THE JANKÓ KEYBOARD

Thesis

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by

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Dedicated to my mother, Lee Naragon,
and my aunt, Edna M. Cable

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I N T R O D U C T I O N

Keyboard instruments have had a greater impact on music than any other group of instruments. From its infancy in the third century B.C. to its present refined form the keyboard has been accepted as the most logical solution to the problem of simultaneous control of numerous pitches. Many experimentalists, however, have not been entirely satisfied with the linear aspect of the keyboard or its key arrangement and have offered alterations of the keyboard in an attempt to further the untapped potential of the instrument. Most of the experimentalists failed to gain even meager acceptance, and many faced decisive rejection. Paul von Jankó is an exception in the field of keyboard reform. Jankó's keyboard has continued to attract at least minor attention from the time of its invention in 1882 to the present.

Paul von Jankó was born on June 2, 1856, in Totis, Hungary. His father, Michael von Jankó was, at one time, employed by the Esterhazy estate;[1] the exact circumstances of his employment, however, are not known. This relationship with the well-known music patrons may have been the only significant musical influence on Paul von Jankó for it does not appear that he was the benefactor of a musical heritage. The circumstances surrounding Jankó's early years, his family, musical training, and personal influences, are obscure.

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1 Hans Heinz Dräger, "Jankó," Die Musik in Geschichte und Gegenwart, VI, 1710.

The conditions of the Jankó household must have been fairly secure in the 1870's and 80's when Paul began his university career. Jankó attended the Polytechnicum in Vienna and the Vienna Conservatory where he received instruction from Hans Schmitt, Josef Krenns, and Anton Bruckner.[2] Hans Schmitt had attended the Vienna Conservatory from 1860-1862; upon graduation he was appointed to a teaching position in piano at the Conservatory.[3] Anton Bruckner was a lecturer in harmony and counterpoint at the Vienna Conservatory from November 18, 1875 to 1891.[4] Further details of Jankó's work with these men are not available; the position held by Josef Krenns is not known. Jankó must have been an outstanding student; he was awarded the highest honors at both institutions in Vienna.[5] From 1881-1882 Jankó pursued a musico-mathematical degree at Berlin University[6] where he worked with the mathematician and physicist, Hermann Helmholz.[7] Jankó's interest in piano performance was encouraged at Berlin University by his teacher, H. Erlich,[8] but his great keyboard invention of 1882 may be more indicative of his work with Helmholz.

The details of Jankó's relationship with Helmholz are as obscure as most other facets of his life. Jankó's article "Ueber

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2 Dräger, "Jankó," MGG, VI, 1710.
3 Article, "Anton Bruckner," in Baker's Biographical Dictionary of Musicians (5th edition, revised by Nicholas Slonimsky, with 1971 supplement, 1971), p. 218.
4 Wolff, Werner, Anton Bruckner Rustic Genius (New York: Cooper Square Publishers, Inc., 1973), p. 74.
5 Merle Mason, "The Jankó Keyboard," Piano Quarterly, Fall (1973), p. 8.
6 Dräger, "Jankó," MGG, VI, 1710.
7 Mason, "The Jankó Keyboard," p. 8.
8 Dräger, "Jankó," MGG, VI, 1710.

mehr als zwolfstufige gleichswebende Temperaturen,"[9] may be indicative of Helmholz's influence on his student in the physics of music. Helmholz may have been directly responsible for other aspects of Jankó's invention, which was completed during his year of study with Helmholz. Further evidence of their relationship does not seem to exist, and one can only speculate on the total impact of Helmholz upon his ambitious and capable student.

Between 1882 and 1892 Jankó must have spent a great deal of time on revisions of his keyboard; several patents were acquired during this time. Other details of this time period in Jankó's life are not available. One can assume that Jankó remained in Europe at least through 1886 when he performed his first concert on the new keyboard in Vienna.[10] In the autumn of 1891 a Jankó Conservatory was established in New York City, managed by Emil K. Winkler.[11] (Winkler was to be a life-long supporter of Jankó's invention.) It seems entirely possible that Jankó came to New York to aid in the establishment of his conservatory and, perhaps, to encourage and supervise the production of Jankó keyboards; this assumption, however, can not be substantiated. The Decker Brothers Manufacturers of New York began producing Jankó pianos in 1891.[12]

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9 Beitrage zur Akustik und Musikwissenschaft, edited by Dr. Carl Stumpf (Leipzig: Johann A. Barth, 1901), pp. 6-12.

10 Alfred Dolge, Pianos and Their Makers (New York: Dover Publications, a reprint of a 1911 Covina publication, 1972), p. 83.

11 Arthur Loesser, Men, Women and Pianos (New York: Simon and Schuster, 1954), p. 576.

12 Ibid., p. 567.

In 1892 Jankó went to Constantinople to work on a tobacco farm on which he attained the rank of section overseer in 1904.[13] The circumstances surrounding Jankó's residence in Constantinople are not known to this author.

It does not seem likely that Jankó lived on a tobacco farm entirely by choice. This supposition is supported by a letter of 1905 written to Jankó's long-time friend, Professor Friedrich Weisshappel.

> Ich bin heute mehr denn je überzeugt, dass man meine Erfindung einmal noch sozusagen entdecken wird, und da werden manche darüber Tränen vergieben, dass man mich hat so jammerlich verfaulen lassen als einen miserablen Sektionschef der türkischen Tabakregie. 14
>
> (I am today more than ever, convinced that one will still discover my invention, and many tears will be shed over it, that one let me rot so wretchedly as a miserable departmental head of the Turkish State tobacco monopoly.) 15

That Jankó was not pleased with his life in Constantinople raises many questions: why did Jankó go to Turkey?, why did he remain there if he was not pleased with his situation?, was his move to Turkey brought about, in any way, by his invention?. None of these questions can presently be definitively answered and may never be answered. It seems unusual that such a brilliant student and inventor would voluntarily spend twenty-seven years of his life growing tobacco rather than attempt to support and promote his

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13 Dräger, "Jankó," MGG, VI, 1710.
14 Friedrich Weisshappel, "Paul Jankó zum Gedenken," Österreichische Musikzeitschrift, (n.d.), p. 80.
15 Ibid., p. 80. Translated by J.R. Knoblock, student, W.V.U.

ingenious invention. Had his keyboard gained little acceptance one might conjecture that Jankó was simply another experimentalist whose invention was totally impractical and simply a 'fad'; Jankó's keyboard, however, gained a great deal of attention and acceptance at about the same time that he moved to Turkey.

Paul von Jankó died at the Constantinople tobacco farm on March 17, 1919, at the age of 63. The unanswered questions which concern Jankó's circumstances at that time may always remain unanswered, but they need not remain ignored. It is the purpose of this thesis to describe aspects of the history and development of Jankó's keyboard and, of much greater importance, to offer support and a presentation of arguments for its possible acceptance by the musical world.

CHAPTER I

A BRIEF HISTORY OF THE KEYBOARD

The history and development of the pianoforte are well documented in numerous comprehensive studies concerning the instrument.[1] Such studies, however, rarely include more than a superficial reference to or description of the many ingenious alterations of the keyboard. As early as the eleventh century, experimentalists, rich in supportive psychology, constructed what they considered to be practical keyboards. From that time onward, experimentalists shared their displeasure with the linear keyboard and its physical relationship to the natural configuration of the hand. Whereas Paul von Jankó's keyboard is the major concern of this study, it should be helpful to explore briefly the history of the keyboard and possible influences on the concept of the Jankó keyboard.

The organ was probably the first instrument which could possess a keyboard. Ctesibius' hydraulis from the third century B.C. is considered to be the first organ[2] and possesses the first keyboard. The hydraulis is described in detail by Vitruvius in his De Architectura, ca. A.D. 14, and in the Pneumatics of Heron which dates from the second century A.D.[3] Depictions of the hydraulis

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1 Ernest Closson, History of the Piano (London: Paul Elek, 1947); Alfred Hipkins, A Description and History of the Pianoforte (London: Novello and Co., reprint of 1929); Helen Rice Hollis, The Piano (New York: Hippocrene Books, 1975); Albert Wier, The Piano, Its History, Players, Makers, and Music (London: Longmans, Green and Co., 1941); and numerous other studies of similar content.

2 Willi Apel, The History of Keyboard Music to 1700, Translated and revised by Hans Tischler (Bloomington: Indiana University Press, 1972), p. 9.

3 Ibid., p. 9.

appear on cameos, mosaics, and coins from Roman times; a small baked clay model was found in 1885 in the ruins of Carthage.[4]

Heron describes the wind mechanism and key action of the hydraulis in great detail,[5] but mentions little concerning the sound of the instrument. In ancient times it was often thought that the hydraulis produced a loud and terrifying sound.[6] Cicero, however, described the sound of the hydraulis as a "sensation which is as agreeable to the ear as the tastiest fish to the palate"; in Arthenaeus' Deipnosophistae, ca. A.D. 220, the sound of the hydraulis is said to be sweet and gay so that all who listened were charmed by its melodies.[7] Truly a remarkable instrument, Pliny the Elder called the hydraulis a wonder of the world in his Natural History, ca. A.D. 70.[8]

Unlike present-day keys which pivot on a fulcrum, early organ keys operated on a push or pull principle; a Roman organ from the third century B.C. had L-shaped keys and operated on this principle.[9] The short foot of the key was pushed by the player and returned to its position by a spring; the longer foot, which was attached to a slider, opened and closed the pipes. The L shape was eventually discarded for a simplified flat key which operated on the same principle as the L-shaped key. Both types of keys were so large and

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4 Apel, The History of Keyboard Music to 1700, p. 9.
5 Ibid., p. 11.
6 Ibid., p. 11.
7 Ibid., p. 11.
8 Ibid., p. 11
9 Sibyl Marcuse, A Survey of Musical Instruments (New York: Harper and Row, 1975), p. 235.

difficult to activate that only two notes could be played simultaneously. Early organ keys were three to four inches wide and not only hindered performance but also dictated a short keyboard range. Early Western organs had a compass of two octaves;[10] the octave compass expanded gradually as more accidentals became necessary.

