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FILED  
 SEP 13 2011  
 RICHARD W. WIEKING  
 CLERK, U.S. DISTRICT COURT  
 NORTHERN DISTRICT OF CALIFORNIA  
 OAKLAND

For  
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10 UNITED STATES DISTRICT COURT  
 11 FOR THE NORTHERN DISTRICT OF CALIFORNIA

12 ~~SAN FRANCISCO~~ DIVISION  
 13 SAN JOSE

14 MALICO INC.,

15 Plaintiff,

16 v.

17 COOLER MASTER USA INC., and LSI  
 18 LOGIC CORPORATION

19 Defendants.

20 Cause No.

21 **C11-04537**

22 COMPLAINT FOR PATENT  
 23 INFRINGEMENT

24 DEMAND FOR JURY TRIAL

25 Plaintiff Malico Inc. ("Malico") complains of Defendant as follows:

26 NATURE OF LAWSUIT

27 1. This is a claim for patent infringement arising under the patent laws of the  
 28 United States, Title 35 of the United States Code.

THE PARTIES

2. Malico is a foreign corporation with its principal place of business at No.5,  
 Ming-Lung Road, Yang-Mei, Tao-Yuang 32663, Taiwan. Malico is the named assignee of,  
 owns all right, title, and interest in, and has standing to sue for infringement of U.S. Patent  
 No. 6,476,484 (the '484 patent), entitled "Heat Sink Dissipator for Adapting to Thickness  
 Change of a Combination of a CPU and a CPU Carrier" filed August 8, 2001 and issued  
 November 5, 2002 (copy attached as Exhibit A);

1 3. On information and belief, Defendant Cooler Master USA Inc. is a California  
2 corporation with a principal place of business in Chino, California. Upon information and  
3 belief, Defendant Cooler Master USA Inc. ("Cooler Master") is a wholly owned subsidiary of  
4 Cooler Master Co., Ltd., a Taiwanese company with headquarters and principal place of  
5 business at 9F, No. 786, Chung Cheng Road, Chung Ho City, Taipei, Taiwan, R.O.C. Upon  
6 information and belief, Cooler Master is in the business of developing, manufacturing, and  
7 distributing computer cooling components, including heat sink devices, and transacts business  
8 and has directly or indirectly sold and/or caused to be distributed to customers in this judicial  
9 district and throughout the State of California products and/or services that infringe one or  
10 more claims of the '484 patent.

11 4. On information and belief, Defendant LSI Logic Corporation ("LSI Logic") is  
12 a California corporation with a principal place of business in Milpitas, California and has  
13 resided in this judicial district since 1981. On information and belief, Defendant LSI Logic  
14 Corporation, is in the business of providing silicon and software technologies, custom and  
15 standard product ICs, adapters and software and has directly or indirectly sold and /or caused  
16 to be distributed to customers in this judicial district and throughout the United States  
17 products and/or services that infringe one or more claims of the '484 patent.

#### 18 JURISDICTION AND VENUE

19  
20 5. This Court has exclusive jurisdiction over the subject matter of this Complaint  
21 under 28 U.S.C. §§ 1338(a).

22 6. Personal jurisdiction over the Defendant is proper in this Court. Venue in this  
23 judicial district is proper under 28 U.S.C. §§ 1391(b), (c) and/or 1400(b).

#### 24 DEFENDANTS' ACTS OF PATENT INFRINGEMENT

25  
26 7. Defendant Cooler Master has been and is directly infringing Claims 1 and/or 2  
27 of the '484 Patent under 35 U.S.C. §271(a) by providing to customers, including customers in  
28

1 this judicial district, heat sink products constructed in accordance with those claims by  
2 making, offering for sale, selling, using and/or importing these devices into the United States.  
3 Upon information and belief, infringing devices made, offered for sale, sold, or imported into  
4 the United States by Defendant Cooler Master include, by way of example but not limitation,  
5 Cooler Master Model Number ECB-00101-01-GP. Cooler Master has also infringed the '484  
6 patent under 35 U.S.C. §271(b) by knowingly and actively inducing others to infringe through  
7 the sale, distribution and use of such heat sink devices.

8 8. Cooler Master's direct infringement and inducement to infringe have been  
9 willful and have deliberately injured and will continue to injure Malico unless and until the  
10 Court enters an injunction prohibiting further infringement and, specifically, enjoining further  
11 manufacture, use, importation, sale and/or offer for sale of products that fall within the scope  
12 of the '484 patent claims.

13 9. Defendant LSI Logic has been and is directly infringing Claims 1 and/or 2 of  
14 the '484 Patent under 35 U.S.C. §271(a) by providing to customers, including customers in  
15 this judicial district, heat sink products constructed in accordance with those claims by  
16 making, offering for sale, selling, using and/or importing these devices into the United States.  
17 Upon information and belief, infringing devices made, offered for sale, sold, or imported into  
18 the United States by Defendant LSI Logic include, by way of example but not limitation, LSI  
19 Logic MegaRAID SCSI Model Number 320-2X. LSI Logic has also infringed the '484  
20 patent under 35 U.S.C. §271(b) by knowingly and actively inducing others to infringe  
21 through the sale, distribution and use of such heat sink devices.

22 10. LSI Logic's direct infringement and inducement to infringe have been willful  
23 and have deliberately injured and will continue to injure Malico unless and until the Court  
24 enters an injunction prohibiting further infringement and, specifically, enjoining further  
25 manufacture, use, importation, sale and / or offer for sale of products that fall within the  
26 scope of the '484 patent claims.

11. A claim chart illustrating how the products made, offered for sale, sold, or imported into the United States by Defendants Cooler Master and LSI Logic infringe the '484 Patent is attached to this complaint as Exhibit B.

