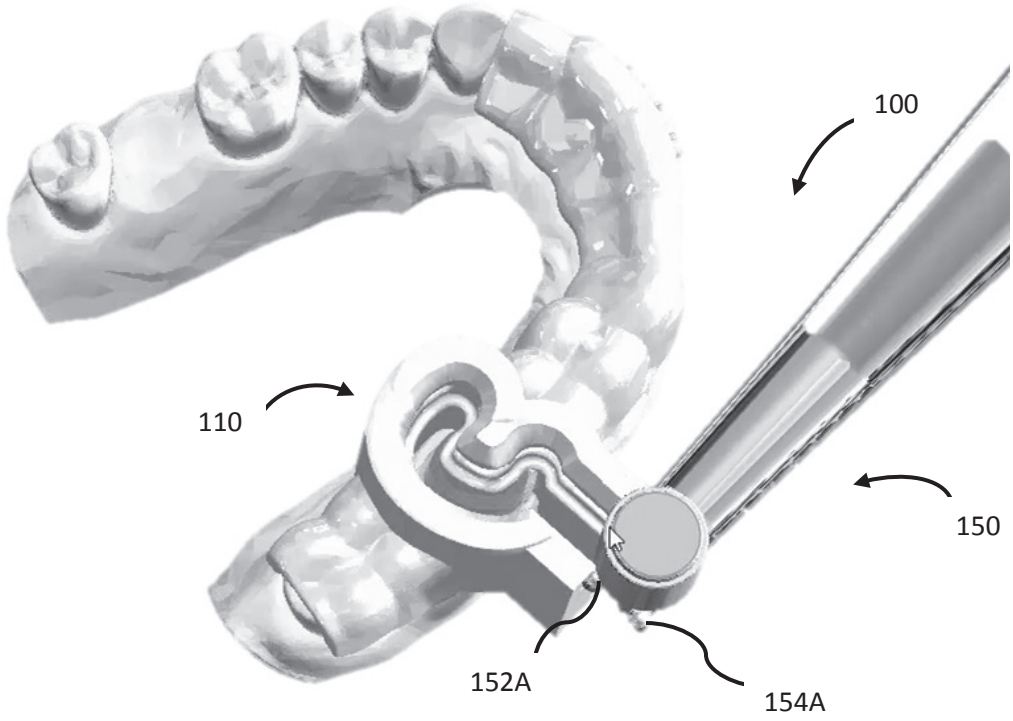



FIG. 1A

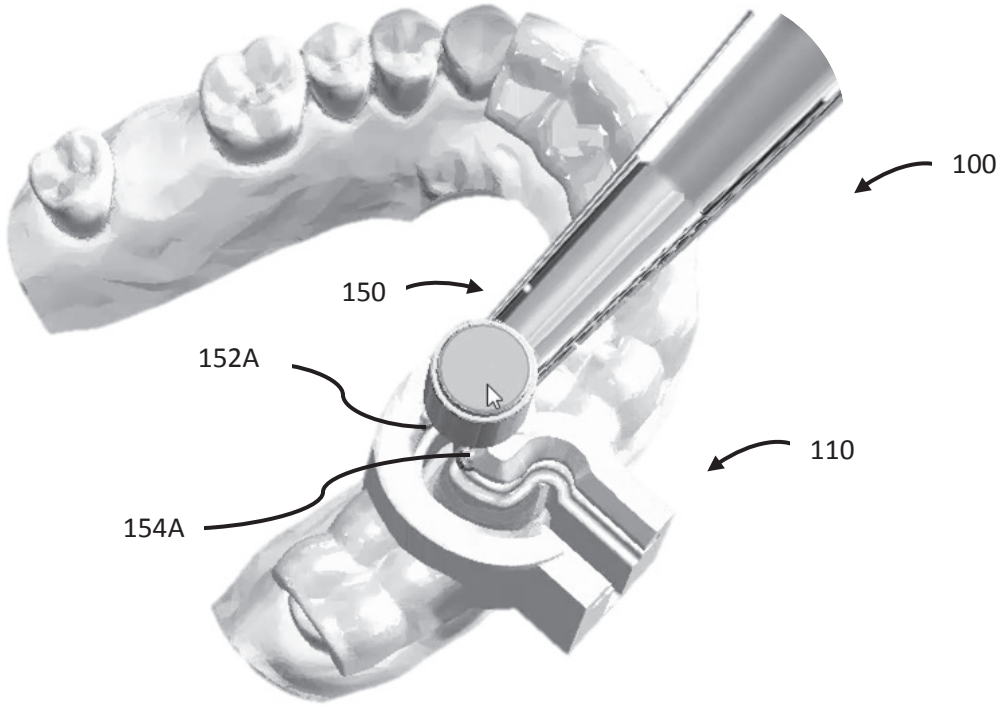



FIG. 1B

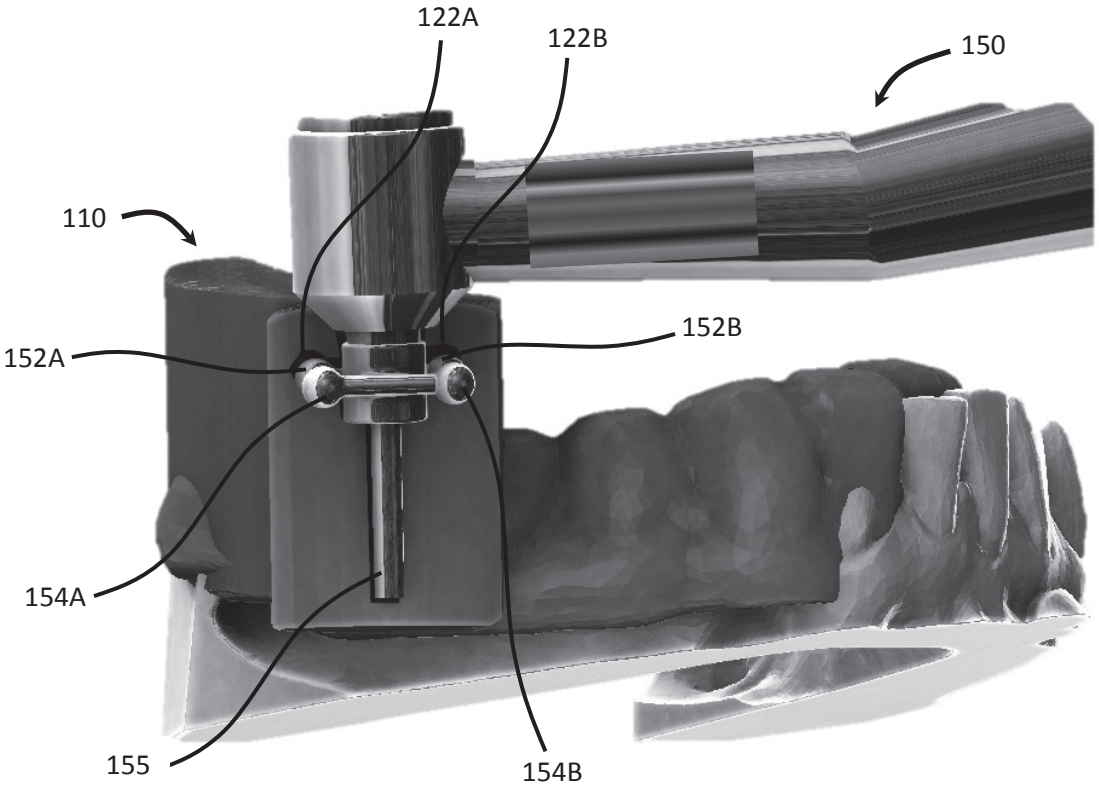



FIG. 1C

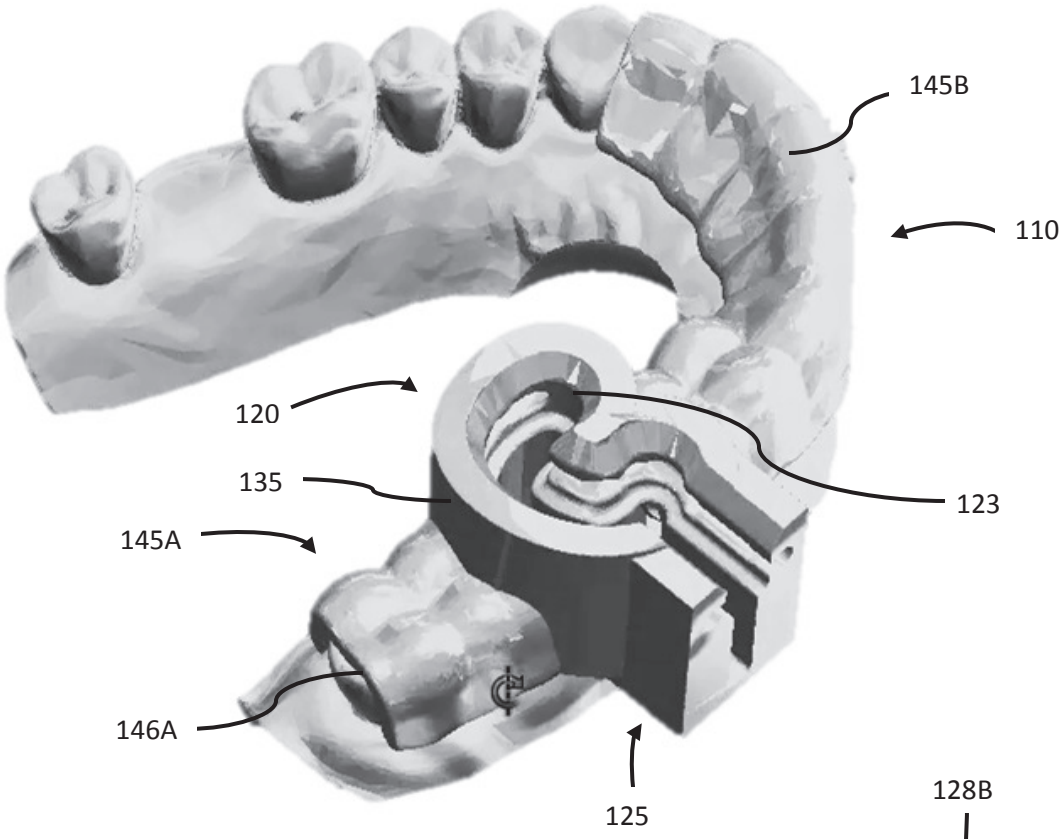



FIG. 2A

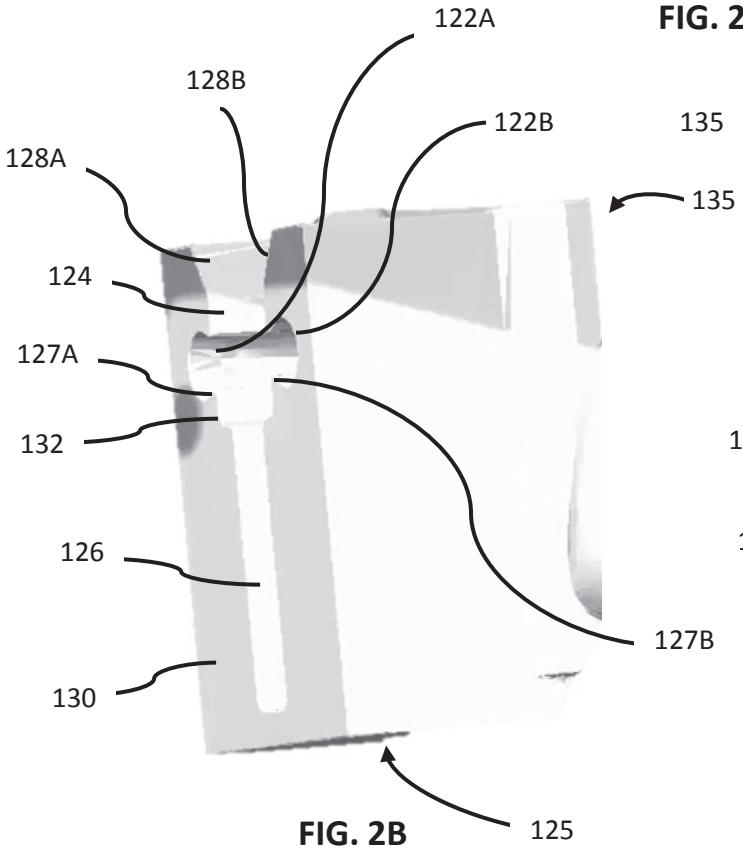



FIG. 2B

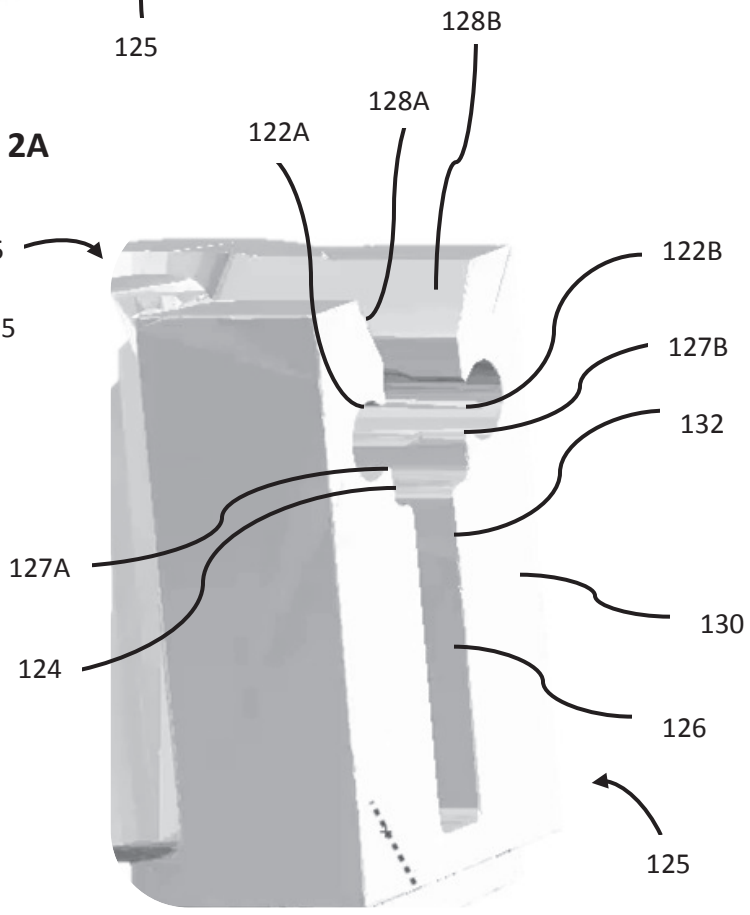



FIG. 2C

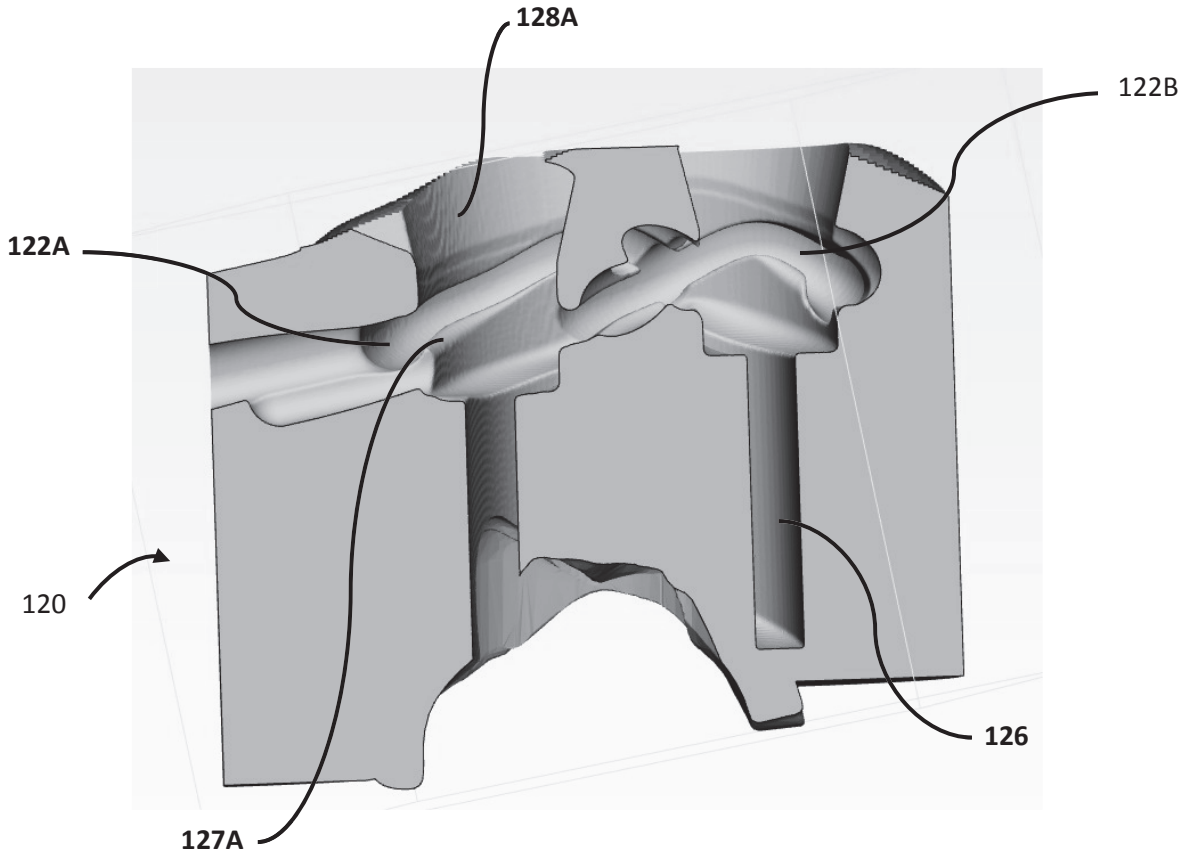



FIG. 2D

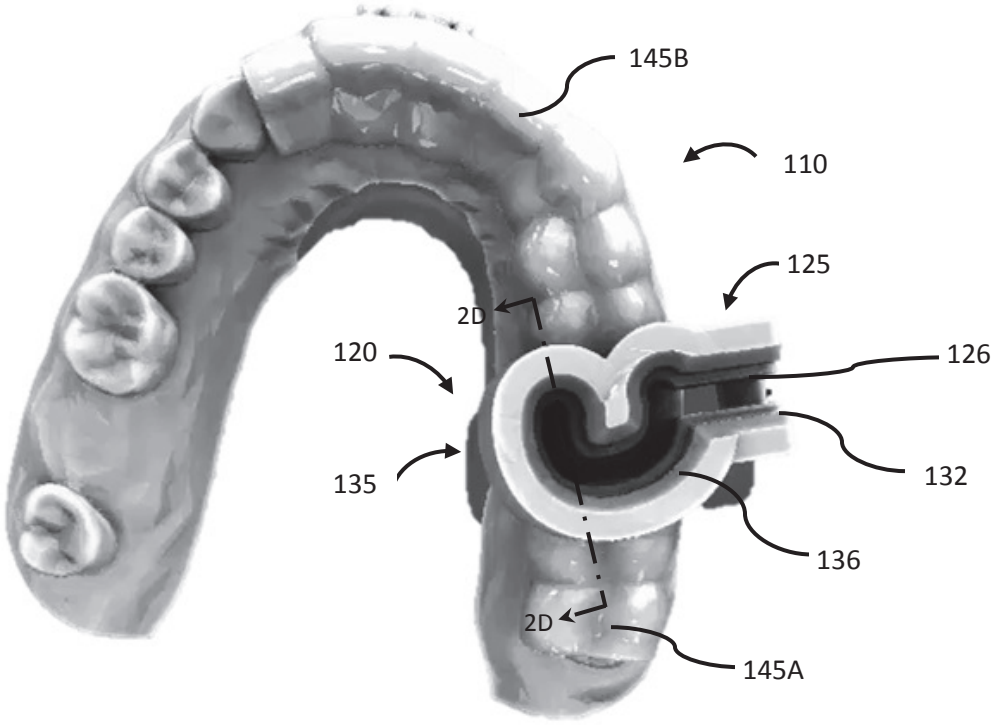



FIG. 2E

