

Accounting Historians Journal

Volume 15
Issue 1 *Spring 1988*

Article 2

1988

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Tyson, Thomas N. (1988) "Nature and function of cost keeping in a late nineteenth-century small business," *Accounting Historians Journal*: Vol. 15 : Iss. 1 , Article 2.

Available at: https://egrove.olemiss.edu/aah_journal/vol15/iss1/2

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THE NATURE AND FUNCTION OF COST KEEPING IN A LATE NINETEENTH-CENTURY SMALL BUSINESS

Dedicated to the memory of Norman X. Dressel, a devoted accounting historian. I would also like to thank Robert Colson and an anonymous reviewer for their helpful comments and suggestions.

Abstract: J. Henry Rushton was the preeminent American builder of canoes and small pleasure boats in the late nineteenth-century. Beginning in the mid 1890s, Rushton personally maintained books of cost records and cost finding rules for his boat-building operations. In conjunction with the company's product catalogs and Rushton's personal letters, these books reveal the nature and function of cost keeping for this enterprise. They also suggest that pressures from increased competition and an economic depression may have stimulated Rushton to undertake detailed costing procedures.

J. Henry Rushton built canoes and other small pleasure boats in Canton, St. Lawrence County, New York between 1874 and 1906. Through a combination of high quality workmanship and aggressive catalog marketing, Rushton successfully expanded his business and attained international recognition. Rushton's detailed cost records and cost-finding rules reveal his concerns for the cost side of the enterprise.

This case study of the Rushton boat building business describes cost accounting practices of a late nineteenth century small business. As discussed by Chandler [1977] and Solomons [1968], costing methods such as used by Rushton were not standard management practice at the time. The archival records for the case study suggest business conditions that may have stimulated Rushton to undertake such formal costing procedures as a basis for rational managerial decision making. These conditions include increased competitive pressures, market development strategies, catalog and special order pricing decisions, and profitability concerns.

Rushton's cost accounting records were maintained in two volumes he kept himself, in a labor operations record book kept

by his foremen, William F. Kip, and in a "job book" (that has been lost). These records include cost-finding rules — specific instructions for identifying cost elements such as direct labor and direct materials (prime costs) with specific products as well as for assignment of specific cost transactions to these elements. In addition, the Rushton records specify rules for overhead allocations to units of product.

The paper is divided into two sections. The first part presents a chronological overview of Rushton's boat building business, revealing his business philosophy, cost consciousness, and the firm's environment. The second half of the paper describes various cost records that were maintained by Rushton in two bound record books labeled "Books of Knowledge". When considered carefully as primary source material, they provide information on the nature and function of cost keeping.

RUSHTON'S BOAT SHOP

In 1869, at age 26, J. Henry Rushton moved to Canton to work as a clerk in a boot and shoe store. Canton was, and remains, a small college town in northern New York state that borders the vacation sites along the St. Lawrence river and the wilderness areas of the Adirondack mountains. According to Rushton, a canoe which he built purely for his personal use in 1873 quickly turned into a small business serving vacationers and sportsmen of the local area [Rushton, 1893].

Rushton began his trade at a time of growing consumer demand for outdoor recreation. The Adirondack region, with its many lakes and rivers, and close proximity to major U.S. cities, conveniently satisfied this demand. Though only a one-man operation as late as 1878 [Manley, 1968, p. 47], Rushton continually sought to expand his business beyond the region. Beginning in 1876, he advertised in the nationally circulated sporting journal, *Forest and Stream*, and displayed two boats at the Philadelphia Centennial of that same year. In 1877, he distributed his first product catalog, a nine-page circular that described row boats, open canoes, and sailing canoes that could be purchased directly from the boat shop in Canton.

As canoeing grew in popularity, state and local clubs were formed to support the common interests of racers, builders, and other enthusiasts. In 1880, Rushton became a charter member of the overseeing organization, the American Canoe Association (ACA). He regularly attended annual ACA conventions and undoubtedly benefited from interactions with cus-



Photo courtesy of the St. Lawrence County Historical Association

tomers and other builders. His name and products were well known among club members, since his canoes were consistent prize winners at the yearly ACA races during the 1880s.

