GRAINGER DAVID W Form SC 13D/A September 24, 2010

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

#### SCHEDULE 13D

Under the Securities Exchange Act of 1934 (Amendment No. 13)

W.W. GRAINGER, INC. (Name of Issuer)

Common Stock, \$.50 par value (Title of Class of Securities)

384802-10-4

(CUSIP Number)

Cristen L. Kogl 100 Grainger Parkway, Lake Forest, IL 60045 (847) 535-0518 (Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

September 9, 2010

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. [ ]

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that Section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 384802-10-4

1. Names of Reporting Persons.
David W. Grainger
2. Check the Appropriate Box if a Member of a Group (See Instructions)
(a)
(b) X
3. SEC Use Only
4. Source of Funds (See Instructions) 00
5. Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)
6. Citizenship or Place of Organization USA
Number of 7. Sole Voting Power 5,542,834 Shares
Beneficially Owned by 8. Shared Voting Power 704,930 Each
Reporting Person 9. Sole Dispositive Power 5,542,834 With
10. Shared Dispositive Power 704,930
11. Aggregate Amount Beneficially Owned by Each Reporting Person 6,247,764
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)
13. Percent of Class Represented by Amount in Row (11) 9.07
14. Type of Reporting Person (See Instructions) IN

Item Security and Issuer This statement relates to beneficial ownership of shares of the common stock, \$.50 par value

1. ("Common Stock") of W.W. Grainger, Inc., an Illinois corporation (the "Issuer"), 100 Grainger Parkway, Lake Forest, Illinois 60045.

Item Identity and Background This is Amendment Number 13 to the Schedule 13D (the "13D") originally filed by

2. the trustees of the W.W. Grainger Living Trust. It is filed by Mr. David W. Grainger, the only remaining trustee whose beneficial ownership of the Common Stock (as determined in accordance with Rule 13d-3) exceeds 5%.

Mr. Grainger is a citizen of the United States of America and Senior Chairman of the Issuer. Mr. Grainger's business address is 100 Grainger Parkway, Lake Forest, Illinois 60045. He has not, during the last five years, been convicted in any criminal proceeding.

Mr. Grainger has not, during the last five years, been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction as a result of which he was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

Item Source and Amount of Funds or Other Consideration Mr. Grainger serves as trustee of various family trusts (the 3. "Grainger Trusts") established over a period of years. Mr. Grainger also serves as a member, director and officer of The Grainger Foundation Inc. (the "Foundation"), a charitable foundation funded by family gifts. The Grainger Trusts and the Foundation, since July 29, 1968, the effective date of Section 13(d)(1) of the Act, have acquired shares of Common Stock by gift and through mandatory conversion of Class B stock of the Issuer into Common Stock, on a share-for-share basis, from January 1, 1971 through January 1, 1975. No funds of the Grainger Trusts or the Foundation were used in the acquisition of such shares.

Item Purpose of Transaction The Grainger Trusts and the Foundation have acquired shares of the Common Stock by

4. gift and through mandatory conversion of Class B stock of the Issuer into Common Stock. Shares of the Common Stock were not acquired for the purpose of obtaining control of the Issuer by Mr. Grainger. Mr. Grainger has beneficial ownership of 6,247,764 shares of Common Stock as of September 9, 2010, representing approximately 9.07% of the outstanding Common Stock. Mr. Grainger expressly disclaims any control of the Issuer.

Interest in Securities of the Issuer

Item

5.

- Mr. Grainger is the beneficial owner of 6,247,764 shares (approximately 9.07% of the outstanding Common (a) Stock), which includes 180,210 shares owned by the Foundation ("Foundation Shares"), of which he is a director and officer, and 6,067,554 shares owned by the Grainger Trusts ("Trust Shares").
- Mr. Grainger shares voting and dispositive power over the Foundation Shares with the Foundation's other (b) directors.
- Included in the Trust Shares are 524,720 shares held in two trusts of which Mr. Grainger is a co-trustee. As (c) such, Mr. Grainger shares voting and dispositive power over these shares.
- Included in the Trust Shares are 386,430 shares held in trust for the benefit of Mr. Grainger's wife. Mr. (d) Grainger is the sole trustee of this trust and, as such, has sole voting and dispositive power over these shares.
- Included in the Trust Shares are 5,156,404 shares held in trust for the benefit of Mr. Grainger. Mr. Grainger is (e) the sole trustee of this trust and, as such, has sole voting and dispositive power over these shares.

The voting and dispositive powers of Mr. Grainger are as follows:

(f)

Voting Power		Dispositive Power	
Sole	Shared	Sole	Shared
5,542,834	704,930	5,542,834	704,930

On September 9, 2010, an open market sale of 11,675 shares was made by The Grainger Foundation at an average price of \$112.00 per share. On September 3, 2010, an open market sale of 12,523 shares was made by The Grainger Foundation at \$112.00 per share. On September 2, 2010, one of the Grainger Trusts of which Mr. Grainger has sole voting and dispositive power made a gift of 46,000 shares. On August 17, 2010, an open market sale of 30,802 shares was made by The Grainger Foundation at \$112.00 per share. There were no other transactions during the sixty days prior thereto.

All share information set forth herein has been adjusted for all stock splits and dividends declared through the (h) date hereof.

The necessity of filing this statement under Section 13(d)(1) of the Act is disclaimed. This statement is being (i) filed to ensure the reporting of current information and not to report any change in the reported information that is deemed "material" within the meaning of Section 13(d)(1) of the Act.

Item 6.	Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer
None.	

Item 7. Material to be Filed as Exhibits

None.

SIGNATURE. After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete, and correct.

DATE: September 24, 2010

/s/David W. Grainger David W. Grainger