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# The Steinways and Their Pianos in the Nineteenth Century

CYNTHIA ADAMS HOOVER

THE name of Steinway & Sons is familiar to most educated households of the world. The outlines of the history of this important piano manufacturer are to be found in most standard reference books: Heinrich Engelhard Steinweg (1797–1871) (fig. 1), piano builder from about 1825 in Seesen near Brunswick, Germany, sent his son Carl (1829–65) to explore the business possibilities in America in 1849. On June 29, 1850, Heinrich, his wife, three daughters, and three of his five sons<sup>1</sup> arrived in New York to join Carl. Although Heinrich had capital and nearly twenty-five years' experience in piano building, he insisted that he and his sons work with established American makers to learn the English language and the business and manufacturing customs of the country before establishing their own company. On March 5, 1853, the firm of Steinway & Sons<sup>2</sup> was formed, and they soon began to produce square pianos at the rate of about one a week from a small shop at 85 Varick Street, New York City.

By 1860 they were making about thirty squares and five grands a

1. Heinrich's wife was Julianne Thiemer Steinweg (1804–77). The children who accompanied them were Doretta (1827–1900; married Jakob Ziegler), Heinrich (Henry, Jr.; 1830–65), Wilhelmine (1833–75; married Theodore Vogel, who died in 1864; later married William Candidus), Wilhelm (William; 1835–96), Albert (1840–77), and Anna (1842–61). Carl's name was anglicized as Charles.

2. The firm in America was always known as Steinway & Sons, although individual members of the family continued to use the original German spelling of their name. However, according to Theodore Steinway in *People and Pianos* (New York: Steinway & Sons, 1953), p. 28, the anglicized version had become official in legal and nonlegal business by 1866. The German firm in Seesen, which was a separate business, retained the spelling "Steinweg."

week in a handsome new factory on Fourth Avenue between 52d and 53d Streets.<sup>3</sup> By 1880 the firm was making every part of their pianos (including sawing logs and casting the metal) at their factories on Fourth Avenue, those in Steinway, Astoria, Long Island, and those in Hamburg, Germany. Their pianos were displayed and sold at elegant warerooms at 107, 109, and 111 East 14th Street in New York, where on the second floor an audience of 2,000 could attend cultural events at Steinway Hall. English and European musicians could examine and hear Steinway pianos at the London Steinway Hall at Nos. 15 and 17 Lower Seymour Street near Portman Square W. In less than thirty years the firm of a minor piano maker and his family from the Duchy of Brunswick had thus become an acknowledged world leader in the competitive world of piano making.

To understand the contributions and success of Steinway & Sons, it is important to recall the status of the piano at mid-nineteenth century and to describe its ideal characteristics. In 1851, the noted pianist Sigismund Thalberg wrote in his section on pianos in the jury report at the London Crystal Palace Exhibition (known as Exhibition of the Works of Industry of All Nations): "The social importance of the piano is beyond all question far greater than that of any other instrument of music."<sup>4</sup> Even allowing for some lack of objectivity on Thalberg's part, we find that the piano was very important in musical, intellectual, social, and commercial life at that time. In reviews the piano took on a personality: it sang "songs without words," it spoke through the fingers, it became yet another of Liszt's mistresses whom Liszt treated "now tenderly, now tyrannically," and "devour[ed] . . . with kisses."<sup>5</sup>

Especially in leading cultural centers like Paris, the piano was the chief charm of the drawing rooms where the intellectual elite gath-

3. A broadside, written in 1860 and distributed at the opening of the new factory on August 30, 1860, stated that the firm began their manufacture "eight years since in a small rear building in Varick Street, making, for some time, one piano-forte a week." At the time of the opening about 350 men turned out "about thirty Square and five Grand Pianos every week."

4. *Reports of the Juries: Exhibition of the Works of Industry of All Nations* (London: Printed for the Royal Commission by William Clowes & Sons, 1852), p. 328.

5. From a review by Moritz Gottlieb Saphir quoted in greater detail by Arthur Loesser in *Men, Women, and Pianos* (New York: Simon and Schuster, 1954), p. 369.

ered. And as Thalberg wrote, it was “the greatest solace for the studious and solitary.”<sup>6</sup> Even in the less affluent homes, it was considered a household necessity: visitors to the 1851 Exhibition found the piano a “necessary furnishing” in England.<sup>7</sup> This was true in America, too. In the *Atlantic Monthly* James Parton wrote that “almost every couple that sets up housekeeping on a respectable scale considers a piano only less indispensable than a kitchen range.”<sup>8</sup>

The piano thus appealed to the professional and the amateur alike. By mid-nineteenth century, the repertory for piano included works by some of the leading composers: Mozart, Haydn, Beethoven, Chopin, Schumann, and Liszt. Especially with the last three, the repertory demanded a new piano technique: more singing qualities, refined pedal techniques, and bravura playing that sometimes required the piano to serve as an orchestra.

The ideal piano at mid-century was the Erard grand—the piano chosen by Thalberg to be described in detail in the Crystal Palace report and the only one to be presented with a Council medal (fig. 2).

To give an idea of the degree of perfection attained at the present day in the construction of the piano, we will describe one of the grand pianos in the Exhibition. This instrument is 8½ feet in length, and 4½ feet in its greatest width; its frame is of enormous strength, compared with the instruments of former times, being heavily braced with wood below the strings, having a complete system of metallic bracing above the strings, firmly abutted, and consisting of longitudinal bars let into metal at each end and having the curved side formed of separate pieces glued together in a mould to insure durability and fixedness of form. Its sounding board extends to the frame on all sides, except the space left for the action. The strings are made entirely of steel, and of wire so thick that the tension necessary to bring them to the proper pitch produces an aggregate strain equal to at least twelve tons weight, while they are passed through studs drilled into the metal wrest plank, thus giving the strings an upbearing position, which prevents the slightest displace-

6. *Reports of the Juries*, p. 328.

7. Joseph Fischhof, professor of piano at the Vienna Conservatory, reported after his visit at the 1851 Crystal Palace Exhibition that “in no country is the acquisition of a piano as a necessary furnishing, even without momentary need, so widespread as in England” (*Versuch einer Geschichte des Clavierbaues: Mit besonderem Hinblicke auf die Londoner grosse Industrie-Ausstellung im Jahre 1851* [Vienna, 1853], quoted and translated by Loesser, *Men, Women, and Pianos*, p. 387).

8. James Parton, “The Piano in the United States,” *The Atlantic Monthly* 20 (Boston, July, 1867), p. 82.



ment of the point of contact by any force of the hammers; and the system of placing the strings on the instrument, determined by accurate acoustic experiments, causes them to be struck by the hammer at that precise nodal point which produces the freest and clearest tone. The compass is extended to seven octaves from A to A. [The action is] a beautiful example of complex leverage in the mechanism which connects the key and hammer. . . . The action is indeed so perfect, particularly in its power of delicate repetition, that if any note is missed in execution upon it, it is the fault of the player and not of the instrument. . . . An immense difference of volume of tone and of effect is produced by the manner of touching the keys and by use of the pedals, especially upon an instrument of great power, fine quality of tone, and delicate mechanism in the action.<sup>9</sup>

“An instrument of great power, fine quality of tone, and delicate mechanism in the action”—the degree of perfection sounds so complete that one wonders why the Steinways or any other new firm would consider entering the field. But there were challenges to be met. The element of growth, so prevalent in other areas of nineteenth-century life, had invaded the musical world. The concert halls became bigger: the intimate salons were replaced by large concert halls seating 1,500–2,000.<sup>10</sup> Bigger sounds were needed for bigger halls and to compete against the louder and more penetrating orchestral instruments. Pitch was rising.<sup>11</sup> With higher pitch came the need for more tension, which meant stronger case support and new ways to avoid string breakage and warping of the case. In answer to the desire for bigger sound and for virtuoso playing, the industry had to develop an instrument with more stability, more reliability, and more strength.

Comments from two reviews might indicate why the Steinways and other builders felt that there was still room for improvement at mid-century: (1) In Europe pianos needed more strength to withstand the bravura playing and increased power, as the review of Liszt (playing on an unspecified grand, possibly an Erard, his favorite at the

9. *Reports of the Juries*, pp. 327–28.

10. According to Loesser (*Men, Women, and Pianos*, p. 378), Pleyel Hall could seat 300 persons comfortably, the Erard rooms about 400, and the Hanover Square rooms about 600. Steinway Hall in New York, which opened in 1866, could seat about 2,000.

