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The Chickering Piano Company in the Nineteenth Century

by

Dale Tsang-Hall

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

Doctor of Musical Arts

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HOUSTON, TEXAS
MAY, 2001
To my husband,
Richard,
and my parents,
Floris and Annel
MAY, 2001

ABSTRACT

The Chickering Piano Company
in the Nineteenth Century

by

Dale Tsang-Hall

Jonas Chickering was the foremost American piano-maker in the early- to mid-nineteenth century. He perfected the iron frame in the square piano and the grand piano, adding stability and strength to the instruments, and launching his company into the international market. Even more, he took advantage of an age in which technology, transportation, financial abundance, and American idealism converged, propelling the piano, its music, and its artists into the American mainstream.

The Chickering firm in the mid-1800's was one of the most respected manufacturing companies in the United States. In the history of pianoforte design, Jonas Chickering bridged the gap between the 19th-century European pianoforte and the modern design epitomized by the Steinway company. His firm was also largely responsible for the "piano craze" that overtook the United States in the mid-1800's, in which "middle-class" status was epitomized by stationing a piano in the living room.

This document gives an overview of the nineteenth-century Chickering company as a whole. It focuses specifically upon the design and construction of the nineteenth-century Chickering square and grand.
In conducting research for this dissertation, I began with a study of five Chickering instruments at the Smithsonian Institution, particularly noting the physical evolution of the square piano. Important primary-source information was gathered at the Smithsonian Institution Archives Center, whose Chickering & Sons collection includes the majority of the Chickering Piano Registers. A visit to the Fiske Museum in Claremont, California afforded an opportunity to study the earliest known Chickering grand in a public collection, as well as two Chickering squares. I also visited numerous other Chickering grands in California to trace further the evolution of the grand line.

In order to examine more closely a representative instrument, the author acquired an 1869 Chickering square (Serial #34936). Through dismantling its action and damper assemblies, I was able to gain more insight into the Chickering company's designs and production methods. A detailed summary of findings is included.

This writer's intent is to explain the technological, musical, and ideological success of the Chickering company in producing perfect instruments for their time.
ACKNOWLEDGMENTS

I would like to thank the following individuals for their generous contributions of time, patience, and knowledge: Dr. Marcia Citron, Dr. Albert R. Rice, Mr. Stacey Kluck, and Mrs. Cynthia Adams Hoover. I would also like to thank the following individuals and institutions: the Smithsonian Institute, the Kenneth G. Fiske Museum, Joseph Brandstetter, Linda McCormick, Betty Webster at the Unitarian Universalist Church in Kensington, California, David Claridge, and the Mathematical Science Research Institute in Berkeley, California.
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Chapter One: Introduction

Jonas Chickering was the foremost American piano-maker in the early- to mid-nineteenth century. He perfected the iron frame in the square piano and the grand piano, adding stability and strength to the instruments, and launching his company into the international market. Even more, he took advantage of an age in which technology, transportation, financial abundance, and American idealism converged, propelling the piano, its music, and its artists into the American mainstream.

The Chickering firm in the mid-1800's was one of the most respected manufacturing companies in the United States. In the history of pianoforte design, Jonas Chickering bridged the gap between the 19th-century European pianoforte and the modern design epitomized by the Steinway company. His firm was also largely responsible for the "piano craze" that overtook the United States in the mid-1800's, in which "middle-class" status was epitomized by stationing a piano in the living room.

It is surprising then that so little has been written about so significant a company. For the most part, information about the Chickering company can be found squeezed into short sections in piano history books. Some important examples are Daniel Spillane's *History of the American Pianoforte*\(^1\) and Martha Novak Clinkscale's *Makers of the Piano*\(^2\) two-volume set. There are also a few journal articles that deal with a single facet of the company's success. For example, Gary J. Kornblith's "The Craftsman as Industrialist: Jonas Chickering and the Transformation of

American Piano Making," published in Business History Review, is a well-researched study of Jonas Chickering's business acumen. The only large-scale study that this writer was able to find is an excellent dissertation on Chickering square pianos by M.E.P. Haupert, written in 1989. It focuses on the structural designs of twenty-four squares made during Jonas Chickering's lifetime, with photographs and detailed analyses. Therefore, neither later Chickering squares nor the nineteenth-century Chickering grand piano has been studied in detail, even though the Chickering grand was the piano of choice for many touring pianists in America.

This document will give an overview of the nineteenth-century Chickering company as a whole. It will focus specifically upon the design and construction of the nineteenth-century Chickering square and grand.

In conducting research for this dissertation, I began with a study of Chickering instruments at the Smithsonian Institution, which include:

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Description</th>
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<tr>
<td>(Serial missing)</td>
<td>1823-24 Stewart &amp; Chickering square</td>
</tr>
<tr>
<td>Serial #1129</td>
<td>1832 Chickering square</td>
</tr>
<tr>
<td>Serial #10683</td>
<td>1850 Chickering square</td>
</tr>
<tr>
<td>Serial #17390</td>
<td>1857 Chickering parlor grand</td>
</tr>
<tr>
<td>Serial #27733</td>
<td>1865 Chickering grand</td>
</tr>
</tbody>
</table>

For the purposes of background and comparison, I also studied the following Smithsonian instruments:

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4Mary Ellen Patnaude Haupert, "The Square Pianos of Jonas Chickering" (PhD diss., Washington University, 1989).
The Smithsonian Institution also holds numerous other Chickering instruments in its off-site storage facility, located in Suitland, Maryland. At the time of the author's visit, however, the facility was under quarantine for an asbestos containment and removal procedure.

Supplementary material regarding each instrument was found in files at the Smithsonian Institution's Musical Instrument Collection department. Each instrument's file contains provenance information as well as an overview of the instrument—measurements, condition upon acquisition, restoration details, etc.—and photographs. These detailed summaries greatly aided my study of the evolution of each piano style. Also, the input of Smithsonian curator Cynthia Adams Hoover—particularly her unpublished studies of the early Chickering registers—answered many questions.

Important primary-source information was gathered at the Smithsonian Institution Archives Center. Its Chickering & Sons collection includes the majority of the Chickering Piano Registers, handwritten factory ledgers which detail the production and original purchase of each instrument. Volumes 1 (serial numbers 1 - 10,000) and 3 (serial numbers 15,372 - 27,000) are retained on microfilm only; the original volumes were returned by the Smithsonian Institution to Wurltech Industries in 1988, and their current whereabouts are unknown. The original handwritten Volumes 4 through 50—and Volume 1A: unusual instruments created in the Chickering factories under the supervision of Arnold
Dolmetsch--are present and accessible. Volume 2 was never found among
the company papers; there is no microfilm of it.

The Archives collection also includes nineteenth-century Chickering
cOMPany publications and correspondence, as well as newspaper articles,
photographs, and advertisements. The archival material helped me
visualize the company's public operations as well as glimpse more personal
details. For example, the handwriting in the archival material--the elegant
loops and flourishes of the Chickering registers contrasted with the childish
scrawl of Jonas Chickering--provided a sense of intimacy.

In order to examine more closely a representative instrument, the
author acquired an 1869 Chickering square (Serial #34936). Through
dismantling its action and damper assemblies, I was able to gain more
insight into the Chickering company's designs and production methods. A
detailed summary of findings is included in Chapter Three.

A visit to the Kenneth G. Fiske Museum in Claremont, California
afforded an opportunity to study the earliest known Chickering grand in a
public collection, as well as two Chickering squares:

Serial #10715      1850 Chickering grand
Serial #14246      1853 Chickering square
Serial #33863      1868-69 Chickering square

The museum also owns numerous other squares and grands, many from
American manufacturers, which served as contemporary comparisons. I
also visited numerous other Chickering grands in California in order to
trace further the evolution of the Chickering grand line. These are
discussed in detail in Chapter Four.
The on-site visits and archival material painted a picture of a meticulous and innovative company at the forefront of its field. Each piano was highly detailed and carefully crafted, and incorporated new technological experiments in design and construction. As such, these instruments are prime representatives of nineteenth-century American pianos. By focusing on them, this writer's intent is to explain the technological, musical, and ideological success of the Chickering company in producing perfect instruments for their time.
Chapter Two: History of the Chickering Company

Jonas Chickering began his working career as a cabinetmaker in New Hampshire. In 1818, at 20 years of age, he moved to Boston to apprentice in a piano-making shop. By 1823, he and a partner, James Stewart, had set up their own piano business. Originally from Scotland, Stewart was already a well-known piano maker who had trained in Baltimore and worked in Boston since 1820. As his numerous patents in later years indicate, including soundboard improvements and a patent that formed the basis of modern double-length stringing, Stewart was an influential innovator. Because of personality conflicts, the partnership between Stewart and Chickering ended in 1827 when Stewart left the firm to return to London, although the two would continue to exchange ideas throughout Jonas Chickering's lifetime.

Three years later, Jonas Chickering partnered with John Mackay, a businessman and sea captain, forming the firm of Chickering & Mackay. Together, they exploited the new American modes of transportation, namely, canals and railroads, penetrating markets throughout the United States and South America by 1839. The firm prospered. After Mackay was lost at sea in 1841, the Chickering firm (later, the Chickering & Sons firm) continued to grow and prosper, becoming the undisputed leader in the United States piano industry by 1850, turning out 1,000 pianos a year.

The Chickering company's meteoric rise was in part due to marketing know-how and fortuitous timing. However, there were even greater forces at work: innovation and inspiration. Jonas Chickering was an innovator—he was one of the few early American piano builders to recognize the value of the cast-iron frame and the first to incorporate it
into the grand piano design. His were the first American pianos to successfully challenge European pianos structurally and musically. The Chickering company was also among the first piano firms to cultivate a lasting rapport with important American and European pianists and composers, thus forming a two-way exchange of inspiration: Chickering pianos inspired musicians to play and compose better music, which in turn inspired musicians to clamor for even better pianos.

During its lifetime, the Chickering firm built more than 200,000 pianos. At the peak of its operations, the Chickering company employed 500 workmen in a modern super-factory, turning out 2,000 pianos a year in 1853; it also built a wareroom with an enormous concert venue in New York City, Chickering Hall, in 1875. Located at Fifth Avenue and 18th Street, Chickering Hall became, according to Christine Merrick Ayars, "the musical centre of New York for twenty-five years."\(^1\) In addition to recitals by concert pianists, the Hall offered performances by leading musical groups, including the Mendelssohn Glee Club, the Boston Symphony Orchestra, and the New York String Quartet.

The firm's subsequent demise was a slow and tragic affair. Due in large part to competition from the Steinway company (founded in 1853) and unsure leadership, the Chickering company in the 20th century became a financially troubled, second-rate firm. It was purchased by the American Piano Company in 1908, which placed the Chickering behind Knabe in its line of instruments. The Chickering brand name rights and instrument designs were bought by the Wurlitzer company in 1985, and are now owned by the Baldwin Company (which itself is owned by Wurltech, Inc.).

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Jonas Chickering

William Steinway himself called Jonas Chickering "the father of American pianoforte-making". It is true that Chickering was an excellent decorative cabinetmaker and businessman, and it is more significant that he was able to create solid and beautiful-sounding pianos that were more stable than their predecessors. From the founding of the House of Chickering, the young Jonas Chickering was a careful craftsman. In her dissertation on Jonas Chickering's square pianos, Mary Haupert noted, "Chickering's careful attention to details extended to his personal choice of various woods for cases and veneers; he was known to inspect personally all lots of wood used in his pianofortes."

