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(54) **FAN ASSEMBLY**

(57) A fan assembly includes a base including a first portion and a second portion pivotable relative to the first portion between a first position and a second position. The first portion is configured to support the fan assembly on a support surface. The fan assembly further includes a housing coupled to the second portion of the base. The housing includes a shroud that at least partially defines an airflow chamber, and the housing is configured to oscillate about an oscillation axis relative to the second portion of the base. When the second portion of the base is in the first position, the oscillation axis is oriented perpendicular to the support surface, and when the second portion of the base is in the second position, the oscillation axis is oriented parallel to the support surface.

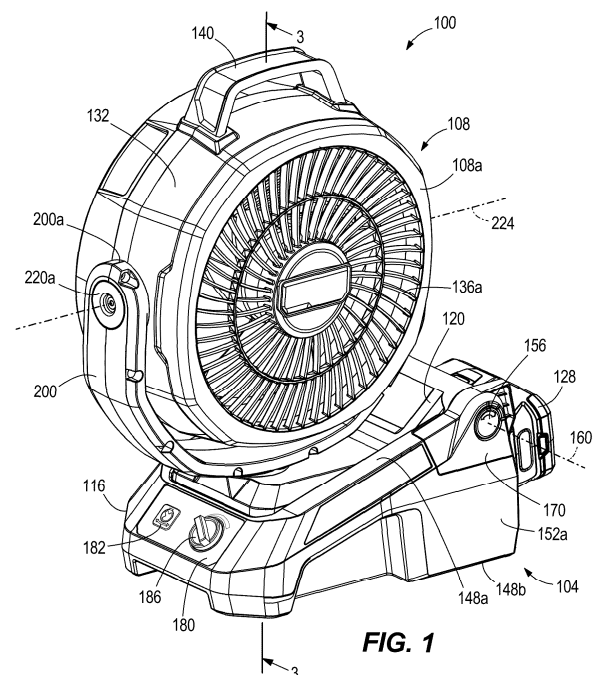


FIG. 1

Description

FIELD

[0001] The application relates to fan assemblies, and more specifically, to oscillating, adjustable fan assemblies.

BACKGROUND

[0002] Portable cooling devices, such as fan assemblies, are commonly used to provide airflow in various environments, including worksites, outdoor spaces, etc. Many such spaces require the fan assembly to be easily transportable while delivering sufficient airflow to effectively cool the intended space. However, many existing portable fans lack versatility in positioning and adaptability, which can limit their effectiveness in various applications.

SUMMARY

[0003] In one aspect, the invention provides a fan assembly including a base including a first portion and a second portion pivotable relative to the first portion between a first position and a second position, the first portion configured to support the fan assembly on a support surface, a housing coupled to the second portion of the base, the housing including a shroud that at least partially defines an airflow chamber, the housing configured to oscillate about an oscillation axis relative to the second portion of the base, a fan blade supported within the airflow chamber, and a motor operable to drive rotation of the fan blade and thereby generate airflow through the airflow chamber, wherein when the second portion of the base is in the first position, the oscillation axis is oriented perpendicular to the support surface, and when the second portion of the base is in the second position, the oscillation axis is oriented parallel to the support surface.

[0004] In another aspect, the invention provides a fan assembly including a base including a first portion and a second portion pivotable relative to the first portion about a first axis between a first position and a second position, a housing coupled to the second portion of the base, a fan blade supported within the housing, a motor operable to drive rotation of the fan blade, and a yoke assembly coupled between the housing and the second portion of the base, the yoke assembly defining a second axis about which the housing is rotatable relative to the yoke assembly.

[0005] In yet another aspect, the invention provides a fan assembly including a base including a first portion and a second portion pivotable relative to the first portion about a first axis between a retracted position and an extended position, a housing coupled to the second portion of the base, the housing including a shroud that at least partially defines an airflow chamber, a fan blade

supported within the airflow chamber, a motor operable to drive rotation of the fan blade and thereby generate airflow through the airflow chamber, a yoke assembly coupled between the housing and the second portion of the base, the yoke assembly operable to oscillate relative to the base about a second axis when the second portion is in the retracted position and the extended position, the housing configured to rotate relative to the yoke assembly about a third axis, and a battery receptacle positioned on the base and configured to receive a battery pack to provide power to the motor.

[0006] Other aspects of the disclosure will become apparent by consideration of the detailed description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007]

FIG. 1 is a perspective view of a fan assembly, including a housing and a base, according to one aspect of the invention.

FIG. 2 is another perspective view of the fan assembly of FIG. 1.

FIG. 3 is a bottom view of the fan assembly of FIG. 1.

FIG. 4 is a cross-sectional view of the fan assembly taken along section line 3-3 of FIG. 1.

FIG. 5 is an exploded view of the fan assembly of FIG. 1.

FIG. 6 is a partial exploded view of the base of the fan assembly of FIG. 1.

FIG. 7 is a partial exploded view of a yoke assembly of the fan assembly of FIG. 1.

FIG. 8A is a side view of the fan assembly of FIG. 1, showing the base in a first, retracted position.

FIG. 8B is another side view of the fan assembly of FIG. 1, showing the base in an intermediate position.

FIG. 8C is another side view of the fan assembly of FIG. 1, showing the base in a second, extended position.

FIG. 9A is a perspective view of the fan assembly of FIG. 1, showing the fan housing, the yoke assembly, and the base in a first position.

FIG. 9B is another perspective view of the fan assembly of FIG. 9A, showing the fan housing, the

yoke assembly, and the base in a second position.

FIG. 9C is another perspective view of the fan assembly of FIG. 9A, showing the fan housing, the yoke assembly, and the base in a third position.

FIG. 9D is another perspective view of the fan assembly of FIG. 9A, showing the fan housing, the yoke assembly, and the base in a fourth position.

FIG. 10 is another perspective view of the fan assembly of FIG. 1, showing the fan assembly suspended from an overhead structure.

FIG. 11 is a perspective view of a fan assembly according to another aspect of the invention.

[0008] Before any embodiments of the disclosure are explained in detail, it is to be understood that the disclosure is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the following drawings. The disclosure is capable of other embodiments and of being practiced or of being carried out in various ways. Also, it is to be understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting. Use of "including" and "comprising" and variations thereof as used herein is meant to encompass the items listed thereafter and equivalents thereof as well as additional items. Use of "consisting of" and variations thereof as used herein is meant to encompass only the items listed thereafter and equivalents thereof. Unless specified or limited otherwise, the terms "mounted," "connected," "supported," and "coupled" and variations thereof are used broadly and encompass both direct and indirect mountings, connections, supports, and couplings.

DETAILED DESCRIPTION

[0009] FIGS. 1-2 illustrate a cooling apparatus, such as a fan assembly 100, operable to cool a workspace. The fan assembly 100 includes a base 104, a housing 108, and a yoke assembly 112. The base 104 is configured to support the housing 108 in multiple configurations (e.g., orientations, positions, angles, etc.). The base 104 includes a first portion 116 and a second portion 120. The first portion 116 may also be referred to as a stationary portion. The second portion 120 may also be referred to as a movable or pivotable portion. The pivotable portion 120 is movably (e.g., pivotably) coupled to the stationary portion 116 to arrange the base 104 in a desired configuration. The base 104 further includes a battery receptacle 124 configured to receive a battery pack 128. The housing 108 may include a shroud 132, a handle 140, and a motor 144.

[0010] As shown in FIGS. 8A-9D, the fan assembly

100 is positionable in various orientations. More specifically, the pivotable portion 120 of the base 104 pivots relative to the stationary portion 116 between a first, retracted position and a second, extended position.

5 The yoke assembly 112 may oscillate relative to the base 104, repositioning the orientation of the housing 108 relative to the base 104. The housing 108 may also rotate relative to the yoke assembly 112, repositioning the orientation of the housing 108 relative to the yoke assembly 112 and the base 104.43

10 **[0011]** Referring to FIGS. 4-6, the stationary portion 116 of the base 104 is generally trapezoidal and includes a first, upper surface 148a, and a second, bottom surface 148b opposite the upper surface 148a. The stationary portion 116 further includes a first end 116a coupled to the pivotable portion 120, a second end 116b opposite the first end 116a, a first side surface 152a, and a second side surface 152b opposite the first side surface 152a. The first end 116a has a generally semi-circular shape.

20 **[0012]** As shown in FIG. 6, an actuator 156 extends through the first side surface 152a to releasably hold the pivotable portion 120 relative to the stationary portion 116, as discussed in more detail below. A pivot axis 160 extends through the first and second side surfaces 152a, 152b along the connection between the stationary portion 116 and the pivotable portion 120. The upper surface 148a of the stationary portion 116 defines a recess 164 that is shaped and sized to receive the pivotable portion 120 of the base 104.

30 **[0013]** With continued reference to FIGS. 5-6, the pivotable portion 120 is pivotably coupled to the upper surface 148a of the stationary portion 116. The pivotable portion 120 includes a first end 120a, which is coupled to the first end 116a of the stationary portion 116, and a second end 120b opposite the first end 120a. The first end 120a has a generally semicylindrical shape corresponding to the first end 116a of the stationary portion 116. The first end 116a of the stationary portion 116 couples to the first end 120a of the pivotable portion 120 to form a cylindrical portion 166. The pivotable portion 120 further includes an opening 168 shaped and sized to receive part of the yoke assembly 112, as discussed in more detail below.

40 **[0014]** As shown in FIGS. 8A-8C, the pivotable portion 120 pivots about the pivot axis 160 between the retracted position (FIG. 8A) and the extended position (FIG. 8C). When in the retracted position, the pivotable portion 120 is seated within the recess 164 and contacts the upper surface 148a of the stationary portion 116. When in the extended position, the pivotable portion 120 is pivoted away from the stationary portion 116. In the illustrated embodiments, the pivotable portion 120 pivots 90 degrees between the retracted and extended positions. However, in alternative embodiments, the pivotable portion 120 may pivot more than 90 degrees or less than 90 degrees.

