

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHER DISTRICT OF FLORIDA  
GAINESVILLE DIVISION**

**Case No.** \_\_\_\_\_

SHENZHEN CREALITY 3D  
TECHNOLOGY CO., LTD.,

*Plaintiff,*

JURY TRIAL DEMANDED

v.

SLICE ENGINEERING, LLC,

*Defendant,*

\_\_\_\_\_ /

**PLAINTIFF’S COMPLAINT FOR DECLARATORY JUDGMENT**

Plaintiff, Shenzhen Creality 3D Technology Co., Ltd. (“Creality 3D” or “Plaintiff”), files this Complaint for Declaratory Judgment against Slice Engineering LLC (“Slice” or “Defendant”) and alleges as follows:

**NATURE OF THE ACTION**

1. This is a declaratory judgment action arising under the Declaratory Judgment Act, 28 U.S.C. § 2201, § 2202, and the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

2. Creality 3D seeks a declaration of noninfringement of U.S. Patent No. 11,660,810 (the “’810 Patent”) and 10,875,244 (the “’244 Patent”) (collectively “Patents-in-Suit”).

3. Slice's actions, including its allegations of infringement of Patents-in-Suit by Plaintiff as detailed below, have created an actual controversy that warrants issuance of a declaratory judgment of noninfringement by Plaintiff over the Patents-in-Suit.

4. This Court should not allow the imminent threat of a lawsuit to harm and cause uncertainty to Plaintiff's business.

### **PARTIES**

5. Plaintiff Shenzhen Creality 3D Technology Co., Ltd. is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at 18F, Jin Xiu Hong Du Building, Meilong Blvd., Longhua District, Shenzhen, Guangdong Province, China 518131.

6. On information and belief, Defendant Slice Engineering LLC is a limited liability company organized under the laws of the State of Florida, with its headquarters and operation located at 747 SW 2nd Ave., IMB 36, Suite 296, Gainesville, Florida 32601.

### **JURISDICTION AND VENUE**

7. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action involves claims arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, and under the Federal Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202.

8. Personal jurisdiction is proper in this Court because Slice is incorporated in the State of Florida and has its principal place of business in this judicial district.

9. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1400 (b) and/or 1391(b)(1) because Slice resides in this judicial district.

10. For the reasons set forth below, a substantial controversy exists between the parties which is of sufficient immediacy and reality to warrant declaratory relief.

### **BACKGROUND**

11. Plaintiff is a global leader in the consumer-grade 3D printing ecosystem. Since its establishment in 2014, the company has adhered to the spirit of “3D Printing Industry Evangelist,” continuously devoting to the innovation, development, and commercialization of 3D printing technology worldwide. Plaintiff’s innovative products comprehensively cover 3D printers, 3D scanners, laser engravers, accessories, consumables, and more, creating a complete 3D printing ecosystem and the integrated Creality Cloud 3D printing platform. Plaintiff currently owns two major international brand series “Creality” and “Ender,” and several other innovative brands such as “HALOT” and “Sermoon.” Plaintiff’s products have received high recognition from global users and have been widely used in personal, household, educational, manufacturing, and other relevant fields.

12. The '810 Patent, entitled "Adaptable High-Performance Extrusion Head for Fused Filament Fabrication Systems," states on its face that it was issued on May 30, 2023. A true and correct copy of the '810 Patent is attached as **Exhibit A**.

13. Slice purports to be the current owner of the '810 Patent.

14. The '244 Patent, entitled "Adaptable High-Performance Extrusion Head for Fused Filament Fabrication Systems," states on its face that it was issued on December 29, 2020. A true and correct copy of the '244 Patent is attached as **Exhibit B**.

15. Slice purports to be the current owner of the '244 Patent.

16. The Patents-in-Suit are part of the same family with the same inventor Christopher Mark Montgomery.

17. Since middle 2023, Slice started approaching Plaintiff to offer for licensing its technologies with respect to the hotend kit for 3D printer. Slice asked for exorbitant license fees even though Plaintiff's products do not infringe the Patents-in-Suit.

18. After failing to cash in on Plaintiff, Slice turned to harass Plaintiff's distributors, customers, and business partners (collectively, the "Creality 3D Customers"). Between February and July 2024, Slice filed multiple online takedown notices against Creality 3D Customers through the IACC MarketSafe Program of

AliExpress.com, alleging infringement upon Patents-in-Suit by Plaintiff's 3D printer hotend kits including: (1) Spider High Temperature Hotend; (2) K1 Series Ceramic Heating Block Kit; (3) Spider High Temperature and High Flow Hotend Pro; (4) Spider Water-cooled Ceramic Hotend; (5) Spider Speedy Ceramic Hotend; and (6) Ender-3 V3 SE/KE Ceramic Heating Block Kit (collectively, the "Accused-Products-at-AliExpress"; hereafter referred as 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> Accused-Products-at-AliExpress, respectively). *See Exhibit C* (Slice's Takedown Notice at AliExpress.com). In response to Slice's allegations, Plaintiff submitted its counter notices with noninfringement positions.

19. However, between June and July 2024, Slice further filed complaints against Plaintiff through the Amazon Patent Evaluation Express Program provided by Amazon.com, alleging infringement upon Patents-in-suit by Plaintiff's Spider High Temperature and High Flow Hotend Pro (same as the 3<sup>rd</sup> Accused-Product-at-AliExpress described above) as well as Creality K1C 3D printer incorporating the K1 Series Ceramic Heating Block Kit (same as the 2<sup>nd</sup> Accused-Product-at-AliExpress described above). *See Exhibit D* (Slice's Complaints upon the '810 Patent at Amazon.com) and *Exhibit E* (Slice's Complaints upon the '244 Patent at Amazon.com).

20. As illustrated in greater details below, the Accused-Products-at-AliExpress and the Creality K1C 3D printer (collectively, the "Accused Products")

refer to a 3D printer's hotend kit and the 3D printer incorporating the same. Plaintiff's hotend kit primarily consists of a heater, a cooler, a filament guiding tube, and a nozzle. The Patents-in-Suit, however, require "a generally axially extending gap, bound by a bridge traversing the gap between the cooler and the heater," as recited in the only independent claim 1 of the '810 Patent and similarly recited in the only independent claim 1 of the '244 Patent. The Patents-in-Suit further require a "bridge" that is "spaced radially and apart from the metal feed tube" and "provides a rigid mechanical connection between the cooler and the heater" to "reduce[] mechanical loading on the feed tube," as recited in claim 1 of the '810 Patent and similarly recited in claim 1 of the '244 Patent. The Accused Products in fact do not and need not to include such claim elements.

