PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4444989

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

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| YOON CHEOL KIM | 04/10/2017 |
| SEONG JIN KIM | 04/10/2017 |
| JAI MIN HAN | 04/10/2017 |
| JOO BEOM KIM | 04/11/2017 |
| SOO HYUK LEE | 04/11/2017 |
| JAE YOUNG LEE | 04/14/2017 |
| BYUNG SOO YOO | 04/11/2017 |
| TAE HO JUNG | 04/10/2017 |
| MIN GYUN CHUNG | 04/11/2017 |
| BYUNG CHAN LEE | 04/10/2017 |
| YOON JOO RHEE | 04/10/2017 |
| SANG DO KWAK | 04/10/2017 |
| GWANG YUN KIM | 04/10/2017 |
| TAEG JO KIM | 04/11/2017 |
| CHEOL KI KIM | 04/10/2017 |
| O SUNG KWON | 04/11/2017 |
| KYOUNG DON YI | 04/17/2017 |
| JAE SEOK LEE | 04/17/2017 |

RECEIVING PARTY DATA

| Name: | HYUNDAI MOTOR COMPANY |
|-----------------|------------------------------|
| Street Address: | 12 HEOLLEUNG-RO, SEOCHO-GU |
| City: | SEOUL |
| State/Country: | KOREA, REPUBLIC OF |
| Name: | KIA MOTORS CORPORATION |
| Street Address: | 12 HEOLLEUNG-RO, SEOCHO-GU |
| City: | SEOUL |
| State/Country: | KOREA, REPUBLIC OF |
| Name: | SEOHAN INDUSTRY CO., LTD. |
| Street Address: | 463, INSAN-RI, DEOKSAN-MYEON |
| City: | JINCHEON-GUN |
| | |

PATENT REEL: 042692 FRAME: 0113

504398292

| State/Country: | KOREA, REPUBLIC OF |
|----------------|--------------------|
|----------------|--------------------|

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15614186 |

CORRESPONDENCE DATA

Fax Number: (415)442-1001

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: 4154421000

Email: nina.kong@morganlewis.com

Correspondent Name: MORGAN, LEWIS & BOCKIUS LLP (SF)

Address Line 1: ONE MARKET, SPEAR STREET TOWER, SUITE 28

Address Line 4: SAN FRANCISCO, CALIFORNIA 94105

| ATTORNEY DOCKET NUMBER: | 068949-5939-US |
|-------------------------|----------------|
| NAME OF SUBMITTER: | NINA KONG |
| SIGNATURE: | /Nina Kong/ |
| DATE SIGNED: | 06/05/2017 |

Total Attachments: 21

source=068949 5939 assgn 001#page1.tif source=068949 5939 assgn 001#page2.tif source=068949 5939 assgn 001#page3.tif source=068949_5939_assgn_001#page4.tif source=068949 5939 assgn 001#page5.tif source=068949_5939_assgn_001#page6.tif source=068949 5939 assgn 001#page7.tif source=068949 5939 assgn 001#page8.tif source=068949_5939_assgn_001#page9.tif source=068949_5939_assgn_001#page10.tif source=068949 5939 assgn 001#page11.tif source=068949 5939 assgn 001#page12.tif source=068949_5939_assgn_001#page13.tif source=068949_5939_assgn_001#page14.tif source=068949 5939 assgn 001#page15.tif source=068949 5939 assgn 001#page16.tif source=068949_5939_assgn_001#page17.tif source=068949 5939 assgn 001#page18.tif source=068949 5939 assgn 001#page19.tif source=068949 5939 assgn 001#page20.tif source=068949_5939_assgn_001#page21.tif

> PATENT REEL: 042692 FRAME: 0114

ASSIGNMENT (Joint Inventors)