Fortunately, illustrations of organs have survived which enable historians to trace, at least to some degree, the changes in keyboards. An illustration in the Bible of St. Stephen Harding, completed between 1098 and 1109, depicts an organ keyboard of 'white' keys, visibly lettered, C D E F G a^{b} a B^{b} B.[11] We can assume that this increase in necessary accidentals and the influence of portative organ keyboards which already employed narrow keys influenced a narrowing of large organ keys; there is little evidence, however, to support this supposition until the fourteenth century. Don Juan Riãno presented a drawing copied from the manuscript Cantigas de Santa María, ca. 1270, which depicts an organ with nine pipes and two rows of rather ordinary keys.[12]

After the hydraulis, the next organ for which significant information exists appeared in the fourteenth century. The Halberstadt organ, completed by Nicholas Faber on February 23, 1361, possessed full chromatic keyboards of twenty-two notes (B-A) in its two descant manuals and an incomplete chromatic keyboard in its

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10 Marcuse, A Survey of Musical Instruments, p. 235.
11 Ibid., p. 235.
12 Alfred Hipkins, A Description and History of the Pianoforte (London: Novello and Co., 1929), p. 47.

lowest manual (B-C).[13] A fully chromatic keyboard, however, was not the most common keyboard of the fourteenth century. Another drawing found in Don Juan Riãno's article was copied from a fresco in the Cistercian Monastery of Neustra Señora de Piedro, Aragon, the date of which is 1390.[14] The fresco depicts an organ with three rows of pipes and equally spaced keys; additional square keys are inserted on an equal level with the other keys and are assumed to be B-flats necessary for transposition.[15]

More chromatic organ keyboards appeared in the fifteenth century; neither compass nor disposition, however, was standardized.[16] The limited keyboard compass is apparent in the thirty-five key organ of Sainte Marie de la Mer (1425).[17] Henry Arnaut's manuscript of 1440 depicts another thirty-five key organ with a compass of B-a^2.[18] In this manuscript, Arnaut states that the length of organ, harpsichord, or clavichord keys was twice the width.[19] The great organ of Bamberg, built in 1493, had a compass of three octaves plus a third.[20] This gradual increase in compass was instrumental in the development of narrower keys[21] and thus provided greater possibilities for the performer.

The keyboard's compass continued to expand in the sixteenth and seventeenth centuries, an expansion which continually demanded

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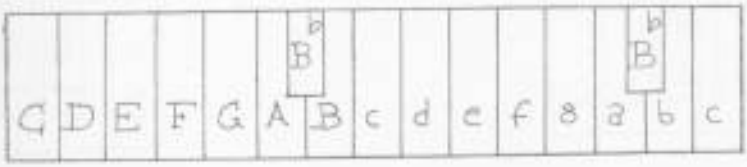
13 Michael Praetorius, Syntagma Musicum, II, "De Organographia," edited by Wilibald Gurlitt (Kassel: Barenreiter, 1958), Plate 24, 25; William Leslie Sumner, The Organ (London: MacDonald, 1952), pp. 52-53.
14 Hipkins, A Description and History of the Pianoforte, p. 49.
15 Ibid., p. 49.
16 Marcuse, A Survey of Musical Instruments, p. 235.
17 Ibid., p. 235.
18 Ibid., p. 235.
19 Ibid., p. 235.
20 Wier, The Piano, Its History, Makers, Players and Music, p. 2.
21 Ibid., p. 2.

narrower keys. A variety of key placements was still used as a standardized keyboard system had not yet been accepted. As late as 1619 Praetorius wrote that keyboards with only the additional B-flat were still in use.[22] (Figure 1.) At this same time organs with full chromatic keyboards became more common.

Figure 1. Keyboard with B^{b} Accidental



The first major physical alteration of the keyboard was the so-called 'short octave' keyboard or, in Italian, the mi re ut keyboard.[23] This alteration was employed on organs, virginals, harpsichords, and other keyboard chordophones throughout the fourteenth to eighteenth centuries. Perhaps introduced for its practicality, the short octave eliminated notes in the lower register that were seldom necessary; this practice conserved space and money.[24] The short octave concept was applied to the manuals and pedals of organs.[25]

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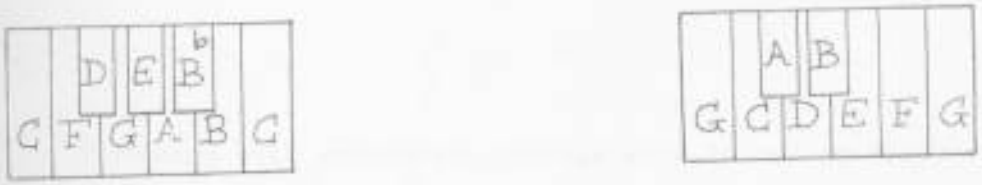
22 Percy A. Scholes, The Oxford Companion to Music (London: Oxford University Press, 1938), p. 495.
23 Marcuse, A Survey of Musical Instruments, p. 236.
24 Ibid., p. 236.
25 Ibid., p. 236.

Short octave keyboards could be found in the fourteenth century and were used rather extensively in the fifteenth century. It was not until the seventeenth century, however, that any standardization appeared; the most common short octaves were C and G.[26]

Figure 2. C Short Octave and G Short Octave[27]



Early in the seventeenth century accidentals such as F-sharp and G-sharp became necessary.[28] In order to incorporate these accidentals without expanding the keyboard, the D and E keys were split so that the back portion of the keys activated the F-sharp and G-sharp pipes, respectively.[29]

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26 Helen Rice Hollis, The Piano (New York: Hippocrene Books, 1975), p. 31.
27 Ibid., p. 31.
28 Marcuse, A Survey of Musical Instruments, p. 236.
29 Ibid., p. 236.

Figure 3. Split Keys

Keyboards with enharmonic tunings were in use as early as the fifteenth century. In 1511 Arnolt Schlick wrote that, twelve years prior, "an organ had been built with 'double semitones' in the manuals and pedals," the front portion of the key activated the sharp and the back portion activated the flat.[30] (Enharmonic organ keyboards employed the split key principle illustrated in Figure 4.) The philosophy behind enharmonic organ tuning involved the necessary adjustments to obtain proper intonation, within the confines of the temperament system in use. Figure 4 illustrates a seventeenth-century enharmonic keyboard. Enharmonic keyboards were not standardized but could be found with either partial or complete enharmonic tunings.

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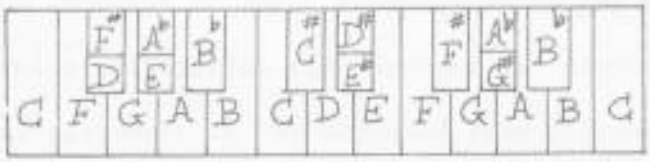
30 Marcuse, A Survey of Musical Instruments, p. 238.

Figure 4. Seventeenth-Century Enharmonic Keyboard[31]

Ionnes Battista Boni of Cortona, Italy, built a virginal in 1617 which employed short octave and enharmonic principles.[32] (Figure 5.) The combination of short octave tuning in the lower register and enharmonic tuning in subsequent octaves is called 'broken octave' tuning.

Figure 5. Virginal Keyboard from 1617, by Ionnes B. Boni



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31 Hollis, The Piano, p. 38.

32 Ibid., p. 38. This instrument, formerly of the Cooper Union Collection, New York, is presently located at the Smithsonian Institute, institute number 60,1392.

An extreme use of the enharmonic keyboard principle is described in a 1711 article by Seipione Maffei in reference to Cristofori's pianoforte. Maffei described a 'rare' harpsichord which he saw in Florence "designed to cope with the problems of tuning not being equal in all keys, thus, having five sets of keys, one above the other; tuned so that 'you may modulate and run through the keys without any dissonance.'"[33] Such an instrument is in the possession of the Museo Civico in Bologna, Italy.[34]

Reminiscent of enharmonic tuning, the earliest English pianoforte, built in 1766 by Johannes Zumpe of London, contained seventeen keys per octave.[35] Nearly a quarter-tone difference existed between the enharmonic sharps and flats on Zumpe's complete enharmonic keyboard (C C♯ D^{b} D D♯ E^{b} E F F♯ G^{b} G G♯ A^{b} A A♯ B^{b} B C).[36] Zumpe's keyboard resembled Boni's virginal keyboard of the seventeenth century; Zumpe's keyboard, however, may have produced a greater difference between enharmonic tunings than did Boni's.

After the adoption of equal temperament in the nineteenth century and the stabilization this brought to 'diatonic' keys and their physical placement on the keyboard (the placement which has survived to the present day), almost every keyboard that experienced reform or 'improvement' and existed before equal temperament was indiscriminately considered to be some type of chromatic keyboard.[37]

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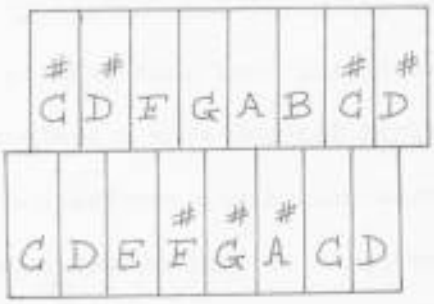
33 Hollis, The Piano, p. 38.
34 Ibid., p. 38.
35 Ibid., p. 68.
36 Ibid., p. 68.
37 Marcuse, A Survey of Musical Instruments, p. 238.