21. The Accused Products, such as the 1<sup>st</sup> and 3<sup>rd</sup> Accused-Products-at-AliExpress described above, provide an external bracket holding the cooling block/cooler from the outside. The external bracket, which has no function of cooling and is not a part of the cooler, then connects a heating block/heater by screws. The screw is not the claimed "bridge" because it is not connected to cooler, let alone "provid[ing] a rigid mechanical connection between the cooler and the heater" as recited in claim 1 of the '810 Patent and similarly recited in claim 1 of the '244 Patent. The Accused Products such as the 2<sup>nd</sup>, 4<sup>th</sup>, and 6<sup>th</sup> Accused-Products-at-AliExpress described above include a mounting plate where the cooler is arranged on by

positioning pins and screws and/or an external bracket. The mounting plate has a much lower thermal conductivity than the heater and thus functions as a blocker preventing the heat from spreading through the upstream portion of the filament guiding tube. In other words, the mounting plate is not a part of cooler nor heater. Thus, neither the positioning pin nor screw is the claimed “bridge” because it connects with the mounting plate at one end rather than the heater, let alone “provid[ing] rigid connection between the cooler and the heater” as recited in claim 1 of the ’810 Patent and similarly recited in claim 1 of the ’244 Patent. The 5<sup>th</sup> Accused-Products-at-AliExpress described above is not even close, where the cooler is arranged around the upstream and downstream parts of the filament guiding tube and is not located “axially upstream from the heater” as required by the Patents-in-Suit. Thus, it does not include a “generally axially extending gap” between the heater and cooler, let alone “a bridge traversing the gap between the cooler and the heater,” as recited in claim 1 of the ’810 Patent and similarly recited in claim 1 of the ’244 Patent.

22. Slice’s complaints for alleged infringement of Patents-in-suit by Plaintiff and taking down Plaintiff’s Accused Products at AliExpress.com and Amazon.com are generating actual and imminent injury to Plaintiff that can be redressed by judicial relief, and that injury is of sufficient immediacy and reality to warrant the issuance of a declaratory judgment. Absent a declaration of noninfringement of the

Patents-in-Suit, Slice's continued wrongful and baseless assertion of infringement will cause Plaintiff and its market offerings substantial harm.

## COUNT I

### (Declaratory Judgment of Noninfringement of the '810 Patent)

23. Plaintiff repeats and realleges the allegations in paragraphs 1-22 as though fully set forth herein.

24. Plaintiff has not infringed and does not infringe any claim of the '810 Patent, directly or indirectly, either literally or under the doctrine of equivalents. The '810 Patent has only one independent claim, *i.e.*, claim 1, and Slice previously identified claim 1 as being allegedly infringed by Plaintiff. *See Exhibits C and D.* Claim 1 is reproduced below.

1. An extrusion head for a three-dimensional printer, the extrusion head comprising:
  - a generally axially extending metal feed tube having an inlet for receiving a forwardly driven filament of solid deposition material, an outlet, a downstream portion adjacent to the outlet, an upstream portion upstream from the downstream portion, and an internal passage extending from the inlet to the outlet;
  - a heater thermally coupled with the downstream portion for heating a filament positioned within the feed tube internal passage to provide softened deposition material;
  - a cooler thermally coupled with the upstream portion for reducing upstream heat transfer, the cooler spaced generally axially upstream from the heater; and
  - a generally axially extending gap, bound by a bridge traversing the gap between the cooler and the heater; wherein, the gap is traversed by the metal feed tube; the bridge is spaced radially and apart from the metal feed tube, the bridge provides a rigid mechanical connection between the heater



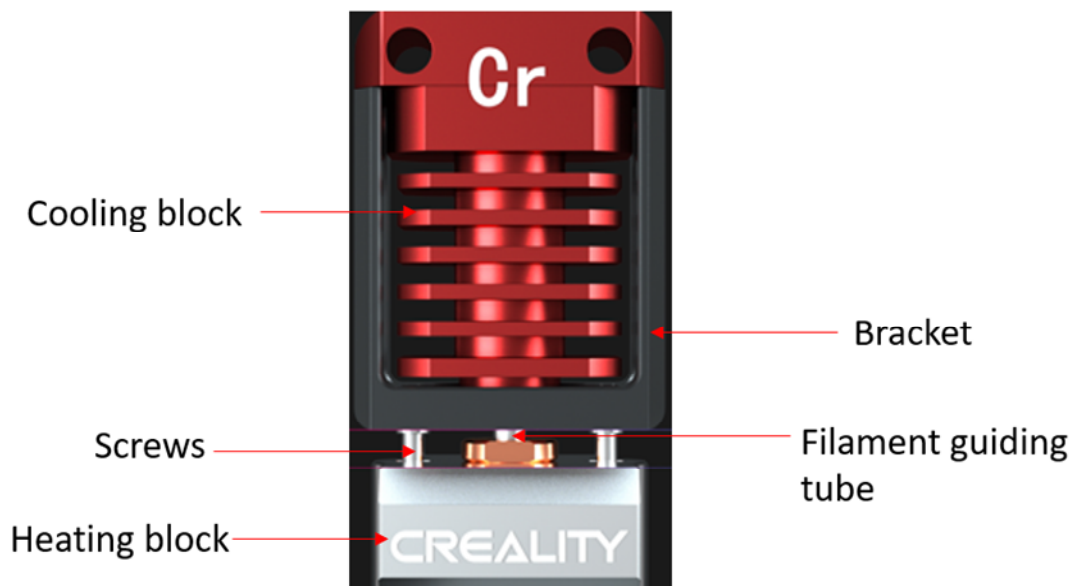
and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube, wherein the bridge comprises:  
a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube; and  
a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves mechanical loading on the feed tube.

25. Plaintiff does not infringe any claims of the '810 Patent at least because the Accused Products do not include at least some of the following limitations as recited in independent claim 1 of the '810 Patent: “a cooler thermally coupled with the upstream portion for reducing upstream heat transfer, the cooler spaced generally axially upstream from the heater,” “a generally axially extending gap, bound by a bridge traversing the gap between the cooler and the heater,” “the gap is traversed by the metal feed tube,” “the bridge is spaced radially and apart from the metal feed tube, the bridge provides a rigid mechanical connection between the heater and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube,” “a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube,” and “a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the

heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves mechanical loading on the feed tube.” Since a dependent claim incorporates all limitations of the only independent claim 1 of the ’810 Patent from which it depends, if the Accused Product does not infringe independent claim 1, it would not infringe any claims of the ’810 Patent.

***The Spider High Temperature Hotend***

26. First, the Spider High Temperature Hotend (shown below) does not include “the bridge [that] is spaced radially and apart from the metal feed tube, [wherein] the bridge provides a rigid mechanical connection between the heater and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. In the Spider High Temperature Hotend, the heating block connects the external bracket, which is not a part of cooling block and has no cooling fins to execute a cooling function, by screws. Thus, neither the screw nor the bracket is the claimed “bridge” because they do not connect the cooling block, let alone “provid[ing] a rigid mechanical connection between the heater and the cooler,” as claim 1 of the ’810 Patent requires.



### **Spider High Temperature Hotend (annotation added)**

27. Second, the Spider High Temperature Hotend also does not include “a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. The screw is not the claimed “first structural component” because it does not have a portion bearing against the cooling block.

