

- Nova Scotia (1989); G. Moinet, field enquiry, Vendée (1943), Ms 1810.15, and D. Lailler, field enquiries, Loire-Inférieure (1943), Ms 1810.1-5, Archives du M.A.T.P.
42. J. P. Greene, ed., *The Diary of Colonel Landon Carter*, 2 vols. (Charlottesville: University of Virginia Press, 1965), 509, 510, 511, 513, 517, 885-886, 1149; Hening, Act XLIX, "The Size of Tobacco Casks" (13 March 1657), I: 456: "...and whosoever shall make caske of a greater size shall pay upon prooffe made to any court, if hee be a freeman, (otherwise his master or mistresse that employs him) three thousand pounds of tobasco [sic]..."
  43. Archivo Historicos, Provincia de Gipuzkoa, Oñate, Vergara 2579, reg. 2, fol 9v (Mutriko, 1564); Archivo de la Real Chancelleria de Valladolid, pleitos civiles, caja 160-161 (San Sebastian, 1570). See also D. Hollis, ed., *Calendar of the Bristol Apprentice Book, 1532-1542* (Bristol: Bristol Record Society, 1949); Sosson; Kilby.
  44. Bridenbaugh.
  45. Kilby; J. F. Firth, *The Coopers' Company* (London: 1848).
  46. Marcil (1983).
  47. See Bernard, I: 227 and II, *Carte 1*; Goyeneche; see also the example of the Dordrecht coopers, A. van Vollenhoven, *Ambachten en Neringen in Dordrecht* (The Hague; Martinus Nijhoff, 1923).
  48. Field enquiry, Gironde (1990).

## Randolph Hersey and the Montreal Nail Industry, 1852-1903

LARRY MCNALLY

*This extract is taken from pages 10-18 of an incomplete 21-page typescript written by Randolph Hersey<sup>1</sup> for his son Milton L. in 1913 (hereafter "Hersey Autobiography"). My thanks to E. Peter Hersey of Pointe Claire, Quebec, for allowing me to use this document. A second source for this document is "Extracts from the Autobiography of Randolph Hersey" prepared by Milton L. Hersey for Stelco in 1944. This document is in the Stelco Inc. Archives, Hamilton. In editing the autobiography, references to Hersey's personal life and his asides on Canadian development have been removed. There have been some changes in organization and punctuation.*

During the winter of 1851-52, having learned from my cousin<sup>2</sup> that nailmakers made from two to four dollars per day, I wrote to my Uncle Mansfield Holland<sup>3</sup> in Montreal asking if I could get an opportunity with him to learn the nailmaker's trade. I received a favourable answer and arranged to go in the spring. Ipsilante accompanied me and we left Canton [Maine] on the 26th of April 1852, taking the same route that I took in 1850, via Boston, having settlement to make with my employers, the Messrs Emerson. These gentlemen wished

me much success in my now proposed undertaking. We arrived in Montreal on the 1st of May 1852.

Uncle Mansfield Holland took upon himself to instruct me in the making of nails and with his assistance I was determined to learn the trade thoroughly and stick to it, making it my life work together with its additional and incidental demands. I continued working on these lines till retiring from active business. It will be noticed by what is before written that I made many changes of place and occupation in a short period of time before settling permanently to my life work. I acknowledge that this noticeable fickleness of action is far from a commendable trait in my early setting out to compete in the world's work.

Early in 1851 Holland & Dunn,<sup>4</sup> for whom I worked, secured by lease from the Canadian Government, a mill site on the south side of the Lachine Canal Basin in Montreal, on which they erected their nail factory. This mill site included water power. The lot was 80 ft [24 metres] on the canal and extended to medium high water on the St Lawrence, Mill Street crossing it. The total area of the land was about 32 000 square feet [3000 square metres].<sup>5</sup> Messrs Bigelow, with whom I was subsequently asso-

**Fig. 1**  
*Randolph Hersey,*  
 1829–1918, from *An*  
*Encyclopedia of*  
*Canadian Biography,*  
*Vol. 1, Montreal:*  
*Canadian Press*  
*Syndicate, 1904.*  
*(Credit National*  
*Archives of Canada,*  
*C 38292)*



ciated, secured an adjoining mill site of equal size. Messrs Holland & Dunn's lot was numbered 16 and the Bigelow's No. 15. Both firms were manufacturers of nails and spikes. The two firms built their factories at the same time, each building was about 70' x 50' [21 metres x 15 metres]; a fire wall only separating them, and were two storeys in height and same architecturally throughout.