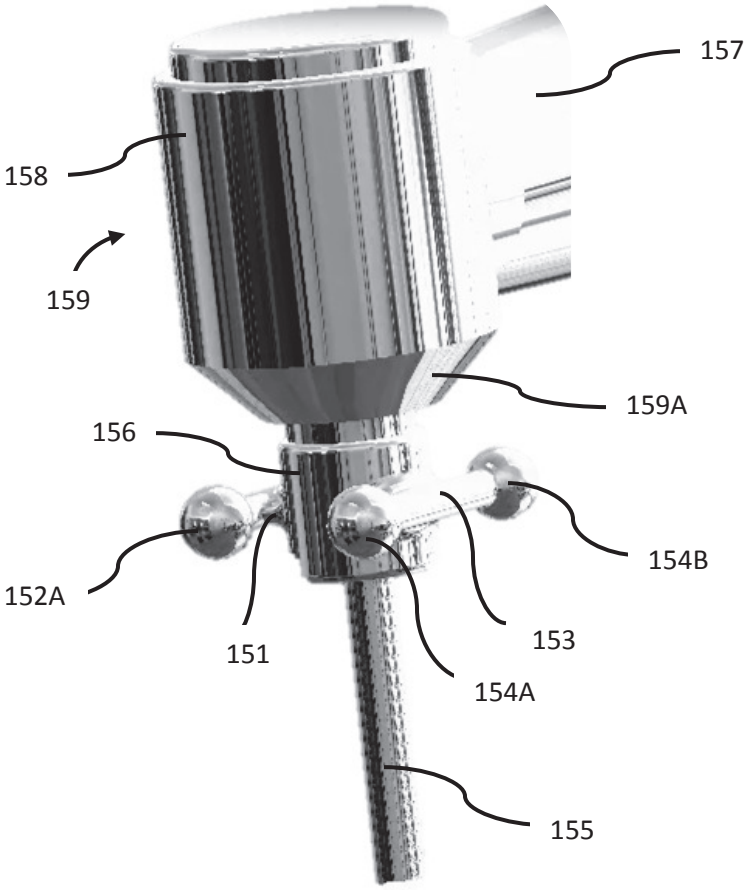



FIG. 3A

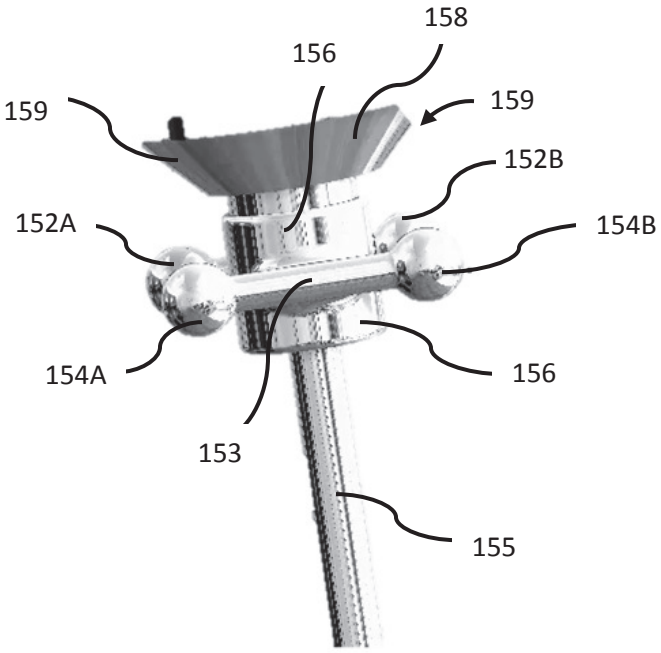



FIG. 3B

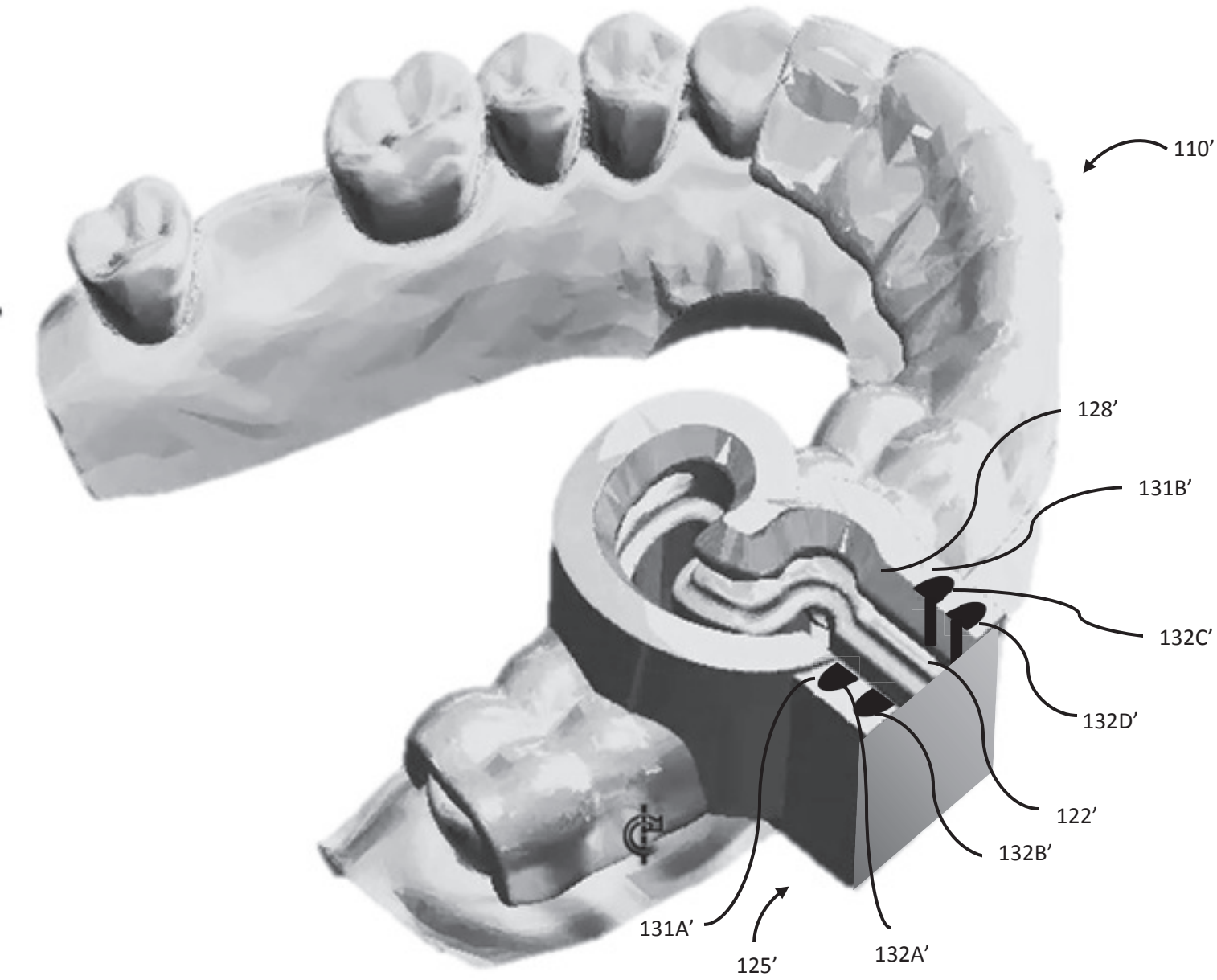



FIG. 4

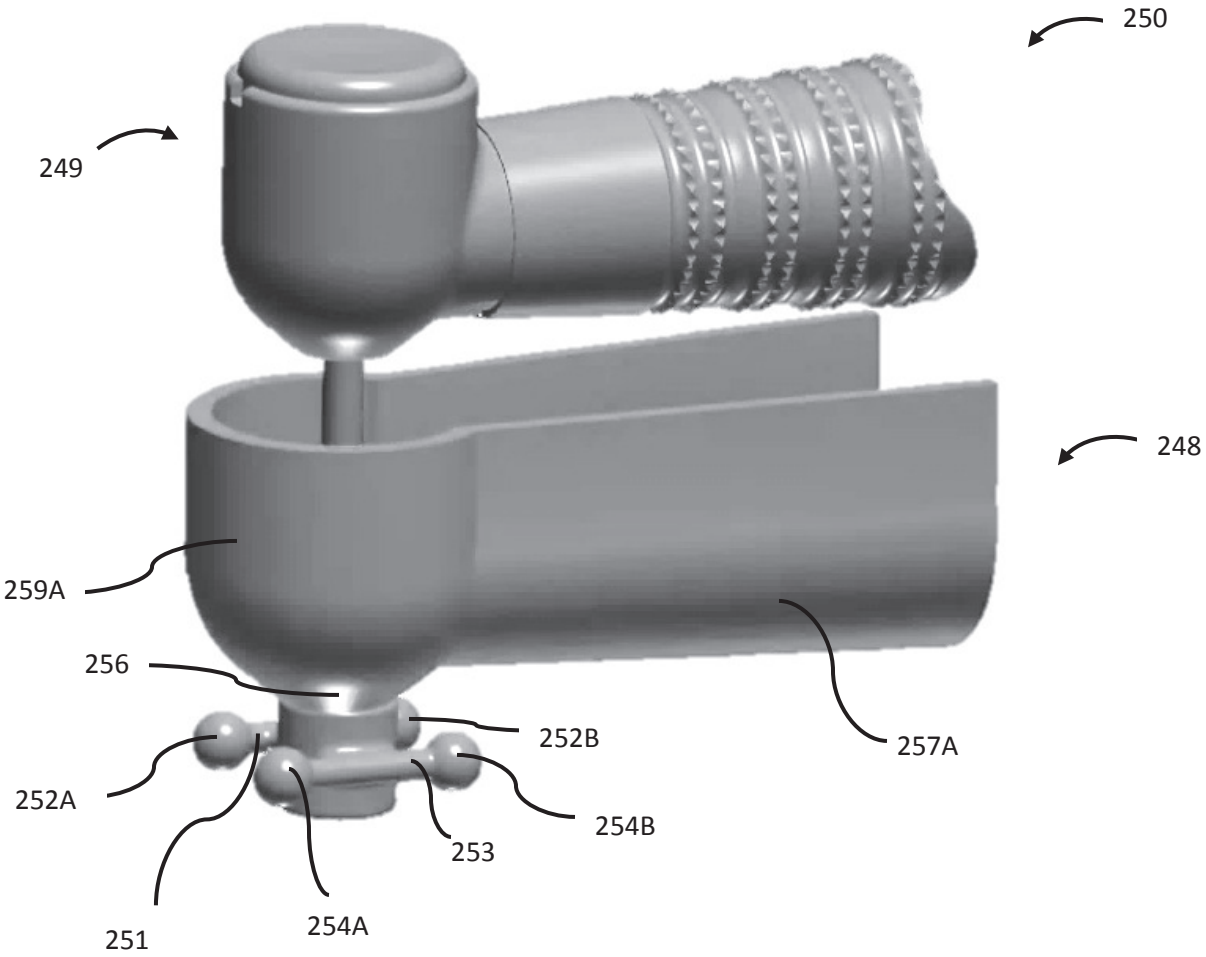

250
249
248
259A
256
252B
257A
252A
254B
253
251
254A

FIG. 5A

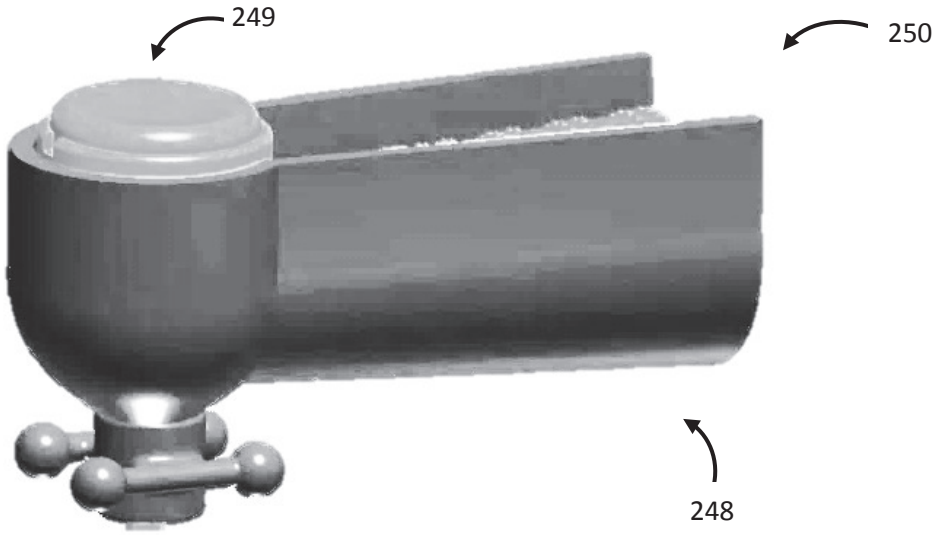

249
250
248

FIG. 5B

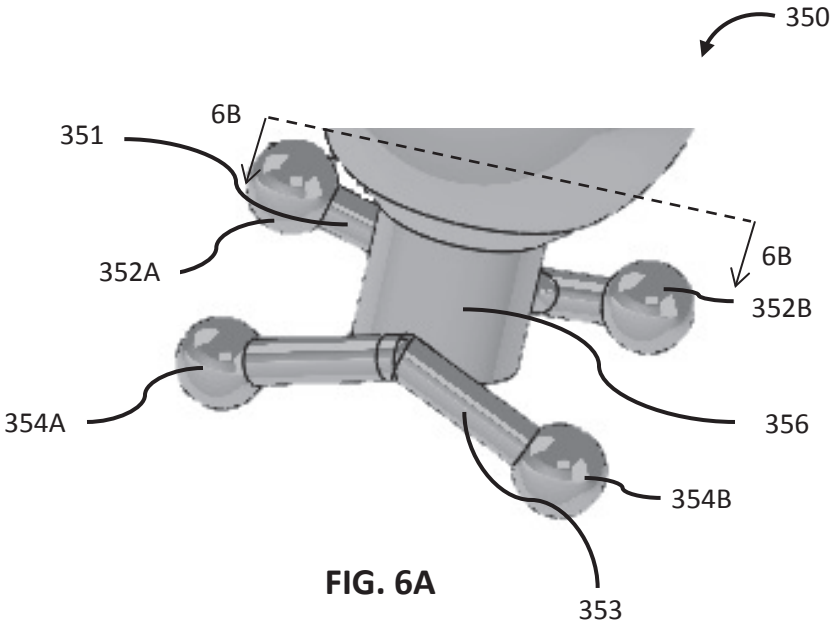

350
6B
351
352A
6B
352B
354A
356
354B
353

FIG. 6A

