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(54) **CUSTOMIZABLE CLEANING BRUSH**

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A46B 5/0095; A46B 7/04; A46B 13/008;
A46B 13/023; A46B 15/002

See application file for complete search history.

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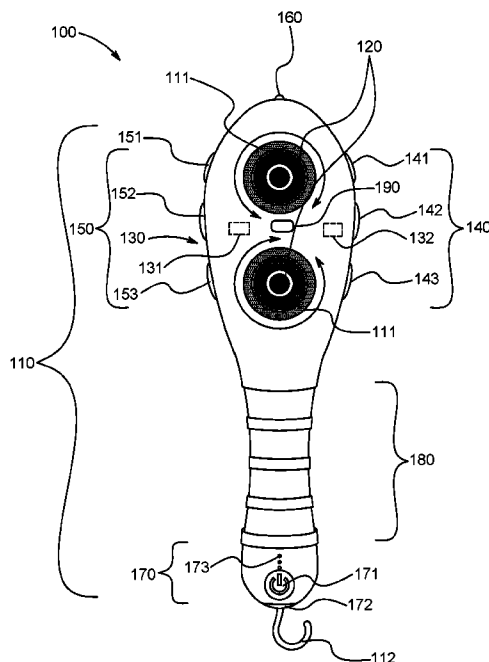
(52) **U.S. Cl.**

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(57) **ABSTRACT**

A customizable cleaning brush, including a main body, a plurality of head members removably connected to at least a portion of the main body to brush, scrub, and massage a body of a user, a plurality of operation controls disposed on at least a portion of a first side of the main body to perform at least one of a rotation, oscillation, and vibration of the plurality of head members, and a plurality of pressure controls disposed on at least a portion of a second side of the main body to perform at least one of a speed control and a pressure control of the plurality of head members.