Late in the fall of 1851, Holland & Dunn's factory was partially destroyed by fire. It was restored and nearly ready for operation in May 1852 when I appeared on the scene. Holland & Dunn, previous to the above-mentioned date, did their manufacturing at Lower Lachine; power and building belonged to a Mr Knox and is now included in the Lachine Rapids Hydraulic Co. holdings, where it has erected a large plant for generating electricity for power and lighting in Montreal and its suburbs. The Bigelows had their factory at Sault-au-Récollet, where a leather board manufactory now is.<sup>6</sup>

In May of 1852 I took my first lessons in nail-making and progressed fairly well under the circumstances. I had the oldest machine in the works and it not in the best condition. Uncle Mansfield took upon himself to teach me, but his time was so taken up by the outside demands of the business that he could not find much time for instructing me. With perseverance on my part and a little help from other nailers I advanced very well, making enough the first season to pay my board. Uncle took me to

his house the following winter and boarded me for what little I could do in assisting in repairing machines for the next year's business.

In the spring of 1853 Patrick Dunn sold his interest in the nail business to Uncle and then Mr Dunn, his wife (who was Miss Ann Augusta Holland, daughter of Uncle Joseph [Holland] therefore my cousin), and Mr Dunn's brother, Joseph Dunn, shipped for Australia (a six month voyage), where gold had been recently discovered and where many from all parts of the civilized world were rushing. I do not think the Messrs Dunn found things quite so gilt-edged as they anticipated for, after remaining there a short time, they returned to Canada in the same ship, perhaps without discharging their baggage. After the Dunns left for Australia, Uncle Mansfield required a foreman and I was engaged at five hundred dollars salary per annum.

The nail cutting season lasted only from May till November (some years a little later); nothing doing in winter in my first years in Montreal. Business affairs went on very well with increasing tendency during the winter. To meet this increase I, with the aid of our blacksmith, built three new machines which proved equal to the best in the works. I should have mentioned that pressed spikes were also made by Messrs Holland & Dunn.

Competition was keen in Canada; Ontario and Quebec constituting the [Province of Canada], had been united and the inhabitants were comparatively few and demands for industrial products not large, yet there were at least seven manufacturers of cut nails in the two provinces: two factories of good size would have been ample.<sup>7</sup>

In 1854 the Dunns built another nail factory at Côte Saint-Paul, and made cut nails for Frothingham & Workman.<sup>8</sup> Three or four years later several other nail factories were built. Of course, Canada was growing and demands increasing. Holland's factory continued to increase from year to year; a Swett spike machine was added, the best machine for making railway spikes ever invented. A ton of spikes has been made on this machine in one hour; five tons a fair day's output. Many of these cut nail factories have ceased to exist – wire nails taking the place of cut nails.<sup>9</sup>

Uncle Mansfield Holland built the first rolling mill in Canada for the manufacture of nail plate etc. The first heats of iron being rolled in March 1859.<sup>10</sup> Thomas F. Miller, a retired paper maker, gave Uncle Mansfield financial assistance in establishing the rolling

mill.<sup>11</sup> The mill was erected on the nail factory lot (Mill St) and the nail factory was moved to buildings in the Dry Dock property (Tates').<sup>12</sup> The nail cutting at the Dry Dock was carried on under the name of Hersey and Holland (myself and Alfred Holland,<sup>13</sup> son of Mansfield), we taking the product of the rolling mill and turning it into nails. This arrangement continued for upwards of one year. Miller, not finding the business quite as remunerative as anticipated (he was to share the profits with Uncle), became troubled regarding its future. He succeeded in ousting Uncle from the business in the fall of 1860.<sup>14</sup>

Uncle Mansfield was a silent partner in the firm of Hersey & Holland, one-half of the profits going to him and one-quarter each to Alfred and me. We three were practical nailers and worked at it practically till the beginning of 1862. [At this time] Uncle being so situated that he could give his time to the nail works and he and Alfred being sufficient for the management, I concluded to sell them my interest in the business. An offer to sell was made by me and accepted. This closed an amicable and interesting business connection with Uncle and Alfred Holland, which had continued for ten years. After closing my connection as above, I was left without business or situation to provide sustenance for self and growing family. I had accumulated a little money.