Rushton gained even greater recognition through his relationship with George Washington Sears, a renowned serial writer and outdoorsman. In 1880, Sears purchased the first of five small, and exceptionally light weight canoes from Rushton. Under the pen name of "Nessmuk", Sears wrote two very popular novels and over ninety articles for *Forest and Stream*, many of which described his adventures in the Adirondacks and extolled the virtues of guideless canoeing. In a letter to Sears regarding one of these canoes, Rushton revealed his business acumen:

... I will write of her to Forest and Stream. I must take this position ... You pay your money and take your choice. You prefer the smallest, lightest canoe possible. I build it for you and demonstrate to the world what can be done. You use it. You, by so doing

advertise me as a builder, and that is so much cash to me.¹

(emphasis in original)

Beginning in 1881, Rushton offered "Nessmuk Canoes" in his catalog and included Sears' personal endorsement among its many customer testimonials. Testimonials were a major element of Rushton's marketing strategy and served both to promote products and to alleviate customers' concerns regarding direct mail purchases, at the time a relatively new and risky undertaking.

In the early 1880s, the initial testimonial was signed by a Canton banker, lawyer, and judge, and specifically attested to Rushton's character and honor. In other letters, customers mentioned that they had received undamaged goods at far lower than expected freight charges. They extolled Rushton's high quality workmanship and described the varied pleasures that boating provided. In the 1887 catalog, 202 testimonials were included and occupied fully 24 of 80 pages. In that same catalog, Rushton [1887] indicated that he had received over 75,000 letters since starting the business.

During the early 1880s, Rushton significantly expanded his product line and enlarged his production facilities. In 1881, the 24-page catalog, in an edition of 10,000 copies, described nearly 250 pattern, size, and grade combinations of small craft. Early in that same year, he employed six workmen, but by July had increased the number to ten [Manley, 1968, p. 91]. In 1882 he completed construction of a three-story, 15,000 ft². factory that was furnished with water-powered equipment. In that year's catalog, Rushton [1882] described the new factory as "the largest establishment for the manufacture of small boats and canoes in the United States." The catalog also listed authorized sales agencies in New York, Boston, Chicago, Cincinnati, St. Paul, and New Orleans.

Yearly revisions of product catalogs and the regular use of journal advertisements reflected Rushton's continual effort to promote trade. This effort refutes Manley's [1958] later contention that Rushton's sole interest was in building better canoes. Catalogs, personal letters, and other primary source material indicate that Rushton consistently maintained a strong busi-

¹J. Henry Rushton to G. W. Sears, 8 November 1882, Atwood Manley Collection of J. Henry Rushton Materials, St. Lawrence County Historical Association. Canton, New York.

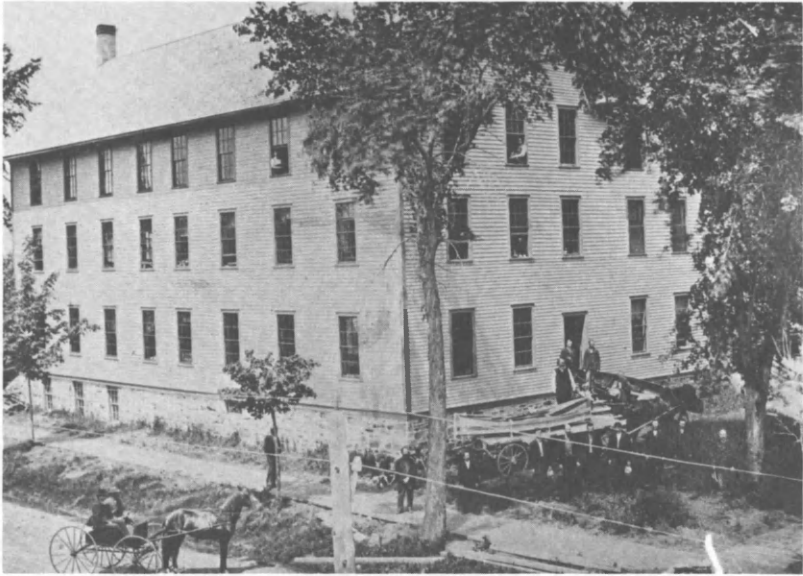


Photo courtesy of the St. Lawrence County Historical Association

ness orientation. In the 1833 catalog, for example, Rushton [1883, p. 32] presented sound business rationales for not using cheaper, heavier woods in boat construction:

We do not build, nor do we care to, coarse, heavy, low-priced boats. The proportion of freight charges to the value of the goods would be too great to have the result satisfactory to the purchaser, and the builder's reputation for *fine work* would, in many cases, suffer by it.

(emphasis in original)

In an 1884 letter to Sears, Rushton also displayed the ability to distinguish personal preferences from business opportunities:

You like the feather weight and the backwoods. So do I if I could leave my business for any time, but as a matter of business and to make the builder known abroad the decked sailing canoes are the ones I have to look after.²

²J. Henry Rushton to G. W. Sears, 14 September 1884, Atwood Manley Collection.

In the early and mid 1880s, it appears that Rushton could obtain profit margins ranging between 25 and 35 percent after subtracting prime costs and running expenses from list prices. In an 1881 letter to his friend, Lucien Wulsin, Rushton wrote that discounts to dealers could be no better than 20 percent, because "after paying all expenses there is *not* the margin on canoes that many suppose there is."³ (emphasis in original) On the inside cover of his 1885 catalog, Rushton [1885] addressed those who might ask for trade discounts by writing "to one and all: WE DO NOT CARE TO DO A RETAIL BUSINESS AT WHOLESALE PRICES."

Terms of sale were always net cash on delivery, with a 25 percent deposit required on all special orders. In 1882, a 5 percent discount was granted on orders over \$500. The discount threshold was increased to \$1,000 in 1885 and eliminated in 1886 except to stocking dealers. Comments from the 1886 catalog clearly reveal Rushton's awareness of costs:

. . . Take it for granted, that all men are alike in this respect; that they do *not* sell goods for less than what it cost to make them . . . Sit down and figure lumber, nails, screws, paint, oars, rowlocks, labor, shoproom waste of material in working, advertising and profit and see what you can buy for the money, then buy it if it suit you [Rushton, 1886, p.2].

(emphasis in original)

Throughout the 1880s, Rushton's business continued to expand. In an April 1886 letter to Sears, Rushton indicated that between 17 and 20 men had worked all winter.⁴ In the 1887 catalog, Rushton [1887, p. 2] reported the past season as his most successful ever. By 1888, he reported offering "a greater number and variety of boats than any other builder in the world" [Rushton, 1888, p. 2].

Sales made through his New York city agent, H. C. Squires, also increased significantly at that time. After 1886, Squires was the only agent listed in Rushton's catalogs. As mentioned, the 1887 catalog contained 202 customers testimonials; 51 of these had been written directly to Squires, however. The cost records also indicated that Squires negotiated deep discounts from published prices on several large orders in

³J. Henry Rushton to Lucien Wulsin, 21 March 1881, Atwood Manley Collection.

⁴J. Henry Rushton to G. W. Sears, 7 April 1886, Atwood Manley Collection.

the late 1880s. Increased competition from other area builders may have forced Rushton to accept lower prices. Manley [1968, p. 127] identified competing builders in a number of nearby northern New York towns. At least two of these competitors, Herbert Sprague of Parishville and the St. Lawrence River Skiff, Canoe and Stream Launch Company of Clayton also distributed product catalogs. Furthermore, Rushton was only one of nine builders to advertise in the May, 1887 issue of *The American Canoeist*.

Rushton apparently viewed the 1893 Columbian World's Exposition as a way of regaining lost trade and expanding into new markets. He borrowed heavily to finance and maintain a display of ten boats at the Chicago fair. He also distributed a special World's Columbian Exposition edition of his catalog; it introduced a new line of basswood boats that were listed at half the selling price of his regular cedar models. Unfortunately, the panic of 1893 and the ensuing economic depression affected nearly every sector of the economy [Steeple, 1961] and severely impaired Rushton's business. In a November, 1894 letter to one of his designers, Rushton wrote that "... times are awful. No trade at all."⁵ According to Manley [1968, p. 130], Rushton was reduced to "near-poverty" for the next five years.

