NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

INDUSTRY INFORMATION

W.W. Grainger, Inc. is a broad line distributor of maintenance, repair and operating supplies, and other related products and services used by businesses and institutions. In this report, the words “Company” or “Grainger” mean W.W. Grainger, Inc. and its subsidiaries.

PRINCIPLES OF CONSOLIDATION

The Consolidated Financial Statements include the accounts of the Company and its subsidiaries over which the Company exercises control. All significant intercompany transactions are eliminated from the consolidated financial statements. The Company has a 51% ownership in MonotaRO Co., with the residual representing the noncontrolling interest.

USE OF ESTIMATES

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses, and the disclosure of contingent liabilities. Actual results could differ from those estimates.

FOREIGN CURRENCY TRANSLATION

The U.S. dollar is the reporting currency for all periods presented. The financial statements of the Company’s foreign operating subsidiaries are measured using the local currency as the functional currency. Assets and liabilities of the Company’s foreign operating subsidiaries are translated into U.S. dollars at the exchange rate in effect at the balance sheet date. Revenues and expenses are translated at average rates in effect during the period. Net exchange gains or losses resulting from the translation of financial statements of foreign operations and related long-term debt are recorded as a separate component of other comprehensive earnings. See Note 13 to the Consolidated Financial Statements. Foreign currency transaction gains and losses are included in the Consolidated Statement of Earnings.

RECLASSIFICATIONS

Certain amounts in the 2015 and 2014 financial statements, as previously reported, have been reclassified to conform to the 2016 presentation. See Note 3 to the Consolidated Financial Statements. These changes did not have a material impact on the Consolidated Financial Statements.

REVENUE RECOGNITION

Revenues recognized include product sales, billings for freight and handling charges and fees earned for services provided. The Company recognizes product sales and billings for freight and handling charges primarily on the date products are shipped to, or picked up by, the customer. In cases where the product is shipped directly to the customer, the Company recognizes revenue at the time of shipment primarily on a gross basis. The Company's standard shipping terms are FOB shipping point. On occasion, the Company will negotiate FOB destination terms. These sales are recognized upon delivery to the customer. eCommerce revenues, which accounted for 47% of total 2016 revenues, are recognized on the same terms as revenues through other channels. Fee revenues, which accounted for less than 1% of total 2016 revenues, are recognized after services are completed including related service costs. Taxes collected from customers and remitted to governmental authorities are presented on a net basis and are not included in revenue.

COST OF MERCHANDISE SOLD

Cost of merchandise sold includes product and product-related costs, vendor consideration, freight-out and handling costs. The Company defines handling costs as those costs incurred to fulfill a shipped sales order.

VENDOR CONSIDERATION

The Company receives rebates and allowances from its vendors to promote their products. The Company utilizes numerous advertising programs to promote its vendors' products, including catalogs and other printed media, Internet, radio and other marketing programs. Most of these programs relate to multiple vendors, which makes supporting the specific, identifiable and incremental criteria difficult, and would require numerous assumptions and judgments. Based on the inexact nature of trying to track reimbursements to the advertising expenditure for each vendor, the Company treats most vendor advertising allowances as a reduction to product purchase price and is reflected in Cost of merchandise sold rather than a reduction of operating (advertising) expenses.

Vendor funds that are determined to be reimbursement of specific, incremental and identifiable costs incurred to promote vendors' products are recorded as an offset to the related expenses in Warehouse, marketing and administrative expenses.

Rebates earned from vendors that are based on product purchases are capitalized into inventory as part of product purchase price. These rebates are credited to Cost of merchandise sold based on sales. Vendor rebates that are earned based on products sold are credited directly to Cost of merchandise sold.

ADVERTISING
Advertising costs are expensed in the year the related advertisement is first presented. Advertising expense was $180 million, $180 million and $169 million for 2016, 2015 and 2014, respectively. Most vendor-provided allowances are classified as a reduction to product purchase price and is reflected in Cost of merchandise sold. For additional information see VENDOR CONSIDERATION above.

Catalog expense is amortized equally over the life of the catalog, beginning in the month of its distribution. Advertising costs for catalogs that have not been distributed by year-end are capitalized as Prepaid expenses. Amounts included in Prepaid expenses at December 31, 2016 and 2015, were $12 million and $19 million, respectively.

WAREHOUSING, MARKETING AND ADMINISTRATIVE EXPENSES
Included in this category are purchasing, branch operations, information services and marketing and selling expenses, as well as other types of general and administrative costs.

STOCK INCENTIVE PLANS
The Company measures all share-based payments using fair-value-based methods and records compensation expense related to these payments over the vesting period. See Note 11 to the Consolidated Financial Statements.

INCOME TAXES
Income taxes are recognized during the year in which transactions enter into the determination of financial statement income, with deferred taxes being provided for temporary differences between financial and tax reporting. The Company recognizes in the financial statements a provision for tax uncertainties, resulting from application of complex tax regulations in multiple tax jurisdictions. The Company evaluates our deferred income taxes to determine if valuation allowances are required using a “more likely than not” standard. This assessment considers the nature, frequency and amount of book and taxable income and losses, the duration of statutory carryback and forward periods, future reversals of existing taxable temporary differences and tax planning strategies, among other matters. See Note 14 to the Consolidated Financial Statements.

OTHER COMPREHENSIVE EARNINGS (LOSSES)
The Company's Other comprehensive earnings (losses) include foreign currency translation adjustments, changes in fair value of derivatives designated as hedges and unrecognized gains (losses) on postretirement and other employment-related benefit plans. Accumulated other comprehensive earnings (losses) (AOCE) are presented separately as part of shareholders' equity. See Note 13 to the Consolidated Financial Statements.

CASH AND CASH EQUIVALENTS
The Company considers investments in highly liquid debt instruments, purchased with an original maturity of 90 days or less, to be cash equivalents.

CONCENTRATION OF CREDIT RISK

The Company places temporary cash investments with institutions of high credit quality and, by policy, limits the amount of credit exposure to any one institution.

The Company has a broad customer base representing many diverse industries doing business in all regions of the United States, Canada, Europe, Asia and Latin America. Consequently, no significant concentration of credit risk is considered to exist.

ACCOUNTS RECEIVABLE AND ALLOWANCE FOR DOUBTFUL ACCOUNTS

Accounts receivable are stated at their estimated net realizable value. The Company establishes reserves for customer accounts that are potentially uncollectible. The method used to estimate the allowances is based on several factors, including the age of the receivables and the historical ratio of actual write-offs to the age of the receivables. These analyses also take into consideration economic conditions that may have an impact on a specific industry, group of customers or a specific customer. See Note 4 to the Consolidated Financial Statements.

INVENTORIES

Inventories are valued at the lower of cost or market. Cost is determined primarily by the last-in, first-out (LIFO) method, which accounts for approximately 64% of total inventory. For the remaining inventory, cost is determined by the first-in, first-out (FIFO) method.

Grainger establishes inventory reserves for obsolete inventory. Grainger regularly reviews inventory to evaluate continued demand and identify any obsolete or excess quantities. Grainger records provisions for the difference between excess and obsolete inventory cost and its estimated realizable value.

PROPERTY, BUILDINGS AND EQUIPMENT

Property, buildings and equipment are valued at cost. For financial statement purposes, depreciation and amortization are recorded in amounts sufficient to relate the cost of depreciable assets to operations over their estimated service lives, principally on the declining-balance and sum-of-the-years-digits depreciation methods. The Company's international businesses record depreciation expense primarily on a straight-line basis. The principal estimated useful lives for determining depreciation are as follows:

Buildings, structures and improvements	10 to 30 years
Furniture, fixtures, machinery and equipment	3 to 10 years

Depreciation expense was $166 million, $162 million and $154 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Improvements to leased property are amortized over the initial terms of the respective leases or the estimated service lives of the improvements, whichever is shorter.

The Company capitalized interest costs of $2 million, $4 million and $2 million for the years ended December 31, 2016, 2015 and 2014, respectively.

LONG-LIVED ASSETS

The carrying value of long-lived assets, primarily property, buildings and equipment and amortizable intangibles, is evaluated whenever events or changes in circumstances indicate that the carrying value of the asset may be impaired. An impairment loss is recognized when estimated undiscounted future cash flows resulting from use of the asset, including disposition, are less than the carrying value of the asset. Impairment is measured as the amount by which the asset's carrying amount exceeds the fair value.

GOODWILL AND OTHER INTANGIBLES

Goodwill is recognized as the excess cost of an acquired entity over the net amount assigned to assets acquired and liabilities assumed. Goodwill is not amortized, but rather tested for impairment on an annual basis and more often if circumstances require. Impairment losses are recognized whenever the implied fair value of goodwill is less than its carrying value.

The Company recognizes an acquired intangible apart from goodwill whenever the intangible arises from contractual or other legal rights, or whenever it can be separated or divided from the acquired entity and sold, transferred, licensed, rented or exchanged, either individually or in combination with a related contract, asset or liability. Such intangibles are amortized over their estimated useful lives unless the estimated useful life is determined to be indefinite. The straight-line method of amortization is used as it has been determined to approximate the use pattern of the asset. The Company also maintains intangible assets with indefinite lives, which are not amortized. These intangibles are tested for impairment on an annual basis and more often if circumstances require. Impairment losses are recognized whenever the estimated fair value of these assets is less than their carrying value. See Note 3 to the Consolidated Financial Statements.

The Company capitalizes certain costs related to the purchase and development of internal-use software. Amortization of capitalized software is on a straight-line basis over three or five years.

FAIR VALUE OF FINANCIAL INSTRUMENTS
The carrying amounts of cash and cash equivalents, receivables and accounts payable approximate fair value due to the short-term nature of these financial instruments. See Note 8 to the Consolidated Financial Statements for fair value of long-term debt.

WARRANTY RESERVES
The Company generally warrants the products it sells against defects for one year. For a significant portion of warranty claims, the manufacturer of the product is responsible for expenses. For warranty expenses not covered by the manufacturer, the Company provides a reserve for future costs based primarily on historical experience. Warranty reserves were $3 million at December 31, 2016 and 2015.

CONTINGENCIES
The Company accrues for costs relating to litigation claims and other contingent matters, when it is probable that a liability has been incurred and the amount of the assessment can be reasonably estimated.

NEW ACCOUNTING STANDARDS

In July 2015, the Financial Accounting Standards Board (FASB) issued Accounting Standards Board (ASU) 2015-11, *Simplifying the Measurement of Inventory,* which simplifies the subsequent measurement of inventory by replacing the lower of cost or market test with a lower of cost or net realizable value (NRV) test. NRV is calculated as the estimated selling price less reasonably predictable costs of completion, disposal and transportation. This ASU is effective for fiscal years and for interim periods within those fiscal years beginning after December 15, 2016, and prospective adoption is required. This ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments: Recognition and Measurement of Financial Assets and Financial Liabilities*. This change to the financial instrument model primarily affects the accounting for equity investments, financial liabilities under fair value options and the presentation and disclosure requirements for financial instruments. The effective date for the standard is for fiscal years and interim periods within those years beginning after December 15, 2017. Certain provisions of the new guidance can be adopted early. The Company is evaluating the impact of this ASU.