WHEREAS, the undersigned,

- (1) KIM, Yoon Cheol, resident of 714-1002, Hyundai Sungwoo Woobang Apt., Cheoncheon-dong, Jangan-gu, Suwon-s i, Gyeonggi-do 16329, Republic of Korea,
- (2) KIM, Seong Jin, resident of 102-204, Bundang Doosan We've Apt., Geumgok-dong, Bundang-gu, Seongnam-si, Gy eonggi-do 13613, Republic of Korea,
- (3) HAN, Jai Min, resident of 118-302, Suwon SK Skyview Apt. 600-2, Jeongja 1-dong, Jangan-gu, Suwon-si, Gyeongg i-do 16336, Republic of Korea,
- (4) KIM, Joo Beom, resident of 69-10, Beopsang-dong, Andong-si, Gyeongsangbuk-do 36689, Republic of Korea,
- (5) LEE, Soo Hyuk, resident of 248-2602, RICENZ, 22, Jamsil-dong, Songpa-gu, Seoul 05502, Republic of Korea,
- (6) LEE, Jae Young, resident of 410-202, Dongil Highville, Sinbong Maeul, Sinbong-dong, Suji-gu, Yongin-si, Gyeong gi-do 16808, Republic of Korea,
- (7) YOO, Byung Soo, resident of 213-601, Songdo Castle & Haemoro, 161-3, Songdo-dong, Yeonsu-gu, Incheon 21982, Republic of Korea,
- (8) JUNG, Tae Ho, resident of, 110-104, Samsung Raemian Apt., Bisan1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 1 3922, Republic of Korea,
- (9) CHUNG, Min Gyun, resident of 311-1503, Sibeomdanji Hanyang Apt., Seohyeon-dong, Bundang-gu, Seongnam-si, Gyeonggi-do 13588, Republic of Korea,
- (10) LEE, Byung Chan, resident of 5202-1703, Gwanggyo Jayeon-n Xi Apt., Iui-dong, Yeongtong-gu, Suwon-si, Gyeon ggi-do 16509, Republic of Korea,
- (11) RHEE, Yoon Joo, resident of (Jeongja-dong, Halla Vivaldi Apt.) 637-502, 28, Manseok-ro 20beon-gil, Jangan-gu, Suwon-si, Gyeonggi-do 16330, Republic Korea,
- (12) KWAK, Sang Do, resident of 105-2104, LD Kolon Apt., Guun-dong, Gwonseon-gu, Suwon-si, Gyeonggi-do 16413, Republic of Korea,
- (13) KIM. Gwang Yun, resident of 103-204, Sunkyung Apt., Sa-dong, Sangnok-gu, Ansan-si, Gyeonggi-do 15621, Republic of Korea,

Page 1 of 21

- (14) KIM, Taeg Jo, resident of (Gaepo-Dong, Gyeongnam Apt.) 7-1102, 110, Eonju-ro, Gangnam-gu, Seoul 06317, Republic of Korea,
- (15) KIM, Cheol Ki, resident of 313-402, Cheongmyeong Maeul 3 Danji Dongshin Apt., Yeongtong 1-dong, Yeongtonggu, Suwon-si, Gyeonggi-do 16707 Republic of Korea.
- (16) KWON, O Sung, resident of 102-1504, Jinsan Maeul Prugio Apt., Pungdeokcheon-dong, Suji-gu, Yongin-si, Gyeo nggi-do 16925, Republic of Korea,
- (17) YI, Kyoung Don, resident of 102-904, 16, Hyowon-ro 308beon-gil, Paldal-gu, Suwon-si, Gyeonggi-do 16491, Republic of Korea, and
- (18) LEE, Jae Seok, resident of 301, 12-6, Seoku-dong, Hwaseong-si, Gyeonggi-do 18450, Republic of Korea

(hereinafter termed "Inventor(s)"), respectively, has/have invented certain new and useful improvements in *BRAKE DISC* and executed therefore an application for Letters Patent of the United States and

| \boxtimes | having an oath or declaration execute | ed on even date herewith. | |
|-------------|---------------------------------------|---------------------------|--|
| | bearing U.S. Patent Application No. | and filed on | |

WHEREAS, (1) HYUNDAI MOTOR COMPANY, a corporation of the Republic of Korea, having a place of business at 12, Heolleung-ro, Seocho-gu, Seoul 137-938, Republic of Korea, (2) KIA MOTORS CORP., a corporation of the Republic of Korea, having a place of business at 12, Heolleung-ro, Seocho-gu, Seoul 137-938, Republic of Korea, and (3) SEOHAN INDUSTRY CO., LTD., a corporation of the Republic of Korea, having a place of business at 95-13, Inseok-ro, Deoksan-myeon, Jincheon-gun, Chungcheongbuk-do 365-842, Republic of Korea (hereinafter termed "Assignees"), are d esirous of acquiring the entire right, title and interest in and to said application and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered jointly or severally by said Inventors (all colle ctively hereinafter termed "said invention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter termed "patents") thereon granted in the United States and foreign countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventors to have been received in full from said Assignee(s):

1. Said Inventor(s) does/do hereby sell, assign, transfer and convey unto said Assignee(s), the entire right, title and interest (a) in and to said application and said invention; (b) in and to all rights to apply for foreign patents on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all applications filed and any and all patents granted on said invention in the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a division, substitution, or continuation

Page 2 of 21

DB1/63677996,1

of any of said applications; and (d) in and to each and every reissue or extensions of any of said patents.