**PRAYER FOR RELIEF**

WHEREFORE, Malico asks this Court to enter judgment against Defendants and against their subsidiaries, affiliates, agents, servants, employees and all persons in active concert or participation with them, granting the following relief:

A. An award of damages adequate to compensate Malico for the infringement that has occurred, together with prejudgment interest from the date infringement of the '484 patent began;

B. Increased damages as permitted under 35 U.S.C. § 284;

C. A finding that this case is exceptional and an award to Malico of its attorneys' fees and costs as provided by 35 U.S.C. § 285;

D. A permanent injunction prohibiting further infringement, inducement and contributory infringement of the '484 patent; and

E. Such other and further relief as this Court or a jury may deem proper and just.

**JURY DEMAND**

Malico demands a trial by jury on all issues presented in this Complaint.

Dated September 9, 2011.

Respectfully submitted,  
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Attorneys for Plaintiff Malico Inc.

Exhibit A

'484 Patent

(12) **United States Patent**  
Liang

(10) **Patent No.:** US 6,476,484 B1  
(45) **Date of Patent:** Nov. 5, 2002

(54) **HEAT SINK DISSIPATOR FOR ADAPTING TO THICKNESS CHANGE OF A COMBINATION OF A CPU AND A CPU CARRIER**

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6,015,301 A \* 1/2000 Brodsky et al. .... 439/73  
6,086,387 A \* 7/2000 Gallagher et al. .... 439/71  
6,201,697 B1 \* 3/2001 McCullough ..... 361/704  
6,243,266 B1 \* 6/2001 Lo ..... 361/704

(75) **Inventor:** Robert Liang, Taoyuan Hsien (TW)

\* cited by examiner

(73) **Assignee:** Malico Inc., Taoyuan Hsien (TW)

*Primary Examiner*—Nathan J. Flynn

*Assistant Examiner*—Fazli Erdem

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(57) **ABSTRACT**

A heat sink dissipater includes a retaining device and a heat dissipater. A plurality of fins and a plurality of pads or recesses are integrally formed on the top surface of the heat dissipater. A plurality of resilient legs extend inward from the sides of the retaining device. Retaining edges are also formed on two sides of the retaining device. The resilient legs fall into the gaps between the fins when the retaining device is positioned on the heat dissipater to secure a CPU assembly. In an orientation, the legs are placed on the pads or recesses of the heat dissipater and in an orthogonal orientation, the legs are placed directly on the top surface of the heat dissipater. Therefore, CPU assemblies of different thickness can be accommodated by rotating the retaining device or the heat dissipater 90 degrees.

(21) **Appl. No.:** 09/924,663

(22) **Filed:** Aug. 8, 2001

(51) **Int. Cl.<sup>7</sup>** ..... H01L 23/34

(52) **U.S. Cl.** ..... 257/718; 257/712; 257/713; 257/706; 257/718; 257/719; 257/722; 257/723; 257/724; 257/725; 257/726; 257/727; 361/703; 361/704; 439/71; 439/72; 439/73; 439/487

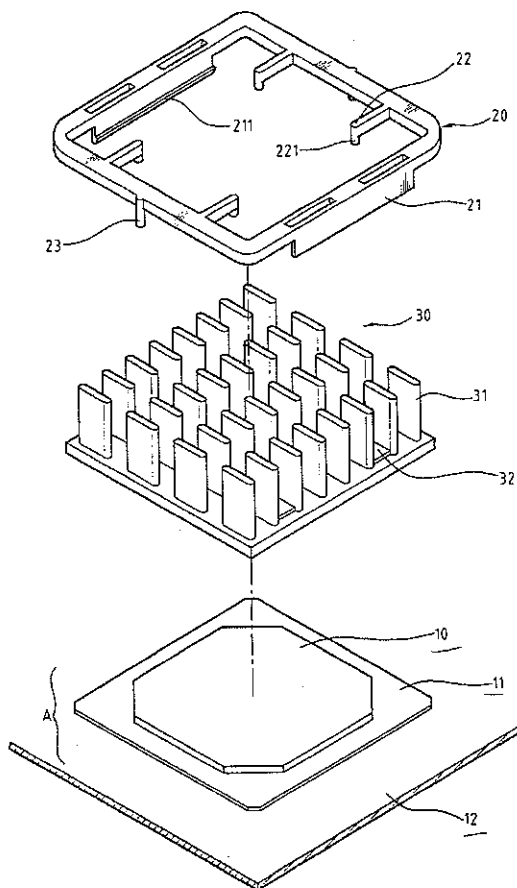
(58) **Field of Search** ..... 251/722, 706, 251/707, 718, 719, 723-727