In February 2016, the FASB issued ASU 2016-02, *Leases.* This ASU improves transparency and comparability related to the accounting and reporting of leasing arrangements. The guidance will require balance sheet recognition for assets and liabilities associated with rights and obligations created by leases with terms greater than twelve months. The effective date for the standard is for fiscal years and interim periods within those years beginning after December 15, 2018. Early adoption is permitted. The Company is evaluating the impact of this ASU.

In March 2016, the FASB issued ASU 2016-07, *Investments - Equity Method and Joint Ventures: Simplifying the Transition to the Equity Method of Accounting*.This ASU eliminates the requirement to retroactively adjust the investment, results of operations and retained earnings when an investment qualifies for use of the equity method as a result of an increase in the level of ownership interest or degree of influence. The amendment requires that the investor add the cost of acquiring the additional interest to the current basis of the investor's previously held interest and adopt the equity method of accounting as of the date the investment becomes qualified for equity method accounting. The effective date for the standard is for fiscal years and interim periods within those years beginning after

December 15, 2016. The amendment should be applied prospectively and early application is permitted. This ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

In March 2016, the FASB issued ASU 2016-09, *Stock Based Compensation: Improvements to Employee Share-Based Payment Accounting*. This ASU simplifies several aspects of the accounting for employee share-based payment transactions, including accounting for income taxes, forfeitures and statutory tax withholdings requirements, as well as classification in the statement of cash flows. The effective date for the standard is for fiscal years and interim periods within those years beginning after December 15, 2016. Early adoption is permitted. If early adoption is elected, all amendments in the ASU that apply must be adopted in the same period. The Company has elected not to early adopt this ASU. The Company expects the new guidance to impact its tax expense and dilutive shares outstanding calculation, with a potentially dilutive impact on future earnings per share and increased period-to-period variability of net earnings. The impact cannot be quantified due to the timing and exercise activity that will occur in future periods.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments.* This ASU affects an entity to varying degrees depending on the credit quality of the assets held by the entity, their duration and how the entity applies current GAAP. The effective date of the amendment to the standard is for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The Company is evaluating the impact of this ASU.

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows - Classification of Certain Cash Receipts and Cash Payments.* This ASU addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice. The effective date of the amendment to the standard is for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. This ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes - Intra-Entity Transfers of Assets Other Than Inventory.* This ASU eliminates the existing exception in U.S. GAAP that prohibits the recognition of income tax consequences for most intra-entity asset transfers. The effective date of this ASU is fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. This ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

In October 2016, the FASB issued ASU 2016-17, *Consolidation - Interests Held Through Related Parties That Are Under Common Control.* This ASU amends the consolidation guidance on how a reporting entity that is the single decision maker of a variable interest entity (VIE) should treat indirect interests in the entity held through related parties that are under common control with the reporting entity when determining whether it is the primary beneficiary of that VIE. The effective date of the amendment to the standard is for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. This ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

In December 2016, the FASB issued ASU 2016-19, *Technical Corrections and Improvements.* This ASU represents changes to clarify, correct errors or make minor improvements to the Accounting Standards Codification. The amendments make the Accounting Standards Codification easier to understand and easier to apply by eliminating inconsistencies and providing clarifications. Most of the amendments in this Update do not require transition guidance and are effective upon issuance of this Update. Six amendments in this Update clarify guidance or correct references in the Accounting Standards Codification that could potentially result in changes in current practice because of either misapplication or misunderstanding of current guidance. Early adoption is permitted for the amendments that require transition guidance. This ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business.* This ASU clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill and consolidation. The effective date of this ASU is for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company is evaluating the impact of this ASU.

In January 2017, the FASB issued ASU 2017-04, *Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.* This ASU is to simplify how an entity is required to test goodwill for impairment. The effective date of the amendment to the standard is for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company's goodwill impairment testing for the fiscal period beginning January 1, 2018, will follow the provisions of this ASU.

REVENUE RECOGNITION STANDARDS

In July 2015, FASB announced a one-year delay in the effective date of ASU 2014-09, *Revenue from Contracts with Customers.* This ASU will now be effective for interim and annual periods beginning after December 15, 2017. The standard will supersede nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of the ASU is that an entity should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU also requires additional disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. The standard permits adoption as early as the original effective date, which was for interim and annual periods beginning after December 15, 2016.

In March 2016, the FASB issued ASU 2016-08, *Revenue from Contract with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*. This ASU is meant to reduce the potential for diversity in practice arising from inconsistent application of the principal versus agent guidance as well as reduce the cost and complexity during the transition and on an ongoing basis.

In April 2016, the FASB issued ASU 2016-10, *Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing*. This ASU is meant to clarify the identification of performance obligations and the licensing implementation guidelines, while retaining the related principles of those areas.

In December 2016, the FASB issued ASU 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers.* This ASU includes technical corrections and improvements to Topic 606 and other Topics amended by Update 2014-09 to increase stakeholders’ awareness of the proposals and to expedite improvements to ASU 2014-09.

The effective dates of ASU 2016-08, ASU 2016-10 and ASU 2016-20 are consistent with ASU 2014-09. The Company has elected not to early adopt these ASUs. The standard permits the use of either the full retrospective or the modified retrospective adoption method. The Company is planning to elect the modified retrospective method and recognize the cumulative effect of initially applying the new standard as an adjustment to the opening balance of equity as of January 1, 2018. These ASUs require expanded qualitative and quantitative disclosures of revenue and cash flows emerging from Contracts with Customers.

The Company has evaluated the provisions of the new standard and is in the process of assessing its impact on financial statements, information systems, business processes and financial statement disclosures. Based on initial reviews, the standard is not expected to have a material impact on the Company's Consolidated Financial Statements.

NOTE 2 - BUSINESS ACQUISITIONS AND DIVESTITURES

On September 1, 2015, the Company acquired all of the issued share capital of Cromwell Group (Holdings) Limited (Cromwell). With sales of £285 million ($437 million) for fiscal year ending August 31, 2015, prior to the acquisition, Cromwell was the largest independent MRO distributor in the United Kingdom. This acquisition brings together Cromwell's product strength and customer relationships with Grainger's expertise in supply chain and eCommerce to accelerate growth in the core and online Cromwell business. The Company paid £310 million ($464 million), subject to customary adjustments, for the Cromwell acquisition. The acquisition was partially funded with newly issued debt in the United Kingdom. The goodwill recorded in the acquisition totaled approximately $123 million. The goodwill is not deductible for tax purposes. The intangibles recorded in the acquisition consisted primarily of tradename (approximately $84 million) and customer relationships (approximately $132 million) intangibles. The tradename is deemed to have an indefinite life and the customer relationship will be amortized over 15 years. The purchase price allocation has been finalized during 2016 and the impact to the consolidated financial statements was not material. Disclosure of pro forma results was not required.

During 2014, the Company announced plans to close the business in Brazil. In 2014, the Company recorded shutdown costs of $29 million in the Consolidated Statement of Earnings, including $9 million reclassified from Accumulated other comprehensive earnings (losses) related to foreign currency translation losses from the consolidation of the business unit.

NOTE 3 - GOODWILL AND OTHER INTANGIBLE ASSETS

The balances and changes in the carrying amount of Goodwill by segment are as follows (in thousands of dollars):

	United States	Canada	Other Businesses	Total
Balance at January 1, 2015	$ 202,020	$ 141,189	$ 163,696	$ 506,905
Acquisitions	—	—	114,903	114,903
Translation	—	(22,660)	(16,812)	(39,472)
Balance at December 31, 2015	202,020	118,529	261,787	582,336
Acquisitions and Purchase Price Adjustments	—	—	8,362	8,362
Impairment	—	—	(47,244)	(47,244)
Translation	—	3,611	(19,915)	(16,304)
Balance at December 31, 2016	$ 202,020	$ 122,140	$ 202,990	$ 527,150
Cumulative goodwill impairment charges, January 1, 2016	$ 17,038	$ 32,265	$ 23,055	$ 72,358
Goodwill impairment charges	—	—	47,244	47,244
Cumulative goodwill impairment charges, December 31, 2016	$ 17,038	$ 32,265	$ 70,299	$ 119,602

Business acquisitions result in the recording of goodwill and identified intangible assets that affect the amount of amortization expense and possible impairment write-downs that may occur in future periods. Grainger annually reviews goodwill and intangible assets with indefinite lives for impairment in the fourth quarter and when events or changes in circumstances indicate the carrying value of these assets might exceed their current fair values. Grainger tests for goodwill impairment at the reporting unit level and performs a qualitative assessment of factors such as a reporting unit's current performance and overall economic conditions to determine if it is more likely than not that the goodwill might be impaired and whether it is necessary to perform the two-step quantitative goodwill impairment test. In the two-step test, Grainger compares the carrying value of assets of the reporting unit to its calculated fair value. If the carrying value of assets of the reporting unit exceeds its calculated fair value, the second step is performed, where the implied fair value of goodwill is compared to the carrying value of that goodwill, to determine the amount of impairment.

The fair value of reporting units is calculated primarily using the discounted cash flow (DCF) method and incorporating value indicators from a market approach to evaluate the reasonableness of the resulting fair values. The DCF method incorporates various assumptions including the amount and timing of future expected cash flows, including revenues, gross margins, operating expenses, capital expenditures and working capital based on operational budgets, long-range strategic plans and other estimates. The terminal value growth rate is used to calculate the value of cash flows beyond the last projected period and reflects management's best estimates for perpetual growth for the reporting units. Estimates of market-participant risk-adjusted weighted average cost of capital are used as a basis for determining the discount rates to apply to the reporting units' future expected cash flows and terminal value.

Grainger completed its annual goodwill impairment testing during the fourth quarter. For all of the Company's reporting units, the estimated fair values substantially exceeded the carrying values, except for the Fabory reporting unit. As of the 2015 test, the fair value of the Fabory reporting unit exceeded its $106 million carrying value by 15%. During the current year testing, Grainger considered Fabory's performance and the revised outlook. Prior branch rationalization initiatives and structural changes in the business contributed to cost improvements. However, declines in sales, primarily in the Netherlands and France, and price pressure contributed to lower earnings for the year. The current year business performance and revised financial projections also reflect market conditions, which continued to be negatively impacted by the downturn in oil and gas and maritime industries in the Netherlands, Fabory's largest market. The revised outlook and uncertainty beyond 2016 were factored into lower earnings, cash flow projections and long-term expectations for Fabory's future performance, resulting in the calculated fair value of the reporting unit below its carrying value in step one of the two-step quantitative test, and step two impairment calculations were required. As a result, the Company recorded a $47 million goodwill impairment charge with no tax benefit due to the nondeductibility of goodwill in the relevant taxing jurisdictions. The risk of potential failure of step one of the impairment test for Fabory's remaining goodwill of $55 million as of December 31, 2016, is highly dependent upon a number of assumptions included in the determination of the reporting unit's fair value. Changes in assumptions regarding discount rate and future performance may have a significant impact on the fair value of the reporting unit in the future. If future earnings and cash flow projections are not achieved or unfavorable economic environment continues in Fabory's key markets, future impairment of the remaining goodwill or intangible assets could result.