In 1791 Johann Rohleder presented a true chromatic keyboard to the Berlin Academy on which the keys progressed, alternately between two rows, by semitones; each row consisted of a whole-tone scale.[38] (Figure 6.)

Figure 6. Johann Rohleder's Chromatic Keyboard, 1791



Tradition has kept a tight rein on further alterations of the keyboard principle. Occasional attempts have been made to improve the basic physical concept of the keyboard, but these experiments have met severe opposition and even the most ingenious and logical inventions have been tossed aside for the 'traditional' keyboard.

> The purpose of keyboards is to enable the hand (hurdy-gurdy, accordion), the two hands (pianoforte, harpsichord, organ, etc.), or the hands and feet (organ) readily to control the sounds from a much larger number of pipes than could otherwise be controlled. 39

Whereas every keyboard satisfies this qualification, experimentalists have attempted to augment the keyboard's possibilities through a

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38 Marcuse, A Survey of Musical Instruments, p. 238.
39 Scholes, The Oxford Companion to Music, p. 495.

consideration of the configuration of the hand and its limitations. A major criticism of the traditional keyboard has been its key arrangement which requires the performer to strike the keys from an angle except in the middle register where the keys are perpendicular to the arms and hands.[40] Altered or additional key arrangements have attempted to alleviate this and other physical problems involved with the "illogical and irregular arrangement of keys."[41] Had all chromatic pitches come into practice at about the same time there might have evolved a more logical keyboard arrangement.[42]

The keyboard's disadvantages became more apparent with the introduction of equal temperament as composers no longer restricted their compositions to certain keys and modulated freely. The difficulty of playing between black keys as well as the diversity of fingering necessary for similar or identical phrases and scales in different keys demonstrated, at least to some, the necessity for alternative key arrangements.

Even though musicians recognized the keyboard's limitations, their conservatism and the bonds of tradition helped to discourage alterations of the keyboard. Conservatism and, perhaps, lack of foresight hindered any further keyboard development. Whereas keyboard music has evolved from accompanimental to highly virtuosic functions, the minor alterations to the keyboard were adapted to what already existed[43] without sufficient consideration given to the newly

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40 Ernest Closson, History of the Piano, Translated by Delano Ames (London: Paul Elek, 1947), p. 116.
41 Ibid., p. 116.
42 Ibid., p. 116.
43 Scholes, The Oxford Companion to Music, p. 495.

found musical complexities. Musicians, as a result, have been forced to adapt themselves to an inadequate physical object rather than adapting that object to the physical ability of the musician or, more specifically, the natural configuration of the hand.

Not everyone, of course, agrees that the traditional keyboard is in need, or ever has been in need, of modification. This is quite apparent in that the most logical revision of the keyboard has enjoyed only temporary success. To the traditionalists the keyboard has been retained "not because it is old but because it is best suited to the formation of the human hand which, after all, is the most important consideration."[44] Experimentalists have continually strived to prove that this premise is incorrect. Unfortunately, their efforts to devote primary consideration to the musician's hand and secondary consideration to the physical keyboard have been defeated by the weight of tradition.[45]

As early as the mid-sixteenth century, musicians and instrument builders contemplated keyboard alterations for easier manipulation; since then there has never been a time when someone was not concerned with the problem.[46] Many keyboards designed in the sixteenth century employed dark chromatic keys which were raised above the natural keys, much like the present keyboard.[47] Other experimental keyboards of the sixteenth century placed chromatic and diatonic keys on the same level.[48]

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44 Wier, The Piano, Its History, Makers, Players and Music, p. 72.
45 Closson, History of the Piano, p. 116
46 Scholes, The Oxford Companion to Music, p. 486.
47 Wier, The Piano, Its History, Makers, Players and Music, p. 71.
48 Ibid., p. 71.

Experimentalists continued to work on 'improved' keyboards throughout the sixteenth and seventeenth centuries, but the first major alteration of the keyboard did not appear until 1780. Gustav Neuhaus, a piano maker in Vienna, built a concave keyboard which accommodated the natural inclination of the human arm to move in a semicircle.[49] The success of Neuhaus' keyboard, or its impact on music and musicians of the eighteenth century, is not documented in any source presently known to the author. It seems that it must have gained some favor for it was revised by Staufer and Haudinger in 1824[50] and by Cludsam of Germany in 1911.[51] Shortly after the 1911 revision of the keyboard, Cludsam obtained patents for a concave keyboard and considered manufacturing it.[52] The technical relationship of this keyboard to Neuhaus' invention, however, has not been studied.

Many keyboard experiments occurred in the nineteenth century, but most of these keyboards gained little acceptance and enjoyed only momentary success. In 1801 Mathias Müller of Vienna, a fairly well-known builder of upright pianos, introduced his Dittanaclasis which consisted of two upright pianos; the keyboard of one was tuned an octave higher than the other.[53] The construction of the Dittanaclasis seems to be impossible to visualize and more detailed information concerning its construction is not available. A decade

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49 Alfred Dolge, Pianos and Their Makers (New York: Dover Publications, reprint of 1911 Covina Publications, 1972), p. 78.
50 Closson, History of the Piano, p. 116.
51 Dolge, Pianos and Their Makers, p. 78.
52 Ibid., p. 78.
53 Closson, History of the Piano, p. 117.

later, 1811, Dr. Karl Christian Friedrich Krause of Eisenberg constructed a keyboard with non-raised and non-darkened semitone keys.[54] Because it lacked raised semitones, Krause believed that his keyboard provided greater ease for performance in all keys; this belief, however, was generally rejected.[55] In 1829 Guassin, a Frenchman, built his 'isotone' with a chromatic keyboard of all white keys.[56] Weltruf Schiedmayer of Stuttgart adopted this principle but alternated black and white keys on his keyboard which required only two fingerings for all scales; one fingering was used for scales which began on white keys, and an alternate fingering was used for scales which began on black keys.[57]

In Paris, ca. 1840, Wölfel's arched piano was introduced;[58] however, little information concerning the keyboard is available. Other mid-nineteenth century experiments include Buhl's Bogen-Klavier and the Strohlen Klavier which had a rectangular keyboard with keys that radiated towards the center.[59] Arthur Wallbridge, pseudonym for the Englishman, A.B. Lunn, invented what he called a 'sequential keyboard' in 1843, which had equally spaced keys.[60] Further information concerning any of these instruments is not presently known to the author.

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54 Dolge, Pianos and Their Makers, p. 78.
55 Ibid., p. 78.
56 Closson, History of the Piano, p. 117.
57 Ibid., p. 117.
58 Ibid., p. 116.
59 Ibid., p. 116.
60 Marcuse, A Survey of Musical Instruments, p. 238.

Edouard Mangeot constructed one of the more interesting experimental keyboards of the nineteenth century. His piano, 'a queue a double clavier renverse,' was built in 1876[61] to the specifications of the Polish pianist, Joseph Wieniawski (1837-1912).[62] The second keyboard was organized from right to left so that the bass fell immediately over the treble of the first keyboard; this arrangement enabled the hand to play several registers simultaneously[63] and accommodated matched fingering in both hands.[64] In 1878 this keyboard was displayed at the World Exhibition in Paris and was played by the Russian pianist Jules de Zaremdski.[65]

Another mid-nineteenth century invention by General Perronet Thompson, and its revision by Bosanquet in the 1880's, experimented with harmonies for scientific purposes; they made use of seventy-two and eighty-four keys to the octave respectively.[66]

Stein produced his vis à vis keyboard concurrent with Pleyel's rectangular piano with double strings, double action, and a double soundboard.[67] Unfortunately, insufficient information and major disagreements between historians prevent any detailed description of these instruments and their operating mechanisms.

The traditional keyboard seemed to be firmly and eternally established by the twentieth century. This did not, however, deter

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61 Marcuse, A Survey of Musical Instruments, p. 239.
62 Closson, History of the Piano, p. 118.
63 Ibid., p. 118.
64 Scholes, The Oxford Companion to Music, p. 496.
65 Closson, History of the Piano, p. 118.
66 Scholes, The Oxford Companion to Music, p. 495.
67 Closson, History of the Piano, p. 117.

some twentieth-century experimentalists from attempting to develop a more efficient keyboard. An engineer from Liège, Belgium, Pierre Hans, built a two-manual keyboard ca. 1920; the manuals were tuned a semitone or a quarter tone apart.[68] The Clavier Hans was manufactured by Pleyel during the 1920's.[69]

Several years later, ca. 1921, Emanuel Moor introduced the 'Duplex Coupler Grand Pianoforte,' which was a revision of Mathias Müller's keyboard.[70] Unlike any of his predecessors, Moor elevated the back portion of the white keys which facilitated glissandi.[71] Moor's keyboard enjoyed some immediate success in Europe and the United States and was manufactured by the German firm, Blüthner;[72] its success, however, was short-lived.

In the early 1920's Alois Haba, of Prague, joined two keyboards tuned a quarter-tone apart.[73] Haba taught a course, instituted in 1923, in quarter-tone composition at the Prague Conservatory where his quarter-tone keyboard method was taught. Perhaps due to lack of interest in quarter-tone composition at the time of its invention, little is heard of this keyboard today.