7 Claims, 2 Drawing Sheets



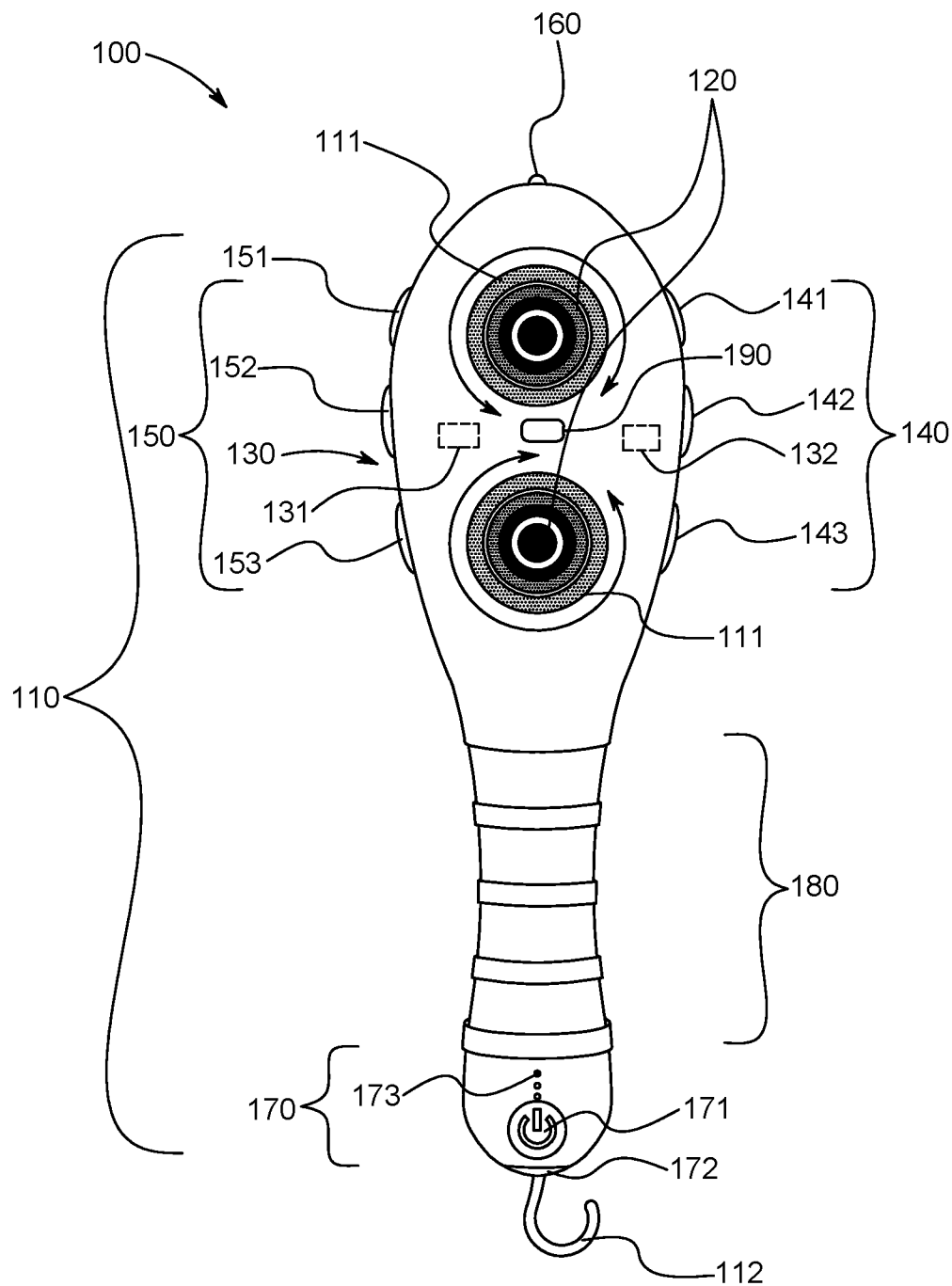


FIG. 1

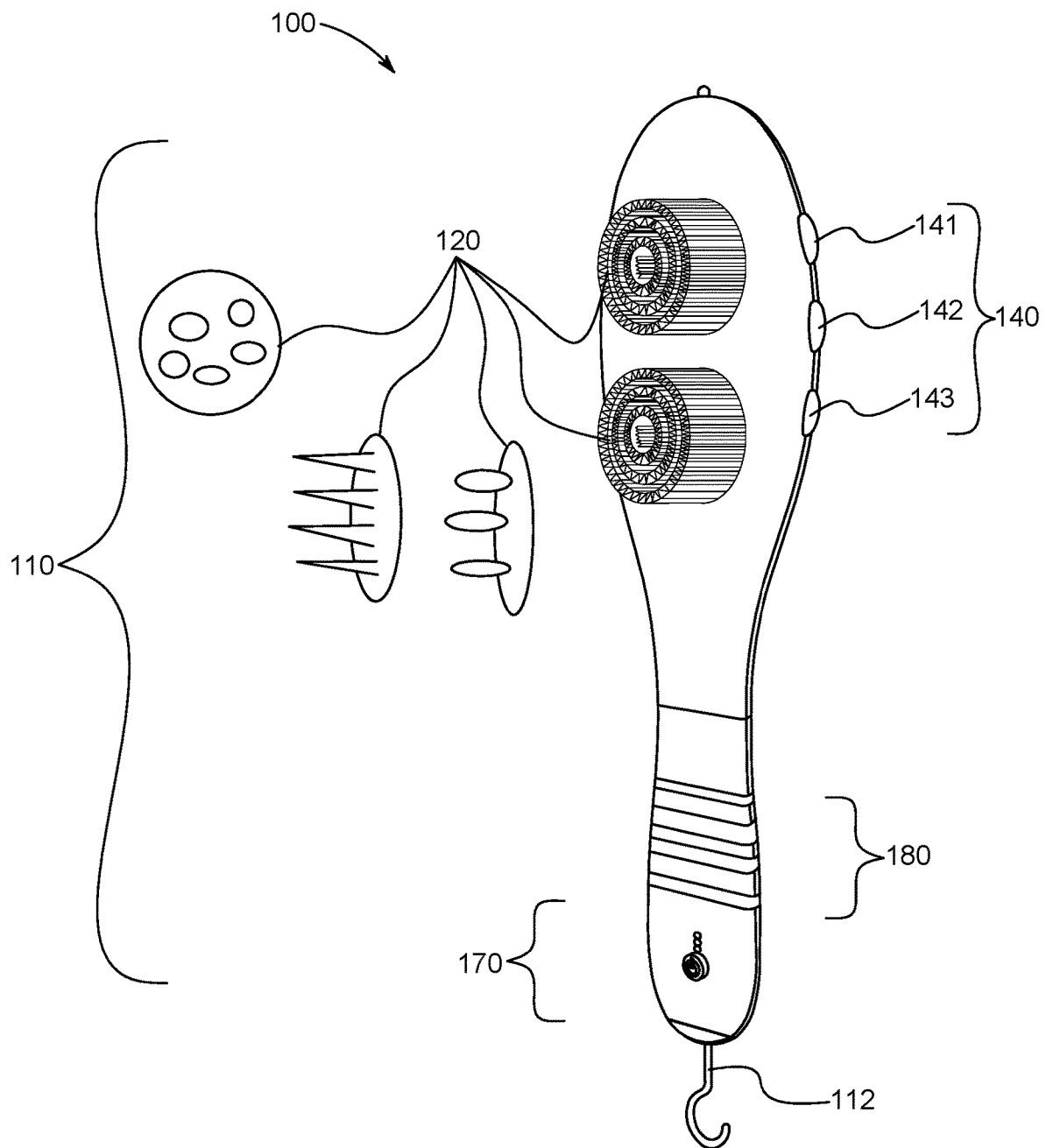


FIG. 2

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CUSTOMIZABLE CLEANING BRUSH

BACKGROUND

1. Field

The present general inventive concept relates generally to a brush, and particularly, to a customizable cleaning brush.

2. Description of the Related Art

Many people take a bath and/or a shower to have a presentable appearance in public and for personal hygiene. However, attempting to wash and/or scrub particular areas on a body of a person, such as a back of the person using a cloth and/or a shower brush is difficult.

Moreover, a typical brush is limited in length and/or has bristles in a fixed position. Also, the bristles tend to be static, such that a user has to move the brush to move the bristles against the body of the user. As such, the typical brush depends on an ability of the user to move an arm in a position to facilitate scrubbing and/or massaging.

Therefore, there is a need for a customizable cleaning brush that is capable of reaching any part of the body of the user.

SUMMARY

The present general inventive concept provides a customizable cleaning brush.

Additional features and utilities of the present general inventive concept will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the general inventive concept.

The foregoing and/or other features and utilities of the present general inventive concept may be achieved by providing a customizable cleaning brush, including a main body, a plurality of head members removably connected to at least a portion of the main body to brush, scrub, and massage a body of a user, a plurality of operation controls disposed on at least a portion of a first side of the main body to perform at least one of a rotation, oscillation, and vibration of the plurality of head members, and a plurality of pressure controls disposed on at least a portion of a second side of the main body to perform at least one of a speed control and a pressure control of the plurality of head members.

Each of the plurality of head members may be at least one of bristles, sponges, and massaging members.

The customizable cleaning brush may further include a handle disposed on at least a portion of a first end of the main body to facilitate gripping thereof.

The handle may extend telescopically and at least partially deform.

The customizable cleaning brush may further include an eject button disposed on at least a portion of a second end of the main body to extract the plurality of head members in response to depressing the eject button.

The customizable cleaning brush may further include an air dispersion unit disposed on at least a portion of the main body to blow air towards each of the plurality of head members for a predetermined period of time in response to turning off the plurality of head members.