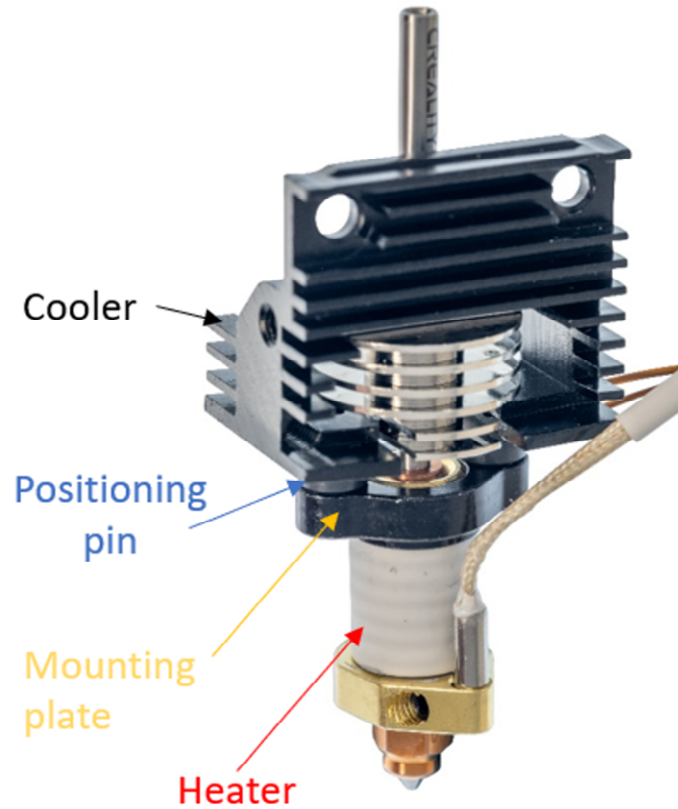
28. Third, the Spider High Temperature Hotend further does not include “a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves

mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. The screw is not the claimed “second structural component” because it does not have a portion bearing against the cooling block.

29. Fourth, Spider High Temperature Hotend does not include “a generally axially extending gap, bound by a bridge traversing the gap between the cooler and the heater” as recited in claim 1 of the ’810 Patent for lacking the claimed “bridge” as explained above.

***K1 Series Ceramic Heating Block Kit***

30. First, the K1 Series Ceramic Heating Block Kit (shown below) does not include “the bridge is spaced radially and apart from the metal feed tube, the bridge provides a rigid mechanical connection between the heater and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube,” as required in claim 1 of the ’810 Patent. In the K1 Series Ceramic Heating Block Kit, the cooler connects the mounting plate (not the heater) by the position pins and screws. The mounting plate has a much lower thermal conductivity than the heater and thus functions as a blocker preventing the heat from spreading through the upstream portion of the filament guiding tube. In other words, the mounting plate is not a part of cooler nor heater. Thus, the position pin or screw is not the claimed “bridge” because it does not connect the heater, let alone “provid[ing] a rigid mechanical connection between the heater and the cooler,” as recited in claim 1 of the ’810 Patent.



### **K1 Series Ceramic Heating Block Kit**

31. Second, the K1 Series Ceramic Heating Block Kit also does not include “a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. Neither the positioning pin nor screw is the claimed “first structural component” because it does not have a portion bearing against the heater. The mounting plate is not the claimed “first structural component” because it does not have a portion bearing against the cooler.

32. Third, the K1 Series Ceramic Heating Block Kit also does not include “a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. Neither the positioning pin nor screw is the claimed “second structural component” because neither of them have a portion bearing against the heater. The mounting plate is not the claimed “second structural component” because it does not have a portion bearing against the cooler.

33. Fourth, the K1 Series Ceramic Heating Block Kit does not include “a generally axially extending gap, bound by a bridge traversing the gap between the cooler and the heater” as recited in claim 1 of the ’810 Patent for lacking the claimed “bridge” as explained above.

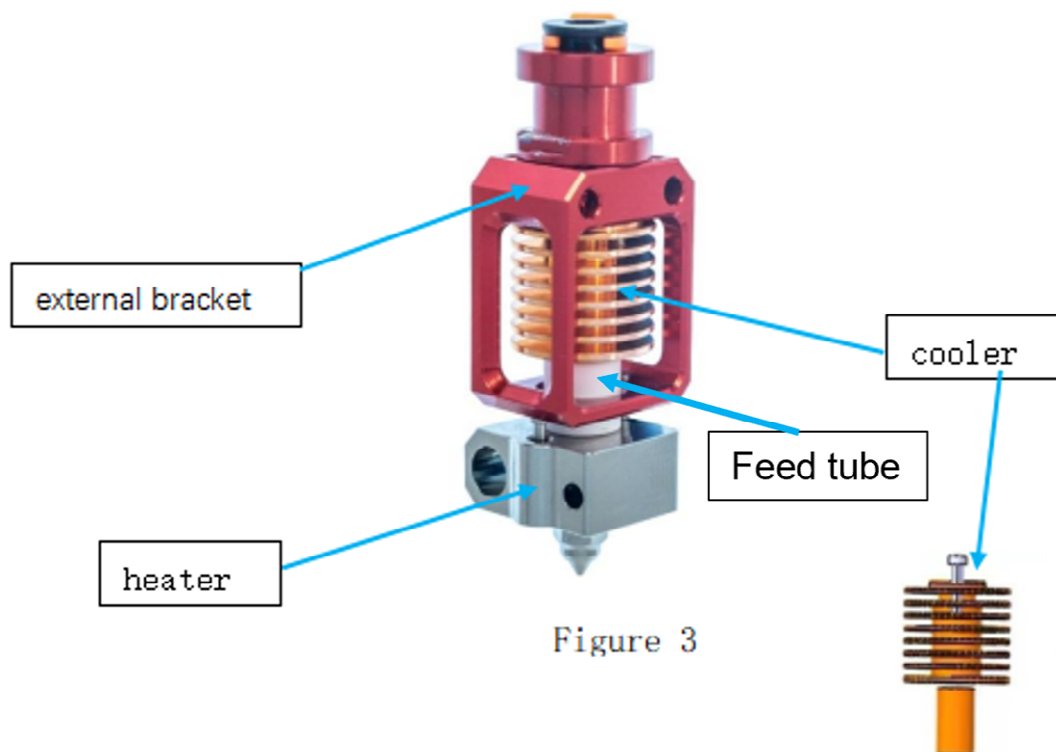
### ***Creality K1C 3D Printer***

34. The Creality K1C 3D printer incorporates the K1 Series Ceramic Heating Block Kit, and thus does not infringe any claims of the ’810 Patent for the same reasons as stated above with regard to the K1 Series Ceramic Heating Block Kit.

### ***Spider High Temperature and High Flow Hotend Pro***

35. First, the Spider High Temperature and High Flow Hotend Pro (shown below) does not include “the bridge is spaced radially and apart from the metal feed

tube, the bridge provides a rigid mechanical connection between the heater and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. In the Spider High Temperature and High Flow Hotend Pro, the heater connects the external bracket, which is not a part of cooler and has no cooling fins to execute a cooling function, by screws. Thus, the screw is not the claimed “bridge” because it does not connect the cooler, let alone “provid[ing] a rigid mechanical connection between the heater and the cooler,” as recited in claim 1 of the ’810 Patent. There is no other component connecting the heater and cooler that is “spaced radially and apart from the metal feed tube” as claim 1 of the ’810 Patent requires.



**Spider High Temperature and High Flow Hotend Pro (annotations added)**

36. Second, the Spider High Temperature and High Flow Hotend Pro also does not include “a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. The screw is not the claimed “first structural component” because it does not have a portion bearing against the cooler. The external bracket is not the claimed “first structural component” because it does not have a portion bearing against the heater.