Other twentieth-century experimental keyboards are even more obscure than those previously mentioned. The Adam keyboard (1901), Durand keyboard (1904), Kuba keyboard (1907), and the Nordbo keyboard

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68 Marcuse, A Survey of Musical Instruments, p. 239.
69 Ibid., p. 239.
70 Closson, History of the Piano, p. 117.
71 Ibid., p. 118.
72 Scholes, The Oxford Companion to Music, p. 496.
73 Closson, History of the Piano, p. 118.

(1915)[74] were experimental keyboards that generally receive only passing reference in piano histories.

> Apparently there is nothing more artificial and less artistic in the whole domain of musical instruments than the complicated mechanism of levers, joints, connecting rods, hammers, slides, springs, straps, etc., which constitute a key. Both pianist and organist are far removed from the sounding strings or pipes, both are busy depressing lifeless ivories, and both depend on a complicated apparatus, which produces tones as mechanically as the typewriter prints letters and words. Certainly such an artificial way of making music would never have become so popular if its manifest shortcomings had not been balanced by considerable merits. 75

Many musicians have not agreed that the merits of the traditional keyboard balance its shortcomings. Those who disagreed have constantly experimented with alterations to the keyboard's linear construction. Experimentalists have continually lost their battle against the traditional keyboard with, perhaps, one exception, Paul von Jankó.

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74 Scholes, The Oxford Companion to Music, p. 496.
75 Apel, The History of Keyboard Music to 1700, p. 4.

CHAPTER II

PHILOSOPHY AND CONSTRUCTION OF THE JANKÓ KEYBOARD

Influences on Jankó's keyboard may have included the six-six concept of keyboard arrangement which produced two whole-tone scales. The concept of six-six pitch arrangement existed in the third millennium before Christ[1] and can be found from that time to the present. Several keyboards previously mentioned, such as Johann Rohleder's keyboard of 1792, adopted the six-six concept. Conrad Hanfling, an eighteenth-century German mathematician, experimented with a six-six keyboard in 1708.[2] Otto Quantz wrote that Hanfling's keyboard was the first six-six keyboard; Quantz evidently had no knowledge of early Chinese theories as they are not mentioned in his study. Karl Jung and Hubert Unverricht also credit Hanfling with the first six-six keyboard but further state that Barthold Fritz (1697-1766), a well-known instrument maker, was interested in six-six keyboards.[3]

In the nineteenth century, application of the six-six theory became prevalent. John Trotter, an Englishman, obtained a patent for

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1 Laurence Picken, "Chinese Music: Theory," Grove's Dictionary of Music and Musicians (5th edition, edited by Eric Blom, 1954), II, 224-227.

2 Otto Quantz, Zur Geschichte derneuen chromatischen Klaviatur und Notenschrift (Berlin: Georg Stilke, 1877), p. 1.

3 Karl Jung and Hubert Unverricht, "Klavier," Die Musik in Geschichte und Gegenwart, VII, 1116-1117. Alfred J. Hipkins, A Description and History of the Pianoforte (Detroit: Detroit reprints in music, 1975), p. 53. A footnote on this page refers to Jankó's keyboard and also the work of Hanfling. Hanfling's keyboard is described in Adlung's Musica Mechanica Organaedi, II, 131.

a three-tiered six-six keyboard in 1811.[4] Another Englishman, Arthur Wallbridge, invented a keyboard in 1843 which he referred to as the 'sequential keyboard.'[5] Three years later yet another Englishman, Theop. Aug. Dreschke [Theopilus August?] invented a keyboard which may have been the immediate predecessor of Jankó's invention.[6] Dreschke's keyboard is infrequently mentioned in piano histories, and even the most superficial description of his keyboard is not available. Warlinck's article provides the only reference to Dreschke; Dreschke's influence on Jankó may be questioned.

All of these keyboards involve the six-six concept of key placement but seem to adhere to other standardized keyboard concepts and dimensions. Whether or not any of these instruments had a direct influence on Jankó's keyboard cannot be ascertained from available information

Jankó's six-six keyboard attracted more general attention and acceptance than did previous experimental keyboards. A substantial body of literature concerning the keyboard exists and may be indicative of continued interest in Jankó's concepts of keyboard construction. This interest, however, has not been sufficiently widespread to attract universal attention to or acceptance of the Jankó keyboard. In 1886 Jankó published his treatise, Eine Neue Claviatur, and from that time until the present many individuals

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4 Rosamond E.M. Harding, The Piano-Forte (Cambridge: Oxford University Press, 1933), pp. 283-284, 291-292.

5 Alfred J. Hipkins, "Keyboard," Grove's Dictionary of Music and Musicians (5th edition, edited by Eric Blom, 1954), IV, 737.

6 Warlinck, "Klavierinstrumente," Systematik der Saiteninstrumente, 1939, p. 77.

have directed at least some literary attention toward Jankó's keyboard.

It is difficult to ascertain why Jankó's keyboard has enjoyed more lasting interest than other six-six keyboards; perhaps a source of interest lies with the philosophies of the inventor and his seemingly logical yet rejected solution to the problems of the traditional keyboard.

Jankó directed his attention to aspects of the keyboard other than key placement; length and width of keys, multiple rows of keys to maintain a natural hand position, and the alleviation of playing between black keys were among his major concerns. Jankó's concept of six-six theory dealt with more than whole-tone scales; it challenged the entire physical construction of the keyboard and the philosophies of its inventors.

Jankó was primarily concerned with the elimination of the keyboard's natural problems. Many experimentalists attacked isolated problems which concerned the keyboard, but Jankó was the first inventor who gave equal consideration to all possible problems of performance on a keyboard instrument. The shortcomings of the keyboard as Jankó saw them are:

1. The keyboard does not conform to the anatomical structure of the hand.
2. The fingers must be forceably contracted and expanded in order to successfully execute scale passages and chords; although the fingers are of unequal length, they are often forced to play on keys that form a straight line.
3. The thumb often makes it necessary to play between black keys.
4. It is not always possible to use the strongest digit, the thumb, in appropriate places in a composition.

5. The lateral extension of the keyboard makes the interlocking of hands awkward.
6. The span of an octave, or more crucially of greater than an octave, is difficult to execute with small hands; simple reduction of the octave width is not helpful because it is then impossible to play between black keys and the keys are too narrow to allow consistent accuracy. 7

These problems were experienced by Jankó partially because of his small hand; many of these problems, however, are experienced by anyone who is confronted with a keyboard instrument. As one becomes more proficient on a keyboard instrument and delves into more demanding literature, these problems often multiply and offer a great challenge to even the most proficient artist. Friedrich Weisshappel, a friend and strong supporter of Jankó, felt that such performance problems begin with the music of Beethoven.

> Whoever attentively considers the piano music of Beethoven can ascertain two significant things; first, that Beethoven's intellect felt cramped by the trifling tonal range of the instrument of his time, and secondly, that he knew to appreciate the magical harmony of the tenth and the charm of large chords. Small, even medium sized hands can play on the conventional keyboard several places in the Beethoven sonatas either not at all or halfway correctly after first overcoming the great difficulties. But even large hands find it impossible to render everything as Beethoven doubtless thought it. The most typical examples are those to be found

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7 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier (1891). The volume and page numbers for this article, which is the first in a series of ten articles published in The Musical Courier in 1891, are not available. The articles were sent to the author without complete publishing material, and this material is not to be found in American libraries known to the author. All information from Winkler's series of articles was translated from some previous source. As of 1891 the only source which Winkler could have translated would have been Jankó's treatise from 1886. Therefore, it is assumed that this information, and subsequent information from the same source, is translated from Jankó's writings on his instrument.

> in the second, and in the Moonlight, and in the e minor sonatas. Indeed he wrote grace notes in tenths and arpeggiated chords for apparent facilitation because full leaps of a tenth and chords with a stretch of a tenth or without are unplayable.
>
> Beethoven's composition and writing method represented the beginning of a new development for the piano piece which quickly assumed unexpected dimensions: one thinks of the works of Brahms, Chopin, Grieg, Henselt, Liszt, Rubinstein, Schumann, Weber, and others. Hence, it was not surprising that the desire for a more efficient keyboard became more and more enthusiastic. Professor Hans Schmitt remarked at that time in his paper "The Pedal of the Piano" [ca. 1880]: Perhaps an inventive head will succeed in creating a practical way the possibility of touching distant tones with tension. With this would begin a new era for piano playing. A few years later his favorite pupil at the Vienna Conservatory, Paul von Jankó, stirred the greatest sensation everywhere with the new keyboard invented by him. It surpassed all expectations and offers not only the possibility to strike fully chords of a tenth and to play in all twelve tone music with the same finger position, but also to show a great number of other advantages. 8

Jankó's keyboard was the result of numerous major considerations: his displeasure with the traditional keyboard; the influence of Hermann Helmholz; his own desire to perform difficult works for the piano; the influence of Hans Schmitt; and possible influences from such predecessors as Conrad Hanfling, Arthur Wallbridge, and Theopilus Dreschke.