Rushton's business changed character after the depression of the mid 1890s. Wholesale prices, which had fallen irregularly since 1870, fell another 13 percent between 1893 and 1897 [U.S. Bureau of the Census, 1975, p. 200]. Apparently, the reduced volume of trade and the continual pressure to discount forced Rushton to terminate the dealer arrangement he had with Squires. His 1895 catalog announced:

If you want a "Rushton" boat order it from Rushton. I would rather sell direct to the customer than through a second party . . . The only interest the middle man has in the transaction is the *scale* he gets out of it [Rushton, 1895, p. 2].

(emphasis in original)

By 1900, there were numerous economic developments that altered the demand/supply relationships for Rushton's high quality canoes and pleasure boats. According to Warrington [1977, p. 30], Rushton faced a market "reduced in the 1890s by recession and the new bicycle craze." The new fad of

⁵J. Henry Rushton to B. M. Kip, 11 November 1894, Atwood Manley Collection.

bicycling quickly surpassed boating in popularity, due in large part to a successful showing at the 1893 Chicago exposition and inclusion in the popular Sears catalog of that same year. Manley [1968] speculated that the passing of the romance of the western frontier contributed to the decline of wilderness canoeing. It has also been suggested that Rushton's business may have finally matured such that local and catalog customers had all the high-quality canoes and boats they wanted.⁶

Rushton responded to this changed market by introducing products that required less workmanship and used lower-grade materials. Rushton's catalogs still included many premier quality items, but by the late 1890s, the lower priced basswood boats and canvas covered canoes became the more popular models. Beginning in 1902, Rushton contracted with a Maine builder to produce canvas covered canoes in the Canton facility. By 1905, production occupied 32,000 square ft.², and by 1906, the year of Rushton's death, low-priced canvas canoes had become the shop's best selling item.

Rushton's son continued to direct the business but it now operated in mass-produced and mass-distributed product markets. The increasing scarcity of prime lumber, the introduction of aluminum canoes, and the growing popularity of automobile travel, all contributed to the shop's closing in 1916.

RUSHTON'S BOOKS OF KNOWLEDGE

Rushton kept cost information in two small volumes he labeled Books of Knowledge (hereafter "Books").⁷ According to Chandler [1977, p. 238], the majority of owner-entrepreneurs carried out management functions in a personal and intuitive manner, while Solomons [1968, p. 17] believed that the typical late nineteenth-century manufacturer computed product costs on a "rough and ready basis." Rushton, by contrast, kept quite detailed records and, like the management of Lyman Mills [Johnson, 1972], used cost data for decision-making and control purposes.

Rushton compiled these records between 1894 and 1903, although they contain cost memoranda from work performed as early as 1887. Volume 1 is by far the more comprehensive of

⁶I am indebted to Robert Colson for providing this insight.

⁷The original books are housed in the Adirondack Museum at Blue Mountain Lake, New York. Each is a ruled account book, has a marbled, cardboard cover, and is over 180 pages in length. Volume 1 is 8 1/2" high by 7" wide; volume 2 is 9 5/8" high by 7 5/8" wide and is leather bound.

the two books and contains cost-finding rules, detailed product costs for standard models, and directly traceable costs for several large special orders. Volume 2 was begun in 1899 and contains additional cost memoranda as well as end-of-year inventory summaries through October 1, 1903.

