SUSTAINABLY POWERED PERSONAL CARE DEVICES AND METHODS

BACKGROUND

[0001] A personal care device, such as a toothbrush, razor, water pick, etc., may be used to clean the one or more body parts (e.g., teeth/dentition) in an target area (e.g., oral cavity, legs, arm pits, etc.), for example by removing plaque and/or debris from the tooth/dentition surfaces. Toothbrushes may also emit light for purposes such as, for example, whitening teeth, killing bacteria within the oral cavity/mouth, detecting the presence of bacteria within the mouth, increasing blood circulation for gum therapy, and/or reducing the pain from gum inflammation.

[0002] Powered toothbrushes may offer enhanced cleaning capabilities perhaps in contrast to manually operated toothbrushes. Powered toothbrushes may include an electric motor that may provide the excitation energy to a toothbrush head, perhaps so that bristles that may be part of the toothbrush head can be motivated for a more dynamic tooth/dentition cleaning effect. Powered toothbrushes may include a rechargeable battery to energize the motor.

BRIEF SUMMARY

[0003] The present disclosure may describe one or more powered personal care (e.g., razor, toothbrush, water pick, etc.) devices, systems, and/or methods, processes, and/or techniques performed by, and/or using, the one or more devices. A powered personal care system may comprise a battery-powered oral care device may comprise a handle portion. The handle portion may comprise a rechargeable battery. The rechargeable battery may be configured to be detachably connected to the handle portion. The handle portion may comprise a motor. The motor may be configured to be energized by the rechargeable battery. The oral care device may comprise a head portion. The head portion may comprise a plurality of brush bristles.

[0004] The powered personal care system may comprise a hydraulically powered battery charging device. The charging device may comprise a housing. The housing may comprise a top surface and a bottom surface. The charging device may comprise a hydraulic inlet port that may be disposed in the top surface and/or the bottom surface. The inlet port may be configured to be connected to a hydraulic fluid source. The charging device may comprise a magnetic core that may be disposed within the housing.

[0005] The charging device may comprise at least one turbine blade in mechanical communication

with the magnetic core such that a rotation of the at least one turbine blade may cause a rotation of the magnetic core. The at least one turbine may be configured to be motivated into rotation by a flow of the hydraulic fluid across the at least one turbine blade. The charging device may comprise a battery port that may be configured to insertably receive the rechargeable battery.

[0006] In one or more scenarios, the inlet port may be configured to be connected to a water supply line in a residential bathroom shower hydraulic circuit, and/or other residential fluid supply sources such as bathroom/restroom sinks, kitchen sinks, and/or other residential water sources.

[0007] In one or more scenarios, a process may be implemented using the powered personal care system. The process may comprise detaching the rechargeable battery from the handle portion. The process may comprise inserting the rechargeable battery into the battery port. The process may comprise activating the residential bathroom shower hydraulic circuit. The process may comprise charging the rechargeable battery. The process may comprise removing the rechargeable battery from the battery port. The process may comprise attaching the rechargeable battery to the handle portion.

[0008] In one or more scenarios, the process may comprise deactivating the residential bathroom shower hydraulic circuit after charging the rechargeable battery. In one or more scenarios, the process may comprise deactivating the residential bathroom shower hydraulic circuit prior to removing the rechargeable battery from the battery port. In one or more scenarios, the process may comprise activating the oral care device after attaching the rechargeable battery to the handle portion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The present disclosure will become more fully understood from the detailed description and the accompanying drawings, wherein:

[0010] FIG. 1 illustrates an example diagram of a powered personal care device with a detachable rechargeable battery.

[0011] FIG. 2 illustrates an example component diagram of powered personal care devices with a detachable rechargeable battery.

[0012] FIG. 3 is an example flow diagram of at least one technique performed by/with a powered personal care system.

[0013] FIG. 4 is a block diagram of a hardware configuration of an example device that may control one or more elements/devices of a powered personal care system.

ABSTRACT

A powered personal care (e.g., razor, toothbrush, etc.) system may comprise a battery-powered oral care device. The oral care device may comprise a handle portion that may comprise a rechargeable battery configured to be detachably connected to the handle portion. The handle portion may comprise a motor configured to be energized by the rechargeable battery. The oral care device may comprise a head portion that may comprise a plurality of brush bristles. The personal care system may comprise a hydraulically powered battery charging device. The charging device may comprise a housing, a hydraulic inlet port, a magnetic core, a turbine blade in mechanical communication with the magnetic core. The turbine blade may be motivated into rotation by a flow of hydraulic fluid across the at least one turbine blade. The charging device may comprise a battery port configured to insertably receive the rechargeable battery.