Jankó's keyboard exhibits excellent planning and consideration for the anatomical characteristics of the hand, its capabilities and limitations. Without the aid of numerous diagrams Jankó's concepts are less than comprehensible, and even with diagrams the physical technicalities of the structure are difficult to visualize. It is

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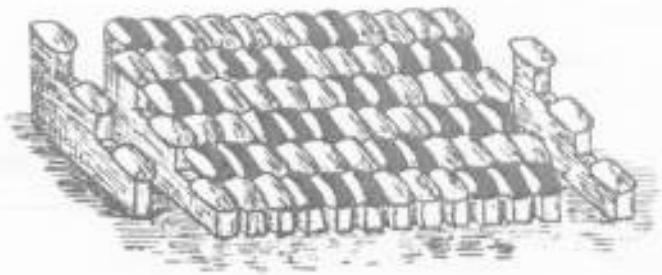
8 Friedrich Weisshappel, "Paul Jankó zum Gedenken," Osterreichisch Musikzeitschrift (n.d.), p. 80. Translation by J.R. Knoblock, student, W.V.U.

not that Jankó's keyboard is so terribly complex but that the English language does not seem to allow a succinct definition.

The keyboard resembles a flight of six steps. (Figure 7.)

Figure 7. Jankó's Keyboard



Note that every key is of uniform size and is rounded in the front and sides. While it appears that each key is separate there are actually only two 'sets' of keys. Each key, from a side view, looks like three steps. (Figure 8.) Any of these three levels can be struck and will produce the identical pitch as is produced by the other two levels; when one step is depressed, all three levels depress. Thus, one set of keys constitutes rows one, three, and five of the six row keyboard; another set of keys constructed identically to that previously described constitutes rows two, four, and six of the keyboard. The actual number of pitches has not been increased, but the possible position of striking a given pitch has been tripled. Rows one, three, and five of the keyboard are organized in succession so that a whole-tone scale beginning on C

results (C D E F# G# A# C); rows two, four, and six follow the identical pattern but begin on C# (C# D# F G A B C#). These whole-tone scales are duplicated three times. (Figure 9.)

Figure 8. Three-Step Key

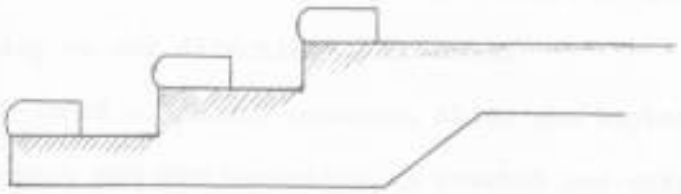
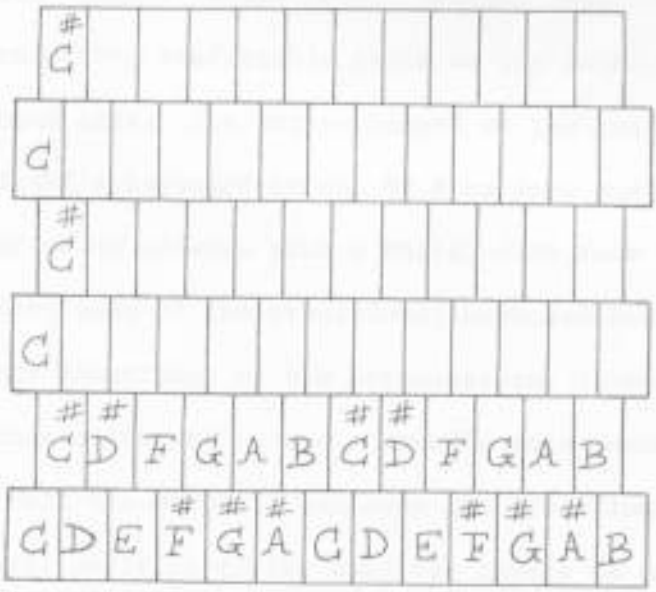


Figure 9. Whole-Tone Scale Duplication



Any key to the right of a given key on a subsequent upper or lower level produces a tone one-half step above that of the original key; any key to the left of a given key on a subsequent lower or upper level produces a tone one-half step lower than that of the original key; any adjacent key to the right or left of a given key, in the same level, produces a tone a whole step above or below the original key depending on the direction of movement.

One of Jankó's primary concerns about the keyboard dealt with the octave span and the necessity to stretch and alter the hand's natural position in order to play octaves or large chords. Unlike keys of the traditional keyboard on which the black keys are 8.5 cm long and 1.0 cm wide and the white keys are 5.0 cm long (overall length 13.5 cm) and 2.2 cm wide, Jankó's keys are 2.2 cm long and 1.3 cm wide. Thus, the span of an octave was compacted to approximately the space of six 'normal' white keys. Tenths, twelfths, and even fourteenths are within comfortable reach on the Jankó keyboard, depending on hand size. The entire length of the traditional keyboard is 124.5 cm; Jankó's keyboard is ca. 89.6 cm long and contains the normal range of seven octaves plus a third, with room for possible expansion at both ends of the traditional keyboard bed.

Unlike many inventions of his predecessors, Jankó's keyboard offered more than a compact octave. Jankó's main concerns and the advantages he felt his keyboard had over the traditional keyboard are:

1. The natural position of the hand can always be maintained; all chords and scales are comfortable to execute because the thumb, and usually the fifth finger, can play on lower levels than the remaining longer fingers.

2. The widths of all stretches are reduced and distortion of the natural hand position is not necessary.
3. The performer has more endurance due to the lack of stress upon the hand, arm, and torso.
4. The uniformity of scales requires only two fingerings; transpositions are convenient due to such fingerings, and chords are also basically uniform in their fingering patterns.
5. The possibility of striking the wrong key is reduced due to the key shape and lack of stress upon the hand.
6. Freedom exists in the fingering as it can be adapted to the rhythmic and dynamic conditions as well as the tempo of a given composition; the thumb can play on any key and can pass freely under the other fingers; fingering is no longer "fettered to the inconsistent irregularities of the old keyboard."
7. The new keyboard facilitates special effects such as chromatic runs which can be played with one finger, legato playing which can be accomplished without aid of the pedal, and chromatic glissandi which can be played in octaves. 9

These advantages can be attributed to, perhaps, the most basic principle underlying Jankó's keyboard: the retention of a natural hand position. The six levels continually allow the thumb and fifth finger to utilize keys on lower levels than the remaining fingers. This maintains the natural hand position and should not cause tension in the hand or arm. The advantages listed above and the philosophy which makes them possible will hopefully become more apparent from the following discussion.

Pianists are fairly well aware of the technical devices, such as the Dactylion and the Technicon Pianists' Hand Gymnasium,[10] which have been developed to train the hands and wrists of keyboard performers. While many such devices received some attention and sold well on the music market, present-day pianists are generally skeptical of their

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9 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier, (1891), third in the series of ten articles.
10 Untitled article in Etude, VI (March 1888), p. 54 & 56.

merits. If indeed Schumann did sever the webbing between his fingers, it is an extreme example of an attempt to expand the span of the hand. Such experiments and technical hand developing devices not only existed before Jankó's involvement with keyboard construction but, and of more importance, also during the time of his invention, and well into the twentieth century. Perhaps Jankó felt that it was easier to overcome the difficulties of the keyboard by alteration of the unnatural physical instrument rather than the natural human hand. This, at least, left nature the indisputable right of first consideration.[11]

The use of all white keys on the normal keyboard forces the fingers to form a straight line (Example, C E G C). While this chord does not offer a problem to the pianist, it does require all digits of either hand to assume a 'matched' position. If the thumb is placed on a black key, the span of the remaining fingers is somewhat impaired and it is necessary for those fingers to position themselves between black keys (Example, F# G B D). Of a more complex nature than the C major chord, this chord totally destroys the natural hand position.

Due to the multiple levels of keys on Jankó's keyboard and, in part, the six-six concept, both problems are eliminated. Figure 10 illustrates the hand positions required on both keyboards for the C major and G seventh chords.[12]

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11 Winkler, "The Jankó Keyboard," The Musical Courier, (1891), fourth in the series of ten articles, p. 360.

12 Walter B. Keeler, How to Learn the New Keyboard (New York: Paul von Jankó Conservatory, 1892), p. 3 & pp. 6-8. The fingering shown for the C major and G seventh chords on the Jankó keyboard are based upon this method book for the instrument.

