506341408 11/06/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

rsion v1.1 EPAS ID: PAT6388161

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HIDETAKA SATO	09/15/2020
TOMOYASU OSAKI	09/15/2020
KEIJI NAGASAKA	09/15/2020
RYOTA KOJIMA	09/15/2020

RECEIVING PARTY DATA

Name:	MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD.
Street Address: 16-5, KONAN 2-CHOME, MINATO-KU	
City:	TOKYO
State/Country:	JAPAN
Postal Code:	108-8215

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	17053150	

CORRESPONDENCE DATA

Fax Number: (703)205-8050

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 7032058000

Email: mailroom@bskb.com, Tuyet.A.Nguyen@bskb.com
Correspondent Name: BIRCH, STEWART, KOLASCH & BIRCH, LLP
Address Line 1: 8110 GATEHOUSE ROAD, SUITE 100E

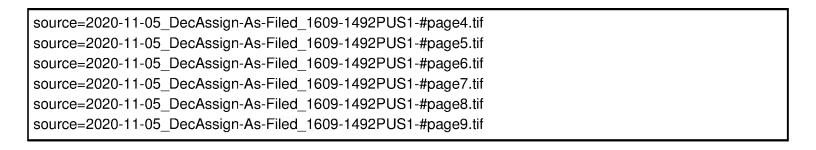
Address Line 4: FALLS CHURCH, VIRGINIA 22042

ATTORNEY DOCKET NUMBER:	1609-1492PUS1
NAME OF SUBMITTER:	TUYET ANH NGUYEN
SIGNATURE:	/TUYET ANH NGUYEN/
DATE SIGNED:	11/05/2020

Total Attachments: 9

source=2020-11-05_DecAssign-As-Filed_1609-1492PUS1-#page1.tif source=2020-11-05_DecAssign-As-Filed_1609-1492PUS1-#page2.tif source=2020-11-05_DecAssign-As-Filed_1609-1492PUS1-#page3.tif

PATENT 506341408 REEL: 054292 FRAME: 0681



PATENT REEL: 054292 FRAME: 0682

Attorney Docket No.: 1609-1492PUS1

BIRCH, STEWART, KOLASCH & BIRCH, LLP

P.O. Box 747 · Falls Church, Virginia 22040-0747

Telephone: (703) 205-8000 " Facsimile: (703) 205-8050 " Email: mailroom@bskb.com

DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

Title of Invention □

VEHICLE-MOUNTED AIR CONDITIONER CONTROL DEVICE, AND VEHICLE

As a below named inventor (hereinafter designated as the undersigned), I hereby declare that: Application not This declaration is directed to the application attached hereto. If the application is not attached hereto, the Attached application is as identified by the attorney docket number as set forth above and/or the following: Enter Appla. No. 🔅 United States Application Number or PCT International Applu, No. PCT/JP2019/016827 Enter Elling Date ⇔ filed on April 19, 2019 The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1,56, WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified. WHEREAS, MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD. Insert Name of Assignee Insert Address 🖰 of 16-5, Konan 2-chome, Minato-ku, Tokyo 108-8215 Japan, of Assignee its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and Check Box if

Appropriate

in any foreign countries.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries; and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or terms for which the same may be granted.

Attorney Docket No.: 1609-1492PUS1

The undersigned agrees to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agrees to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agrees to perform all affirmative acts which may be necessary to obtain a grant of (a) valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorizes and requests the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patent(s) resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has the full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1801 by fine or imprisonment of not more than five (5) years, or both.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

LEGAL NAME OF INVENTOR

Inventor's Name 5 Inventor:	Hidetaka SATO	Date: September 15, 2020
Inventor's Signature Signature:	Midetaha Sato	
An application data sheet (P)	O/SB/14 or equivalent), including naming the entire inventi	ve entity, must accompany this form.
Use a separate form for each	inventor; or check the box below and complete the attached p	age(s) to list additional inventors.
Additional inventors are	being named on the <u>I</u> supplemental sheet(s) attached hereto.	