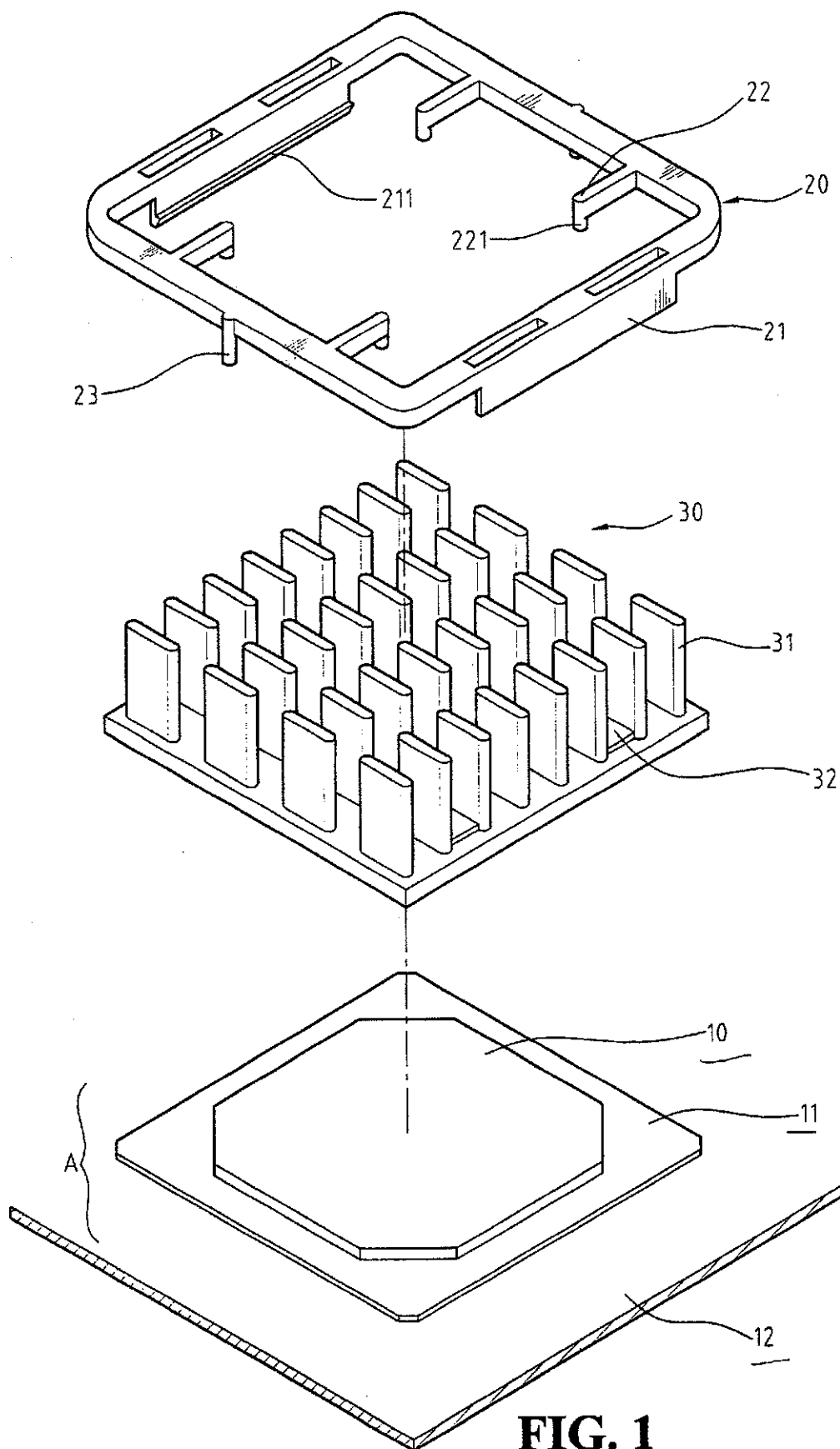
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**U.S. PATENT DOCUMENTS**

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**2 Claims, 4 Drawing Sheets**