11. In Vienna, *a'* for Mozart in 1790 was about 421.6H.; in 1820, *a'* was 456.1H. In England, *a'* in 1813 was 423.3H.; in 1828, 435.4H.; and in 1846, 452.5H. (from table 1 in Rosamond E. M. Harding, *The Piano-Forte: Its History Traced to the Great Exhibition of 1851* [Cambridge: Cambridge University Press, 1933], pp. 217–18).

time) points out: "After the concert Liszt stands there like a victor on the battlefield, like a hero at a tournament. Daunted pianos lie around him; torn strings wave like flags of truce; frightened instruments flee into distant corners."<sup>12</sup> (2) In America, the leading firm of Chickering had begun to develop pianos that would withstand the rigors of American climate as well as of those bravura pianists. Visiting European pianists often played Chickering pianos. At the debut concert of Jenny Lind in 1850, two Chickerings were used in the playing of Thalberg's fantasy on themes from *Norma*. The reviewer for *The Albion*, a New York weekly, thought that there was room for improvement in tone quality and carrying power. To him the pianos sounded "like a loud guitar smothered in flannel."<sup>13</sup> (In all fairness to Chickering, it should be pointed out that they were awarded a prize medal at the 1851 London Exhibition for the "square pianoforte, and the Jury think highly of his grand pianoforte."<sup>14</sup>)

When the Steinways came to America, they brought with them the benefit of at least twenty-five years of piano making on the part of the father and several years each on the part of the older sons. Although more detailed work needs to be done on these early years in Seesen, we know that Steinweg was awarded a gold medal at the Brunswick State Fair in 1839, where he exhibited a grand and two squares.

If the Seesen grand and square now in the possession of Steinway & Sons in New York are an indication of their work in Germany, their pianos were not in the mainstream. The grand, thought to have been made in the mid to late 1830s, is beautifully constructed (fig. 3). In a handsome case of mahogany veneer with decorative purfling, it calls to mind pianos of the Viennese School. Its range is six octaves (*FF-f'''*), the action is Viennese (the hammer heads point toward the player), and the case and supports are entirely of wood. There are two pedals: the left slides a pianissimo stop forward, the right lifts the dampers.

The square, which has "1836" marked on it near the bass wrest pins, also has Viennese action, a range of six octaves (*FF-f'''*), two

12. Saphir review cited above in n. 5 (Loesser, *Men, Women, and Pianos*, p. 369).

13. Review in *The Albion* (New York, 1850), quoted by Loesser, *Men, Women, and Pianos*, p. 489.

14. *Reports of the Juries*, p. 333.

pedals, and a case and support structure of wood only (fig. 4). Both instruments are labeled "H. Steinweg / Instrumentenmacher / Seesen." If these pianos were made in the 1830s, this was before any of the sons had become active; and, since the sons made considerable contributions in America, it may be that they did also in Germany in the 1840s. (At present these are the only two Seesen instruments known.) No patents issued to the Steinwags before their move to America have yet been discovered.

One of the earliest, if not the earliest, squares made by Steinway & Sons in New York shows how different their production of the 1850s was (fig. 5). The case is of rosewood, not mahogany. The ornate legs are made larger in order to hold both the heavier case and, significantly, a one-piece metal frame cast in an early version of cross-stringing. The entire instrument is much larger than the Seesen square: about 7 inches wider and 15 1/2 inches longer.<sup>15</sup> The length and cross-stringing allow for the expansion of the range from six to seven octaves (CC-c'''''). The action is not Viennese: it appears to be the heavier English-type action possibly with Erard modification, but closer examination is needed to describe it precisely. Stamped with the serial number 483, it falls near the beginning of the Steinways' New York production (the first page of their serial number books is confusing—although the first number is 487, four pianos with nos. 486–489 appear again between 493 and 494).

The initial production of the Steinways was exclusively squares, a form of piano that they manufactured until 1888. From the beginning, the squares won prizes at local fairs.<sup>16</sup> One semi-grand of seven and one-quarter octaves (no. 550—January 1, 1855) bears the notation "Crystal Palace Premium, 1st Place" (the Crystal Palace was New York's Industrial Fair in 1853 and succeeding years, in imitation

15. Comparative dimensions of the two pianos:

	<i>Seesen (1836)</i>	<i>New York (1853)</i>
Total height	34 in.	37 1/2 in.
Case depth	13 in.	14 in.
Width	31 1/8 in.	38 in.
Length	62 3/4 in.	78 1/8 in.

16. The company's factory book lists a fancy 1854 square of seven and one-quarter octaves (no. 538—November 19, 1854) as winning a first premium in the Catskills. A seven-octave "semy grand" (no. 544—March 17, 1855) had the notation "Mr. Latham, California, 1st Premium."

of London's on a smaller scale). It was at this fair in 1855 that the Steinways, whose instruments had begun to be noticed by both professionals and amateurs, won a gold medal "for the best semi-grand Piano Forte" (fig. 6). Although it is not entirely clear from the factory books and sales literature what is meant by "semi-grand," most later accounts describe the winning piano as a square with a metal frame in which the bass strings cross over the treble strings—an overstrung square (fig. 7).

It is interesting to see the close involvement of three of the Steinway brothers in the early production of the company, as recorded in the factory books: William (Wilhelm) was the bellyman (he put in the soundboards), Henry, Jr. (Heinrich) was the finisher, and Charles (Carl) the regulator. The brothers Henry and Charles are definitely noted in the completion of the first grands (nos. 791 and 792) in the fall of 1856. One of these grands was probably the instrument that won a silver medal "for the second best grand action" in October, 1856, at the Annual Fair at the Crystal Palace. The gold medal went to the Chickering.<sup>17</sup>

At this time the Steinways were striving hard to be the most important piano manufacturers in America. On May 5, 1857, Henry, Jr., received a patent (no. 17,238) for an improvement on piano actions "to obtain a more free and easy movement of the action in repeating" in order to gain, as he wrote in his patent, "the effect only produced in the complicated Erard grand-action." About a year later (June 15, 1858), Henry was granted another patent (no. 20,595) for improvement of piano-action repetition (a spring applied to the jack to facilitate its return to its notch in the hammer butt). Again, Erard was the ideal striven for: he sought a quick repetition "as in the Erard action."

The Steinway grand at that time was not strikingly different from the Chickering or the Erard. A Steinway & Sons grand of 1857 now at the Smithsonian (no. 1199—sold October 15, 1857, to Blass Bros.) has a range of seven octaves (*AAA-a''''*) (fig. 8). It is a little less

17. Information from the company's factory books and the catalogue of the twenty-eighth Annual Fair of the American Institute at the Crystal Palace in New York, October, 1856, in the Steinway Archives. The judges included Hermann A. Wollenhaupt, a German pianist, composer, and teacher living in New York, and Louis Moreau Gottschalk.

than 8 feet in length (6 in. shorter than the Erard of 1851) and about 4½ feet wide. The case is heavy and is of rosewood veneer. The metal frame (fig. 9) is made in one solid piece (not separate braces like the Erard of that time), and, similar to Chickering's metal frame patented in 1843, the metal braces are parallel to each other, to allow the strings to be straight-strung. It is fitted with agraffes (metal supports near the wrest plank to provide firm upward bearing for the strings, thus preventing the hammers from forcing the strings away from the bridge—fig. 10) and two pedals (left, *una corda*, and right, dampers—fig. 11). The action presently in the instrument (fig. 12) is not similar to the 1857 and 1858 patents of Henry Steinway, but is more like an action shown on a Steinway patent of 1869 (the patent, no. 93, 647, is for a tubular metallic-action frame). It may have been a replacement of the 1860s, made when the piano was back at the firm in 1863.

Henry was clearly concerned with perfecting the responsiveness and the repetition of the Steinway action, and he was granted three more patents relating to this improvement in 1861 (May 21—nos. 32,386 and 32,387) and in 1862 (April 8—no. 34,910). But what has turned out to be his most important patent—what set the foundation for many of the Steinways' contributions toward building a more powerful and stronger piano—was granted to him on December 20, 1859 (no. 26,532—fig. 13). This invention claimed a new arrangement of strings for grand pianos in which the strings are in two tiers. The bass notes are strung over the middle and upper register strings. By such an arrangement of overstringing, the Steinways claimed that larger strings could be used and that the bridges could be moved to the middle of the soundboard for better vibrations.

Examples of the overstrung Steinway grand began to be used in concerts in New York. Some musicians rejected it, but others were willing to announce publicly that it was musically successful. A typical endorsement is found in an 1860 advertisement from *Frank Leslie's Illustrated Newspaper* (May 26, 1860) (fig. 14), which makes the following points: (1) the voice of the piano is greatly improved in quality, quantity, and power; (2) the sound is more even, less harsh, stronger, and more prolonged; and (3) this improvement is novel, ingenious, and important. The advertisement is signed by many of the

leading musicians in New York. Typically, eight of the twelve are foreign-born (five are of Germanic origins, three English) and four are Americans (three of whom were trained in Germany). Among the names, one finds William Mason, a son of Lowell Mason (William studied in Leipzig with Moscheles, Hauptmann, and Richter, in Prague with Dreyschock, and in Weimar with Liszt); Ureli Correlli Hill (a violinist and conductor who studied with Spohr in 1836 and was the first president of the New York Philharmonic); and S. B. Mills (Sebastian Bach Mills—an English pianist who came to America in 1859 after studying with Moscheles and Liszt).

The technical developments mentioned above, as well as the promotion of Steinway instruments through concerts and advertisements, were very important to the development of the Steinways' success. These two activities, combined with a shrewd business sense and efficient, quality production, are the crucial elements that led to their rise to world prominence. Also, at the time the Steinways were growing, the guiding spirits of their major competitors had already died: Jonas Chickering in 1853, Pierre Erard and Camille Pleyel in 1855. Although other family members or partners stepped in to take over these firms, they either rested on their laurels or eventually failed to meet the demands of the musical and commercial worlds.