Chickering's earliest training, like that of most other piano makers of his generation, was in cabinetmaking. He apprenticed as a cabinetmaker for three years, then moved to Boston to work for piano maker John Osborn. Luckily, Osborn was not well-versed in the concept of division of labor. "This was perhaps an advantage to Mr. C."," noted Richard G. Parker in his memorial biography of Chickering, "as he was thereby compelled to study every part of the instrument, and to make himself acquainted with all of its details." This thorough training served him well when he finally built his first complete piano, described thus in his firm's biography: "The first Chickering piano [a square, built in 1823] . . . is still clear and resonant although tinged by its great age with a far-off quality . . .

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Jonas Chickering's greatest achievement was in recognizing the value of the full cast-iron frame, patented by fellow piano-maker Alpheus Babcock in 1825. As the Chickering firm later observed, "The great strain of the strings [in a concert grand] made the instrument, constructed as designed by Christofori, hardly practical, for it was next to impossible to keep it in tune." The cast iron frame provided a solidity and durability that was absent in European instruments, allowing more string tension and better tuning retention, as well as greater transportability and longevity.

Jonas Chickering's metal plate design for the square piano was patented October 8th, 1840, and his plate for grands in 1843. His grand patent specifications read in part:

Having thus set forth my improvements, I wish it understood that I am aware that the strings of a piano-forte in their passage from the hitch-pins to the straining-screws have been passed through holes formed through a pin . . . screwed in a block, and from the said pin bent or inclined upward to the straining-screw, and therefore I do not claim such an arrangement as mine. But, what I do claim consists in my improvement thereon, viz; 1. in supporting the strings through a solid ledge cast directly upon the lower part of the inclined iron front plate, through suitable apertures of which ledge the strings are to be passed in the manner set forth, the tone being thereby not only greatly improved but rendered more durable . . . 2. my particular method of constructing the metallic frame of the grand piano . . . .

This improved application of metal to the grand piano revolutionized

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6Chickering and Sons, Achievement . . ., p. 8-9.
the piano industry. According to the Chickering firm in 1920, "[the iron frame] is accepted by the scientific world as [a concept] of far-reaching importance. Indeed, it proved to be the foundation of all modern piano construction, for without it the sonorous grands of today would have been impossible." The Chickering company made its historical mark in 1851 at the London World's Fair, becoming the first U.S. piano company to join a European exhibition, and then taking the highest honors.

As a businessman, Chickering was equally astute. In his *History of the American Pianoforte*, Daniel Spillane wrote: "It is said that as early as 1839 Chickering & Mackay had penetrated every commercial point available for the sale of their instruments, then ranking high in price and character, and succeeded in establishing the first agencies known all through the country, thus becoming the pioneers of the music trade." After Mackay's death in 1841, Chickering successfully assumed sole control of the enterprise, expanding production to over 1,000 pianos per year by mid-century.

Chickering's interest in the piano trade was not merely technical or financial. Even as a young cabinetmaker in New Hampshire, he had been very interested in music and musical instruments, learning to play the fife and clarinet. Upon moving to Boston, he quickly joined the Handel and Haydn Society. As Daniel Spillane observed, "Jonas Chickering was deeply interested in the progress of musical art in Boston . . . ." In 1834, Chickering was elected vice president of the Handel and Haydn Society, and later became its president.

Jonas Chickering's influence reached deep into the fabric of Boston

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society. Upon his death in 1853, the entire city mourned his passing—every piano factory and music store was closed during his funeral, and the Mayor ordered various churches in the city to toll a knell "to the memory of departed worth." 11 The funeral procession was composed of eight hundred and fifteen mourners, crowding the Episcopal Church to capacity, and leaving hundreds in the street unable to attend the service. And a most notable tribute to Jonas Chickering's life work was the attendance of all of his own employees.

Long after Jonas Chickering's death, in a 1923 celebration of the centennial of the founding of Chickering & Sons, newspapers reminded readers that Jonas Chickering "was described in his own time as resembling his product in being 'square, upright and grand'." 12 The newspapers also described the honor bestowed upon him fifty years after his death. At the St. Louis World's Fair in 1904, a colonnade of ten statues of heroic size represented the ten greatest inventors in history. These were Elias Howe, Robert Fulton, Henry Bessemer, John Ericsson, James Watt, Alvan Clark, Robert Hoe, Samuel Colt, Charles Goodyear—and Jonas Chickering.

**The American Piano Trade**

In the early 1800's, American pianos tended to be reproductions of European models. New York piano makers replicated French designs, and Bostonians replicated English designs. Following European designs, including the European "distaste for metal in an indoor musical instrument," 13 limited American creativity. A few companies on both

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11 Parker, *Tribute to Chickering*, p. 58.
continents dabbled in composite frames or metal bracing bars, but instability was a far greater problem in America because of the greater variability in climate.

Enter Alpheus Babcock, a highly respected mechanic. On December 17, 1825, Babcock was granted a patent for a "complete iron frame, cast in one piece, for a square piano, uniting the hitch-pin plate and the bracing bars with the portion covering the wrest plank." Iron was truly a product of the Industrial Revolution. Early in the nineteenth century, the development of the locomotive and iron train tracks revolutionized the concept of transportation. Babcock’s harnessing of this new building material was to provide the groundwork for the success of the Chickering company and the American piano trade. Unfortunately, Babcock himself was never a convincing businessman; most of those around him either dismissed his invention or tried to claim it as their own.

By 1850, the American public tended to favor the heavier, more elaborate square piano. Europeans, on the other hand, found the upright to be a more practical shape and the grand to be a more impressive concert instrument. The European square piano, dominant until the 1830’s, was virtually obsolete by 1860.

Arthur Loesser theorizes that this difference in preference was due in large part to a difference in use. Until about 1840, the American public had not heard any touring virtuoso pianists; therefore, pianos were impressive furniture pieces used for entertainment. The square piano, with its elaborate carvings and simple rectangular shape, was a perfect and handsome fit for the emerging middle-class American’s living room.

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The American necessity of owning a piano is epitomized by James Parton, who wrote in 1867, "almost every couple that sets up housekeeping on a respectable scale considers a piano only less indispensable than a kitchen range." And on the social aspect of music in the early nineteenth-century American home, Craig Roell notes:

In an age of idealism, the ideal woman replenished an ideal morality in an ideal home filled with ideal sentiment and musical nurture... Evening was family time, when all gathered together. Ideally, all looked forward to it as an established part of an ordered universe. From the family of the mother in the settlement house to that of the First Lady in the White House, such a gathering also inevitably included music played upon the piano. The Sunday night hymn singing in the Hayes administration, in which Lucy Webb Hayes played hymns on the Chickering while guests, "a crowd of people, sang with heart and soul," was no isolated incident.

In Europe, on the other hand, concert virtuosos had been touring prior to 1820. As Loesser observes in his social history of the piano, "a solo concert pianist invariably wants to play on a grand, on the instrument that has the fullest length of string as well as a sound-projecting lid that can be raised toward an audience. It is understandable that [nineteenth-century] upper-class Europeans with large drawing rooms would have wished to adorn their homes with instruments that looked like those the adored virtuosos used when they were actually doing their marvelous stuff." For Europeans in the early 1800's, the piano was a tool for artistic accomplishments. For Americans, the piano was a middle-class family

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pastime. That European ideas would come to America was inevitable.

**Artists**

In 1846, Henri Herz, one of the first European virtuosos to do an American tour, arrived with his own grand piano from Paris. In comparing American and European instruments, he felt that American piano manufacture was inferior. One exception, however, was "Chickering & Sons, whom he praised, saying that their instruments had 'éclat' and that their concert grand models could compete with English grands."\(^{19}\) He also noted that French pianos faltered in the American climate, not only because of extremes in weather changes, but also because of the "excessive furnace heat in American houses - which caused veneer and ivory to chip off."\(^{20}\) This dry heat also contributed to warping and cracking of poorly-seasoned woods.

Jenny Lind's American debut in 1850 further fueled the virtuoso delirium. Her fame preceded her, and the largest dollar amount paid for her debut concert was $225 for a single ticket. Significantly, the instruments of choice were announced as "Chickering grands," of which at least one was a square. Unfortunately, a review of the debut in the *Albion* (described by Arthur Loesser as "a smart little New York weekly journal of comment") had this description: "The pianos sounded to us like a loud guitar smothered in flannel."\(^{21}\) Undeterred, Jenny Lind continued her American tour, aided throughout by Chickering pianos, to much critical acclaim.

The Chickering company carefully cultivated its relationship with the

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\(^{19}\)Loesser, *Men, Women and Pianos*, p. 488.


reigning concert pianists of the day. Hans von Bülow's American debut took place at the Chickering home in Boston, where he premiered the Tschaikovsky Bb Piano Concerto. When the huge Chickering Hall was completed, it hosted von Bülow's first New York appearance. In its 25 years of existence, the venue presented many major events. They include all of von Bülow's subsequent New York recitals, Teresa Carreño's American debut, Rafael Josseffy's American debut premiering the Chopin e minor Concerto and the Liszt Eb Concerto, Edmund Neupert's premiere of the Grieg Concerto,22 and Vladimir de Pachmann's 1889 recital series devoted almost entirely to Chopin.23 When Louis M. Gottschalk, the first American pianist of international renown, returned to America in 1853 after eleven years of study in Paris and began his concert tours, he arrived in New York with a Pleyel piano but left with a Chickering and never changed again.24

The singular relationship between the Chickering company and Gottschalk became one of sponsorship, now a common practice, but then an innovative new marketing tactic. In September 1855, the Chickерings sent a letter to Gottschalk with a $100 check, an advance for Gottschalk's agreement to use Chickering pianos exclusively in his American concerts. Gottschalk was to travel throughout the United States and South America with Chickering pianos in tow. In an 1863 diary entry about his Chickering pianos, Gottschalk wrote:

These two mastodons, which Chickering made expressly for me, follow me in all my peregrinations. The tails of these monster pianos measure three feet in width. Their length is ten feet; they

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22 Ayars, Contributions to the Art of Music . . . , p. 122.
23 Chickering and Sons, Achievement . . . , p. 24.
24 Loesser, Men, Women and Pianos, p. 510.
have seven and a half octaves, and despite all this formidable appearance possess a charming and obedient docility to the least movement of my fingers. The Chickering sons (Chickering, the father, founder of this great house, has been dead for some years) have given, by their labor and constructive talent, for some time past a great impetus to the manufacture of pianos. Their factories at Boston turn out forty-two pianos a week! Five hundred workmen are employed in them constantly. The later instruments, constructed on new models of their own invention, rival, if they do not surpass, the finest European pianos.  

Sponsorship did create much controversy. Craig Roell notes that in the early nineteenth century, it was "a customary advertising technique to hang on the side of the instrument facing the audience a large placard emblazoned with the piano's name. Bold letters informed even those in the back rows that the musician played or accompanied the 'Chickering & Sons'. . ."  

