

Macpherson Donald G
 Form 4
 December 14, 2012

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549**

OMB APPROVAL

OMB Number: 3235-0287
 Expires: January 31, 2015
 Estimated average burden hours per response... 0.5

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 Macpherson Donald G

(Last) (First) (Middle)
 100 GRAINGER PARKWAY
 (Street)

LAKE FOREST, IL 60045-5201

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
 GRAINGER W W INC [GWW]

3. Date of Earliest Transaction
 (Month/Day/Year)
 12/13/2012

4. If Amendment, Date Original Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)
 Sr. VP, Global Supply Chain

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code V Amount (A) or (D) Price			
Common Stock	12/13/2012		S(1)	100 D \$ 191.66	27,516	D	
Common Stock	12/13/2012		S(1)	100 D \$ 191.68	27,416	D	
Common Stock	12/13/2012		S(1)	200 D \$ 191.69	27,216	D	
Common Stock	12/13/2012		S(1)	341 D \$ 191.7	26,875	D	
Common Stock	12/13/2012		S(1)	5 D \$ 191.71	26,870	D	

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Common Stock	12/13/2012	S ⁽¹⁾	100	D	\$ 191.8	26,770	D
Common Stock	12/13/2012	S ⁽¹⁾	200	D	\$ 191.85	26,570	D
Common Stock	12/13/2012	S ⁽¹⁾	54	D	\$ 192.02	26,516	D
Common Stock	12/13/2012	S ⁽¹⁾	100	D	\$ 192.08	26,416	D
Common Stock	12/13/2012	S ⁽¹⁾	200	D	\$ 192.1	26,216	D
Common Stock	12/13/2012	S ⁽¹⁾	100	D	\$ 192.16	26,116	D
Common Stock	12/13/2012	S ⁽¹⁾	100	D	\$ 192.17	26,016	D

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474
(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Nu Deriv Secur Bene Own Follo Repo Trans (Instr
						Date Exercisable	Expiration Date	Title	Amount or Number of Shares
						Code	V	(A)	(D)

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Macpherson Donald G 100 GRAINGER PARKWAY LAKE FOREST, IL 60045-5201			Sr. VP, Global Supply Chain	

Signatures

Aimee M. Nolan, as
attorney-in-fact

12/14/2012

__Signature of Reporting Person

Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Transaction pursuant to a previously adopted Rule 10b5-1 trading program.

Remarks:

This is the second of two Forms 4 to report all December 13, 2012 transactions for the reporting person.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure.
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