Not long after severing my business connection, our neighbour manufacturers of cut nails, Messrs T. D. Bigelow & Son, heard of it and I was approached by them inquiring if I was engaged in any new enterprise; if not, was I open for an engagement with them and what would be my price. I replied in the negative to the first question and in the affirmative to the second, provided we could agree on price and condition of employment. Being asked my price, I replied sixteen hundred dollars per annum; it was considered to be excessive for their ability to pay. They made another proposition, viz: Would I engage with them on a basis of profit-sharing? Answering in the affirmative and that I would prefer to do so, the Bigelows said that they had not hitherto been so successful as to warrant the paying of a \$1600 salary. An agreement was made, I to furnish one thousand dollars for which I was to receive nine per cent interest per annum; I to take entire charge of the manufacturing departments and to receive for compensation one-third of the net proceeds of the nail cutting. In addition to nails, they manufactured a very

few tacks, shoenails and pressed spikes. The agreement was made on Feb. 8, 1862 for one year commencing on the 1st of April. At the conclusion of the first year it was found that my share of the profits was about double of the salary asked; the results were so much beyond expectations that great faith in their foreman was engendered, which created a most cordial business and friendly relationship to exist which never ceased.

Not long after my retirement from the firm of Hersey & Holland, they were debarred from obtaining their supplies of iron from the rolling mill on account of Miller having leased the mill to W. H. Snell,<sup>15</sup> who had no money nor had he any knowledge of the business, a most strange action on the part of Miller. [In] the first year of Snell's arrangement, the firm of M. Holland & Son (Mansfield and Alfred Holland) had been formed [in] 1862. The new firm received most of the nail plate from the mill. The following year Snell arranged a sort of partnership with the Messrs Bigelow to furnish the mill and take the product; this arrangement continued a few months when Snell drew the wages from the bank (wages payable fortnightly) and forgot to make his appearance on pay day and left the country (it was reported that there was a woman in the case). It was the last of him; the Bigelows being compelled to make up the wages to the workmen.

M. Holland & Son continued nailmaking for a year or more at Tates' Dry Dock, and prospects diminished for its profitable continuance. Uncle Mansfield being possessed of a progressive nature, and most successful in procuring financial aid to carry out his plans, conceived the idea of building another rolling mill to work in connection with his nail factory; he succeeded in interesting Thomas Morland, of Morland, Watson & Co., hardware merchants in the city,<sup>16</sup> in his scheme and a mill was built at the cost of many thousand dollars. The property purchased was what is now Montreal Rolling Mills Company.<sup>17</sup> Before the purchase it belonged to E. E. Gilbert, founder and machinist. M. Holland & Son did very well in this undertaking, so much so that one of the partners of M. W. & Co. became somewhat jealous of its prosperity and took measures to oust M. Holland & Son from the business and succeeded, leaving them worse off than when they started the enterprise. Mr Morland was a good friend to Uncle, the Charles S. Watson in the company was the offending person; he possessed the governing interest in the company

and had the affair settled as he wished. Morland, who was the real man in the business, was a thorough gentleman; he had made some losses and was induced to take the young bumptious Englishman (who had inherited his money) into business with him.

After the ousting M. Holland & Son began the making of felt hats,<sup>18</sup> having lost most of what they possessed in the manufacture of iron and nails by the questionable actions of the M. W. & Co. Uncle Mansfield was a man of good ideas and good judgement in all his undertakings, but he was too kindly disposed, too easy and yielding to successfully contend against scheming and unscrupulous "wolves in sheep's clothing"; he detested meanness.