The balances and changes in Intangible assets - net are as follows (in thousands of dollars):

		As of December 31,					
		2016			2015		
	Weighted average life	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Customer lists and relationships	14.2 years	$ 424,405	$ 175,112	$ 249,293	$ 452,429	$ 148,424	$ 304,005
Trademarks, trade names and other	13.8 years	25,353	14,262	11,091	25,764	13,051	12,713
Non-amortized trade names and other		128,282	—	128,282	146,576	—	146,576
Capitalized software	4.2 years	571,978	374,518	197,460	504,283	319,567	184,716
Total intangible assets	8.5 years	$ 1,150,018	$ 563,892	$ 586,126	$ 1,129,052	$ 481,042	$ 648,010

Capitalized software of $185 million was previously reported in Other Assets as of December 31, 2015. The amount was reclassified to Intangibles - net to conform to the 2016 presentation.

Amortization expense recognized on intangible assets was $82 million, $65 million and $54 million for the years ended December 31, 2016, 2015 and 2014, respectively, and is included in Warehousing, marketing and administrative expenses on the Consolidated Statement of Earnings.

Estimated amortization expense for future periods is as follows (in thousands of dollars):

Year	Expense
2017	$ 85,791
2018	75,502
2019	58,309
2020	43,488
2021	31,716
Thereafter	163,038

NOTE 4 - ALLOWANCE FOR DOUBTFUL ACCOUNTS

The following table shows the activity in the allowance for doubtful accounts (in thousands of dollars):

	For the Years Ended December 31, 2016	2015
Balance at beginning of period	$ 22,288	$ 22,121
Provision for uncollectible accounts	16,216	10,181
Write-off of uncollectible accounts, net of recoveries	(11,248)	(10,495)
Business acquisitions, foreign currency and other	(566)	481
Balance at end of period	$ 26,690	$ 22,288

NOTE 5 - INVENTORIES

Inventories primarily consist of merchandise purchased for resale. Inventories would have been $382 million and $388 million higher than reported at December 31, 2016 and 2015, respectively, if the FIFO method of inventory accounting had been used for all Company inventories. Net earnings would have decreased by $3 million and $1 million, and increased by $1 million for the years ended December 31, 2016, 2015 and 2014, respectively, using the FIFO method of accounting. Inventory values using the FIFO method of accounting approximate replacement cost. The Company provides reserves for excess and obsolete inventory.

The following table shows the activity in the reserves for excess and obsolete inventory (in thousands of dollars):

	For the Years Ended December 31, 2016	2015
Balance at beginning of period	$ (168,105)	$ (136,748)
Provision for excess and obsolete inventory	(58,485)	(35,165)
Disposal of unsaleable inventory	30,161	24,046
Business acquisitions, foreign currency and other	4,915	(20,238)
Balance at end of period	$ (191,514)	$ (168,105)

NOTE 6 - RESTRUCTURING RESERVES

The Company recorded employee termination benefits with the majority expected to be paid through 2017 related to the restructuring. Severance costs of approximately $34 million and $30 million were recorded in the years ended December 31, 2016 and 2015, respectively, and are included in Warehousing, marketing and administrative expenses. The reserve balance as of December 31, 2016 and 2015 was approximately $23 million and $24 million, respectively, and is included in Accrued Compensation and Benefits.

NOTE 7 - SHORT-TERM DEBT

Short-term debt consisted of the following (in thousands of dollars):

	As of December 31,	
	2016	2015
Lines of Credit		
Outstanding at December 31	$ 16,392	$ 23,072
Maximum month-end balance during the year	$ 24,722	$ 47,802
Weighted average interest rate during the year	4.04%	4.37%
Weighted average interest rate at December 31	5.13%	3.16%
Commercial Paper		
Outstanding at December 31	$ 369,748	$ 330,000
Maximum month-end balance during the year	$ 629,712	$ 330,000
Weighted average interest rate during the year	0.50%	0.23%
Weighted average interest rate at December 31	0.69%	0.47%

Lines of Credit
The Company's U.S. business had a committed line of credit of $900 million in 2016 and 2015 for which the Company paid a commitment fee of 0.07% in 2016 and 2015. This line of credit supports the issuance of commercial paper. The current line is due to expire in August 2018.

Foreign subsidiaries also utilize lines of credit to meet business growth and operating needs. The Company had $88 million and $100 million of uncommitted lines of credit at December 31, 2016 and 2015, respectively.

Commercial Paper
The Company issued commercial paper for general working capital needs.

Letters of Credit
The Company's U.S. business had $30 million and $29 million of letters of credit at December 31, 2016 and 2015, respectively, primarily related to the Company's insurance program. Letters of credit were also issued to facilitate purchases of products. These issued amounts were $5 million and $3 million at December 31, 2016 and 2015, respectively. Letters of credit issued by the Company's international businesses were immaterial.

NOTE 8 - LONG-TERM DEBT

Long-term debt consisted of the following (in thousands of dollars):

	As of December 31,	
	2016	2015
4.60% senior notes due 2045	$ 1,000,000	$ 1,000,000
3.75% senior notes due 2046	400,000	—
U.S. dollar term loan	—	114,614
British pound term loan and revolving credit facility	187,506	235,808
Euro term loan and revolving credit facility	120,900	114,030
Canadian dollar revolving credit facility	100,521	108,389
Other	71,109	75,866
	1,880,036	1,648,707
Less current maturities	(19,966)	(247,346)
Debt issuance costs and discounts	(19,124)	(12,947)
	$ 1,840,946	$ 1,388,414

Senior Notes

On May 16, 2016, the Company issued $400 million of unsecured 3.75% Senior Notes (3.75% Notes) that mature on May 15, 2046. The 3.75% Notes require no principal payments until the maturity date and interest is payable semi-annually on May 15 and November 15, beginning on November 15, 2016. Prior to November 15, 2045, the Company may redeem the 3.75% Notes in whole at any time or in part from time to time at a “make-whole” redemption price. This redemption price is calculated by reference to the then-current yield on a U.S. treasury security with a maturity comparable to the remaining term of the 3.75% Notes plus 20 basis points, together with accrued and unpaid interest, if any, to the redemption date. Additionally, if the Company experiences specific kinds of changes in control, it will be required to make an offer to purchase the 3.75% Notes at 101% of their principal amount plus accrued and unpaid interest, if any, to the date of purchase. On or after November 15, 2045, the Company may redeem the 3.75% Notes in whole at any time or in part from time to time at 100% of their principal amount, together with accrued and unpaid interest, if any, to the redemption date. Costs and discounts of approximately $7 million associated with the issuance of the 3.75% Notes, representing underwriting fees and other expenses, have been recorded as a contra-liability within Long-term debt and will be amortized to interest expense over the term of the 3.75% Notes. The fair value of the 3.75% Notes was approximately $371 million as of December 31, 2016.

On June 11, 2015, the Company issued $1 billion of unsecured 4.60% Senior Notes (4.60% Notes) that mature on June 15, 2045. The 4.60% Notes require no principal payments until the maturity date and interest is payable semi-annually on June 15 and December 15, beginning on December 31, 2015. Prior to December 15, 2044, the Company may redeem the 4.60% Notes in whole at any time or in part from time to time at a “make-whole” redemption price. This redemption price is calculated by reference to the then-current yield on a U.S. treasury security with a maturity comparable to the remaining term of the 4.60% Notes plus 25 basis points, together with accrued and unpaid interest, if any, to the redemption date. Additionally, if the Company experiences specific kinds of changes in control, it will be required to make an offer to purchase the 4.60% Notes at 101% of their principal amount plus accrued and unpaid interest, if any, to the date of purchase. On or after December 15, 2044, the Company may redeem the 4.60% Notes in whole at any time or in part from time to time at 100% of their principal amount, together with accrued and unpaid interest, if any, to the redemption date. Costs and discounts of approximately $11 million associated with the issuance of the 4.60% Notes, representing underwriting fees and other expenses, have been recorded as a contra-liability within Long-term debt and will be amortized to interest expense over the term of the 4.60% Notes. The fair value of the 4.60% Notes was approximately $1.1 billion and $1 billion as of December 31, 2016 and 2015, respectively.

The estimated fair value of the Company's 3.75% Notes and 4.60% Notes was based on available external pricing data and current market rates for similar debt instruments, among other factors, which are classified as level 2 inputs within the fair value hierarchy. The carrying value of other long-term debt approximates fair value due to the variable interest rates.

U.S. Dollar Term Loan
In January 2016, the Company exercised its option to prepay the U.S. dollar loan and paid off the remaining balance of the loan.

British Pound Term Loan and Revolving Credit Facility
On August 26, 2015, the Company entered into an unsecured credit facilities agreement providing for a five-year term loan of £160 million and revolving credit facility of £20 million. Proceeds of the term loan were used to partially fund the acquisition of Cromwell and to pay certain costs related to the acquisition. Under the agreement, the principal amount of the term loan will be repaid semiannually in installments of £4 million beginning February 2016 through February 2020 with the remaining outstanding amount due August 2020. At the election of the Company, the term loan bears interest at the London Interbank Offered Rate (LIBOR) Rate plus the Applicable Margin as defined within the term loan agreement. At December 31, 2016, the Company had elected a one-month LIBOR Interest Period. The weighted average interest rate was 1.17% and 1.26% for the years ended December 31, 2016 and 2015, respectively.

The Company has the right to obtain advances under the revolving credit facility, which will be used for general corporate and working capital purposes. Pursuant to the credit agreement, there is a commitment fee of 0.26% as of December 31, 2016. There is no balance outstanding on the revolving credit facility as of December 31, 2016.

Euro Term Loan and Revolving Credit Facility
On August 31, 2016, the Company entered into an agreement for a five year term loan of €110 million and a revolving credit facility of up to €20 million. The proceeds from the term loan were used to pay in full €102.5M of a term loan that matured in August 2016, which was entered into to partially fund the acquisition of Fabory in 2011. Under the agreement, no principal amount of the loan will be required to be paid until the loan becomes due on August 31, 2021, at which time the loan will be required to be paid in full. The Company, at its option, may prepay this term loan in whole or in part at the end of any interest period without penalty. The loan bears interest at the Euro Interbank Offered Rate (EURIBOR) plus a margin of 45 basis points. If EURIBOR is less than zero, then EURIBOR will be deemed to be zero. The interest rate at December 31, 2016, was 0.45%. Costs of approximately €0.5 million associated with the issuance of the term loan, representing arrangement fees and other expenses, have been recorded as a contra-liability within Long-term debt and will be amortized to interest expense over the life of the term loan. The revolving credit facility must generally be paid at the conclusion of each interest period as defined in the facility agreement. This facility will bear interest at EURIBOR plus a margin of 35 basis points.

