Universal Hand Tool Handle with Real-Time Tracking

Abstract

This invention pertains to a universal hand tool handle embedded with Bluetooth Low Energy (BLE) technology, specifically designed for airframe technician tools in the aviation maintenance industry. The universal handle is adaptable to various straight tools, such as screwdrivers, spanners, and other hand tools, allowing for seamless integration of BLE tracking technology without compromising the tool's original functionality. A key feature of the invention is the BLE component’s ability to enter a sleep mode, significantly reducing signal interference and potential disruptions when not in use. The mobile application plays a crucial role in waking up the BLE beacon or initiating a handshake, with the BLE beacon configured to recognize only signals from the designated app. This ensures secure, accurate, and real-time tracking of tools, enhancing tool management efficiency, safety, and reliability in demanding aviation maintenance environments.

Figure 1