



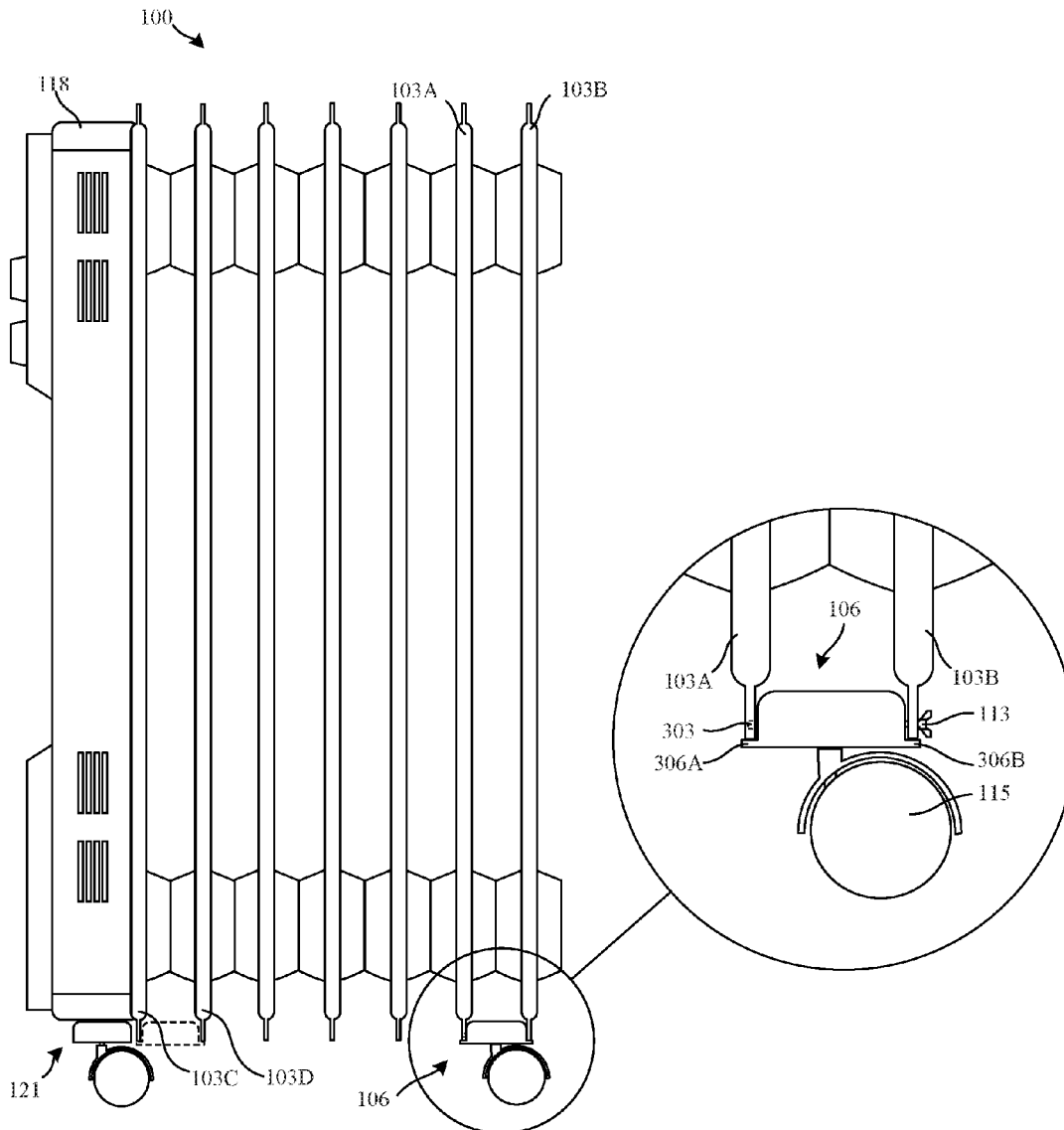
US 20180372340A1

(19) **United States**(12) **Patent Application Publication**
Ricker(10) **Pub. No.: US 2018/0372340 A1**(43) **Pub. Date: Dec. 27, 2018**(54) **SPACE HEATER BASE BRACKETS**(52) **U.S. Cl.**(71) Applicant: **Ningbo Singfun Electric Appliance Co., LTD**, Cixi (CN)CPC **F24D 19/023** (2013.01); **F24H 9/06** (2013.01); **F24H 3/004** (2013.01)(72) Inventor: **Chad Ricker**, Smyrna, GA (US)

(57)

ABSTRACT(21) Appl. No.: **15/633,853**(22) Filed: **Jun. 27, 2017****Publication Classification**(51) **Int. Cl.****F24D 19/02** (2006.01)**F24H 3/00** (2006.01)**F24H 9/06** (2006.01)

Disclosed are various space heater base brackets. A first thermal transfer component has a base bracket hole along its bottom edge. A second thermal transfer component has a locking hole along its bottom edge. A base bracket is between the first thermal transfer component and the second thermal transfer component. The base bracket has a tab that protrudes into the base bracket hole. The base bracket also has a locking mechanism corresponding to the locking hole in the second thermal transfer component.