[0015] As shown in FIG. 6, the base 104 includes a

detent mechanism 154 to hold the pivotable portion 120 in the retracted position, the extended position, and intermediate positions (e.g., FIG. 8B) between the retracted and extended positions. The detent mechanism 154 includes the actuator 156 and a connector 170 of the stationary portion 116 of the base 104. The actuator 156, or first member, is cylindrical and includes a series of radially spaced teeth 172. The actuator 156 is coupled to the pivotable portion 120 to move with the pivotable portion 120 relative to the stationary portion 116. The connector 170, or second member, is positioned on the first side surface 152a of the base 104 and coupled to the first side surface 152a of the stationary portion 116. More specifically, the connector 170 remains stationary on the stationary portion 116 as the pivotable portion 120 moves. In some embodiments, the connector 170 is removably coupled to the cylindrical portion 166, but, in alternative embodiments, the connector 170 may be integrally formed with the base 104. The connector 170 includes a circular aperture 184 adjacent the first end 120a of the pivotable portion 120, which is shaped and sized to receive the actuator 156. The aperture 184 includes a series of radially spaced teeth 188 that correspond to the actuator teeth 172. The actuator 156 extends through the circular aperture 184 and into engagement with the cylindrical portion 166. A spring 190 is positioned within the connector 170, which biases the actuator 156 outward, such that the actuator teeth 172 engage with the aperture teeth 188, preventing rotation of the pivotable portion 120 relative to the stationary portion 116.

[0016] To adjust the position of the pivotable portion 120, the actuator 156 is pushed inward against the bias of the spring 190, compressing the spring 190 and disengaging the actuator teeth 172 from the aperture teeth 188. Once the teeth are disengaged, the pivotable portion 120 can be rotated to the desired orientation. Releasing the actuator 156 allows the spring to return the actuator 156 to its outward position, re-engaging the teeth 172, 188 to hold the pivotable portion 120 securely in the selected position. In other embodiments, the detent mechanism 154 may have other components or configurations (e.g., cam lobes, axially extending teeth, etc.) to releasably hold the pivotable portion 120 relative to the stationary portion 116.

[0017] With reference to FIG. 1, the base 104 supports a control panel 180. The illustrated control panel 180 includes actuators for operating the fan assembly 100. For example, the actuators could be button, switches, or any suitable control mechanism that is configured to control the fan assembly 100. In the illustrated embodiments, the control panel 180 includes a first actuator 182 and a second actuator 186. The first actuator 182 is a button configured to control the oscillation function of the yoke assembly 112. Specifically, a user may selectively activate or deactivate oscillation upon depression of the first actuator 182. The second actuator 186 is configured to control the speed of the

fan assembly 100. Specifically, the second actuator 186 is a variable speed dial that is rotatable, allowing a user to turn on and off the fan assembly and to selectively adjust the airflow output continuously rather than being limited to predefined speed settings. In other embodiments, the control panel 180 may include other suitable actuators.

[0018] The base 104 may selectively support the housing 108 on various surfaces, including horizontal surfaces (e.g., floor surface, tabletop, work bench, etc.) and vertical surfaces (e.g., walls). The base 104 may also be mounted to a storage system. More specifically, as illustrated in FIG. 3, the bottom surface 148b of the stationary portion 116 of the base 104 includes a series of pockets 192 compatible with the RYOBI LINK™ Modular Storage System. For example, the pockets 192 may interface with corresponding features on a tool box of the RYOBI LINK™ System to support the base 104 of the fan assembly 100 in a horizontal orientation. Alternatively, the pockets 192 may interface with corresponding features on a wall rail of the RYOBI LINK™ System to support the base 104 of the fan assembly 100 in a vertical orientation. The pockets 192 provide a stable connection between the base 104 and the storage system, allowing for easy installation and removal of the fan assembly 100.

[0019] At least one of the pockets 192 additionally includes projections 193. The projections 193 serve as catches connectable with corresponding connectors, such as protrusions on a cleat of the RYOBI LINK™ Modular Storage System. In the illustrated embodiment, the pocket 192 includes two projections 193. However, in alternative configurations, the pocket 192 may include fewer or additional projections 193. When the base 104 is coupled to a tool compatible with the RYOBI LINK™ Modular Storage System, the projections 193 engage the protrusions, enhancing the stability of the connection between the base 104 and the storage system.

[0020] With continued reference to FIG. 3, the base 104 further includes recesses 194 and apertures 195. Specifically, the base 104 includes a first recess 194 adjacent to the first side surface 152a, a second recess 194 adjacent to the second side surface 152b, and various apertures 195. Each recess 194 includes a hook 197 that is movable (e.g., linearly slidable) between a stored position, where the hook 197 is contained within the recess 194, and an extended position, where the hook 197 extends out of the recess 194. The hooks 197 are held in the stored position by detents 201 that extend partially over the recesses 194. As shown in FIG. 10, when in the extended position, the hooks 197 may engage mounting features 202 (e.g., rails, hooks, etc.) to hang the fan assembly 100 from an overhead structure 203 or to support the fan assembly 100 on a vertical surface. As shown in FIG. 3, the apertures 195 are keyhole-shaped to accommodate fasteners (e.g., screws, nails, etc.), enabling secure mounting of the

fan assembly 100 on a vertical or horizontal surface. In the illustrated embodiments, the base 104 includes four keyhole-shaped apertures 195. However, in alternative configurations, the base 104 may include fewer or additional apertures 195.

[0021] Referring to FIGS. 1-4, the battery receptacle 124 is configured to receive the battery pack 128, which supplies power to the fan assembly 100. The battery pack 128 may be selectively and removably inserted into the battery receptacle 124 to connect the battery pack 128 to the fan assembly 100. The battery pack 128 may be a power tool battery pack generally used to power a power tool, such as an electric drill, an electric saw, and the like. For example, the battery pack 128 may be an 18V Li-ion battery pack. In other embodiments, the battery pack 128 may have other voltages and/or chemistries. As shown in FIG. 2, the battery receptacle 124 additionally includes an AC inlet 199 to power the fan assembly 100 through an AC power source. The AC inlet 199 is positioned in the battery receptacle 124 such that access to the AC inlet 199 is blocked by the battery pack 128 when the battery pack 128 is coupled to the battery receptacle 124. In other embodiments, the AC inlet 199 may be located elsewhere on the fan assembly 100. In such embodiments, the AC inlet 199 may receive power from an AC power source to also charge the battery pack 128.

[0022] As shown in FIGS. 1-2, 4, and 5, the housing 108 is generally cylindrical and includes a front face 108a and a rear face 108b opposite the front face 108a. The shroud 132, positioned between the front and rear faces 108a, 108b, serves as a protective covering for internal components of the housing 108. The housing 108 also includes a first grille 136a positioned on the front face 108a and a second grille 136b positioned on the rear face 108b. The grilles 136a, 136b are generally planar and include a series of radial openings, or vents, that allow airflow to pass through the housing 108 while providing protection from the internal components of the housing 108.

[0023] With reference to FIGS. 4-5, the housing 108 further supports the motor 144 and one or more blades 196 rotatable by the motor 144 to generate an airflow through an airflow chamber 198 formed at least partially by the shroud 132. The motor 144 may receive power from the battery pack 128 to power rotation of the blades 196. In other embodiments, the motor 144 may receive power from another AC or DC source such as a wall outlet, a generator, or the like. In the illustrated embodiments (FIGS. 1-10), the housing 108 includes five blades 196. However, in some embodiments (FIG. 11), the housing 108 may include three blades 196, with the curvature of the blades 196 optimized to achieve a desired airflow performance. For example, the three blades 196 may be optimized to generate approximately 1,200 cubic feet of air per minute (CFM) using the motor 144. However, the housing 108 may include any suitable number of blades 196,

such as two, four, or more, depending on design preferences, efficiency goals, or airflow performance requirements. As shown in FIGS. 1-2 and 4, the handle 140 is positioned on an upper surface of the shroud 132. The handle 140 is generally arcuate and defines a gripping surface graspable by a user for transporting the fan assembly 100. The handle 140 also facilitates manipulating the housing 108 relative to the base 104. For example, a user may grip the handle 140 to pivot the pivotable portion 120 of the base 104 toward and away from the stationary portion 116 of the base 104, thereby adjusting an orientation of the housing 108 relative to the base 104.

[0024] As shown in FIGS. 5 and 7, the yoke assembly 112 is coupled to the base 104 and the housing 108. The yoke assembly 112 includes an arm 200, a pin 204, and a motor 208. The arm 200 is substantially U-shaped and coupled to the shroud 132. Specifically, a first distal end 200a of the arm 200 is coupled to a first side 132a of the shroud 132, and a second distal end 200b of the arm 200 is coupled to a second side 132b of the shroud 132. The first distal end 200a includes a first aperture 212a, and the second distal end 200b includes a second aperture 212b (FIG. 7). The first aperture 212a is shaped to receive a first boss 216a extending from the first side 132a of the shroud 132 and a first connector 220a. The second aperture 212b is shaped to receive a second boss 216b extending from the second side 132b of the shroud 132 and a second connector 220b. In the illustrated embodiments, the arm 200 is configured as a clamshell housing. However, in alternative embodiments, the arm 200 may be constructed as a single piece.

[0025] When fully assembled, the connectors 220a, 220b are secured to the bosses 216a, 216b, thereby coupling the connectors 220a, 220b to the housing 108 for corotation. This arrangement allows the housing 108 to pivot or rotate relative to the yoke assembly 112 about a rotational axis 224 extending through the first and second bosses 216a, 216b. Specifically, a user may manually aim or tilt the fan to a desired position. However, in alternative embodiments, the motor 144 may drive rotation of the housing 108.

[0026] As shown in FIGS. 9A-9D, the housing 108 can move between a first, forward position, where the first grille 136a faces forward (FIG. 9A), and a second, upward position, where the first grille 136a faces upward (FIGS. 9B-9D). That is, the housing 108 may pivot 90 degrees between the first position and the second position, though alternative embodiments may allow for motion through greater or lesser angles. For example, the housing 108 may be held in positions between the forward position and the upward position. The housing 108 can move positions independently of the base position, allowing the housing 108 to move whether the pivotable portion 120 of the base 104 is in the retracted or extended position.

[0027] As shown in FIG. 7, a central portion 200c of

the arm 200, located at a midpoint of the arm 200, is coupled to the base 104. More specifically, the central portion 200c of the arm 200 includes a boss 228 shaped and sized to receive the pin 204, and the pin 204 is secured to the motor 208. The boss 228 extends through the opening 168 of the pivotable portion 120, such that the boss 228, pin 204, and motor 208 are positioned within the pivotable portion 120 of the base 104. The motor 208 may receive power from the battery pack 128 to power rotation of the yoke assembly 112. In other embodiments, the motor 208 may receive power from another AC or DC source such as a wall outlet, a generator, or the like.