BRIEF DESCRIPTION OF THE DRAWINGS

These and/or other features and utilities of the present generally inventive concept will become apparent and more

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readily appreciated from the following description of the embodiments, taken in conjunction with the accompanying drawings of which:

FIG. 1 illustrates a front view of a customizable cleaning brush, according to an exemplary embodiment of the present general inventive concept; and

FIG. 2 illustrates a side perspective view of the customizable cleaning brush, according to an exemplary embodiment of the present general inventive concept.

DETAILED DESCRIPTION

Various example embodiments (a.k.a., exemplary embodiments) will now be described more fully with reference to the accompanying drawings in which some example embodiments are illustrated. In the figures, the thicknesses of lines, layers and/or regions may be exaggerated for clarity.

Accordingly, while example embodiments are capable of various modifications and alternative forms, embodiments thereof are shown by way of example in the figures and will herein be described in detail. It should be understood, however, that there is no intent to limit example embodiments to the particular forms disclosed, but on the contrary, example embodiments are to cover all modifications, equivalents, and alternatives falling within the scope of the disclosure. Like numbers refer to like/similar elements throughout the detailed description.

It is understood that when an element is referred to as being “connected” or “coupled” to another element, it can be directly connected or coupled to the other element or intervening elements may be present. In contrast, when an element is referred to as being “directly connected” or “directly coupled” to another element, there are no intervening elements present. Other words used to describe the relationship between elements should be interpreted in a like fashion (e.g., “between” versus “directly between,” “adjacent” versus “directly adjacent,” etc.).

The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of example embodiments. As used herein, the singular forms “a,” “an” and “the” are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms “comprises,” “comprising,” “includes” and/or “including,” when used herein, specify the presence of stated features, integers, steps, operations, elements and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components and/or groups thereof.

Unless otherwise defined, all terms (including technical and scientific terms) used herein have the same meaning as commonly understood by one of ordinary skill in the art to which example embodiments belong. It will be further understood that terms, e.g., those defined in commonly used dictionaries, should be interpreted as having a meaning that is consistent with their meaning in the context of the relevant art. However, should the present disclosure give a specific meaning to a term deviating from a meaning commonly understood by one of ordinary skill, this meaning is to be taken into account in the specific context this definition is given herein.

LIST OF COMPONENTS

Customizable Cleaning Brush 100
Main Body 110

Member Receiving Portions **111**
 Hook **112**
 Head Members **120**
 Motors **130**
 Rotating Motor **131**
 Vibrating Motor **132**
 Operation Controls **140**
 Rotation Button **141**
 Oscillation Button **142**
 Vibration Button **143**
 Pressure Controls **150**
 Smooth Button **151**
 Medium Button **152**
 Coarse Button **153**
 Eject Button **160**
 Power Unit **170**
 Power Button **171**
 Power Source **172**
 Power Indicator Lights **173**
 Handle **180**
 Air Dispersion Unit **190**

FIG. 1 illustrates a front view of a customizable cleaning brush **100**, according to an exemplary embodiment of the present general inventive concept.

FIG. 2 illustrates a side perspective view of the customizable cleaning brush **100**, according to an exemplary embodiment of the present general inventive concept.

The customizable cleaning brush **100** may be constructed from at least one of metal, plastic, wood, ceramic, and rubber, etc., but is not limited thereto. Also, the customizable cleaning brush **100** may be waterproof.

The customizable cleaning brush **100** may include a main body **110**, a plurality of head members **120**, a plurality of motors **130**, a plurality of operation controls **140**, a plurality of pressure controls **150**, an eject button **160**, a power unit **170**, a handle **180**, and an air dispersion unit **190**, but is not limited thereto.

The main body **110** may be constructed to be firm and/or flexible at different portions thereof. In other words, the main body **110** may resist movement (i.e. bending) in response to being applied against a body of a user. Alternatively, the main body **110** may at least partially deform (i.e. bend) in response to being applied against the body of the user. Furthermore, the main body **110** may have a predetermined length. For example, the length of the main body **110** may be between 6 and 7 inches. However, the predetermined length of the main body **110** may be based on a preference of the user.