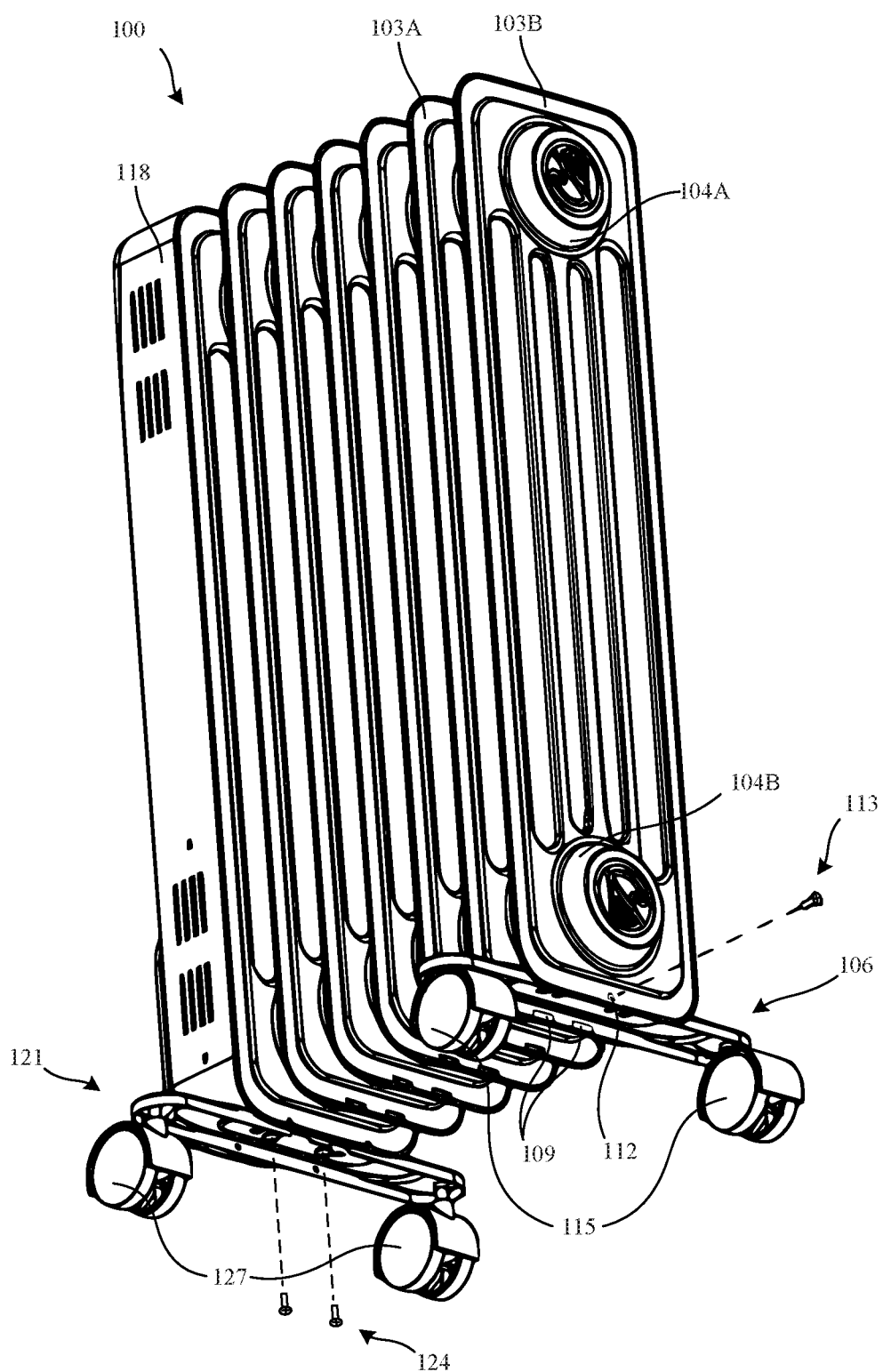
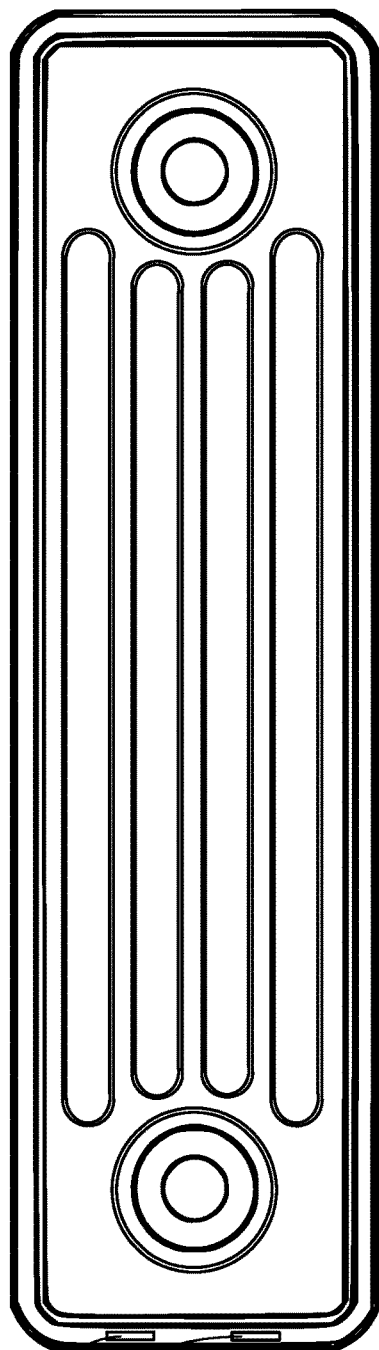