The Company has the right to obtain advances under the revolving credit facility, which will be used for general corporate and working capital purposes. Pursuant to the credit agreement, there is a commitment fee of 0.1225% as of December 31, 2016. There is €5M outstanding on the revolving credit facility as of December 31, 2016. The interest rate on the outstanding amount at December 31, 2016, was 0.35%.

Canadian Dollar Revolving Credit Facility
In September 2014, the Company entered into an unsecured revolving credit facility with a maximum availability of C$175 million. Pursuant to the credit agreement, there is a commitment fee of 0.07% as of December 31, 2016, and the facility matures on September 24, 2019. As of December 31, 2016 and 2015, the Company had drawn C$135 million and C$150 million, respectively, under the facility for the purpose of repaying an intercompany loan and to fund general working capital needs. The weighted average interest rate during the year on this outstanding amount was 1.59%. No principal payments are required on the credit facility until the maturity date.

The scheduled aggregate principal payments related to long-term debt, excluding debt issuance costs, are due as follows (in thousands of dollars):

Year	Payment Amount
2017	$ 19,966
2018	29,339
2019	128,670
2020	179,322
2021	115,743
Thereafter	1,406,996
Total	$ 1,880,036

The Company's debt instruments include affirmative and negative covenants that are usual and customary for companies with similar credit ratings. The Company was in compliance with all debt covenants as December 31, 2016.

NOTE 9 - EMPLOYEE BENEFITS

The Company provides various retirement benefits to eligible employees, including contributions to defined contribution plans, pension benefits associated with defined benefit plans, postretirement medical benefits and other benefits. Eligibility requirements and benefit levels vary depending on employee location. Various foreign benefit plans cover employees in accordance with local legal requirements.

Defined Contribution Plans
A majority of the Company's U.S. employees are covered by a noncontributory profit-sharing plan. Effective January 1, 2016, the plan was amended to better align Company contributions to Company performance and now includes two components, a variable annual contribution based on a rate of return on invested capital and an automatic contribution equal to 3% of total eligible compensation to a 401(k) plan. In addition, employees covered by the plan are also able to make personal contributions to the 401(k) plan. The total Company contribution will be maintained at a minimum of 8% and a maximum of 18% of total eligible compensation paid to eligible employees. The total profit-sharing plan expense was $84 million, $121 million and $175 million for 2016, 2015 and 2014, respectively.

The Company sponsors additional defined contribution plans available to certain U.S. and foreign employees for which contributions are paid by the Company and participating employees. The expense associated with these defined contribution plans totaled $12 million, $11 million and $15 million for 2016, 2015 and 2014, respectively.

Defined Benefit Plans and Other Retirement Plans
The Company sponsors defined benefit plans available to certain foreign employees. The cost of these programs is not significant to the Company. In certain countries, pension contributions are made to government-sponsored social security pension plans in accordance with local legal requirements. For these plans, the Company has no continuing obligations other than the payment of contributions.

Postretirement Benefits
The Company has a postretirement healthcare benefits plan that provides coverage for a majority of its U.S. employees hired prior to January 1, 2013, and their dependents should they elect to maintain such coverage upon retirement. Covered employees become eligible for participation when they qualify for retirement while working for the Company. Participation in the plan is voluntary and requires participants to make contributions toward the cost of the plan, as determined by the Company.

The net periodic benefits costs charged to operating expenses, which were valued with a measurement date of January 1 for each year, consisted of the following components (in thousands of dollars):

	For the Years Ended December 31,		
	2016	2015	2014
Service cost	$ 8,238	$ 10,128	$ 9,005
Interest cost	9,855	9,649	10,549
Expected return on assets	(10,113)	(10,375)	(8,237)
Amortization of prior service credit	(6,688)	(6,801)	(7,254)
Amortization of transition asset	—	—	(143)
Amortization of unrecognized losses	129	1,512	779
Net periodic benefits costs	$ 1,421	$ 4,113	$ 4,699

Reconciliations of the beginning and ending balances of the postretirement benefit obligation, which is calculated as of December 31 measurement date, the fair value of plan assets available for benefits and the funded status of the benefit obligation follow (in thousands of dollars):

	2016	2015
Benefit obligation at beginning of year	$ 239,348	$ 282,917
Service cost	8,238	10,128
Interest cost	9,855	9,649
Plan participants' contributions	2,943	2,754
Actuarial losses (gains)	13,218	(58,251)
Benefits paid	(9,439)	(8,739)
Prescription drug rebates	865	890
Benefit obligation at end of year	265,028	239,348
Plan assets available for benefits at beginning of year	155,611	156,015
Actual returns on plan assets	13,557	1,635
Employer's contributions	—	2,747
Plan participants' contributions	2,774	2,754
Benefits paid	(9,262)	(8,430)
Prescription drug rebates	865	890
Plan assets available for benefits at end of year	163,545	155,611
Noncurrent postretirement benefit obligation	$ 101,483	$ 83,737

The amounts recognized in AOCE consisted of the following (in thousands of dollars):

	As of December 31,	
	2016	2015
Prior service credit	$ 53,814	$ 60,502
Unrecognized losses	(12,656)	(3,015)
Deferred tax (liability)	(15,861)	(22,134)
Net accumulated gains	$ 25,297	$ 35,353

The $10 million increase in unrecognized losses was primarily driven by a decrease in the discount rate and revised healthcare cost trends, partially offset by a change in the mortality improvement tables used and a change in per capita costs.

The components of AOCE related to the postretirement benefit costs that will be amortized into net periodic postretirement benefit costs in 2017 are estimated as follows (in thousands of dollars):

		2017
Amortization of prior service credit	$	(6,492)
Amortization of unrecognized losses		937
Estimated amount to be amortized from AOCE into net periodic postretirement benefit costs	$	(5,555)

The Company has elected to amortize the amount of net unrecognized gains (losses) over a period equal to the average remaining service period for active plan participants expected to retire and receive benefits of approximately 13.5 years for 2016.

The benefit obligation was determined by applying the terms of the plan and actuarial models. These models include various actuarial assumptions, including discount rates, long-term rates of return on plan assets, healthcare cost trend rate and cost-sharing between the Company and the retirees. The Company evaluates its actuarial assumptions on an annual basis and considers changes in these long-term factors based upon market conditions and historical experience.

The following assumptions were used to determine net periodic benefit costs at January 1:

	For the Years Ended December 31,		
	2016	2015	2014
Discount rate	4.20%	3.89%	4.90%
Long-term rate of return on plan assets, net of tax	6.65%	6.65%	5.70%
Initial healthcare cost trend rate	7.00%	7.25%	7.50%
Ultimate healthcare cost trend rate	4.50%	4.50%	4.50%
Year ultimate healthcare cost trend rate reached	2026	2026	2026

The following assumptions were used to determine benefit obligations at December 31:

	2016	2015	2014
Discount rate	4.00%	4.20%	3.89%
Expected long-term rate of return on plan assets, net of tax	7.13%	6.65%	6.65%
Initial healthcare cost trend rate	6.81%	7.00%	7.25%
Ultimate healthcare cost trend rate	4.50%	4.50%	4.50%
Year ultimate healthcare cost trend rate reached	2026	2026	2026

The discount rate assumptions reflect the rates available on high-quality fixed income debt instruments as of December 31, the measurement date of each year. These rates have been selected due to their similarity to the duration of the projected cash flows of the postretirement healthcare benefit plan. As of December 31, 2016, the Company decreased the discount rate from 4.20% to 4.00% to reflect the decrease in the market interest rates, which contributed to the unrealized actuarial loss at December 31, 2016. As of December 31, 2016, the Company changed the mortality improvement table used to project mortality rates into the future from Mortality Table RP-2014 with Mortality Improvement Scale MB 2015 to Mortality Table RPH-2014 with Mortality Improvement Scale MP 2016, which was published by the Society of Actuaries and reflects the most recent updates to life expectancies. RPH-2014 Table is a headcount weighted table, which is also more appropriate for a postretirement healthcare benefit plan. The Company reviews external data and its own historical trends for healthcare costs to determine the healthcare cost trend rates. As of December 31, 2016, Grainger adopted a new healthcare trend rate to include a pre and post age 65 trend rates. Post age 65, prescription drug costs, primarily specialty drugs, are expected to increase the cost of healthcare more significantly than medical expenses. The alternative trend rates allow for a better estimate of expected costs for this plan. As of December 31, 2016, the initial healthcare cost trend rate was 6.81% for pre age 65 and 9.36% for post age 65. The healthcare costs trend rates decline each year until reaching the ultimate trend rate of 4.50%. Assumed healthcare cost trend rates have a significant effect on the amounts reported for the healthcare plans. A 1 percentage point change in assumed healthcare cost trend rates would have the following effects on 2016 results (in thousands of dollars):

	1 Percentage Point	
	Increase	(Decrease)
Effect on total service and interest cost	$ 1,411	$ (1,162)
Effect on postretirement benefit obligation	27,542	(22,748)

The Company has established a Group Benefit Trust (Trust) to fund the plan obligations and process benefit payments. All assets of the Trust are invested in equity funds designed to track to either the Standard & Poor's 500 Index (S&P 500) or the Total International Composite Index. The Total International Composite Index tracks non-U.S. stocks within developed and emerging market economies. This investment strategy reflects the long-term nature of the plan obligation and seeks to take advantage of the earnings potential of equity securities in the global markets and intends to reach a balanced allocation between U.S. and non-U.S. equities. The plan's assets are stated at fair value, which represents the net asset value of shares held by the plan in the registered investment companies at the quoted market prices (Level 1 input). The plan assets available for benefits are net of Trust liabilities, primarily related to deferred income taxes and taxes payable at December 31 (in thousands of dollars):

	2016	2015
Registered investment companies:		
Fidelity Spartan U.S. Equity Index Fund	$ 70,950	$ 70,973
Vanguard 500 Index Fund	87,587	78,254
Vanguard Total International Stock	24,056	22,976
Plan Assets	182,593	172,203
Trust liabilities	(19,048)	(16,592)
Plan assets available for benefits	$ 163,545	$ 155,611

The Company uses the long-term historical return on the plan assets and the historical performance of the S&P 500 and the Total International Composite Index to develop its expected return on plan assets. The Company increased the after-tax expected long-term rates of return on plan assets from 6.65% to 7.13% at December 31, 2016, based on the historical average of long-term rates of return and a lower estimated tax rate. This change was due to the nature of the taxable income earned on Trust investments. The required use of an expected long-term rate of return on plan assets may result in recognition of income that is greater or less than the actual return on plan assets in any given year. Over time, however, the expected long-term returns are designed to approximate the actual long-term returns and, therefore, result in a pattern of income recognition that more closely matches the pattern of the services provided by the employees.

The Company's investment policies include periodic reviews by management and trustees at least annually concerning: (1) the allocation of assets among various asset classes (e.g., domestic stocks, international stocks, short-term bonds, long-term bonds, etc.); (2) the investment performance of the assets, including performance comparisons with appropriate benchmarks; (3) investment guidelines and other matters of investment policy and (4) the hiring, dismissal or retention of investment managers.

