505189825 11/14/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5236594

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| TATSUYA OGUCHI | 10/30/2018 |
| SUMIO WATANABE | 10/30/2018 |
| YUKIHIRO MORI | 10/30/2018 |

RECEIVING PARTY DATA

| Name: | FUJITSU COMPONENT LIMITED |
|-----------------|--|
| Street Address: | 12-4, HIGASHI-SHINAGAWA 4-CHOME, SHINAGAWA-KU, |
| City: | TOKYO |
| State/Country: | JAPAN |
| Postal Code: | 140-0002 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16190366 |

CORRESPONDENCE DATA

Fax Number: (202)797-8188

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: 202 797 4181

Email: IPUSA@IPUSAPAT.COM, ips@itohpat.co.jp

Correspondent Name: IPUSA, P.L.L.C

Address Line 1: 1054 31ST STREET, N.W.

Address Line 2: SUITE 400

Address Line 4: WASHINGTON, D.C. 20007

| ATTORNEY DOCKET NUMBER: | 18FC-019 | |
|--|-------------------|--|
| NAME OF SUBMITTER: | KYOKO MACKILLOP | |
| SIGNATURE: | /Kyoko MacKillop/ | |
| DATE SIGNED: | 11/14/2018 | |
| This document serves as an Oath/Declaration (37 CFR 1.63). | | |

Total Attachments: 7

source=18FC-019CombinedDeclaration_Assignment#page1.tif source=18FC-019CombinedDeclaration_Assignment#page2.tif

PATENT REEL: 047496 FRAME: 0643

505189825

| source=18FC-019CombinedDeclaration_Assignment#page3.tif |
|---|
| source=18FC-019CombinedDeclaration_Assignment#page4.tif |
| source=18FC-019CombinedDeclaration_Assignment#page5.tif |
| source=18FC-019CombinedDeclaration_Assignment#page6.tif |
| source=18FC-019CombinedDeclaration_Assignment#page7.tif |
| |

PATENT REEL: 047496 FRAME: 0644

VERIFICATION OF TRANSLATION

I, Tadashige Itoh, a Patent Attorney of Tokyo, Japan having my office at 16th Floor, Marunouchi MY PLAZA (Meiji Yasuda Seimei Building), 1-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-0005 Japan do solemnly and sincerely declare that the English-language translation(s) in the attached combined declaration and assignment(s) is correct, true and faithful translation(s) to the best of my knowledge and belief.

Dated November 13, 2018

Tadashige Itoh

Patent Attorney
ITOH International Patent Office
16th Floor, Marunouchi MY
PLAZA (Meiji Yasuda Seimei
Building), 1-1, Marunouchi
2-chome, Chiyoda-ku, Tokyo
100-0005 Japan

PATENT REEL: 047496 FRAME: 0645

COMBINED DECLARATION AND ASSIGNMENT

特許出願宣言書及び譲渡証

| 本譲渡証は、 | (1) | (2 | 2) | <u>、及び</u> |
|---|-------|---------|------------|-----------------|
| (3) | に居所を | すする、 | | |
| <u>(I)</u> | (2) | | <u>、及び</u> | |
| (3) | (以下、 | 譲渡人) | によるも | のであり、 |
| 譲渡人は、即 | Fに出願さ | h.t÷ ∇1 | ナ 木譲浦 | また間時に |
| 署名されるメ | | | | |
| 以下の発明の | | | | - HU450 C 1 01C |
| J., ., ., ., ., ., ., ., ., ., ., ., ., . | A - | ,,.,,, | | |
| | | | | |
| (出版 | 番号: | | | |
| 出版 | 日: | | | 1 |
| HIM | , pr | | / | ` ` |
| | | | | |
| 一方、 | | こ営業所を | を有する、 | |
| | (以下、 | 譲受人) | は、上記 | 発明及び米 |
| 国特許証のた | めの上記 | 出願、及び | バそこから | 得られる全 |
| ての米国特許 | 証に関する | る全てのホ | 奮利、権原 | 、及び利益 |
| の取得を希望 | | | | |

そのためここに、受領を確認した5ドル及び有効にし て価値ある他の対価と引き換えに、譲渡人は、譲受人 ならびにその承継人、法定代理人及び(更なる)譲受 人に対して、上記発明及び特許証のための上記出願、 及び上記特許出願の全ての直接的及び間接的な分割出 願、継続出願、継続審査及び一部継続出願、それらに 基づく合衆国及びにあらゆる全ての外国において付与 される全ての特許証、当該特許証の再発行、再審査及 び延長についての全ての権利、権原及び利益と、工業 所有権保護に関する国際条約上の全ての権利とを、本 譲渡が実施されなかった場合に譲渡人が保持・享受し たであろう場合と完全に同様に、特許証の存続期間及 び/又は延長期間が満了するまでの間、譲受人自らの 使用及び利益のために、またその承継人、法定代理人 及び(更なる)譲受人の使用及び利益のために譲受人 により保持・享受されるように、売却、譲渡、移転、 設定しており、本書面によりこれを証する。