This blatant commercialism was roundly criticized by the press. In 1864, an exasperated Gottschalk wrote,

A newspaper attacks me because I play exclusively on Chickering's pianos, and thinks it shocking that I place the maker's name on a plate that decorates the side exposed to public view. He adds facetiously that it is said I intend to wear, suspended from my neck, a placard upon which will be inscribed the name of my favorite maker. This honest editor who does not appear to be au fait in the matter of concerts, ought to know that no piano here or in Europe, is placed upon the platform without having on it the name of its maker. Then he also should know that Thalberg, for the twenty-five years that he has given concerts in Europe, has never played but upon Erard's pianos. That Chopin never laid his fingers upon any others than those of Pleyel. That Liszt, in France, in Switzerland, in England, in Italy, in Germany, in Turkey, has always played Erard's to the exclusion of all other pianos. The reason for it is not what this honest editor thinks it to be, a commercial transaction between the maker and the artist (no pecuniary compensation could induce an

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26 Roell, The Piano in America, p. 150.
artist to sacrifice his reputation by playing on an instrument he does not like), but simply because the nature of the different talents of those I have spoken of is better adapted to that of the different pianos they use exclusively.

Erard's, which tone is robust, strong, heroic, slightly metallic, is adapted exclusively to the powerful action of Liszt. Pleyel's, less sonorous but poetical and, so to speak, languishing and feminine, corresponds to the elegaic style and frail organization of Chopin. There are very many excellent makes in America and my opinion is that ours are equal to the best pianos of Europe. I play Chickering's, not because all others are bad, but because I like their tone, fine and delicate, tender and poetic, because I can obtain, in the modifications of their sound, tints more varied than those of other instruments. The sound is in the execution of the pianist what colors are in painting. We often see fine pictures admirably drawn that nevertheless appear cold to us. They are wanting in color. Many pianists whose thuddering execution astonishes us still do not move us; they are ignorant of sound. Drawing and execution are acquired by labor. Color and sound are born in us, and are the outward expressions of our sensibility and of our souls.\textsuperscript{27}

Gottschalk's tirade is well-taken. It is true that the Chickering company helped to support him financially and supplied him with traveling instruments. The instruments themselves, however, also helped to form his distinctive sound and composition style. As Lambert Orkis noted during his 1980's commemorative recording sessions, in which he performed Gottschalk's compositions on a restored Chickering, many of the performance directions, such as pedalling and dynamic markings, that seemed odd on modern instruments produced "magical" effects on the Chickering.\textsuperscript{28} It was fitting for Gottschalk, an American composer famous for his American folk-song fantasies, to compose and perform on an American instrument.

\textsuperscript{27}Gottschalk, \textit{Notes of a Pianist}, p. 243-244.
\textsuperscript{28}Anne McGuire, "Recapturing the Sounds of the Nineteenth Century Piano." \textit{Newsletter of the New Orleans Musica da Camera} (November 1982).
Later Years

By the middle of the 19th century, Chickering & Sons was the United States' undisputed leader in piano manufacturing. The firm produced about 1,000 pianos a year by 1850. In 1851, 1,300 of the 9,000 pianos produced in the U.S. were Chickering pianos. In 1852, the Chickering plant was completely destroyed by fire, causing $250,000 in damage and a devastating loss of piano designs and materials. The Chickering immediately built a brand-new, modern super-factory, capable of employing 500 workmen and turning out 2,000 pianos a year. In New York particularly, when a performance piano was specifically mentioned, it was usually a Chickering, in large part because the company was one of the very few American companies that made any concert grands.

The company's greatest competition arose with the founding of the Steinway manufacturing house in New York in 1853. Basing their designs on very similar ideas to those of the Chickering firm, the Steinway company quickly catapulted to success. Later that same year, Jonas Chickering passed away, leaving his sons in charge of the business. The competition between the two companies created a sort of healthy American alliance. At the Paris Expo in 1867, a unanimous decision awarded gold medals to both Steinway and Chickering instruments.29

Towards the end of the nineteenth century, the Chickering company began to lose ground to the innovative Steinway company. The passing of Jonas Chickering's three sons, the last in 1899, devastated the firm. The foundering Chickering Hall was sold in 1900. The American Piano Company took over the Chickering name in 1908. In 1982, the Chickering

29Loesser, Men, Women and Pianos, p. 512.
brand name was retired. The Chickering name and legacy is now being resurrected by the Baldwin company.
Chapter Three: The Square Piano

From the beginning of his career, Jonas Chickering set out to create quality instruments and improve the design of the piano. His early training in cabinetry and in each aspect of piano-making provided a solid framework on which to exercise his creativity and innovation.

It is fitting that the first Chickering pianos were squares, as they were the instruments of choice at the time. The original bill of sale from one of these early square pianos (see Fig. 3.1) shows that it was sold by the Stewart and Chickering firm on June 23, 1823 to a Mr. James H. Bingham, who bought it for $275 as a birthday present for his niece. For the next seven years--James Stewart left after four years, moving to London--Chickering made exclusively squares. His first upright dates from 1830 and the first grand from 1837.¹

The square piano, an invention of Zumpe (a German working in London) in the mid-1760's, had already had a long and healthy life in America. An early square (1770) by Zumpe & Buntebart is now at the Smithsonian museum. The Smithsonian museum also has a beautiful small square dating from about 1798 made by Charles Albrecht in Philadelphia (see Figs. 3.2a-b). Albrecht and a very few other individuals had been producing pianos in America from 1775, mostly copies of European designs, some with improvements. The majority of instruments in

¹Chickering and Sons: Achievement, an ascending scale: being a short history of the house of Chickering and sons. (Boston, date unknown). This source is full of discrepancies. The piano sold to Bingham is described as the first Chickering piano; however, it was sold June 23, 1823 whereas the earliest Chickering registers list pianos sold in May 1823. Cynthia Adams Hoover has theorized that there may even be earlier pages (now missing) from April 1823, when Stewart and Chickering first became partners. The source also mentions the first Chickering grand and includes a photo; the serial number of this piano (serial #6020), once housed at the Henry Ford museum and destroyed in its 1970 fire, places it in 1844, not 1837.
ca. 1798 Charles Albrecht Square  
(Smithsonian Institution)

Fig. 3.2a - Plan view  
(Smithsonian Institution Photo No. 56,443A)

Fig. 3.2b - Front view  
(Smithsonian Institution Photo No. 56,443)
America before the rise of the Chickering company, however, were European imports, and the square design was by far the most popular.

1823-24 Stewart & Chickering Square

The Smithsonian museum has in its possession one of the earliest Stewart and Chickering square pianos from 1823-24, missing its serial number (see Figs. 3.3a-b). Its inscription reads "Patent/ Stewart & Chickering/ Makers, Tremont Street,/ Boston."\(^2\) This instrument already evinces Chickering's innovative use of metal—it has a cast iron hitch-pin plate held down by metal screws. This undecorated iron plate provides a solid anchor for one end of the strings, and was undoubtedly devised to provide better tuning stability.

In the past—see, for example, the Albrecht piano—both string anchors (the tuning pin and the hitch pin) were embedded in solid wood blocks. The natural expansion and compression of wood in response to environmental changes would stretch and contract the strings, pushing pitches sharper and flatter. Stabilizing one end of the string helped curb this effect. (Note that it would have been impossible to use the same solution on the tuning pin end, since this would then prevent any future tunings.)

Note also the enlarged soundboard and more dramatically curved bridge in the Stewart & Chickering piano (as compared to the Albrecht). Not only are these more elegant in appearance, but they also would provide a much more rich and long-lasting sound by directing sound production towards the center of the soundboard. It is also interesting to compare the

\(^2\)The Stewart & Chickering firm was located on Tremont Street from 1823-1824, and then at 20 Common Street until 1828. Though it is missing its serial number, the inscription thus places this instrument in 1823-1824.
1823-1824 Stewart & Chickering Square
(Smithsonian Institution)

Fig. 3.3a - Plan view
(Smithsonian Institution Photo No. 56,478A)

Fig. 3.3b - Front view
(Smithsonian Institution Photo No. 56,478)
dimensions between the two squares. The Stewart & Chickering piano is quite a bit larger in all measurements, particularly length and width.

Jonas Chickering understood that the American square piano needed to become larger and heavier for several reasons. First and foremost was the problem of environmental strain. America's natural climate was highly variable, and the drying effect of coal furnaces proved damaging to light-duty musical instruments. Also, pitch was rising--from Mozart's Viennese A=421.611 in 1790, to England's A=435.4 in 1828, and A=452.5 in 1846--and this required progressively greater string tension. To counteract warping and instability, Chickering needed sturdier construction and better-seasoned wood.

The general appearance of the two square pianos is also very telling. The Albrecht is reminiscent of a clavichord with its spindly legs, simple lines and delicately painted nameboard. The Stewart & Chickering, reflecting a contemporary change in furniture styles, combines richly-grained mahogany, rounded corners and moldings, and finely carved legs. It is more decorative and substantial.

1832 Chickering Square

The Smithsonian also owns square Chickering #1129, built in 1832 (see Figs. 3.4a-b). Its inscription, engraved into a brass plate on the nameboard, reads, "J. Chickering/Boston."3 The greatest change is in the size and shape of the iron plate, now much larger and "ventilated" with cutouts to allow sound to pass through. It is butted up against the rim of the case, providing more stability and eliminating the need for metal

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3From 1828-1838, the J. Chickering firm (the name was changed in 1826) was at 416 Washington Street.
1832 Chickering Square  
(Smithsonian Institution)

Fig. 3.4a - Plan view  
(Smithsonian Institution Photo No. 72-3427A)

Fig. 3.4b - Front view  
(Smithsonian Institution Photo No. 72-3427)
screws driven into the body of the soundboard.

The plate's inner contour has also changed dramatically, moving the hitch pins much closer to the bridge pins and mimicking the bridge in sweep. This would alter the overtone pitches in the string length between the bridge pins and hitch pins, making them more consistently complementary to the fundamental pitch. This would also alter the "scale" of the piano—the compound ratio of string length, diameter, and degree of tension. Jonas Chickering would wrestle with this concept throughout his lifetime. As R.G. Parker wrote in his Chickering memorial, "With regard to the scale thus (sic) much may be said, that he considered it a work never perfected, and notwithstanding the success which has crowned his labors, he was still engaged in making additional improvements to the last hours of his life." Jonas Chickering's scale designs were in constant flux. Not until his sons took over did the company solidify and codify them; the later Chickering piano registers meticulously document hundreds of different scale designs.

The tuning pins are now also much more evenly spaced—there is no longer a cluster of bass string tuning pins at the far left of the pin block. This new arrangement would distribute the string tension more evenly, again balancing the forces within the instrument and making better use of space.

Alpheus Babcock

We now turn our attention to the development of the revolutionary full cast iron frame for the square piano. Alpheus Babcock was a former

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4Richard G. Parker, A Tribute to the Life and Character of Jonas Chickering (Boston: William P. Tewksbury, 1854), p. 22
5Jonas Chickering's own notes on his scale designs were lost in the factory fire of 1852.
partner with John Mackay, and later worked for the Chickering company. His successes in piano construction were well known and documented as far back as 1822. Daniel Spillane noted, "In 1824 I find that he was a prize winner at the first Mechanic Arts Exhibition of the Franklin Institute, Philadelphia."\(^6\) He bested his competition at the second exhibition as well, his square piano being thus described: "the highest finish is observable in every part of its interior mechanism. Its touch and tone are excellent."\(^7\)

Babcock's greatest contribution to piano construction was his ingenious circular cast iron frame, patented in 1825 (see Fig. 3.5). The harp-shaped ring provided a means of completely stabilizing the strings of the piano; the hitch pins were cast into the frame, and the full-circle design stabilized the frame itself and the body of the instrument.