Figure 10. Hand Positions for C Major and G 7th Chords

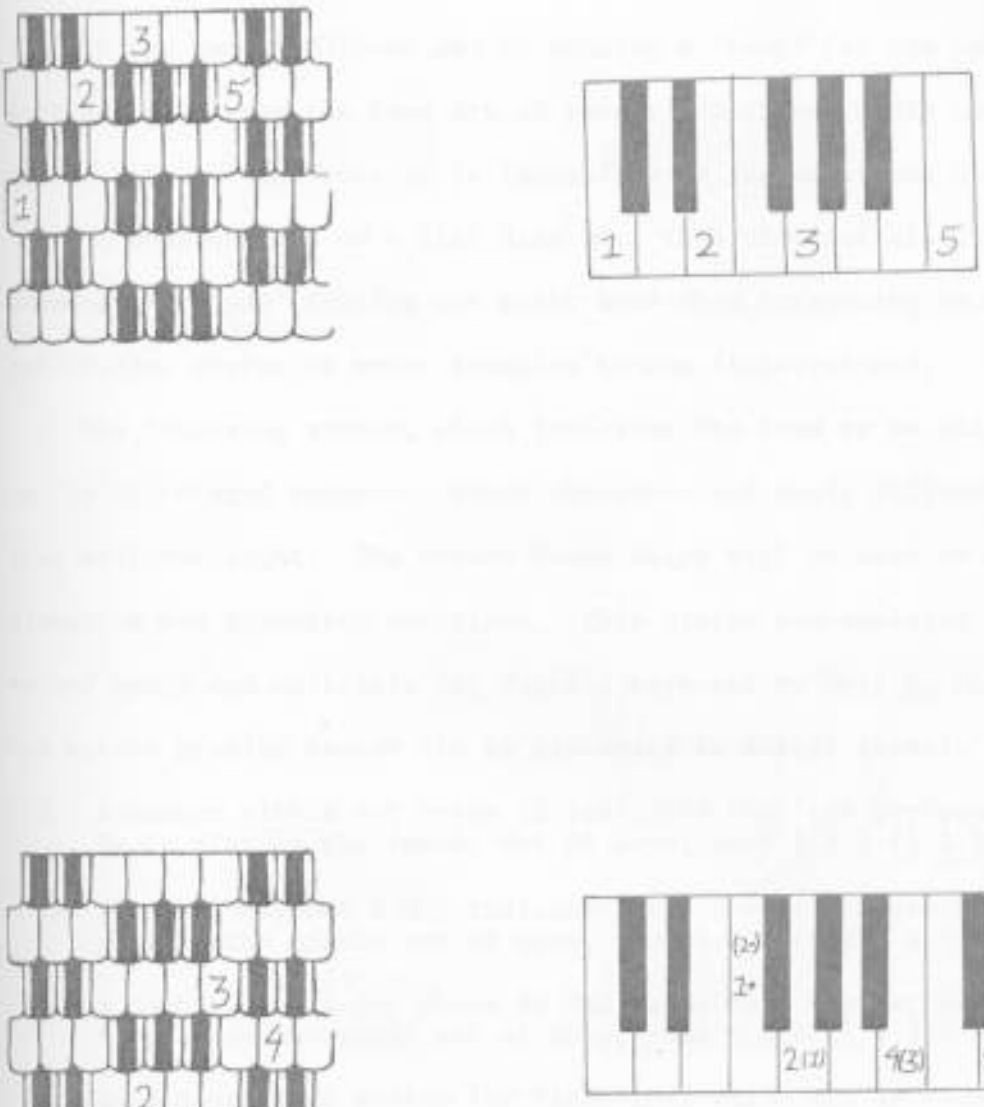

Figure 11 illustrates two octaves of Jankó's keyboard; the keys are of the same dimensions as those found on the Jankó keyboard. It may be helpful to block out the chords or scales in the examples to clarify the hand positions and to acquire a 'feel' for the Jankó keyboard. Whereas the keys are of proper length and width one should keep in mind that it is impossible to represent the distance between rows of keys on a flat diagram. This distance alleviates the somewhat 'cramped' feeling one might have when attempting to block out chords, scales or music examples in the illustrations.

The fingering system, which indicates the rows to be utilized on the six-tiered keyboard, makes exercises and music difficult to read at first sight. The system found below will be used to designate fingering and fingering positions. This system was employed in the method books and materials for Jankó's keyboard by Emil K. Winkler, and Walter Bradley Keeler (to be discussed in detail later).

1. A number with a dot below it indicates that the performer is to play on the lowest set of keys, rows 1 & 2 ($\underset{\cdot}{1}\ \underset{\cdot}{2}\ \underset{\cdot}{3}\ \underset{\cdot}{4}\ \underset{\cdot}{5}$).
2. A number without a dot indicates that the performer is to play on the middle set of keys, rows 3 & 4 (1 2 3 4 5).
3. A number with a dot above it indicates that the performer is to play on the upper set of keys, rows 5 & 6 ($\dot{1}\ \dot{2}\ \dot{3}\ \dot{4}\ \dot{5}$). 13

Jankó's original system for fingering, which can be found in his treatise, Eine Neue Claviatur (1886), was more complex and even more difficult to read at first sight. In all probability this difficulty

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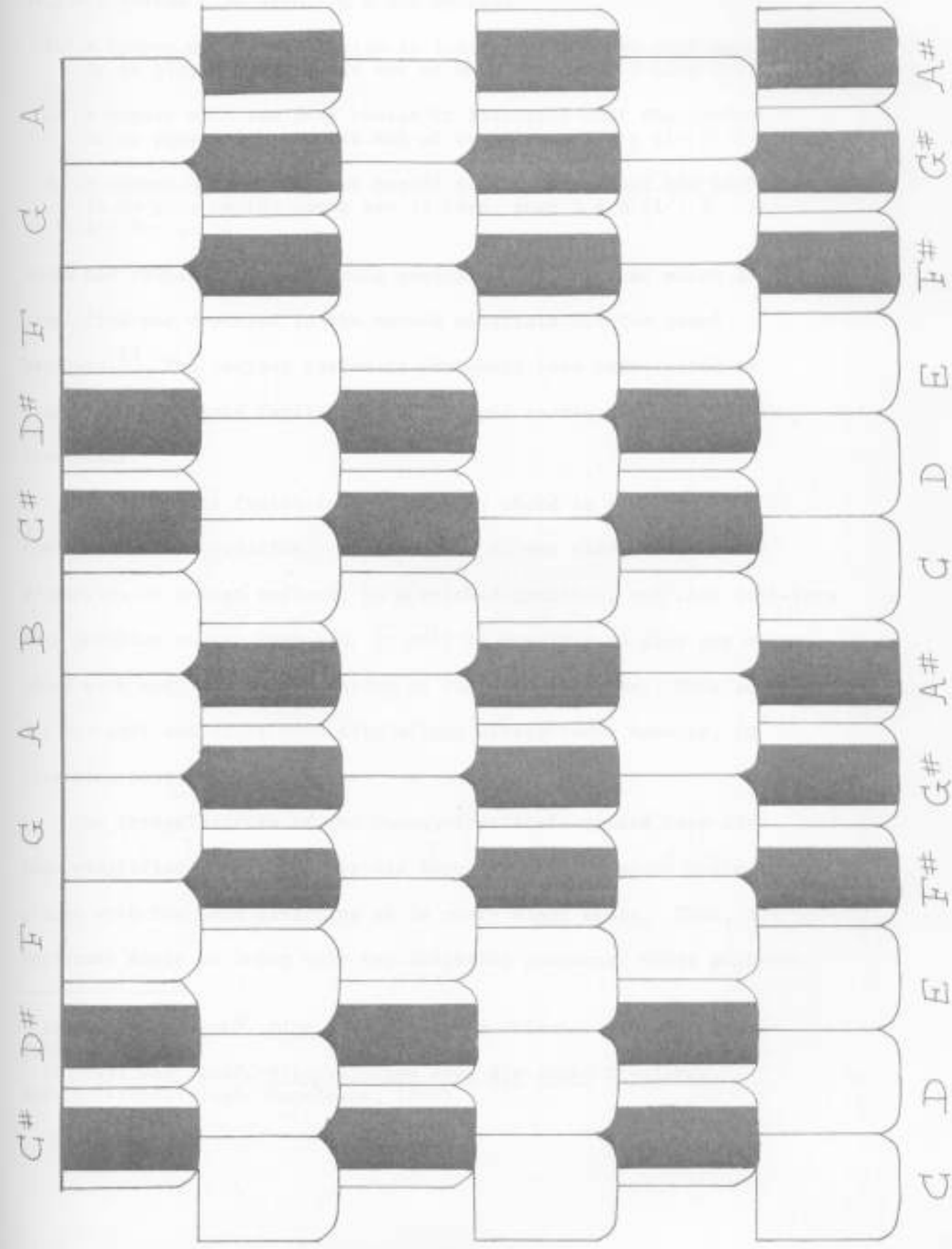
13 Keeler, How to Learn the New Keyboard, pp. 1-4. This system will be employed for all subsequent examples.

Figure 11. Two Octaves of Jankó's Keyboard



brought about the simplified system found in the method books. The original system also involved a dot system:

1. A number with a dot beside it indicates that the performer is to play on the lowest set of keys, rows 1 & 2 (1·2·3·4·5).
2. A number with two dots beside it indicates that the performer is to play on the middle set of keys, rows 3 & 4 (1··2··3··4··5··).
3. A number with three dots beside it indicates that the performer is to play on the upper set of keys, rows 5 & 6 (1···2···3··· 4···5···). 14

Jankó had revised this fingering system by 1890 to that which is simplified and employed in the method materials for the Jankó keyboard.[15] The revised system is obviously less complicated to read and most likely facilitated more rapid reading progress on the instrument.

The important factor in blocking any chord is the retention of the natural hand position. For example, if one simply places the fingertips on a flat surface, in a relaxed position, and then transfers this position to the keyboard, it will be possible to play any major chord with very little alteration of the hand position. This is true for the left and right hand with slight alterations, however, in fingering positions.

The irregularities of the twenty-four scale system have also been simplified by Jankó's six-six keyboard. Every major scale is played with the same fingering as is every minor scale. Thus, the performer needs to learn only two fingering patterns; these patterns

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14 Paul von Jankó, Eine Neue Claviatur (Vienna: Th. Rattig 1886), p. 7.

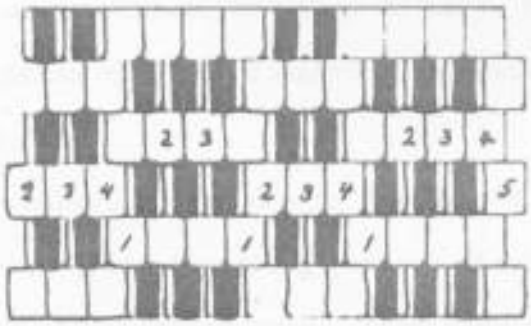
15 Paul von Jankó, Mittheilungen über die Jankó Claviatur, Heft I (Vienna: Jul. Engelmann, 1890).

would not be possible if the keyboard did not have six rows of keys. There are several advantages to this system: a student can make more rapid progress than with the traditional keyboard; one feels a sense of congruity in fingering for all keys; and the freedom of automatic transposition exists.

