

Pulick Michael A
 Form 4
 September 21, 2010

FORM 4

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

OMB APPROVAL

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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 *
 Pulick Michael A

(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)
 09/20/2010

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)
 Senior Vice President

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 Ownership (Instr. 4)			
				(A) or (D)	Price					
Common Stock	09/20/2010		M ⁽¹⁾	V	5,700	A	\$ 52.29	32,084	D	
Common Stock	09/20/2010		S ⁽¹⁾	D	5,200	D	\$ 120	26,884	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)

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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. Amount or Number of Shares
Option	\$ 52.29	09/20/2010		M ⁽¹⁾	5,700	04/27/2008 04/26/2015	Common Stock	5,700
Option	\$ 76.61					04/26/2009 04/25/2016	Common Stock	4,800
Option	\$ 83.08					04/25/2010 04/24/2017	Common Stock	12,000
Option	\$ 85.82					04/30/2011 04/29/2018	Common Stock	10,500
Option	\$ 81.49					04/29/2012 04/28/2019	Common Stock	30,000
Option	\$ 108.15					04/28/2013 04/27/2020	Common Stock	29,000

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Pulick Michael A 100 GRAINGER PARKWAY LAKE FOREST, IL 60045-5201			Senior Vice President	

Signatures

J. L. Howard, as attorney-in-fact 09/21/2010

__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.

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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