The main body **110** may include a plurality of member receiving portions **111** and a hook **112**, but is not limited thereto.

The plurality of member receiving portions **111** may be disposed on at least a portion of the main body **110**.

The hook **112** may be disposed a first end (i.e. a base) of the main body **110**. The hook **112** may allow the main body **110** to be disposed on a rack. In other words, the main body **110** may suspend from the rack via the hook **112**. As such, the main body **110** may be stored on the rack using the hook **112**.

Each of the plurality of head members **120** may include bristles, sponges, and massaging heads, but is not limited thereto.

Moreover, the bristles of the plurality of head members **120** may be firm and/or soft. In other words, at least a portion of the bristles of the plurality of head members **120** may be firm and/or at least another portion of the bristles of the plurality of head members **120** may be soft. As such, the

bristles being firm may be more resistant to bending and/or feel coarser (i.e. rough) compared to the bristles being soft.

The sponges of the plurality of head members **120** may be firm and/or soft. In other words, at least a portion of the sponges of the plurality of head members **120** may be firm and/or at least another portion of the sponges of the plurality of head members **120** may be soft. As such, the sponges being firm may be more resistant to deforming and/or feel coarser compared to the sponges being soft.

The massaging heads may include rounded surfaces and/or spiked surfaces, but is not limited thereto. As such, the massaging heads may depend on the preference of the user.

The massaging heads of the plurality of head members **120** may be firm and/or soft. In other words, at least a portion of the massaging heads of the plurality of head members **120** may be firm and/or at least another portion of the massaging heads of the plurality of head members **120** may be soft. As such, the massaging heads being firm may be more resistant to deforming and/or feel coarser compared to the massaging heads being soft.

Each of the plurality of head members **120** may be removably connected to at least one of the plurality of member receiving portions **111**. As such, each of the plurality of head members **120** may be any combination of bristles, sponges, and/or massaging heads. The plurality of head members **120** may brush, scrub, and/or massage at least a portion of the body of the user.

The plurality of motors **130** may include at least one rotating motor **131** and at least one vibrating motor **132**, but is not limited thereto.

The at least one rotating motor **131** and/or the at least one vibrating motor **132** may be disposed within at least a portion of the main body **110**.

Each of the plurality of head members **120** may rotate clockwise in a first direction or counterclockwise in a second direction in response to rotation of the at least one rotating motor **131**. Alternatively, each of the plurality of head members **120** may oscillate in response to alternating rotations of the at least one rotating motor **131**. In other words, the at least one rotating motor **131** may rotate in the first direction and/or subsequently, the second direction to oscillate.

Additionally, each of the plurality of head members **120** may vibrate in response to movement of the at least one vibrating motor **132**.

The plurality of operation controls **140** may include a rotation button **141**, an oscillation button **142**, and a vibration button **143**, but is not limited thereto.

Referring to FIGS. 1 and 2, the rotation button **141** may be disposed on at least a portion of a first side of the main body **110**. The at least one rotating motor **131** may rotate in response to depressing the rotation button **141**.

Referring again to FIGS. 1 and 2, the oscillation button **142** may be disposed on at least a portion of the first side of the main body **110**. The at least one rotating motor **131** may oscillate in response to depressing the oscillation button **142**.

Referring again to FIGS. 1 and 2, the vibration button **143** may be disposed on at least a portion of the first side of the main body **110**. The at least one vibrating motor **132** may vibrate in response to depressing the vibration button **143**.

The plurality of pressure controls **150** may include a smooth button **151**, a medium button **152**, and a coarse button **153**, but is not limited thereto.

Specifically, the plurality of pressure controls **150** operate as a speed control during activation of the at least one rotating motor **131**, and operate as a pressure control during activation of the at least one vibrating motor **132**. Accord-

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ingly, the plurality of head members **120** may move corresponding to a speed and/or a pressure of the at least one rotating motor **131** and/or the at least one vibrating motor **132**, respectively.