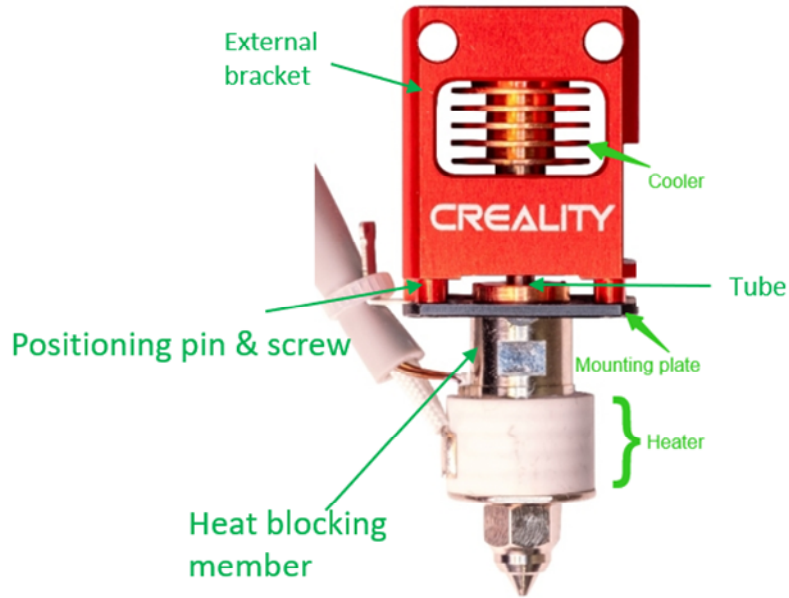
37. Third, the Spider High Temperature and High Flow Hotend Pro also does not include “a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. The screw is not the claimed “second structural component” because it does not have a portion bearing against the cooler. The external bracket is not the claimed “second structural component” because it does not have a portion bearing against the heater.



38. Fourth, the Spider High Temperature and High Flow Hotend Pro does not include “a generally axially extending gap, bound by a bridge traversing the gap between the cooler and the heater” as recited in claim 1 of the ’810 Patent for lacking the claimed “bridge” as explained above.

***Spider Water-cooled Ceramic Hotend***

39. First, the Spider Water-cooled Ceramic Hotend (as shown below) also does not include “the bridge is spaced radially and apart from the metal feed tube, the bridge provides a rigid mechanical connection between the heater and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. In the Spider Water-cooled Ceramic Hotend, the cooler is arranged in the external bracket which is mounted on the mounting plate by positioning pins and screws. The heater is further separated from the mounting plate by a heat blocking member. The external bracket is not a part of cooler and has no cooling fins to execute a cooling function. The mounting plate is neither a part of the cooler nor heater for lacking a cooling or heating function. Thus, neither the positioning pin nor screw nor external bracket nor mounting plate nor heat blocking member is the claimed “bridge” because neither of them traverses the gap between the cooler and the heater, let alone “provid[ing] a rigid mechanical connection between the heater and cooler” as recited in claim 1 of the ’810 Patent.



### Spider Water-Cooled Ceramic Hotend

40. Second, the Spider Water-cooled Ceramic Hotend also does not include “a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. Neither the positioning pin nor screw is the claimed “first structural component” because neither of them have a portion bearing against either the cooler or heater. The mounting plate is not the claimed “first structural component” because it does not have a portion bearing against the heater. The heat blocking member is not the claimed “first structural component” because it does not have a portion bearing against the cooler.

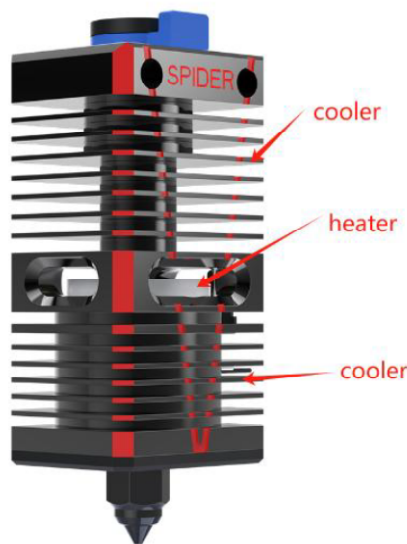
41. Third, the Spider Water-cooled Ceramic Hotend also does not include “a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. Neither the positioning pin nor screw is the claimed “second structural component” because neither of them have a portion bearing against either the cooler or heater. The mounting plate is not the claimed “second structural component” because it does not have a portion bearing against the heater. The heat blocking member is not the claimed “second structural component” because it does not have a portion bearing against the cooler.

42. Fourth, the Spider Water-cooled Ceramic Hotend does not include “a generally axially extending gap, bound by a bridge traversing the gap between the cooler and the heater” as recited in claim 1 of the ’810 Patent for lacking the bridge as explained above.

### ***Spider Speedy Ceramic Hotend***

43. First, the Spider Speedy Ceramic Hotend (as shown below) does not include a “cooler spaced generally axially upstream from the heater,” nor does it include a “generally axially extending gap” “between the cooler and the heater,” as recited in claim 1 of the ’810 Patent. To the extent that there is a gap, the hypothetical

gap is not “traversed by the metal feed tube,” as claim 1 of the ’810 Patent requires. As shown in the figure below, the cooler of the Spider Speedy Ceramic Hotend is arranged around the upstream and downstream parts of the filament guiding tube and is not located “axially upstream from the heater,” as recite in claim 1 of the ’810 Patent. Thus, there is no “axially extending gap” (between the cooler and the heater of the Spider Speedy Ceramic Hotend), nor is there an “axially extending gap . . . between the cooler and the heater” that “is traversed by” the filament guiding tube, as required by claim 1 of the ’810 Patent.



### **Spider Speedy Ceramic Hotend (annotations added)**

44. Second, the Spider Speedy Ceramic Hotend also does not include a “bridge” that “is spaced radially and apart from the metal feed tube, the bridge provides a rigid mechanical connection between the heater and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube,” as recited in

claim 1 of the '810 Patent. As discussed above, there is no “axially extending gap” between the cooler and the heater of the Spider Speedy Ceramic Hotend so that there is no “bridge” that traverses the gap, let alone a bridge that “provides a rigid mechanical connection between the heater and the cooler” and “spaced radially and apart from the metal feed tube,” as recited in claim 1 of the '810 Patent require.

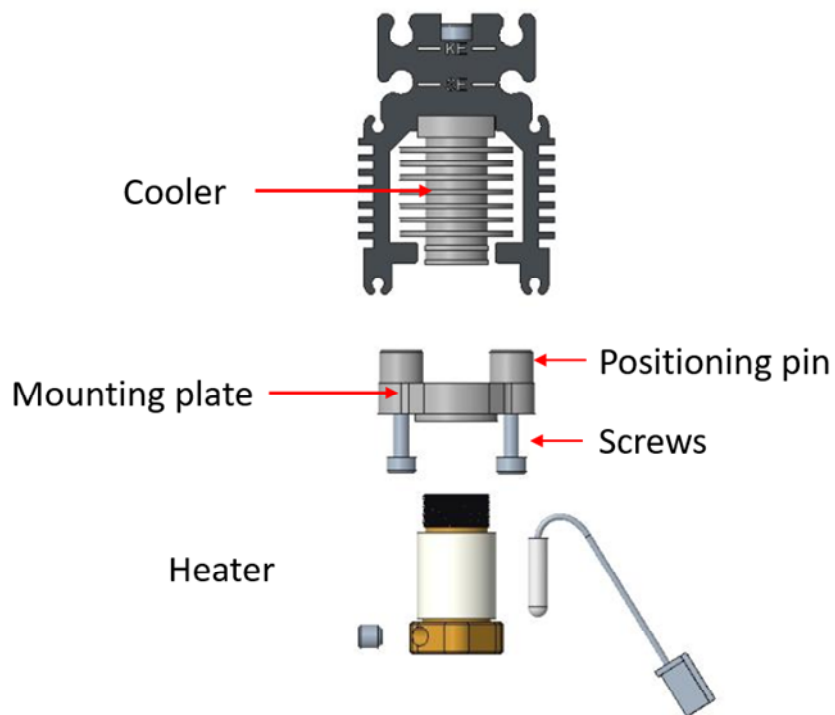
45. Third, the Spider Speedy Ceramic Hotend also does not include a “bridge” comprising “a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the '810 Patent.