更に、同一の対価に対し、本書面の署名及び交付にあたり、譲渡人は、法律に基づき譲受人に対して発生する及び/又は既に譲受人に移転された全ての権利、権原及び利益を除き、譲渡人は上記発明及び特許証のための上記出願についての全ての権利、権原及び利益の

THIS ASSIGNMENT, by (1) Tatsuya Oguchi, (2) Sumio Watanabe, and (3) Yukihiro Mori (hereinafter referred to as "Assignors"), residing at (1) Shinagawa, Japan, (2) Shinagawa, Japan, and (3) Shinagawa, Japan, respectively;

WHEREAS, Assignors have made an invention entitled: PRINTING APPARATUS,

| (Application | No, |
|--------------|-----|
| filed |) |

set forth in a patent application for Letters Patent of the United States, either previously filed or executed concurrently herewith; and

WHEREAS, FUJITSU COMPONENT LIMITED (hereinafter referred to as "Assignee"), having offices at 12-4, Higashi-shinagawa 4-chome, Shinagawa-ku, Tokyo, 140-0002, Japan, is desirous of acquiring the entire right, title and interest in and to said invention and said application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of Five Dollars (\$5.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the abovementioned invention and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations, continued prosecutions, and continuationsin-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefor and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns. to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and Assignment not been made;

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles, and or interests that have arisen to Assignee under the law

Page 1 of 3

唯一の法的所有者であり、それは妨げられるものではなく、更に、譲渡人は当該発明及び特許証のための出願を本譲渡証に記載された方法により売却及び移転することができる有効にして完全な権利及び法的な権威を有することを、譲受人及びにその承継人、法定代理人及び(更なる)譲受人に対して表明し、保証する。

更に、同一の対価に対し、譲渡人は、譲受人の代理人 又はその承継人、法定代理人及び(更なる) 譲受人の 代理人が求めるときは、譲受人ならびにその承継人、 法定代理人及び (更なる) 譲受人に対して費用を請求 することなく、上記発明に関する全ての特許証及び特 許証のための出願の獲得、維持、行使及び防衛のため に必要な全ての書類に署名し、全ての法的な誓約を し、全ての必要な行為を実行すること、限定されない 一例としてインターフェアレンス手続きを含む上記発 明、又は特許証のための上記特許出願に関連する全て の手続、又は上記発明についての全ての国の全ての特 許証又は上記発明に関する特許証のための出願に関す る全ての手続きは合法で望ましいこと、特許証のため の全ての出願の全ての分割出願、継続出願、継続審査 又は一部継続出願、又は全ての特許証の全ての再発行 出願、再審査又は延長は合法で望ましいことを、譲渡 人は譲受人ならびにその承継人、法定代理人及び(更 なる) 譲受人に対して約束及び同意する。

譲渡人はここに、譲受人並びにその承継人、法定代理 人及び(更なる)譲受人による単独での使用及び利益 のため、上記発明及び上記発行される特許証の譲受人 として上記米国特許証を譲受人宛に発行することを、 米国特許商標庁長官に要請する。

譲渡人は本書類を米国特許商標庁へ登録するための規則に従うために必要な又は望ましい更なる特定のための情報を本譲渡証に挿入する権限を以下のものに与える:カスタマーナンバー77464に関連づけられている全ての有資格者。

譲渡人は、本発明がなされた時点において当該発明を 譲受人へ譲渡する義務があったことを認める。

私/我々は以上の証として以下の適切な欄に署名を行っ

or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to said invention and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said invention, without charge to Assignee, its successors, legal representatives, and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns shall advise; that any proceeding in connection with said invention, or said patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said invention in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation, continued prosecutions, or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable:

AND Assignors hereby request that the Director of the United States Patent and Trademark Office issue said Letters Patent of the United States to Assignee, as Assignee of said invention and the said Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns;

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document: All practitioners associated with the Customer Number 77464.