FIG. 1

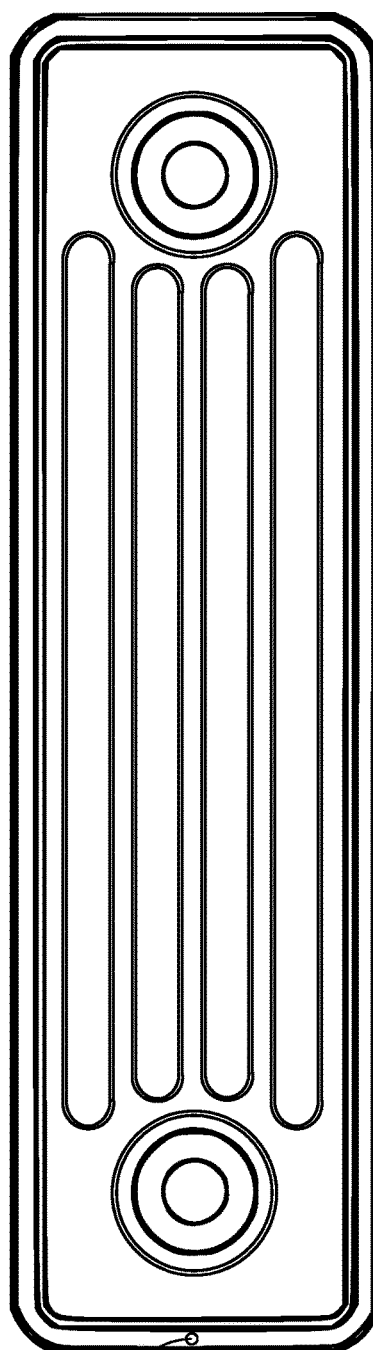
103A



109

FIG. 2A

103B



112

FIG. 2B

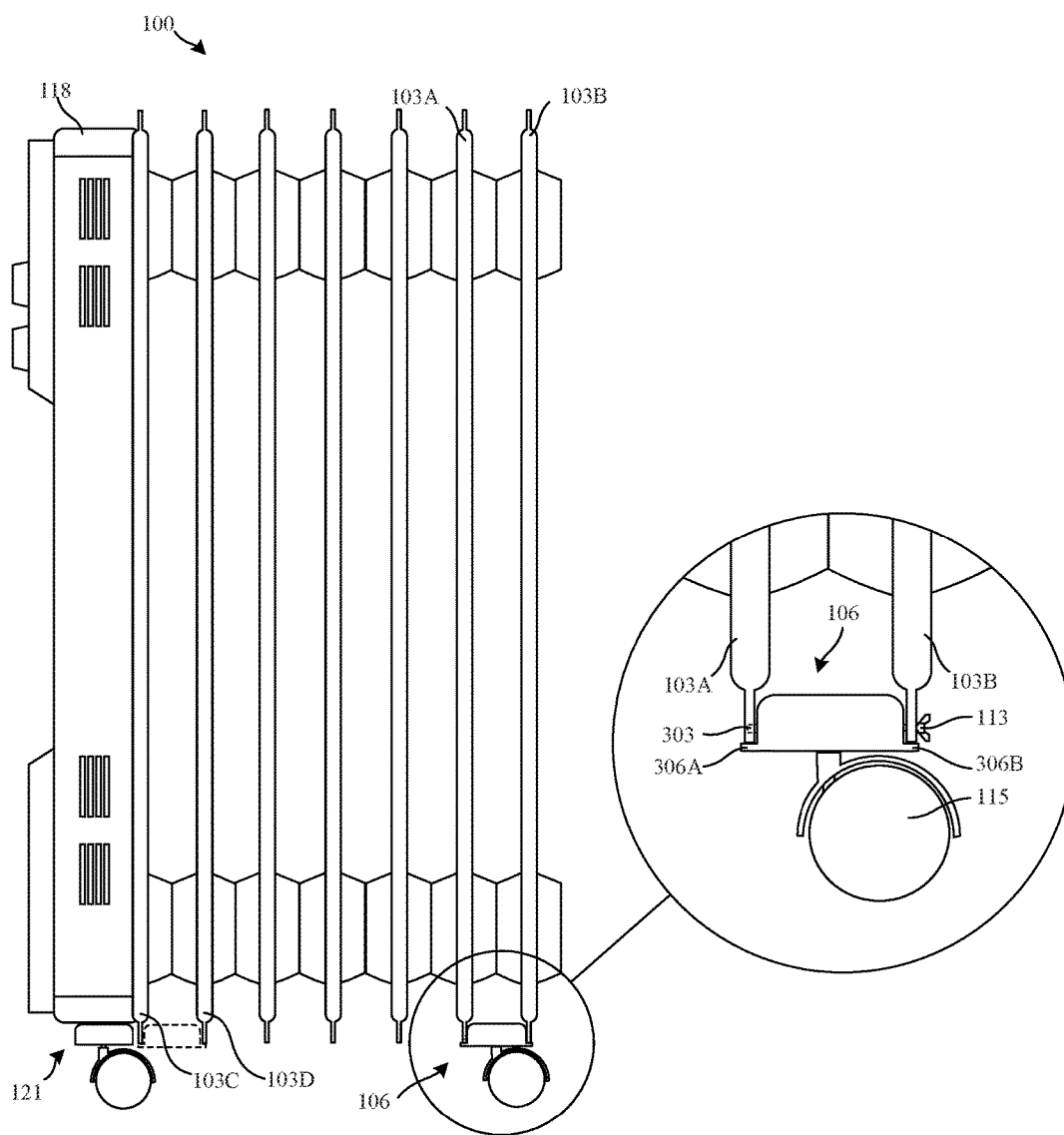


FIG. 3

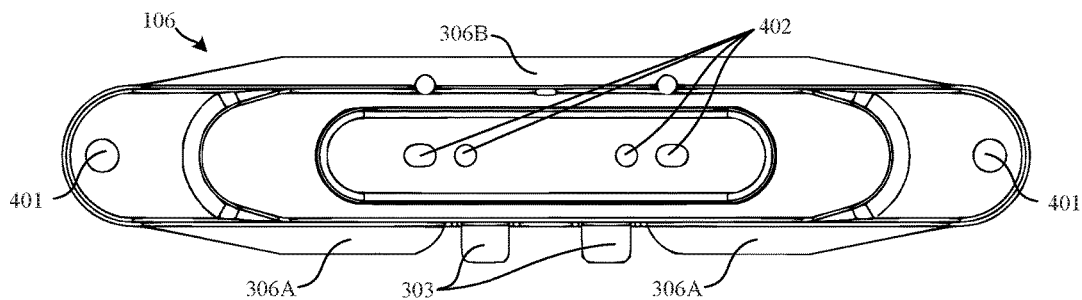


FIG. 4A

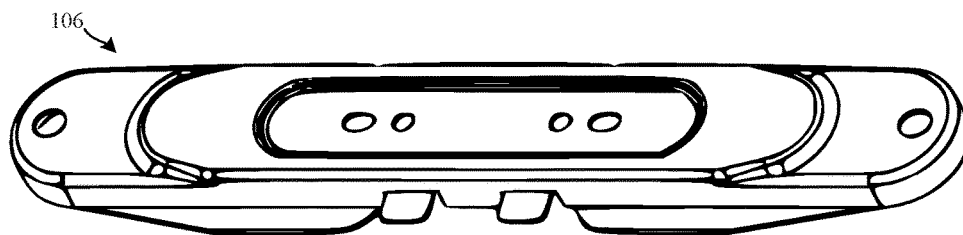


FIG. 4B

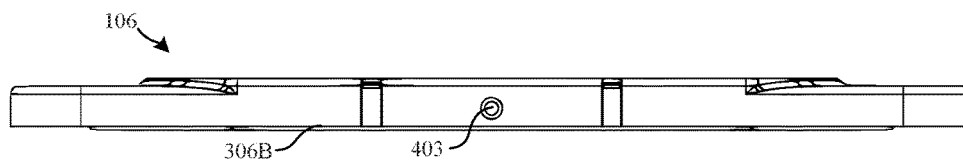


FIG. 4C

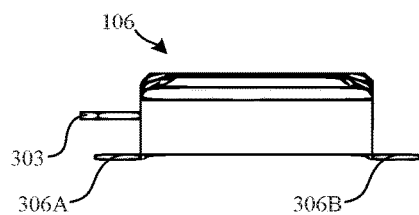


FIG. 4D

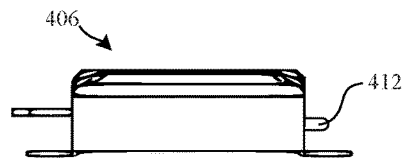


FIG. 4E

SPACE HEATER BASE BRACKETS

BACKGROUND

[0001] The temperature in a room or space can be raised to a more desirable level using a space heater. Space heaters can have a base that allows the heater to stand reliably in an upright position. The base of a space heater is often separate from the body of the space heater, so assembly can be required to connect the base to the space heater. In addition, the base of a space heater is often not attached during shipping or otherwise before purchase. However, the base can have many parts and can be cumbersome to put together. For example, a common U-bolt connection on many current space heaters (e.g. oil-filled radiator heaters) can require the U-bolt to be held in place by hand while also positioning the base on the space heater and threading nuts onto the U-bolt, all while the space heater is upside down. Some customers may not have the proper tools or the ability to assemble the base to the space heater. The unwieldy assembly process can lead to customer dissatisfaction and/or wasted time for employees.

BRIEF DESCRIPTION OF THE DRAWINGS

[0002] Many aspects of the present disclosure can be better understood with reference to the following drawings. The components in the drawings are not necessarily to scale, with emphasis instead being placed upon clearly illustrating the principles of the disclosure. Moreover, in the drawings, like reference numerals designate corresponding parts throughout the several views.

[0003] FIG. 1 is a drawing of an example of a space heater with base brackets according to the present disclosure.

[0004] FIGS. 2A and 2B are drawings of an examples of thermal transfer components of the space heater according to the present disclosure.