Referring again to FIGS. **1** and **2**, the smooth button **151** may be disposed on at least a portion of a second side of the main body **110**. The at least one rotating motor **131** and/or the at least one vibrating motor **132** may move at a slow speed and/or a smooth pressure, respectively, in response to depressing the smooth button **151**. In other words, the at least one rotating motor **131** may rotate slowly and/or the at least one vibrating motor **132** may apply smooth (i.e. gentle) pressure to the user.

Referring again to FIGS. **1** and **2**, the medium button **152** may be disposed on at least a portion of the second side of the main body **110**. The at least one rotating motor **131** and/or the at least one vibrating motor **132** may move at a medium speed and/or a medium pressure, respectively, in response to depressing the medium button **152**. Additionally, the medium speed and/or the medium pressure may be greater than the slow speed and/or the smooth pressure. In other words, the at least one rotating motor **131** may rotate at the medium speed and/or the at least one vibrating motor **132** may apply medium (i.e. intermediate) pressure to the user.

Referring again to FIGS. **1** and **2**, the coarse button **153** may be disposed on at least a portion of the second side of the main body **110**. The at least one rotating motor **131** and/or the at least one vibrating motor **132** may move at a fast speed and/or a coarse pressure, respectively, in response to depressing the coarse button **153**. Additionally, the fast speed and/or the coarse pressure may be greater than the medium speed and/or the medium pressure. In other words, the at least one rotating motor **131** may rotate at the fast speed and/or the at least one vibrating motor **132** may apply coarse (i.e. strong) pressure to the user.

The eject button **160** may be disposed on at least a portion of a second end (i.e. a top) of the main body **110**. The eject button **160** may extract the plurality of head members **120** in response to depressing the eject button **160**. Therefore, at least one of the plurality of head members **120** may be exchange for at least one other head member **120**. For example, at least one of the bristles may be exchanged for at least one of the sponges.

Alternatively, the eject button **160** may be a plurality of eject buttons **160**, such that each of the plurality of eject buttons **160** may correspond to at least one of the plurality of member receiving portions **111**.

The power unit **170** may include a power button **170**, a power source **172**, and a plurality of power indicator lights **173**, but is not limited thereto.

The power unit **170** may be disposed on at least a portion of the first end of the main body **110**. The power button **171** may turn on and/or turn off the plurality of motors **130**, the plurality of operation controls **140**, and/or the plurality of pressure controls **150**.

The power source **172** may include a battery and a solar cell, but is not limited thereto.

The solar cell may recharge the battery in response to receiving power from an external light source. The power source **172** may send power to the plurality of motors **130**, the plurality of operation controls **140**, and/or the plurality of pressure controls **150**.

The plurality of power indicator lights **173** may illuminate to indicate a power level of the power source **172**. For example, illumination of all of the plurality of power indicator lights **173** may indicate the power source **172** is

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operating at full capacity. Illumination of less than all, but more than one may indicate partial capacity. Lastly, illumination of only one of the plurality of power indicator lights **173** may indicate the power source **173** is operating a low capacity and needs recharging.

The handle **180** may be disposed on at least a portion of the first end of the main body **110**. The handle **180** may facilitate gripping thereof. Additionally, the handle **180** may extend telescopically and be flexible. As such, the handle **180** may extend the length of the main body **110** to accommodate the preference of the user. Additionally, the handle **180** may at least partially deform (i.e. bend) to orient the main body **110** in a different position based on the preference of the user. Therefore, the main body **110** may be adjusted to the different position to facilitate brushing, scrubbing, and/or massaging the user.

The air dispersion unit **190** may include a fan and a vacuum, but is not limited thereto.

The air dispersion unit **190** may be disposed on at least a portion of the second end of the main body **110**. The air dispersion unit **190** may blow air towards each of the plurality of head members **120**, such that the plurality of head members **120** receive air thereupon. Alternatively, the air dispersion unit **190** may extract air away from each of the plurality of head members **120**.