The funding of the Trust is an estimated amount that is intended to allow the maximum deductible contribution under the Internal Revenue Code of 1986 (IRC), as amended. There are zero minimum funding requirements and the Company intends to follow its practice of funding the maximum deductible contribution under the IRC.

The Company forecasts the following benefit payments related to postretirement (which include a projection for expected future employee service) for the next ten years (in thousands of dollars):

Year	Estimated Gross Benefit Payments
2017	$ 8,211
2018	9,236
2019	10,212
2020	11,428
2021	12,692
2022-2026	78,216

NOTE 10 - LEASES

The Company leases certain land, buildings and equipment under noncancellable operating leases that expire at various dates through 2036. Capital leases as of December 31, 2016, are not considered material. Many of the building leases obligate the Company to pay real estate taxes, insurance and certain maintenance costs, and contain multiple renewal provisions, exercisable at the Company's option. Leases that contain predetermined fixed escalations of the minimum rentals are recognized in rental expense on a straight-line basis over the lease term. Cash or rent abatements received upon entering into certain operating leases are also recognized on a straight-line basis over the lease term.

At December 31, 2016, the approximate future minimum lease payments for all operating leases were as follows (in thousands of dollars):

Year	Future Minimum Lease Payments
2017	$ 59,045
2018	45,504
2019	32,616
2020	15,358
2021	10,333
Thereafter	15,469
Total minimum payments required	178,325
Less amounts representing sublease income	(4,063)
	$ 174,262

Rent expense was $81 million for 2016 and $77 million for 2015 and 2014, respectively. These amounts are net of sublease income of $2 million for each 2016, 2015 and 2014.

NOTE 11 - STOCK INCENTIVE PLANS

The Company maintains stock incentive plans under which the Company may grant a variety of incentive awards to employees and directors. Non-qualified stock options, performance shares, restricted stock units and deferred stock units have been granted and are outstanding under these plans. In 2015, the Company approved the 2015 Incentive Plan (Plan), which replaced all prior active plans. The Plan authorizes the granting of options to purchase shares at a price equal to the closing market price on the date of the grant. As of December 31, 2016, there were 2.9 million shares available for grant under the plans. When options are exercised, shares of the Company's treasury stock are issued.

Pretax stock-based compensation expense was $35 million, $43 million and $46 million in 2016, 2015 and 2014, respectively, and is included in Warehousing, marketing and administrative expenses. Related income tax benefits recognized in earnings were $11 million, $13 million and $15 million in 2016, 2015 and 2014, respectively.

Options

The Company issues stock option grants to certain employees as part of their incentive compensation. Option awards are granted with an exercise price equal to the closing market price of the Company's stock on the last trading day preceding the date of grant. The options generally vest over three years, although accelerated vesting is provided in certain circumstances. Awards generally expire 10 years from the grant date. Transactions involving stock options are summarized as follows:

	Shares Subject to Option	Weighted Average Price Per Share	Options Exercisable
Outstanding at January 1, 2014	2,850,455	$ 132.67	1,652,417
Granted	257,693	$ 248.21	
Exercised	(479,452)	$ 100.33	
Canceled or expired	(45,892)	$ 199.80	
Outstanding at December 31, 2014	2,582,804	$ 149.01	1,647,903
Granted	294,522	$ 232.20	
Exercised	(587,441)	$ 105.08	
Canceled or expired	(63,599)	$ 216.76	
Outstanding at December 31, 2015	2,226,286	$ 169.96	1,411,460
Granted	294,874	$ 234.25	
Exercised	(317,110)	$ 108.28	
Canceled or expired	(80,014)	$ 210.01	
Outstanding at December 31, 2016	2,124,036	$ 186.59	1,346,707

At December 31, 2016, there was $8.6 million of total unrecognized compensation expense related to nonvested option awards, which the Company expects to recognize over a weighted average period of 1.8 years.

The following table summarizes information about stock options (in thousands of dollars):

	For the years ended December 31,		
	2016	2015	2014
Fair value of options exercised	$ 8,086	$ 14,423	$ 11,167
Total intrinsic value of options exercised	35,800	73,671	71,924
Fair value of options vested	14,535	16,047	16,115
Settlements of options exercised	34,573	61,863	47,974

Information about stock options outstanding and exercisable as of December 31, 2016, is as follows:

	Options Outstanding				Options Exercisable			
		Weighted Average				Weighted Average		
Range of Exercise Prices	Number	Remaining Contractual Life	Exercise Price	Intrinsic Value (000's)	Number	Remaining Contractual Life	Exercise Price	Intrinsic Value (000's)
$72.14 - $85.82	261,307	1.85 years	$ 80.95	$ 39,536	261,307	1.85 years	$ 80.95	$ 39,536
$102.26 - $196.31	549,608	3.75 years	$ 125.86	58,471	549,608	3.75 years	$ 125.86	58,471
$204.01 - $262.14	1,313,121	7.34 years	$ 233.03	(1,020)	535,792	5.86 years	$ 226.51	(22)
	2,124,036	5.73 years	$ 186.59	$ 96,987	1,346,707	4.22 years	$ 157.19	$ 97,985

The Company uses a binomial lattice option pricing model for the valuation of stock options. The weighted average fair value of options granted in 2016, 2015 and 2014 was $44.94, $46.67 and $53.43, respectively. The fair value of each option granted in 2016, 2015 and 2014 used the following assumptions:

	For the years ended December 31,		
	2016	2015	2014
Risk-free interest rate	1.4%	1.5%	2.0%
Expected life	6 years	6 years	6 years
Expected volatility	24.5%	24.9%	25.0%
Expected dividend yield	2.0%	1.9%	1.7%

The risk-free interest rate is selected based on yields from U.S. Treasury zero-coupon issues with a remaining term approximately equal to the expected term of the options being valued. The expected life selected for options granted during each year presented represents the period of time that the options are expected to be outstanding based on historical data of option holder exercise and termination behavior. Expected volatility is based upon implied and historical volatility of the Company's closing stock price over a period equal to the expected life of each option grant. Historical Company information is also the primary basis for selection of expected dividend yield assumptions.

Performance Shares
The Company awards performance-based shares to certain executives. Receipt of Company stock is contingent upon the Company meeting sales growth and/or return on invested capital (ROIC) goals. Each participant is granted a target number of shares; however the number of shares actually awarded at the end of the performance period can fluctuate from the target award, based upon achievement of the sales or ROIC goals.

Performance share value is based upon closing market prices on the last trading day preceding the date of award and is charged to earnings on a ratable basis over the vesting period, primarily three, and up to seven years for certain awards, based on the number of shares expected to vest. Holders of performance share awards are not entitled to receive cash payments equivalent to cash dividends. If the performance shares vest, they will be settled by the Company's issuance of common stock in exchange for the performance shares on a one-for-one basis.

The following table summarizes the transactions involving performance-based share awards:

	2016		2015		2014	
	Shares	Weighted Average Price Per Share	Shares	Weighted Average Price Per Share	Shares	Weighted Average Price Per Share
Beginning nonvested shares outstanding	73,160	$ 232.72	57,236	$ 220.00	57,533	$ 185.02
Issued	60,414	$ 191.38	47,264	$ 227.26	32,194	$ 242.65
Canceled	(11,724)	$ 241.41	(13,108)	$ 215.01	(6,835)	$ 190.90
Vested	(23,510)	$ 242.65	(18,232)	$ 191.36	(25,656)	$ 177.75
Ending nonvested shares outstanding	98,340	$ 203.91	73,160	$ 232.72	57,236	$ 220.00

At December 31, 2016, there was $11.5 million of total unrecognized compensation expense related to performance-based share awards that the Company expects to recognize over a weighted average period of 3.2 years.

Restricted Stock Units (RSUs)

The Company awards restricted stock units (RSUs) to certain employees and executives. RSUs granted vest over periods from three to seven years from issuance, although accelerated vesting is provided in certain instances. Holders of RSUs are entitled to receive non-forfeitable cash payments equivalent to cash dividends and other distributions paid with respect to common stock. RSUs are settled by the issuance of the Company's common stock on a one-for-one basis. Compensation expense related to RSUs is based upon the closing market price on the last trading day preceding the date of award and is charged to earnings on a straight-line basis over the vesting period. The following table summarizes RSU activity:

	2016		2015		2014	
	Shares	Weighted Average Price Per Share	Shares	Weighted Average Price Per Share	Shares	Weighted Average Price Per Share
Beginning nonvested units	432,783	$ 213.45	560,351	$ 182.40	739,717	$ 154.09
Issued	113,909	$ 230.36	104,220	$ 234.21	103,427	$ 248.12
Canceled	(62,869)	$ 229.70	(38,124)	$ 219.74	(51,410)	$ 170.98
Vested	(110,420)	$ 193.51	(193,664)	$ 133.56	(231,383)	$ 123.82
Ending nonvested units	373,403	$ 221.77	432,783	$ 213.45	560,351	$ 182.40
Fair value of shares vested	$21,367		$25,865		$28,650	

At December 31, 2016, there was $43 million of total unrecognized compensation expense related to nonvested RSUs that the Company expects to recognize over a weighted average period of 3.0 years.

NOTE 12 - CAPITAL STOCK

The Company had no shares of preferred stock outstanding as of December 31, 2016 and 2015. The activity related to outstanding common stock and common stock held in treasury was as follows:

	2016		2015	
	Outstanding Common Stock	Treasury Stock	Outstanding Common Stock	Treasury Stock
Balance at beginning of period	62,028,708	47,630,511	67,432,041	42,227,178
Exercise of stock options	315,171	(315,171)	580,947	(580,947)
Settlement of restricted stock units, net of 41,128 and 73,496 shares retained, respectively	78,310	(78,310)	145,757	(145,757)
Settlement of performance share units, net of 6,765 and 9,971 shares retained, respectively	11,806	(11,806)	15,956	(15,956)
Purchase of treasury shares	(3,629,681)	3,629,681	(6,145,993)	6,145,993
Balance at end of period	58,804,314	50,854,905	62,028,708	47,630,511

NOTE 13 - ACCUMULATED OTHER COMPREHENSIVE EARNINGS (LOSSES) (AOCE)

The components of AOCE consisted of the following (in thousands of dollars):

