

ASSIGNMENT

We, Claude F. Valle IV of 37 Harriett Avenue, Burlington, MA 01803, Amy A. Blank of 530 Washington Street #11, Brighton, MA 02135, Brian Zenowich of 9 Mitchell Street, Wayland, MA 01778, Thomas Nadovich of _____, Donald E. Drumm of 4 Frost Street, Billerica, MA 01821, Christopher Woodall of ~~10 Putnam Street, Somerville, MA 02143~~ and William T. Townsend of 31 Country Drive, Weston, MA 02493, having invented improvements in HIGH PERFORMANCE CURRENT SENSING ARCHITECTURE FOR BRUSHLESS MOTORS and having executed an application for United States patent describing the same and based thereon (and we hereby authorize our attorney(s), authorized to prosecute said application, to here insert the filing date and serial number of said application, when known, Serial No. 16/678,554, filed 11/08/2019), for good and valuable consideration, receipt of which is hereby acknowledged from Barrett Technology, LLC, a Delaware limited liability company, having a place of business at 73 Chapel Street, Newton, MA 02458, hereinafter called the Assignee (which term shall include its successors and assigns), do hereby sell, assign and transfer unto the Assignee our entire right, title, and interest, in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto, in and to and under said application (which term shall include hereinafter where the context so admits all divisional, continuing, reissue and other patent applications based thereon) and the inventions (which term shall include each and every such invention, or any part thereof) therein described, and any and all patents and like rights of exclusion (including extensions thereof) of any country which may be granted on or for said inventions or on said application.

74B North
St
Burlington
VT
05401

And for the same consideration we do also hereby sell, assign and transfer unto the Assignee all our rights under the International Convention for the Protection of Industrial Property and all other treaties of like purpose in respect of said inventions and said application and we do hereby authorize the Assignee to apply in our names or its own name for patents and like rights of exclusion on or for said inventions in all countries, claiming (if the Assignee so desires) the priority of the filing date of said application under the provisions of said Convention or any such other treaty;

Date

Thomas Nadovich

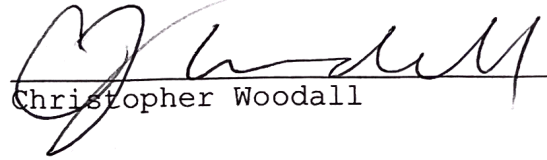
Date

Donald E. Drumm

Date

7/8/2021

Christopher Woodall



Date

William T. Townsend

Before me this _____ day of _____, 2021,
personally appeared Claude F. Valle IV, who is to me personally
known, and acknowledged the foregoing instrument to be his/her
free act and deed.

Signature of Witness

Signature of Witness

Name of Witness (print)

Name of Witness (print)

Address of Witness

Address of Witness

Before me this _____ day of _____, 2021,
personally appeared Donald E. Drumm, who is to me personally
known, and acknowledged the foregoing instrument to be his/her
free act and deed.

Signature of Witness

Signature of Witness

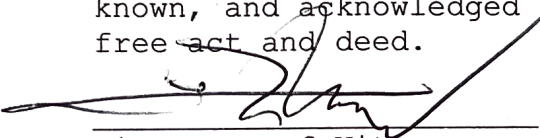
Name of Witness (print)

Name of Witness (print)

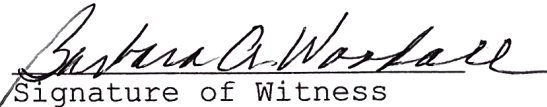
Address of Witness

Address of Witness

Before me this 8 day of July, 2021,
personally appeared Christopher Woodall, who is to me personally
known, and acknowledged the foregoing instrument to be his/her
free act and deed.



Signature of Witness



Signature of Witness

Christopher G. Woodall Jr.

Name of Witness (print)

Barbara A. Woodall

Name of Witness (print)

1048 Pulaski Rd. E. Northport

Address of Witness N.Y. 11731

1048 Pulaski Rd. E. Northport, N.Y.

Address of Witness 11731

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	HIGH PERFORMANCE CURRENT SENSING ARCHITECTURE FOR BRUSHLESS MOTORS
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As the below named inventor, I hereby declare that:

This declaration is directed to:

☐

The attached application, or

☒United States application or PCT international application number 16/678,554filed on 11/08/2019

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 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.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Christopher WoodallDate (Optional): 7/8/2021Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

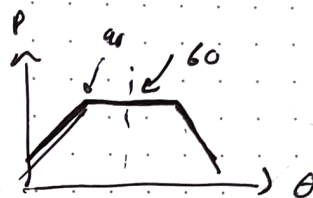
This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

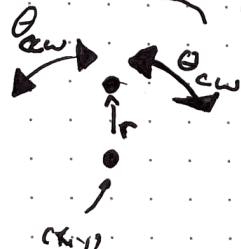
Circles & Branches



$\theta \rightarrow$ lets find structure of cycles?



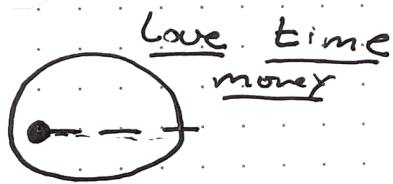
P_{ccw}
 P_{cw} } 1 dir not probable than 2 dir



\rightarrow # of actors?
 \rightarrow can they collide?

\rightarrow Allow internal relations?

end iterations on collision



Radius

\hookrightarrow constrained by collisions
 \rightarrow get smaller w/ each cycle

$$R = \frac{1}{2} R$$

$$R = \min(\frac{1}{2} R, R_{\text{collision}})$$

Spec

if $R < R_{\text{collision}}$ even

When your looking for freedom nobody seems to care?

When your looking for the door you can't seem to find it

When time is coming to believe in

TO DO : Add memory ~~not~~ is to neuron snapshots
Seed & Iteration ~~stop~~ #

\hookrightarrow reproducibility of agent build