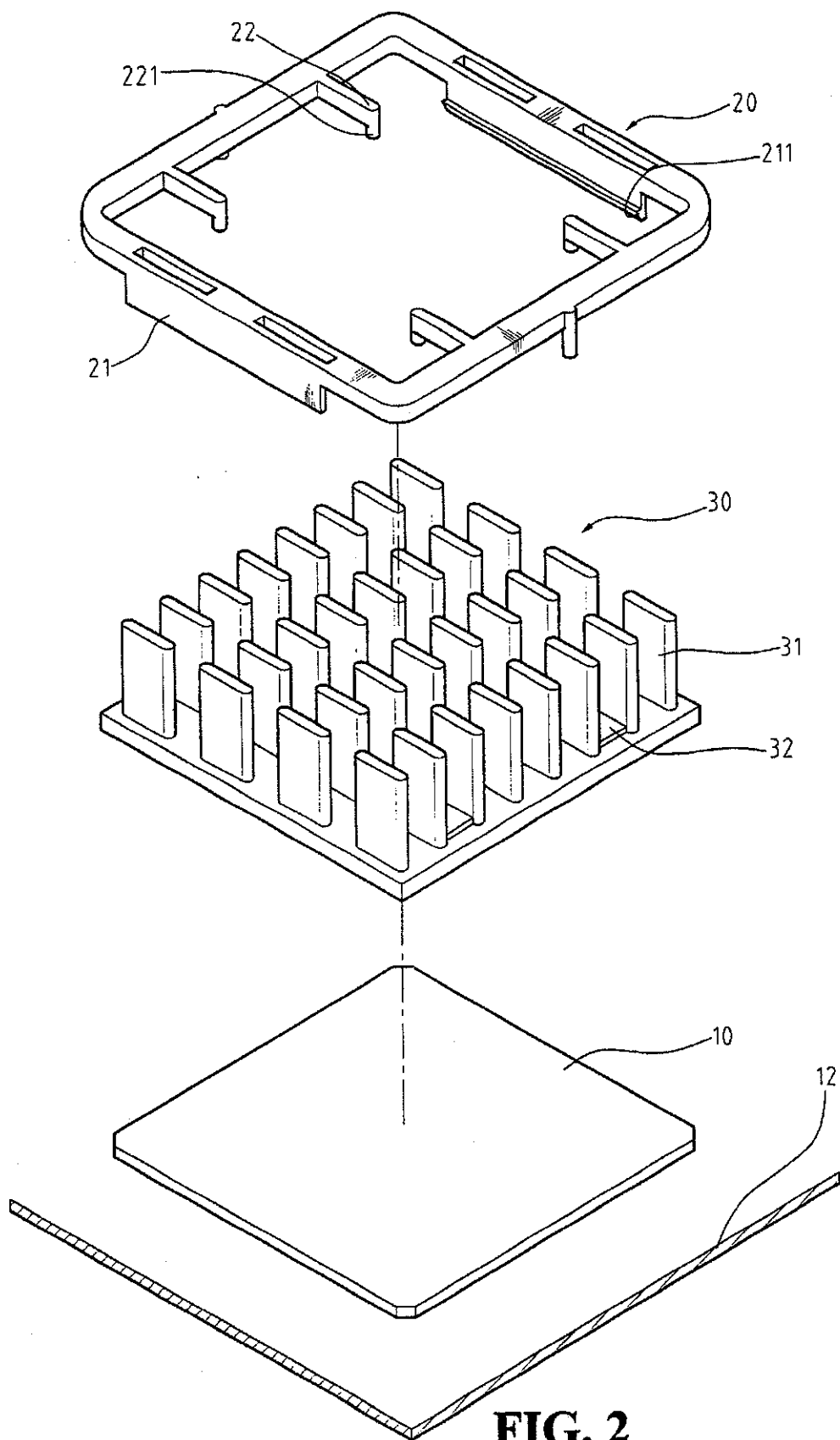


FIG. 2

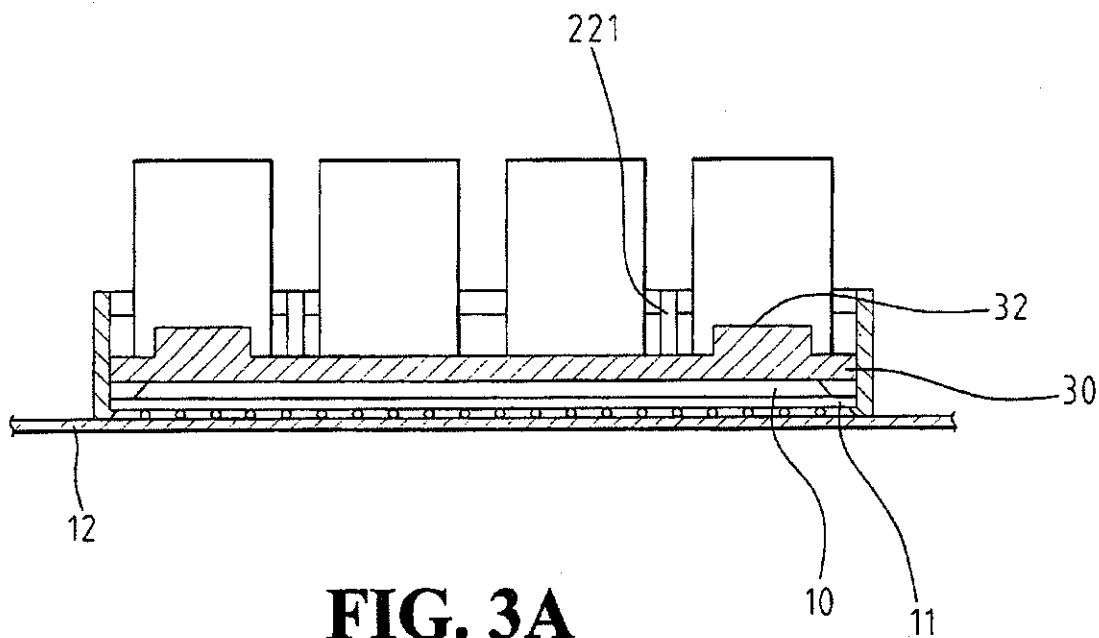


FIG. 3A

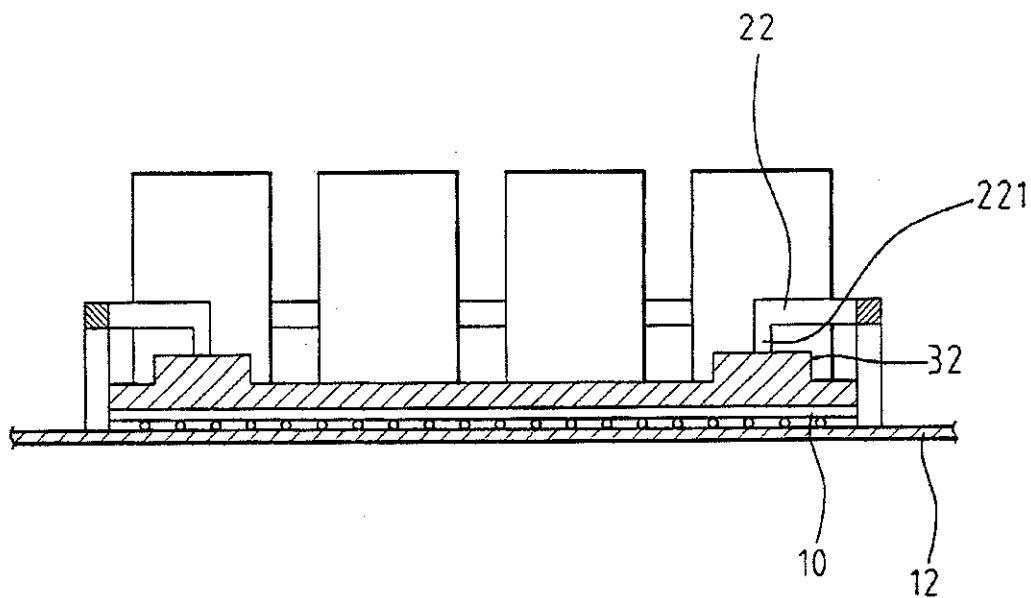
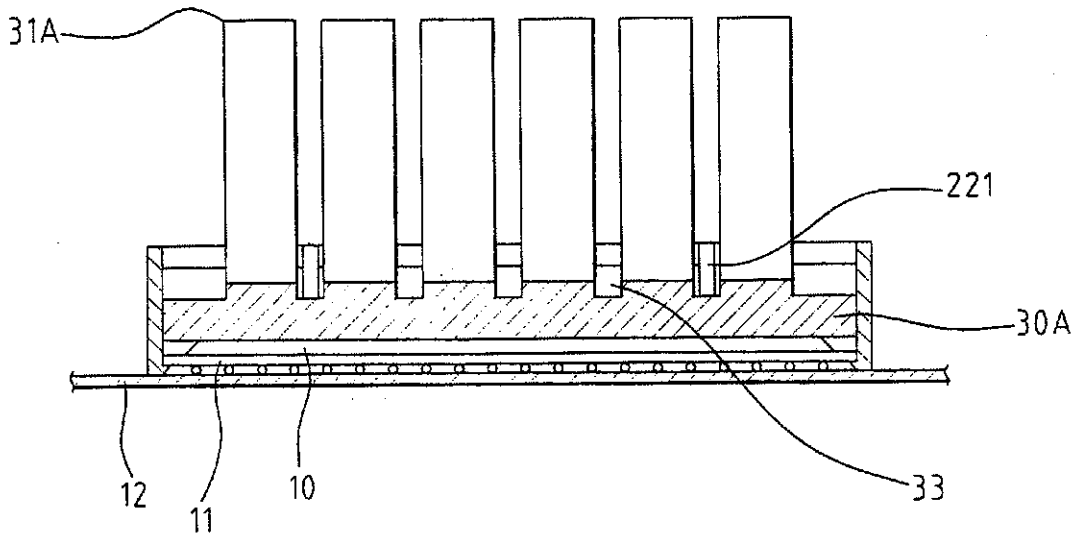
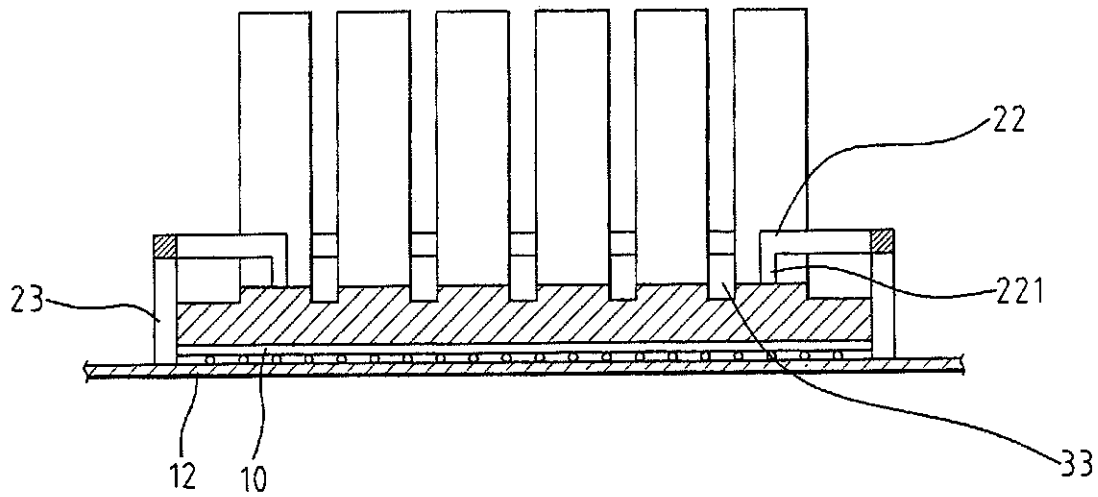