[0005] FIG. 3 is a drawing of an example of a side view of the space heater of FIG. 1 according to the present disclosure.

[0006] FIGS. 4A-4E are drawings of views of base brackets according to the present disclosure.

DETAILED DESCRIPTION

[0007] The present disclosure relates to space heater base brackets. As mentioned above, current space heater bases can be cumbersome to put together. Customers may not have proper tools and the cumbersome assembly process can lead to customer dissatisfaction and/or wasted time for employees. However, the present disclosure provides improved space heater base brackets. The presently disclosed space heater base brackets can have fewer parts, lower cost, and simpler assembly as compared to current industry solutions.

[0008] Referring now to the figures, FIG. 1 shows an example of a space heater 100. The space heater 100 can have a number of fins or thermal transfer components 103, (e.g. thermal transfer components 103A-B). The thermal transfer components 103 can be used to distribute heat from a heating element of the space heater 100. A space heater 100 composed from a number of fins or thermal transfer components 103 can include oil-filled heaters, oil-free heaters, and other space heaters. In examples where the space heater 100 is an oil-filled heater, the fins or thermal transfer components 103 can be oil-filled. Oil in the thermal transfer components 103 can be heated by a heating element of the

space heater 100, and the thermal transfer components 103 can transfer the heat to the surrounding area of the heater by convection and/or radiant heat transfer.

[0009] In other examples, the thermal transfer components 103 can be oil-free. In such examples, the fins or thermal transfer components 103 can be oil-free and the thermal transfer components 103 can be heated by a heating element of the space heater 100, for example, a heating element inside each thermal transfer component 103, or a heating element that runs through a cavity or thoroughfare made by the connected protrusions 104 of each thermal transfer component 103. Again, the thermal transfer components 103 can transfer the heat to the surrounding area of the heater by convection and/or radiant heat transfer.

