

SMITH HAROLD B
Form 4
February 24, 2010

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

OMB APPROVAL

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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 *
SMITH HAROLD B

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

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

3. Date of Earliest Transaction (Month/Day/Year)
02/23/2010

Director 10% Owner
 Officer (give title below) Other (specify below)

LAKE FOREST, IL 60045-5201
(City) (State) (Zip)

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

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)
			Code	V	Amount or Price		
Common Stock	02/23/2010		M		2,070 A \$ 43.5	23,912	D
Common Stock	02/23/2010		F		869 D \$ 103.64	23,043	D
Common Stock	02/23/2010		M		2,400 A \$ 37.5	25,443	D
Common Stock	02/23/2010		F		869 D \$ 103.64	24,574	D
Common Stock	02/23/2010		M		1,650 A \$ 54.61	26,224	D
	02/23/2010		F		870 D	25,354	D

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Common Stock	\$						
	103.64						
Common Stock		20,000	I			See footnote (1)	

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

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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 (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
Stock Units	(2)					(3) (3)	Common Stock	55
Stock Option	\$ 43.5	02/23/2010		M	2,070	04/26/2000 04/25/2010	Common Stock	2,070
Stock Option	\$ 37.5	02/23/2010		M	2,400	04/25/2001 04/24/2011	Common Stock	2,400
Stock Option	\$ 54.61	02/23/2010		M	1,650	04/24/2002 04/23/2012	Common Stock	1,650
Stock Option	\$ 45.5					04/30/2003 04/29/2013	Common Stock	1,980
Stock Option	\$ 54.14					04/28/2004 04/27/2014	Common Stock	1,670

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
	X			

SMITH HAROLD B
100 GRAINGER PARKWAY
LAKE FOREST, IL 60045-5201

Signatures

C. L. Kogl, as
attorney-in-fact

02/24/2010

__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) Shares held by a trust of which I am a co-trustee and in which I have a beneficial interest.

(2) 1-for-1

(3) The stock units are expected to settle in cash following termination of service as a director.

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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