Among the many Babcock pianos in its collection, the Smithsonian museum possesses one made around 1835 which makes use of the circular frame (see Figs. 3.6a-b). One can easily understand the success of Babcock as a piano maker by noting the beauty and elegance of this instrument, as well as his remarkable creativity in developing its frame.

Alpheus Babcock joined the Chickering & Mackay company in 1837, and the first square with an iron frame is listed in the Chickering registers on September 8 of that year. At that time, Jonas Chickering submitted an application for a patent for the square metal plate with an improved damper arrangement, but the patent was postponed for a small technical reason. The next year lists nine squares with iron frames. In 1839, apparently pleased with its results, the Chickering & Mackay company produced 139 pianos with the iron frame. In the same year, Alpheus

\(^7\)Spillane, *History of the American Pianoforte*, p. 86.
ca.1835 Alpheus Babcock Square
(Smithsonian Institution)

Fig. 3.6a - Plan view
(Smithsonian Institution Photo No. 56,445A)

Fig. 3.6b - Front view
(Smithsonian Institution Photo No. 56,445)
Babcock contributed a new patent to the company (it was assigned to Chickering on October 31); patent #1389 was a new action design with an improved regulating screw.

Patent #1802--Jonas Chickering's square cast iron frame--was finally issued on October 8, 1840 (see Fig. 3.7). It is for an improvement in iron framed pianos which consists in "attaching or combining the bridge, (over which the strings pass to the straining pins) and also the socket through which the damper wires pass, to . . . the frame . . . ."8 This new design produced more uniform and consistent string terminations and damper wire guides.

**Solid footing**

While these technical achievements were surging ahead, so was the firm's market share. In an article on Jonas Chickering, Gary J. Kornblith writes, "In 1835 [Mackay] had enlisted piano dealers in Providence, New York, Baltimore, Washington, Norfolk, Augusta, Savannah, Charleston, and New Orleans, and with their help the firm penetrated markets previously beyond its range. Whereas in 1830 three-quarters of the firm's output was sold to customers residing in Massachusetts, in 1835 well over half of its production was sent out of state."9 In 1837 to 1838, Chickering and Mackay erected a new manufactory at 334 Washington Street, which was six stories high, accommodating one hundred workmen and complete with a salesroom and elegant salon.

Growth was accompanied by financial success. Kornblith also notes,

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Fig. 3.7 - Jonas Chickering's
Square Cast Iron Frame Patent #1802
"In 1838 the firm placed among the top 1.5 percent of taxpaying units in Boston. In 1840, when the production of musical instruments ranked fourth among the city's industries in value added annually by manufacturing, the firm's operations accounted for an estimated 40 percent of the industry's total share, or approximately 3.5 percent of the value added by the entire range of manufacturing establishments within the city."\(^{10}\) In the midst of the Industrial Revolution, the firm was prospering.

As the firm entered its most productive years, tragedy struck. In 1841, John Mackay was lost at sea during a wood-procuring voyage to Rio de Janeiro. This was followed by Alpheus Babcock's death the next year. For Jonas Chickering, the loss of his business partner and then a great creative ally must have been daunting. According to Kornblith, "In 1842, the firm's output declined 15 percent and sales slumped even more dramatically. . . ."\(^{11}\)

More dramatic, though, was Chickering's ability to shoulder all creative and financial responsibilities and forge ahead. He purchased Mackay's share of the business from his heirs and assumed total control of the firm. In 1843, Chickering took out a patent for his grand piano frame, and added the grand piano to his line of prize-winning instruments. By 1848, Jonas Chickering ranked among the two hundred wealthiest taxpayers in Boston.\(^{12}\) By 1850, the very successful company was generating 1,000 pianos annually and employing two hundred workmen.

1850 Chickering Square

The Chickering company continued to put most of its energy into

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\(^{10}\)Kornblith, "The Craftsman as Industrialist," p. 357-8.
\(^{11}\)Kornblith, "The Craftsman as Industrialist," p. 358
producing square pianos—the grand piano was still considered a rare novelty, only for concert stage use. The Smithsonian collection includes square Chickering #10683, built in 1850 (see Figs. 3.8a-b). Its inscription reads simply "Chickering./BOSTON." It is a beautiful instrument that has been restored to playing condition and has been used for numerous concerts and recordings.

The most notable change in this piano is its gorgeous iron frame. No longer just a simple structural support, it has been cast as an intricately decorative ornament and painted gold. This epitomizes Jonas Chickering's ability to make beauty out of function. His patent #1802—iron frame for a square piano—does not mention scrollwork, wheels, and rosettes. But for Chickering, this detailing seems like a natural outcome.

The dimensions of the square piano have now greatly expanded, particularly in width (from 29.5 inches [74.7 cm] in 1830 to 37 inches [94.1 cm] in this instrument). This is partly to accommodate a larger range (FF-f⁴ in 1830, CC-c⁵ in 1850), but mostly to accommodate a larger soundboard and an improved scale using thicker, more resonant strings. The whole instrument is much more substantial and impressive than before, as would be its power and tone.

In 1851, a year when 1,300 of the 9,000 American pianos produced were Chickering's,¹³ the prowess of Chickering's instruments was showcased in an international arena. Judges at the London Crystal Palace Exhibition both awarded a prize for his square piano and praised his grand piano. Also representing the United States in the same exhibition were Meyer (Philadelphia), Nunns & Clark (New York), and Gilbert & Co.

1850 Chickering Square
(Smithsonian Institution)

Fig. 3.8a - Plan view
(Smithsonian Institution Photo no. 65,744A)

Fig. 3.8b - Front view
(Smithsonian Institution Photo No. 78-4786)
(Boston). The American piano industry had arrived. On the heels of this high point, however, were the devastating Chickering factory fire in 1852 and Jonas Chickering's death in 1853.

Upon his death, control of the firm passed to Jonas Chickering's three sons. The three had been thoroughly trained by Chickering in all aspects of piano-making and had become partners in the firm in 1852 as rebuilding began. They divided duties: Thomas E. handled the business aspects; C. Frank headed the firm and assumed design duties; and George H. worked in the factory, at one point personally making every hammer used in the Chickering concert grand line. Under the sons' management, the Chickering company continued to thrive and expand.

1869 Chickering Square Piano

A price list shows the variety of instruments built by the Chickering & Sons company in 1869 (see Fig. 3.9). As is typical, the larger and more decorative the instrument, the more expensive. It is interesting to note that square pianos were the least expensive in the line, and that the upright was considered a mid-level instrument, only slightly less expensive than a grand.

This author possesses Chickering square #34936, built in 1869 (see Figs. 3.10a-b). The instrument is interesting for a number of reasons. First, it typifies a high-level Chickering square, and much can be learned about the company itself by the quality of its workmanship. Second, its age places it at the pinnacle of the company's illustrious history—the year 1867 had further established the international prowess of the American piano with the awarding of the Paris Expo gold medal to both the Chickering

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**PRICE LIST,**
CHICKERING & SONS' NEW SIZED PIANO FORGES.

**APRIL 1869.**

EVERY PIANO MADE BY US IS FULLY WARRANTED.

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### Square Pianos.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rosewood, 7 oct.; Front Corners large round; single mouldings on plinth; Agrafo treble; Plain Scroll [carved] Legs</td>
<td>$475</td>
</tr>
<tr>
<td>2.</td>
<td>Rosewood, 7 oct.; Front Corners large round; double mouldings on plinth; Agrafo treble; Full Carved Legs</td>
<td>$475</td>
</tr>
<tr>
<td>3.</td>
<td>Rosewood, 7 oct.; All round Corners; back finished like front; double mouldings on plinth; Agrafo treble; Carved Legs</td>
<td>$500</td>
</tr>
<tr>
<td>4.</td>
<td>Rosewood, 7 oct.; All round Corners; back finished like front; handsome top moulding. Agrafo treble; Carved Legs</td>
<td>$500</td>
</tr>
<tr>
<td>5.</td>
<td>Rosewood, 7 oct.; All round Corners; back finished like front; Serpentine and Perle mouldings on plinth; Agrafo treble; Carved Legs</td>
<td>$575</td>
</tr>
<tr>
<td>6.</td>
<td>Rosewood, 7 oct.; All round Corners; back finished like front; Serpentine and Perle mouldings on plinth; rich Perle moulding around body of case; Agrafo treble; Carved Legs</td>
<td>$600</td>
</tr>
<tr>
<td>7.</td>
<td>Rosewood, 7½ oct.; Grand Square—All round Corners; back finished like front; double mouldings on plinth; Agrafo bridge throughout; three unions in treble; Carved Legs</td>
<td>$675</td>
</tr>
<tr>
<td>8.</td>
<td>Rosewood, 7½ oct.; Grand Square—All round Corners; back finished like front; double mouldings on plinth; rich mouldings on body of case; Agrafo bridge throughout; three unions in treble; Carved Legs</td>
<td>$700</td>
</tr>
<tr>
<td>9.</td>
<td>Rosewood, 7½ oct.; Grand Square—All round Corners; back finished like front; Serpentine and Perle mouldings on plinth; rich Perle moulding around body of case; Agrafo bridge throughout; three unions in treble; Rich Carved Legs</td>
<td>$725</td>
</tr>
</tbody>
</table>

All Our Square Pianos have Overstrung Bass, fretted, carved Legs, and solid Rosewood Mouldings.

### Grand Pianos.

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<th>No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>Rosewood, 7½ oct.; Parlor Grand—Plain case; Length: Seven Feet Seven Inches; three unions; Agrafo bridge throughout; Carved Legs</td>
<td>$1,050</td>
</tr>
<tr>
<td>11.</td>
<td>Rosewood, 7½ oct.; Large Grand—Plain case; Length: Eight Feet Five Inches; three unions; Agrafo bridge throughout; Carved Legs</td>
<td>$1,125</td>
</tr>
<tr>
<td>12.</td>
<td>Rosewood, 7½ oct.; Large Grand—Mouldings all round top and bottom of case; Length: Eight Feet Five Inches; three unions; Agrafo bridge throughout; Carved Legs</td>
<td>$1,150</td>
</tr>
<tr>
<td>13.</td>
<td>Rosewood, 7½ oct.; Large Grand—Rich Serpentine and Carved Mouldings on body of case; Carved Legs; Length: Eight Feet Five Inches; three unions; Agrafo bridge throughout</td>
<td>$1,200</td>
</tr>
</tbody>
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All our Grand Pianos have the entire iron frame, repeating action, and all modern improvements.

