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(57) Abstract :
A swimming pool safety and monitoring system and method, comprising an entrance inspection and attendance kiosk 101, a base platform 102 with pressure sensors to detect presence of a user, a first AI camera 103 verify liveness of a user, a millimeter wave scanner 104 detect prohibited items, an image and UV reflectance-based inspection module 105 identify skin-related conditions, an age estimation module determine estimated age, a wearable wristband 106 detect vital sign and distress sound, an ultrasonic transmitter configured to emit an age-specific ultrasonic signature, a vibration unit 107 alert user, a twin-axis motorized slider 201 carrying a second camera 202 to detect unsafe behavior, a 3D holographic projector 203 display warnings, a safety arrangement module intervene in response to a detected safety event, a diving injury prevention arrangement deploy a cushioned landing platform 210 beneath user, a drowning prevention arrangement elevate and guide a distressed user toward poolside.

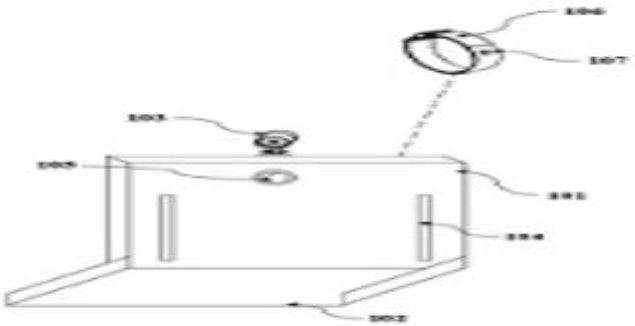

Figure 1

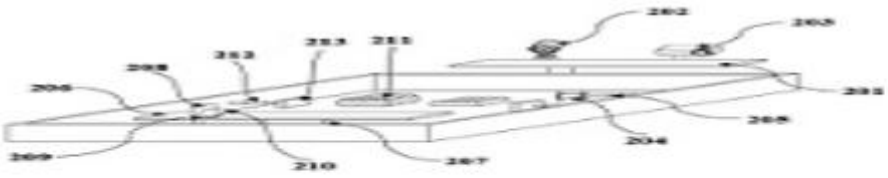

Figure 2

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