46. Fourth, the Spider Speedy Ceramic Hotend also does not include a “bridge” comprising “a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the '810 Patent.

***Ender-3 V3 SE/KE Ceramic Heating Block Kit***

47. First, the Ender-3 V3 SE/KE Ceramic Heating Block Kit (as shown below) does not include “the bridge is spaced radially and apart from the metal feed

tube, the bridge provides a rigid mechanical connection between the heater and the cooler, and the bridge at least partially reduces mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. In the Ender-3 V3 SE/KE Ceramic Heating Block Kit, the cooler connects the mounting plate via a positioning pin and screw. The mounting plate has a much lower thermal conductivity than the heater and thus functions as a blocker preventing the heat from spreading through the upstream portion of the filament guiding tube. In other words, the mounting plate is not a part of cooler nor heater. Thus, neither the positioning pin nor screw is the claimed “bridge” because it does not connect the heater, let alone “provid[ing] rigid connection between the cooler and the heater,” as recited in claim 1 of the ’810 Patent.



**Ender-3 V3 SE/KE Ceramic Heating Block Kit (annotations added)**

48. Second, the Ender-3 V3 SE/KE Ceramic Heating Block Kit also does not include “a first structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the first structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. Neither the positioning pin nor screw is the claimed “first structural component” because neither of them have a portion bearing against the heater. The mounting plate is not the claimed “first structural component” because it does not have a portion bearing against the cooler.

49. Third, the Ender-3 V3 SE/KE Ceramic Heating Block Kit also does not include “a second structural component, spaced radially and apart from the feed tube, and having a first portion bearing against the heater and a second portion bearing against the cooler, wherein the second structural component at least partially relieves mechanical loading on the feed tube,” as recited in claim 1 of the ’810 Patent. Neither the positioning pin nor screw is the claimed “second structural component because neither of them have a portion bearing against the heater.” The mounting plate is not the claimed “second structural component” because it does not have a portion bearing against the cooler.

50. Fourth, the Ender-3 V3 SE/KE Ceramic Heating Block Kit does not include “a generally axially extending gap, bound by a bridge traversing the gap

between the cooler and the heater” as recited in claim 1 of the ’810 Patent for lacking the bridge as explained above.

## COUNT II

### (Declaratory Judgment of Noninfringement of the ’244 Patent)

51. Plaintiff repeats and realleges the allegations in paragraphs 1-50 as though fully set forth herein.

52. Plaintiff has not infringed and does not infringe any claim of the ’244 Patent, directly or indirectly, either literally or under the doctrine of equivalents. The ’244 Patent has only one independent claim, i.e., claim 1, and Slice previously identified claim 1 as being allegedly infringed by Plaintiff. *See Exhibits C and E.* Claim 1 is reproduced below.

1. An extrusion head 100 for a three-dimensional printer 119, the extrusion head 100 comprising:
  - a generally axially extending metal feed tube 104 having an inlet 104 for receiving a forwardly driven filament 110 of solid deposition material, an outlet 111, a downstream portion 112 adjacent to the outlet 111, an upstream portion 113 upstream from the downstream portion 112, and an internal passage 114 extending from the inlet 104 to the outlet 111;
  - a heater 102 thermally coupled with the downstream portion 112 for heating a filament 110 positioned within the feed tube 104 internal passage 114 to provide softened deposition material 115;
  - a cooler 101 thermally coupled with the upstream portion 113 for reducing upstream heat transfer, the cooler 101 spaced generally axially upstream from the heater 102; and
  - a generally axially extending gap 116, bound by a bridge 117 traversing the gap between the cooler 101 and the heater 102; wherein,  
the gap 116 is traversed by the metal feed tube 104;



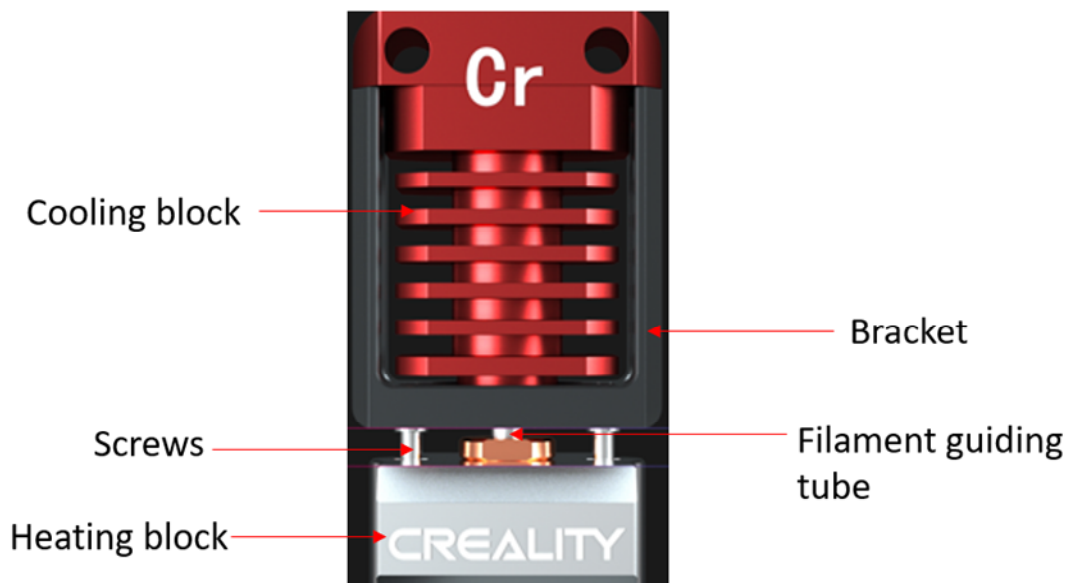
the bridge 117 is spaced radially and apart from the metal feed tube 104, provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube 104, wherein the bridge 117 comprises: at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101, and at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension between the heater 102 and the cooler 101 and compression on the at least one spacer 107.