### Upright Pianos.

<table>
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<th>No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
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<td>14.</td>
<td>Rosewood, 7 oct.; New Scale—Main Case; Carved Treasures; Fret Panels; three unions; New Patent Combination Trema Frame; Height: 4 ft. 1 in.</td>
<td>$700</td>
</tr>
<tr>
<td>15.</td>
<td>Rosewood, 7 oct.; New Scale, Extra Six—Main Case; Carved Treasures; Fret Panels; three unions; New Patent Combination Trema Frame; Height: 4 ft. 6 in.</td>
<td>$800</td>
</tr>
<tr>
<td>16.</td>
<td>Rosewood, 7½ oct.; Large New Scale, Cabinet Grand—Rich Case; New Patent Combination Trema Frame; Height: 4 feet 6 inches</td>
<td>$1,100</td>
</tr>
</tbody>
</table>

All our Upright Pianos are made from our New Scales and our new Patent Combination Trema Frame.

Grand, Square, or Upright Pianos made to order to suit any Sty of Furniture.

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Fig. 3.9 - 1869 Chickering & Sons Price List
1869 Chickering & Sons Square
(Owned by the author - Alameda, CA)

Fig. 3.10a - Plan view

Fig. 3.10b - Front view
company and the Steinway company. Also, piano "mania" was sweeping the country and concert artists were extolling the virtues of the Chickering piano. Third, it is an instrument that appears to be in completely unrestored condition--one does not need to separate old from new.

The Chickering register entry for this piano (see Fig. 3.11) reads: "Nov. 16 - 34936 - R - 7 1/3 - A.R.D.Serp.C.L. - Chas Main - Portsmouth NH." Thus the instrument was sold on November 16, 1869; Serial #34936; Rosewood case; 7 1/3 octave range; All round corners; Double Serpentine moldings on the plinth; Carved Legs; sold to Charles Main in Portsmouth, New Hampshire.

The general appearance of the instrument case is truly impressive. Aromatic rosewood--an obvious choice for the majority of the Chickering instruments made in that time period--lends a rich color and beautiful grain. The Chickering register designation "A.R." (for all rounded corners) is interesting in that it implies other possibilities. In her overview of the Chickering Factory production details from 1830 to 1844, Cynthia Adams Hoover lists the most frequent case style designations: Projection Front, Rounded Corners, and Square Corners. She also lists other alternatives: Grecian Case, Hollow Sides, Louis XIV, New Corners, Octagon Corners, Princess W, Swelled Front, and Tablet Front. Creative detail seems to have run rampant in the Chickering factory.

Around the entire case of this Chickering, two lines of raised moldings--small dots and dashes--add decorative interest (see Fig. 3.12a) . Ostensibly, these moldings were made separately (carved from long strips of rosewood), then attached to the case. The closely matched grain and

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1869 Chickering & Sons Square - Moldings and Carved Legs

Fig. 3.12a - Raised moldings

Fig. 3.12b - Double Serpentine moldings

Fig. 3.12c - Carved leg (outside)

Fig. 3.12d - Carved leg (inside)
color camouflage this process, but separate layers can be seen upon close
inspection of the cross grain and joining points. Interestingly, the two lines
of moldings are not the same. The higher molding is wider, uses slightly
larger dots and dashes and has carved upper and lower borders. The lower
molding, slightly thinner, has smaller dots and dashes. It only has an upper
border which lines up with the keybed.

The lower edge of the case is decorated in a "double serpentine" (see
Fig. 3.12b). Most of this detail is a separate molding, attached to the case.
However, the deep grooves are then carried on into the underside of the
case itself. This deep carving is present on all four sides of the instrument.

The simply-described "carved legs" (see Fig. 3.12c-d) are also quite
astounding, each weighing about twenty solid pounds and intricately
detailed, even on the inner side. It is surprising that the Chickering
registers do not denote exactly what type of carving was incorporated in
each instrument's legs at this point. Earlier registers do give more detail:
Egyptian, Fluted, Square, Tapered, etc. It is possible that the Chickering
company stopped naming the designs simply because there were too many
of them.

The dimensions of this Chickering add to its stately presence. The
case has a length of 84 inches (213.4 cm)--7 feet!--width of 43 inches
(109.2 cm) and depth of 14 inches (35.6 cm). The legs add 23 inches to its
height; the carved two-pedal lyre is the same height. Its 7 1/3-octave
range is the same as the modern standard (AAA-c5).

This square piano is anything but "square," with its curved case,
legs, music desk, pedal lyre, and serpentine moldings. There is also a
matching curve in the front of the case over the keyboard. This was
undoubtedly a decorative effect, since square edges and corners would have
been just as structurally sound. The time spent and tools required to create these curves, however, also produced a truly elegant appearance.

A major new advance that is present in this instrument—and not in previously mentioned Chickering's—is its overstrung bass. This design allowed for maximum bass string length. Also, its separate bridge(s)—two in this case—could be placed towards the center of the soundboard. The overstrung bass (or cross-stringing) was another of Alpheus Babcock's creative wonders. He applied for a patent for "cross-stringing pianofortes" in 1830, at the same time that he patented his iron ring. The idea was later embraced by the Steinway company, leading to its revolutionary prize-winning overstrung square in 1855 and its overstrung grand of 1859, and is a standard in today's grand piano design.

The overstrung bass necessitated a redesigned iron frame; in this piano, a raised ridge was added to anchor the bass hitch pins. Again, the frame is both utilitarian and decorative. It includes functional cutouts for the two additional bass bridges, as well as decorative flower-shaped cutouts in the right rear to allow the sound to ring through. In addition, the entire outer border of the frame is rimmed with a decorative wavy molding that mimics the serpentine molding in miniature. The beauty of the inside of this piano is further testament to the Chickering company's penchant for meticulous detail.

Another important new device in this instrument is its use of agraffes that secure the string as it passes toward the tuning pins. Earlier pianos used bridge pins, first pounded into wooden rails, then later cast into the iron frame. The upward force of hammer blows, however, tended to push the strings upward over time. Chickering's solution was first designed for the grand piano (part of his patent no. 3238), in which the strings "are
passed through holes bored through the ledge. . . . The solid ledge through which the strings are carried . . . [are] cast directly upon the plate."16

Because of the unusual crosswise stringing of a square piano, the layout of its hammers is complicated. In the high treble, where strings run somewhat perpendicularly to the keyboard, the hammers appear much like those of a grand piano. As the strings become more and more parallel to the keyboard, however, the hammer heads must be more and more angled, and therefore more and more overlapped (see Fig. 3.13a). This gives rise to another problem: the arc through which the hammer head travels as it rises can cause it to scrape against neighboring hammers. Therefore, the felt and wood core along the sides of the hammer must also be tapered (see Fig. 3.13b).

The original action of this Chickering is a perfect example of this intricate cutting design. Unlike the consistent shape and direction of a modern hammer assembly, a selection of hammers from this instrument shows a complex, progressive skewing process (see Fig. 3.13d).

This square hammer action assembly does show remarkable similarities to that of a modern grand hammer assembly. Both consist of a flange, shank, and hammer, though slightly differently shaped. One interesting difference, though, is Chickering's use of a cut-out and screw mechanism for changing the tightness of the flange pin (see Fig. 3.13c). This creates a simple means of altering the "touch" of this friction source. This design, however, requires much precision cutting, insertion of a separate wood dowel (for flexible compression) and careful placement of small pieces of wool felt. The screw is also in the same place as a modern "drop" screw. It is a neat device that is, unfortunately, no longer used in

1869 Chickering & Sons Square - Hammers

Fig. 3.13a - Bass hammers - front view

Fig. 3.13b - Bass hammer - plan view

Fig. 3.13c - Bass hammer - side view

Fig. 3.13d - Selection of hammers
modern hammer assemblies.

The Chickering company based its action designs upon English models—heavier and more solid than the French action—that produced a deeper sound and firmer touch. This instrument's "single action" design (see Fig. 3.14a) consists of only two pieces: a horizontal support piece (which screws into the key) and an L-shaped jack-fly piece. (The jack contacts the hammer-assembly knuckle, and the fly contacts a let-off button on the support rail.) Holding these pieces together is a simple pinned flange. A silk cord connected to a spiral spring provides the pull required for repetition. There is also a small backcheck on a wire embedded into the end of the key.

Adjustments that can be made to this action include: 1) repinning to adjust friction in this pin assembly; 2) lengthening or shortening the attachment of the silk cord to the spring to adjust tension; 3) tightening or loosening one of the rear of the two screws holding the support piece to the key, altering the amount of friction between the jack and the hammer-assembly knuckle ("winking"); 4) replacing felt in the hammer assembly to adjust location of jack to knuckle contact ("back-to-back"); 5) raising or lowering the let-off button; and 6) raising or lowering the backcheck. Compared to the pins, screws, and buttons in the French Erard action (see Fig. 3.14b), this was definitely a simple approach.

As a comparison, this author examined the action mechanisms of two other Chickering squares at the Fiske Museum in Claremont, California (c1853 and c1868-69). Both used an identical "single action" English design. The Chickering company's adherence to its English type of action resulted in much criticism, since it was slower and heavier than the French design. In his book on American piano makers, Daniel Spillane noted that
Action Diagrams

Fig. 3.14a - Chickering Single Action

Fig. 3.14b - Erard Action
this was one of the two major regional differences among makers in Boston, New York, and Philadelphia--the major American piano-making centers--in the mid-1800's. Bostonians favored the full cast iron frame, a device which New York and Philadelphia makers refused to use. A Steinway publication in 1876 stated that not one prominent New York maker used the iron frame in their instruments until that same year. However, New York and Philadelphia makers did use the French action design much sooner than Bostonians.

These regional differences produced markedly different results. Spillane also quoted a citation from around 1850 (he did not specify the source): "In New York . . . the instruments made were provided with a small cast-iron hitch-pin plate and the French action, and they differed from the Boston pianos in possessing a fuller and more powerful, though at the same time less 'singing,' quality of tone."¹⁷ The English-style action transmits pressure much more directly than the French action; the route from key to hammer leads only through the jack. It can be argued that this simplicity, coupled with the reinforcement of the iron frame, would produce the Boston "singing" quality, since wood under stress provides better tone sustain.

The 1869 Chickering square piano has only two pedals. The left pedal, as is traditional, is the soft pedal. The assembly uses individual pieces of felt (one per note), reinforced with small strips of leather, that move into place between the hammer and strings when the pedal is depressed. These leather-felt pieces are individually glued upon a long wooden arc that mimics the sweep of the hammer assembly. The pedal pushes this wooden piece toward the rear of the piano, which in turn

¹⁷Spillane, History of the American Pianoforte, p. 164-165.
pushes the leather-felt pieces into the path of the hammer. This muffles the blow of the hammer to differing degrees, depending on the force with which the pedal is pressed. The small size of each leather-felt strip allows for careful "tuning"; any inconsistencies can be replaced or altered.

This soft pedal mechanism is much more complex than the modern grand piano "shift" idea, which requires only a lever and spring to effect a simple shift of the entire hammer assembly, so that a softer part of the hammer strikes the string. The fan shape of square piano stringing and the complicated tapering and spacing of its hammers, however, make a simple shift impossible; hammers would end up hitting the wrong strings. Another problem with this design is that in pushing small pieces of felt close to the strings, superfluous or out-of-place felt can produce extraneous buzzing sounds.

The right pedal, which controls the damper mechanism of this Chickering square, is also rather complex. Dampers by design need to lift under either of two actions: pressing a key should engage its individual damper, and pressing the damper pedal should engage all dampers. This description will first address the individual damper mechanism.