The opening of the new factory on Fourth Avenue (now Park Avenue) signaled the great distance the Steinways had come from Seesen and Varick Street and the crazy-quilt pattern of their operation on Walker Street (figs. 15, 16, and 17).<sup>18</sup> On August 30, 1860, the Steinways were eager to show their new factory to the public—and especially to the press, who could and did report on the new facilities. Two lengthy illustrated accounts in *Frank Leslie's Illustrated Newspaper* (September 22 and 29, 1860) describe how the “large body of the press, several distinguished professors and ama-

18. The stock books which inventory the company's holdings, starting in March, 1856, record the growth. In 1856 they had warerooms at 84 Walker Street and a shop on four floors of the rowhouse at 91 Mercer Street. In the next years, the business and manufacturing operations grew so much that the January 1, 1860, stock book notations record their holdings with warerooms at 82 and 84 Walker Street, shops on several floors of 91 and 109 Mercer Street, 113 Walker Street, 96 Crosby Street, and lumber stored in four locations.

teurs" were taken on a tour of the factory from basement to the sixth story to marvel at the "beautiful and quietly working" Corliss steam engine which set the machinery in motion and to observe the nearly 350 workers cut logs, plane boards, fashion lyres and legs, build cases, assemble actions, and regulate them in the structure of modern Italian style (figs. 18 and 19). After a tour of an hour and a half, they arrived in the factory showroom for a "handsome and abundant collation" (a most necessary element of daily life, especially for German-Americans—fig. 20). A speaker, Henri L. Stuart, Esq., followed the toast to the health of Henry Steinway, Sr., with a flowery speech praising the Steinways and Progress and Industrialization. Typical of the time, he raised industry to an object of worship, noting their presence "in this magnificent temple, devoted to industrial art, with its hundred altars of mechanism, whereon are worked out the cunning devices of manufacturing skill and artistic design, hitherto wrought out by the slow processes of handicraft." In addition to industrialization, he praised the strong family unity; the Steinways, he said, "are noble illustration of what a united family with a common interest, a common purpose and common labors can do," with Henry, Sr., presiding over the manufacturing and materials, Henry, Jr. (fig. 21) over design, Charles over the sales, William over finance, and Albert now working up through the ranks as a finisher. A son-in-law, Theodore Vogel (shown in fig. 22 along with Charles and Albert), was foreman. The only son not mentioned is the eldest, Christian Friedrich Theodor Steinweg (1825–1889), who had remained in Germany and did not become involved in the American operations until 1865.<sup>19</sup>

The reply on behalf of the Steinway family was made by Charles, the eldest son in America and most likely more fluent in English than his father. He began on a light note, referring to their "immense" business in Brunswick of ten pianos a year. He went on to say that their success was due to more than their energy, industry, and unity. It was also encouraged by the "progressive spirit of America, . . . to its restless striving for improvement, . . . to its free institutions, which recognized the individuality of every man, and enabled him to make

19. John Steinway has recently discovered another son, Hermann (b. 1836), who may have died (early in 1850?) before the family came to America.

his mark in spite of wealthy and established opposition and imbued him with that irresistible desire to 'go ahead' and come out first in the race for improvements." These remarks, spoken by a man of thirty-one who had come to America at age twenty, partly because of his involvement in the 1848 Revolution, were "very much and deservedly applauded."

The event included music played on three Steinway grands in the showroom. The *Leslie's* reporter praised the tone quality, touch, and strength of the instruments and was one of the first to record the rise of the Steinway grand in the world market. The September 22, 1860, account stated that "until within the last three or four years Erard's Grand Pianos took the first rank in the world. A large number were imported to this country, and they held undisputed sway in the concert room. The Steinways commenced making grand pianos about four years since, and succeeded well with the very first, since which they have added improvement after improvement, until at this time they have completely overshadowed the fame of the famous Erard, and have almost driven it out of the concert room and out of the market. In depth, volume and brilliancy of tone they surpass the Erard's, while in point of 'touch,' in which Erard's were supposed to be unapproachable, they are fully its equal."

This prediction of rise in world prominence was seconded with an award at the London Exhibition of 1862. The prize medal, accepted for the firm by Henry, Jr., was given for "powerful, clear and brilliant tone of a piano, with excellent workmanship, shown in a grand piano and a square piano of very large dimensions."<sup>20</sup> Seven other piano makers won special notice (Broadwood, Hopkinson, Herz, Pleyel, Bechstein, Schiedmayer, and Streicher—Erard and Chickering did not enter). The judges put Broadwood at the head of the class of instruments for their improvement in the arrangement of metal braces, which was a complete iron frame, but not one cast in one piece as in the "American system" used by Chickering and Steinway. The attention of the manufacturers and the judges was directed toward pianos that could withstand the aggregate tension that had now risen

20. *Reports by the Juries: International Exhibition, 1862* (London: Printed for the Society of Arts by William Clowes, 1863), class 16 (musical instruments), p. 5.



from twelve tons in 1851 to sixteen tons in 1862. The judges noted only in passing that the framing of the Steinway grand, cast in one piece, had the bass strings crossed over the other strings.<sup>21</sup> The U.S. Official Report claimed that the award “places Messrs. Steinway & Sons *at the head of the whole list of instruments of that class* and where they are most worthily placed. The sale of these pianos, and orders for others showed the appreciation of the musical public for these valuable instruments.”<sup>22</sup>

After Henry, Jr.’s return from the London Exhibition, the major concentration of the firm (besides sporadic absences of Charles and Albert in short stints related to their Civil War regiments) was the expansion of the factory and the construction of new warerooms (fig. 23) and a handsome concert hall on East 14th Street. The warerooms, which opened on May 10, 1864, were designed with elegant salesrooms, one for squares, a smaller one for uprights, and a large one on the second floor for grands. Uprights had begun to be included in the Steinway output by this time. The firm’s books show that the first uprights were completed in 1862 (nos. 5451 and 5452). Present at the 1864 opening were Henry, Sr., William, Theodore Vogel, and the eldest Steinway brother, C. F. Theodor, who had arrived just that morning from Brunswick for a two-month visit. Henry, Jr., who had been ill since March of 1863, was in Cuba for a rest; and Charles, who as overseer of operations had spent long hours getting the buildings completed, averting strikes, and protecting the factory from arson by Civil War draft resisters, had seriously weakened his health. Three days after the opening, Theodore Vogel, foreman and husband of Wilhelmine Steinway, died. Several months later, just before his thirty-fourth birthday, Henry, Jr., died on March 11, 1865, after a three-year bout with what must have been tuberculosis. On March 31, 1865, Charles died of typhoid fever at the age of thirty-six while on a vacation trip in Brunswick. The “restless striving for improvement” for which they had been praised had caused the brothers Charles and Henry to work themselves to death.

21. *Ibid.*, pp. 4–5.

22. Benjamin Pierce Johnson, *Report on International Exhibition of Industry and Art, London, 1862* (Albany: Steam Press of C. Van Benthuyssen, 1863), p. 75. Italics in original.

It was a bleak time for the surviving members of the family. In addition to their personal grief, there was a strike at the factory in May, 1865. But they were not to lose their momentum. A colleague, Charles Tretbar, assisted them with business matters and, later, concert management. On October 26, 1865, the eldest brother, C. F. Theodor, arrived from Brunswick after selling his piano factory to his partner, Ferdinand Grotrian. By October 31, 1866, the concert hall (seating 2,000 and based somewhat on the Russell Music Hall in Boston) opened with great acclaim (fig. 24). William noted in his diary for that day: "Everybody is delighted with the acoustic qualities. House filled to overflowing. Great success. Supper afterward. Jolly time til 3 a.m."<sup>23</sup>

According to most historians, the competition at the Paris Exhibition in 1867 proved to be the turning point in the piano industry. Four medals were awarded: Steinway, Chickering, Streicher (their piano was based on the Steinway construction of 1862), and Broadwood (receiving notice for their traditional construction). The American system of cast-iron frames, heavier strings, solid construction, and thus more powerful tone took the honors with the Steinway piano getting a slight edge in the jury report (although not in medal precedence) for its excellence in expression, delicate shading, and variety of accentuation. The jury report goes on to say that "the pianist feels under his hands an instrument of the virtuoso, who wishes to astonish by the eclat of his execution, and of the artist who applies his talent to the music of thought and sentiment bequeathed to us by the illustrious masters; in one word, they are at the same time the Piano for the Concert Room and the Parlor, possessing an exceptional sonority."<sup>24</sup> One of the converts to the American system and sound, the French writer Marquis de Pontecoulant, summed up the lack of European leaders in the field when he wrote, "Oh! Pierre Erard, où es-tu?"<sup>25</sup> Testimonials began to roll in, and other Euro-

23. Much of the information in the preceding two paragraphs is from the manuscript diary of William Steinway owned by the Steinway family and housed in the family archives, presently located at Steinway Hall on 57th Street, New York City.

24. François-Joseph Fétis, for the music jurors (quoted by Paran Stevens, *Reports of the United States Commissioners, Paris Universal Exposition 1867* [Washington: Government Printing Office, 1869], "Report upon Musical Instruments," p. 14).