[0028] The arrangement between the yoke assembly 112 and the base 104 enables the yoke assembly 112 to oscillate, or rotate, relative to the base 104 about an oscillation axis 232 that extends through the pin 204 and the central portion 200c of the arm 200. As shown in FIGS. 4 and 9A-9D, the oscillation axis 232 is perpendicular to both the pivot axis 160 and the rotational axis 224. The motor 208 imparts rotational force to the arm 200, causing both the arm 200 and housing 108 to oscillate.

[0029] As shown in FIGS. 9A-9D, the yoke assembly 112 can oscillate between a first position, where the rotational axis 224 is oriented perpendicular to the pivot axis 160 (FIGS. 9A-9B), and a second position, where the rotational axis 224 is oriented parallel to the pivot axis 160 (FIGS. 9C-9D). That is, the arm 200 oscillates 90 degrees between the first position and the second positions, though alternative embodiments may allow for greater or lesser angles. In some embodiments, a user can set or select an oscillation range of the arm 200. Further, in some embodiments, the yoke assembly 112 may be maintained or held in specific positions, such as the forward position or upward position, rather than undergoing continuous oscillation. As discussed above, the oscillation function is controlled via the first actuator 182, which allows the user to activate or deactivate oscillation as desired.

[0030] The motor-driven oscillation of the yoke assembly 112 operates irrespective of the positions of the base 104 or the housing 108. That is, the yoke assembly 112 can oscillate whether the pivotable portion 120 of the base 104 is retracted or extended and whether the housing 108 is in the forward or upward position. Similarly, the housing 108 can rotate independently of the oscillation of the yoke assembly 112.

[0031] The ability of the base 104 to pivot between a retracted and extended position, combined with the detent mechanism 154 for intermediate positioning, allows the fan assembly 100 to be securely positioned in various orientations to suit the user's needs. This adaptability ensures the fan assembly 100 performs effectively on horizontal surfaces, vertical surfaces, or when mounted to storage systems, making it versatile for diverse environments.

[0032] Additionally, the oscillating motion of the yoke

assembly 112 and rotation of the housing 108 provides dynamic airflow distribution, enhancing cooling efficiency. This is particularly advantageous in larger spaces where stationary fans may struggle to provide sufficient air circulation. Finally, the independence of the rotation of the housing 108 and yoke assembly 112 from the position of the base 104 ensures seamless operation in any configuration, maintaining consistent performance regardless of the setup of the fan assembly 100.

[0033] Various disclosures are set forth in the following claims.

Claims

1. A fan assembly comprising:

a base including a first portion and a second portion pivotable relative to the first portion between a first position and a second position, the first portion configured to support the fan assembly on a support surface;
a housing coupled to the second portion of the base, the housing including a shroud that at least partially defines an airflow chamber, the housing configured to oscillate about an oscillation axis relative to the second portion of the base;
a fan blade supported within the airflow chamber; and
a motor operable to drive rotation of the fan blade and thereby generate airflow through the airflow chamber;
wherein when the second portion of the base is in the first position, the oscillation axis is oriented perpendicular to the support surface, and when the second portion of the base is in the second position, the oscillation axis is oriented parallel to the support surface.

2. The fan assembly of claim 1, wherein the housing is operable to oscillate about the oscillation axis when the base is in the first position and the second position.

3. The fan assembly of either claim 1 or claim 2, wherein the second portion of the base is pivotable relative to the first portion of the base to a plurality of intermediate positions between the first position and the second position, wherein the base preferably includes a detent mechanism configured to hold the second portion of the base in the plurality of intermediate positions.

4. The fan assembly of any one of claims 1 to 3, wherein the second portion of the base pivots 90 degrees relative to the first portion of the base be-

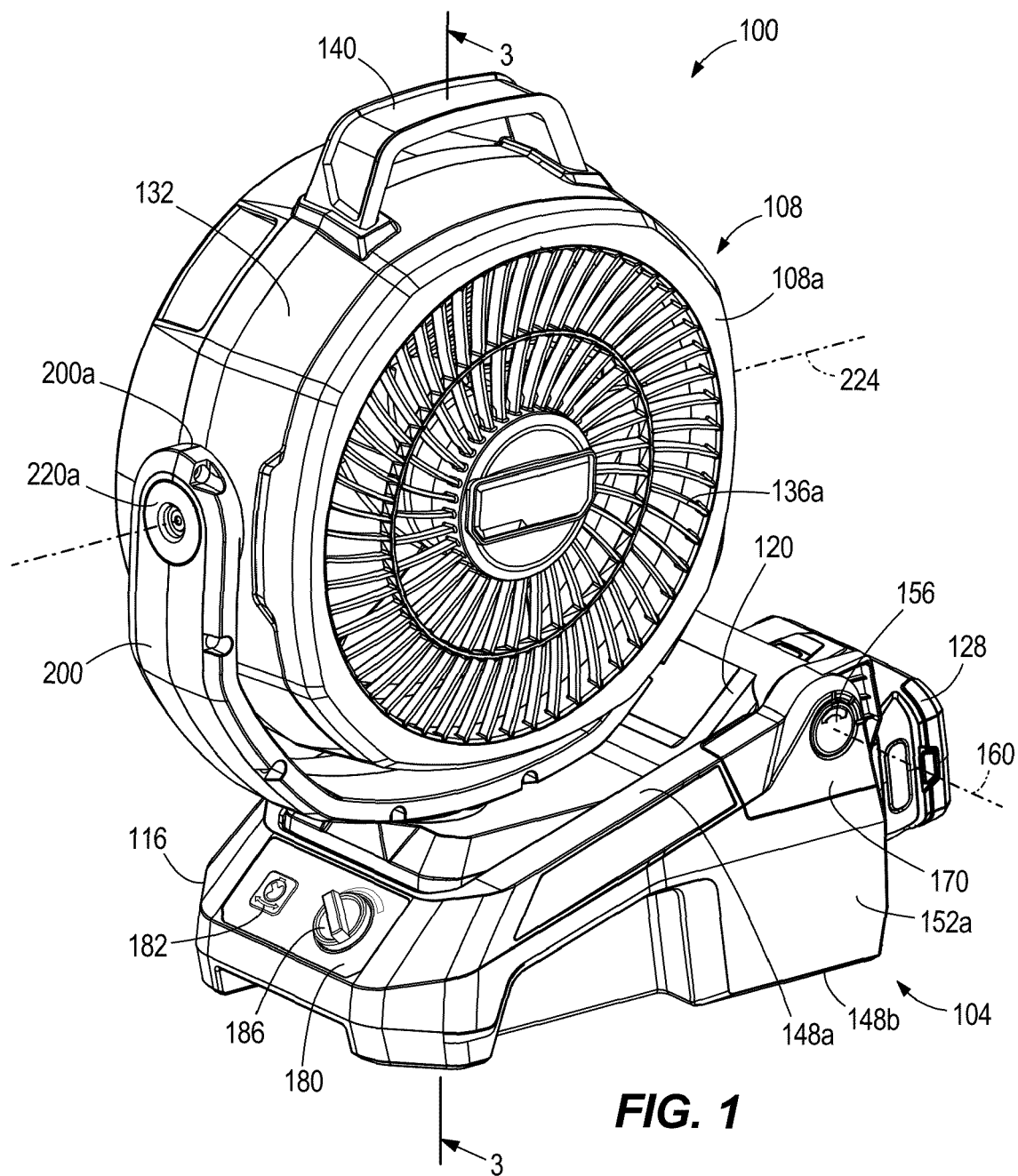
tween the first position and the second position.

5. The fan assembly of any one of claims 1 to 4, further comprising an arm positioned between the housing and the base, wherein the housing is configured to pivot relative to the arm. 5
6. The fan assembly of any one of claims 1 to 5, wherein the second portion includes a first end coupled to the first portion and a second end coupled to the housing. 10
7. The fan assembly of any one of claims 1 to 6, wherein the second portion is pivotable relative to the base about a pivot axis, and wherein the pivot axis is oriented perpendicular to the oscillation axis. 15
8. The fan assembly of any one of claims 1 to 7, wherein the first portion defines a recess configured to receive the second portion when the second portion is in the first position. 20
9. The fan assembly of any one of claims 1 to 8, wherein the motor is first motor, and further comprising a second motor positioned within the base, the second motor operable to oscillate the housing about the oscillation axis. 25
10. A fan assembly comprising: 30
 - a base including a first portion and a second portion pivotable relative to the first portion about a first axis between a first position and a second position; 35
 - a housing coupled to the second portion of the base;
 - a fan blade supported within the housing;
 - a motor operable to drive rotation of the fan blade; and 40
 - a yoke assembly coupled between the housing and the second portion of the base, the yoke assembly defining a second axis about which the housing is rotatable relative to the yoke assembly. 45
11. The fan assembly of claim 10, wherein the yoke assembly includes an arm, a pin coupled to the arm, and a second motor operable to drive oscillation of the arm relative to the base, wherein preferably the arm is configured to oscillate relative to the base when the second portion of the base is in the first position and the second position and/or wherein the arm is substantially U-shaped. 50
12. The fan assembly of either claim 10 or claim 11, wherein the first axis is configured to be oriented parallel to the second axis. 55

13. A fan assembly comprising:

a base including a first portion and a second portion pivotable relative to the first portion about a first axis between a retracted position and an extended position;
 a housing coupled to the second portion of the base, the housing including a shroud that at least partially defines an airflow chamber;
 a fan blade supported within the airflow chamber;
 a motor operable to drive rotation of the fan blade and thereby generate airflow through the airflow chamber;
 a yoke assembly coupled between the housing and the second portion of the base, the yoke assembly operable to oscillate relative to the base about a second axis when the second portion is in the retracted position and the extended position, the housing configured to rotate relative to the yoke assembly about a third axis; and
 a battery receptacle positioned on the base and configured to receive a battery pack to provide power to the motor.

14. The fan assembly of claim 13, wherein the base includes a detent mechanism configured to releasably hold the second portion of the base in the retracted position and the extended position, wherein the detent mechanism preferably includes a first member having a first plurality of teeth, and a second member coupled to the first member and having a second plurality of teeth corresponding to the first plurality of teeth.
15. The fan assembly of either claim 13 or claim 14, wherein the second axis is oriented perpendicular to the first axis and the third axis, and/or wherein the yoke assembly oscillates between a first position, in which the first axis is oriented perpendicular to the third axis, and a second position, in which the first axis is oriented parallel to the third axis.