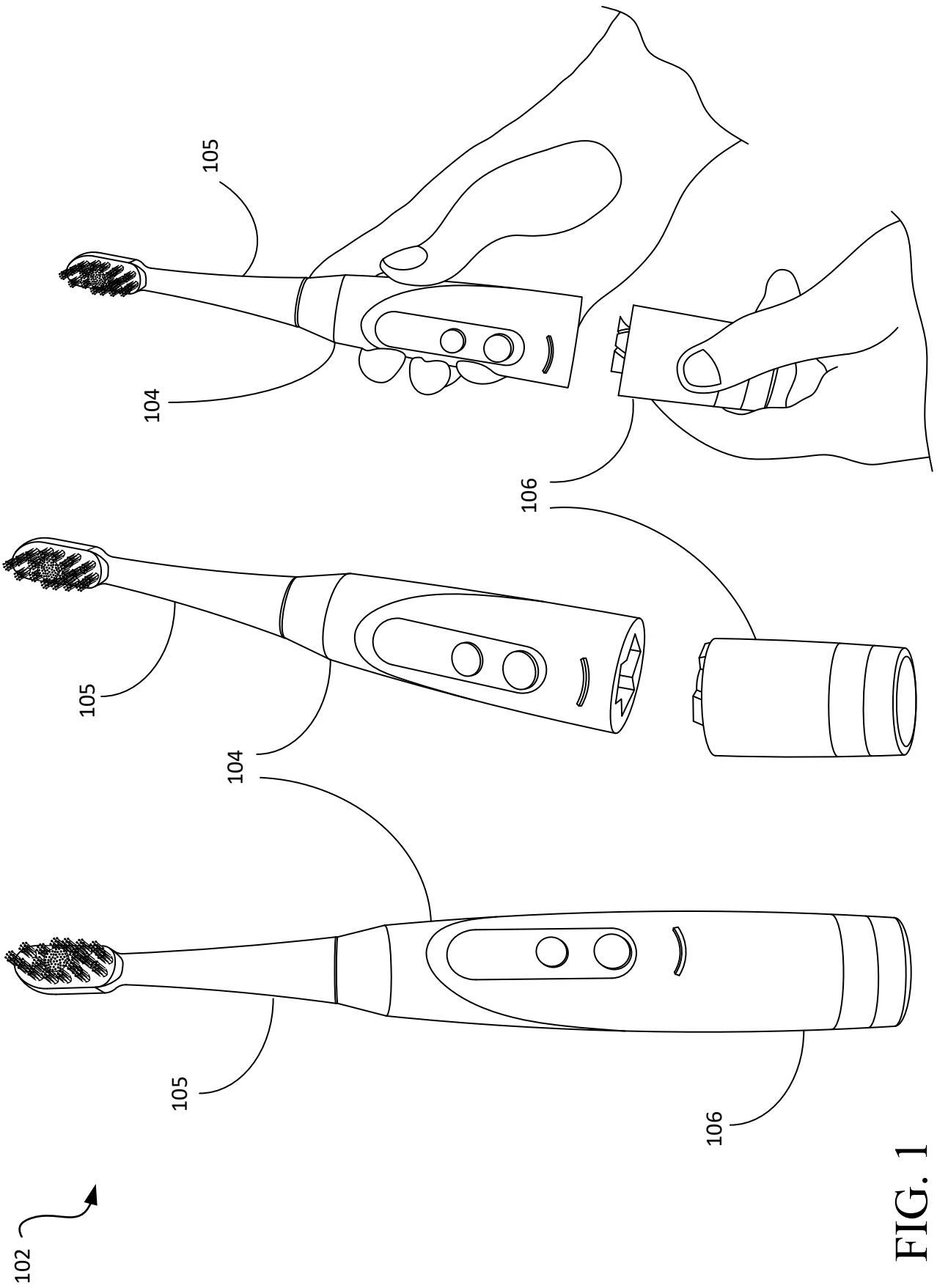

FIG. 1

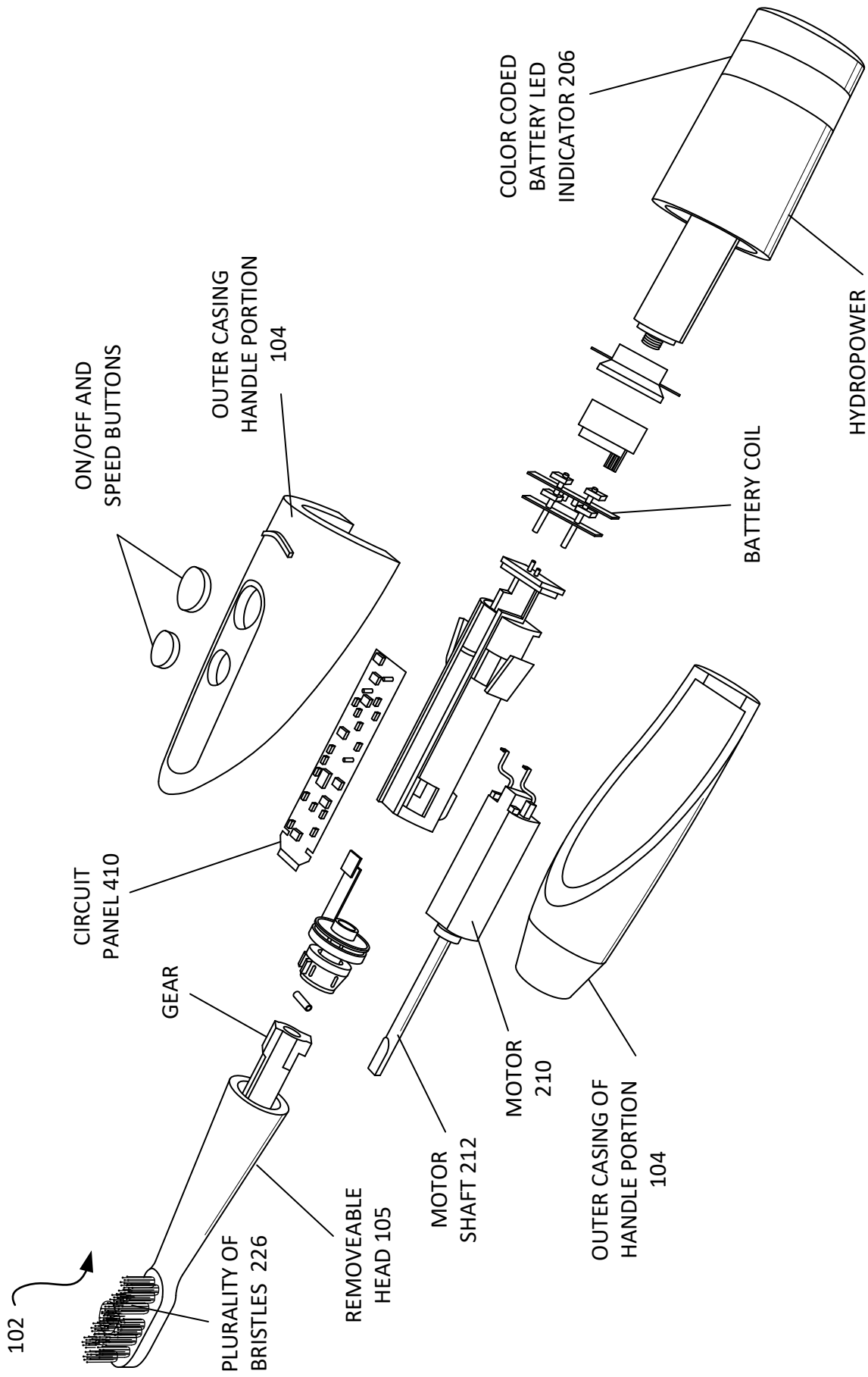
102
PLURALITY OF BRISTLES 226
REMOVEABLE HEAD 105
GEAR
CIRCUIT PANEL 410
ON/OFF AND SPEED BUTTONS
OUTER CASING HANDLE PORTION 104
MOTOR SHAFT 212
MOTOR 210
OUTER CASING OF HANDLE PORTION 104
BATTERY COIL
COLOR CODED BATTERY LED INDICATOR 206
HYDROPOWER RECHARGEABLE BATTERY 106