53. Plaintiff does not infringe any claims of the '244 Patent at least because the Accused Products do not include at least some of the following limitations as recited in independent claim 1 of the '244 Patent: “a cooler 101 thermally coupled with the upstream portion 113 for reducing upstream heat transfer, the cooler 101 spaced generally axially upstream from the heater 102,” “a generally axially extending gap 116, bound by a bridge 117 traversing the gap between the cooler 101 and the heater 102,” “the gap 116 is traversed by the metal feed tube 104,” “the bridge 117 is spaced radially and apart from the metal feed tube 104, provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube 104,” “at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101,” and “at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension

between the heater 102 and the cooler 101 and compression on the at least one spacer 107.” Since a dependent claim incorporates all limitations of the only independent claim 1 of the ’244 Patent from which it depends, if the Accused Product does not infringe independent claim 1, it would not infringe any claims of the ’244 Patent.

***Spider High Temperature Hotend***

54. First, the Spider High Temperature Hotend (shown below) does not include “the bridge 117 [that] is spaced radially and apart from the metal feed tube 104, [and] provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube 104,” as recited in independent claim 1 of the ’244 Patent. In the Spider High Temperature Hotend, the heating block connects the external bracket external, which is not a part of cooling block and has no cooling fins to execute a cooling function, by screws. Thus, neither the screw nor the bracket is the claimed “bridge” because they do not connect the cooling block, let alone “provid[ing] a rigid mechanical connection between the heater 102 and the cooler 101” as recited as claim 1 of the ’244 Patent.



### **Spider High Temperature Hotend (annotation added)**

55. Second, the Spider High Temperature Hotend also does not include “at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101,” as recited in independent claim 1 of the ’244 Patent. The screw is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the cooling block. The bracket is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the heating block.

56. Third, the Spider High Temperature Hotend also does not include “at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension between the heater 102 and the cooler 101 and

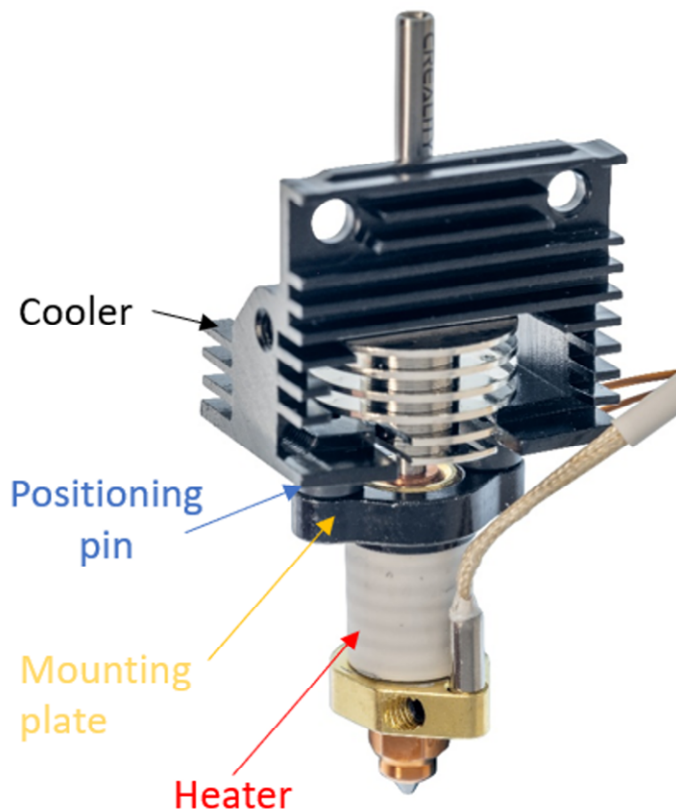
compression on the at least one spacer 107,” as recited in independent claim 1 of the ’244 Patent. The screw is not the claimed “tension member” because it does not have a portion connected to the cooling block. The bracket is not the claimed “tension member” because it does not have a portion connected to the heating block.

57. Fourth, as Spider High Temperature Hotend does not include “a generally axially extending gap 116, bound by a bridge 117 traversing the gap between the cooler 101 and the heater 102” as recited in independent claim 1 of the ’244 Patent for lacking the claimed “bridge” as explained above.

***K1 Series Ceramic Heating Block Kit***

58. First, the K1 Series Ceramic Heating Block Kit (shown below) does not include “the bridge 117 is spaced radially and apart from the metal feed tube 104, provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube 104,” as recited in independent claim 1 of the ’244 Patent. In the K1 Series Ceramic Heating Block Kit, the cooler connects the mounting plate (not the heater) by the position pins and screws. The mounting plate has a much lower thermal conductivity than the heater and thus functions as a blocker preventing the heat from spreading through the upstream portion of the filament guiding tube. In other words, the mounting plate is not a part of cooler nor heater. Thus, neither the position pin nor screw is the claimed “bridge” because it does not connect the heater, let alone “provid[ing] a rigid mechanical

connection between the heater 102 and the cooler 101” as recited in claim 1 of the ’244 Patent.



**K1 Series Ceramic Heating Block Kit (annotations added)**

59. Second, the K1 Series Ceramic Heating Block Kit also does not include “at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101,” as recited in independent claim 1 of the ’244 Patent. Neither the positioning pin nor screw is the claimed “generally axially extending spacer” because neither of them have a portion bearing against the

heater. The mounting plate is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the cooler.

60. Third, the K1 Series Ceramic Heating Block Kit also does not include “at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension between the heater 102 and the cooler 101 and compression on the at least one spacer 107,” as recited in independent claim 1 of the ’244 Patent. Neither the positioning pin nor screw is the claimed “tension member” because neither of them have a portion connecting to the heater. The mounting plate is not the claimed “tension member” because it does not connect to the cooler.

61. Fourth, the K1 Series Ceramic Heating Block Kit does not include “a generally axially extending gap 116, bound by a bridge 117 traversing the gap between the cooler 101 and the heater 102” as recited in independent claim 1 of the ’244 Patent for lacking the claimed “bridge” as explained above.

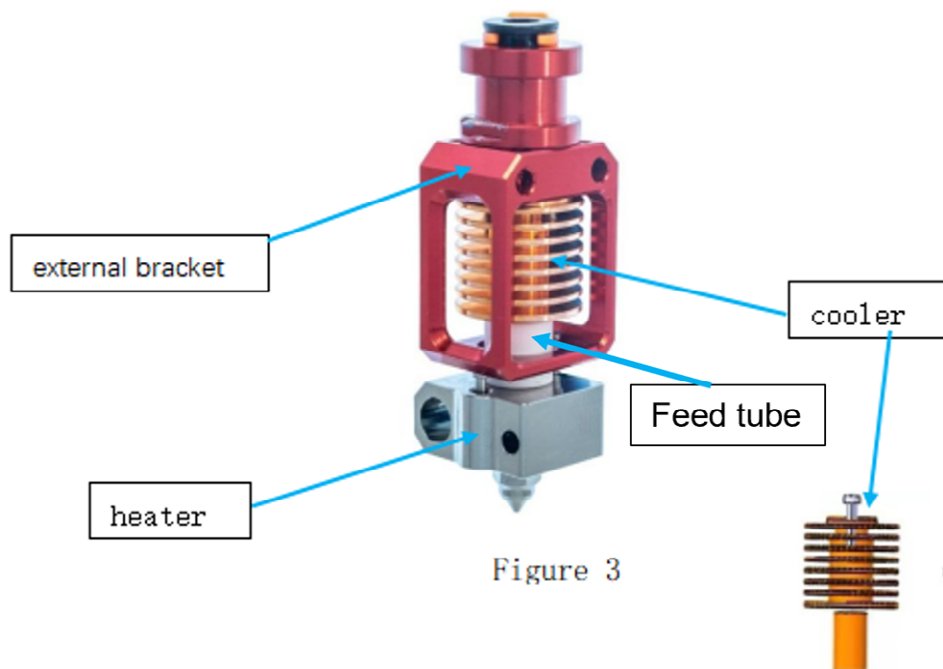
### ***Creality K1C 3D Printer***

62. The Creality K1C 3D printer incorporates the K1 Series Ceramic Heating Block Kit, and thus does not infringe any claims of the ’244 Patent for the same reason as stated above with respect to the K1 Series Ceramic Heating Block Kit.