- 2. Said Inventor(s) does/do hereby jointly and severally covenant and agree to cooperate with said Assignee(s) to enable said Assignee(s) to enjoy to the fullest extent the right title and interest herein conveyed in the United States and foreign countries. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee(s) (a) for perfecting in said Assignee(s) the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee(s).
- 3. The terms and covenants of this assignment shall inure to the benefit of said Assignee(s), its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), its/their respective heirs, legal representatives and assigns.
- 4. Said Inventor(s) does/do hereby jointly and severally warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, the said Inventor(s) has/have executed and delivered this instrument to said Assignee(s) as follows:

Page 3 of 21

(1) KIM, Yoon Cheol
Date:

WITNESS my hand and official seal.

Notary Public

| | | | | (2) | KIM, Seong Jin | | | |
|-----------|-------|---------------------|------------------------------|----------------|------------------------------------|--|------------------------------------|--|
| Date: | 2017. | 04. | 10 | | KIM, | , Serna | Jin | |
| | | | | | V | J | | |
| State of | |)) SS. | ٧ | | | | • | |
| County of |) |) 33. | | | | | | |
| | | strument and acknow | Medged to me that he/she exe | cuted the same | in his/her authorized capacity(ies | _, who proved to me on the basis of), and that by his/her signature on ti California that the foregoing paragra | he instrument the person, or the e | |

WITNESS my hand and official seal

Notary Public

| Date: | | |
|---|---|---|
| | 2017.04.10 | HAV, Jai Min |
| | | · · · · · · · · · · · · · · · · · · · |
| State of |) | |
| County of |) 33. | |
| On whose name is s upon behalf of v | ubscribed to the within instrument and acknowledged to me that he/she ex- | . Notary Public, personally appeared, who proved to me on the basis of satisfactory evidence to be the person cented the same in his/her authorized capacity(les), and that by his/her signature on the instrument the person, or the entity of PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. |

HAN, Jai Min

WITNESS my hand and official scal.

Notary Public

(3)

| PA | T | N١ | 7, |
|----|---|----|----|
| | | | |

Attorney Docket No. 068949-5939-US

(4) KIM, Joo Beom

| Date: | 2017.04.11 | KZM, Jos Beam. | |
|-----------|------------|---|---|
| Counts of | before me, | out he she executed the store in his her milimized capacity(ess), and that by his her signature on the institution the person, or the ento her PENALTY OF PERPURY under the laws of the State of California that the foregoing paragraph is true and correct | 3 |
| | | WFFNESS my hand and official scal Natury Politic | |

Page 7 of 21

Notary Public

| | (6) LEE, Jae Young |
|-----------------------|--|
| Date: | 2017. a. 14 LEE, Jae Young |
| State of County of |) iss |
| achinae mam | before ms, Notary Public, personally appeared, who proved to me on the basis of satisfactory evidence to be the person e is subscribed to the widin instrument and acknowledged to me that he'she executed the same in his/her authorized capacity(ies), and that by his/her augmature on the instrument the person or the entity of which the person acted, executed the assurance. I certify under PENALTY OF PERTURY under the laws of the State of California that the foregoing paragraph is true and correct |
| | WITNESS my based and official scal |

Nossey Public

Page 9 of 21

DB1/63677996.1

(7) YOO, Byung Soo

Date:

20/1.04, // You. Byoung Soo

State of 158

Counts of 1

On 158

Notacy Public

Page 10 of 21

DB1/63677996.1

| | | (8) JUNG, Tae Ho |
|---------------------------------------|--|--|
| Date: | | |
| | 2.6/7.04.10 | Jung, Taeho |
| State of |) \$8 | |
| County of |) | |
| On whose name is upon behalf of | s subscribed to the within instrument and acknowledged to me | Notary Public, personally appeared, who proved to me on the basis of satisfactory evidence to be the person that he/she executed the same in his/her authorized capacity(ics), and that by his/her signature on the instrument the person, or the entity and or PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. |
| | | WITNESS my hand and official seal |

Notary Public

| | | (9) CHUNG, Min Gyun | |
|-----------------|---|--|--|
| Date: | 2019.04.11 | Caung. | MIN. GYUN |
| itate of |)) \$5. | | |
| vhose name is s | before me, before me, subscribed to the within instrument and acknowledged to me that he/which the person acted, executed the instrument. I certify under PEI | she executed the same in his/her authorized capacity(ies), and the | hat by his/her signature on the instrument the person, or the entity |
| | | | |