[0010] The thermal transfer components 103 can be connected to each other using protrusions 104A and 104B (collectively, “protrusions 104”) on each of the thermal transfer components 103. The protrusions 104 can provide a spacing distance between thermal transfer components 103 of the space heater 100, as well as a thoroughfare, through which wiring, electronic components, and other components of the space heater 100 can be routed or contained. In some cases, the thoroughfare can contain oil, and a heating element. The connection of a protrusion 104 on a thermal transfer component 103B to another protrusion 104 on a thermal transfer component 103A can be made using rivets, screws, bolts, adhesives or mechanical interference between the respective protrusions 104 of the thermal transfer components 103.

[0011] The spacing between the thermal transfer components 103 can allow for efficient heating and convection of the air around the thermal transfer components 103 to heat an area. The interconnection thoroughfare can be used to contain the electrical connections to each of the heating elements of the thermal transfer components 103. For example, the heating elements can be connected by an electrical circuit board, pinboard, or wires within the interconnection thoroughfares.

[0012] The thermal transfer components 103 can have the protrusions 104 on one or both sides (e.g. left and right sides as shown) of the thermal transfer components 103. For example, a first thermal transfer component 103 can be substantially flat on one side, and can still be connected to the next thermal transfer component 103 while maintaining the spacing distance by protrusions 104 on the next thermal transfer component 103.

[0013] The thermal transfer components 103 shown in FIG. 1 each have two protrusions 104 on each side. The protrusions 104 of the thermal transfer components 103 can be connected to each other, and in some examples the connection can be facilitated by screws or rivets. In other examples, a thermal transfer component 103 can have additional, fewer, or no protrusions 104, and the thermal transfer components 103 can be connected in another manner, for example, using bars or bolts. Where no protrusions 104 are used, an interconnection thoroughfare can be provided by a tube or conduit that connects the thermal transfer components 103.

[0014] As discussed above, the space heater 100 can have a number of fins or thermal transfer components 103. In some examples, the structure of the space heater 100 allows a foot or a base bracket 106 to fit between the thermal transfer component 103A and thermal transfer component 103B of the space heater, so that the base bracket 106 can

facilitate the space heater 100 maintaining an upright position. To this end, in some examples, the thermal transfer component 103A can have base bracket hole(s) 109 and the thermal transfer component 103B can have one or more locking hole(s) 112. Generally, the locking hole 112 can be a hole usable with any locking mechanism for its attachment between the base bracket 106 and the space heater thermal transfer component. For example, the locking mechanism can be a set screw through the locking hole(s) 112 and into a corresponding bracket locking hole of the base bracket 106. In another example, a locking mechanism can be a pushable or retractable button or tab on the base bracket 106 that can be depressed when aligning the base bracket 106 and then pops into the locking hole 112 in the thermal transfer component once aligned. For example, a retractable button or tab of the locking mechanism can be spring loaded with an arm spring attached to a button or tab, or a spiral spring behind the button or tab. In some cases a spring arm can be stamped into or otherwise formed as part of the base bracket 106. In other cases, the locking mechanism can be otherwise attached to the base bracket 106.

[0015] While base bracket holes 109 are referred to in the plural, and two base bracket holes 109 appear in this example, in some cases there can be one base bracket hole 109, or many base bracket holes 109. The base bracket holes 109 are shown as rectangular. In other cases, they can be circular, square, rounded rectangles, or any other shape.

[0016] In some cases, the base bracket holes 109 can provide stabilization when the corresponding tabs of the base bracket 106 are inserted into the base bracket holes 109, the base bracket 106 does not allow the base bracket 106 and the space heater 100 to pivot or swivel about the base bracket holes 109. For example, even a singular rectangular base bracket hole 109 of the thermal transfer component 103A with a corresponding rectangular tab of the base bracket 106 can provide lateral stabilization so that the base bracket 106 and the space heater 100 do not pivot, and the space heater 100 does not fall over. Further, multiple base bracket holes 109 of any shape, when spaced apart along a width of the thermal transfer component 103A can provide lateral stabilization so that the base bracket 106 and the space heater 100 do not pivot when the corresponding tabs of the base bracket 106 are inserted into the base bracket holes 109.

[0017] In some cases, the locking hole 112 of the thermal transfer component 103B can allow set screw(s) 113 to attach the base bracket 106 to the space heater 100 by protruding through the locking hole(s) 112 and into the base bracket 106. The base bracket 106 can, for example, have at least one bracket locking hole aligned with the locking hole 112 of the thermal transfer component 103B to facilitate such attachment when the corresponding tabs of the base bracket 106 are inserted into the base bracket holes 109.

[0018] The base bracket 106 can be designed to fit securely between the thermal transfer component 103A and the thermal transfer component 103B, and can have features designed to this end. For example, the base bracket 106 can have tab(s) corresponding to the base bracket hole(s) 109 and bracket locking hole(s) corresponding to the locking hole(s) 112. The tabs can fit or protrude into or through the base bracket holes 109. A width of a body of the base bracket 106 can be designed to fit between the space between the thermal transfer component 103A and the thermal transfer component 103B. A length of the body of the base bracket

106 can be parallel to a width of each of the thermal transfer component 103A and the thermal transfer component 103B. The bracket locking holes can be aligned with the corresponding locking holes 112 of the thermal transfer component 103B when the tabs are inserted into the corresponding base bracket holes 109 of the thermal transfer component 103A. Set screws 113 can attach the base bracket 106 to the space heater 100 by protruding through the locking holes 112 and into the bracket locking holes of the base bracket 106.