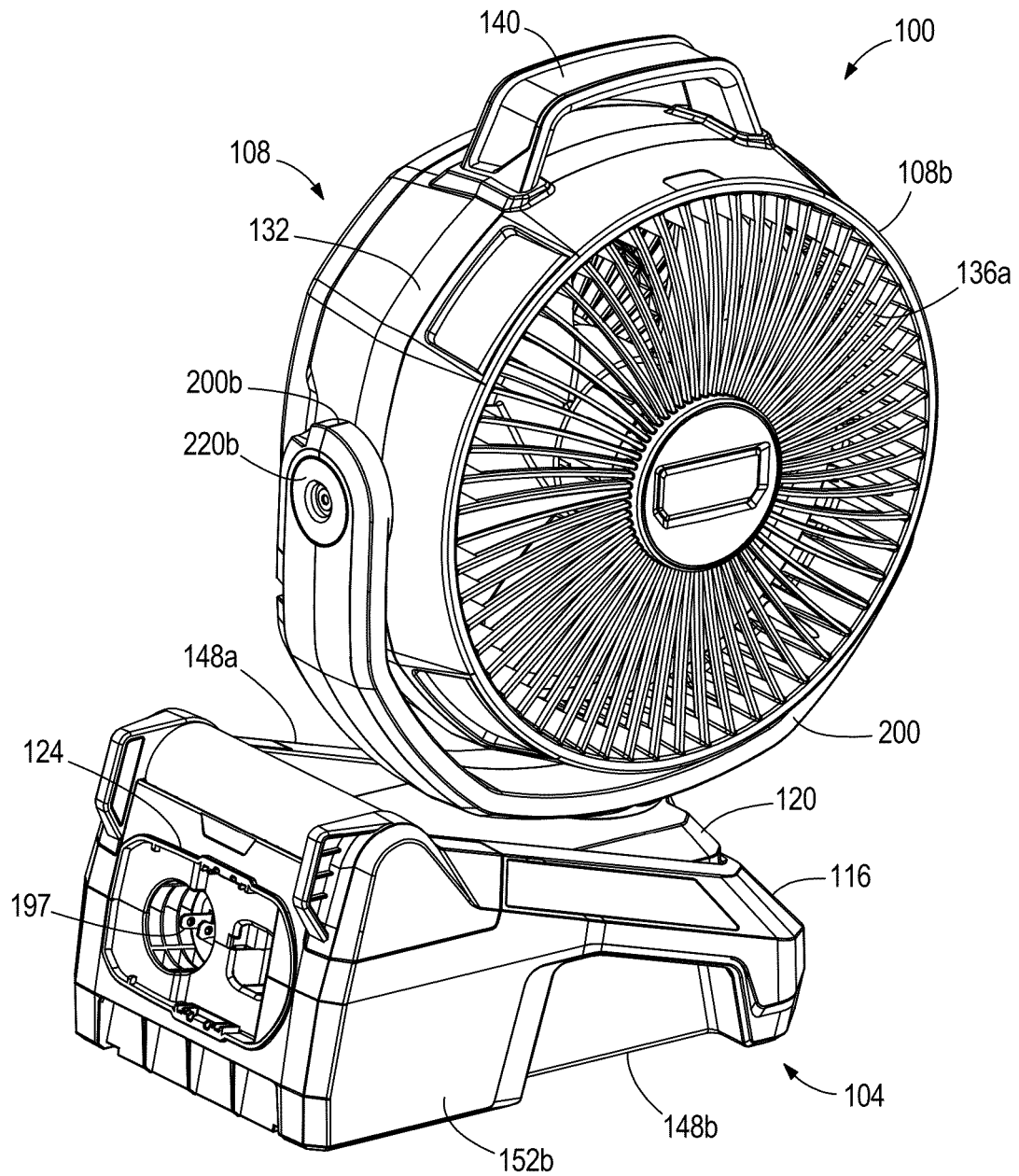


FIG. 2

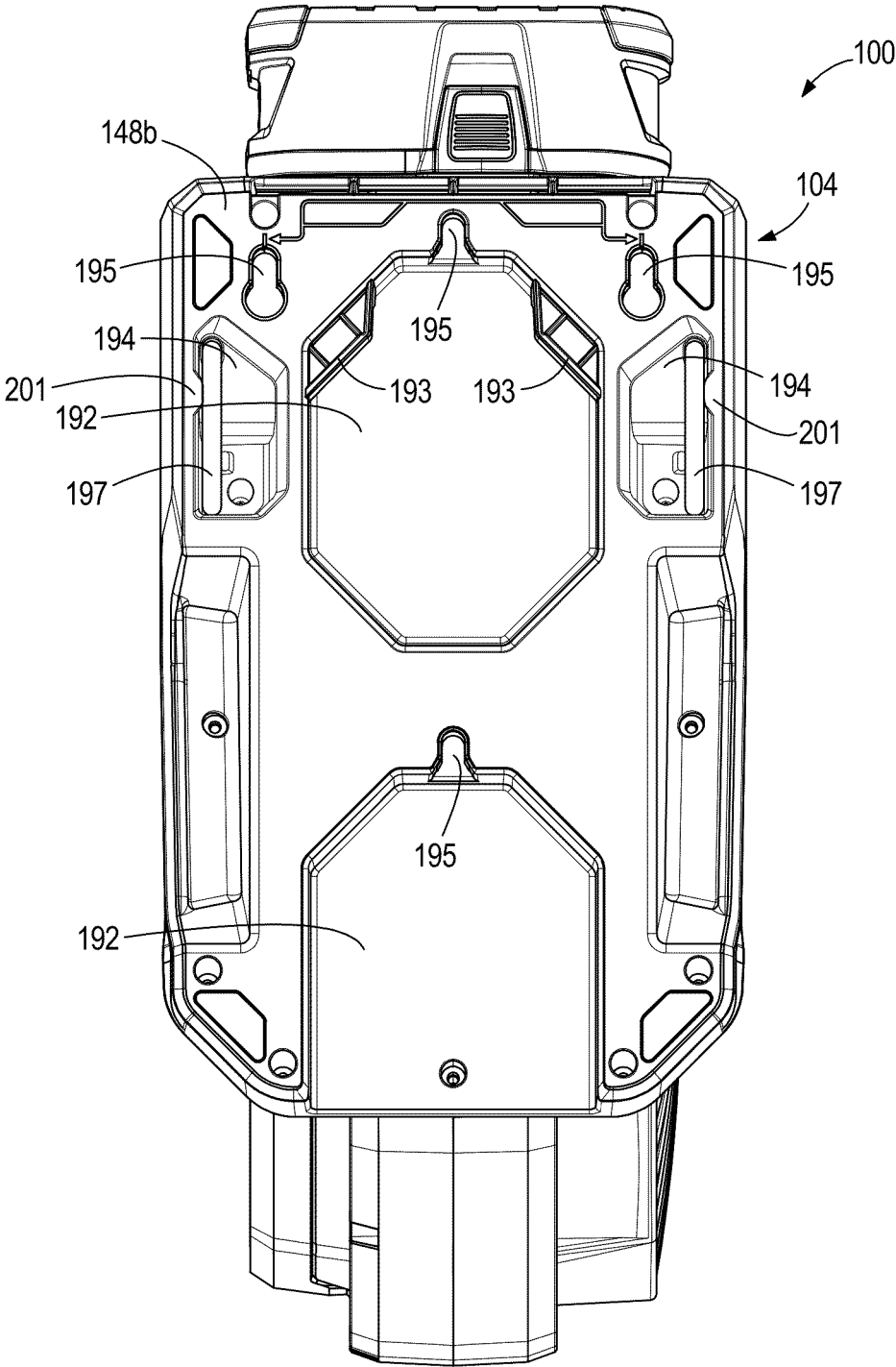