25. Louis Adolphe le Doucet, Marquis de Pontecoulant, *La musique à l'exposition*

peans began to adopt the overstrung system. According to some accounts, over two-thirds of the pianos exhibited at the Vienna Exhibition in 1873 were "imitations of the Steinway Instruments."<sup>26</sup>

Having achieved world renown in fourteen years, the firm set about to hold its top-ranking position. Theodore (C. F. Theodor) Steinway (fig. 25) spent most of his time working on technical refinements, making scale drawings in his workroom at the Fourth Avenue factory (fig. 26) and building wooden models of his new frame designs in the basement of his home. Between 1868 and 1885 he was granted forty-one patents (Henry had seven, William one, and Albert five). The reasons for the technical changes proposed in Theodore's patents fall roughly into the following categories: greater strength and stability (11); more responsive action (10); bigger, purer sound (9); easier repair (5); improved design (5); and better construction tools (1). Most of the changes were assigned to the plate, case, hammerjack and spring, and soundboard. Of the fifteen patents granted before the Centennial Exhibition in 1876, thirteen of them related to grands. The twenty-six patents granted between 1878 and 1885 included eleven for grands, eleven for uprights, and four that were either for both or were improvements in manufacturing techniques. From these statistics one can see Theodore's absorption with the prevailing notion of big sound for which a strong, more stable case and frame structure was needed. (By 1875 he claimed to have designed a plate that could sustain pressure up to 70,000 pounds—thirty-five tons as compared to the sixteen-ton maximum in 1862.) In later years one sees his concern for improvement of the upright, the one piano form that had not been so nearly perfected by the time the Steinways entered the field. Theodore's patents and the accounts of his con-

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*universelle de 1867* (Paris: Au Bureau du Journal l'art musical, 1868), p. 24. See also Cyril Ehrlich, *The Piano: A History* (London: J. M. Dent & Sons Ltd., 1976), pp. 58-62.

26. A Steinway illustrated catalogue of 1888 (p. 15) includes testimonials from Hector Berlioz (1873), Hermann Helmholtz (1871, 1873, and 1855), Franz Liszt (1873 and 1883), and Richard Wagner (1879), among others. It also includes the information about the 1873 Vienna Exhibition, along with the following resolution from its jury: "It is much to be deplored that the celebrated path-breaking firm of Steinway & Sons, to whom THE ENTIRE PIANOFORTE MANUFACTURE is so indebted, did not exhibit."

temporaries show him as an inventive and constructive genius. He was a friend to leading scientists like Hermann Helmholtz, and according to Alfred Dolge, who recorded the history of his contemporaries in the nineteenth-century piano industry, Theodore "revolutionized piano making and all auxiliary industries by forcing the acceptance of scientific methods upon all who desired to stay in the progressive march."<sup>27</sup>

The next major world exhibition that the Steinways participated in was the Centennial Exhibition in Philadelphia in 1876 (fig. 27). Since very few non-American piano makers exhibited, there was no world competition. Steinway, Chickering, and Weber seemed to be the favorites of the fair, with the Steinways receiving a more fulsome entry in the judges' report. Among the qualities praised in what was called the Centennial Grand (fig. 28) were: (1) the overstringing arrangement which allowed the bridges to be more centered and thus to create more vibration in the soundboard; (2) a cupola metal frame, patented in 1872 and 1875 to increase the strength of the metal frame (fig. 29)—this also has a capo d'astro bar for more strength and also more room for the heavier hammers; (3) the duplex scale patented in 1872 (figs. 30 and 31), which is an arrangement of the string portions between the agraffe and the tuning pins and between the soundboard bridge and the hitchpins so that the vibrating lengths are divided into harmonic proportions with the main portion of the string—this was claimed to increase the purity and fullness of tone; (4) a construction of the soundboard with a compression system that prevents relaxation of the soundboard (applies mostly to uprights); (5) a metallic tubular frame action (1869 and 1875—figs. 32 and 33) to avoid contraction and expansion caused by atmospheric changes (also a new system of escapement); and (6) a tone-sustaining pedal (1874) for new musical effects (Albert's patent).<sup>28</sup>

Theodore had time for devising technical improvements because

27. Alfred Dolge, *Pianos and Their Makers* (Covina, Cal.: Covina Publishing Company, 1911), p. 306.

28. Henry K. Oliver, "Musical Instruments," in *International Exhibition 1876: Reports and Awards, Group XXV*, ed. Francis A. Walker (Philadelphia: J. B. Lippincott & Co., 1878), p. 146. For more detail about the 1876 Exhibition see Cynthia A. Hoover, "Music and Musical Instruments," in *1876: A Centennial Exhibition*, ed. Robert C. Post (Washington, D.C.: Smithsonian Institution, 1976), pp. 138-43.

William was running the business and manufacturing operations very profitably. On May 14, 1870, William noted in his diary: "this week shipped 65 pianos the largest number ever sent off." In July of that year he bought the Pike property on Bowery Bay in Astoria (figs. 34 and 35), where in 1872 they erected a steam sawmill (fig. 36), iron and brass foundries (fig. 37), boiler and engine rooms, and a building for finishing the metal frames. In 1879 the large piano-case factory was erected there (fig. 38). In addition, the Steinways established in Astoria a company village for their workers, to which was added in 1877 a public school in which English, German, and music were taught, and in 1881 a public bath (fig. 39). Not to be outdone by any European manufacturer, the Steinways included in their Astoria purchase a "splendid Chateau," as William referred to it in his diary, where the family retreated and where important guests were entertained. Henry, Sr., enjoyed the new family holdings only a few months, dying at the age of seventy-four on February 7, 1871. As mentioned above, the London operations opened in 1875 and the Hamburg factory in 1880 (fig. 40). It might be noted here that Albert, throwing himself into the management and improvement of the factories and into the development of the village Steinway, died at the age of thirty-seven on May 14, 1877, a casualty, according to Dolge, of the family affliction—working himself to death. Theodore, whose last patents were granted in 1885, died at the age of sixty-four on March 26, 1889.<sup>29</sup>

During the last two decades of the century, William (fig. 41) became influential in the musical, political, and commercial worlds, both nationally and internationally. He sponsored and supported many musicians, including the conductor Theodore Thomas (who is shown in fig. 42 at Steinway Hall in 1890, the year that the Hall closed, following the opening of Carnegie Hall). The Steinways aggressively sought to sponsor such leading concert pianists as Anton Rubinstein and Ignaz Paderewski. They provided their latest and best instruments for their tours, for example, the 1892 concert grand (fig. 43) used by Paderewski in his 1892–93 American tour. The major differences between this piano and the Centennial Grand are the

29. Dolge, *Pianos and Their Makers*, pp. 303–12.

following: (1) the 1890s piano is longer and wider—it is now almost nine feet long (the Centennial Grand was 8 ft., 9 in.); (2) the case is ebonized, not rosewood veneer; and (3) the metal plate is now the double-cupola design, the extra arch allowing space for a continuous bridge for increased power of sound (fig. 44). The range is seven and one-third octaves: AAA-c'''''. The action (figs. 45 and 33) is a revised version of Erard's earlier action, modified to allow for easy repetition and sensitivity to touch in spite of the heavier hammers. At the time of William's death at age sixty on November 30, 1896, this piano represented the pinnacle of Steinway's achievements, and with only a few modifications, it is the Steinway piano of today.

Considering the fact that even by the 1830s most of the patents for the major developments of the piano had already been issued,<sup>30</sup> one concludes after a study of the Steinway activity in the second half of the nineteenth century that the major contribution of Steinway & Sons to the instrument itself was the design and construction of a strong, resonant case and metal frame (figs. 46 and 47)—a *body* to receive and magnify the *soul* developed earlier in the century. But, it must be kept in mind that the concept of the ideal piano was not yet fixed in the 1830s and that most pianists and piano makers were striving for qualities inspired by the playing of Franz Liszt and his followers: strong, powerful, poetic, passionate, virtuosic, sensitive, orchestral. Thus, modifications to the piano of the 1830s and 1840s were primarily attempts to obtain the Lisztian ideal. And it is that ideal of infinite gradations and powerful sound potential made possible by the adoption of the "American system" of construction that has dominated the musical world and has influenced the interpretation and performance of keyboard music for the past 125 years—whether in the concert hall, in the classroom, or in the parlor.<sup>31</sup>

But the contributions go beyond the instrument itself. The piano

30. The major developments of the piano include the agraffe (Erard, 1808), the double-escapement action (Erard, 1821), some forms of metal bracing (Erard, 1822–23), a first attempt at a one-piece metal frame (Babcock, 1825), felt hammer coverings (Pape, 1826), and tempered steel wire (Pape, 1826).

31. It has been only in the last two or three decades that musicians and builders have begun to rediscover earlier musical instruments (especially pianos) and to reinterpret the earlier repertory on instruments built at the time the music was composed.

was, as Arthur Loesser put it, “a product straight from the loins of 19th century industry and business, a direct issue of the technology, transportation, and the finance of its time. . . . The history of the piano does not coincide with the development of musical genius; it follows the development of industry and commerce.”<sup>32</sup> And as the center of world manufacturing moved from England to France to the United States as the century moved on, so did the center of piano building, with the Steinways coming out first in the race by the end of the nineteenth century.