The fingering for all major scales is like that of the F♯ major scale on the traditional keyboard: 2 3 4 1 2 3 1 2 (right hand). In order to retain the freedom of a natural hand position, by utilization of multiple rows of keys, the fingering on Jankó's keyboard is:[16] 2 3 4 $\underset{\cdot}{1}$ 2 3 $\underset{\cdot}{1}$ 2 right hand (Figure 12.)

4 3 2 $\underset{\cdot}{1}$ 3 2 $\underset{\cdot}{1}$ 4 left hand

Figure 12. Right-Hand Fingering for C-Major Scale



16 Keeler, How to Learn the New Keyboard, p. 2.

This fingering is employed for the following scales: C, D, E, F♯, G♯, and B♭. A slightly altered fingering is necessary for scales C♯, E♭, F, G, A, and B: 2 3 4 1 $\dot{2}$ $\dot{3}$ 1 2 (right hand). Note that the fingering pattern is identical for all major scales; the rows utilized, however, are different. Two rather important concepts are evident from the scale fingerings: the middle fingers never play on the same level with the thumb; when the thumb is used, never less than two not more than four rows are employed simultaneously.[17]

Harmonic minor scales can also be played with one fingering pattern:[18]

2 3 4 $\underset{\cdot}{1}$ 2 3 $\underset{\cdot}{1}$ 2 right hand

C D E♭ F G A♭ B C

4 3 2 $\underset{\cdot}{1}$ 3 2 $\underset{\cdot}{1}$ 4 left hand

This fingering is used for C min., D min., E min., F♯ min., G♯ min., and B♭ min. and is identical to that of their parallel major scales. The remaining minor scales, C♯ min., E♭ min., F min., G min., A min., and B min., utilize the same fingering as their parallel major scales (2 3 4 1 $\dot{2}$ $\dot{3}$ 1 2).

Like the scales, broken chords (major and minor) can also be executed with one basic fingering pattern which is altered only through the use of different rows. This same principle of simplified fingering and the employment of a single pattern is true for most scales and chords on the Jankó keyboard: arpeggios, seventh chords, diminished seventh chords, scales in double notes, the five-finger position, and chromatic scales. (Should the reader wish to pursue

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17 Keeler, How to Learn the New Keyboard, p. 3.
18 Ibid., p. 4.

any of these matters please refer to the method book for the Jankó keyboard in Appendix I.)

No matter what configuration is executed, Jankó maintained his philosophy concerning the natural hand position. The thumb, which is often a problem on any keyboard, can pass under the fingers when moving from a black key to a white key; this is not unlike the procedure on the traditional keyboard. On the Jankó keyboard, however, the thumb can also pass from E to F♯ as easily as it can pass from F♯ to G.[19] The thumb can also pass under the little finger[20] which allows it a new dimension in freedom and greater possibilities for efficient use. The 'freeing' of the thumb is surely an advantage which any keyboard performer can admire and envy. No longer limited to specific keys or key orders, the thumb can strike any of the different keys at any given point in a composition. This freedom is not possible without the use of multiple rows of keys.

Jankó's methods and techniques can easily be applied to the performance of compositions in which the fingering is not indicated. The examples below are not of a highly complex nature and indeed are possible to perform on the traditional keyboard. The Jankó keyboard performer does not only specialize in compositions or parts of compositions which are exceedingly difficult or impossible to execute on the traditional keyboard. The basic purpose of the examples is to illustrate the retention of a natural hand position.

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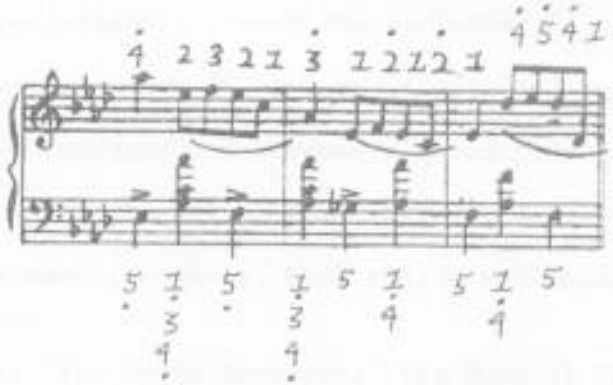
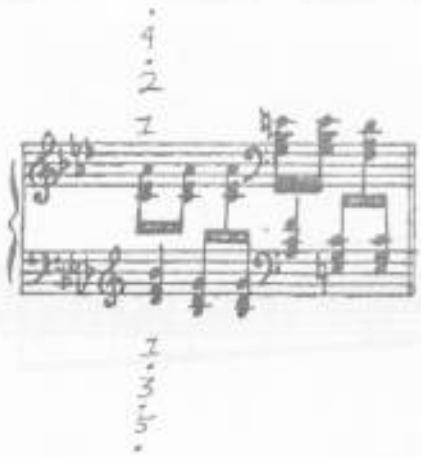
19 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier (1891), fifth in the series of ten articles, p. 419.
20 Ibid., p. 419.

Example 1. Fingering for Octave Passage on Jankó Keyboard.

Example 2. Fingering for Chords and Moving Parts on Jankó Keyboard.



Example 3. Fingering for Block Chords in Different Registers for the Jankó Keyboard. 21



The construction of the keyboard alone provides for all of the advantages of nineteenth-century recommended hand position,[22] instead of bending the hand from the wrist, the keyboard is 'bent'; Jankó's keyboard slopes slightly toward the performer.[23] This is primarily due to the multiple rows of keys and their 'stair-like' placement.

Chromatic passages and chromatic chord progressions offer a challenge to the performer on the traditional keyboard; on Jankó's keyboard instrument, however, such chords and passages can be

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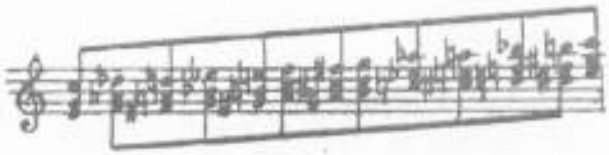
21 Winkler, "The Jankó Keyboard," The Musical Courier (1891), fifth in the series of ten articles. The fingering utilized in these examples is based upon Emil K. Winkler and Walter B. Keeler method books for the Jankó keyboard.

22 Ibid., p. 420.

23 Ibid., p. 420.

executed with ease. Due to the multiple rows of keys the hands can interlock without any difficulty or entanglement. (Examples 4, 5 & 6.)

Example 4. Chromatic Chord Passage.



Example 5. Chromatic Octave Passage.

Example 6. Chromatic Trill.[24]

As previously mentioned, Jankó compacted the octave; though not a new idea, it became revolutionary when coupled with his other concepts. An octave on the traditional keyboard occupies the span of 6.43 inches whereas an octave on Jankó's keyboard extends only 4.68 inches.[25] This difference allows the performer to have control over a greater number of pitches and extends harmonic possibilities. The interval of a major third on the traditional keyboard requires the same space and span as a major seventh on the Jankó keyboard; for the young student (7-9 years of age), the normal compass of c'-a', for the entire hand, can reach a full octave. Pedagogically, this has definite advantages for young students whose progress is often only limited by the size of their hand.

Jankó's keyboard allows for an expanded compass of harmonies. (Example 7.)

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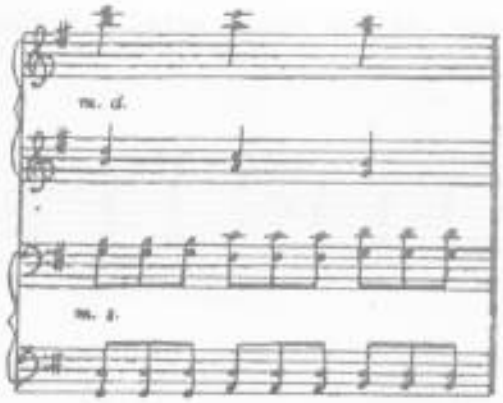
24 Winkler, "The Jankó Keyboard," The Musical Courier (1891), sixth in the series of ten articles, p. 457.
25 Ibid., p. 457.

Example 7. Block Chords of Expanded Compass.[26]



Whereas the actual compass, three octaves and a fifth, offers no problem on the traditional keyboard, it is not possible to execute this passage with the pitches indicated in all octaves simultaneously; this is possible on the Jankó keyboard.

"A comparison of the harmonies of a string or vocal quartet with the harmonies used for piano compositions proves at once the limitations a composer is subjected to in his compositions for the old keyboard."[27] This is true for extremely close or extremely wide harmonies.

Five-voice chords in one hand can be executed on the Jankó keyboard in a close or extremely open position. Examples 8 & 9 illustrate such chords: Example 8 can be played with one hand;

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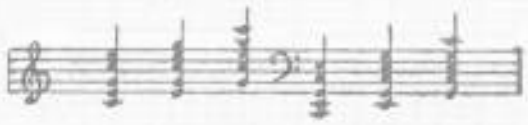
26 Winkler, "The Jankó Keyboard," p. 458.
27 Ibid., p. 457.

Example 9 is executed with both hands and exhibits a more open position.

Example 8. Large Block Chords, One Hand.



Example 9. Large Block Chords, Both Hands.[28]

Surely the fullness of sound and the extended harmonies did not go unnoticed by late nineteenth-century composers, and it seems even more likely that twentieth-century composers could find use for such expanded harmonies.