### ***Spider High Temperature and High Flow Hotend Pro***

63. First, the Spider High Temperature and High Flow Hotend Pro (shown below) does not include “the bridge 117 is spaced radially and apart from the metal

feed tube 104, provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube 104,” as recited in independent claim 1 of the ’244 Patent. In the Spider High Temperature and High Flow Hotend Pro, the heater connects the external bracket, which is not a part of cooler and has no cooling fins to execute a cooling function, by screws. Thus, the screw is not the claimed “bridge” because it does not connect the cooler, let alone “provid[ing] a rigid mechanical connection between the heater 102 and the cooler 101,” as recited in independent claim 1 of the ’244 Patent. There is no other component connecting the heater and cooler that is “spaced radially and apart from the metal feed tube 104” as claim 1 of the ’244 Patent requires.



**Spider High Temperature and High Flow Hotend Pro (annotations added)**

64. Second, the Spider High Temperature and High Flow Hotend Pro also does not include “at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101,” as recited in independent claim 1 of the ’244 Patent. The screw is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the cooler. The external bracket is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the heater.

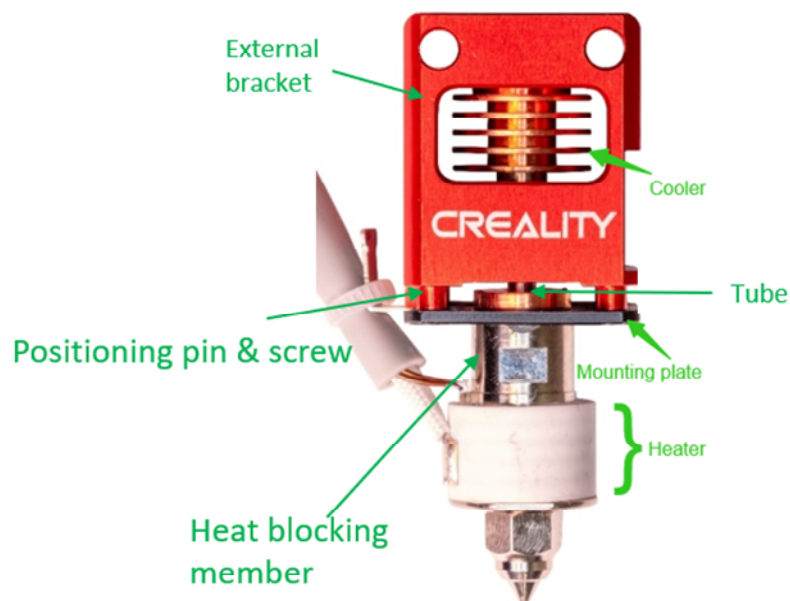
65. Third, the Spider High Temperature and High Flow Hotend Pro also does not include “at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension between the heater 102 and the cooler 101 and compression on the at least one spacer 107,” as recited in independent claim 1 of the ’244 Patent. The screw is not the claimed “tension member” because it does not have a portion bearing against the cooler. The external bracket is not the claimed “tension member” because it does not connect to the heater.

66. Fourth, the Spider High Temperature and High Flow Hotend Pro does not include “a generally axially extending gap 116, bound by a bridge 117 traversing the gap between the cooler 101 and the heater 102” as recited in independent claim 1 of the ’244 Patent for lacking the claimed “bridge” as explained above.



***Spider Water-cooled Ceramic Hotend***

67. First, the Spider Water-cooled Ceramic Hotend (shown below) does not include “the bridge 117 is spaced radially and apart from the metal feed tube 104, provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube 104,” as recited in independent claim 1 of the ’244 Patent. In the Spider Water-cooled Ceramic Hotend, the cooler is arranged in the external bracket which is mounted on the mounting plate by positioning pins and screws. The heater is further separated from the mounting plate by a heat blocking member. The external bracket is not a part of cooler and has no cooling fins to execute a cooling function. The mounting plate is neither a part of the cooler nor heater for lacking a cooling or heating function. Thus, neither the positioning pin nor screw nor external bracket nor mounting plate nor heat blocking member is the claimed “bridge” because neither of them traverses the gap between the cooler and the heater, let alone “provid[ing] a rigid mechanical connection between the heater 102 and cooler 101” as recited in claim 1 of the 244 ’Patent.



### **Spider Water-cooled Ceramic Hotend (annotations added)**

68. Second, the Spider Water-cooled Ceramic Hotend also does not include “at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101,” as recited in independent claim 1 of the ’244 Patent. Neither the positioning pin nor screw is the claimed “generally axially extending spacer” because neither of them have a portion bearing against either the cooler or heater. The mounting plate is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the heater. The heat blocking member is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the cooler.

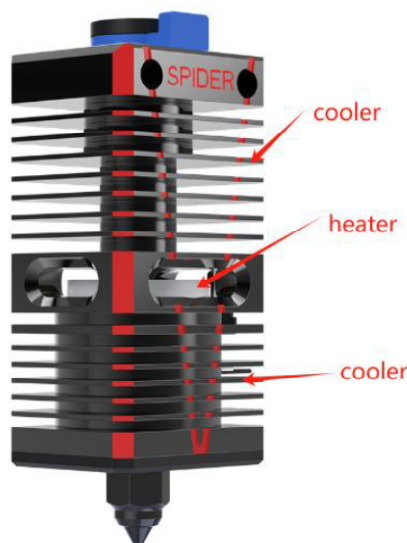
69. Third, the Spider Water-cooled Ceramic Hotend also does not include “at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension between the heater 102 and the cooler 101 and compression on the at least one spacer 107,” as recited in independent claim 1 of the ’244 Patent. Neither the positioning pin nor screw is the claimed “tension member” because neither of them have a portion bearing against either the cooler or heater. The mounting plate is not the claimed “tension member” because it does not connect to the heater. The heat blocking member is not the claimed “tension member” because it does not connect to the cooler.

70. Fourth, as the Spider Water-cooled Ceramic Hotend does not include “a generally axially extending gap 116, bound by a bridge 117 traversing the gap between the cooler 101 and the heater 102” as recited in independent claim 1 of the ’244 Patent for lacking the claimed “bridge” as explained above.