Having completed my engagement of one year with the Bigelows to our mutual satisfaction, it was continued till the death of Thomas D. Bigelow [in] July 1863, and with his son Theodore, who assumed the business under his own name of "J. T. Bigelow" till the 1st of September 1864, when the company of "J. T. Bigelow & Co." was formed, this taking place soon after Mr Bigelow married Mary Pillow, John A. Pillow's sister.<sup>19</sup> The partners in this company were J. T. Bigelow, Randolph Hersey and J. A. Pillow; the proportions of each were  $\frac{10}{18}$ ,  $\frac{5}{18}$  and  $\frac{3}{18}$ . It was left to me to say whether Mr Pillow should be taken into the firm. All circumstances considered, I decided to accept him. You see that Mr Bigelow had a more than half interest in the company; this was not too much for there were no interest charges to the company for machinery and plant except the Government rent for power, city taxes, etc. Had not Mr Pillow been admitted to the firm, the proportions would have been  $\frac{2}{3}$  and  $\frac{1}{3}$ . J. T. Bigelow & Co. continued in business till the death of Mr Bigelow and for the benefit of his estate till the close of the fiscal year 1st of May 1868. Mr Bigelow died on the 3rd of April 1867. The business largely increased during these years of our company. In 1868 Mr Pillow and I took over the business of the late firm of J. T. Bigelow & Co., and continued under the firm name of Pillow, Hersey & Co. (we had no partners), my share being  $\frac{5}{8}$  and Mr Pillow's  $\frac{3}{8}$ . Mr Pillow asked me if I would allow his name to stand first in the firm name, giving as a reason that strangers and customers coming to the office usually inquired for the person first given in the company name; there may have been a little pride on his part in having his name appear first. I consented to this arrangement,

provided that my authority in the company was not made less by it. It was not lessened.

A few words just of commendation of my late partner John Theodore Bigelow. He was born in 1832, being two years my junior. He was thoroughly upright in all his dealings and one of the most unassuming and kindly disposed persons I ever had to do with. He died of consumption; he had no children. Mr Bigelow's grandfather was the first manufacturer of cut nails in Montreal and the first in Canada. He began on a very small scale – one machine and it was called a "horsehead" from the peculiar shape of the cutting lever. This machine was worked by horsepower. The workshop, for it was nothing more, was located on Bleury Street near the S. W. corner of Sainte-Catherine St, and where Almay's new store is building. Mr Bigelow used to go to a hardware store, buy a bundle of hoop iron of desired width, take it home on his back and make it into nails.<sup>20</sup> The nail blanks were cut diagonally across the plate; by this method a point was made to the nail. After it was cut, the blank could be picked up, put into a vice and headed by hand or foot power. Soon after, nail machines were invented to cut, grip and head automatically, which was adopted by Mr Bigelow. Subsequent to this last method, a man by the name of Reed of Bridgewater, Mass., invented what is called the "Reed Machine." It was a perfect machine for the purpose and continues to be used to this day wherever cut nails are made.<sup>21</sup>

The Miller or Holland rolling mill had been purchased by J. T. Bigelow & Co. and added to the company's plant and machinery, doubling our land and building. Pillow, Hersey & Co. bought the J. T. Bigelow & Co. property and bought out the machinery and plant of the Estate Bigelow. Our company also bought the Lyman property adjoining our property on the west.<sup>22</sup> We were then possessed of three lots of land and power under lease from Government, trebling our original holding. In 1872 we purchased a lot of land on St Patrick Street, measuring nearly 150 000 feet [45 700 metres], including some additional purchases of adjoining land a little later. On this property we created buildings for a rolling mill, nail factory, horseshoe and spike works.<sup>23</sup> We removed our rolling mill and nail machinery to St Patrick Street; having no water power there, steam power was substituted. This substitution of steam power did not materially add to the cost of manufacturing, the waste heat from the iron heating and puddling furnaces generated

sufficient steam power to run the machinery.<sup>24</sup> On Mill Street we had largely increased our tack machinery and other machinery for small goods, tack leathering machines, tufting button machines, glazier point machines, etc. We converted the nail factory and rolling mill into a bolt & nut factory, adding largely to our manufactures. The variety of bolts and nuts is very large. While we did most of our manufacturing on a lot of land measuring 30 000 square feet [2800 square metres] in 1862, we were occupying about 250 000 feet [76 200 metres] with more and better buildings in proportion in 1887, thus giving some idea of the increase in our manufactures. We also had, in addition, a large office and warehouse building which we rented from the J. & T. Caverhill Estate, 91 St Peter Street.<sup>25</sup>

I made many journeys to the United States during the existence of the late J. T. Bigelow & Co., and the Pillow, Hersey & Co., to seek for the best improved machinery in our lines of manufacture, and to purchase like kind, or to learn enough about it to construct in Canada. I was courteously received in almost every instance and every aid was given me to achieve my object, which was more than could have been expected; some of them were competitors for our trade in Canada.<sup>26</sup> One great drawback to the introduction of industrial machinery in those early days in Canada was that so much capital had to be expended for machinery for the small demands of consumers because the machine or machinery purchased would be

sufficient for double or more than double the requirements, and manufacturers were handicapped in many other ways to ensure success in their undertakings. Conditions have greatly changed since then especially within the last twenty years.