[0019] In some embodiments, the base bracket 106 can have a support lip or support lips along its length that are aligned along the bottom edge of the thermal transfer components 103A and/or 103B. The support lip(s) can provide or facilitate the lateral stabilization so that the base bracket 106 and the space heater 100 do not pivot when the corresponding tab(s) of the base bracket 106 are inserted into the base bracket hole(s) 109. In other embodiments, no support lip is present.

[0020] The base bracket holes 109 are shown positioned or aligned along a bottom edge of the thermal transfer component 103A along its width. The locking hole 112 is shown along a bottom edge of the thermal transfer component 103B. Where multiple locking holes 112 are utilized, they can be positioned or aligned along the bottom edge of the thermal transfer component 103B along its width. Thus, in some situations, the inner thermal transfer components 103 (e.g. 103A) can be different from the outer thermal transfer components 103 (e.g. 103B), or each of the thermal transfer components 103 can be different, or all of the thermal transfer components 103 can be the same. For example, in some cases, the thermal transfer component 103B can have base bracket holes 109, similar to those described for the thermal transfer component 103A. In such cases, at least one tab can be on each side of the base bracket 106, and the each tab can correspond to base bracket holes 109 for each of the thermal transfer component 103A and the thermal transfer component 103B. The tabs of the base bracket 106 can be wedge shaped so that the base bracket 106 can be inserted between the thermal transfer component 103A and the thermal transfer component 103B from the bottom. In some embodiments, the thermal transfer component 103B can have one or more locking holes 112 for set screws as well as one or more base bracket holes 109 for tabs of the base bracket 106.

[0021] In some instances, the base bracket 106 can have casters 115, or wheels attached to the base bracket 106, for example, at each end of the base bracket 106. In other examples, the wheels or casters 115 can be absent, or the base bracket 106 can have one or more feet attached to the base bracket 106. In some cases, the base bracket 106 can compose a base or foot of the space heater on its own (e.g. without additional feet, wheels, and/or casters).

[0022] In some examples, an outer thermal transfer component 103 can be covered by a control panel structure 118. A base bracket 121 can attach to a bottom of the control panel structure 118 using attachment screws 124 through the top of the base bracket and into the bottom of the control panel structure 118. The base bracket 121 can have casters 127, or wheels attached to it. In other examples, the wheels or casters 127 can be absent, or the base bracket 121 can have one or more feet attached. In some cases, the base

bracket **121** can compose a base or foot of the space heater on its own (e.g. without additional feet, wheels, and/or casters).

[0023] Moving now to FIG. 2A, shown is a drawing of an example of a view of one side of a thermal transfer component **103A** of the space heater **100**. This view shows the base bracket holes **109** positioned or aligned along a bottom edge of the thermal transfer component **103A** along its width. The thermal transfer component **103A** can have an edge around its periphery. The base bracket holes **109** can be molded, stamped or otherwise formed in the bottom edge of the thermal transfer component **103A**. In some cases, the base bracket holes **109** can be all the way through the thermal transfer component **103A**, and in other cases the base bracket holes **109** can be only partially through the thermal transfer component **103A**. The tabs of the base bracket **106** can fit into the corresponding base bracket holes **109**, and the tabs can extend partly through the edge of the thermal transfer component **103A**, whether the base bracket holes **109** are fully or partly through the edge. Where the base bracket holes **109** are fully through the edge of the thermal transfer component **103A**, the tabs of the base bracket **106** can extend partly or fully through the edge of the thermal transfer component **103A**. While the edge of the thermal transfer component **103A** can be continuous, it can be considered to include a top edge, a bottom edge, a two vertical edges. In some cases, a length of the base bracket **106** can be aligned along a width of the thermal transfer component **103A** along its bottom edge. In some cases, the length of the base bracket **106** can be greater than the width of the thermal transfer component **103A**, and can extend beyond each vertical edge of the thermal transfer component **103A**.

[0024] As shown, the base bracket holes **109** can be rectangular in shape. In other cases, other shapes can be used, such as square, rectangular, hexagonal, circular, or other shapes. The tabs of the base bracket **106** can have a shape corresponding to the shape of the base bracket holes **109**. Also, as shown, there can be multiple base bracket holes **109**. In other cases, there can be a single base bracket hole **109** having any shape as discussed.

[0025] With reference to FIG. 2B, shown is a drawing of an example of a view of one side of a thermal transfer component **103B** of the space heater **100**. This view shows the locking hole **112** positioned along a bottom edge of the thermal transfer component **103B**. The thermal transfer component **103B** can have an edge around its periphery. The locking hole **112** can be molded, stamped or otherwise formed in the bottom edge of the thermal transfer component **103B**. The locking hole **112** can be all the way through the thermal transfer component **103B**.

[0026] The set screw **113** can fit into the locking hole **112**. In some cases, the locking hole **112** can be threaded to match the threads of the set screw **113**. In other cases, the locking hole **112** can be larger than a diameter of the set screw **113**, but smaller than a head of the set screw **113**. Also, as shown, there can be a single locking hole **112**. In other cases, there can be multiple locking holes **112** formed in the bottom edge of the thermal transfer component **103B** along its width. In some cases, the thermal transfer component **103B** can additionally or alternatively have at least one base bracket hole

109, configured to accommodate a corresponding at least one tab of the base bracket **106**, as discussed for the thermal transfer component **103A**.

[0027] FIG. 3 shows a side view of the space heater **100** including the base bracket **106** and the base bracket **121**. The base bracket **106** can be attached between the thermal transfer component **103A** the thermal transfer component **103B**. The base bracket **121** can be attached to a bottom of the control panel structure **118**.