FIG. 3B



**FIG. 4A**



**FIG. 4B**

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## HEAT SINK DISSIPATOR FOR ADAPTING TO THICKNESS CHANGE OF A COMBINATION OF A CPU AND A CPU CARRIER

### FIELD OF THE INVENTION

The present invention relates to a heat sink dissipater, and more particularly to a heat sink dissipater for use with a combination of a CPU and a CPU carrier of different thickness so that a new mold for a heat dissipater for adapting to a combination of a CPU and a PC board with specific thickness is not necessary.

### BACKGROUND OF THE INVENTION

With reference to FIG. 1, a CPU assembly normally has a CPU 10 mounted on a PC board 11 and a main board 12 securely engaged with the PC board 11. That is, a combination of the CPU 10, the PC board 11 and the main board 12 has thickness A. When a conventional heat dissipater is to be mounted on the CPU 10 for dissipating heat generated by the operation of the CPU 10, a retaining device 20 is necessary.

The retaining device 20 has two retaining edges 21 respectively formed on opposite sides of the retaining device 20. Each retaining edge is formed with a barb 211. Multiple resilient legs 22 respectively extend inward from sides of the retaining device 20 adjacent to the sides of the retaining edges 21, and each resilient leg has a bent 221.

When the retaining device 20 is employed to fix the conventional heat dissipater with multiple columns and rows of fins onto the CPU 10, the resilient legs 22 extend into gaps between fins and the bents 221 engage the top face of the CPU 10 to abut the CPU 10 to the PC board 11. Then the retaining edges 21 secure the PC board 11 by means of the barbs 211. However, when another combination having only the CPU 10 and the main board 12 and thus having less thickness compared to the thickness of the previously described combination is used and the same conventional heat dissipater has to be used to dissipate the heat from the CPU 10, a new retaining device is to be developed to adapt to the variation in thickness. Changing the thickness of the combination of the CPU assembly often means a new retaining device or a new heat dissipater, which is quite a waste in cost.

To overcome the shortcomings, the present invention intends to provide an improved heat dissipater to mitigate or obviate the aforementioned problems.

### SUMMARY OF THE INVENTION

The primary objective of the invention is to provide a heat sink dissipater having multiple pads integrally formed on the heat sink dissipater so that when the thickness of the combination of the CPU and the CPU carrier is reduced, the bents of the resilient legs can still engage the pads to securely fix the heat sink dissipater onto the CPU.

Another objective of the invention is to provide a heat sink dissipater having multiple recesses integrally formed on the heat sink dissipater so that when the thickness of the combination of the CPU and the CPU carrier is increased, the bents of the resilient legs can still engage bottom faces defining the recesses to securely fix the heat dissipater onto the CPU.

Other objects, advantages and novel features of the invention will become more apparent from the following detailed

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description when taken in conjunction with the accompanying drawings.

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded perspective view of the heat sink dissipater of the present invention and the retaining device and the CPU assembly of the first type.

FIG. 2 is an exploded perspective view of FIG. 1 in a different orientation and the retaining device and the CPU assembly of the second type.

FIG. 3A is a cross sectional view of the assembled retaining device, the heat sink dissipater and the CPU assembly of the first type.

FIG. 3B is a cross sectional view of the assembled retaining device, the heat sink dissipater and the CPU assembly of the second type.

FIGS. 4A and 4B are cross sectional views of still another preferred embodiment of the invention, wherein the heat sink dissipater has recesses defined in a top face of the heat sink dissipater.