In addition to containing cost records and rules, these books include technical descriptions of boat construction and Rushton's personal observations about his managerial responsibilities. For example, the following statement refers to Rushton's cost figuring on an 1898 special order and reveals the level of his involvement in daily business activities:

... This is the *worst* nut I ever fell into ... I estimated 10 hours work and sold the thing for \$5.00. I have watched the work and still think it could be made in not over 15 hours if *properly got at*. I had no business to set *that* man on it knowing how he goes at *any* job. He worked hard enough, but oh dear, his *head* work on it would soon cause brain trouble.⁸

(emphasis in original)

Figure 1 is photographed directly from Volume 1 of the Books and contains costs that correlate with prices and grades shown in the 1893 catalog. Boat #105 was a 17 foot, four-to-five passenger row boat made of all wood construction. It was Rushton's most popular family boat and was continuously offered in the catalog from 1882 to 1893. Grades A through E were primarily distinguished by the quality of wood and fixtures used in construction. Grade A, for example, included perfect white cedar planking, ash gunwales, black-walnut seats, mahogany decks, spruce oars, nickel-plated brass rowlocks, and a three-coat finish of linseed oil, orange shellac, and varnish.

Costs shown in Figure 1 include combined labor and material components. For example, the \$8.73 planking cost on line 3 includes the cost of lumber as well as the labor costs of marking, sawing, smoothing, splicing, jointing, fitting, and nailing. The costs associated with these operations were specifically attached to model and grade, and were kept in a labor operations book by William F. Kip, Rushton's shop foreman

⁸J. Henry Rushton, "Books of Knowledge," 2 Vols. 1894-1903. J. Henry Rushton Collection, Adirondack Museum, Blue Mountain Lake, New York. vol. 1, p. 86.



FIGURE 1

Photo of material housed in the Adirondack Museum Library

between 1885 and 1895.⁹ It is unclear if the costs for component parts represent an average based on a sample of boats or are the result of an “engineering” analysis of one boat in each grade. In any case, product costs were computed on a systema-

⁹Though undated, Kip’s book associates labor costs with models that appear in Rushton’s 1893 catalog. This book is housed in the Atwood Manley Collection at the St. Lawrence County Historical Association in Canton, New York. It is a marble-covered ruled account book, approximately 8” high by 9 1/2” wide and over 100 pages in length.

tic rather than ad-hoc basis, as Rushton's comments regarding the cost of varnishing indicate:

This rule is made from very careful figuring on all the work done October 15, 1892 through October 15, 1893 on 202 boats of various models, and is safe to figure on for special jobs.¹⁰

In addition to the costs of material and labor, Figure 1 displays a provision for overhead, labeled "Share running Expense." Though Rushton never specifically identified the costs included in this category, Metcalf [1885, p. 166] used the term "running expenses" to represent the costs of buildings, power, machinery, lighting, warming, and superintendence. The provision for overhead as a percentage of total prime costs was listed by Battersby [1878] as one of the more common estimating methods in use at the time. As shown in Figure 1, Rushton's concept of prime costs included those material and labor cost elements that could be directly traced to discrete cost objectives.

After 1900, Alexander Hamilton Church wrote a series of articles that described more sophisticated allocation procedures that included a provision for fixed overhead costs.¹¹ It appears, however, that cost accounting practice of the late 1800s did not usually assign fixed costs to either products or periods [Kaplan, 1984, p. 393]. Rushton's inclusion of an overhead component may seem surprising for such a lightly mechanized industry. The size of the allocation, 33 percent of prime costs, may even indicate a provision for the fixed costs of plant and equipment in the pricing of standard catalog items.

No information has been located to suggest that Rushton collected detailed product cost data in the early years of his business. If detailed costs were first compiled in 1894, as these records indicate, then Garner's [1954, p. 346] argument that cost data took on far greater importance during a depression period of industrial activity, can be supported. This view is bolstered by pages 162-183 of volume 1 of the Books, which are entitled "Estimated Cost — Catalogue 1895". These pages contain a full set of revised cost figures for standard catalog models and correlate with 1895 prices, which are significantly reduced from their 1893 catalog listings.

The final line of the cost record in Figure 1 shows markup percentages ranging from 36.5 to 22.5 percent of the 1893

¹⁰J. Henry Rushton, "Books of Knowledge," Vol. 1, p. 104.