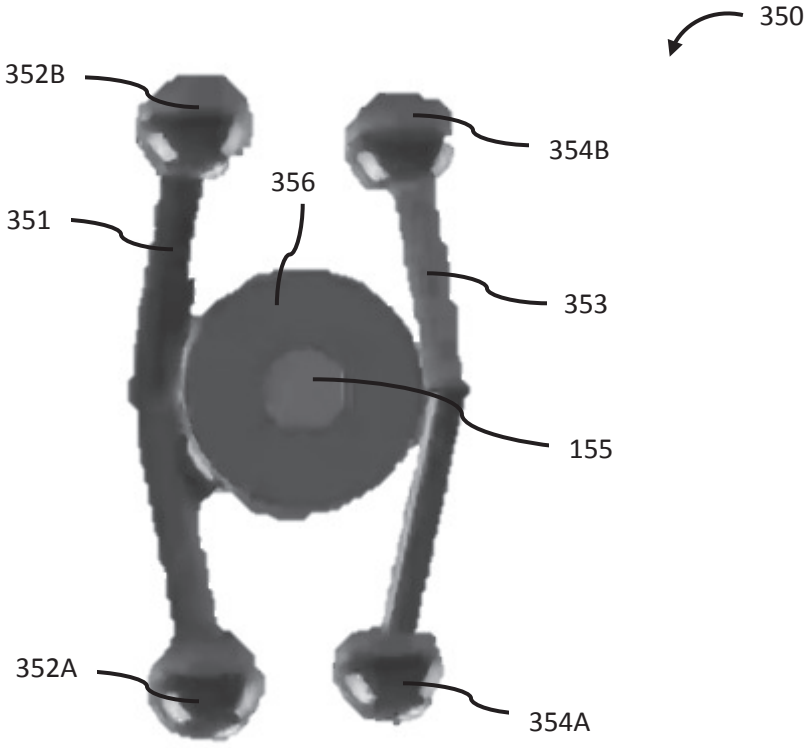

350
352B
354B
356
351
353
155
352A
354A

FIG. 6B

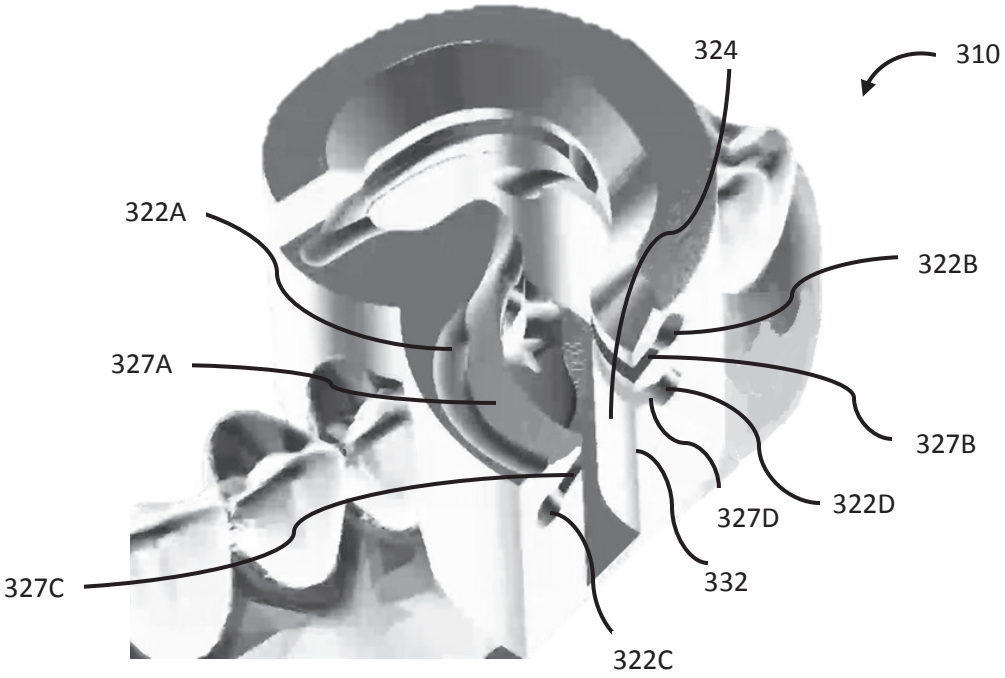

324
310
322A
322B
327A
327B
322D
327D
327C
332
322C

FIG. 6C


310
327A
322A

FIG. 6D

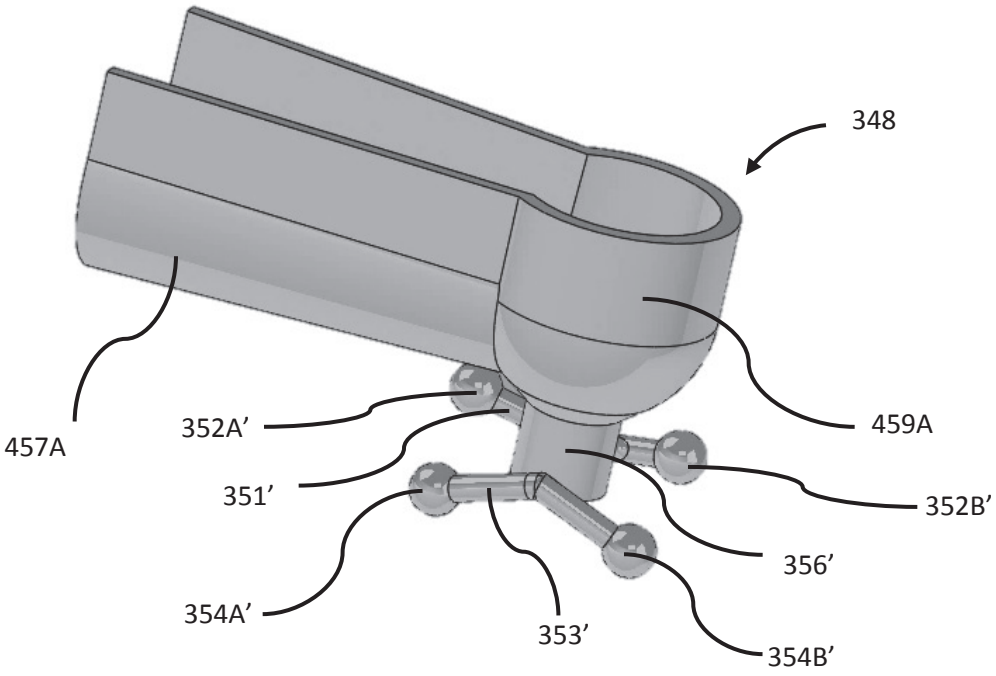



FIG. 7

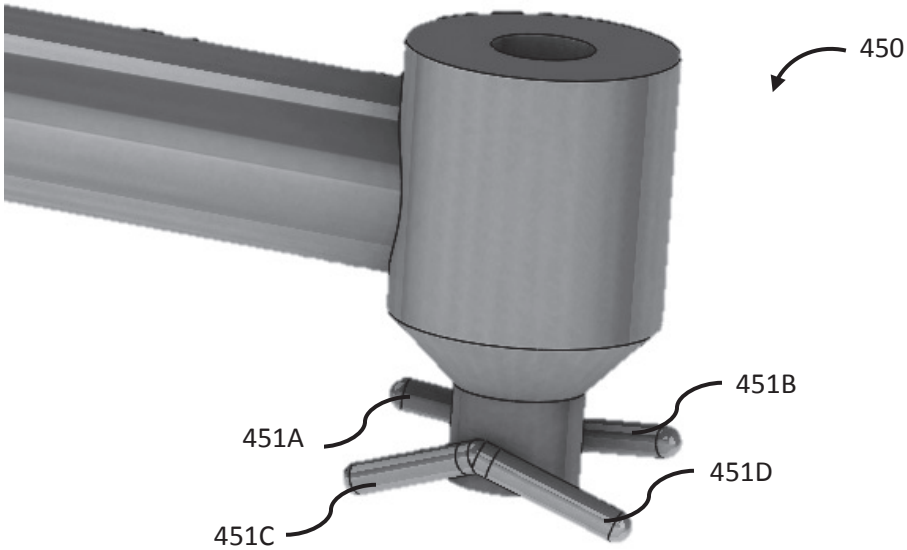



FIG. 8A

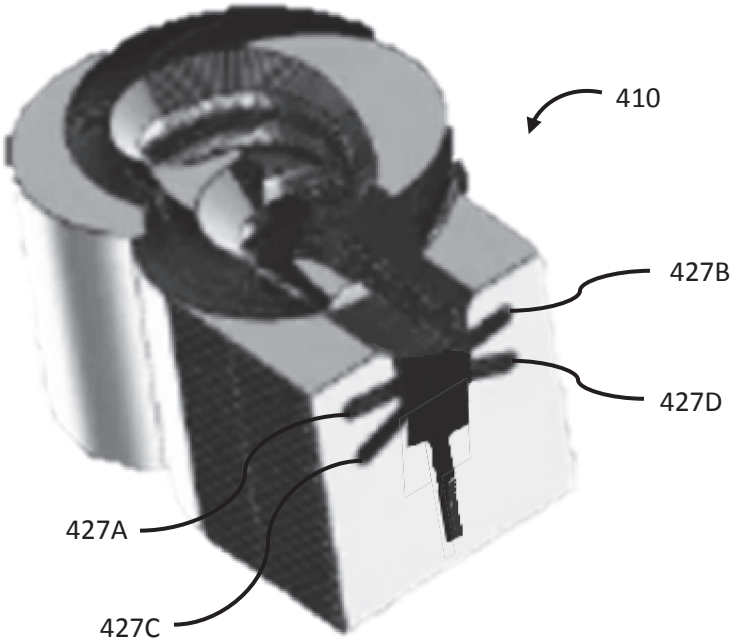



FIG. 8B

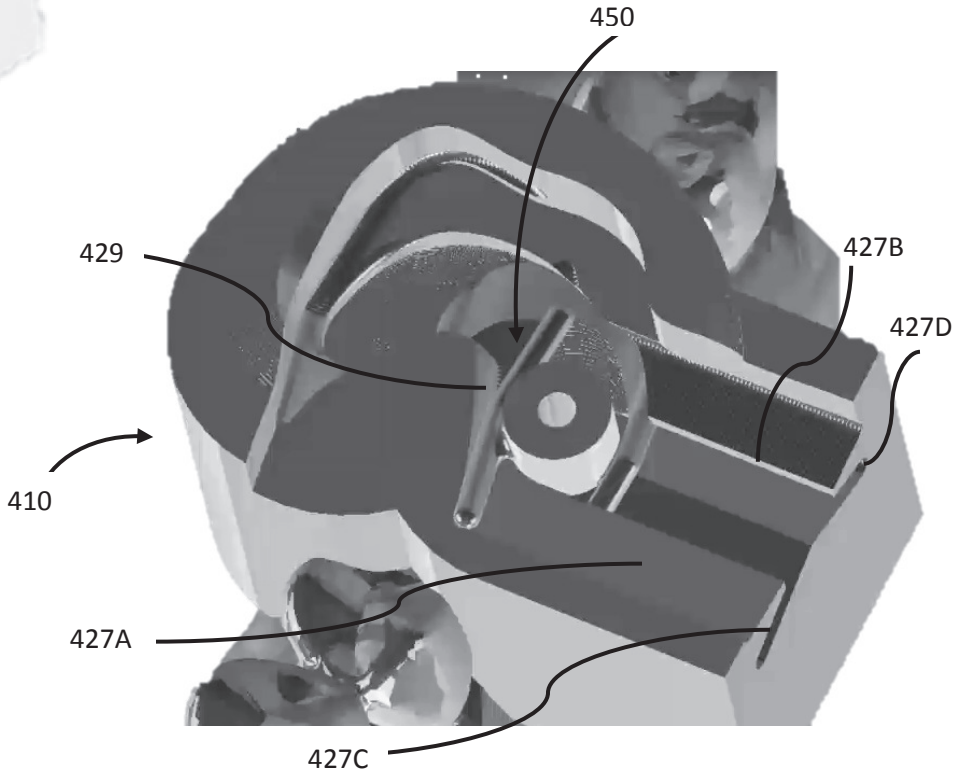



FIG. 8C