	Foreign Currency Translation	Defined Postretirement Benefit Plan	Other Employment-related Benefit Plans	Other	Total	Foreign Currency Translation Attributable to Noncontrolling Interests	AOCE Attributable to W.W. Grainger, Inc.
Balance at January 1, 2014, net of tax	$ (7,297)	$ 34,887	$ (8,811)	$ (2,971)	$ 15,808	$ (13,106)	$ 28,914
Other comprehensive earnings (loss) before reclassifications, net of tax	(124,065)	(22,667)	(1,462)	786	(147,408)	(9,880)	(137,528)
Amounts reclassified to Warehousing, marketing and administrative expenses	9,042	(6,617)	9,295	—	11,720	—	11,720
Amounts reclassified to Income Taxes	—	2,545	(2,324)	—	221	—	221
Net current period activity	$ (115,023)	$ (26,739)	$ 5,509	$ 786	$ (135,467)	$ (9,880)	$ (125,587)
Balance at December 31, 2014, net of tax	$ (122,320)	$ 8,148	$ (3,302)	$ (2,185)	$ (119,659)	$ (22,986)	$ (96,673)
Other comprehensive earnings (loss) before reclassifications, net of tax	(154,096)	30,451	641	1,300	(121,704)	(532)	(121,172)
Amounts reclassified to Warehousing, marketing and administrative expenses	—	(5,289)	—	—	(5,289)	—	(5,289)
Amounts reclassified to Income Taxes	—	2,043	—	—	2,043	—	2,043
Net current period activity	$ (154,096)	$ 27,205	$ 641	$ 1,300	$ (124,950)	$ (532)	$ (124,418)
Balance at December 31, 2015, net of tax	$ (276,416)	$ 35,353	$ (2,661)	$ (885)	$ (244,609)	$ (23,518)	$ (221,091)
Other comprehensive earnings (loss) before reclassifications, net of tax	(38,729)	(6,022)	(2,397)	885	(46,263)	906	(47,169)
Amounts reclassified to Warehousing, marketing and administrative expenses	—	(6,559)	—	—	(6,559)	—	(6,559)
Amounts reclassified to Income Taxes	—	2,525	—		2,525	—	2,525
Net current period activity	(38,729)	(10,056)	(2,397)	885	(50,297)	906	(51,203)
Balance at December 31, 2016, net of tax	$ (315,145)	$ 25,297	$ (5,058)	$ —	$ (294,906)	$ (22,612)	$ (272,294)

NOTE 14 - INCOME TAXES

Income tax expense (benefit) consisted of the following (in thousands of dollars):

	For the Years Ended December 31,		
	2016	2015	2014
Current provision:			
Federal	$ 310,582	$ 412,545	$ 437,648
State	38,249	49,894	47,199
Foreign	25,076	24,087	43,088
Total current	373,907	486,526	527,935
Deferred tax (benefit) provision	12,313	(20,995)	(5,845)
Total provision	$ 386,220	$ 465,531	$ 522,090

Earnings (losses) before income taxes by geographical area consisted of the following (in thousands of dollars):

	For the Years Ended December 31,		
	2016	2015	2014
United States	$ 1,073,879	$ 1,203,880	$ 1,299,523
Foreign	(54,821)	46,825	34,863
	$ 1,019,058	$ 1,250,705	$ 1,334,386

The income tax effects of temporary differences that gave rise to the net deferred tax asset (liability) were (in thousands of dollars):

	As of December 31,	
	2016	2015
Deferred tax assets:		
Inventory	$ 30,030	$ 32,390
Accrued expenses	70,021	56,127
Accrued employment-related benefits	124,556	116,423
Foreign operating loss carryforwards	67,350	70,881
Other	22,256	12,962
Deferred tax assets	314,213	288,783
Less valuation allowance	(72,705)	(62,333)
Deferred tax assets, net of valuation allowance	$ 241,508	$ 226,450
Deferred tax liabilities:		
Property, buildings and equipment	(75,690)	(42,249)
Intangibles	(127,292)	(134,784)
Software	(25,431)	(20,744)
Prepaids	(11,959)	(17,901)
Other	(1,067)	(17,277)
Deferred tax liabilities	(241,439)	(232,955)
Net deferred tax asset (liability)	$ 69	$ (6,505)
The net deferred tax asset (liability) is classified as follows:		
Noncurrent assets	$ 64,775	$ 83,996
Noncurrent liabilities (foreign)	(64,706)	(90,501)
Net deferred tax asset (liability)	$ 69	$ (6,505)

At December 31, 2016, the Company had $256 million of net operating loss (NOLs) carryforwards related primarily to foreign operations. Some of the operating loss carryforwards may expire at various dates through 2036. The Company has recorded a valuation allowance, which represents a provision for uncertainty as to the realization of the tax benefits of these carryforwards and deferred tax assets that may not be realized. The Company's valuation allowance changed as follows (in thousands of dollars):

	For the Years Ended December 31,	
	2016	2015
Balance at beginning of period	$ 62,333	$ 56,876
Valuation allowance increases primarily related to foreign NOLs	12,174	7,045
Valuation allowance releases related to foreign NOLs	(3,870)	(437)
Other valuation allowance changes, net	2,068	(1,151)
Balance at end of period	$ 72,705	$ 62,333

A reconciliation of income tax expense with federal income taxes at the statutory rate follows (in thousands of dollars):

	For the Years Ended December 31,		
	2016	2015	2014
Federal income tax at the 35% statutory rate	$ 356,670	$ 437,746	$ 467,035
State income taxes, net of federal income tax benefit	25,993	29,507	31,263
Clean energy credit	(28,670)	(13,358)	—
Foreign rate difference	21,077	12,041	20,318
Other - net	11,150	(405)	3,474
Income tax expense	$ 386,220	$ 465,531	$ 522,090
Effective tax rate	37.9%	37.2%	39.1%

In the second quarter of 2015, the Company acquired a non-controlling interest in a limited liability company established to produce refined coal. Additionally, in the first quarter of 2016 the Company acquired a non-controlling interest in a second limited liabilty company established to produce refined coal. The production and sale of refined coal that results in required emission reductions is eligible for renewable energy tax credits under Section 45 of the Internal Revenue Code. The Company receives tax credits in proportion to its equity interest. The income tax credits from the investment resulted in a 2.8 and a 1.0 percentage point reduction to the overall effective tax rate for 2016 and 2015, respectively.

Undistributed earnings of foreign subsidiaries at December 31, 2016, amounted to $629 million. No provision for deferred U.S. income taxes has been made for these subsidiaries because the Company intends to permanently reinvest such earnings in its foreign operations. If at some future date these earnings cease to be permanently invested, the Company may be subject to U.S. income taxes, foreign withholding and other taxes on such amounts, which cannot be reasonably estimated at this time.

The balance and changes in the liability for tax uncertainties, excluding interest, are as follows (in thousands of dollars):

	For the Years Ended December 31,		
	2016	2015	2014
Balance at beginning of year	$ 60,576	$ 45,126	$ 40,317
Additions for tax positions related to the current year	14,119	14,916	11,545
Additions for tax positions of prior years	13,215	2,653	5,318
Reductions for tax positions of prior years	(14,774)	(1,616)	(4,109)
Reductions due to statute lapse	(1,527)	(402)	(1,271)
Settlements, audit payments, refunds - net	(12,928)	(101)	(6,674)
Balance at end of year	$ 58,681	$ 60,576	$ 45,126

The Company classifies the liability for tax uncertainties in deferred income taxes and tax uncertainties. Included in this amount are $22 million and $17 million at December 31, 2016 and 2015, respectively, of tax positions for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility. Any changes in the timing of deductibility of these items would not affect the annual effective tax rate but would accelerate the payment of cash to the taxing authorities to an earlier period. The changes to tax positions of prior years in 2016 related generally to the impact of conclusion of audits and audit settlements.

The Company regularly undergoes examination of its federal income tax returns by the Internal Revenue Service (IRS). In 2016, the Company settled the 2009 and 2010 federal audits with the IRS Appeals Office. The Company's federal tax returns for 2011 and 2012 are currently under audit by the IRS, and the tax years 2013 through 2016 are open. The Company is also subject to audit by state, local and foreign taxing authorities. Tax years 2002 - 2016 remain subject to state and local audits and 2006 - 2016 remain subject to foreign audits. The amount of liability associated with the Company's uncertain tax positions may change within the next 12 months due to the pending audit activity, expiring statutes or tax payments. A reasonable estimate of such change cannot be made.

The Company recognizes interest expense related to tax uncertainties in the provision for income taxes. During 2016, 2015 and 2014, the Company recognized tax uncertainties' interest expense of $1 million, $1 million and $2 million, respectively. As of December 31, 2016, 2015 and 2014, the Company accrued approximately $4 million, $5 million and $4 million for tax uncertainties' interest, respectively.

NOTE 15 - EARNINGS PER SHARE

Certain of the Company’s stock incentive plans grant stock awards that contain nonforfeitable rights to dividends meet the criteria of a participating security. Under the two-class method, earnings are allocated between common stock and participating securities. The presentation of basic and diluted earnings per share is required only for each class of common stock and not for participating securities. As such, the Company presents basic and diluted earnings per share for its one class of common stock.

The two-class method includes an earnings allocation formula that determines earnings per share for each class of common stock according to dividends declared and undistributed earnings for the period. The Company’s reported net earnings are reduced by the amount allocated to participating securities to arrive at the earnings allocated to common stock shareholders for purposes of calculating earnings per share.

The dilutive effect of participating securities is calculated using the more dilutive of the treasury stock or the two-class method. The Company has determined the two-class method to be the more dilutive. As such, the earnings allocated to common stock shareholders in the basic earnings per share calculation is adjusted for the reallocation of undistributed earnings to participating securities to arrive at the earnings allocated to common stock shareholders for calculating the diluted earnings per share.

The following table sets forth the computation of basic and diluted earnings per share under the two-class method (in thousands of dollars, except for share and per share amounts):

	For the Years Ended December 31,		
	2016	2015	2014
Net earnings attributable to W.W. Grainger, Inc. as reported	$ 605,928	$ 768,996	$ 801,729
Distributed earnings available to participating securities	(2,383)	(2,823)	(3,154)
Undistributed earnings available to participating securities	(3,044)	(4,735)	(6,370)
Numerator for basic earnings per share - Undistributed and distributed earnings available to common shareholders	600,501	761,438	792,205
Undistributed earnings allocated to participating securities	3,044	4,735	6,370
Undistributed earnings reallocated to participating securities	(3,023)	(4,692)	(6,290)
Numerator for diluted earnings per share - Undistributed and distributed earnings available to common shareholders	$ 600,522	$ 761,481	$ 792,285
Denominator for basic earnings per share – weighted average shares	60,430,892	65,156,864	68,334,322
Effect of dilutive securities	409,038	608,257	871,422
Denominator for diluted earnings per share – weighted average shares adjusted for dilutive securities	60,839,930	65,765,121	69,205,744
Earnings per share two-class method			
Basic	$ 9.94	$ 11.69	$ 11.59
Diluted	$ 9.87	$ 11.58	$ 11.45

NOTE 16 - SEGMENT INFORMATION

The Company has two reportable segments: the United States and Canada. The United States operating segment reflects the results of the Company's U.S. business. The Canada operating segment reflects the results for Acklands – Grainger, the Company's Canadian business. Other businesses include MonotaRO in Japan, Zoro in the United States and operations in Europe, Asia and Latin America. These businesses individually do not meet the criteria of a reportable segment. Operating segments generate revenue almost exclusively through the distribution of MRO supplies, as service revenues account for approximately 1% of total revenues for each operating segment.

The accounting policies of the segments are the same as those described in the summary of significant accounting policies. Intersegment transfer prices are established at external selling prices, less costs not incurred due to a related party sale. The segment results include certain centrally incurred costs for shared services that are charged to the segments based upon the relative level of service used by each operating segment.