FIG. 3

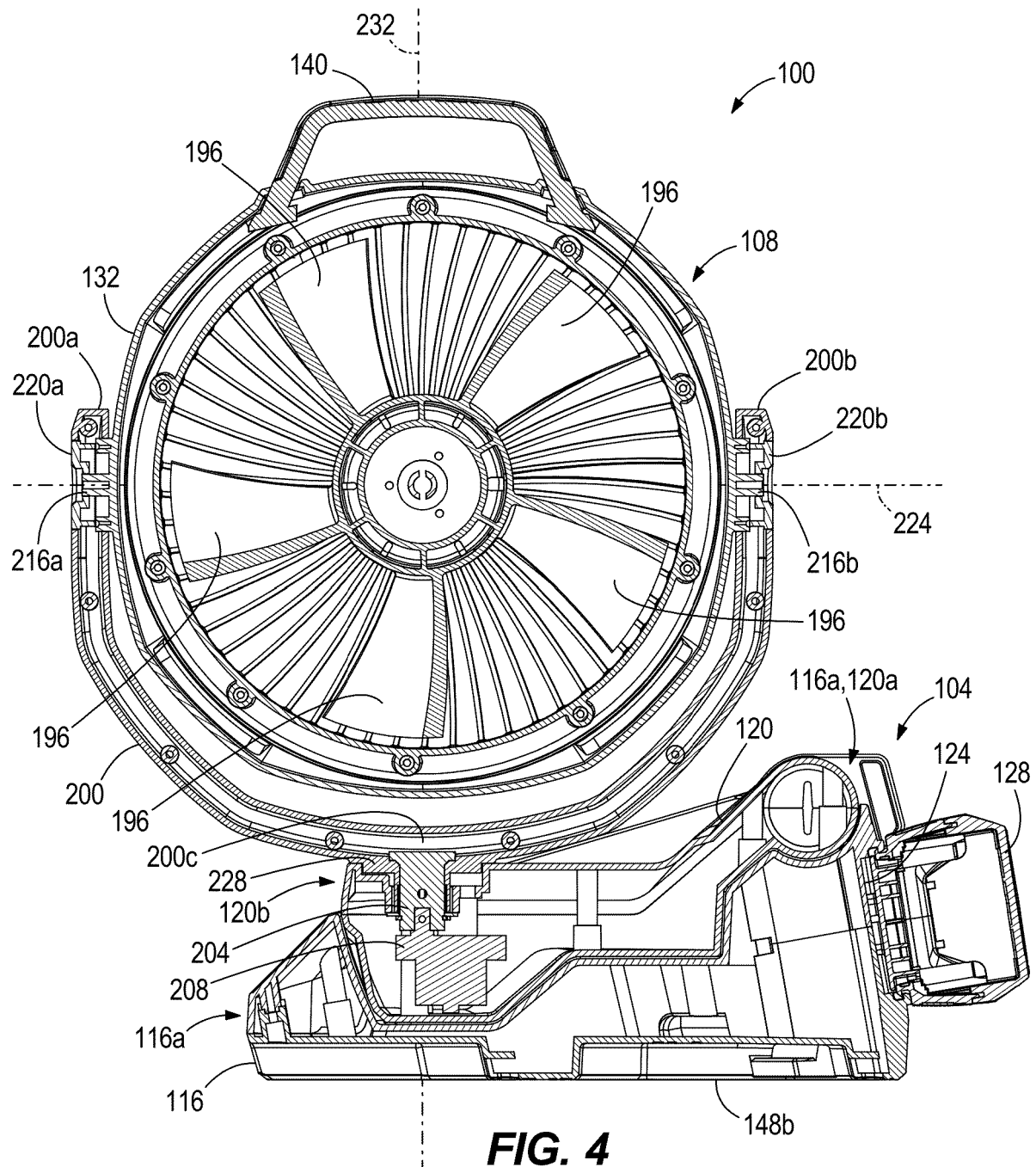
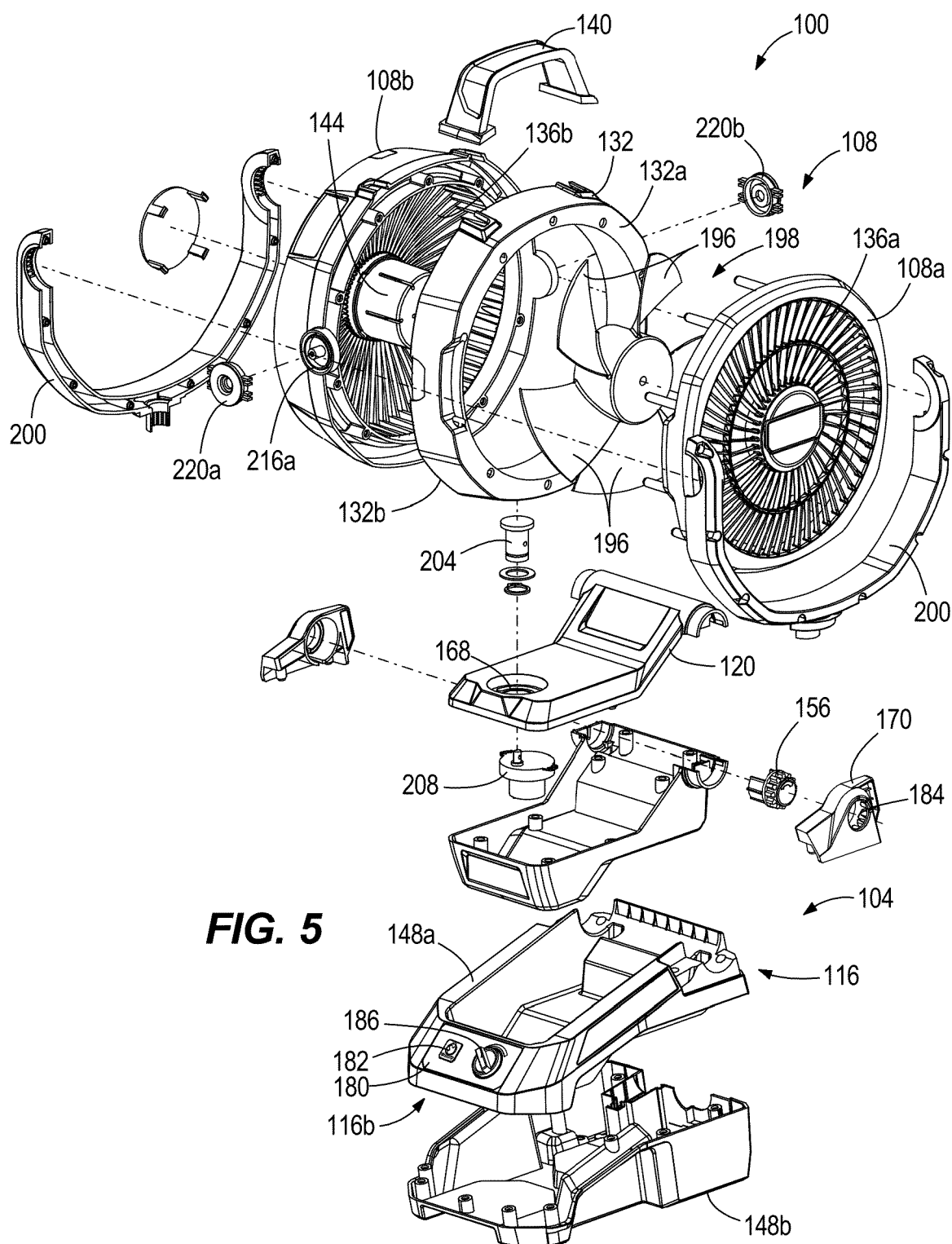


