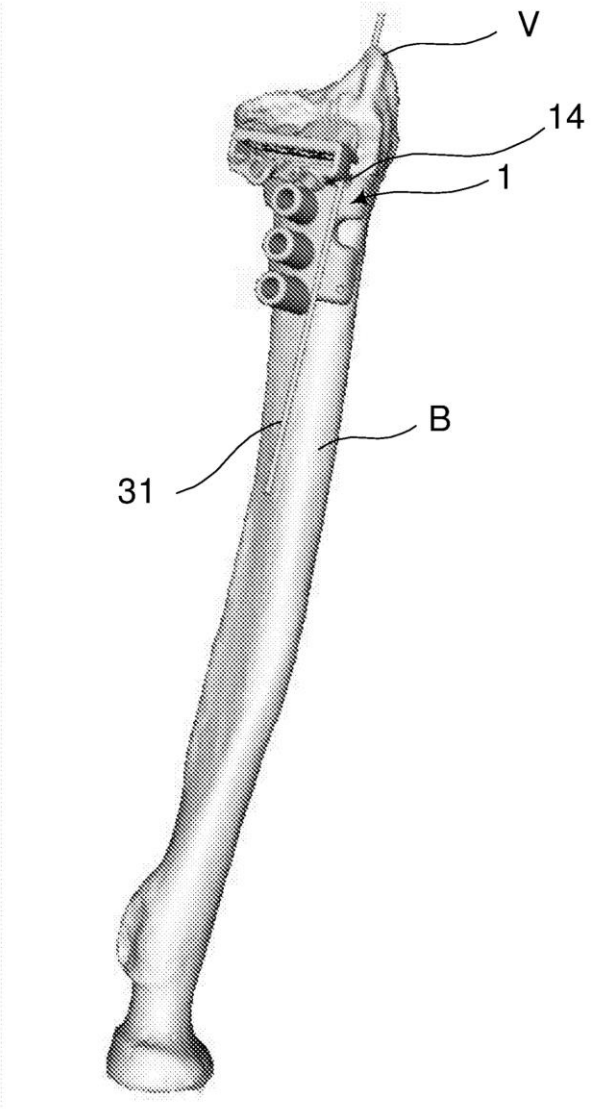


Fig.19

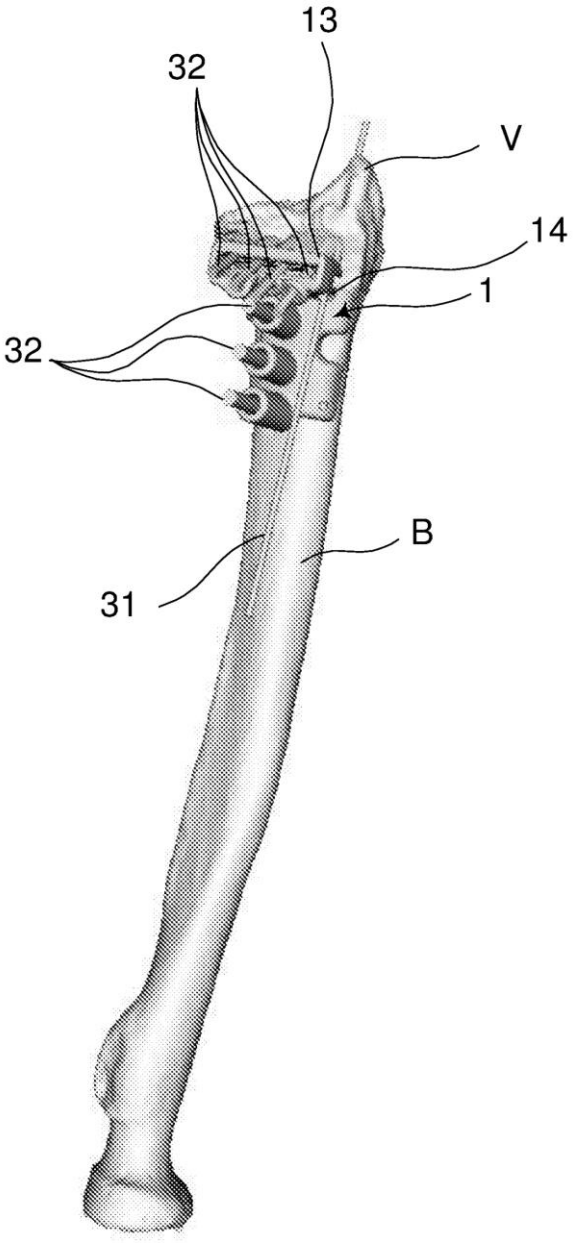


Fig.20

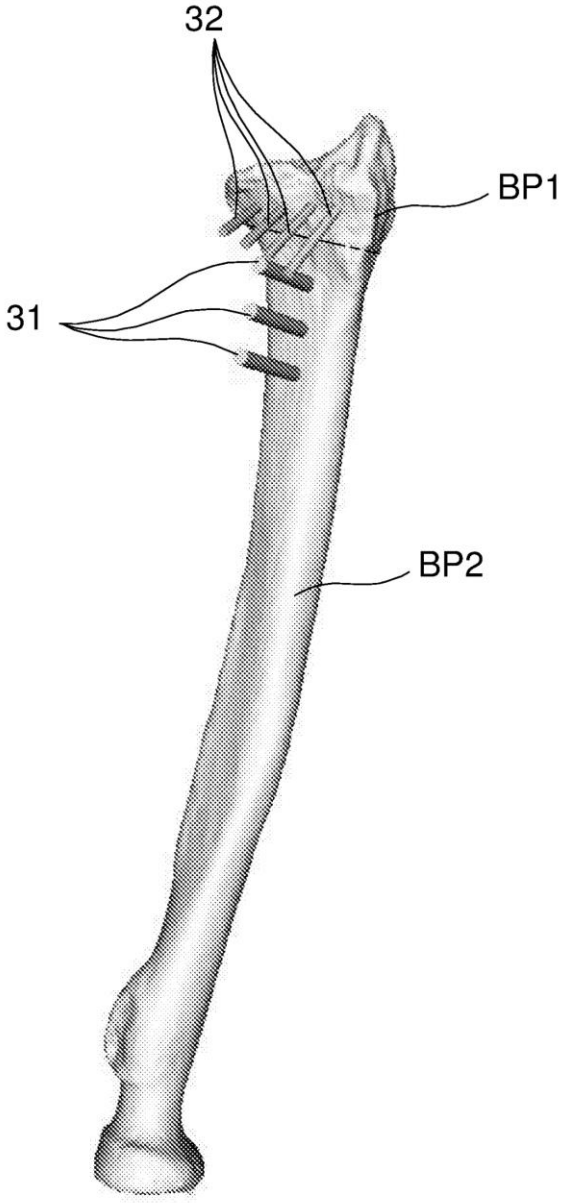


Fig.21

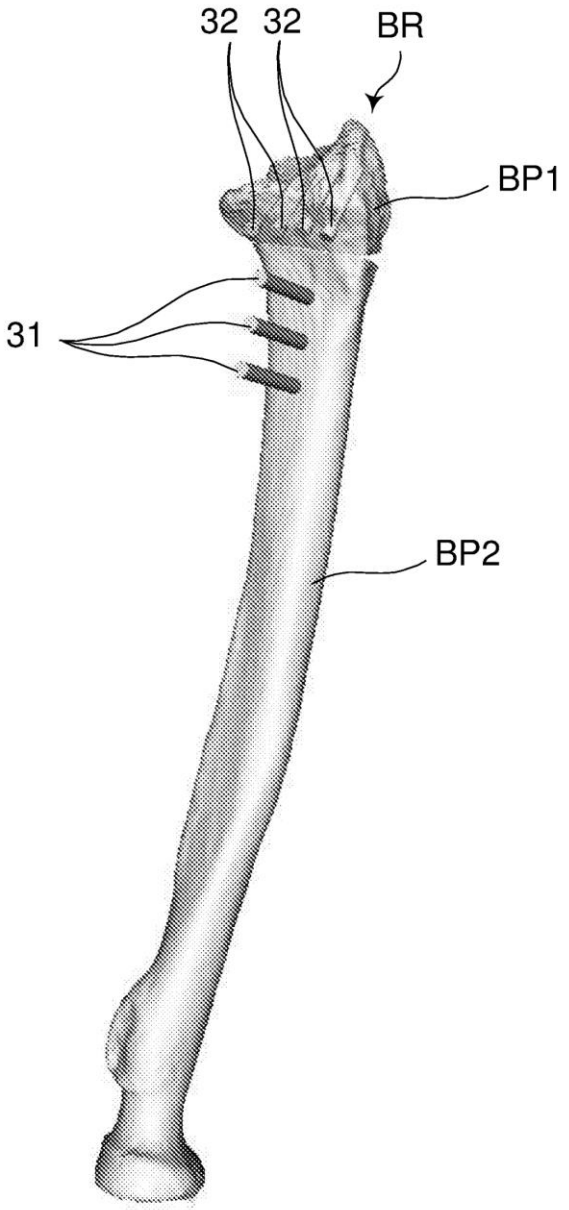


Fig.22

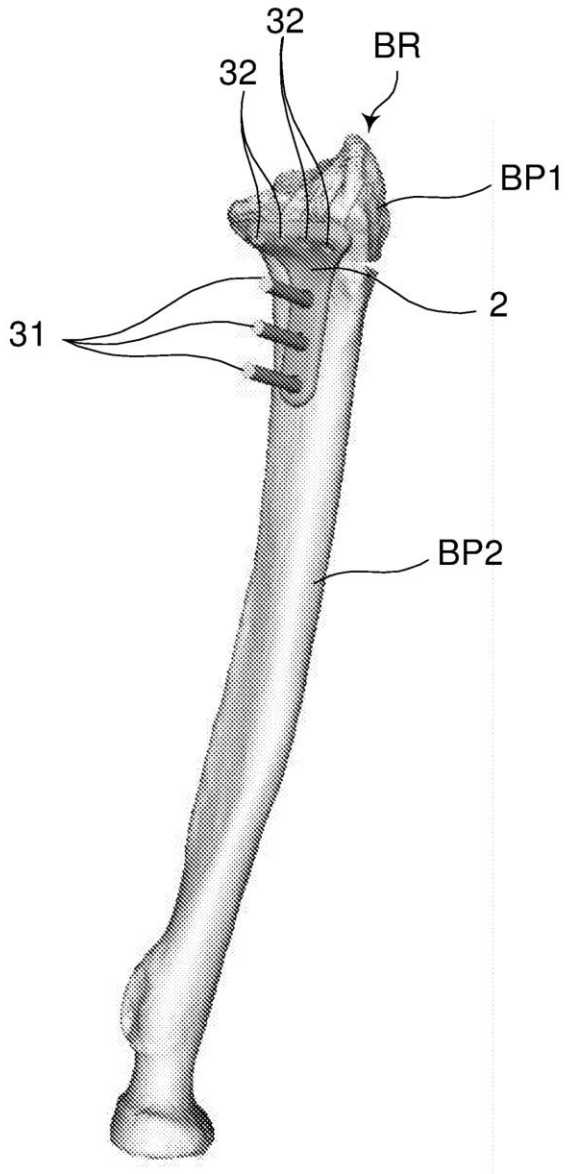