*Smithsonian Institution*

32. Loesser, *Men, Women, and Pianos*, p. 391.



FIGURE 1. Heinrich Engelhard Steinway. Photograph by Matthew Brady, courtesy of Steinway & Sons.



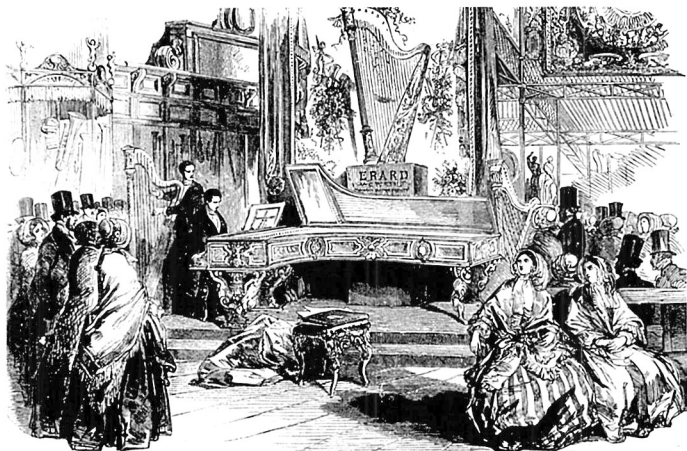


FIGURE 2. Erard exhibit at the Crystal Palace, London (1852). Worch Collection, 2041.

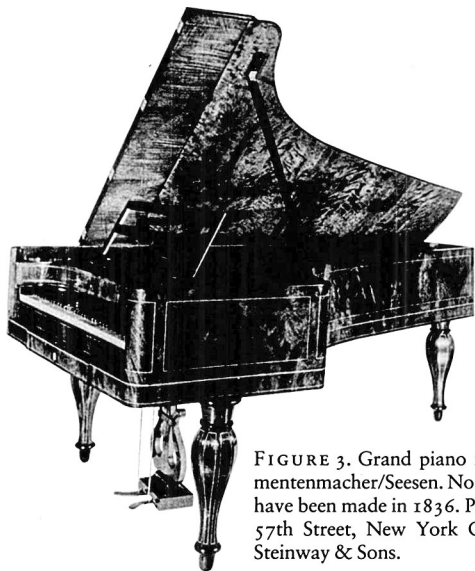


FIGURE 3. Grand piano made by H. Steinweg/Instrumentenmacher/Seesen. No date, no serial number; said to have been made in 1836. Present location Steinway Hall, 57th Street, New York City. Photograph courtesy of Steinway & Sons.

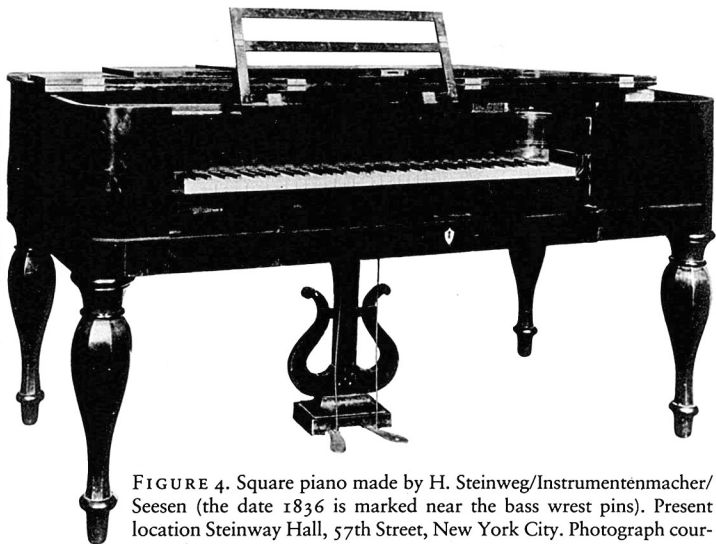


FIGURE 4. Square piano made by H. Steinweg/Instrumentenmacher/Seesen (the date 1836 is marked near the bass wrest pins). Present location Steinway Hall, 57th Street, New York City. Photograph courtesy of Steinway & Sons.

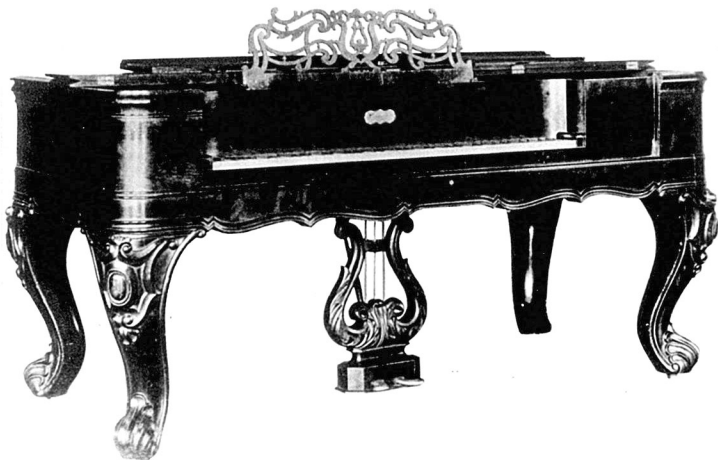


FIGURE 5. Square piano, made by Steinway & Sons, New York, ca. 1853 (no. 483). Present location Steinway Hall, 57th Street, New York City. Photograph courtesy of Steinway & Sons.



FIGURE 6. Medal awarded to Steinway & Sons at the 1855 Fair of the American Institute, New York City (now in possession of Steinway & Sons). Photograph courtesy of Steinway & Sons.

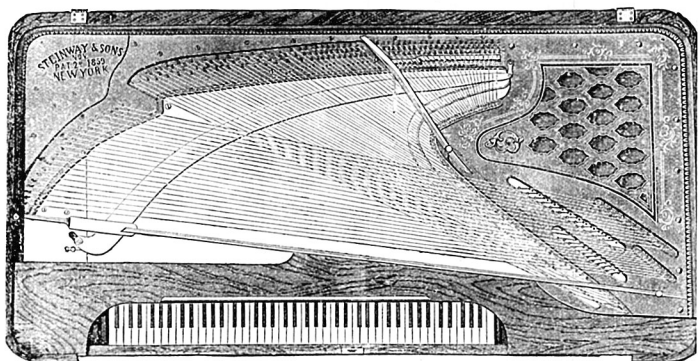


FIGURE 7. Plan view of overstrung square piano said to have been exhibited at the Fair of the American Institute, Crystal Palace, New York City, 1855. From catalogue of Steinway & Sons, 1888 (p. 7, fig. A).



FIGURE 8. Full view of grand piano, Steinway & Sons, New York, 1857 (no. 1199). Smithsonian Institution, catalogue no. 74.6, negative no. 76-19236.

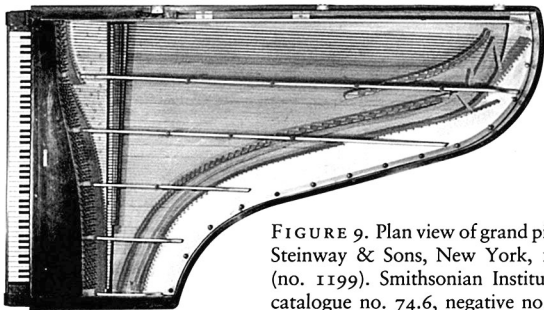


FIGURE 9. Plan view of grand piano, Steinway & Sons, New York, 1857 (no. 1199). Smithsonian Institution, catalogue no. 74.6, negative no. 76-19236A.

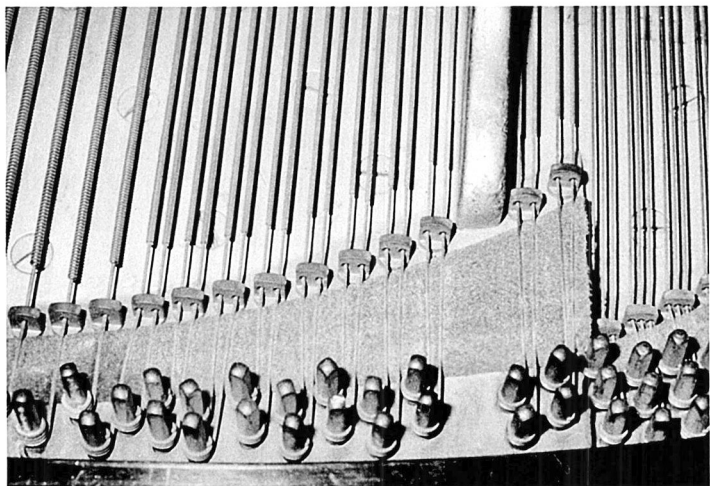


FIGURE 10. Detail of stringing, 1857 Steinway grand. Shows one string/two strings/three strings. Smithsonian Institution, catalogue no. 74.6, negative no. 77-9019.



FIGURE 11. Pedal lyre of 1857 Steinway grand. Smithsonian Institution, catalogue no. 74.6, negative no. 75-1641.