FIG. 4



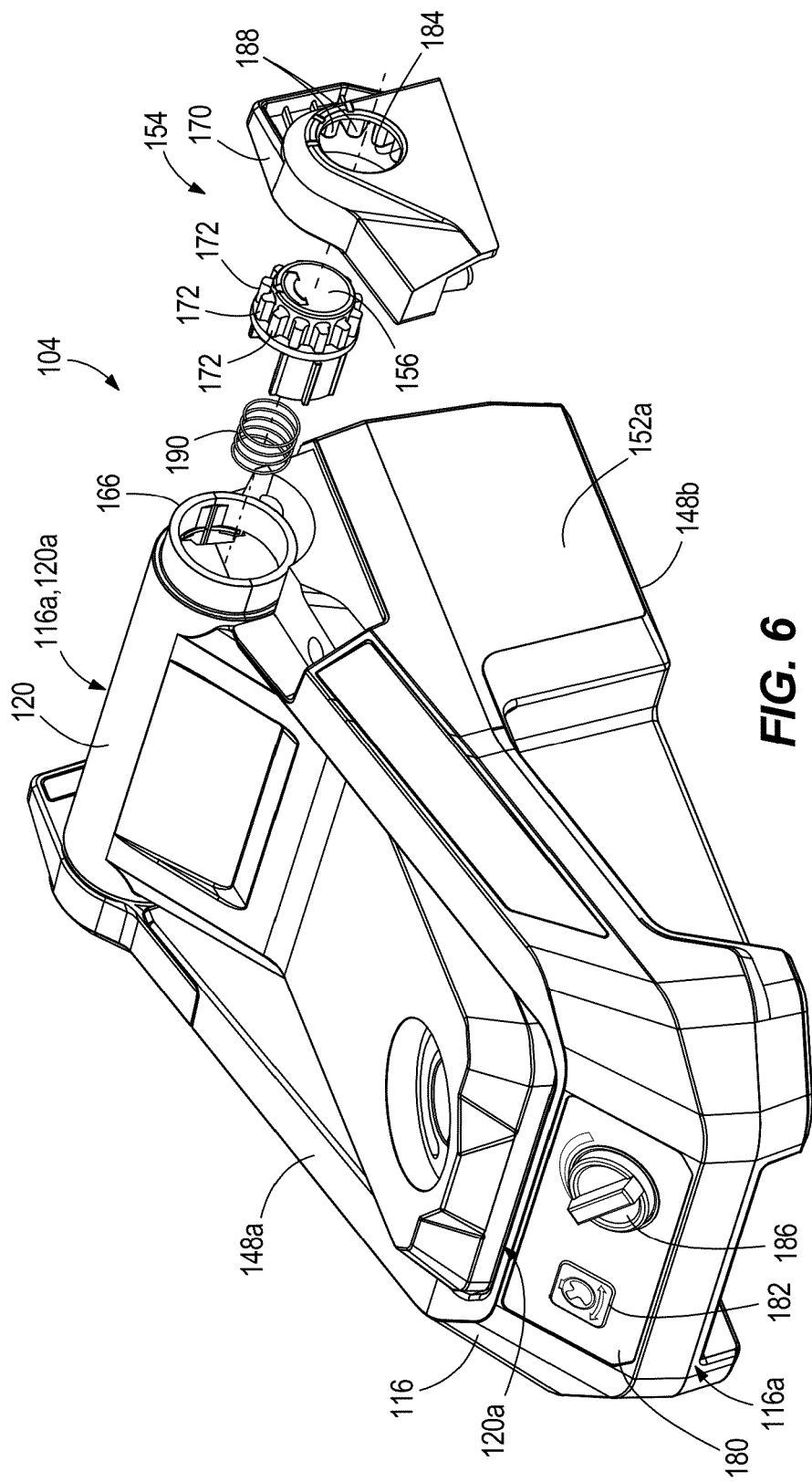
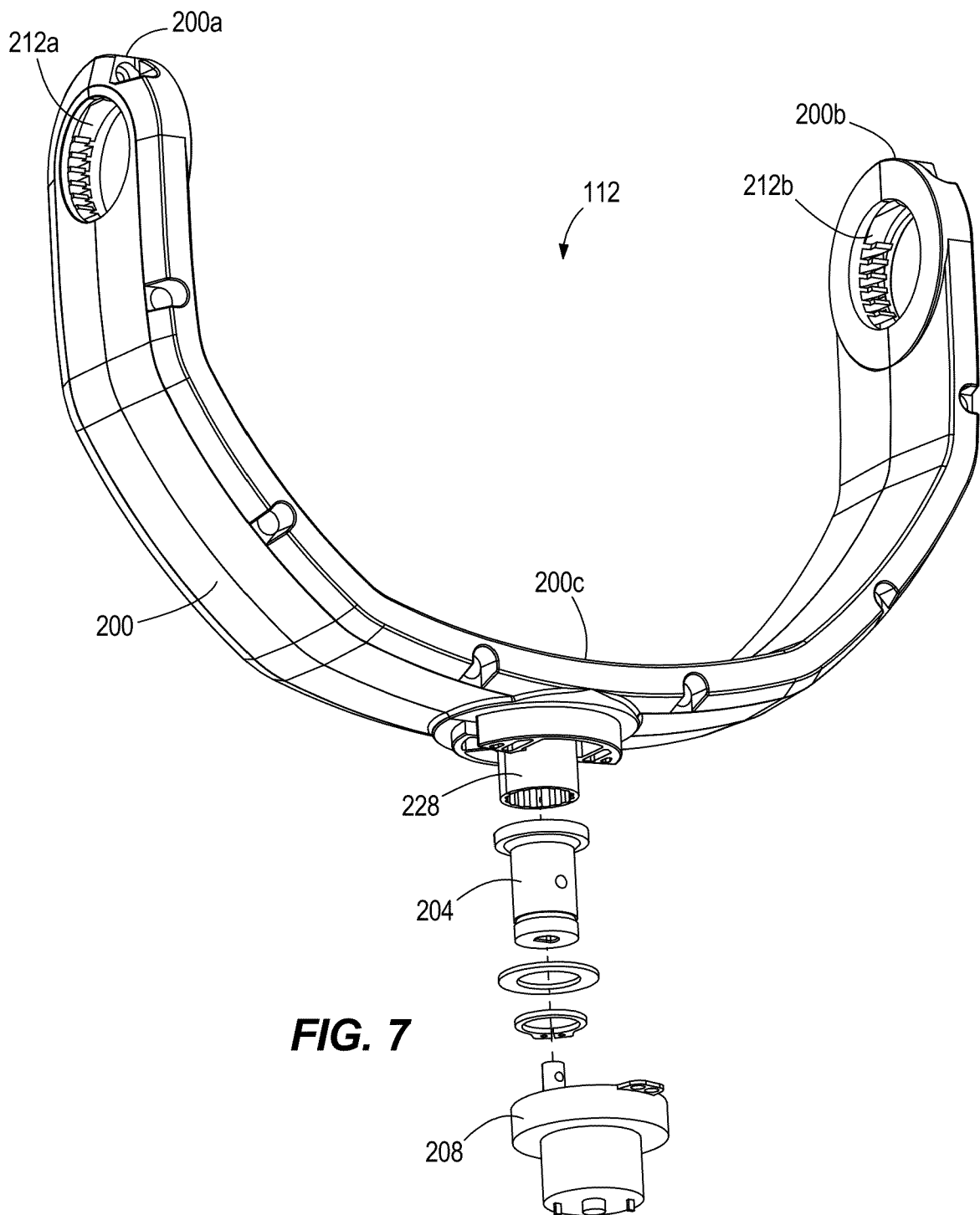
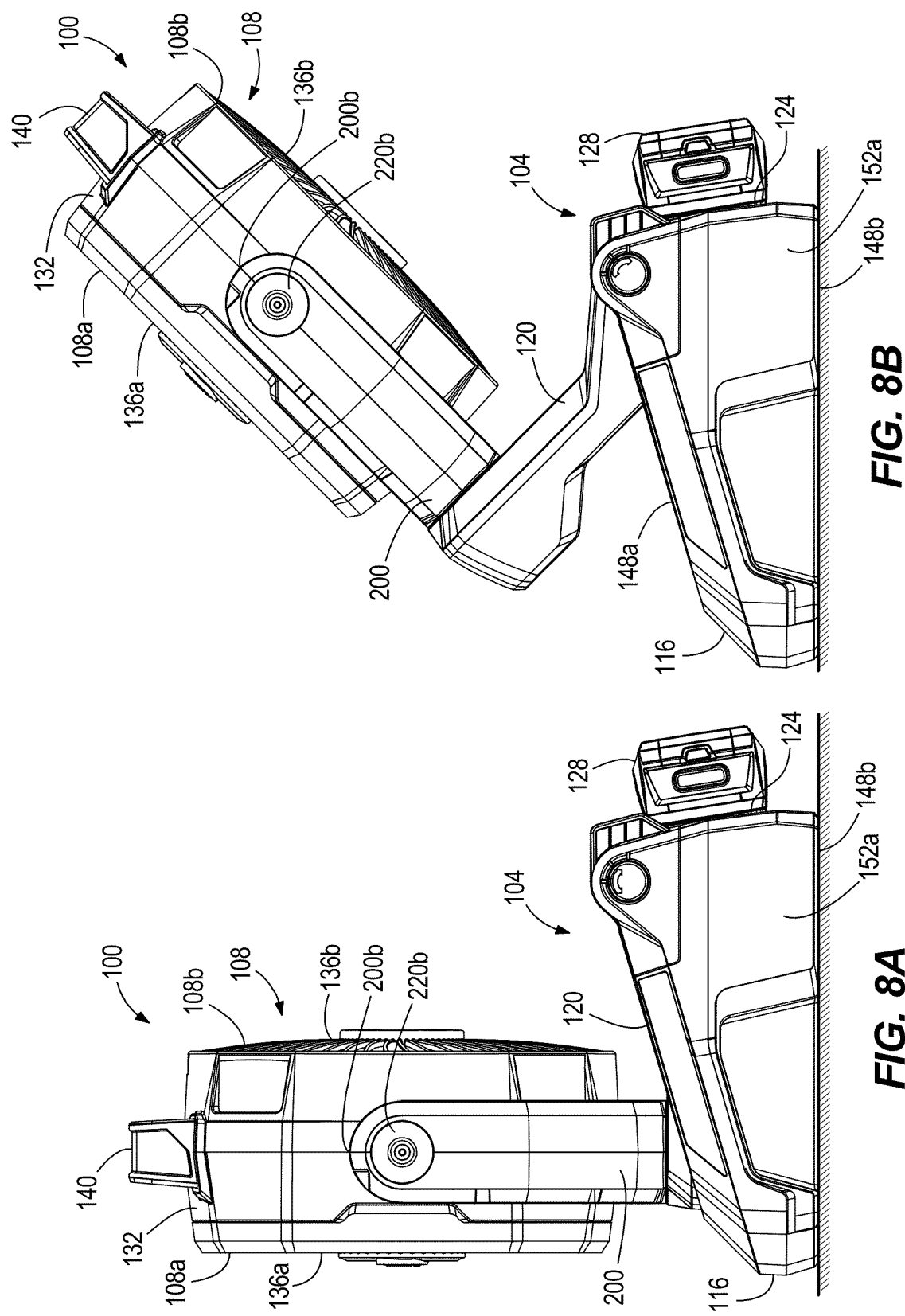
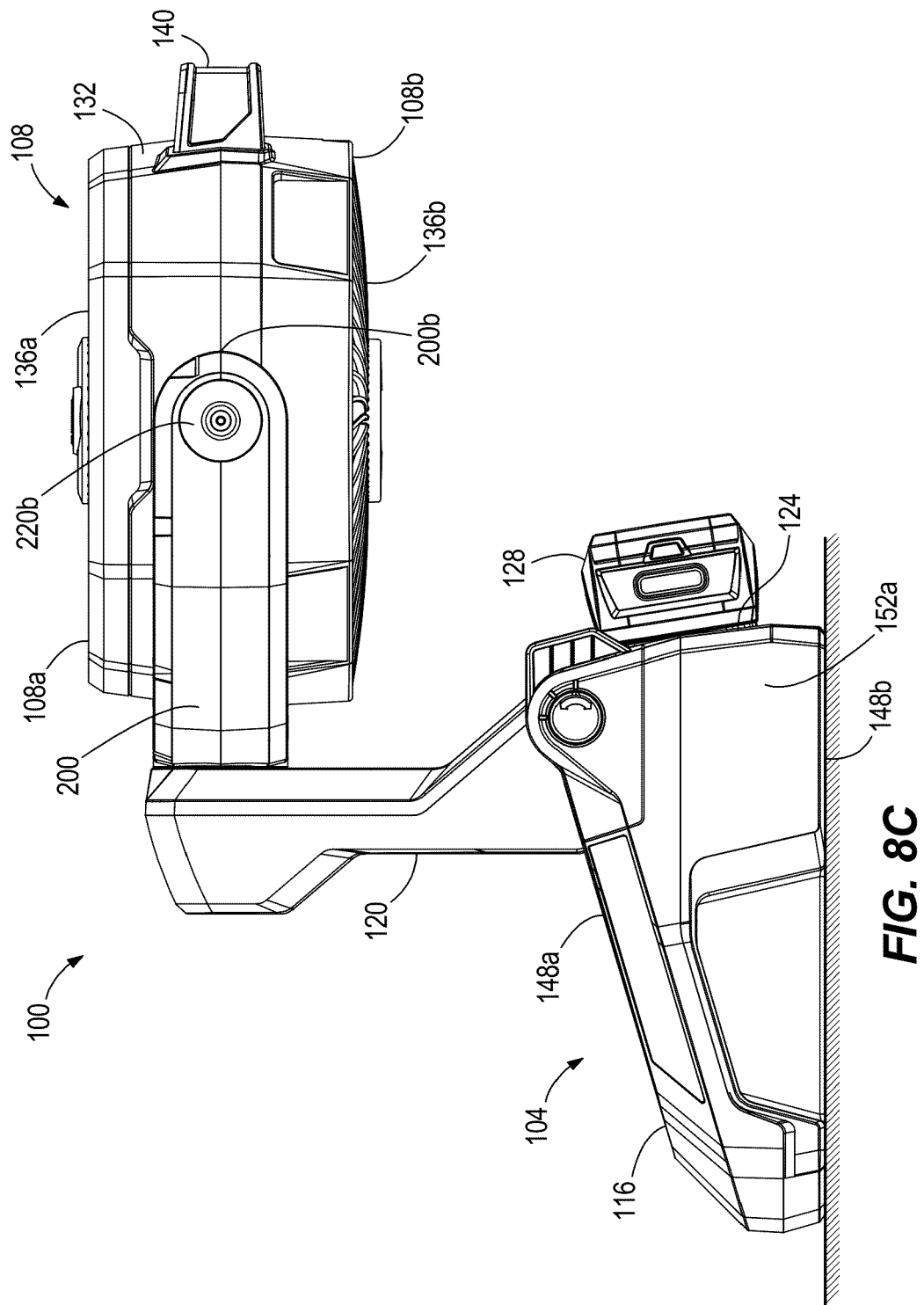