I invented a number of machines of considerable value to the company and made many valuable improvements, which proved useful in our manufacturing industries.<sup>27</sup> I was chief architect and overseer of the construction of nearly all four buildings, all of which met our requirements very well.

The Pillow, Hersey & Co. firm continued with increasing prosperity till 1887, when Mr Pillow and I believed it advisable to change the firm to a joint stock company that the business might continue without interruption which might, or rather, would be the case in the event of death removing either of us. The company was formed under the joint stock company act of the Dominion of Canada in 1887. I was chosen the first President, Mr Pillow, Vice-President and Managing Director and W. S. Bryden, Secretary. The company was capitalized at \$600 000, all paid up (no water in the stock). The company was incorporated under the name of the "Pillow & Hersey Manufacturing Co. Ltd" and continued in business till 1st of May 1903, when it sold its real estate, plant and machinery to the Montreal Rolling Mills Co.<sup>28</sup> Mr Pillow died [on 16] February 1902.<sup>29</sup>

#### NOTES

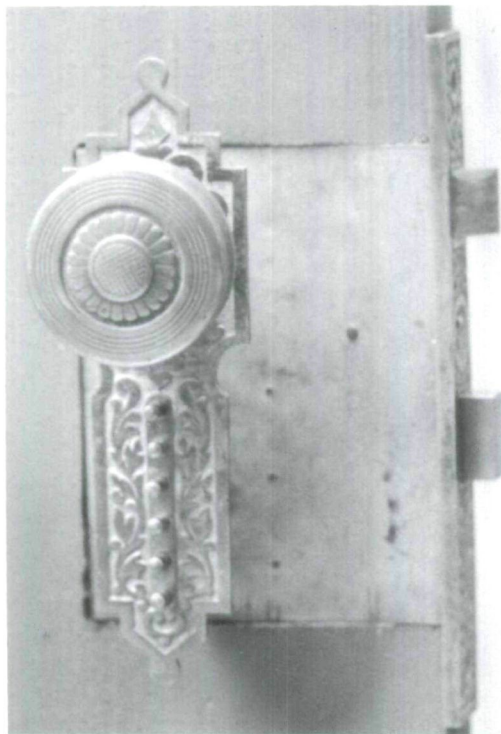
1. Randolph Hersey was born in Canton, Maine, on 30 November 1829. His father was a farmer, merchant and potato starch maker who was ruined by a potato blight in 1845. Hersey, then aged 16, was forced to find employment. He worked in shoemaking in Lynn, Mass., steamboating on the Mississippi and selling Canadian scrap iron to rolling mills in Troy, N.Y., for his uncle Mansfield Holland before moving to Montreal. He married Mary Louise Price (1832?-1872) and they had ten children. After her death, Hersey married Margaret Ann Crawford (d. 1908) who had four more children. Hersey died in Montreal on 19 January 1918. Information from E. Peter Hersey.
2. Ipsilante Holland had worked the previous summer for his father Mansfield Holland in the nailmaking firm of Holland & Dunn. "Hersey Autobiography," 10.
3. John Mansfield Holland (1813-1884) was born in Maine and came to Montreal in 1829. Information from E. Peter Hersey. Holland's vital dates are given as 1809-1883 in Henry Atherton, *History of Montreal* vol. 3 (Montreal: S. J. Clarke, 1914), 157.
4. Patrick Dunn, an American who had been in Montreal since 1835, was a promoter of the *Banque du Peuple* and Montreal and District Savings Bank. He and his brother Joseph were in the nail business from the 1840s to after 1887. Gerald J. J. Tulchinsky, *The River Barons: Montreal Businessmen and the Growth of Industry and Transportation, 1837-53* (Toronto: University of Toronto Press, 1977), 223.
5. In 1843 the Commissioners of Public Works of the Province of Canada decided to lease surplus water flowing through the Lachine Canal, then under reconstruction, to manufacturers to be