FIG. 2

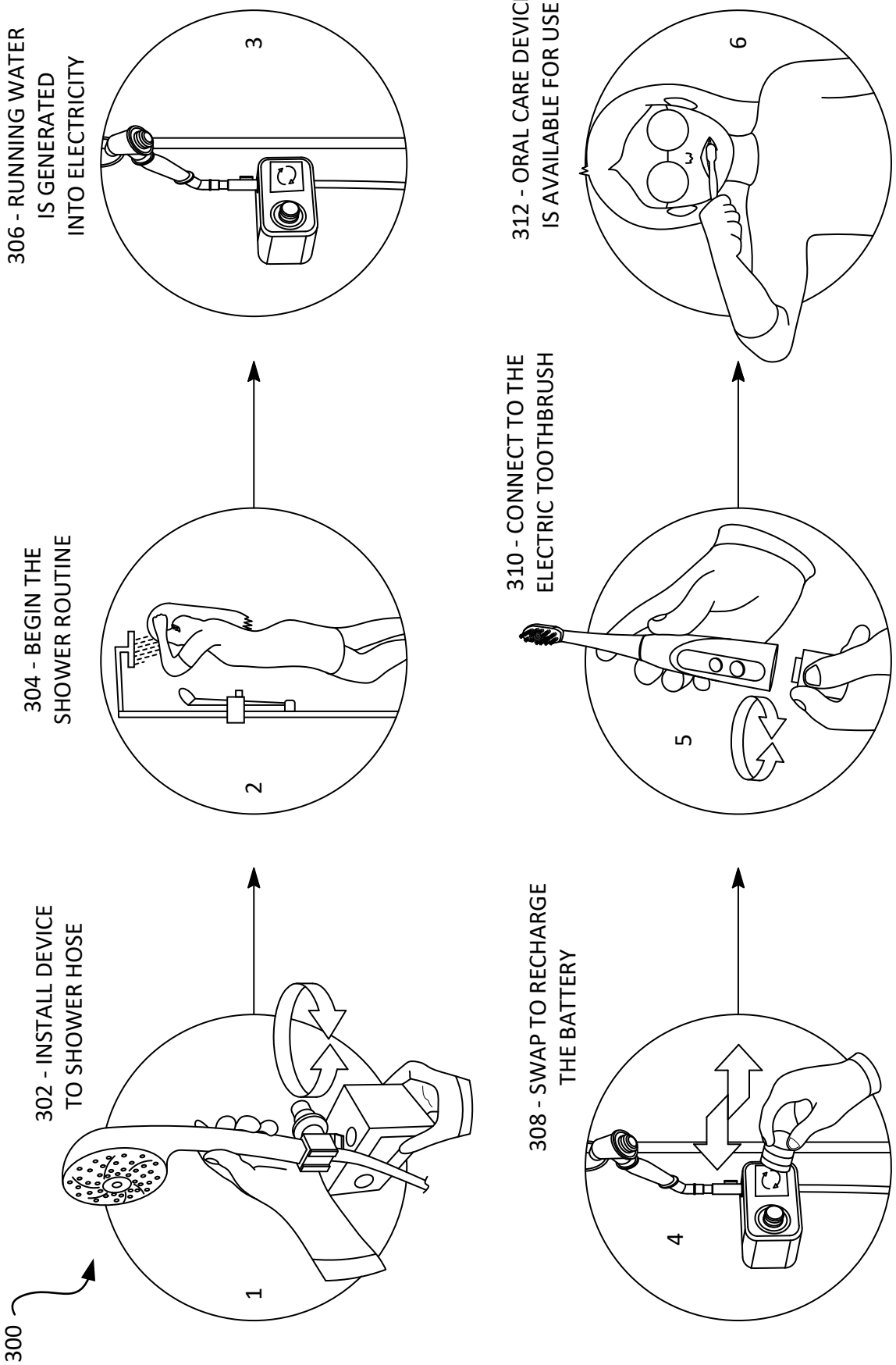
300
302 - INSTALL DEVICE TO SHOWER HOSE
304 - BEGIN THE SHOWER ROUTINE
306 - RUNNING WATER IS GENERATED INTO ELECTRICITY
308 - SWAP TO RECHARGE THE BATTERY
310 - CONNECT TO THE ELECTRIC TOOTHBRUSH
312 - ORAL CARE DEVICE IS AVAILABLE FOR USE
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FIG. 3