Therefore, the air dispersion unit **190** may dry the plurality of head members **120**. The air dispersion unit **190** may turn on for a predetermined period of time after depressing the power button **171**, and automatically turn off after the predetermined period of time.

Furthermore, the air dispersion unit **190** may receive power from the power source **172**.

Therefore, the customizable cleaning brush **100** may reach any part of the body of the user. Also, the customizable cleaning brush **100** may be customized using the plurality of head members **120**.

The present general inventive concept may include a customizable cleaning brush **100**, including a main body **110**, a plurality of head members **120** removably connected to at least a portion of the main body **110** to brush, scrub, and massage a body of a user, a plurality of operation controls **140** disposed on at least a portion of a first side of the main body **110** to perform at least one of a rotation, oscillation, and vibration of the plurality of head members **120**, and a plurality of pressure controls **150** disposed on at least a portion of a second side of the main body **110** to perform at least one of a speed control and a pressure control of the plurality of head members **120**.

Each of the plurality of head members **120** may be at least one of bristles, sponges, and massaging members.

The customizable cleaning brush **100** may further include a handle **180** disposed on at least a portion of a first end of the main body **110** to facilitate gripping thereof.

The handle **180** may extend telescopically and at least partially deform.

The customizable cleaning brush **100** may further include an eject button **160** disposed on at least a portion of a second end of the main body **110** to extract the plurality of head members **120** in response to depressing the eject button **160**.

The customizable cleaning brush **100** may further include an air dispersion unit **190** disposed on at least a portion of the main body **110** to blow air towards each of the plurality of head members **120** for a predetermined period of time in response to turning off the plurality of head members **120**.

Although a few embodiments of the present general inventive concept have been shown and described, it will be appreciated by those skilled in the art that changes may be

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made in these embodiments without departing from the principles and spirit of the general inventive concept, the scope of which is defined in the appended claims and their equivalents.

The invention claimed is:

1. A customizable cleaning brush, comprising:
a main body;
a plurality of head members removably connected to at least a portion of the main body to brush, scrub, and massage a body of a user, such that a first of the plurality of head members rotates and a second of the plurality of head members vibrates and moves differently from the first of the plurality of head members;
a plurality of operation controls disposed on at least a portion of a first side of the main body to perform at least one of a rotation, oscillation, and vibration of the plurality of head members; and
a plurality of pressure controls disposed on at least a portion of a second side of the main body to perform at least one of a speed control and a pressure control of the plurality of head members.
2. The customizable cleaning brush of claim 1, wherein each of the plurality of head members is at least one of bristles, sponges, and massaging members.
3. The customizable cleaning brush of claim 1, further comprising:
a handle disposed on at least a portion of a first end of the main body to facilitate gripping thereof.
4. The customizable cleaning brush of claim 3, wherein the handle extends telescopically and at least partially deforms.

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5. The customizable cleaning brush of claim 3, further comprising:

an eject button disposed on at least a portion of a second end of the main body to extract the plurality of head members in response to depressing the eject button.

6. The customizable cleaning brush of claim 1, further comprising:

an air dispersion unit disposed on at least a portion of the main body to blow air towards each of the plurality of head members for a predetermined period of time in response to turning off the plurality of head members.

7. A customizable cleaning brush, comprising:

a main body comprising a plurality of member receiving portions;

a plurality of head members removably connected to at least one of the plurality of member receiving portions to brush, scrub, and massage a body of a user, such that a first of the plurality of head members moves at a first speed and a second of the plurality of head members moves at a second speed different from the first speed;

a plurality of operation controls disposed on at least a portion of a first side of the main body to perform at least one of a rotation, oscillation, and vibration of the plurality of head members; and

a plurality of pressure controls disposed on at least a portion of a second side of the main body to perform at least one of a speed control and a pressure control of the plurality of head members.

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