- used as industrial power. The first hydraulic lots on Canal Basin No. 2 were leased in 1846–47. In 1851 the final hydraulic lots on the canal basin were auctioned off along with the hydraulic privileges at the Saint-Gabriel and Côte Saint-Paul Locks. See Larry McNally, "Water Power on the Lachine Canal, 1846–1900" (Ottawa: Parks Canada, 1982) Microfiche Report Series (MF) no. 54 and John Willis, "The Process of Hydraulic Industrialization on the Lachine Canal, 1840–1880: Origins, Rise and Fall" (Ottawa: Environment Canada, 1987) MF no. 322.
6. In 1839 the Bigelows were using horses to power their five nail machines. See *Montreal in 1856: A Sketch Prepared for the Opening of the Grand Trunk Railway of Canada* (Montreal: John Lovell, 1856), 44. At some point they moved to the Sault-au-Récollet Rapids on the north side of Montreal Island to produce their nails. The Holland and Dunn factory was on the Lachine Rapids on the south side of Montreal Island. These moves reflect the search for additional power for manufacturing.
  7. According to the 1861 Census, there were six nail factories in Canada East (Quebec) producing nails worth \$301 000 and only two nail factories in Canada West (Ontario) producing \$26 500 worth of nails. Canada, Province of, *Census of the Canadas*, vol. 2 (Quebec: S. B. Foote, 1863), 238–39, 268–69.
  8. The water power site at the Côte Saint-Paul Locks, about seven miles from Canal Basin No. 2, was the third and last hydraulic site to be developed. The lessee, William Parkyn, had to build and equip complete factories as well as workers' houses in order to attract tenants to this rural spot. See *Montreal in 1856*, 38–39. Because of the large investment needed, Parkyn turned to Frothingham & Workman, the largest hardware wholesaler in British North America. See Tulchinsky, *The River Barons*, 12, 134.
  9. According to the *Canadian Engineer* 8: 3 (July 1900), Pillow Hersey were among the very first in North America to manufacture wire nails.
  10. There are few sources to corroborate this significant achievement. Samuel Phillips Day in *English America or Pictures of Canadian Places and People*, vol. 1 (London: T. C. Newbrey, 1864), 181, gives the date of 1857 for the first rolling mill in Canada, but his chronology is uncertain. Hersey's account has been widely quoted such as in William Kilbourn, *The Elements Combined: A History of the Steel Company of Canada* (Toronto: Clarke Irwin, 1960), 13.
  11. Thomas Miller sold his share in the paper importing and manufacturing firm of Ferguson, Miller & Co. and invested his money in Holland's rolling mill. Kris Inwood, *The Decline and Rise of Charcoal Iron: The Case of Canada* (New York: Greenwood Press, 1986), 211–13.
  12. In 1851 George and William Tate leased government land and power on Canal Basin No. 2 for a dry dock. They subleased the water power not needed for their dry dock and saw mill. McNally, "Water Power on the Lachine Canal," 21.
  13. Alfred Holland (b. 1837) married Hersey's sister Mary in 1858. "Hersey Autobiography," 14.
  14. Inwood, *The Decline*, 209.
  15. William H. Snell came from England to reopen the Marmora Iron Works in Ontario. He had a five-year lease from Miller to operate the rolling mill. Inwood, *The Decline*, 212–13 and Willis, "The Process of Hydraulic Industrialization," 368.
  16. Thomas Morland (d. 1870) was from Britain and set up a wholesale hardware business in Montreal. Like Frothingham & Workman and other wholesalers, Morland started backing tool and hardware manufacturing operations in the mid 1850s. Inwood, *The Decline*, 208–09.
  17. The formation of the Montreal Rolling Mills, a joint stock company, in 1868 by Morland, Watson & Co., Hugh Allan, Peter Redpath, William Molson and others was a significant departure from the usual partnerships of the period. See: Steel Company of Canada, *The Twenty-Fifth Milestone: A Brief History of Stelco, 1910–1935* (Hamilton: Stelco, 1935), 13–15 and Kilbourn, *The Elements Combined*, chap. 3.
  18. Mansfield and Alfred Holland made hats until 1875 when Alfred sold out his interest to his brother-in-law, Joseph Godin. Mansfield Holland and Godin were partners until Holland's death in 1884. "Hersey Autobiography," 14.
  19. In spite of a biography in Atherton's *History of Montreal*, vol. 3, 157–58 and an obituary in the *Montreal Daily Star* (17 February 1902), there is little known about John A. Pillow.
  20. This is one of the few sources for the history of the Bigelow Family in the Montreal nail trade. This information has been quoted by others such as Kilbourn, *The Elements Combined*, 4–5.
  21. Ezekiel Reed invented a nail machine in 1786. His son Jesse Reed invented a machine for cutting and heading nails in 1807 which was widely used. J. Leander Bishop, *A History of American Manufactures from 1608 to 1860*, vol. 1 (1868); reprint (N.Y.: Johnson Reprint Corp., 1967), 488.
  22. The Lymans were an old and successful Montreal drug company. They leased a lot on Canal Basin No. 2 in 1857 to grind linseeds, oil, paint, drugs and spices. *Montreal in 1856*, 44.
  23. The rolling mill was located on St Patrick Street, between Condé and Montmorenci which was just east of the Saint-Gabriel Locks.
  24. The power demands in rolling mills continually increased. By 1870 in the United States, 90 per cent of all rolling mills were steam powered. In 1880 the average horsepower per water-