The Chickering company used two styles of damper felts in this piano (see Fig. 3.15a). One is long--three-eighths inch by one inch, cinched upward in the middle of its length by a silk cord. The cinching effectively creates two damping areas per note. These felts are used through the majority of the instrument, from BB\textsuperscript{b}-b2. Notes c3 through c5 do not have dampers. These felts appear to have been originally simple rectangles of soft felt; they have become shaped over time and use with string cuts.

In addition to the long felts, the lower to middle register BBB\textsuperscript{b}-B\textsuperscript{b}
1869 Chickering & Sons Square - Dampers

Fig. 3.15a - Double felt

Fig. 3.15b - Damper #1 with single damper felt

Fig. 3.15c - Plan view of damper assembly
incorporates a second small damper--half inch by half inch, held at a
distance (toward the tuning pin) of about a half inch by a thin wooden rod.
This secondary damper seems to function as a third damping area to
further control the vibration of the largest-diameter strings.

The lowest note (AAA) has a single unusual damper felt--three-
eighths inch by three-quarters inch (see Fig. 3.15b). It is the only damper
felt that appears to have been intentionally notched and spread to fit around
its thick string. It has no cinching cord and no smaller partner felt. Upon
close inspection, it seems this individualist exists simply because, here at the
def end of the instrument's range and next to the pedal damper mechanism,
there is not enough room for a regular damper pair.

The larger of each damper pair (and the odd AAA damper felt) is
mounted to a wooden wedge that protrudes from the bottom of a damper
stick. This stick assembly is very much like the hammer assembly with a
flange, flange pin, and stick shaft. (In this analogy, the damper wedge
would take the position of the hammershaft knuckle.) The shaft, instead of
round, is flat-sided to allow for insertion of lead weights in its tallest
region. Ostensibly the weights aid the damper assembly's return to its
neutral position (dampers resting on the strings).

Instead of a hammer on the end of this shaft, the shaft simply tapers
off. Its tapered end rests upon a stack of leather and felt doughnut-shaped
bushings that encircle the damper wire (the wire is threaded on its upper
end to hold onto these bushings). This damper wire protrudes downwards
through the iron frame and pin block into the action cavity, where it rests
on a leather-topped felt pad at the end of the key stick.

Therefore, when the key front is pushed, the rear rises, lifting the
damper wire. The damper wire bushings then press against the damper
shaft, lifting the damper felts. A felt-cushioned wooden bumper rail limits the rise of the tapered ends of the damper shafts. When the key is released, weight-aided gravity returns the shaft to neutral and the damper to its resting point on the string.

The damper pedal operates from the opposite side of the damper stick, its flange. The flanges are screwed into a long, flat wooden rail (see Fig. 3.15c). When the damper pedal is pressed, this rail is lifted, raising all of the damper shafts and their attached felts.

Besides its complexity, this design has an inherent flaw: the damper shaft must rotate through an arc as it rises, since it is pinned to its flange. Even when the damper pedal is engaged, the rail is tilted up from its back side, lifting the damper shafts in the same arcing motion. This means that the damper felts do not lift completely vertically. As with the soft pedal mechanism, there is the possibility of buzzing between the vibrating string and felt that is lagging behind. Also, with the odd AAA damper felt, there is the possibility that the trailing edge of its notch can remain in contact with the string even with the damper completely engaged.

Again, the shape of the square piano left flaws in its mechanics. In the modern grand, most of the damper mechanism resides in the action cavity, approximately an arm's length away from the front of the instrument. The modern approach can achieve completely vertical lift of the damper felts. The great depth of the square piano cavity, however, puts the damper wires far beyond an arm's length. Thus the mechanism needs to be accessible from above, and thus its awkwardness.

The American love for square pianos died out towards the end of the 19th century for a number of good reasons. Although their shape made
them relatively practical furniture pieces, these instruments were still large bulky objects with inherent technical flaws. The upright piano was much more practical in all respects—size and shape, action mechanisms, string layout, and accessibility for repairs—though a comparison of their touch and sound qualities could probably provide a lively debate. Still, all things considered, it was only a matter of time before the upright would eclipse the square. During its halcyon years, however, the square was much-loved.

The square pianos made by the Chickering company provide a timeline of American social and industrial evolution. The early prototype squares were models of acoustic and structural experiments with rapidly changing shapes, sizes, and technical details. The company's innovative use of iron and its revolutionary production, marketing, and transportation tactics made it an extremely successful business model. And as the social demand grew for greater beauty of sound and shape, the Chickering company flourished. The immense popularity of Chickering squares during their production years was undeniable. Their ability to survive for well over a century and the present resurgence in their popularity as antique treasures testify to their legacy.
Chapter Four: The Grand Piano

Although the production date of the first Chickering grand has been disputed, the company's own writings place the invention of the full iron plate for grands in 1837,¹ the same year that Alpheus Babcock joined the company and Jonas Chickering produced his first square with a full cast iron plate. The Chickering company's writings also state that the first grand piano was produced in 1837. Put together, these statements imply that no Chickering grand was produced without an iron frame.

In her summary of the early company registers, Cynthia Adams Hoover notes that the term "grand" was used to describe a piano as early as 1831;² these early descriptions probably referred to large-sized squares, as opposed to the wing-shaped, horizontally-strung instruments designed by Cristofori. This vague use of the term "grand" in the registers, however, has made it difficult to pinpoint the serial number of the first true grand.

An instrument that was in residence at the Henry Ford Museum in Dearborn, Michigan, but was burned in a devastating fire, had been purported to be the first Chickering grand. Pictures of it, labeled as the first Chickering grand, appear in the Chickering company's writings. However, its serial number (#6020) places its production date in 1844, long after the company claimed to have built its first grand. A close examination of a picture of the elaborate grand (see Fig. 4.1) also begs the question: would the first grand piano produced by a company have been so decorative? As with Jonas Chickering's early prototype squares, a

¹Chickering & Sons, Achievement, an ascending scale: being a short history of the house of Chickering and sons, Boston, c1938.
²Cynthia Adams Hoover, Chickering Information (chronological list of important events in Chickering history), compiled April 1994.
Fig. 4.1 - Chickering Grand #6020
(Formerly in Henry Ford Museum)
prototype grand might have been simpler in exterior decoration, emphasizing its importance as a technical achievement. Yet physical beauty might have served as a lure to attract buyers.

1850 Chickering Semi-Grand

The earliest known Chickering grand in a public collection is piano #10715 at the Kenneth G. Fiske Museum in Claremont, California (see Figs. 4.2a-d). Its nameboard inscription reads, "Chickering./ Boston./ U.S.A." Like the 1850 Smithsonian square, this instrument is finished in rosewood and has a gilt metal frame. Unlike the square, however, most of the grand's decoration is exterior—beautifully carved moldings, legs, and music desk—while the iron frame is simpler and more utilitarian.

The iron frame is stamped, "NEW PATENT./IMPROVED IRON FRAME./GRANTED SEPT. 1, 1843.," referring to the Chickering company's first grand iron frame patent. The frame's stability is generated by six braces running the length of the instrument and one brace running cross-wise. Along the length of the frame are 14 evenly-spaced, circular, undecorated holes; in later instruments, these holes are often graduated in size, decoratively designed, and unevenly spaced.

Labeled a "semi-grand" because of its small size (79 inches [200.5 cm] in length) and abbreviated range (6 3/4 octaves: CC - g4), this instrument would have been less expensive than a full grand. Like the 1850 square, it was designed to be straight-strung with each string wound around a tuning pin at one end, and tied to a hitch-pin at the other end. A modern re-stringing has altered this layout so that double-length strings are bent around two hitch-pins, in a rough approximation of a modern stringing layout, creating an awkward appearance and odd tuning
1850 Chickering Semi-Grand
(Kenneth G. Fiske Museum, Claremont, CA)

Figure 4.2a: Plan view

Figure 4.2b: Serial Number

Figure 4.2c: "Brown Action" label

Figure 4.2d: Tail with decorative moldings
implications.

A number of labels in the instrument give us further details. On the left inside of the action cavity, a sticker reads, "No. 194/ Brown." (The number "194" is probably a part number or case style number.) On the action stack rail, another sticker reads, "E. BROWN'S PATENT ACTION. GRANTED JAN. 27, 1843." The "Brown" action, another design based on English ideas, was used by the Chickering company exclusively in its grand pianos (and parlor grands) until the late 1800's. It is a double-action design with an underlever, touted by the Chickering company for its directness and quick repetition.

The Brown action (see Fig. 4.3) is slightly more complex than the square piano single action. The same L-shaped jack-fly piece conducts energy from the key to the hammer, but through an intermediary: the underlever (or underhammer). This underlever, equipped with a secondary repetition spring, allows for double repetition—the ability of the jack to return to a ready position without a complete release of the key.

In concept, the Brown action, with its double repetition spring and secondary resting point for the hammer shank, is similar to the Erard action. The major difference, though, is in the locations of transfer of energy. In the Erard action, initial contact between the key and the action stack is at the capstan, approximately in the center of the repetition. The upward energy is then transferred forward to the jack, which then pushes on the hammer knuckle. The balance rail then serves as a resting point for the hammer knuckle while the secondary repetition mechanism is engaged. In the Brown action, on the other hand, energy is sent completely vertically from the key to the jack, through the underlever and to the hammer shank. This direct transfer of energy would give the pianist more control of the
Fig. 4.3 - Diagram of "Brown" Action
hammer, and produce a simpler, more straightforward tone.

The pedal assembly of this grand has only two pedals. As in a modern grand, the left pedal engages a shift mechanism, sliding the keyboard assembly to the right so that softer parts of the hammers strike the strings. The right pedal raises the dampers; the Brown action design allows for a simple damper-lifting mechanism within the body of the instrument, much like that of a modern grand.

Nineteenth-century Chickering grand pianos have proven difficult to study, mostly because of their scarcity. As mentioned earlier, production of the square piano was far more prolific than production of the grand mostly because of market forces: few buyers had the money and space required to purchase a grand piano. This can be seen in an illustration of the Chickering finishing room in 1859, which shows two grands at the front, while the rest of the room is filled with squares (see Fig. 4.4).

The majority of grands that were purchased in the nineteenth century were intended for use as concert or entertainment instruments, not just decorative furniture. For example, early in its life, the Smithsonian's 1857 "parlor grand" (donated by the Wallin family) was for a time the only piano in Madison, Wisconsin. As such, it was moved in and out of the family's home to be used in various musical productions throughout Madison. In moving from place to place, these "community" pianos dealt with not only temperature and humidity changes but also movers and performers of differing abilities. Even when a piano was kept in the same family for its lifetime, it tended to be moved (often from one state to another) as it passed through the generations. The wear and tear of heavy use took its toll on the instruments; many were apparently discarded over
Fig. 4.4 - Pen and ink drawing of Chickering & Sons' Finishing Room

the years, leaving yet fewer instruments to study today.

1857 Parlor Grand

The unusual instrument that travelled throughout the city of Madison is now in the possession of the Smithsonian Institution. It is an 1857 Chickering parlor grand, also called a "cocked hat" grand (see Figs. 4.5a-b). This unique Chickering piano style was first mentioned by music periodicals in 1853, and continued to be produced by the Chickering company into the 1860's. Other piano makers also borrowed its concept and dabbled in this unusual style, but extant instruments are few and far between.