### DETAILED DESCRIPTION OF THE INVENTION

Because the retaining device 20 and the CPU assembly including the first type and the second type are still the same, the same reference numerals are designated to the same elements and are still used to describe the applicability of the heat sink dissipater in accordance with the present invention. Furthermore, the retaining device 20 has two positioning columns 23 each formed on opposite side faces of the retaining device 20.

With reference to FIGS. 1, 2, 3A and 3B, the heat sink dissipater 30 has multiple columns and rows of fins 31 and two pairs of pads 32 integrally formed on opposite sides of a top face of the heat sink dissipater 30. According to the configuration of the heat sink dissipater 30, when the CPU assembly includes the CPU 10, the PC board 11 and the main board 12, the bents 221 of the resilient legs 22 extend to gaps between fins 31 to securely engage the heat sink dissipater 30 to the CPU 10. When the CPU assembly includes only the CPU 10 and the main board 12, that is, the thickness of the CPU assembly in FIG. 2 is less than the thickness of the CPU assembly in FIG. 1, the user is able to rotate the heat sink dissipater 30 or the retaining device 20 (as shown in FIG. 2) by 90 degree to allow the resilient legs 22 to extend to gaps between fins 31 to engage the pads 32. Thus, even though the thickness of the CPU assembly is variant, the heat sink dissipater 30 can still be used to different types of CPU assembly with different thickness. Still, the positioning columns 23 are able to abut side faces of the heat sink dissipater 30 and the CPU 10 to avoid the movement of the CPU 10 and the heat sink dissipater 30 when the installation of the heat sink dissipater 30 and the CPU 10 is finished.

With reference to FIGS. 4A and 4B, another preferred embodiment of the invention is shown. The heat sink dissipater 30A has multiple columns and rows of fins 31A and pairs of recesses 33 each defined in opposite sides of a top face of the heat sink dissipater 30A. According to the configuration of the heat sink dissipater 30A, when the CPU assembly includes the CPU 10, the PC board 11 and the main board 12, due to the increase in thickness, the bents 221 of the resilient legs 22 extend to gaps between fins 31A to securely engage bottom faces defining the recesses 33. When the CPU assembly includes only the CPU 10 and the main board 12, that is, the thickness of the CPU assembly in

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FIG. 4B is less than the thickness of the CPU assembly in FIG. 4A, the user is able to rotate the heat sink dissipater 30A or the retaining device 20 to allow the resilient legs 22 to extend to gaps between fins 31A to engage the top face of the heat sink dissipater 30A. Thus, even though the thickness of the CPU assembly is variant, the heat sink dissipater 30A can still be used to different type of CPU assembly with different thickness.

Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

What is claimed is:

1. A heat sink dissipater, comprising:

a retaining device having a pair of positioning columns formed on first two opposite sides, a pair of retaining edges formed on second two opposite sides, and a plurality of resilient legs extending inwards from said first or second two opposite sides, said retaining edges each being formed with a barb and said resilient legs each having a bent;

a heat dissipater having a plurality of fins formed on a top surface and a plurality of gaps between said fins, said resilient legs falling into said gaps when said retaining device is positioned on said heat dissipater in a first orientation or a second orientation orthogonal to said first orientation; and

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plurality of pads formed between fins on said top surface of said heat dissipater;

wherein the bent of each resilient leg is placed on a pad when said retaining device is positioned on said heat dissipater in said first orientation, and each resilient leg is placed directly on said top surface when said retaining device is positioned on said heat dissipater in said second orientation.

2. A heat sink dissipater, comprising:

a retaining device having a pair of positioning columns formed on first two opposite sides, a pair of retaining edges formed on second two opposite sides, and a plurality of resilient legs extending inwards from said first or second two opposite sides, said retaining edges each being formed with a barb and said resilient legs each having a bent;

a heat dissipater having a plurality of fins formed on a top surface and a plurality of gaps between said fins, said resilient legs falling into said gaps when said retaining device is positioned on said heat dissipater in a first orientation or a second orientation orthogonal to said first orientation; and

a plurality of recesses formed on said top surface of said heat dissipater;

wherein the bent of each resilient leg is placed on a recess when said retaining device is positioned on said heat dissipater in said first orientation, and each resilient leg is placed directly on said top surface when said retaining device is positioned on said heat dissipater in said second orientation.