Fig.23

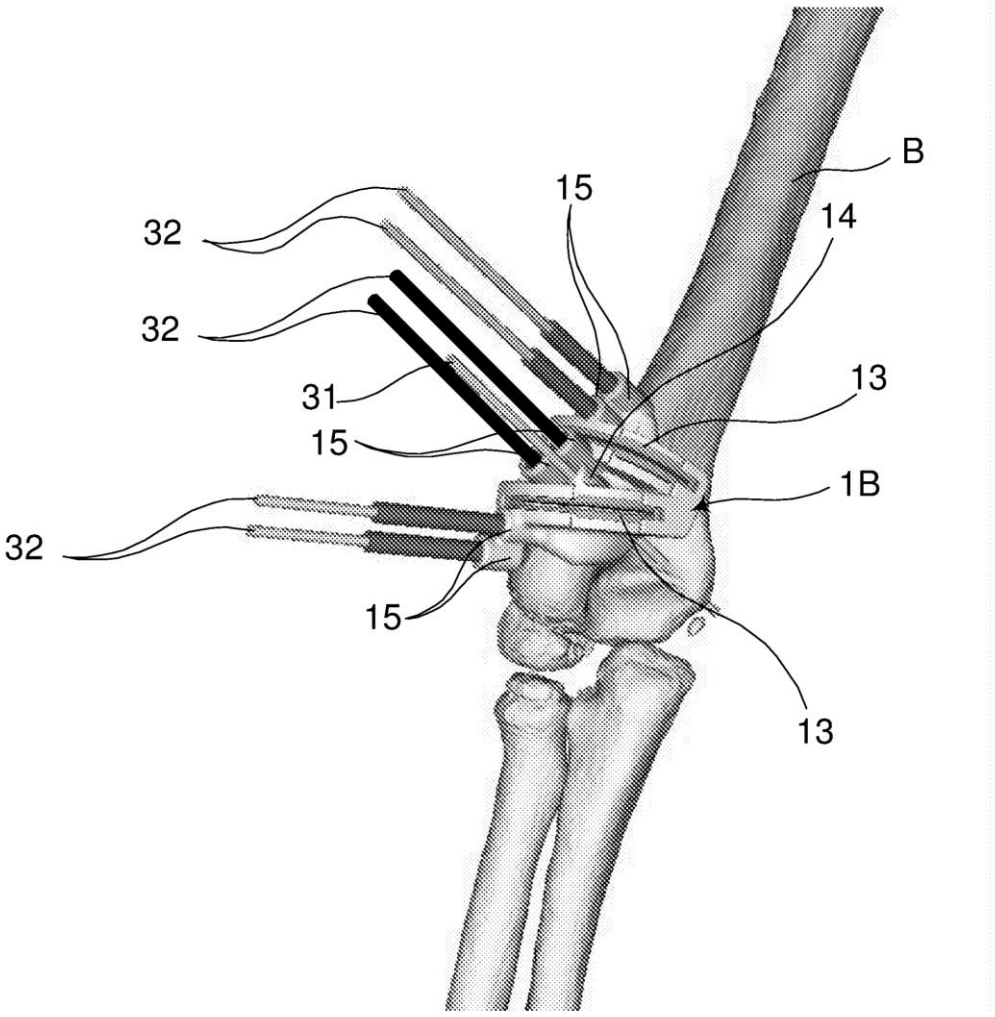
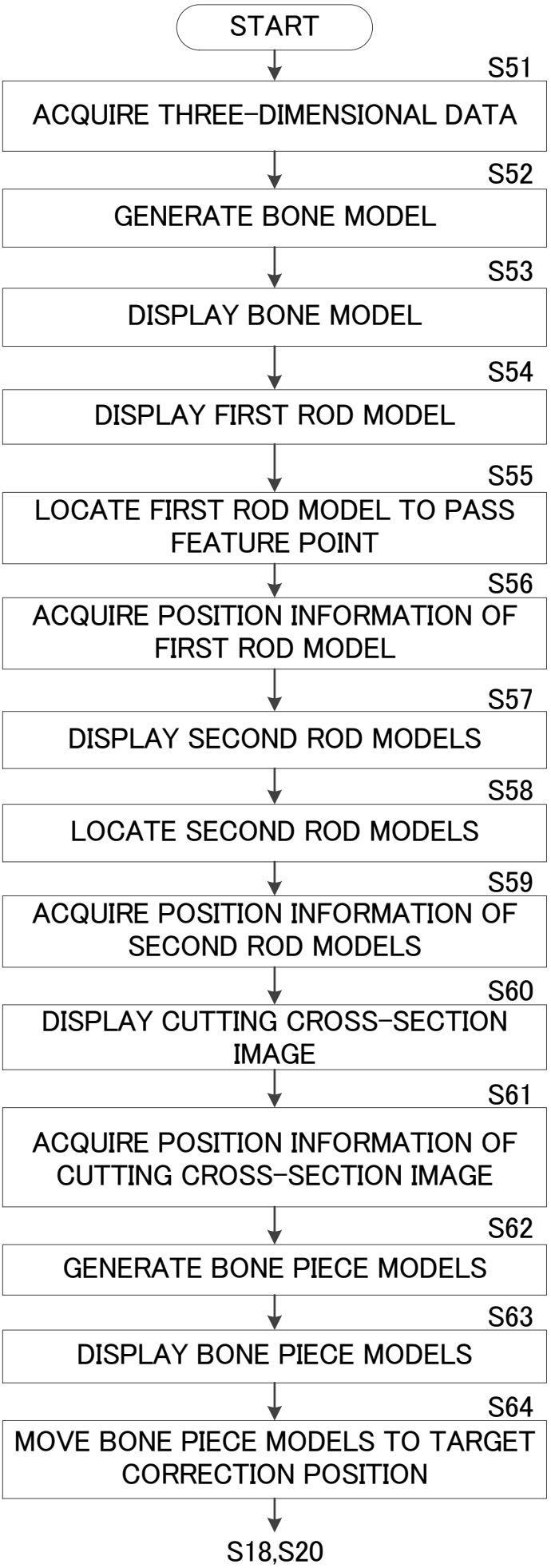


Fig.24


START
S51
ACQUIRE THREE-DIMENSIONAL DATA
S52
GENERATE BONE MODEL
S53
DISPLAY BONE MODEL
S54
DISPLAY FIRST ROD MODEL
S55
LOCATE FIRST ROD MODEL TO PASS FEATURE POINT
S56
ACQUIRE POSITION INFORMATION OF FIRST ROD MODEL
S57
DISPLAY SECOND ROD MODELS
S58
LOCATE SECOND ROD MODELS
S59
ACQUIRE POSITION INFORMATION OF SECOND ROD MODELS
S60
DISPLAY CUTTING CROSS-SECTION IMAGE
S61
ACQUIRE POSITION INFORMATION OF CUTTING CROSS-SECTION IMAGE
S62
GENERATE BONE PIECE MODELS
S63
DISPLAY BONE PIECE MODELS
S64
MOVE BONE PIECE MODELS TO TARGET CORRECTION POSITION
S18,S20