STEINWAY & SONS'

**Patent Overstrung Grand and Square Pianos**

Are now considered the best Pianos manufactured.

OPINION OF NEARLY ALL THE GREATEST AND MOST PROMINENT MUSICIANS AND ARTISTS REGARDING THESE INSTRUMENTS :

The undersigned having personally examined and practically tested the improvement in Grand Pianos, invented by H. STEINWAY, in which the covered strings are overstrung above those remaining, do hereby certify :

1. That as a result of the said improvement the voice of the Piano is greatly improved in quality, quantity and power.
2. The sound by Steinway's improvement is much more even, less harsh, stronger, and much better prolonged than that realized in any other Piano with which we are acquainted.
3. The undersigned regard the improvement of Mr. Steinway as most novel, ingenious and important. No Piano of similar construction has ever been known or used, so far as the undersigned know or believe :

GUSTAV SATTER, WILLIAM MASON,  
S. B. MILLS, JOHN N. PATTERSON,  
WM. SAAR, ROBERT GOLDBECK,  
T. C. HILL, GEORGE W. MORGAN,  
WM. A. KING, CARL HERGMANN,  
GEO. F. BRISTOW, HENRY C. TIMM,  
And many others.

Each Instrument warranted for the term of three years.  
Warehouses, 82 and 84 Walker St., near Broadway, New York

FIGURE 14. Advertisement for Steinway & Sons overstrung grand and square pianos. From *Frank Leslie's Illustrated Newspaper*, May 26, 1860.

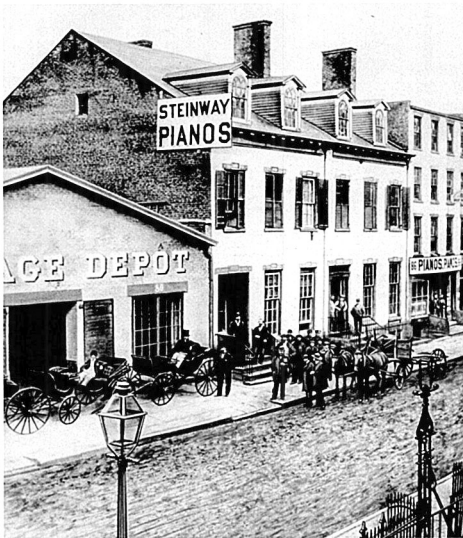


FIGURE 15. 82 and 84 Walker Street, exterior, between 1857 and 1864. Photograph (retouched) courtesy of Steinway & Sons.

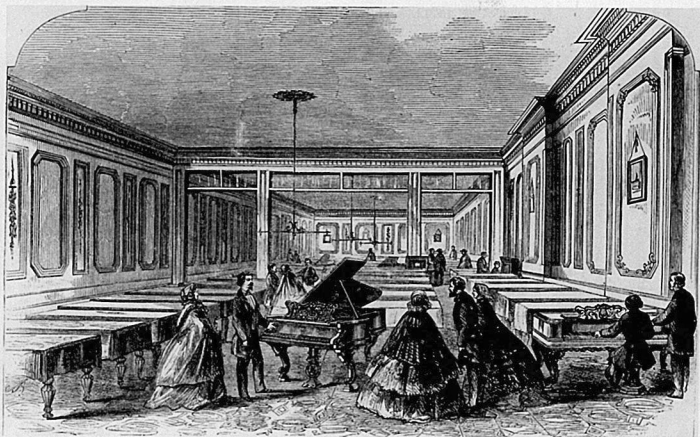


FIGURE 16. Interior of Walker Street salesroom. From *Leslie's*, September 29, 1860, p. 298.



FIGURE 17. Exterior of Steinway & Sons' new factory at Fourth Avenue between 52d and 53d Streets (opened August 30, 1860). From *Leslie's*, September 22, 1860, p. 282.





SAWING & PLANING ROOM AT MANUF'Y

FIGURE 18. Sawing and planing room at Fourth Avenue factory. From *Leslie's*, May 28, 1864, p. 156.

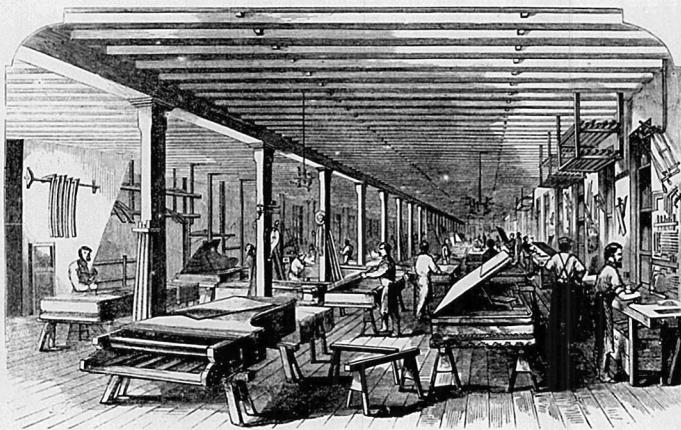


FIGURE 19. Finishing room, Fourth Avenue factory. From *Leslie's*, September 29, 1860, p. 298.

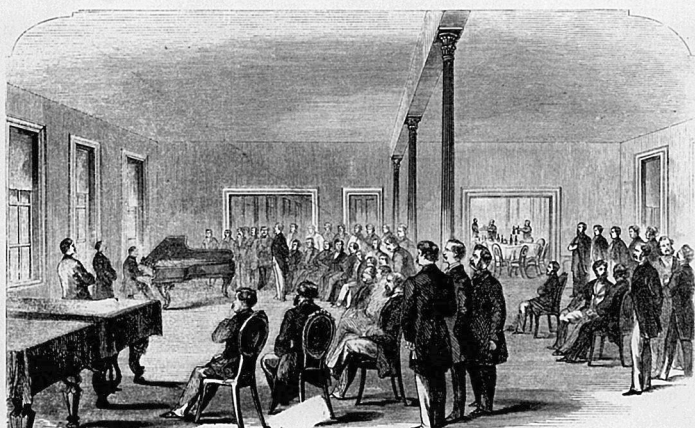


FIGURE 20. Demonstration of pianos and banquet at the opening reception of the Fourth Avenue factory. From *Leslie's*, September 22, 1860, p. 282.

FIGURE 21. Henry Steinway, Jr. From *People and Pianos* (New York: Steinway & Sons, 1953), p. 20.

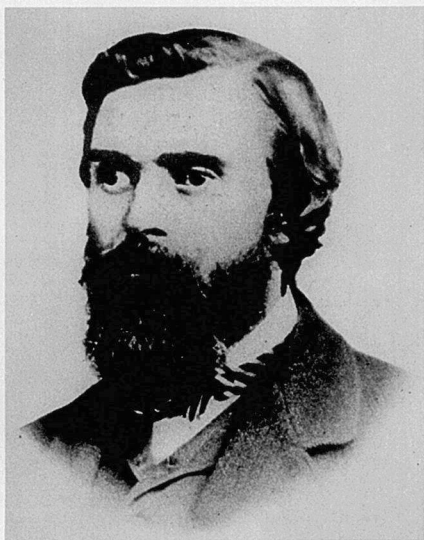




FIGURE 22. Members of the Steinway family in Civil War uniform: left to right, Charles Steinway, Albert Steinway, and Theodore Vogel. From *People and Pianos*, p. 24.

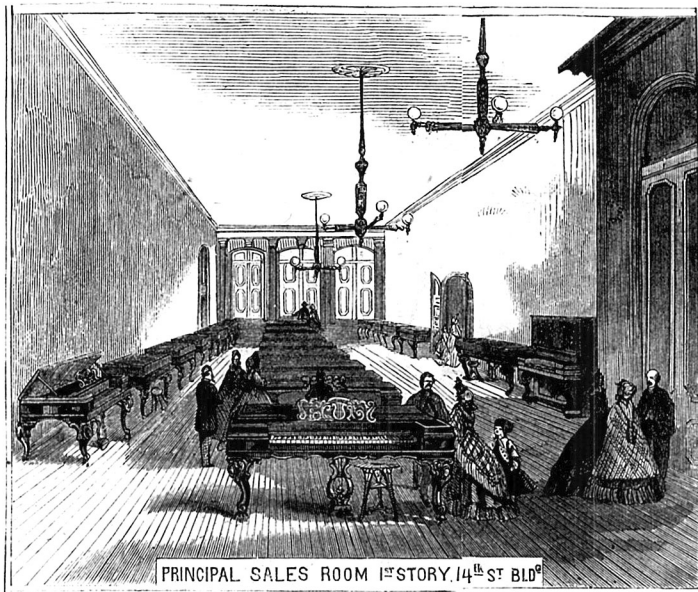


FIGURE 23. Principal sales room (first story), Steinway & Sons, 71 and 73 East 14th Street (between Union Square and the Academy of Music), New York City. From *Leslie's*, May 28, 1864, p. 156.