Following is a summary of segment results (in thousands of dollars):

	2016			
	United States	Canada	Other Businesses	Total
Total net sales	$ 7,870,105	$ 733,829	$ 1,884,963	$ 10,488,897
Intersegment net sales	(347,468)	(110)	(4,115)	(351,693)
Net sales to external customers	7,522,637	733,719	1,880,848	10,137,204
Segment operating earnings	1,274,851	(65,362)	40,684	1,250,173
Segment assets	2,275,009	286,035	494,067	3,055,111
Depreciation and amortization	159,334	18,050	23,792	201,176
Additions to long-lived assets	$ 153,556	$ 12,275	$ 95,288	$ 261,119

	2015			
	United States	Canada	Other Businesses	Total
Total net sales	$ 7,963,416	$ 890,530	$ 1,405,750	$ 10,259,696
Intersegment net sales	(282,305)	(105)	(3,902)	(286,312)
Net sales to external customers	7,681,111	890,425	1,401,848	9,973,384
Segment operating earnings	1,371,626	27,368	48,051	1,447,045
Segment assets	2,191,045	317,504	507,116	3,015,665
Depreciation and amortization	150,654	17,334	19,999	187,987
Additions to long-lived assets	$ 302,316	$ 20,464	$ 21,135	$ 343,915

	2014			
	United States	Canada	Other Businesses	Total
Total net sales	$ 7,926,075	$ 1,075,754	$ 1,182,186	$ 10,184,015
Intersegment net sales	(211,399)	(304)	(7,359)	(219,062)
Net sales to external customers	7,714,676	1,075,450	1,174,827	9,964,953
Segment operating earnings	1,444,288	87,583	(37,806)	1,494,065
Segment assets	2,181,521	394,342	345,987	2,921,850
Depreciation and amortization	136,081	15,305	20,444	171,830
Additions to long-lived assets	$ 243,251	$ 106,918	$ 31,137	$ 381,306

Following are reconciliations of the segment information with the consolidated totals per the financial statements (in thousands of dollars):

	2016	2015	2014
Operating earnings:			
Total operating earnings for reportable segments	$ 1,250,173	$ 1,447,045	$ 1,494,065
Unallocated expenses	(130,676)	(146,725)	(146,948)
Total consolidated operating earnings	$ 1,119,497	$ 1,300,320	$ 1,347,117
Assets:			
Assets for reportable segments	$ 3,055,111	$ 3,015,665	$ 2,921,850
Other current and noncurrent assets	2,464,656	2,624,966	2,113,900
Unallocated assets	174,540	217,124	247,299
Total consolidated assets	$ 5,694,307	$ 5,857,755	$ 5,283,049

	2016		
	Segment Totals	Unallocated	Consolidated Total
Other significant items:			
Depreciation and amortization	$ 201,176	$ 21,469	$ 222,645
Additions to long-lived assets	$ 261,119	$ 10,542	$ 271,661

	Revenues	Long-Lived Assets
Geographic information:		
United States	$ 7,834,361	$ 1,134,817
Canada	739,687	210,931
Other foreign countries	1,563,156	210,605
	$ 10,137,204	$ 1,556,353

	2015		
	Segment Totals	Unallocated	Consolidated Total
Other significant items:			
Depreciation and amortization	$ 187,987	$ 18,854	$ 206,841
Additions to long-lived assets	$ 343,915	$ 16,912	$ 360,827

	Revenues	Long-Lived Assets
Geographic information:		
United States	$ 7,866,300	$ 1,231,083
Canada	897,431	215,202
Other foreign countries	1,209,653	153,508
	$ 9,973,384	$ 1,599,793

	2014		
	Segment Totals	Unallocated	Consolidated Total
Other significant items:			
Depreciation and amortization	$ 171,830	$ 18,341	$ 190,171
Additions to long-lived assets	$ 381,306	$ 22,498	$ 403,804

	Revenues	Long-Lived Assets
Geographic information:		
United States	$ 7,780,382	$ 1,109,175
Canada	1,074,660	253,466
Other foreign countries	1,109,911	110,083
	$ 9,964,953	$ 1,472,724

Revenues are attributed to countries based on the ship-to location of the customer.

Unallocated expenses and unallocated assets primarily relate to the Company headquarters' support services, which are not part of any business segment, as well as intercompany eliminations. Unallocated expenses include payroll and benefits, depreciation and other costs associated with headquarters-related support services. Unallocated assets include non-operating cash and cash equivalents, certain prepaid expenses and property, buildings and equipment-net.

Assets for reportable segments include net accounts receivable and first-in, first-out inventory, which are reported to the Company's Chief Operating Decision Maker. Long-lived assets consist of property, buildings, equipment and capitalized software.

Depreciation and amortization presented above includes depreciation of long-lived assets and amortization of capitalized software.

NOTE 17 - CONTINGENCIES AND LEGAL MATTERS

The Company has been named, along with numerous other nonaffiliated companies, as a defendant in litigation in various states involving asbestos and/or silica. These lawsuits typically assert claims of personal injury arising from alleged exposure to asbestos and/or silica as a consequence of products purportedly distributed by the Company. In 2016, the Company was named in new lawsuits relating to asbestos involving approximately 70 new plaintiffs, while lawsuits relating to asbestos and/or silica involving approximately 80 plaintiffs were dismissed with respect to the Company, typically based on the lack of product identification.

At December 31, 2016, the Company is named in cases filed on behalf of approximately 480 plaintiffs in which there is an allegation of exposure to asbestos and/or silica. The Company has denied, or intends to deny, the allegations in all of the above-described lawsuits. If a specific product distributed by the Company is identified in any of these lawsuits, the Company would attempt to exercise indemnification remedies against the product manufacturer. In addition, the Company believes that a substantial number of these claims are covered by insurance. The Company has entered into agreements with its major insurance carriers relating to the scope, coverage and costs of defense of lawsuits involving claims of exposure to asbestos. While the Company is unable to predict the outcome of these lawsuits, it believes that the ultimate resolution will not have, either individually or in the aggregate, a material adverse effect on the Company’s consolidated financial position or results of operations.

From time to time the Company is involved in various other legal and administrative proceedings that are incidental to its business, including claims related to product liability, general negligence, contract disputes, environmental issues, wage and hour laws, intellectual property, employment practices, regulatory compliance or other matters and actions brought by employees, consumers, competitors, suppliers or governmental entities. As a government contractor selling to federal, state and local governmental entities, the Company is also subject to governmental or regulatory inquiries or audits or other proceedings, including those related to contract administration or to pricing compliance. It is not expected that the ultimate resolution of any of these matters will have, either individually or in the aggregate, a material adverse effect on the Company's consolidated financial position or results of operations.

TCPA Matter

As previously disclosed, on April 5, 2013, David Davies filed a putative class action lawsuit in the Circuit Court of Cook County, Illinois and sought certification of a class of persons who may have received one or more of approximately 400,000 faxes Grainger sent in connection with a 2009 marketing campaign. The complaint alleges, among other things, that the Company violated the Telephone Consumer Protection Act of 1991, as amended by the Junk Fax Prevention Act of 2005 (the “TCPA”), by sending fax advertisements that either were unsolicited and/or did not contain a valid opt-out notice. The TCPA provides for penalties of $500 to $1,500 for each noncompliant individual fax.

On May 13, 2013, the Company removed the case to the Federal District Court for the Northern District of Illinois (the “District Court”). On June 27, 2014, the District Court found that Davies was not an adequate class representative. The United States Court of Appeals for the Seventh Circuit denied Davies’ petition for immediate review of the ruling. Davies subsequently moved the District Court for reconsideration of its ruling and his motion was denied on September 28, 2016. Davies may seek to pursue an appeal of the June 27, 2014, ruling at the conclusion of the District Court proceeding.

On April 4, 2016, the District Court denied the Company’s motion to dismiss Davies’ individual claims and subsequently the parties filed cross-motions for summary judgment. On November 21, 2016, the District Court denied Plaintiff’s motion and granted, in part, Grainger’s motion for summary judgment. The District Court entered judgment for Grainger on Davies’ common law claim for conversion while granting partial summary judgment for Grainger on Davies’ TCPA claim, finding that Grainger had an established business relationship with Davies and that Grainger properly obtained Davies’ fax number from public directories. The District Court denied Grainger’s motion for summary judgment on the ground that Davies lacks standing to bring his TCPA claim. The District Court further held that the issue of whether the opt-out notice Grainger used on the faxes is clear and conspicuous, as required by the TCPA, is a contested issue of fact to be resolved by a jury at trial. Trial is currently set for February 5, 2018.

The Company believes it has strong legal and factual defenses and intends to continue defending itself vigorously in the pending lawsuit. While the Company is unable to predict the outcome of this proceeding, the Company believes that the ultimate outcome of this matter will not have a material adverse effect on the Company’s consolidated financial position or results of operations.

Unclaimed Property

Grainger regularly performs unclaimed property assessments pursuant to U.S. multi-state escheat laws, which generally require entities to report and remit abandoned and unclaimed property. Failure to timely report and remit the property can result in assessments that include substantial interest and penalties, in addition to the payment of the escheat liability itself. During the fourth quarter of 2016, Grainger identified an obligation associated with unclaimed property for escheatable items for years 2008 through 2012 and estimated statutory interest costs. The aggregate balance of these unrecorded liabilities amounted to approximately $36 million ($23 million, net of tax). Operating expenses for the twelve months ended December 31, 2016, included a pre-tax charge of approximately $36 million related to this event.

The Company evaluated the materiality of these unrecorded obligations quantitatively and qualitatively and concluded they were not material to any of the prior periods impacted and that correction of operating expenses as an out-of-period adjustment in the quarter ended December 31, 2016, would not be material to the Consolidated Financial Statements for the year ending December 31, 2016. Accordingly, Grainger determined not to revise previously issued financial statements.

NOTE 18 - SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

A summary of selected quarterly information for 2016 and 2015 is as follows (in thousands of dollars, except for per share amounts):

	2016 Quarter Ended				
	March 31	June 30	September 30	December 31	Total
Net sales	$ 2,506,538	$ 2,563,668	$ 2,596,288	$ 2,470,710	$ 10,137,204
Cost of merchandise sold	1,461,485	1,523,609	1,556,536	1,481,017	6,022,647
Gross profit	1,045,053	1,040,059	1,039,752	989,693	4,114,557
Warehousing, marketing and administrative expenses	727,961	734,470	717,165	815,464	2,995,060
Operating earnings	317,092	305,589	322,587	174,229	1,119,497
Net earnings attributable to W.W. Grainger, Inc.	186,713	172,676	185,873	60,666	605,928
Earnings per share - basic	3.00	2.81	3.07	1.02	9.94
Earnings per share - diluted	$ 2.98	$ 2.79	$ 3.05	$ 1.01	$ 9.87

	2015 Quarter Ended				
	March 31	June 30	September 30	December 31	Total
Net sales	$ 2,439,661	$ 2,522,565	$ 2,532,900	$ 2,478,258	$ 9,973,384
Cost of merchandise sold	1,345,918	1,449,133	1,471,021	1,475,884	5,741,956
Gross profit	1,093,743	1,073,432	1,061,879	1,002,374	4,231,428
Warehousing, marketing and administrative expenses	742,496	716,715	721,150	750,747	2,931,108
Operating earnings	351,247	356,717	340,729	251,627	1,300,320
Net earnings attributable to W.W. Grainger, Inc.	211,015	220,548	192,201	145,232	768,996
Earnings per share - basic	3.11	3.28	2.94	2.32	11.69
Earnings per share - diluted	$ 3.07	$ 3.25	$ 2.92	$ 2.30	$ 11.58

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

DATE: February 28, 2017

W.W. GRAINGER, INC.