FIG. 6







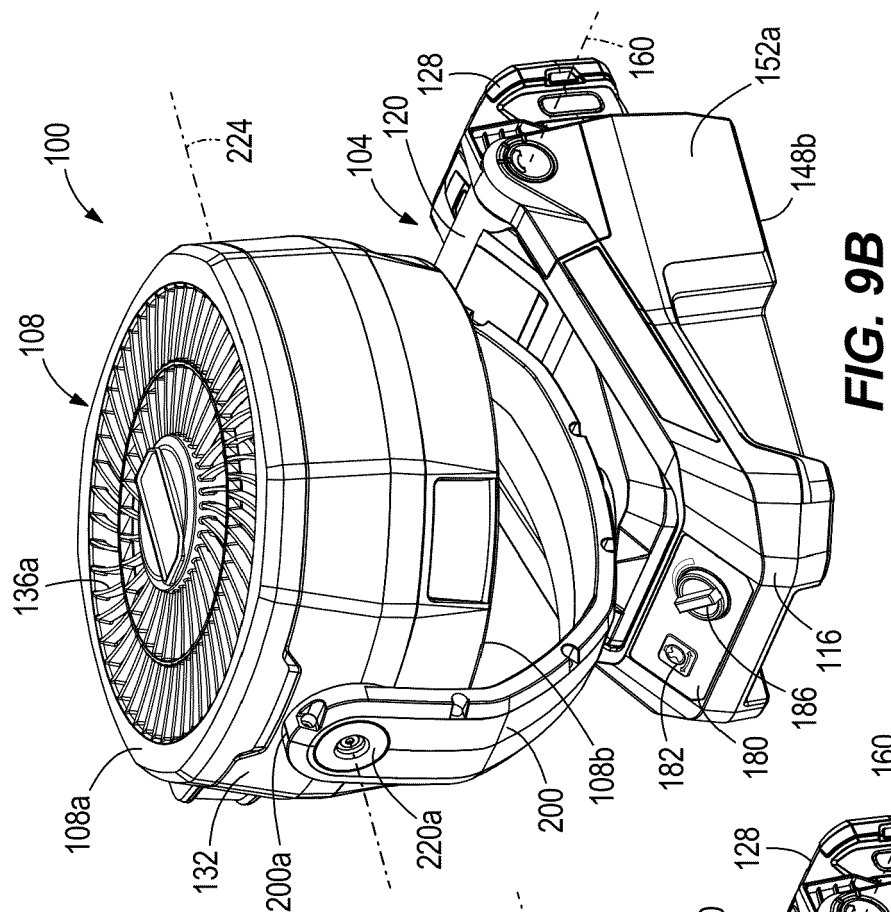


FIG. 9B

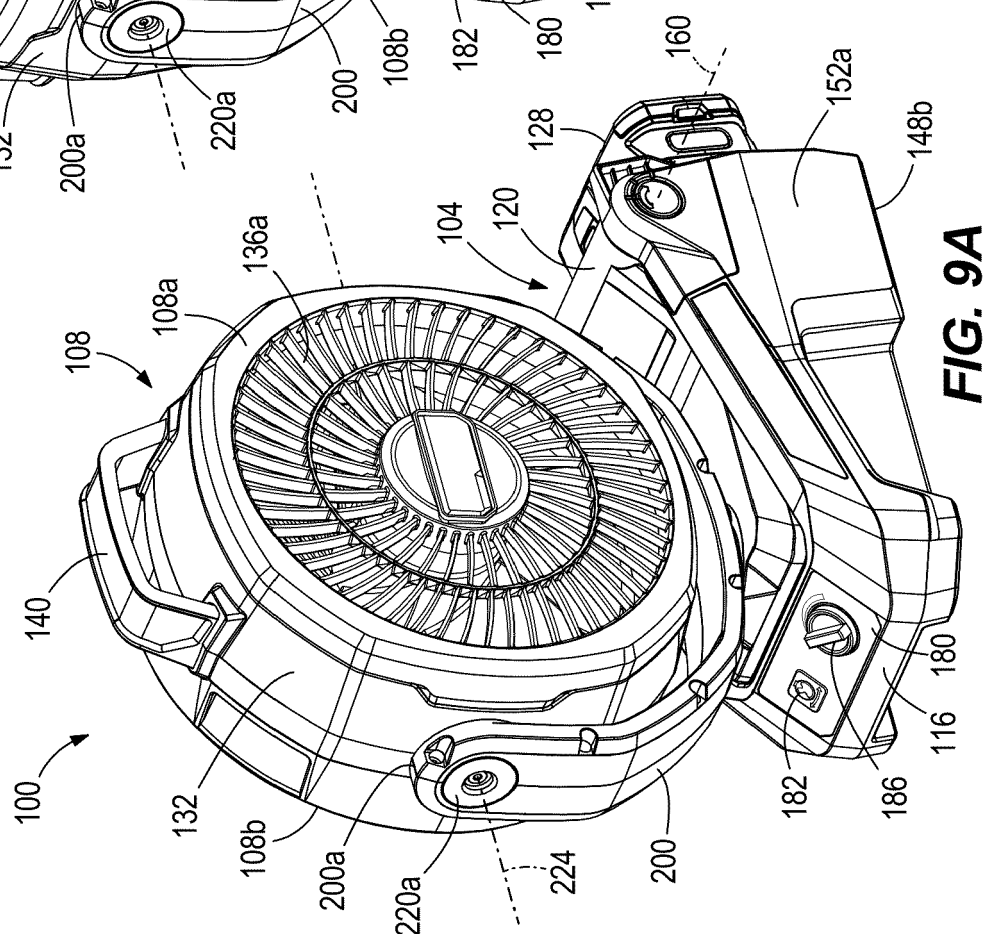
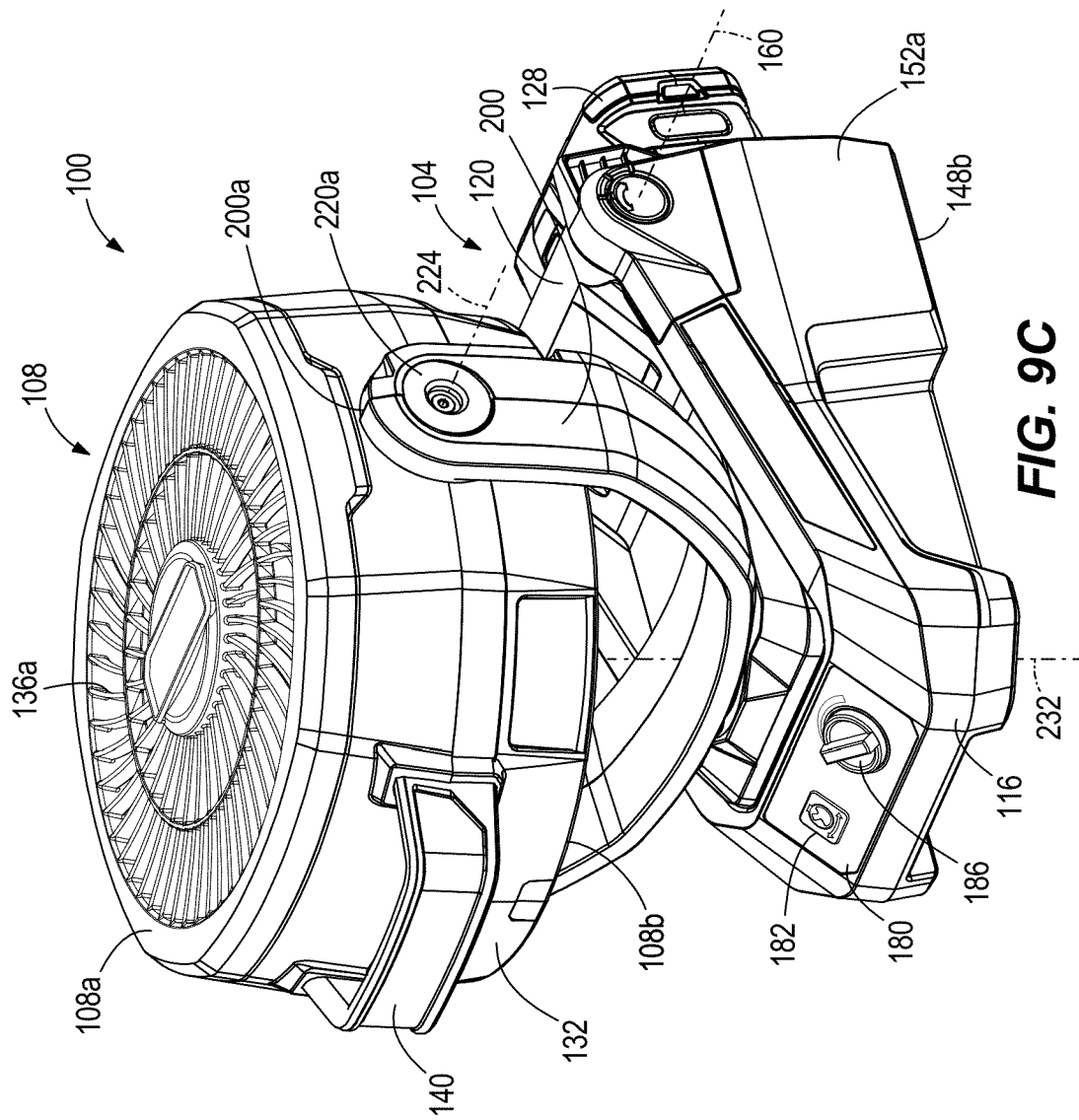