¹¹See Vangermeersch [1986] for a compendium of Church's articles.

prime costs and running expenses for grades A, B, C, D, and E, respectively. Other catalog models show even more divergence among markup percentages across grades. Given that prices for #105 boats had not changed between 1885 and 1893, these varying percentages may indicate that detailed product costs were computed to identify the level of price cutting that could be tolerated, as well as justify Rushton's consistent promotion

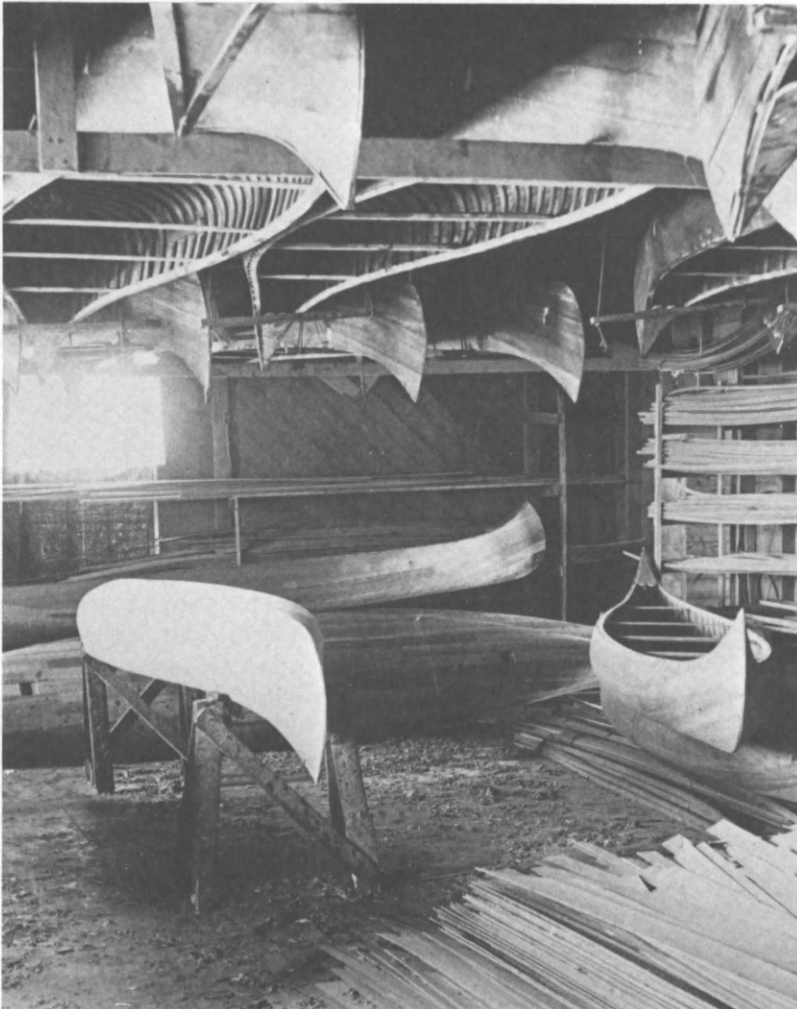


FIGURE 2

Photo of material housed in the Adirondack Museum Library

of the Grade A models rather than other grades.

Figure 2 displays the record for a special order of 30 boats built for H. C. Squires in 1889.¹² This record contains a number of interesting cost elements and illustrates the type of costs tracked by Rushton and assigned to special orders. Included in the cost record is a charge of \$7.50 representing Rushton's imputed labor for working three days on the order, and either imputed or out-of-pocket wages of \$9.40 for 47 hours of work performed by Rushton's half-brother, Judd W. Rushton. Labor of \$256.96 suggests that a back-up schedule was maintained to track labor cost by job. In fact, in another section of the Books, reference is made to a "job book" which apparently contained detailed labor costs for certain jobs.

The provision of \$9.71 to "Allow for Power & use Machinery" shows Rushton's awareness of the need for special orders to cover the costs of fixed overhead. Since this item appears as a "plug" figure, however, it appears that Rushton did not consistently assign fixed overhead costs to this class of orders.