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

IN TESTIMONY WHEREOF, I/WE have set our hand(s) in the appropriate space below.

| 宣言書 | <u>Declaration</u> | |
|---|---|--|
| 下記発明者である私は、以下を宣言します。 | As a below named inventor, I hereby declare that: | |
| 本宣言は、以下を対象とする: | This declaration is directed to: | |
| □ 添付の出願、あるいは□ 米国出願番号又はPCT国際出願番号 として、の日に提出された出願 | The attached application, or United States application or PCT international application number ii. filed on | |
| 上記の出願は私自身、あるいは私が権限を授与したも | The above-identified application was made or authorized to | |
| 工品の山原は松日ダ、めるいは松が権限を投与したものによって行われたものです。 | be made by me. | |
| 私は本出願に記載の発明に関する原初の発明者、ある いは原初の共同発明者です。 | I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. | |
| 本宣誓書において故意に虚偽の申し立てを行った場合は 18U.S.C.1001 により、罰金あるいは最高五(5)年の禁固刑、あるいはその両方による罰則の対象となることを承知しています。 | I hereby acknowledge 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. | |
| 注:本書面に必要な情報やサインは英語右欄のみに記力 日本語左欄は英語原本理解のための参考情報。 Date (日付): | signature for this form in the English column only. The Japanese column is reference information to aid understanding of the English. | |
| Legal Name of Inventor(発明者氏名): | Totavia Oscali | |
| Signature(発明者署名): | Oct, 30, 2018 Tatsuya Oguchi Tatsuya (Yguchi | |
| Date (日付): | P-04 | |
| Legal Name of Inventor(発明者氏名): Signature(発明者署名): | Sumio Watanabe | |
| Date (日付): | Oct, 30, 2018 | |
| Legal Name of Inventor(発明者氏名): | Yukihiro Mori Yukihiro Mori Mori | |
| Signature(発明者署名): | _ Jupinero moro | |

COMBINED DECLARATION AND ASSIGNMENT

特許出願宣言書及び譲渡証

| 本譲渡証は、(1) | | | 、及び |
|----------------|--------|-------|---|
| (3) に居所 | を有する、 | | |
| (1) (2) | | 及び | |
| (3) (以下、 | 、譲渡人)に | こよるもの | であり、 |
| | | | |
| 譲渡人は、既に出願さ | れた、又は | 、本譲渡証 | と同時に |
| 署名される米国特許証 | のための特 | 許出願に記 | 載された |
| 以下の発明の名称を有 | する発明を | なし: | |
| | | | |
| | | ., | |
| /Illustrat D | | | |
| (出願番号: 出願日: | ··· | , | |
| 出願日: | |) 、 | |
| | | | |
| | | | |
| 一方、 | に営業所を | 有する、・ | |
| (以下 | 、譲受人) | は、上記発 | 明及び米 |
| 国特許証のための上記 | 出願、及び | そこから得 | られる全 |
| ての米国特許証に関す | | | |
| の取得を希望し、 | | | . , , , , , , , , , , , , , , , , , , , |

そのためここに、受領を確認した5ドル及び有効にし て価値ある他の対価と引き換えに、譲渡人は、譲受人 ならびにその承継人、法定代理人及び(更なる)譲受 人に対して、上記発明及び特許証のための上記出願、 及び上記特許出願の全ての直接的及び間接的な分割出 願、継続出願、継続審査及び一部継続出願、それらに 基づく合衆国及びにあらゆる全ての外国において付与 される全ての特許証、当該特許証の再発行、再審査及 び延長についての全ての権利、権原及び利益と、工業 所有権保護に関する国際条約上の全ての権利とを、本 譲渡が実施されなかった場合に譲渡人が保持・享受し たであろう場合と完全に同様に、特許証の存続期間及 び/又は延長期間が満了するまでの間、譲受人自らの 使用及び利益のために、またその承継人、法定代理人 及び(更なる)譲受人の使用及び利益のために譲受人 により保持・享受されるように、売却、譲渡、移転、 設定しており、本書面によりこれを証する。

更に、同一の対価に対し、本書面の署名及び交付にあたり、譲渡人は、法律に基づき譲受人に対して発生する及び/又は既に譲受人に移転された全ての権利、権原及び利益を除き、譲渡人は上記発明及び特許証のための上記出願についての全ての権利、権原及び利益の

THIS ASSIGNMENT, by (1) Tatsuya Oguchi, (2) Sumio Watanabe, and (3) Yukihiro Mori (hereinafter referred to as "Assignors"), residing at (1) Shinagawa, Japan, (2) Shinagawa, Japan, and (3) Shinagawa, Japan, respectively;

WHEREAS, Assignors have made an invention entitled: PRINTING APPARATUS.

| (Application No | : |
|-----------------|---|
| filed |) |

set forth in a patent application for Letters Patent of the United States, either previously filed or executed concurrently herewith; and