Notary Public

Page 12 of 21

(10) LEE, Byung Chan

| Date: | 2011.04.10 | LEE. Byang Chan |
|--|---|--|
| State of |) ss. | |
| On whose name is su upon behalf of w | when the transfer in the mishin instrument and acknowledged to me that he | Notary Public, personally appeared, who proved to me on the basis of satisfactory evidence to be the person he executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity IALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. |

Notary Public

Page 13 of 21

PATENT

(11) RHEE, Yoon Joo

| Date: | | | |
|-----------|-----------------------------------|---|--|
| | 2017.04.10 RHZE. YOON JOY | > | |
| | | | |
| State of |) SS | • | |
| County of | | | |
| | before me, | | |
| | WITNESS my hand and official seal | | |
| | | | |

Notary Public

Page 14 of 21

Attorney Docket No. 068949-5939-US

PATENT

(12) KWAK, Sang Do

| Date: | 2017. 04.10 KWAK, SANG-DO |
|--------------------|--|
| State of County of |)) SS |
| | before me, Notary Public, personally appeared, who proved to me on the basis of satisfactory evidence to be the person subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized espacity(ies), and that by his/her signature on the instrument the person, or the entity which the person acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. |
| | WITNESS my hand and official seal |
| | Notacy Public |

(13) KIM. Gwang Yun

| Date: | on to take the second | L | | . 11 | |
|-----------|--|--|--|--|--------------|
| | 2011. 04. 10° | Klm | Guing | AUN | |
| | | | | | |
| State of |) SS | | | | |
| County of | A CONTRACTOR OF THE CONTRACTOR | | | | |
| | before me, is subscribed to the within instrument and acknowledged to me that he/she of which the person acted, executed the instrument. I certify under PENAL. | wecuted the same in his/her authorized car | DACHVERCS), ATRI BLAI DV 105/00/1 5/8/ | fattire on the institution the person, or the e- | son stity |
| | | WITNESS my hand and official seal | | | |
| | | | | | |

Notary Public

Page 16 of 21

(14) KIM, Taeg Jo

| Date: | | | | |
|-----------------------|--|--|--|--------------------------------|
| | 2019.04.11 | KIM | TAEG JO | |
| State of County of | 388 | | | |
| On whose mane is | before the, sufficiently to the within informent and acknowledged to me that he within the person acted, executed the manifement. I certify inside PLP | the executed the same in higher authorized cases | icity ties), and that by her her vignature on the insen- | micro the person of the entity |
| | | WITNESS my hand and official scal | | |

Notary Public

Page 17 of 21

(15) KIM, Cheol Ki

| Date: | | |
|-----------------------|---|---|
| | 2019.04,10 | Kim Chealki |
| State of | | |
| County of |) SS | |
| whose name is subscri | ibed to the within instrument and acknowledged to me that h | Notary Public, personally appeared who proved to me on the basis of satisfactory evidence to be the person te/she executed the same in his/her authorized capacitytics), and that by his/her signature on the instrument the person, or the entity ENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct |
| | | WITNESS my hand and official seal |
| | | Notary Public |

Page 18 of 21

(16) KWON, O Sung

| Date: | 2017.04.11 | Livon | O Lung |
|----------------|---|--|--|
| | 388 | *************************************** | |
| ahuse ustae is | before me, subscribed to the within infinitement and acknowledged to me that be size e which the person acted, executed the instruments. Exertily toute PENAL | secuted the same in basher authorized capacity (e4); | est that by his her signature on the marrianers the person, or the evalu |
| | | WITHESS my hand and ufficest west | |
| | | Sexwy Public | |

Page 19 of 21

(17) YI, Kyoung Don

Page 20 of 21

DB1/63677996.1

PATENT REEL: 042692 FRAME: 0134

| 81) | 3) LEE, Jae Seok |
|---------------------------|--|
| Date: 2017.04.17 | LEE, JAE SEOK |
| State of) SS. County of) | |
| On | Publis, personally appeared, who proved to me on the basis of satisfactory evidence to be the person come in his/her authorized capacity(tes), and that by his/her signature on the instrument the person, or the entity RIURY under the laws of the State of California that the foregoing paragraph is true and correct. |
| WITNES | SS my hand and official seal. |
| Notary P | ublic |

Page 21 of 21

DB1/63677996.1

RECORDED: 06/05/2017

PATENT REEL: 042692 FRAME: 0135