GRAINGER W W INC

Check this box

if no longer

subject to

Section 16.

Form 4 or

Form 4

January 16, 2007

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

OMB Number:

3235-0287

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OMB APPROVAL

SECURITIES

Form 5 obligations may continue. See Instruction

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

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * 5. Relationship of Reporting Person(s) to 2. Issuer Name and Ticker or Trading LOUX P OGDEN Issuer Symbol GRAINGER W W INC [GWW] (Check all applicable) (Last) (First) (Middle) 3. Date of Earliest Transaction (Month/Day/Year) Director 10% Owner Other (specify X_ Officer (give title 100 GRAINGER PARKWAY 01/12/2007 below) Sr. VP, Finance and CFO (Street) 4. If Amendment, Date Original 6. Individual or Joint/Group Filing(Check Filed(Month/Day/Year) Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting LAKE FOREST, IL 60045-5201 Person

(City)	(State) (Zip) Table	e I - Non-D	erivative Secu	rities Acc	quired, Disposed	of, or Beneficia	lly Owned
1.Title of Security (Instr. 3)	2. Transaction Date 2A. Deemed (Month/Day/Year) Execution Date, if any (Month/Day/Year)		3. Transaction Code (Instr. 8)	4. Securities A on(A) or Dispos (D) (Instr. 3, 4 and	ed of	Securities Beneficially Owned	6. Ownership Form: Direct (D) or Indirect (I)	Indirect Beneficial Ownership
			Code V	(A) or Amount (D)		Following Reported Transaction(s) (Instr. 3 and 4)	(Instr. 4)	(Instr. 4)
Common Stock	01/12/2007		S <u>(1)</u>	6,000 D	\$ 71.5	38,704	D	
Common Stock						400	I	See Footnote (2)

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. Transactic Code (Instr. 8)	5. onNumber of Derivativ Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)			7. Title and Amount of Underlying Securities (Instr. 3 and 4)		8. Pri Deriv Secur (Instr
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares	
Option	\$ 51.6875					04/29/2001	04/28/2008	Common Stock	13,500	
Option	\$ 48.625					04/28/2002	04/27/2009	Common Stock	24,300	
Option	\$ 42.8125					03/01/2003	02/28/2010	Common Stock	6,870	
Option	\$ 43.5					04/26/2003	04/25/2010	Common Stock	27,980	
Option	\$ 43.5					(3)	04/25/2010	Common Stock	4,200	
Option	\$ 37.5					04/25/2004	04/24/2011	Common Stock	40,000	
Option	\$ 37.5					04/25/2007	04/24/2011	Common Stock	2,800	
Option	\$ 54.61					04/24/2005	04/23/2012	Common Stock	45,000	
Option	\$ 45.5					04/30/2006	04/29/2013	Common Stock	45,000	
Option	\$ 54.14					04/28/2007	04/27/2014	Common Stock	20,000	
Option	\$ 52.29					04/27/2008	04/26/2015	Common Stock	19,000	
Option	\$ 76.61					04/26/2009	04/25/2016	Common Stock	15,000	

Reporting Owners

Reporting Owner Name / Address

Relationships

Reporting Owners 2

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Director 10% Owner Officer Other

LOUX P OGDEN 100 GRAINGER PARKWAY LAKE FOREST, IL 60045-5201

Sr. VP, Finance and CFO

Signatures

J. H. Howard, as attorney-in-fact 01/16/2007

**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) Sale pursuant to a previously adopted Rule 10b5-1 trading program.
- (2) Shares held by reporting person's wife. The reporting person disclaims beneficial ownership of these shares.
- (3) Exercisable in four equal annual installments beginning 4/26/2001.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

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