Attorney Docket No.: 1609-1492PUS1

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ==	Inventor:	Tomoyasu OSAKI	Date:
Inventor's Signature	Signature:		
	LEGAL NA	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name =	Inventor:	Keiji NAGASAKA	Date:
Inventor's Signature	Signature:		
	LEGAL NA	AME OF JOINT INVENTOR, IF ANY	·
Inventor's Name	⇒{nventor:	Ryota KOJIMA *	Date:
Inventor's Signature	⇔Signature:		
	LEGAL N.	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signature	⇔Signature:		
	LEGAL N.	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signature	⇔Signature:		
	LEGAL N.	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signature	⇔Signature:		
	LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signature	⇔Signature:		
	LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signature	⇔Signature:		

PATENT BSKB-DECASSIGN\(09-12)

REEL: 054292 FRAME: 0685

Attorney Docket No.: 1609-1492PUS1

BIRCH, STEWART, KOLASCH & BIRCH, LLP

P.O. Box 747 • Falls Church, Virginia 22040-0747 Telephone: (703) 205-8000 * Facsimile: (703) 205-8050 * Email: mailroom@bskb.com

DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

Title of Invention □

VEHICLE-MOUNTED AIR CONDITIONER CONTROL DEVICE, AND VEHICLE

As a below named inventor (hereinafter designated as the undersigned), I hereby declare that: This declaration is directed to the application attached hereto. If the application is not attached hereto, the Application not Attached application is as identified by the attorney docket number as set forth above and/or the following: Enter Apple. No. United States Application Number or PCT International Apple. No. PCT/JP2019/016827 The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims. I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56. WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified. WHEREAS, MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD. Insert Name of Assignee Insert Address 🗢 of 16-5, Konan 2-chome, Minato-ku, Tokyo 108-8215 Japan, of Assignce its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and Check Box if in any foreign countries. Appropriate NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries; and to

any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or

terms for which the same may be granted.

Attorney Docket No.: 1609-1492PUS1

The undersigned agrees to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agrees to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agrees to perform all affirmative acts which may be necessary to obtain a grant of (a) valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorizes and requests the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patent(s) resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has the full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

LEGAL NAME OF INVENTOR

Inventor's Name	⇔	Inventor:	Hidetaka SATO	Date:
Inventor's Signatur	9 ⇔	Signature:		
An application Use a separate	n da e fo	ata sheet (PT rm for each i	O/SB/14 or equivalent), including naming the entire inventiv nventor; or check the box below and complete the attached pa	e entity, must accompany this form. ge(s) to list additional inventors.
Additiona	l in	wentors are l	peing named on the 1 supplemental sheet(s) attached hereto.	

PATENT BSKB-DECASSIGN\(09-12)

REEL: 054292 FRAME: 0687

Attorney Docket No.: 1609-1492PUS1

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

	LEGAL NA	ME OF JOINT INVENTOR, IF ANY	
inventot's Name 🕓	Inventor:	Tomoyasu OSAKI	Date: September 15, 2020
inventor's Signature ⇒	Signature:	Term In	
	LEGAL NA	AME OP JOINT INVENTOR, IF ANY	
Inventor's Name 💛	Inventor:	Keiji NAGASAKA	Date:
inventor's Signature ⇔	Signature:		
	LEGAL NA	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	¹³Inventor;	Ryota KOJIMA	Date:
Inventor's Signature	⇔Signature:		es a sus amontas a compresenta esta de la compresenta de la compresenta de la compresenta de la compresenta de
	LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	ಿlnventor:		Date:
Inventor's Signature	⇔Signature;		
	LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:	· · · · · · · · · · · · · · · · · · ·	Date:
Inventor's Signature	⇔Signature:		
	LEGAL N	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signature	⇔Signature:		
	LEGALN	AME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔lnventor:	The state of the s	Date:
Inventor's Signature	⇒Signature:	No. of the Control of	
	LEGALN	IAME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:	:	Date:
Inventor's Signature	⇔Signature:	12 June 12 July 17 July 18 Jul	en ann an ann an Ann Ann An