This 1889 special order was apparently sold at a sizable discount from list price. Although #105 boats of basswood construction were not shown in the 1889 catalog, they did appear in the 1893 edition at a list price of \$30. Comparing this price to the \$18.20 shown in Figure 2 implies that Squires was granted a discount of nearly 40 percent. As a result of this large discount, the order contributed only \$9.71 to cover overhead after all traceable costs and Rushton's imputed labor cost were subtracted from the contract price. Rushton's comments at the bottom of Figure 2 that "These boats were put through to the best possible advantage in every way" may indicate that scheduling flexibility and capacity utilization made the order acceptable.

DISCUSSION AND CONCLUSION

What specifically motivated Rushton to compile detailed product cost data in the mid 1890s may never be known for certain, since no other cost or financial records from the Rushton Company have been located. This period was characterized by overproduction, falling prices, and shrinking margins [Wells, 1968], all of which led to the rise of mass distributions and producers [Chandler, 1968]. Rushton may have determined, in part through his detailed cost records, that he

¹²J. Henry Rushton, "Books of Knowledge," Vol. 1, p. 95.

could not sell high quality boats in sufficient volume at the then prevailing prices to remain economically viable. Consequently, he had to provide a less costly line of boats that would trade on the Rushton name and reputation to a clientele who could not afford to pay high prices. In light of these factors, Battersby's [1878, p. 33] comments seem particularly appropriate for the Rushton Company:

. . . Under *ordinary* circumstances it is of importance to know the prime cost of work, and particularly so in cases of keen competition, when manufacturers would content themselves with less than full profit, provided they could rely upon the correctness of the prime cost.

(emphasis in original)

If an 1894 Rushton catalog had been published and could be located, it might clearly show that cost data accumulated between 1892 and 1893 were reflected in revised selling prices. A discount sheet dated March 1, 1895 does indicate a 20 percent discount was offered from 1893 catalog prices on most models. This sheet may have been published prior to the 1895 catalog and probably reflected the revised cost figures mentioned earlier.

A number of writers have tied the development of cost accounting in the late nineteenth century to the rise of mass distributors and to the downward pressures on selling prices. For example, Littleton [1966, p. 321] and Solomons [1968, p. 18] have argued that the increasing difficulty of small producers to set and maintain prices was a key stimulating factor. Nelson [1975, p. 50] and Chatfield [1974, p. 101] have similarly written that cost accounting served as a device for ensuring the adequacy of selling price as competition increased. Beginning in the mid to late 1890s, mass distributors like Sears & Roebuck and Montgomery Ward raised the level of competition by delivering their canoes at far lower prices than Rushton charged. Rushton may have begun to keep detailed cost records in order to determine if he could make a profit at the mass distributor's price. These records could have been a first step in a systematic effort to reduce costs given that the level of competition had shifted from quality to price. In light of these arguments, Rushton's inclusion of a sizable overhead provision in the costing of standard models, as shown in Figure 1, makes the following statement by Wells [1978, p. 70] especially cogent:

... The solutions to the twin problems of deciding what price to charge (or accept) and reviewing their production processes to try to improve their efficiency appeared to be assisted by costing methods. For both, it was assumed without question that overhead costs had to be allocated to products.

Battersby [1878] and Garcke and Fells [1887], directed their discussions about cost accounting to engineers and managers in large, multi-departmental, industrial firms. In reference to this environment, Johnson [1981] has argued that cost systems were needed to provide greater administrative control and coordination, as well as to account for the large costs of heavy machinery.

For owner-managers of small industrial enterprises, such as J. Henry Rushton, a different set of factors may have compelled the development of detailed cost records. Throughout the growth years of his business, Rushton adopted an aggressive approach to catalog marketing and promotion in order to continually expand trade. During that time, Rushton competed primarily on quality and appeared able to maintain full list prices, as the comments in a number of catalogs have indicated. As the business matured, and the economy worsened, Rushton faced competition from mass producers in the areas of price and service rather than just quality. In this new environment, cost information was needed to determine if a profit could be made at the mass distributor's lower price. As he had done in the past, Rushton responded appropriately by developing and maintaining detailed cost records.

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