A sort of hybrid between the square piano and grand piano, the parlor grand looks like a small grand piano with an acutely-angled back spine. The Chickering company's idea was to create an instrument which would occupy the same amount of space as, and cost a similar amount to, a square piano, while incorporating many of the advantages of the grand, e.g. the sound-deflecting lid and better action design. For the Wallin family and the city of Madison, this instrument was a perfect fit.

The plan-view photograph of this instrument best portrays its unusual shape. Viewed from the keyboard end, the instrument very much resembles a grand piano in its straightforward action design--the action gap is basically parallel to the keyboard. Viewed from the tail end, it also resembles the grand piano in its basically straight stringing and its bridge, iron frame and soundboard layout. However, the flaring bend at the keyboard end signals a distinctively different instrument.

As Cynthia Adams Hoover states, it is puzzling that "Chickering & Sons who were very astute and successful businessmen would make [parlor
1857 Chickering & Sons Parlor Grand
(Smithsonian Institution)

Fig. 4.5a -
Plan view
(Smithsonian Institution
Photo No. 84-991)

Fig. 4.5b -
Front view
(Smithsonian Institution
Photo No. 84-990)
grands] if they were a wild experiment." It is probable that the Chickering company saw this odd new hybrid not as a wild experiment, but as a practical solution to spatial and sound-production issues. Production of the instruments was certainly not simple; the unique shape necessitated a completely new iron frame and case design, an unusual tuning pin layout, a very unique scale design (the bass strings are proportionately longer than in a grand piano), and a skewing of the hammers in the opposite direction of square piano hammers.

When these parlor grands were first introduced, music periodicals predicted that they would "eventually supersede the square piano-forte." Indeed, the beauty and careful design of this instrument indicate that the Chickering company put much energy and thought into its production. And the concept of a hybrid piano that could combine the best qualities of both the square and the grand was an excellent one. Unfortunately, the company registers show that it was a short-lived idea.

The Full Grand as a Concert Instrument

As was detailed in the history of the Chickering company (see Chapter Two), concert artists played a large role in the dissemination of the mid-century "piano craze." As they travelled around the country, the pianos that accompanied them became symbols of refinement and artistry. As happened earlier in Europe, the grand piano became the instrument of choice for serious musicians. And, of course, in the larger venues the full grand became a requirement.

At the 8th Exhibition of the Massachusetts Charitable Mechanic

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3 Cynthia Adams Hoover, memorandum to Smithsonian Collections Committee, April 22, 1983.

4 Ibid.
Association in 1856, which included a competition, the Chickering company presented six full grands, two semi-grands, and two parlor grands, as well as some smaller instruments. The participants consisted of numerous well-known and influential Massachusetts piano makers, including W.P. Emerson, Hallet, Davis & Co., and Timothy Gilbert. The award, however, was quick and unanimous: "[The Committee] did not hesitate for a moment in deciding that the Grand Pianofortes from the justly celebrated house of Messrs. Chickering & Sons were not only altogether superior to all competitors at our present Exhibition, but were an equally manifest and greatly advanced improvement over the well-commended productions of the same establishment offered at anterior Exhibitions."5 It is interesting to note in this competition that most of the other makers only presented square pianos, or included a single grand instrument. The Chickering company's presentation of ten grands--including three separate styles--was further proof of its technical leadership, unparalleled until the rise of the Steinway company.

In the ever-increasing competition between the Steinway and Chickering companies, both advertised the support of reigning concert artists. Gottschalk's expressions of praise for his ten-foot long "monster" instruments (these full grands were probably only eight feet long) provided much of the Chickering company's advertising fodder. Other musicians that publicly extolled the virtues of Chickering included Fanny Bloomfield-Zeisler, Arthur Friedheim, Charles Gounod, Eugene Ysaye, Edward MacDowell, Carl Reinecke, Julie Rivé-King, and Ferruccio Busoni. Lists and quotes were printed in newspaper advertisements (see

Fig. 4.6) as well as company circulars, promoting each company's instruments as the premier choice of those who knew best.

1865 Chickering Full Grand

One of the most important pianos in the Smithsonian Institution collection is its 1865 Chickering full grand (serial #27733) in restored condition (see Figs. 4.7a-b). With a length of 98 1/4 inches (294.5 cm), according to piano restorer Anne McGuire, "it was the largest and most elaborate model made by Chickering and Sons that Spring." 6 The Chickering registers for serial numbers 27700-27750 list only one full grand; the majority of production was still the square. Sold to a private party (William Hancock), the full grand was passed through his family for generations until it was donated to the Smithsonian Institution in 1981. After intensive restoration efforts, the piano became the centerpiece for Lambert Orkis' commemorative recording of Louis Moreau Gottschalk's pieces for the Smithsonian Collection of Recordings.

The full grand's nameboard inscription reads "Chickering./ Boston./ U.S.A.," and its soundboard inscription (surrounding the serial number) reads "Chickering & Sons/ Boston." Like earlier grands, its case is rosewood that is decorated with moldings and scrollwork. Unlike the 1850 grand, however, the ornate music desk has a rectangular outline and is bandsawn—a faster and cheaper substitute for the earlier handsawn desk.

The plan view photograph best illustrates the evolution of the straight-strung grand iron frame. Here, despite this instrument's additional length, there are only four longitudinal braces and no cross brace, and the

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TIZEN.

The mystery was soon explained. The pigeon was an old one, and it received so violently that it nipped the passenger a severe blow. As for the cat, nothing more was seen of it, and whether it was blown into invisible atoms or whether it escaped by some means, the good folk of Laroze are still uncertain.

Chickering's Upright Piano-Forte.—The time-honored firm of Chickering & Sons have not only the largest piano-forte manufacturing establishment in the world, but also the most perfect and extensive facilities for producing the instrument. The great masters, Thalberg, Gounod, and every one of the first-class professors who have been in our midst during the last ten years, have unabashedly pronounced Chickering & Sons' pianofortes, for brilliancy and robustness of tone, for delicacy and promptness in touch, as well as for their unequalled artistic and mechanical construction, to be the ale plus ultra. This fact applies not only to greats, but also to smalls, square, and the upright variances. Those who desire an instrument which will, for years, maintain its intensity as well as its peculiar value, will, most assuredly, select Chickering's.

PLACES OF MEETING.

OF THE SEVERAL ORGANIZATIONS.

The 1st Ward Association meets at the Groveland Room, every Thursday evening, at 8 o'clock, with more than 100 members.

STEINWAY & SONS,

MANUFACTURERS OF

Grand, Square, and Upright

PIANOS.

Waterproofs, No. 17 & 17 East 114th St.,

Between Union Square and Irving Place, New York,

LETTERS FROM THE ARTISTS OF THE CALMIE OPERA AND OTHER CELEBRATED VOCALISTS.

New York, December, 1864.

MR. BURKE, STEINWAY & SONS.

RESIDENT—Having last year placed for some time in public and in private, we desire to express our unequivocal admiration in regard to their merits.

We find in them characteristics which we observe in none other pianos, known to us, possessing in the same perfection. The tone is characterized by a purity, harmonious resonance, and richness of tone, combined with an accompanying predominance of sound, most beautifully blending with and supporting the voice, to a degree that leaves nothing to be desired. Indeed, we have never met with any instruments, not even of the most cultivated manufacturers of Europe, which have given us such entire satisfaction, especially regards their non-ceremonial qualities for accompanying the voice, and having in use for so long a time, as our pianos, and we therefore cheerfully recommend them to all others to study of some music and the public satisfaction.

Max Murerich, E. W. Sculli, Thos. N. Murphy, C. R. Lantzy, Carlotta Cavalloni, Mrs. Janette Van Zandt, Mr. De Bellis.

JOHN SLATER.

Fig. 4.6 - Newspaper advertisements

1865 Chickering & Sons Full Grand
(Smithsonian Institution)

Fig. 4.7a - Plan view
(Smithsonian Institution Photo No. 81-13716)

Fig. 4.7b - Front view
(Smithsonian Institution Photo No. 81-13715)
nine undecorated holes are graduated from smallest at the keyboard end to largest at the tail. The agraffes are now cast into the frame as well.

With a "modern" range of AAA to c5 and the same Brown-type action as the earlier grands, this piano represents the pinnacle of the straight-strung grand era. There is a definite difference in the sound and feel of this grand as compared to the modern piano; it is more direct, with a brightly singing beauty. During his recent recording sessions on this instrument, Lambert Orkis was alternately frustrated and enchanted with it. He notes, "At first I had difficulty adjusting to the Chickering. The light, fast action, though exciting, felt alien. The voluminous sound was very different, and difficult to control in passage work."\(^7\) He also observes that its small dampers created a "wetter" sound and less definition.

**Restoration Efforts**

The donated state of the 1865 Chickering grand at the Smithsonian illustrates the poor condition into which an old instrument can fall. Kenneth Eschete, the restorer, notes that cracks in its pinblock had made it untunable and that corrosion in the action made it unplayable. In addition, "there were five cracks in the soundboard, four of which had been previously repaired and had reopened. Four of the ribs were detached from the soundboard at these cracks."\(^8\) Repairing defects of this magnitude was time-consuming and expensive. No doubt many owners, when faced with a decision to repair an old piano or purchase a new piano, would choose the latter.

This author has also noted that dedicated owners of Chickering grand

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\(^7\)ibid.
\(^8\)Kenneth Eschete, Treatment Report written for the Smithsonian Institute, 1982.
pianos have been more willing to pay for restoration work than owners of squares. Thus, although some extant grands are in playing condition, they tend to have fewer original parts. In most cases, the restoration is competently done. There is a question, however, of whether the restored instrument sounds and feels the same as the original instrument sounded and felt.

Another issue that arises with restoration work concerns the preservation of original parts and labels. The moving parts of a piano, like those of an automobile, wear out over time. Particularly in older instruments, identical replacement parts can be difficult, if not impossible, to find. And, as has been noted throughout this dissertation, Chickering piano designs were in constant flux. When existing parts of older Chickering are worn beyond repair, often the restorer must turn to modern replacements and juxtapose two different designs into one working model. Sometimes, the old parts are lost. And as the old piano is refinished, surface markings such as serial numbers, stamps, and labels are often eradicated or covered.

**Mystery Chickering Grands**

One restored Chickering that poses numerous questions is owned by Mr. Joseph Brandstetter, in residence at his "Piano Mart" store in West Los Angeles. A first impression of this full grand (see Figs. 4.8a-d) is that it has been beautifully restored. It shares with the Fiske Museum grand many hallmarks of an early Chickering: a glowing rosewood finish, intricate moldings, a length of 97 inches (246.5 cm), a bent (not continuously rounded) tail, a hand-sawn music desk, and a curved pedal lyre design. The two pianos also share the series of ungraduated iron frame holes,
Chickering & Sons Full Grand
(Piano Mart, West Los Angeles, California)

Fig. 4.8a - Plan view of iron frame

Fig. 4.8b - Handsawn music desk

Fig. 4.8c - Detail of decorated iron frame holes

Fig. 4.8d - Pedal lyre
although the holes in the Piano Mart Chickering are highly decorated. The Piano Mart Chickering also retains its original Brown action, including the same glued label, "E. BROWN'S PATENT ACTION. GRANTED JAN. 27, 1843," as the Fiske Museum grand.