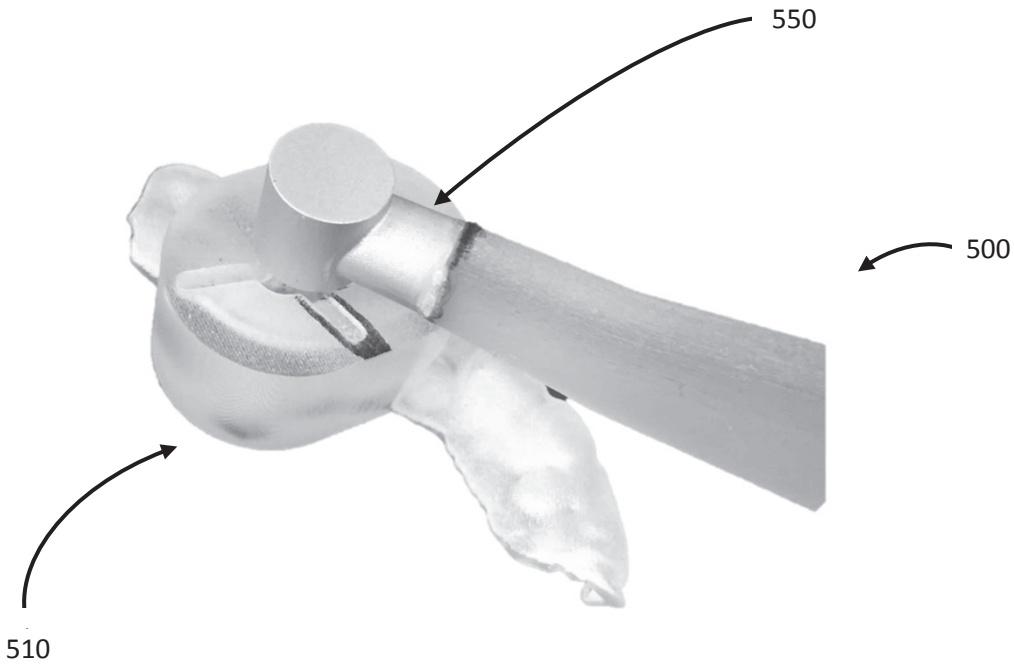



FIG. 9A

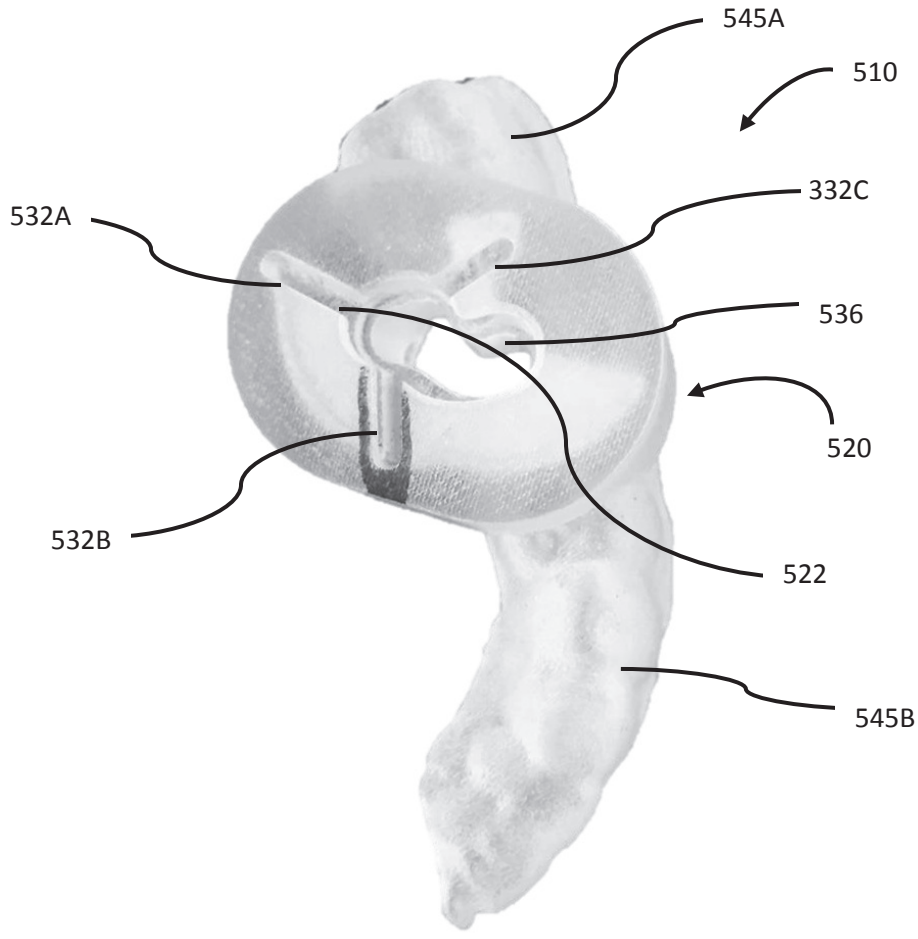



FIG. 9B

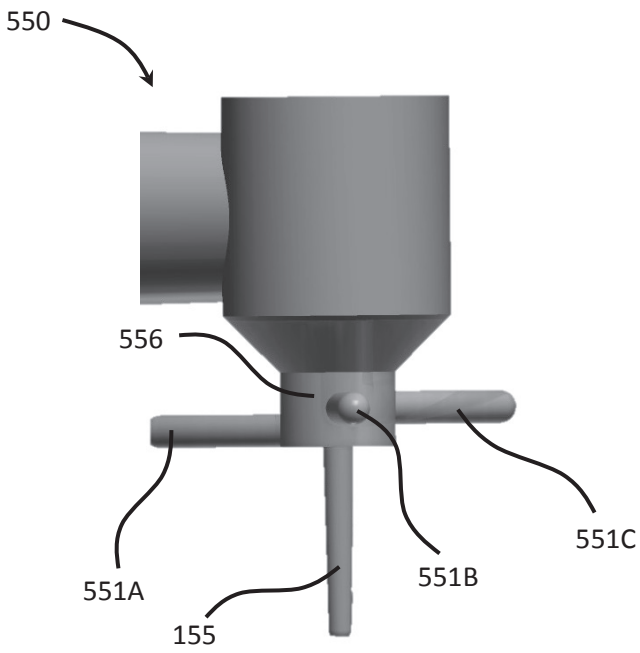



FIG. 10A

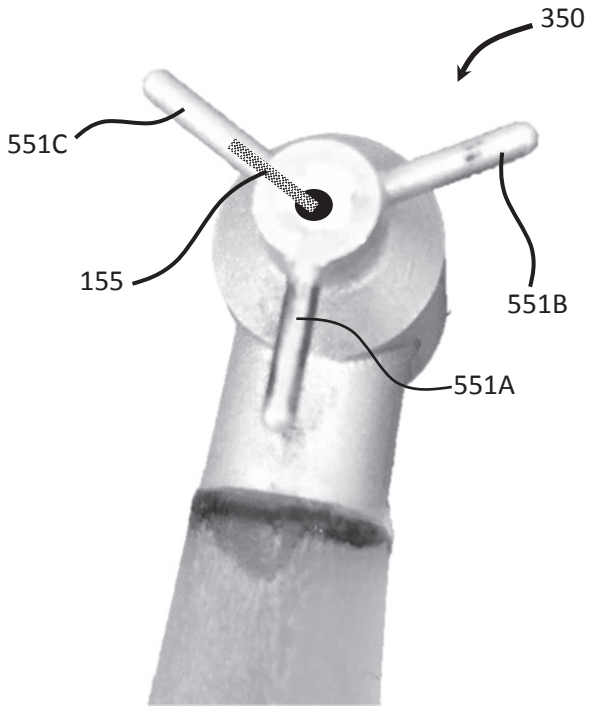



FIG. 10B

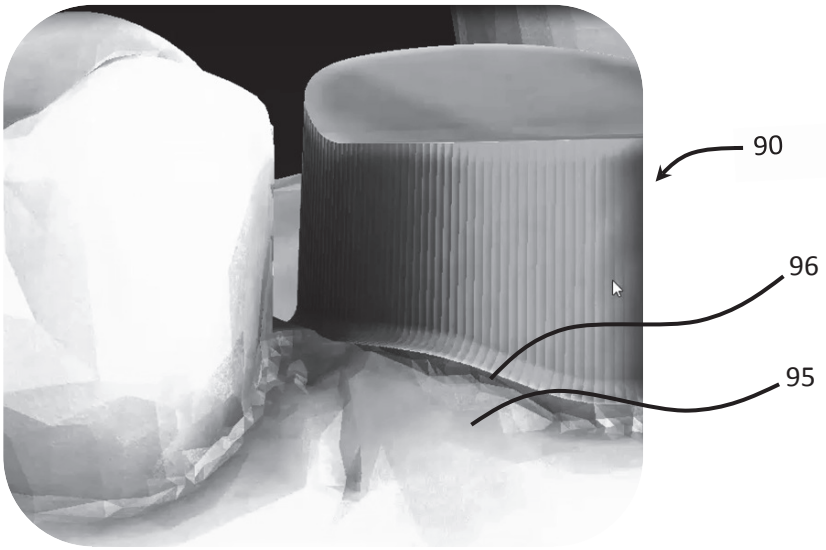
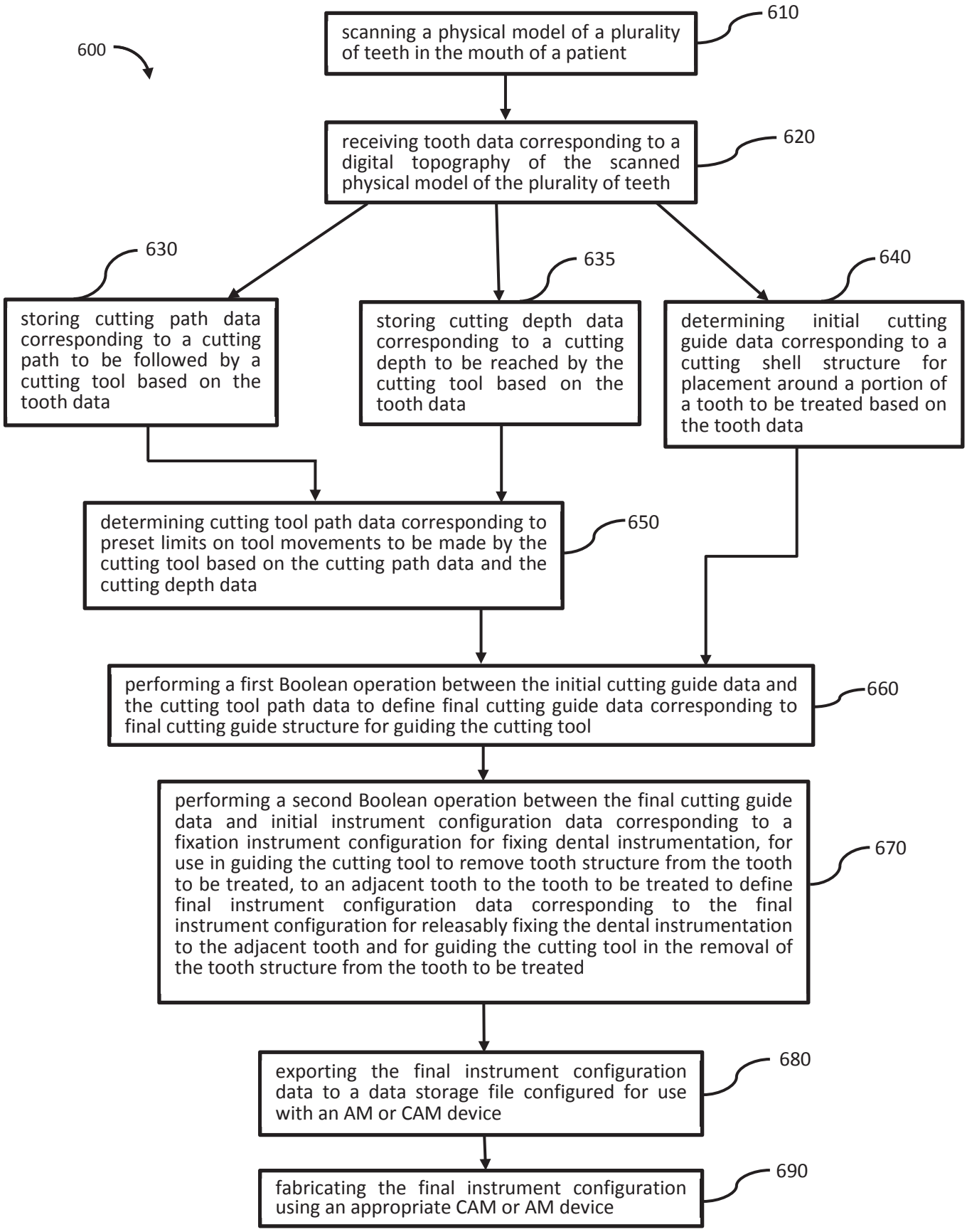



FIG. 11

FIG. 12


600
scanning a physical model of a plurality of teeth in the mouth of a patient
610
