

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT6129245

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
X DEVELOPMENT LLC	03/30/2020

RECEIVING PARTY DATA

Name:	BOSTON DYNAMICS, INC.
Street Address:	78 FOURTH AVENUE
City:	WALTHAM
State/Country:	MASSACHUSETTS
Postal Code:	02451

PROPERTY NUMBERS Total: 43

Property Type	Number
Patent Number:	10071856
Patent Number:	10518973
Application Number:	16688541
Patent Number:	9827683
Patent Number:	10099391
Patent Number:	10265871
Patent Number:	9908696
Patent Number:	10087000
Patent Number:	9498887
Patent Number:	9465390
Patent Number:	9688489
Patent Number:	9561941
Patent Number:	10061325
Patent Number:	10195740
Application Number:	16228423
Patent Number:	9963331
Patent Number:	9776326
Patent Number:	9937621
Patent Number:	9582001
Patent Number:	9823659

PATENT

Property Type	Number
Patent Number:	10025886
Patent Number:	10048398
Patent Number:	10353395
Patent Number:	10037029
Application Number:	16025231
Patent Number:	10122995
Patent Number:	9984339
Patent Number:	10133990
Patent Number:	10628763
Application Number:	16814674
Patent Number:	9965730
Patent Number:	10083406
Patent Number:	10453002
Application Number:	16566728
Patent Number:	10504055
Application Number:	16698812
Patent Number:	10642282
Application Number:	16838707
Patent Number:	10260890
Patent Number:	10640347
Application Number:	16835397
PCT Number:	US2018051306
Patent Number:	9457970

CORRESPONDENCE DATA

Fax Number: (617)646-8646

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.

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ATTORNEY DOCKET NUMBER:	B1585 PORTFOLIO
NAME OF SUBMITTER:	THERESA A. BRESNAHAN
SIGNATURE:	/Theresa A. Bresnahan/
DATE SIGNED:	05/29/2020

Total Attachments: 8

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PATENT ASSIGNMENT

This PATENT ASSIGNMENT (this “**Assignment**”) is made and entered into as of March 30, 2020 (the “**Effective Date**”), by and between X Development LLC, a Delaware Limited Liability Company (“**Assignor**”), and Boston Dynamics, Inc., a Massachusetts corporation (“**Assignee**”).

WHEREAS, Assignee and Assignor or its affiliate have entered into that certain IP Purchase Agreement (the “**IP Purchase Agreement**”), dated as of March 30, 2020 (the “**Effective Date**”), pursuant to which Assignor has sold, assigned, and transferred to Assignee, and Assignee has bought, all of Assignor’s right, title, and interest in and to the Assigned Patents;

NOW, THEREFORE, for good and valuable consideration paid by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee agree as follows:

“**Assigned Patents**” means (a) the patents and patent applications listed in **Schedule 1** (“**Listed Patents**”), and (b) all reissues, reexaminations, continuations (but not continuations-in-part), and foreign counterparts that claim priority to the Listed Patents.

Assignor does hereby sell, assign, and transfer unto Assignee all of Assignor’s right, title, and interest in and to the Assigned Patents, including all of Assignor’s rights to any and all causes of action and rights of recovery for past, present, and future infringement thereof and the right to claim priority from the Assigned Patents. Assignee acknowledges and agrees that the Assigned Patents remain subject to a certain non-exclusive license to Assignor and its affiliates and certain other rights and licenses that, prior to the date hereof, have been granted or are required to be granted under the Assigned Patents, which will remain in effect notwithstanding assignment of such Assigned Patents. This Assignment does not sell, assign or transfer any right, title or interest in or to any patents or patent applications other than those expressly listed in Schedule 1 to this Assignment. .

This Assignment will be binding upon and will inure to the benefit of the Assignee and their respective successors and assigns including the right to claim priority, recover past damages, and all other rights previously afforded to the Assignor with respect to the Listed Patents.

This Assignment will be governed by, and construed in accordance with, the laws of the United States in respect to patent issues and in all other respects by the laws of the State of California, without reference to its choice of law principles to the contrary.