FIG. 9A



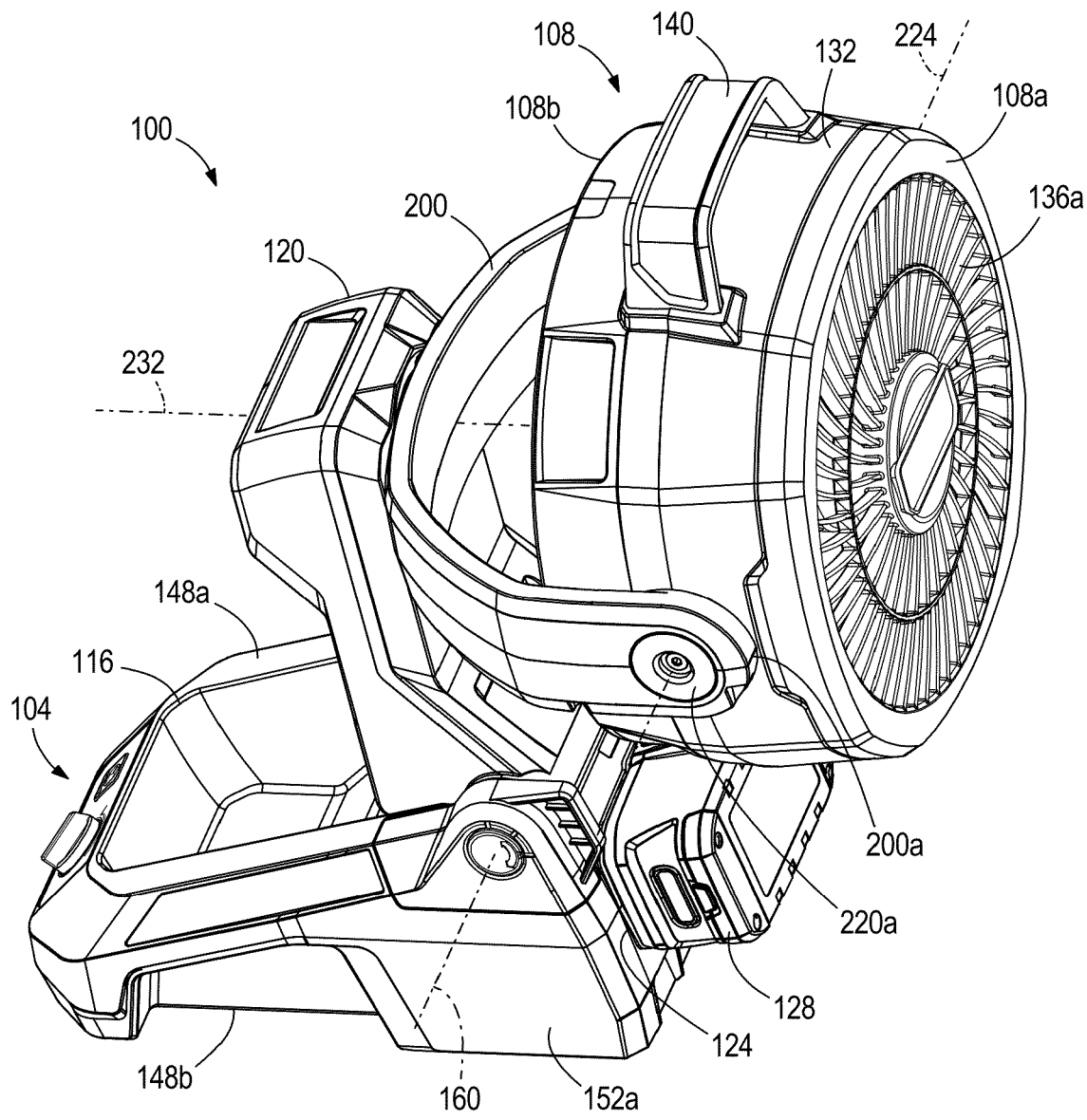


FIG. 9D

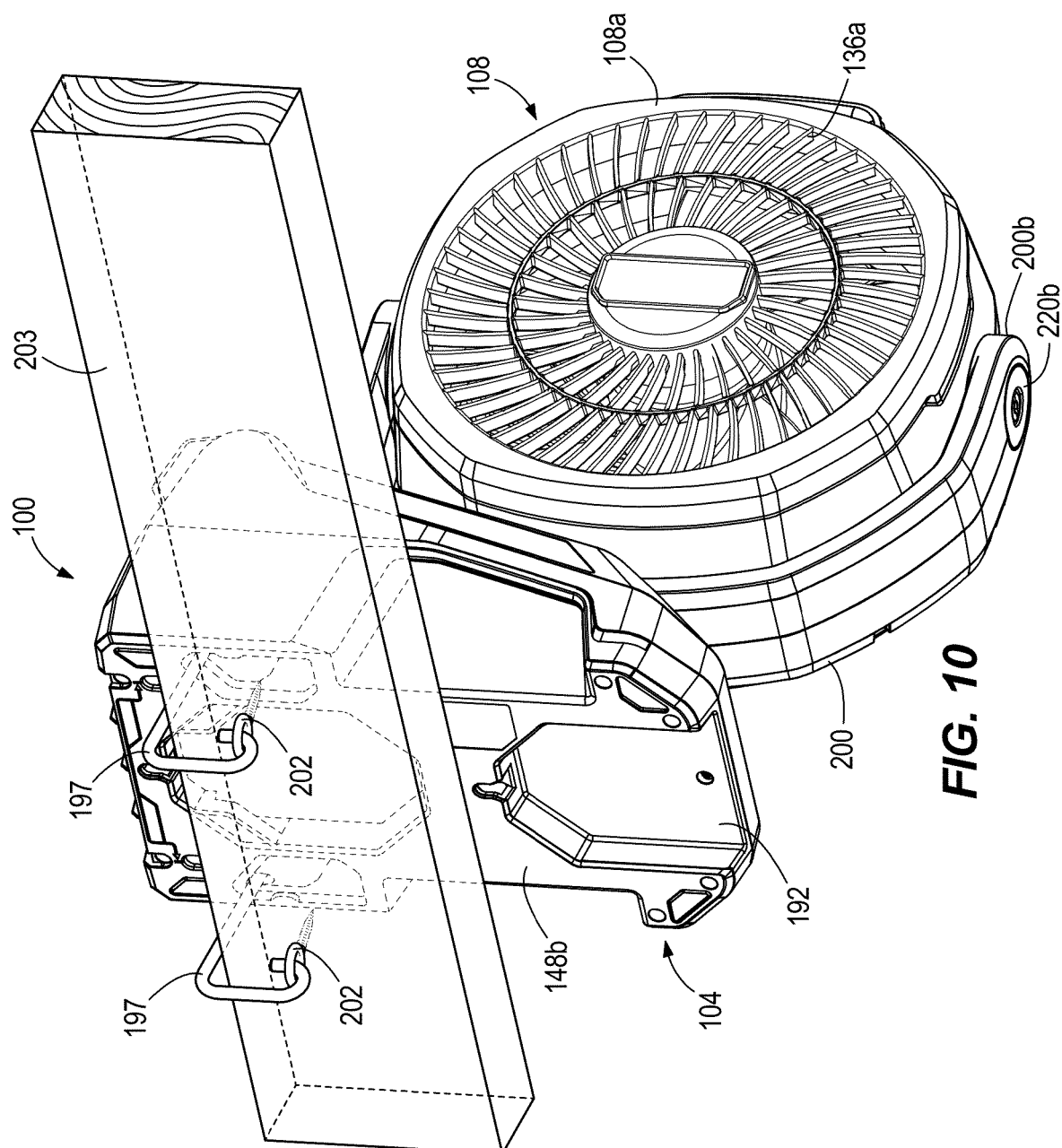


FIG. 10

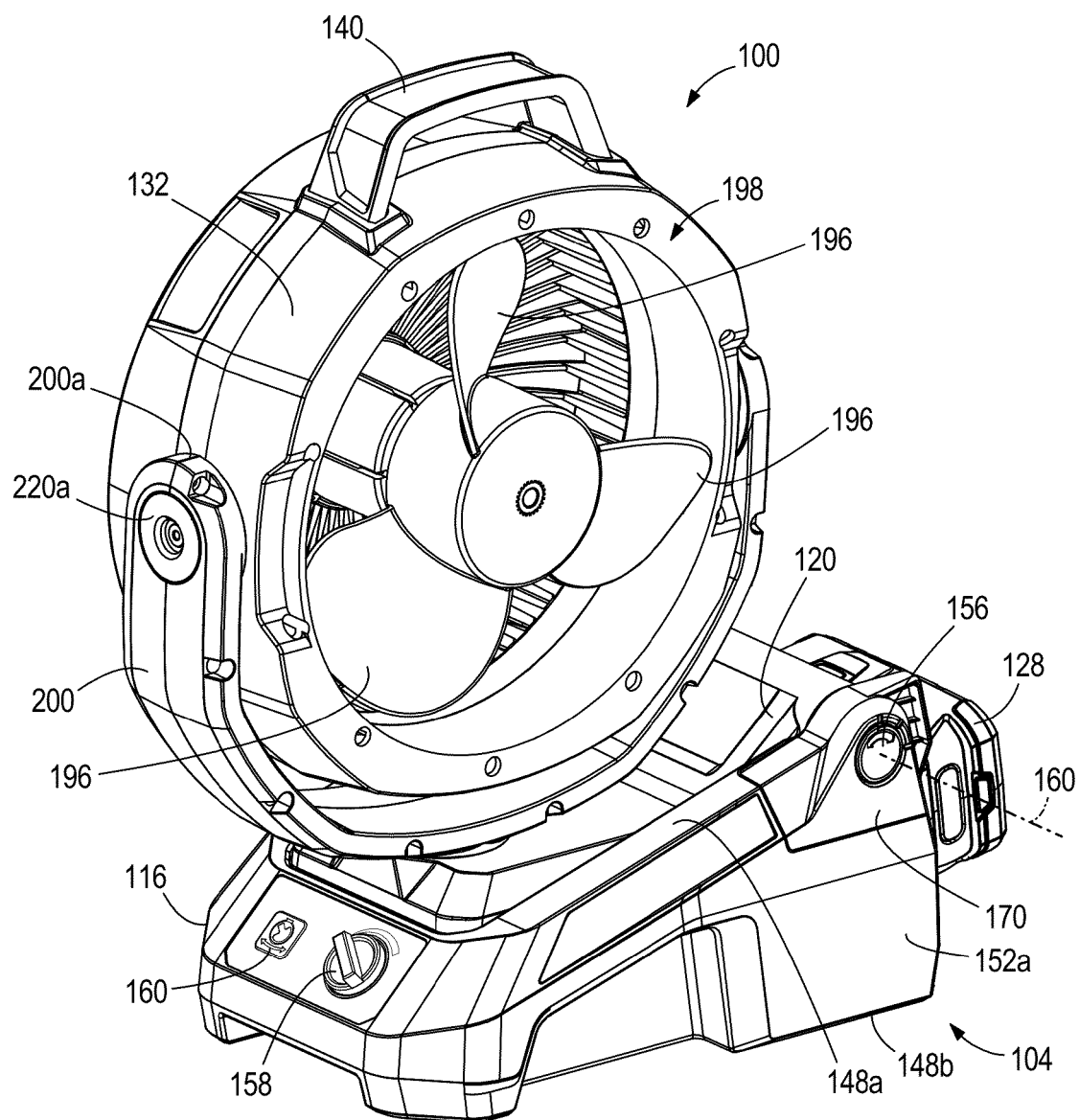


FIG. 11