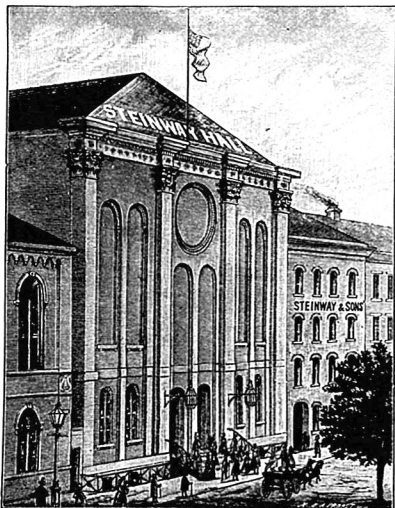


FIGURE 24. Rear view of Steinway Hall (East 15th Street, New York City), which opened on October 31, 1866. Artists' rooms were on upper floors, with piano shipping on the first floor. From inside cover of Steinway catalogue, 1888.



FIGURE 25. Theodore Steinway. Photograph courtesy of Steinway & Sons.

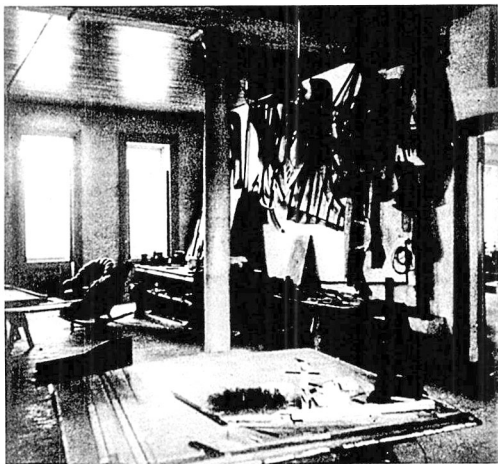


FIGURE 26. Theodore Steinway's workroom (the scale-drawing room at the Fourth Avenue factory). From *People and Pianos*, p. 38.

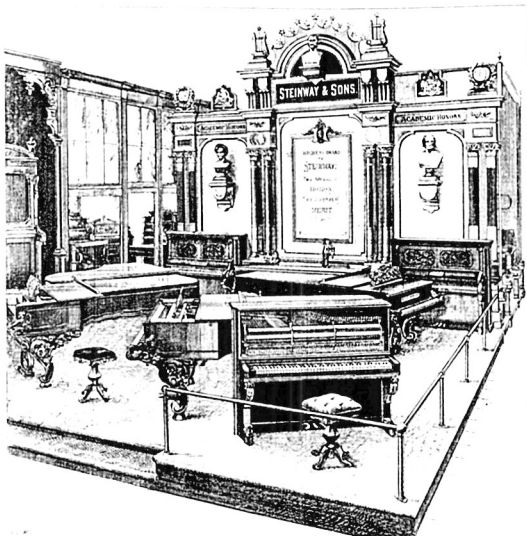


FIGURE 27. Steinway & Sons. Piano-Forte Exhibit at the Centennial Exhibition, Philadelphia 1876. From *The Daily Graphic*, New York, December 29, 1876.



FIGURE 28. Full view of grand piano, Steinway & Sons, New York, 1876 (no. 33,610), a model known as the Centennial Grand. On loan to the Smithsonian Institution (negative no. 76-4952) for the 1876 Exhibition (which opened in 1976) from the California State University, Fresno Association, Inc.

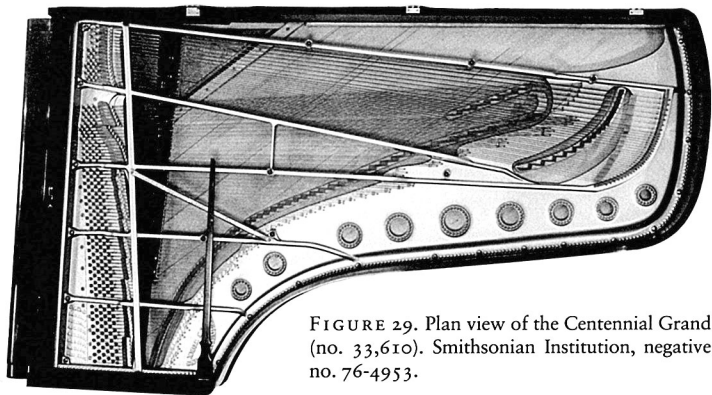
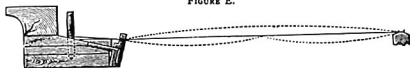


FIGURE 29. Plan view of the Centennial Grand (no. 33,610). Smithsonian Institution, negative no. 76-4953.

Figure E shows old wood construction with metal angle projection and agraffes, *without* duplex scale.

FIGURE E.



The next following illustration, figure F, shows the patented construction brought to perfection, inasmuch as a higher dividing node has been chosen at will, which invariably contains all the lower overtone vibrations down to the fundamental tone of the entire length of the string.

FIGURE F.

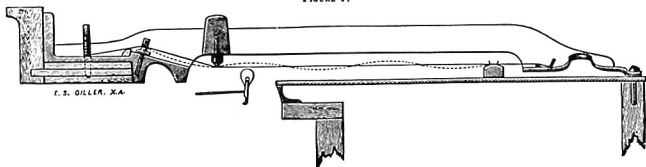
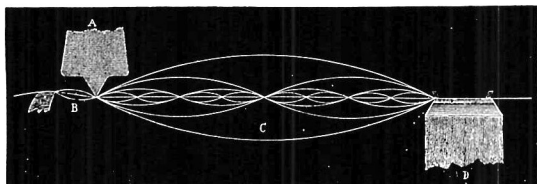


Figure F also shows the transverse section of a Steinway Grand (fully described under patent No. 170,647) with capo d'astro bar and cupola frame.

FIGURE 30. Explanation of the duplex scale, showing transverse section of Steinway grand with capo d'astro and duplex scale. From Steinway & Sons catalogue, 1888, p. 9, figs. E and F.

FIGURE G.



- Shows sectional view of capo d'astro bar and bearing of chilled Steinway steel, which forms the dividing point between the main scale and the added duplex scale.
- Shows the added duplex scale.
- Shows the fundamental vibrations (pulses) of the main scale in combination with its harmonic sub-divisions, caused by the impulse of the added duplex scale.
- Shows sectional view of the sound-board bridge, which transmits the transverse vibrations (pulses) of the strings to the sound-board which vibrates (pulses) molecularly.

FIGURE 31. Further explanation of the duplex scale. From Steinway & Sons catalogue, 1888, p. 9, fig. G.

FIGURE K.

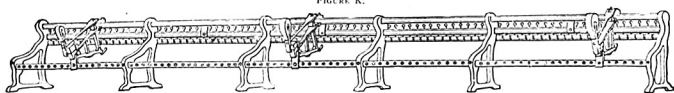


Figure K illustrates the tubular metallic frame, with standards for Grand piano actions. Also several hammers with mechanism, in position.

FIGURE 32. Drawing of tubular metallic frame for grand pianos (first patented August 10, 1869—no. 93,647). From Steinway & Sons catalogue, 1888, p. 12, fig. K.





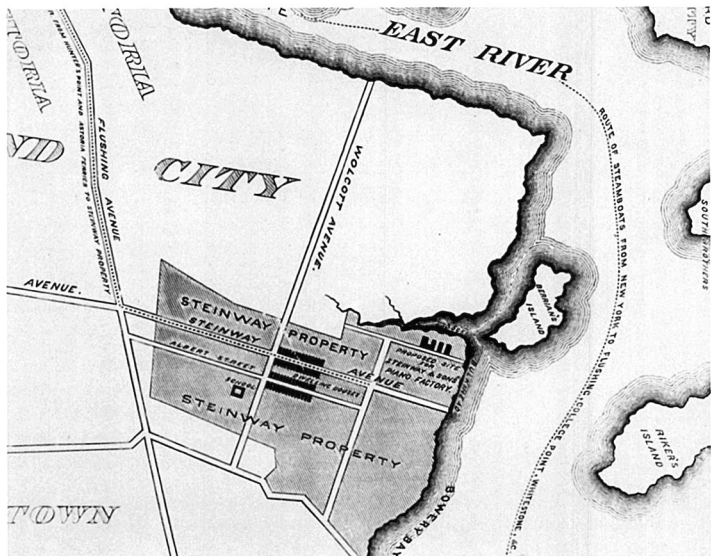


FIGURE 35. Detail from fig. 34 showing the Steinway Astoria property.

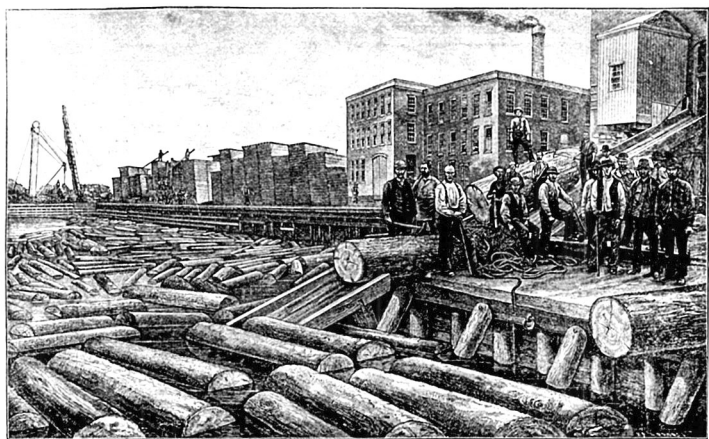


FIGURE 36. View of Steinway & Sons' lumber yards and basin at the Steinway factory in Astoria. From inside back cover, Steinway & Sons catalogue, 1888.