receiving tooth data corresponding to a digital topography of the scanned physical model of the plurality of teeth
620
storing cutting path data corresponding to a cutting path to be followed by a cutting tool based on the tooth data
630
storing cutting depth data corresponding to a cutting depth to be reached by the cutting tool based on the tooth data
635
determining initial cutting guide data corresponding to a cutting shell structure for placement around a portion of a tooth to be treated based on the tooth data
640
determining cutting tool path data corresponding to preset limits on tool movements to be made by the cutting tool based on the cutting path data and the cutting depth data
650
performing a first Boolean operation between the initial cutting guide data and the cutting tool path data to define final cutting guide data corresponding to final cutting guide structure for guiding the cutting tool
660
performing a second Boolean operation between the final cutting guide data and initial instrument configuration data corresponding to a fixation instrument configuration for fixing dental instrumentation, for use in guiding the cutting tool to remove tooth structure from the tooth to be treated, to an adjacent tooth to the tooth to be treated to define final instrument configuration data corresponding to the final instrument configuration for releasably fixing the dental instrumentation to the adjacent tooth and for guiding the cutting tool in the removal of the tooth structure from the tooth to be treated
670
exporting the final instrument configuration data to a data storage file configured for use with an AM or CAM device
680
fabricating the final instrument configuration using an appropriate CAM or AM device
690