Attorney Docket No.: 1609-1492PUS1

BIRCH, STEWART, KOLASCH & BIRCH, LLP

P.O. Box 747 • Falls Church, Virginia 22040-0747

Telephone: (703) 205-8000 · Facsimile: (703) 205-8050 · Email: mailroom@bskb.com

DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

Title of Invention ⇒

VEHICLE-MOUNTED AIR CONDITIONER CONTROL DEVICE, AND VEHICLE As a below named inventor (hereinafter designated as the undersigned), I hereby declare that: This declaration is directed to the application attached hereto. If the application is not attached hereto, the Application not Attached application is as identified by the attorney docket number as set forth above and/or the following: [⇒] United States Application Number or PCT International Appln. No. PCT/JP2019/016827 Enter Appln. No. Enter Filing Date ⇒ filed on April 19, 2019 The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims. I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56. WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified. Insert Name 🦈 WHEREAS, MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD. of Assignee Insert Address ⇒ of 16-5, Konan 2-chome, Minato-ku, Tokyo 108-8215 Japan, of Assignee its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and Check Box if in any foreign countries. Appropriate NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories,

> dependencies and possessions, and if the box above is designated, in any and all foreign countries; and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or

terms for which the same may be granted.

PATENT BSKB-DECASSIGN\(09-12)

REEL: 054292 FRAME: 0689

Attorney Docket No.: 1609-1492PUS1

The undersigned agrees to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agrees to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agrees to perform all affirmative acts which may be necessary to obtain a grant of (a) valid United States of America patent(s) or a grant of (a) valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorizes and requests the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patent(s) resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has the full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

LEGAL NAME OF INVENTOR

Inventor's Name	ಧ	Inventor:	Hidetaka SATO	Date:
Inventor's Signature	4>	Signature:		
Use a separate	foı	m for each i	D/SB/14 or equivalent), including naming the entire inventive inventor; or check the box below and complete the attached payeing named on the 1 supplemental sheet(s) attached hereto.	entity, must accompany this form. ge(s) to list additional inventors.

REEL: 054292 FRAME: 0690

PATENT BSKB-DECASSIGN\(09-12)

Attorney Docket No.: 1609-1492PUS1

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

	LEGAL NAMI	OF JOINT INVENTOR, IF ANY	
inventor's Name	Inventor: Tor	noyasu OSAKI	Date:
Inventor's Signature ➪	Signature:		
	LEGAL NAM	E OF JOINT INVENTOR, IF ANY	
Inventor's Name	· · · · · · · · · · · · · · · · · · ·	1, 1, 4, 1, 7, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Date: September 15, 2020
inventor's Signature ⇔	Signature: 1	oiji hogasaka	
	LEGAL NAM	E OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇒Inventor: <u>Ry</u>	ota KOJIMA	Date: September 15, 2020
Inventor's Signature	⇔Signature: 🕡	Degenta Kajirura	· · · · · · · · · · · · · · · · · · ·
	LEGAL NAM	IE OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signature	⇒Signature:		
	LEGAL NAN	IE OF JOINT INVENTOR, IF ANY	
Inventar's Name	⇒inventor:		Date:
Inventor's Signature	⇔Signature:		
	LEGAL NAI	ME OF JOHN'S INVENTOR, IF ANY	
Inventor's Name	⇔Inventar:		Date:
Inventor's Signature	⇔Signature;		
	LEGAL NAI	ME OF JOINT INVENTOR, IF ANY	
Inventor's Name	⇔Inventor:		Date:
Inventor's Signatura	⇔Signature:		-
	LEGAL NA	ME OF JOINT INVENTOR, IF ANY	
inventor's Name	≓Inventor:		Date:
Invantar's Signature	98tomphyson		

BSKB-DECASSIGN\(09.12)

PATENT REEL: 054292 FRAME: 0691

RECORDED: 11/06/2020