By: **/s/ D. G. Macpherson**
D. G. Macpherson
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of Grainger on February 28, 2017, in the capacities indicated.

/s/ D. G. Macpherson
D. G. Macpherson
Chief Executive Officer, Director
(Principal Executive Officer)

/s/ Ronald L. Jadin
Ronald L. Jadin
Senior Vice President
and Chief Financial Officer
(Principal Financial Officer)

/s/ Eric R. Tapia
Eric R. Tapia
Vice President and Controller
(Principal Accounting Officer)

/s/ James T. Ryan
James T. Ryan
Chairman of the Board

/s/ Brian P. Anderson
Brian P. Anderson
Director

/s/ V. Ann Hailey
V. Ann Hailey
Director

/s/ Neil S. Novich
Neil S. Novich
Director

/s/ E. Scott Santi
E. Scott Santi
Director

EXHIBIT INDEX (1)

EXHIBIT NO.	DESCRIPTION
2.1	Share Purchase Agreement, dated as of July 30, 2015, by and among Grainger, GWW UK Holdings Limited, Gregory Family Office Limited and Michael Gregory, incorporated by reference to Exhibit 2.1 to W.W. Grainger, Inc.'s Current Report on Form 8-K dated July 31, 2015.
3.1	Restated Articles of Incorporation, incorporated by reference to Exhibit 3(i) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 1998.
3.2	Bylaws, as amended on October 1, 2016, incorporated by reference to Exhibit 3.1 to W.W. Grainger, Inc.'s Current Report on Form 8-K dated August 8, 2016.
4.1	No instruments which define the rights of holders of W.W. Grainger, Inc.'s Industrial Development Revenue Bonds are filed herewith, pursuant to the exemption contained in Regulation S-K, Item 601(b)(4)(iii). W.W. Grainger, Inc. hereby agrees to furnish to the Securities and Exchange Commission, upon request, a copy of any such instrument.
4.2	Indenture, dated as of June 11, 2015, between W.W. Grainger, Inc. and U.S. Bank National Association, as trustee, incorporated by reference to Exhibit 4.1 to W.W. Grainger, Inc.'s Current Report on Form 8-K dated June 11, 2015.
4.3	First Supplemental Indenture, dated as of June 11, 2015, between W.W. Grainger, Inc. and U.S. Bank National Association, as trustee, and Form of 4.60% Senior Notes due 2045, incorporated by reference to Exhibit 4.2 to W.W. Grainger, Inc.'s Current Report on Form 8-K dated June 11, 2015.
4.4	Second Supplemental Indenture, dated as of May 16, 2016, between W.W. Grainger, Inc., and U.S. Bank National Association, as trustee, incorporated by reference to Exhibit 4.1 to W.W. Grainger, Inc.'s Current Report on Form 8-K dated May 16, 2016.
4.5	Form of 3.75% Senior Notes due 2046 (included in Exhibit 4.4), incorporated by reference to Exhibit 4.2 to W.W. Grainger, Inc.'s Current Report on Form 8-K dated May 16, 2016.
10.1	Credit Agreement dated as of May 8, 2012, by and among W.W. Grainger, Inc., the lenders parties thereto, and U.S. Bank National Association, as Administrative Agent, incorporated by reference to Exhibit 10.1 to W.W. Grainger, Inc.'s Current Report on Form 8-K dated May 8, 2012.
10.2	Director Stock Plan, as amended, incorporated by reference to Exhibit 10(c) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2006.*
10.3	1990 Long-Term Stock Incentive Plan, as amended, incorporated by reference to Exhibit 10(a) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2006.*
10.4	2001 Long-Term Stock Incentive Plan, as amended, incorporated by reference to Exhibit 10(b) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2006.*
10.5	Form of Indemnification Agreement between W.W. Grainger, Inc. and each of its directors and certain of its executive officers, incorporated by reference to Exhibit 10(b)(i) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2009.*
10.6	Frozen Executive Death Benefit Plan, as amended, incorporated by reference to Exhibit 10(b)(v) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2007.*
10.7	First amendment to the Frozen Executive Death Benefit Plan, incorporated by reference to Exhibit 10(b)(v)(1) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2008.*
10.8	Second amendment to the Frozen Executive Death Benefit Plan, incorporated by reference to Exhibit 10(b)(iv)(2) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009.*
10.9	Supplemental Profit Sharing Plan, as amended, incorporated by reference to Exhibit 10(viii) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2003.*
10.10	Supplemental Profit Sharing Plan II, as amended, incorporated by reference to Exhibit 10(b)(ix) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2007.*
10.11	Voluntary Salary and Incentive Deferral Plan, as amended, incorporated by reference to Exhibit 10(b)(xi) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2007.*
10.12	Summary Description of the 2016 Directors Compensation Program.*
10.13	2005 Incentive Plan, as amended, incorporated by reference to Exhibit 10(d) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2006.*
10.14	2010 Incentive Plan, incorporated by reference to Exhibit B of W.W. Grainger, Inc.'s Proxy Statement dated March 12, 2010.*

10.15	Form of Stock Option Award Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(xiv) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2005.*
10.16	Form of Stock Option Award and Restricted Stock Unit Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(xv) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2005.*
10.17	Form of Stock Option Award Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(b)(xvi) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009.*
10.18	Form of Stock Option and Restricted Stock Unit Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(b)(xvii) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009.*
10.19	Form of Restricted Stock Unit Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(b)(xviii) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2010.*
10.20	Form of 2012 Performance Share Award Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(b)(xix) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2012.*
10.21	Letter of Agreement - Long-Term International Assignment to Mr. Court D. Carruthers dated December 22, 2011, incorporated by reference to Exhibit 10(b)(xxi) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011.*
10.22	Summary Description of the 2017 Management Incentive Program.*
10.23	Incentive Program Recoupment Agreement, incorporated by reference to Exhibit 10(b)(xxv) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009.*
10.24	Form of Change in Control Employment Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(b)(xxvii) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2010.*
10.25	Form of 2013 Performance Share Award Agreement between Grainger and certain of its executive officers, incorporated by reference to Exhibit 10(b)(xxiii) to Grainger's Annual Report on Form 10-K for the year ended December 31, 2013.*
10.26	Separation Agreement and General Release by and between W.W. Grainger, Inc. and Michael A. Pulick dated October 4, 2013, incorporated by reference to Exhibit 10(b)(xxiv) to W.W. Grainger, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013.*
10.27	Form of 2014 Performance Share Award Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10(b)(xxiv) to Grainger's Annual Report on Form 10-K for the year ended December 31, 2014.*
10.28	Form of 2015 Performance Share Award Agreement between W.W. Grainger, Inc. and certain of its executive officers.*
10.29	W.W. Grainger, Inc. 2015 Incentive Plan, incorporated by reference to Exhibit B of W.W. Grainger, Inc.'s Proxy Statement dated March 13, 2015.*
10.30	Separation Agreement and General Release by and between W.W. Grainger, Inc. and Court Carruthers dated July 22, 2015, incorporated by reference to Exhibit 10(b)(i) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2015.*
10.31	£180,000,000 Facilities Agreement, dated as of August 26, 2015, by and among GWW UK Holdings Ltd, W.W. Grainger, Inc., the lender parties thereto, Lloyds Bank PLC and Lloyds Securities Inc., as Arrangers, and Lloyds Bank PLC, as Agent, incorporated by reference to W.W. Grainger, Inc.'s Current Report on Form 8-K dated September 1, 2015.
10.32	Credit Agreement, dated as of August 22, 2013, by and among W.W. Grainger, Inc., the borrowing subsidiaries parties thereto, the lenders parties thereto, and U.S. Bank National Association, as Administrative Agent, incorporated by reference to Exhibit 10(a)(i) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2015.
10.33	Amendment No. 1, dated as of April 7, 2015, to Credit Agreement, dated as of August 22, 2013, by and among W.W. Grainger, Inc., the borrowing subsidiaries parties thereto, the lenders parties thereto, and U.S. Bank National Association, as Administrative Agent, incorporated by reference to Exhibit 10(a)(i) to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2015.
10.34	Form of Stock Option Award Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10.1 to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2016.*
10.35	Form of Restricted Stock Unit Award Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10.2 to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2016.*

10.36	Form of 2016 Performance Share Award Agreement between W.W. Grainger, Inc. and certain of its executive officers, incorporated by reference to Exhibit 10.3 to W.W. Grainger, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2016.*
21	Subsidiaries of Grainger.
23	Consent of Independent Registered Public Accounting Firm.
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

(*) Management contract or compensatory plan or arrangement.

(1) Certain instruments defining the rights of holders of long-term debt securities of the Registrant are omitted pursuant to Item 601(b)(4)(iii) of Regulation S-K. The Registrant hereby undertakes to furnish to the SEC, upon request, copies of any such instruments.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements (Form S-8 No.'s 33-43902, 333-24215, 333-61980, 333-105185, 333-124356, 333-166345, 333-203715, Form S-4 No. 33-32091 and Form S-3 No. 333-203444) for W.W. Grainger, Inc. and in the related prospectuses of our reports dated February 28, 2017, with respect to the consolidated financial statements of W.W. Grainger, Inc. and the effectiveness of internal control over financial reporting of W.W. Grainger, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2016.

/s/ Ernst & Young LLP

Chicago, Illinois
February 28, 2017

CERTIFICATION

Exhibit 31.1

I, D.G. Macpherson, certify that:

1. I have reviewed this Annual Report on Form 10-K of W.W. Grainger, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2017

By:	/s/ D.G. Macpherson
Name:	D.G. Macpherson
Title:	Chief Executive Officer

CERTIFICATION

Exhibit 31.2

I, R. L. Jadin, certify that:

1. I have reviewed this Annual Report on Form 10-K of W.W. Grainger, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2017

By:	/s/ R. L. Jadin
Name:	R. L. Jadin
Title:	Senior Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of W.W. Grainger, Inc. (“Grainger”) for the annual period ended December 31, 2016, (the “Report”), D.G. Macpherson, as Chief Executive Officer of Grainger, and R. L. Jadin, as Chief Financial Officer of Grainger, each hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Grainger.

/s/ D.G. Macpherson

D.G. Macpherson

Chief Executive Officer

February 28, 2017

/s/ R. L. Jadin

R. L. Jadin

Senior Vice President and
Chief Financial Officer

February 28, 2017