Discrepancies arise, however, in terms of the Piano Mart grand's serial number. A decal on its soundboard reads "Chickering & Sons./ Ser. #2114." The accuracy of this number is highly unlikely for a number of reasons. First of all, the number "2114" in the Chickering chronology would place this instrument around 1835, two years before the company began experimenting with grands. Also, the decal is not original; in 1835, the company at the time was using the name "J. Chickering & Co., Boston." The sons were not included in the business until 1852. Early Chickering pianos (e.g. the 1850 Fiske Museum grand) usually had the serial number simply stamped on the soundboard, without any other decals or decorations.

The number "2114," however, can be found in several places within the instrument: embossed on the last keystick, embossed onto the inner surface of the keyslip, written on a label on the left side of the action cavity, and stamped on the keybed. Many instruments have numbers in these locations, but they are usually understood to be part numbers. It is probable that the true serial number was lost at some point during the instrument's restoration, and the widely present "2114" was taken as a replacement.

A different full grand in Berkeley, California, now owned by Ms. Linda McCormick presents a completely different picture (see Figs. 4.9a-c). It has hallmarks of a more modern instrument: a length of 105 inches (266.5 cm), range of AAA-c5, an overstrung bass, and a black (not the
Chickering & Sons Full Grand
(Linda McCormick - Berkeley, CA)

Fig. 4.9a - Plan view

Fig. 4.9b - Pedal lyre

Fig. 4.9c - Leg
familiar red rosewood) exterior. The action was completely replaced (by piano technician Sheldon Smith) with a hybrid of modern parts.

The heavily-carved legs and moldings of the McCormick instrument, however, point to a date early in the Chickering production of overstrung grands. Also, despite its missing serial number, the instrument does retain the number "105A" cast into the iron frame; this cast number usually refers to the scale design and can be matched with scale numbers in the Chickering registers. A careful search through the registers turned up an initial use of the scale number "105A" in 1888. Thus, this instrument was most likely produced before the turn of the century.

**Late Chickering Semi-Grands**

A pair of Chickering grands in the Berkeley area offer a chance for more study of late-19th century instruments. One of these pianos is at the Unitarian Universalist Church in Kensington (see Figs. 4.10a-b); the other is owned by Mr. David Claridge, and is in residence at the Mathematical Science Research Institute (MSRI) in Berkeley (see Figs. 4.11a-c). Both were restored by the same piano technician, the late Sheldon Smith. Only one still retains its serial number—the Unitarian Church piano is Chickering #86580, placing it around 1896.

At first glance, the two instruments seem virtually identical. Both have rosewood cases with distinctively bent (not continuously rounded) tails. Both have simple moldings along their bent and straight sides and heavy, turned legs (the Unitarian Church piano is slightly more ornate with carved leaves and tassels along the plinth). Both instruments also have an ornamental bandsawn music desk and curved pedal lyre design with three pedals. Though the MSRI piano is missing its serial number, it still retains
1896 Chickering & Sons Semi-Grand
(Unitarian Universalist Church - Kensington, CA)

Fig. 4.10a - Plan view

Fig. 4.10b - Front view
Chickering & Sons Semi-Grand
(Mathematical Science Research Institute - Berkeley, CA)

Fig. 4.11a - Plan view

Fig. 4.11b - Side view

Fig. 4.11c - Frame emblem
the scale design number and emblem cast into its iron frame, 110B: the same number as the Unitarian Church piano. The letter "P" is also cast into the frame at the tail end of each instrument.

The revolutionary overstrung bass--patented by Alpheus Babcock in 1830 for the square piano--is now incorporated into these grands. For years, the Chickering company had made only straight-strung grands. An 1866 Chickering advertisement stated that the sheer length of the grand already provided "the required length of string necessary to produce the largest and most telling body of tone."\(^9\) Undoubtedly, the successful incorporation of the overstrung bass in grands by other piano makers (initiated by the Steinway company in 1859) brought about an eventual change of opinion. Not only did an overstrung bass allow for longer bass strings, but it also brought the separate bass bridge closer to the center of the soundboard, producing still more resonance and power.

The iron frame in these instruments was redesigned to support the overstrung bass. Some of the braces are placed at an angle, following the direction of the bass strings. Instead of relying on intricate decorative elements, the few circular holes along the length of the frame in each instrument are simple. However, they differ greatly in size--the largest holes are placed towards the center of the instrument--and emanate from the central "Chickering & Sons" emblem.

The Unitarian Church piano retains many stamps on its iron frame, giving more clues to its technological legacy. Stamped onto the front bar over the treble is "Chickering & Sons, Patent Granted Oct. 5th 1886." On an extra bracing bar supporting the overstrung bass is a stamp that reads,

"Chickering & Sons, Boston & New York, Patent March 28 1870 AND Nov 20, 187 AND Oct 4 1881." These patents refer to important changes made to the design of the Chickering grand, including revised soundboard support structures that allowed for freer soundboard vibration, and a new agraffe-support bar.

These pianos also signal a radical change in terms of action design. Instead of stubbornly insisting on an English-type action, the Chickering company turned to Erard-type repetitions—the same repetition style that was being touted (with great success) by the Steinway company. Though there are no notes on the restoration of these instruments, it seems that the present repetitions are original, though restored with new felt. The hammers, shanks, and flanges, however, have been replaced. This "modern" action design, further enhanced with new felt, gives these pianos a much more familiar, responsive touch.

By 1837, Jonas Chickering's insight and innovation had produced a highly successful American piano-making company. With the added influence that year of Alpheus Babcock and his iron frame, the Chickering company's creations became true marvels of modern technology. The Chickering grand piano, in particular, developed into a world-class instrument, winning its own awards and acclaim.

Through the 1800's, the Chickering grand evolved from a larger version of the square, with the same decorative touches, to an impressive concert instrument with a responsive action and singing tone, as well as the power and stamina required for the concert stage. As such, the Chickering grand became a favorite of reigning musicians, both American and European. And its design undoubtedly influenced that of the young
Steinway company; for years, the two firms equalled each other in popularity and innovation.

Even now, over a century after the death of Jonas Chickering's last son in 1899, the beauty and rarity of old Chickering grands still fascinate instrument historians and antique collectors. Furthermore, their rugged construction makes them prime models for restoration, so that we can once again hear their uniquely American sound.
Chapter Five: Conclusion

The Chickering company in the nineteenth century was a model of financial success, artistic creativity, and ideological influence. From its simple beginnings--two partners with cabinet-making tools, a basic working knowledge of pianos and plenty of ideas for improvements--it became one of the leading manufacturing firms in Boston. Along the way, it turned out tens of thousands of beautifully-detailed instruments, which became coveted middle-class necessities, concert stage icons and, today, treasured antiques.

The early prototype squares, handmade by Jonas Chickering himself, were models of invention. They changed rapidly in size and construction as Jonas Chickering attempted to reconcile issues of sound production, scale, and stability. And even in these early instruments, an equal amount of care was taken to create beautiful exterior casework.

The added influence of John Mackay, a marketing genius, and Alpheus Babcock, a creative giant, ensured the firm's success. The Chickering and Mackay company exploited the ideas and products of the emerging Industrial Revolution: improved cross-country and overseas transportation, division of labor, interchangeable parts, modern marketing strategies, and, most importantly, iron. Aided by Babcock's earlier experiments with circular iron frames, Jonas Chickering successfully incorporated full cast iron frames into his square and grand pianos, greatly increasing their stability and forever changing the design of the piano.

The construction of the enormous Chickering Hall in New York and the firm's close relationship with reigning concert artists helped to fuel the mid-century American "piano craze." By sponsoring countrywide virtuoso
tours, the Chickering company promoted music-making as an accessible art form. The piano—particularly the Chickering piano—became indispensable furniture in the middle-class household.

The numerous design prizes awarded to the Chickering firm were further testament to the technical superiority of Chickering pianos. At the First World's Fair in London in 1851—the debut for American pianos in a European exhibition—the firm earned a First Prize medal for its square piano entry and received commendation for its grand. At the 8th Exhibition of the Massachusetts Charitable Mechanic Association in 1856, the Chickering company overwhelmed the competition with ten grand pianos of three different types, unanimously winning the judges' favor. Later, at the Paris Expo in 1867, with no American judge on the panel, the gold medal was unanimously awarded to both the Chickering and Steinway companies. This last award was a resounding victory for American design principles.

The eventual demise of the American square piano towards the end of the 1800's (preceded decades earlier by the demise of the European square) was inevitable. Its inherent design flaws became more and more apparent as upright and grand pianos became more highly developed. The versatile Chickering company had anticipated this change, however, having produced its first upright in 1830 and its first grand in 1837, as well as having experimented with parlor grands and other instrument designs.

In its early production of grands, the Chickering firm was quick to incorporate new ideas, particularly the iron frame and the Brown double action, while retaining its tradition of beauty and careful craftsmanship. As epitomized in the unusual parlor grand, a line which only lasted for a decade, the firm explored each instrument's possibilities to their fullest
extent.

In the late 19th century, the Chickering company began to fall
behind the Steinway company. The Chickering firm's delayed
incorporation of grand piano overstringing and the Erard action was
indicative of a company that was no longer at the technological forefront.
By the time Frank Chickering died in 1891, the firm was already in
financial trouble. Yet the instruments produced at that time were still
beautifully crafted products of an esteemed heritage.

Today, the reputation of the nineteenth-century Chickering piano
still survives, and the instruments are enjoying a newfound popularity as
antiques. Well-furnished homes again seem incomplete without a piano,
and few instruments adorn a room as beautifully as an old Chickering. For
example, the April 2000 volume of Victorian Homes magazine notes a
treasured Chickering semi-grand in the music room of a restored Los
Angeles, California Victorian¹. In a warm Christmas scene, a photograph
in retailer L.L. Bean's Christmas 2000 catalog shows a family gathered
around a Chickering square².

Much study remains to fully appreciate the Chickering firm's output.
Chickering uprights, which eventually eclipsed the popularity of the
square, were first produced in 1830; little research has been conducted on
this important line. The limited scope of this document precluded the study
of numerous other Chickering squares and grands in collections and homes
around the United States and in Canada and South America. An intensive
examination of the Chickering registers would also provide a more detailed
understanding of technological changes in each instrument line.

¹Todd Culpepper, photos by Rick Szczecichowski, "Lady Sings the Pinks," Victorian
Homes, Vol. 19, No. 2 (April 2000), p. 32
In studying the evolution of nineteenth-century Chickering square and grand pianos, this dissertation has provided an overview of a highly influential American company. Its dominance of the American piano trade through technological and marketing skill epitomized the rise of the Industrial Revolution. And the beauty of the instruments it produced is a testament to its lasting reputation.
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Smithsonian Institution Archives Center. The Chickering & Sons collection includes the majority of the Chickering Piano Registers (see above), as well as nineteenth-century Chickering company publications, correspondence, newspaper articles, photographs, and advertisements.

Smithsonian Institution Musical Instrument Collection instrument files. Supplementary material regarding each instrument in the Smithsonian Institution collection. Each file contains provenance information, an overview of the instrument, and photographs.