[0028] The zoomed-in region of FIG. 3 shows a closer view of the base bracket **106** between the thermal transfer component **103A** the thermal transfer component **103B**. Tab(s) **303** of the base bracket **106** can be seen in this view, as represented by dashed lines, as the tabs **303** protrude or extend into the thermal transfer component **103A**, through base bracket holes **109** of the thermal transfer component **103A** (not shown). The tabs **303** are also discussed as tabs of the base bracket **106**, as mentioned with reference to FIG. 2 above. The set screw **113** is also shown in this view. The set screw **113** can be configured for tool-less installation, and can be a thumbscrew, or can have butterfly or wing-like attachments, other flat attachments, or thumbscrew ridges about its periphery. In other embodiments, tools such as a screwdriver may be required. The set screw **113** can attach the base bracket **106** to the space heater **100** by protruding through the locking hole **112** and into a bracket locking hole of the base bracket **106**. The bracket locking hole of the base bracket **106** can be threaded to match the set screw **113**.

[0029] The base bracket **106** can have a support lip **306A**, and a support lip **306B**. The support lip **306A** can extend laterally from a bottom of the base bracket **106** along at least part of the length of the base bracket **106** and can be aligned with the bottom edge of the thermal transfer component **103A** under the bottom edge of the thermal transfer component **103A**. The support lip **306B** can extend laterally from a bottom of the base bracket **106** along at least a portion of the length of the base bracket **106** opposite the support lip **306A**, and can be aligned with the bottom edge of the thermal transfer component **103B** under the bottom edge of the thermal transfer component **103B**. In some cases each of the support lips **306** can be flat, and in other cases each of the support lips **306** can have an indent that accommodates a thermal transfer component **103**.

[0030] The base bracket **121** can be attached to a bottom of the control panel structure **118** using screws (not shown). These screws can also be configured for tool-less installation, and can be a thumbscrew, or can have butterfly or wing-like attachments, other flat attachments, or thumbscrew ridges about its periphery. In other embodiments, tools such as a screwdriver may be required. While not shown, the base bracket **121** can also have tabs **303**, for example, configured to protrude into the thermal transfer component **103C** of the space heater **100**, like the tabs **303** discussed above. The thermal transfer component **103C** can have corresponding base bracket holes to receive the tabs of the base bracket **121**. In such a case, the screws that attach the base bracket **121** to a bottom of the control panel structure **118** can be considered set screws **113**, or can act much like the set screws **113**. In addition, the base bracket **121** can have a support lip **306**, that can extend laterally from a bottom of the base bracket **121** along at least a portion of the length of the base bracket **121**. In some embodiments, the base bracket **121** can have features similar to those discussed for base bracket **106**, and can be positioned

instead between the outer thermal transfer component 103C and the inner thermal transfer component 103D, where the outer thermal transfer component 103C can have the features of the outer thermal transfer component 103B as discussed, and the inner thermal transfer component 103D can have the features of the inner thermal transfer component 103A as discussed.

[0031] FIG. 4A shows a top view of a base bracket 106. The tabs 303 can extend from a side of a body of the base bracket 106, or from a vertical wall of the base bracket 106 that faces the thermal transfer component 103A. The tabs 303 can protrude into corresponding base bracket holes 109 of the thermal transfer component 103A. The support lip 306A can extend laterally from a bottom of the base bracket 106. The support lip 306A can include two sections as shown (or more), or can have one section, and can extend along at least a portion of the length of the base bracket 106 and can be aligned with the bottom edge of the thermal transfer component 103A. The support lip 306B can extend laterally from a bottom of the base bracket 106 along at least a portion of the length of the base bracket 106 and can be aligned with the bottom edge of the thermal transfer component 103B. The support lip 306B can have one section as shown, or can include two or more sections, like the support lip 306A.

[0032] The base bracket 106 can also include wheel mounting holes 401, in an upper wall of the base bracket 106 on each distal end of the base bracket 106, that can be used to mount wheels or casters to the base bracket 106. In other embodiments, the wheel mounting holes can be absent. The base bracket 106 can also include holes 402 in an upper wall of the base bracket 106, that can be used to attach the base bracket 106 to a bottom of the heater. In this case, the base bracket 106 can be used, for example, as the base bracket 121 (FIG. 1), and screws 124 (FIG. 1) can be used that extend through the top of the base bracket and into a bottom of the heater 100 (FIG. 1). In other cases, such heater attachment holes 402 can be absent. An isometric view of the base bracket 106 is illustrated in FIG. 4B for clarity.

[0033] FIG. 4C shows a side of a base bracket 106 that can face the thermal transfer component 103B. A locking mechanism 403 can be seen in this view. The locking mechanism 403 can in a side of a body of the base bracket 106 opposite the tabs 303, or in a vertical wall of the base bracket 106 that faces the thermal transfer component 103B. The locking mechanism 403 can include a bracket locking hole that can accept a screw. Alternatively, the locking mechanism 403 can include a push button locking mechanism that can allow the button to be depressed while aligning the locking mechanism, and then can pop a portion of the push button locking mechanism (e.g. a button, tab or other protrusion) through the locking hole once aligned. The support lip 306B can extend laterally from a bottom of the base bracket 106 along at least a portion of the length of the base bracket 106 and can be aligned with the bottom edge of the thermal transfer component 103B.