### ***Spider Speedy Ceramic Hotend***

71. First, the Spider Speedy Ceramic Hotend (as shown below) does not include a “cooler 101 spaced generally axially upstream from the heater 102”, nor does it include a “generally axially extending gap 116” “between the cooler 101 and the heater 102,” as recited in independent claim 1 of the ’244 Patent. To the extent that there is a gap, the hypothetical gap is not “traversed by the metal feed tube 104,” as claim 1 of the ’244 Patent requires. As shown in the figure below, the cooler of

the Spider Speedy Ceramic Hotend is arranged around the upstream and downstream parts of the filament guiding tube and is not located “axially upstream from the heater” as claim 1 of the ’244 Patent requires. Thus, there is no “axially extending gap” (between the cooler and heater of the Spider Speedy Ceramic Hotend), nor is there an “axially extending gap . . . between the cooler [] and heater []” that “is traversed by” the filament guiding tube, as recited in independent claim 1 of the ’244 Patent.



### **Spider Speedy Ceramic Hotend (annotations added)**

72. Second, the Spider Speedy Ceramic Hotend also does not include a “bridge” that “is spaced radially and apart from the metal feed tube 104, provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube 104,” as recited in independent claim 1 of the ’244 Patent. As discussed above, there is no “axially extending gap”

between the cooler and the heater of the Spider Speedy Ceramic Hotend so that there is no “bridge” that traverses the gap, let alone a bridge that “provides a rigid mechanical connection between the heater 102 and the cooler 101” and “spaced radially and apart from the metal feed tube 104,” as claim 1 of the ’244 Patent require.

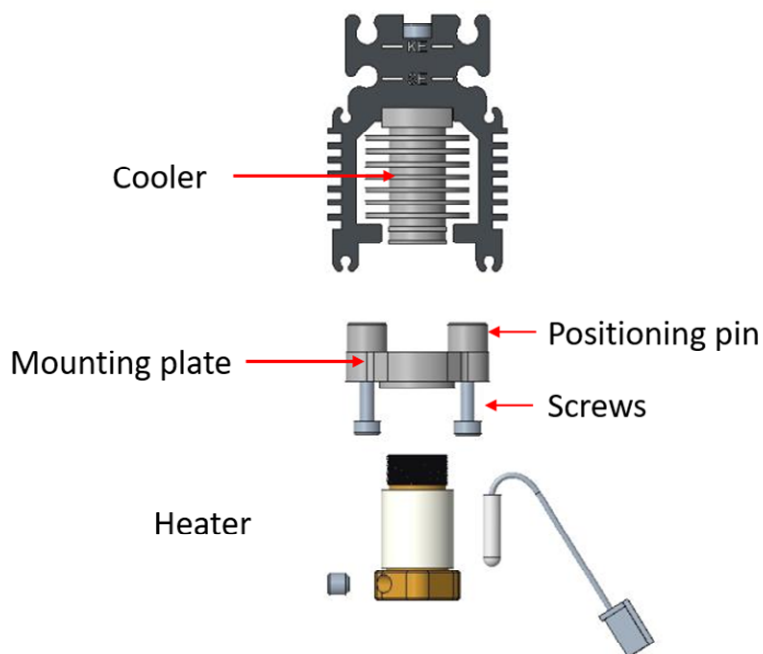
73. Third, the Spider Speedy Ceramic Hotend also does not include a “bridge” comprising “at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101,” as recited in independent claim 1 of the ’244 Patent.

74. Fourth, the Spider Speedy Ceramic Hotend also does not include a “bridge” comprising “at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension between the heater 102 and the cooler 101 and compression on the at least one spacer 107,” as recited in independent claim 1 of the ’244 Patent.

***Ender-3 V3 SE/KE Ceramic Heating Block Kit***

75. First, the Ender-3 V3 SE/KE Ceramic Heating Block Kit (as shown below) does not include “the bridge 117 [that] is spaced radially and apart from the metal feed tube 104, provides a rigid mechanical connection between the heater 102 and the cooler 101, and at least partially reduces mechanical loading on the feed tube

104,” as recited in independent claim 1 of the ’244 Patent. In the Ender-3 V3 SE/KE Ceramic Heating Block Kit, the cooler connects the mounting plate via a positioning pin and screw. The mounting plate has a much lower thermal conductivity than the heater and thus functions as a blocker preventing the heat from spreading through the upstream portion of the filament guiding tube. In other words, the mounting plate is not a part of cooler or heater. Thus, neither the positioning pin nor screw is the claimed “bridge” because it does not connect the heater, let alone “provid[ing] rigid connection between the cooler and the heater” as recited in claim 1 of the ’244 Patent.



**Ender-3 V3 SE/KE Ceramic Heating Block Kit (annotations added)**

76. Second, the Ender-3 V3 SE/KE Ceramic Heating Block Kit also does not include “at least one generally axially extending spacer 107, spaced radially and apart from the feed tube 104, and having a first portion 134 bearing against the heater 102 and a second portion 135 bearing against the cooler 101,” as recited in independent claim 1 of the ’244 Patent. Neither the positioning pin nor screw is the claimed “generally axially extending spacer” because neither of them have a portion bearing against the heater. The mounting plate is not the claimed “generally axially extending spacer” because it does not have a portion bearing against the cooler.

77. Third, the Ender-3 V3 SE/KE Ceramic Heating Block Kit also does not include “at least one tension member 108 spaced radially and apart from the feed tube 104, and connected to and exerting tension between the heater 102 and the cooler 101 and compression on the at least one spacer 107,” as recited in independent claim 1 of the ’244 Patent. Neither the positioning pin nor screw is the claimed “tension member” because neither of them have a portion bearing against the heater. The mounting plate is not the claimed “tension member” because it does not connect to the cooler.

78. Fourth, the Ender-3 V3 SE/KE Ceramic Heating Block Kit does not include “a generally axially extending gap 116, bound by a bridge 117 traversing the gap between the cooler 101 and the heater 102” as recited in independent claim 1 of the ’244 Patent for lacking the bridge as explained above.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff prays for relief as follows:

- a) For a judgment declaring that Plaintiff has not infringed and do not infringe any claim of the '810 Patent, directly or indirectly, either literally or under the doctrine of equivalents;
- b) For a judgment declaring that Plaintiff has not infringed and do not infringe any claim of the '244 Patent, directly or indirectly, either literally or under the doctrine of equivalents;
- c) That the Court declare that this case is exceptional under 35 U.S.C. § 285 and award Plaintiff its attorneys' fees, costs, and expenses incurred in this action;
- d) That the Court award Plaintiff any and all other relief to which they may be entitled; and
- e) That the Court award Plaintiff any other relief as the Court may deem just, equitable, and proper.

**JURY DEMAND**

Plaintiff demands a jury trial on all issues and claims so triable.



Dated: July 23, 2024

Respectfully submitted,

*s/ Clay M. Carlton*

Clay M. Carlton

Florida Bar No. 85767

**MORGAN, LEWIS & BOCKIUS LLP**

600 Brickell Avenue, Suite 1600

Miami, FL 33131

Tel: 1.305.415.3447

Fax: 1.305.415.3001

Email: [clay.carlton@morganlewis.com](mailto:clay.carlton@morganlewis.com)

Shaobin Zhu (*Pro Hac Vice* forthcoming)

MORGAN, LEWIS & BOCKIUS LLP

1400 Page Mill Road

Palo Alto, CA 94304

Tel: 1.650.843.4000

Fax: 1.650.843.4001

Email: [shaobin.zhu@morganlewis.com](mailto:shaobin.zhu@morganlewis.com)

*Attorneys for Plaintiff Shenzhen Creality 3D  
Technology Co., Ltd*