\* \* \* \* \*

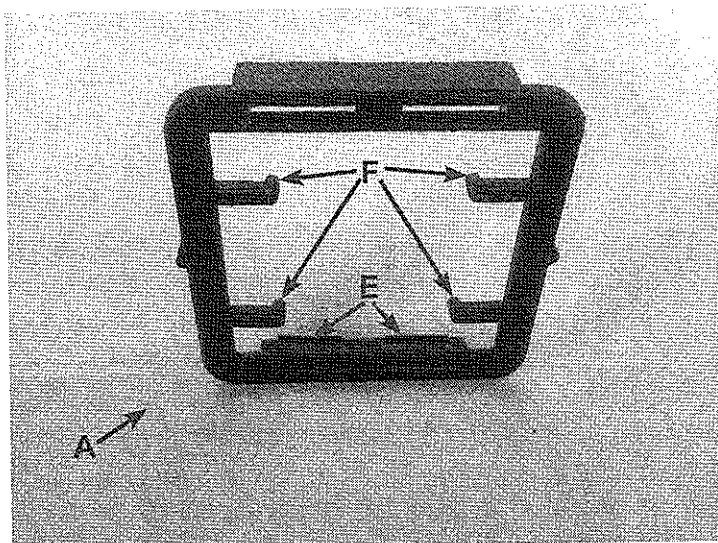
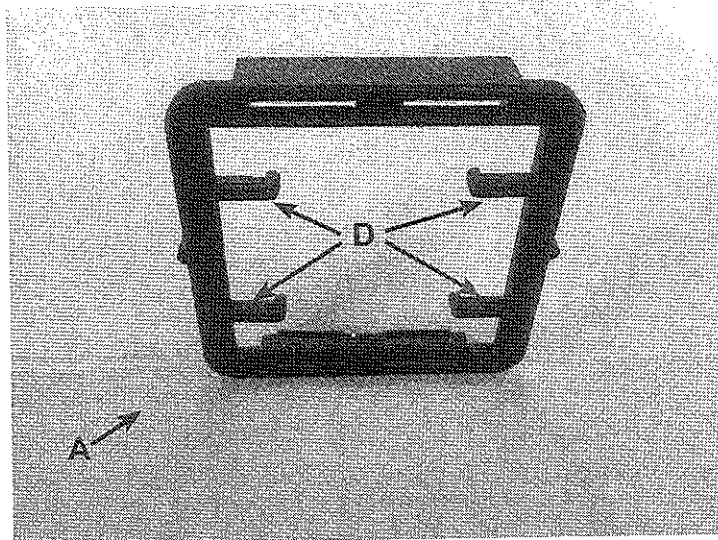
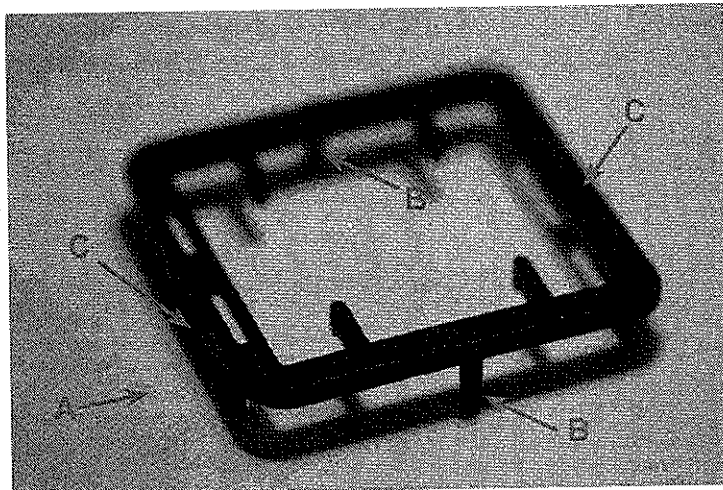
**Exhibit B**

**Claim Chart**

**Claim Chart of United States Patent 6,476,484 (the '484 Patent)**

**To Defendants' Accused Devices**

The following Claim Chart is illustrative only, and is used to merely give notice of Malico's claim of patent infringement by Defendants Cooler Master, Inc. and LSI. Malico does not submit this Claim Chart as its definitive infringement contentions and reserves the right to amend or supplement this Claim Chart in accordance with the local patent rules of this District and any orders of this Court.

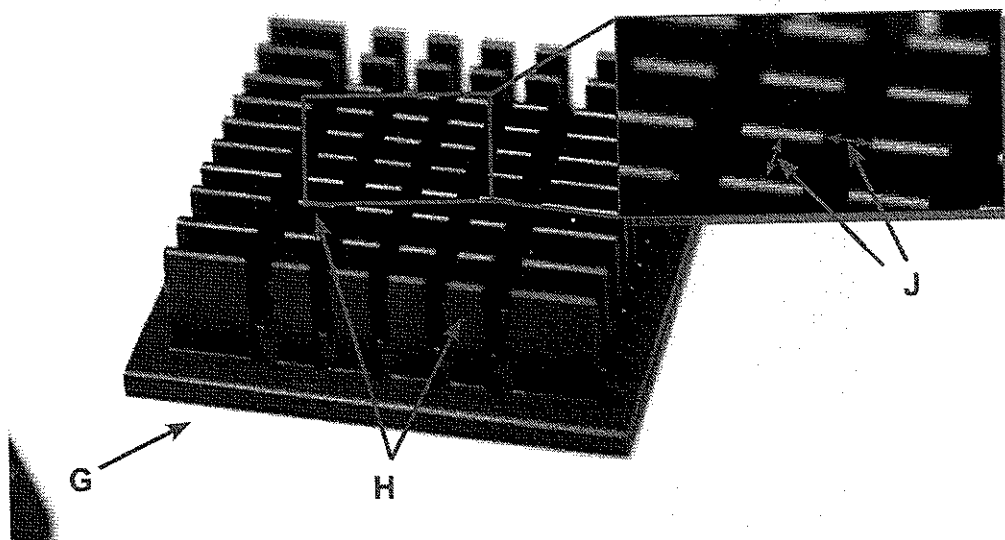




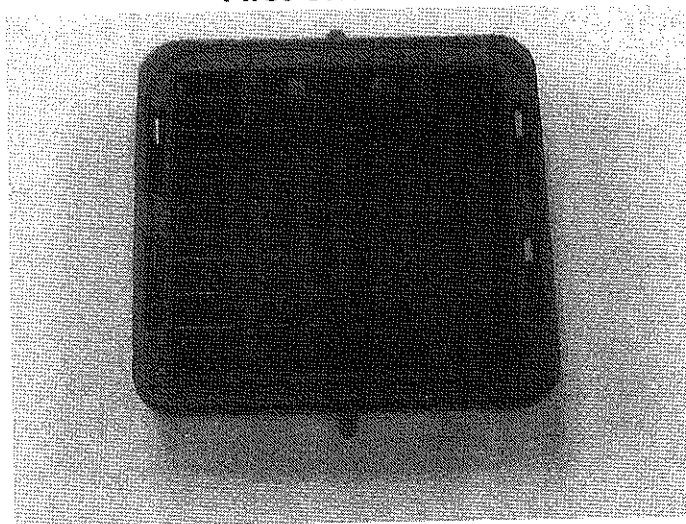
<u>Claim 1 of '484 Patent</u>	
<u>Claim Language</u>	<u>Accused Device</u>
A heat sink dissipater, comprising:	The accused device is a heat sink dissipater.
a retaining device having a pair of positioning columns formed on first two opposite sides,	The accused device includes a retaining device "A" with a pair of positioning columns "B" formed on two opposite sides of the retaining device "A".
a pair of retaining edges formed on second two opposite sides, and	The accused device includes a pair of retaining edges "C" formed on two opposite sides of the retaining device "A".