[0034] FIG. 4D shows a side of a base bracket 106, as from a side view of a heater. This view illustrates the tabs 303, the support lip 306A, and the support lip 306B. The tabs 303 can extend from a side of a body of the base bracket 106, or from a vertical wall of the base bracket 106 that faces the thermal transfer component 103A. The tabs 303 can protrude into corresponding base bracket holes 109 of the thermal transfer component 103A. The support lip 306A can extend along at least a portion of the length of the base

bracket 106 and can be aligned with the bottom edge of the thermal transfer component 103A. The support lip 306B can extend laterally from a bottom of the base bracket 106 along at least a portion of the length of the base bracket 106 opposite from the support lip 306A, and can be aligned with the bottom edge of the thermal transfer component 103B. The support lips 306A and B can each have one section, or can include two or more sections. In this case, a base bracket locking hole (not shown) can be on a side wall of the base bracket 106 opposite from the tabs 303, in order to face the thermal transfer component 103B.

[0035] FIG. 4E shows a side of a base bracket 406, as from a side view of a heater. This base bracket 406 can be otherwise similar to the base bracket 106 of FIG. 4D, except in this example, a push button locking mechanism 412 can be used rather than the base bracket locking hole. The push button locking mechanism 412 can allow the button to be depressed while aligning the locking mechanism, and then can pop a portion of the push button locking mechanism (e.g. a button, tab or other protrusion) through the locking hole once aligned. For example, the arm can be an integral part of the base bracket 406, for example stamped or otherwise formed as part of a side of a body of the base bracket 406. Alternatively, the push button locking mechanism 412 can include a spring arm within the base bracket 406. Other embodiments can also include spiral springs or otherwise tensioned locking mechanisms. In some cases, the push button locking mechanism can include a button or tab that goes through a hole in the side of the body of the base bracket 406.

[0036] It is emphasized that the above-described embodiments of the present disclosure are merely possible examples of implementations described for a clear understanding of the principles of the disclosure. Many variations and modifications can be made to the above-described embodiments without departing substantially from the spirit and principles of the disclosure. All such modifications and variations are intended to be included herein within the scope of this disclosure.

Therefore, the following is claimed:

1. A heater, comprising:

- a first thermal transfer component comprising at least one base bracket hole through the first thermal transfer component along a bottom edge of the first thermal transfer component;
- a second thermal transfer component comprising at least one locking hole through the second thermal transfer component along a bottom edge of the second thermal transfer component; and
- a base bracket between the first thermal transfer component and the second thermal transfer component, comprising at least one tab corresponding to the at least one base bracket hole that protrudes into the at least one base bracket hole, and at least one locking mechanism corresponding to the at least one locking hole through the second thermal transfer component.

2. The heater of claim 1, wherein the base bracket further comprises at least one caster attached to the base bracket.

3. The heater of claim 1, further comprising a control panel structure attached to a face of a third thermal transfer component and another base bracket attached to the control panel structure using at least one screw through a top of other base bracket and into a bottom of the control panel structure.

4. The heater of claim 1, wherein the base bracket further comprises at least one foot attached to a bottom of the base bracket.

5. The heater of claim 1, wherein the base bracket extends beyond a width of each thermal transfer component, between a first vertical edge and a second vertical edge of each thermal transfer component.

6. The heater of claim 1, wherein the heater is an oil-filled heater.

7. The heater of claim 1, wherein the heater is an oil-free heater.

8. The heater of claim 1, wherein the second thermal transfer component is an outer thermal transfer component of a plurality of thermal transfer components of the heater.

9. A base bracket, comprising:

at least one tab that protrudes into to at least one corresponding base bracket hole along a bottom edge of a first thermal transfer component of a heater; and
at least one locking mechanism aligned with at least one locking hole along a bottom edge of a second thermal transfer component of the heater, the at least one locking hole being through the second thermal transfer component; and

wherein the base bracket is positioned between the first thermal transfer component and the second thermal transfer component of the heater.

10. The base bracket of claim 9, further comprising:

a first support lip extending laterally from a bottom of the base bracket, the first support lip being under the bottom edge of the first thermal transfer component; and

a second support lip extending laterally from a bottom of the base bracket opposite the first support lip, the second support lip being under the bottom edge of the second thermal transfer component.

11. The base bracket of claim 9, wherein the base bracket further comprises at least one caster attached to the base bracket.

12. The base bracket of claim 9, further comprising a control panel structure attached to a face of a third thermal transfer component of the heater and another base bracket attached to the control panel structure using at least one

screw through a top of the other base bracket and into a bottom of the control panel structure.

13. The base bracket of claim 9, further comprising at least one foot attached to the base bracket.

14. The base bracket of claim 9, wherein a length of the base bracket is aligned with a width of the first thermal transfer component, and the length of the base bracket is greater than a width of the first thermal transfer component.

15. An apparatus, comprising:

a first thermal transfer component comprising at least one base bracket hole through the first thermal transfer component along a bottom edge of the first thermal transfer component;

a second thermal transfer component comprising at least one locking hole through the second thermal transfer component along a bottom edge of the second thermal transfer component; and

a base bracket between the first thermal transfer component and the second thermal transfer component, comprising at least one tab corresponding to the at least one base bracket hole that protrudes into the at least one base bracket hole, and at least one locking mechanism corresponding to the at least one locking hole through the second thermal transfer component.

16. The apparatus of claim 15, wherein the base bracket further comprises at least one foot attached to the base bracket.

17. The apparatus of claim 15, wherein the base bracket extends beyond a width of the first thermal transfer component between a first vertical edge and a second vertical edge of the first thermal transfer component.

18. The apparatus of claim 15, wherein the first thermal transfer component contains oil, and is part of an oil-filled heater.

19. The apparatus of claim 15, wherein the first thermal transfer component is part of an oil-free heater.

20. The apparatus of claim 15, wherein each of the first thermal transfer component and the second thermal transfer component are individual ones a plurality of thermal transfer components of a heater.

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