FIGURE 37. Steinway & Sons' foundrymen at the Steinway factory in Astoria. From inside back cover, Steinway & Sons catalogue, 1888.

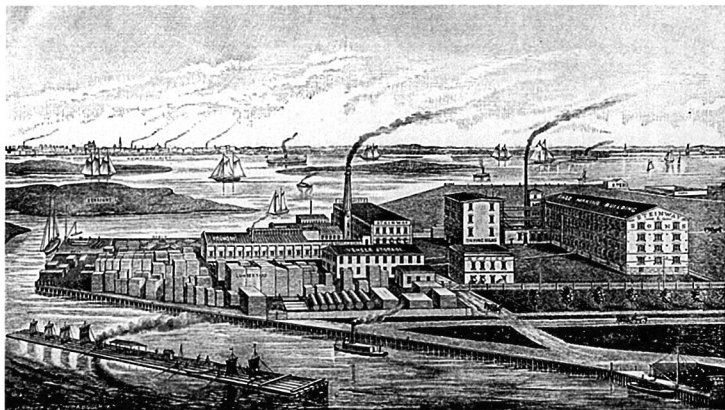


FIGURE 38. Steinway & Sons' piano case and action factory, foundry, metal works, drying kilns, sawmill, and lumber yards at the Steinway factory in Astoria. From back cover, Steinway & Sons catalogue, 1888.

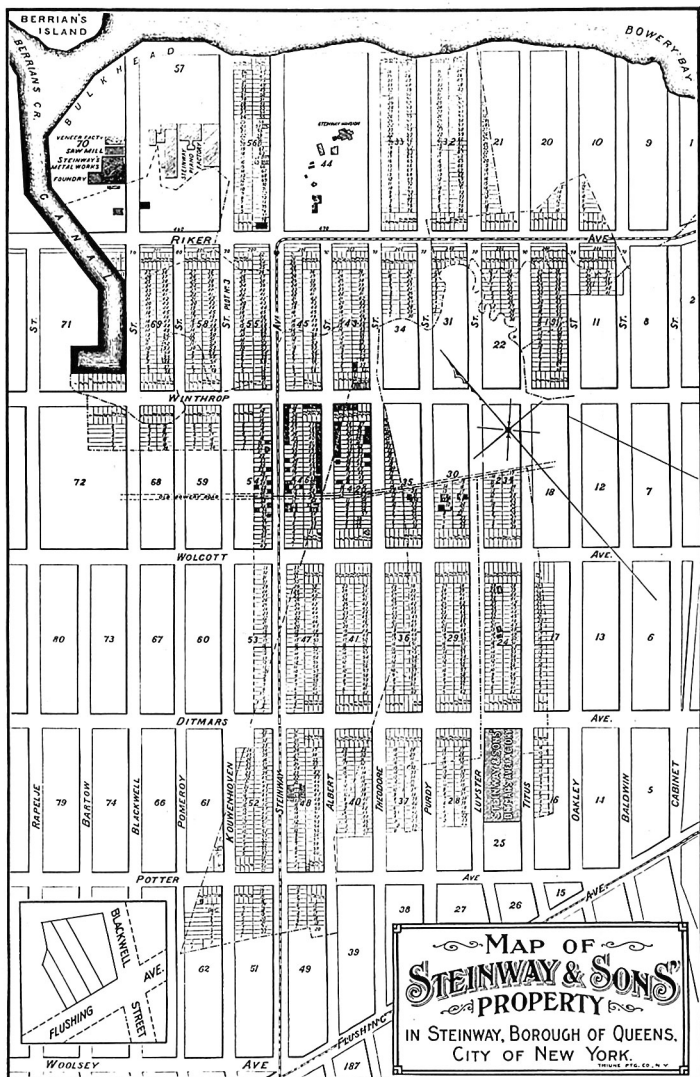


FIGURE 39. Map of Steinway & Sons' property in Astoria showing housing, schools, and factories (August, 1923).



FRONT VIEW OF STEINWAY HALL

and Pianoforte Warerooms, with adjoining building, containing the Office. Nos. 107, 109 & 111 East 14th Street, extending through to 15th Street, between Union Square and the Academy of Music. **NEW YORK.**



REAR VIEW OF STEINWAY HALL

on 15th Street, extending through from 14th Street, with the adjoining building, containing the artists' rooms in the upper stories, and the piano shipping and delivery office on the first floor. **NEW YORK.**



STEINWAY HALL

with Concert Room and Steinway & Sons' Pianoforte Warerooms, with the adjoining building, containing the Office, Nos. 15 & 17 Lower Seymour St., near Portman Square, W.

**LONDON, England.**



STEINWAYS' PIANOFABRIK.

Steinway & Sons' Branch Piano Factory and Warerooms, St. Pauli, Neue Rosenstrasse, Nos. 20, 21, 22, 23 and 24.

**HAMBURG, Germany.**

This extensive establishment was founded by Steinway & Sons in 1880, in order to properly supply the large and constantly growing demand for Steinway pianos throughout Europe, and to prepare the instruments for the humid European climate, Hamburg being a free port and unrivaled point of distribution.

FIGURE 40. Steinway establishments: Steinway Hall, New York City (1866-90), Steinway Hall, London (1875?), and the factory in Hamburg (1880). From inside cover, Steinway & Sons catalogue, 1888.



FIGURE 41. Engraving of William Steinway. Courtesy of Steinway & Sons.

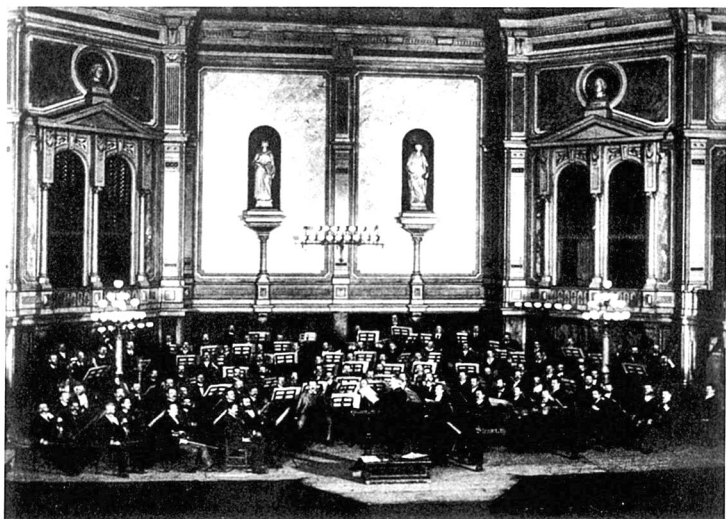


FIGURE 42. Interior of Steinway Hall during its last season (1890), showing the Theodore Thomas orchestra. From *People and Pianos*, p. 57.



FIGURE 43. Full view of grand piano made by Steinway & Sons, New York and Hamburg, 1892 (no. 71,227). Used by Ignaz Jan Paderewski during his 1892–93 America tour. Smithsonian Institution, catalogue no. 74.7, negative no. 76-19240.



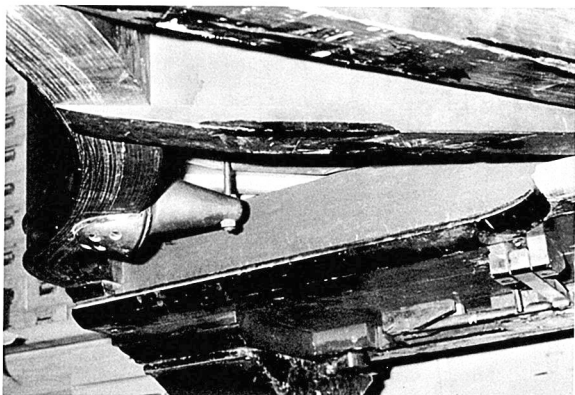


FIGURE 46. Detail of heavy framing of 1892 Steinway grand, showing laminations on bentside. Photograph by Scott Odell; Smithsonian Institution, catalogue no. 74.7, negative no. 77-9015.

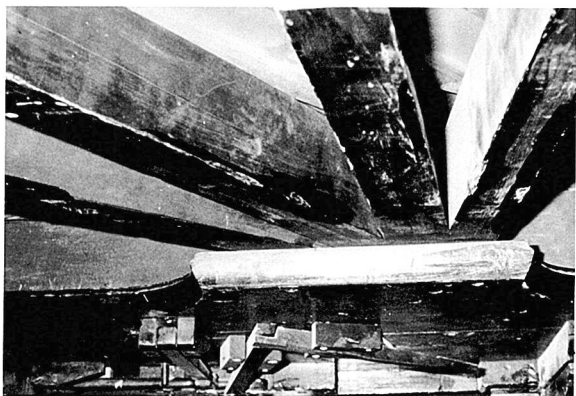


FIGURE 47. Detail of heavy framing of 1892 Steinway grand, showing fanlike braces and pedal mechanism. Photograph by Scott Odell; Smithsonian Institution, catalogue no. 74.7, negative no. 77-9017.