This Assignment may be executed in counterparts, each of which will be deemed an original, and all of which together constitute one and the same instrument.

[Signatures to Follow]

IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be executed by their respective duly authorized representatives as of the date first set forth above.

X Development LLC (Assignor)

Boston Dynamics, Inc. (Assignee)

By: DocuSigned by:
Scott Heilesen
F0C0FBA650194F3...

By: DocuSigned by:
Jason Fiorillo
E107B21C7710420

Name: Scott Heilesen

Name: Jason Fiorillo

Title: Head of Intellectual Property

Title: V.P. and General Counsel

SCHEDULE 1
LISTED PATENTS

Patent No.	Application No.	Country	Title	Status
AU2017301538B2	2017301538	AU	Inventory Management	Pending
AU2020201566	2020201566	AU	Inventory Management	Pending
CN109154825A	201780031399.1	CN	Inventory Management	Pending
EP3491477	7834937.9	EP	Inventory Management	Pending
JP2019527172A	2018-560997	JP	Inventory Management	Pending
KR20180127534A	10-2018-7033612	KR	Inventory Management	Pending
10,071,856	15/222,606	US	Inventory Management	Issued
10,518,973	16/056,919	US	Inventory Management	Issued
N/A	16/688,541	US	Inventory Management	Pending
WO2018022265A1	PCT/US2017/040767	WO	Inventory Management	Completed
AU2017301537B2	2017301537	AU	Collaborative Inventory Monitoring	Pending
AU2020201122A1	2020201122	AU	Collaborative Inventory Monitoring	Pending
CN109154826A	201780031418.0	CN	Collaborative Inventory Monitoring	Pending
EP3491476	17834936.1	EP	Collaborative Inventory Monitoring	Pending
JP2019529277A	2018-560861	JP	Collaborative Inventory Monitoring	Pending
KR20180127552A	10-2018-7033770	KR	Collaborative Inventory Monitoring	Pending
9,827,683	15/222,638	US	Collaborative Inventory Monitoring	Issued
10,099,391	15/791,118	US	Collaborative Inventory Monitoring	Issued
10,265,871	16/121,899	US	Collaborative Inventory Monitoring	Issued
WO2018022264A1	PCT/US2017/040764	WO	Collaborative Inventory Monitoring	Completed
9,908,696	15/259,783	US	Pallet-Conveyor System	Issued
10,087,000	15/854,545	US	Pallet-Conveyor System	Issued
WO2018048591A1	PCT/US2017/047071	WO	Pallet-Conveyor System	Completed
9,498,887	14/340,398	US	Two-Faced Linearly Actuated Gripper	Issued
AU2015346577B2	2015346577	AU	Position-Controlled Robotic Fleet with Visual Handshakes	Abandoned
CA2967321A1	2967321	CA	Position-Controlled Robotic Fleet with Visual Handshakes	Pending
CN107003662A	201580066774.7	CN	Position-Controlled Robotic Fleet with Visual Handshakes	Abandoned
EP3218776	15801553.7	EP	Position-Controlled Robotic Fleet with Visual Handshakes	Pending

KR20170085535A	10-2017-7015677	KR	Position-Controlled Robotic Fleet with Visual Handshakes	Abandoned
9,465,390	14/538,047	US	Position-Controlled Robotic Fleet with Visual Handshakes	Issued
WO2016077243A1	PCT/US2015/059767	WO	Position-Controlled Robotic Fleet with Visual Handshakes	Completed
9,688,489	14/672,302	US	Modular Dock for Facilities Integration	Issued
N/A	62/139,844	US	Modular Cross-Docking System	Expired
9,457,970	14/792,534	US	Modular Cross-Docking System	Issued
9,561,941	14/673,438	US	Autonomous Approach and Object Pickup	Issued
10,061,325	15/389,648	US	Autonomous Approach and Object Pickup	Issued
US20180329425A1	16/045,145	US	Autonomous Approach and Object Pickup	Abandoned
CN108369419A	201680062267.0	CN	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	Pending
EP3335090	16770613.4	EP	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	Pending
JP2018530089A	JP2018532520A	JP	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	Pending
KR20180067523A	10-2018-7009186	KR	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	Abandoned
TWI629150B	105129390	TW	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A	Issued

			SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	
10,195,740	14/850,909	US	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	Issued
US20190143515A1	16/228,423	US	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	Pending
WO2017044851A1	PCT/US16/51109	WO	USING OBJECT OBSERVATIONS OF MOBILE ROBOTS TO GENERATE A SPATIO-TEMPORAL OBJECT INVENTORY, AND USING THE INVENTORY TO DETERMINE MONITORING PARAMETERS FOR THE MOBILE ROBOTS	Completed
9,963,331	14/849,648	US	Systems and Methods for Operating a Powered Pallet Jack with Steerable Forks	Issued
CN108136580A	201680057491.0	CN	Battery and Hard Drive Exchange Station for Robots	Pending
EP3325228	16854108.4	EP	Battery and Hard Drive Exchange Station for Robots	Pending
TWI631062B	105132315	TW	Battery and Hard Drive Exchange Station for Robots	Issued
9,776,326	14/876,947	US	Battery and Hard Drive Exchange Station for Robots	Issued
9,937,621	15/685,500	US	Battery and Hard Drive Exchange Station for Robots	Issued
WO2017062259A1	PCT/US2016/054450	WO	Battery and Hard Drive Exchange Station for Robots	Completed
CN108136898A	201680058363.8	CN	Motor System for Vehicle Steering and Locomotion	Abandoned
EP3331718	16854103.5	EP	Motor System for Vehicle Steering and Locomotion	Abandoned

JP2019501050A	2018-517252	JP	Motor System for Vehicle Steering and Locomotion	Abandoned
KR20180039178A	10-2018-7009545	KR	Motor System for Vehicle Steering and Locomotion	Abandoned
TWI627114B	105132459	TW	Motor System for Vehicle Steering and Locomotion	Issued
9,582,001	14/876,923	US	Motor System for Vehicle Steering and Locomotion	Issued
9,823,659	15/375,381	US	Motor System for Vehicle Steering and Locomotion	Issued
WO2017062243A1	PCT/US2016/054113	WO	Motor System for Vehicle Steering and Locomotion	Completed
10,025,886	14/870,626	US	Methods and Systems for Using Projected Patterns to Facilitate Mapping of an Environment	Issued
10,048,398	15/338,798	US	Methods and Systems for Pallet Detection	Issued
WO2018080672A1	PCT/US2017/052722	WO	Methods and Systems for Pallet Detection	Completed
AU2017330339B2	2017330339	AU	Identification Information for Warehouse Navigation	Pending
AU2020201162	2020201162	AU	Identification Information for Warehouse Navigation	Pending
CN109196434A	201780030571.1	CN	Identification Information for Warehouse Navigation	Pending
EP3516471A1	17853884.9	EP	Identification Information for Warehouse Navigation	Pending
JP2019534829A	2018-560652	JP	Identification Information for Warehouse Navigation	Pending
KR20180128072A	10-2018-7033286	KR	Identification Information for Warehouse Navigation	Pending
10,353,395	15/276,193	US	Identification Information for Warehouse Navigation	Issued
WO2018057728A1	PCT/US2017/052703	WO	Identification Information for Warehouse Navigation	Completed
10,037,029	15/231,719	US	Roadmap Segmentation for Robotic Device Coordination	Issued
US20180321675A1	16/025,231	US	Roadmap Segmentation for Robotic Device Coordination	Pending
10,122,995	15/273,465	US	Systems and Methods for Generating and Displaying a 3D Model of Items in a Warehouse	Issued