- wheel in the United States was 67 versus 101 horsepower per steam engine. McNally, "Water Power on the Lachine Canal," 72.
25. The wholesale hardware firm of Crathern & Caverhill was founded in Montreal in 1853. It became Caverhill, Learmount & Co. in 1897 and is still in existence. Montreal Business History Project. *A Guide to the History and Records of Selected Montreal Businesses before 1947 / Guide pour l'étude d'entreprises montréalaises et leurs archives avant 1947* (Montreal: McGill University, 1978), 60–61.
  26. There are few sources for the American cut nail industry. One exception is Amos J. Loveday Jr, *The Rise and Decline of the American Cut Nail Industry: A Study of the Interrelationship of Technology, Business Organization and Management Techniques* (Westport, Conn.: Greenwood Press, 1983). This book concerns the industry in Wheeling, W. Va., a cut nail industry centre.
  27. Hersey obtained Canadian patents for a nail machine in 1882 and nail plate feeders in 1886 and 1890. Peter J. Priess and P. Michael Shaughnessy, "An Inventory of Canadian, British and American Nail Patents to 1900," Manuscript Report Series no. 93 (Ottawa: Parks Canada, 1972), 6–8.
  28. Montreal Rolling Mills became part of the Steel Co. of Canada Ltd. merger in 1910.
  29. Hersey had other business interests. In 1889 he helped create Page & Hersey Co. to manufacture iron tubing (pipe). It leased the idle tube mill of J. C. Hodgson along the Lachine Canal, installed new equipment and made it into a prosperous company. Unfortunately, at the end of the lease, Hodgson sold the site to Montreal Rolling Mills, putting Page & Hersey out of business. A new company, Page Hersey & Co. was established in Guelph in 1903. Between 1895 and 1898 Hersey lived in Santa Clara, Calif. where he invested in vineyards and orchards. "Hersey Autobiography," 18–21.

## Revolution Forgotten: The Peters' Combination Lock Co., Moncton, N.B.

CHARLES ALLAIN



Last year, the Moncton Museum installed a push-button combination lock on its storage room doors. An article in the April 1992 issue of the *Security Technician* provides interesting background information on this device:

*In 1964, a commercial locking device was introduced that revolutionized the security industry. The product: a mechanical push-button combination lockset. The concept required that one press a series of buttons on the face of the lock in a correct sequence. A turn knob would then retract the bolt and open the door. Simplex push-button locks proved to offer an immediate and effective solution to key control. Locks did not have to be changed or re-keyed when employees left the company, and restricted areas remained off-limits to unauthorized individuals. Unless one knew the correct code, access was denied. ... If the code were leaked, it could be changed without removal of the lock from the door.<sup>1</sup>*

It is perhaps a little ironic that this modern lockset was installed to help guard a small collection of artifacts that "revolutionized" the security industry over 115 years ago.<sup>2</sup> Unfortunately, changes in Canadian tariffs and poor

◀  
**Fig. 1**  
Door assembly of Peters' combination lock. The lock is activated by pushing the buttons below the knob in predetermined sequence. (All photography by Lina Richard)