WHEREAS, FUJITSU COMPONENT LIMITED (hereinafter referred to as "Assignee"), having offices at 12-4, Higashi-shinagawa 4-chome, Shinagawa-ku, Tokyo, 140-0002, Japan, is desirous of acquiring the entire right, title and interest in and to said invention and said application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of Five Dollars (\$5.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the abovementioned invention and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations, continued prosecutions, and continuationsin-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefor and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and Assignment not been made;

AND for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles, and or interests that have arisen to Assignee under the law

唯一の法的所有者であり、それは妨げられるものではなく、更に、譲渡人は当該発明及び特許証のための出願を本譲渡証に記載された方法により売却及び移転することができる有効にして完全な権利及び法的な権威を有することを、譲受人及びにその承継人、法定代理人及び(更なる)譲受人に対して表明し、保証する。

更に、同一の対価に対し、譲渡人は、譲受人の代理人 又はその承継人、法定代理人及び(更なる) 譲受人の 代理人が求めるときは、譲受人ならびにその承継人、 法定代理人及び(更なる) 譲受人に対して費用を請求 することなく、上記発明に関する全ての特許証及び特 許証のための出願の獲得、維持、行使及び防衛のため に必要な全ての書類に署名し、全ての法的な誓約を し、全ての必要な行為を実行すること、限定されない 一例としてインターフェアレンス手続きを含む上記発 明、又は特許証のための上記特許出願に関連する全て の手続、又は上記発明についての全ての国の全ての特 許証又は上記発明に関する特許証のための出願に関す る全ての手続きは合法で望ましいこと、特許証のため の全ての出願の全ての分割出願、継続出願、継続審査 又は一部継続出願、又は全ての特許証の全ての再発行 出願、再審査又は延長は合法で望ましいことを、譲渡 人は譲受人ならびにその承継人、法定代理人及び(更 なる) 譲受人に対して約束及び同意する。

譲渡人はここに、譲受人並びにその承継人、法定代理 人及び(更なる)譲受人による単独での使用及び利益 のため、上記発明及び上記発行される特許証の譲受人 として上記米国特許証を譲受人宛に発行することを、 米国特許商標庁長官に要請する。

譲渡人は本書類を米国特許商標庁へ登録するための規則に従うために必要な又は望ましい更なる特定のための情報を本譲渡証に挿入する権限を以下のものに与える:カスタマーナンバー77464に関連づけられている全ての有資格者。

譲渡人は、本発明がなされた時点において当該発明を 譲受人へ譲渡する義務があったことを認める。

私/我々は以上の証として以下の適切な欄に署名を行 う。 or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title and interest in and to said invention and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said invention, without charge to Assignee, its successors, legal representatives, and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns shall advise; that any proceeding in connection with said invention, or said patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said invention in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation, continued prosecutions, or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable:

AND Assignors hereby request that the Director of the United States Patent and Trademark Office issue said Letters Patent of the United States to Assignee, as Assignee of said invention and the said Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns;

AND Assignors hereby grant the following individuals the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document: All practitioners associated with the Customer Number 77464.

AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

IN TESTIMONY WHEREOF, I/WE have set our hand(s) in the appropriate space below.

| 宣言書 | <u>Declaration</u> |
|---|--|
| 下記発明者である私は、以下を宣言します。 | As a below named inventor, I hereby declare that: |
| 本宣言は、以下を対象とする: | This declaration is directed to: |
| □ 添付の出願、あるいは □ 米国出願番号又は PCT 国際出願番号 _ として、 | The attached application, or United States application or PCT international application number |
| の日に提出された出願 | Management of the second of th |
| 上記の出願は私自身、あるいは私が権限を授与したも のによって行われたものです。 | The above-identified application was made or authorized to be made by me. |
| 私は本出願に記載の発明に関する原初の発明者、ある いは原初の共同発明者です。 | I believe that I am the original inventor or an original joint inventor of a claimed invention in the application, |
| 本宣誓書において故意に虚偽の申し立てを行った場合は 18U.S.C.1001 により、罰金あるいは最高五(5)年の禁固刑、あるいはその両方による罰則の対象となることを承知しています。 | I hereby acknowledge 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. |
| 注:本書面に必要な情報やサインは英語右欄のみに記入日本語左欄は英語原本理解のための参考情報。 | Note: Insert the necessary information and signature for this form in the English column only. The Japanese column is reference information to aid understanding of the English. |
| Date (日付): | |
| Legal Name of Inventor(発明者氏名): Signature(発明者署名): | Tatsuya Oguchi |
| Date (日付): Legal Name of Inventor(発明者氏名): Signature(発明者署名): | Sumio Watanabe Sumio Watanabe |
| Date (日付): | |
| Legal Name of Inventor(発明者氏名): | Yukihiro Mori |
| Signature(発明者署名): | |

Page 3 of 3