a plurality of resilient legs extending inwards from said first or second two opposite sides,	A plurality of resilient legs "D" extend inward from two opposite sides.
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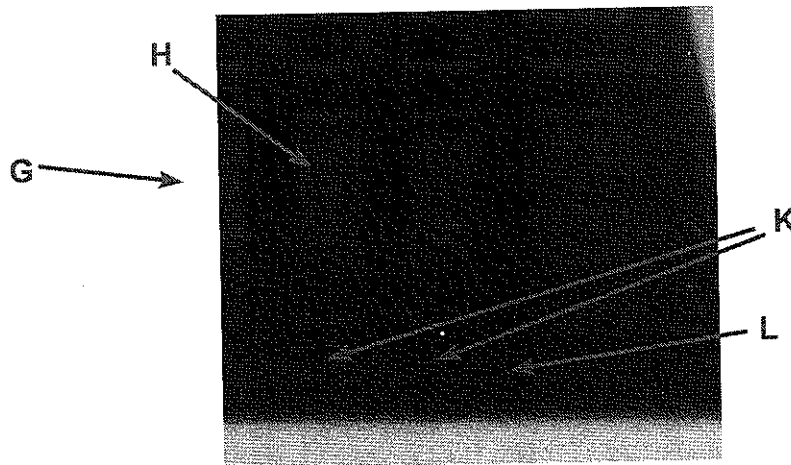
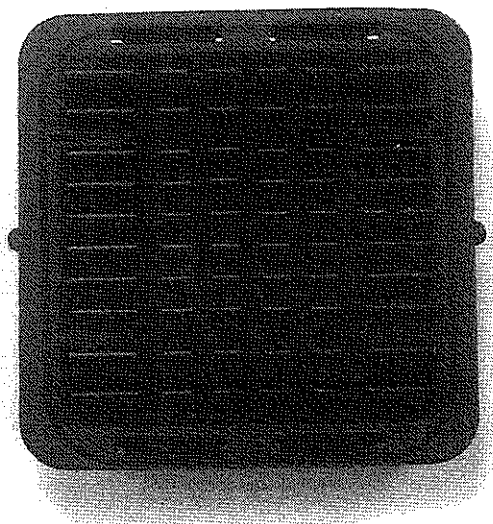
said retaining edges each being formed with a barb and said resilient legs each having a bent;	Each retaining edge "C" of the retaining device "A" has a barb "E", and each resilient leg "D" of the retaining device "A" has a bent "F".
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First Orientation



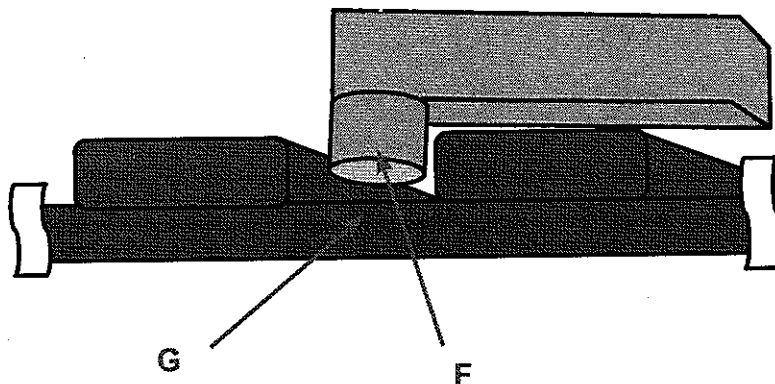
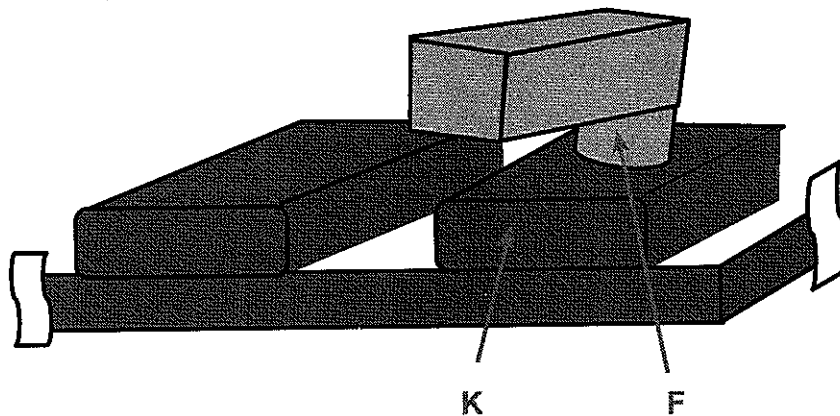
Second Orientation



<u>Claim Language</u>	<u>Accused Device</u>
a heat dissipater having a plurality of fins formed on a top surface and a plurality of a gaps between said fins,	The accused device includes a heat dissipater "G" with a plurality of fins "H" and gaps "J" between those fins "H".

said resilient legs failing into said gaps when said retaining device is positioned on said heat dissipater in a first orientation or a second orientation orthogonal to said first orientation; and	The resilient legs "D" of the accused device fit within the gaps "J" in both of a First Orientation and a Second Orientation, the Second Orientation being orthogonal to the First Orientation.
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a plurality of pads formed between fins on said top surface of said heat dissipater;	The heat dissipater "G" includes a plurality of pads "K" formed between the fins "H" of the top surface "L" of the heat dissipater "G".
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<u>Claim Language</u>	<u>Accused Device</u>
wherein the bent of each resilient leg is placed on a pad when said retaining device is positioned on said heat dissipater in said first orientation, and	In a first orientation, the bent "F" of the resilient leg is placed on a pad "K".

each resilient leg is placed directly on said top surface when said retaining device is positioned on said heat dissipater in said second orientation.	In a second orientation, the bent "F" of the resilient leg is placed directly on the surface of the heat dissipater "G".
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