WO2018057442A1	PCT/US2017/051970	WO	Systems and Methods for Generating and Displaying a 3D Model of Items in a Warehouse	Completed
AU2017315305A	2017315305	AU	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Pending
CN109155013A	201780030026.2	CN	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Pending
EP3504669	17844070.7	EP	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Pending
JP2019532371A	2018-560081	JP	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Pending
KR20180126615A	10-2018-7033264	KR	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Pending
9,984,339	15/244,525	US	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Issued
10,133,990	15/947,011	US	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Issued
US20190034839A1	16/149,545	US	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Pending
WO2018038815A1	PCT/US2017/041481	WO	Autonomous Shuffling Of Pallets Of Items In A Warehouse	Completed
AU2017315306B2	2017315306	AU	Autonomous Condensing Of Pallets Of Items In A Warehouse	Pending
N/A	2020201348	AU	Autonomous Condensing Of Pallets Of Items In A Warehouse	Pending
CN109195885A	201780030628.8	CN	Autonomous Condensing Of Pallets Of Items In A Warehouse	Pending
EP3504135	17844071.5	EP	Autonomous Condensing Of Pallets Of Items In A Warehouse	Pending
JP2019531990A	2018-560105	JP	Autonomous Condensing Of Pallets Of Items In A Warehouse	Pending
KR20180126614A	10-2018-7033263	KR	Autonomous Condensing Of Pallets Of Items In A Warehouse	Pending
9,965,730	15/244,845	US	Autonomous Condensing Of Pallets Of Items In A Warehouse	Issued
10,083,406	15/947,057	US	Autonomous Condensing Of Pallets Of Items In A Warehouse	Issued
10,453,002	16/110,301	US	Autonomous Condensing Of Pallets Of Items In A Warehouse	Issued
US20200005202A1	16/566,728	US	Autonomous Condensing Of Pallets Of Items In A Warehouse	Pending
WO2018038816A1	PCT/US2017/041484	WO	Autonomous Condensing Of Pallets Of	Completed

			Items In A Warehouse	
AU2017321325A1	2017321325	AU	Optimization of Warehouse Layout Based on Customizable Goals	Pending
CN109154799A	201780030392.8	CN	Optimization of Warehouse Layout Based on Customizable Goals	Pending
EP3443420	17847324.5	EP	Optimization of Warehouse Layout Based on Customizable Goals	Pending
JP2019526513A	2018-560113	JP	Optimization of Warehouse Layout Based on Customizable Goals	Pending
KR20180126620A	10-2018-7033347	KR	Optimization of Warehouse Layout Based on Customizable Goals	Pending
10,504,055	15/255,696	US	Optimization of Warehouse Layout Based on Customizable Goals	Issued
N/A	16/698,812	US	Optimization of Warehouse Layout Based on Customizable Goals	Pending
WO2018044820A1	PCT/US2017/048983	WO	Optimization of Warehouse Layout Based on Customizable Goals	Completed
CN110730931A	201880033105.3	CN	Roadmap Annotation for Deadlock-Free Multi-Agent Navigation	Pending
EP3610340	18712306.2	EP	Roadmap Annotation for Deadlock-Free Multi-Agent Navigation	Pending
N/A	2019-555156	JP	Roadmap Annotation for Deadlock-Free Multi-Agent Navigation	Pending
KR20190134750A	10-2019-7032896	KR	Roadmap Annotation for Deadlock-Free Multi-Agent Navigation	Not Filed
US20180299882A1	15/486,219	US	Roadmap Annotation for Deadlock-Free Multi-Agent Navigation	Pending
WO2018190960A1	PCT/US2018/019780	WO	Roadmap Annotation for Deadlock-Free Multi-Agent Navigation	Completed
EP3612962	18720685.9	EP	Aisle-based roadmap generation	Pending
10,260,890	15/494,316	US	Aisle-based roadmap generation	Issued
WO2018194808A1	PCT/US2018/024979	WO	Aisle-based roadmap generation	Completed
US20190194005A1	15/853,437	US	Pallet Tracking During Engagement and Disengagement	Pending
WO2019125554A1	PCT/US2018/051306	WO	Pallet Tracking During Engagement and Disengagement	Pending