Many nineteenth-century compositions contain large chords which must be arpeggiated for they are otherwise impossible to execute. (Example 10.)

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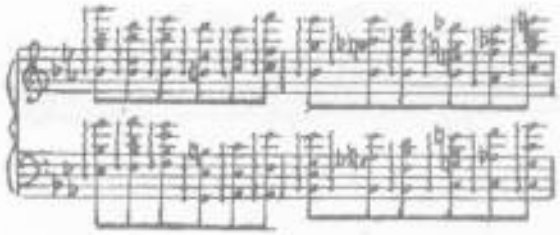
28 Winkler, "The Jankó Keyboard," The Musical Courier (1891), sixth in the series of ten articles.

Example 10. Chopin, Study in E^{b} Major, Op. 10, Nr. 11, Measures 3-4. 29



One wonders if Chopin would have arpeggiated these chords had they been possible to execute as block chords. This question can never be answered but must be considered in light of the composer's intent of composition. Perhaps a better example, which may be more indicative of the composer's desire to block large chords rather than arpeggiated them, is Schumann's "Symphonic Studies." The theme is arpeggiated only in sections where block chords are impossible to reach.[30] (Example 11.)

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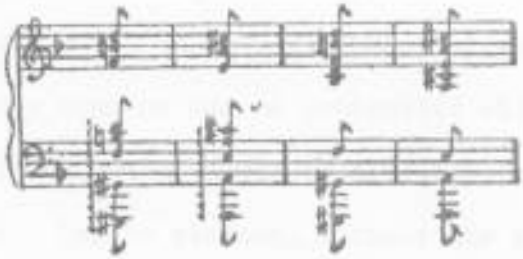
29 Winkler, "The Jankó Keyboard," The Musical Courier (1891), seventh in the series of ten articles.

30 Ibid.

Example 11. Robert Schumann, Symphonic Studies.[31]

Yet another problem, even with arpeggiation, is the slight break which may occur in larger broken chords. (Example 12.)

Example 12. Passage from a Work by Tausig.[32]



31 Winkler, "The Jankó Keyboard," seventh in the series of ten articles.

32 Ibid.

On the Jankó keyboard this passage can be executed without any noticeable break. One need not worry about moving the thumb out of the way as it is naturally removed from the path of the remaining fingers. The fingers are free to strike the most comfortable set of keys which does not require any contortion of the hand.

The fact that seven octaves have been compacted within the space of five has yet another crucial merit: the body can remain in its basic position at all times. Artistic performance on any instrument demands a dominant characteristic of repose with limited mechanical operation.[33] Solidity, sureness, freedom of intellectural development, and facility in the manifestation of artistic ideas can only form a coherent whole if the preoccupation with the difficulties of execution is absent.[34] Jankó's keyboard allows for the absence of this preoccupation and opens new doors for artistic and compositional development.

Two hands can comfortably control four octaves of pitches on Jankó's keyboard, which is more than half of the entire keyboard range. That such a large compass can be controlled without movement from the performer's initial position should alleviate tension in the torso, arms, and hands. Legato playing, without the aid of the pedal, is more successful due to the closeness of the keys and the freedom and equality of all five digits of the hand. "The pedal and the arpeggio

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33 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier (1891), eighth in the series of ten articles.
34 Ibid.

will therefore no longer be used from necessity, but from motives of a purely artistic nature."[35]

A point of construction yet to be discussed in detail is the 'touch plates' or keys. Unlike keys of the traditional keyboard, the new keys are rounded to aid surety of touch. The rounded edges make it almost impossible to play toward one side of the key, and thus spatial accuracy is more efficient because eye contact is not necessary to perceive a deviation in roundness. One does not need to worry about striking adjacent keys simultaneously due to the rounded edges of the keys.[36] The roundness of the keys, however, may have hindered performance of loud passages as smaller keys can be difficult to strike with accuracy and strength.

The fact that the touch plates are identical and that there are only several fingering patterns for scales prevents any difference in 'feel' when playing in different keys.[37] Identical fingering patterns and even distribution of tone material (a half step is always a uniform distance as is a whole step),[38] allows the Jankó keyboard to offer constant congruency for the performer.

At first glance one might think that the Jankó keyboard requires three sets of strings and a specially built case. Actually, Jankó's keyboard can be placed in any keyboard bed[39] with only minor alterations

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35 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier (1891), eighth in the series of ten articles.
36 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier (1891), ninth in the series of ten articles.
37 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier (1891), tenth in the series of ten articles.
38 Ibid.
39 Emil K. Winkler, "The Jankó Keyboard," The Musical Courier (1891), second in the series of ten articles, p. 300.

to the existing case. It is also possible to fit any case with both the traditional and Jankó keyboards.[40] Even though six rows of keys exist, only eighty-eight different pitches can be produced. These keys necessitate eighty-eight hammers, and the stringing is identical for the traditional and Jankó keyboards. The three-tier key connects to only one action mechanism and thus demands the same construction for the hammers as does any keyboard (see Figure 8). Thus, the only difference between a Jankó piano and the traditional piano is the keyboard. All other aspects of the instruments, physically and tonally, are identical. Jankó's keyboard produces the same quality of tones as the traditional keyboard; the piano sounds as good as its overall construction allows, which is true of any instrument.

Jankó's invention experienced some modifications during its relatively short-lived success. The first patent for this keyboard is assumed to have been that filed by Paul von Jankó on March 20, 1887, U.S. Patent number 360,255. Jankó had probably not filed for a patent before this date due to the demands of his educational pursuits, preliminary modifications which he made on his invention, and the concert tour which he completed in 1886. Figure 13 illustrates page one of the three-page patent; the remaining pages are not available. "Figure 1" shows the terraced keyboard, as does "figure 2." The three-step key is illustrated in "figures 3" and "4." "Figures 5" and "6" illustrate the roundness of the keys, and "figure 7" exhibits the

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40 Emil K. Winkler, "The Jankó Keyboard." The Musical Courier (1891), second in the series of ten articles, p. 300.

Figure 13. Patent by Paul von Jankó

(No Model.)

P. VON JANKÓ.

KEY BOARD FOR MUSICAL INSTRUMENTS.

No. 360,255. Patented Mar. 29, 1887.

FIG. 1.

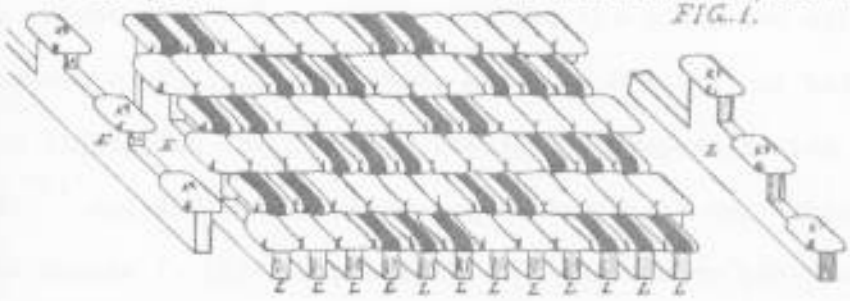


FIG. 2.

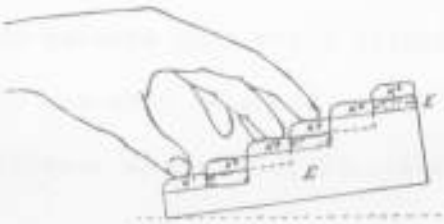


FIG. 3.

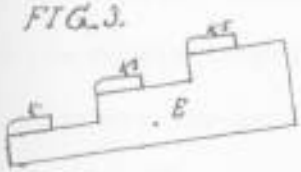


FIG. 4.

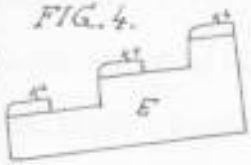
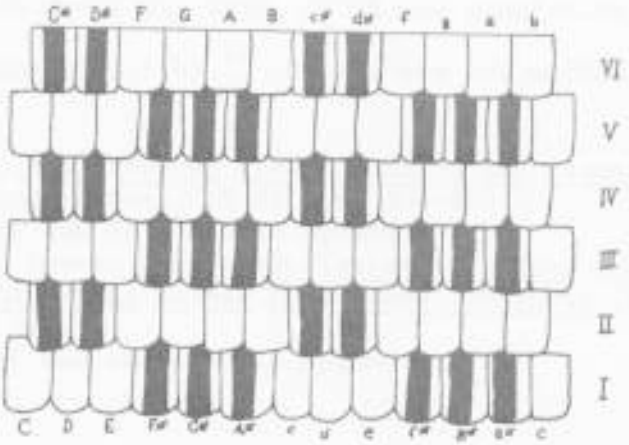


FIG. 5.

FIG. 7

FIG 6.



whole-tone scale which results from the six-six concept of keyboard arrangement.

Jankó's keyboard, patented in 1887, may have had some problems with the weight of the keys which affected the touch and action of the instrument. F. Julius Blüthner and A.H. Francke, of Leipzig, worked on lightening the touch on the Jankó keyboard during the year 1887,[41] and Blüthner applied for a pianoforte key attachment patent on August 7, 1888. Apparently the three-step key caused sluggish action in the upper levels of keys due to the amount of wood that was being depressed and the necessity for double leverage key mechanisms. Blüthner's construction provided a single fulcrum for the double leverage key attachment to balance upon which helped to alleviate the problem of the otherwise unevenly balanced key mechanism. The patent was granted to Blüthner on December 25, 1888 (U.S. Patent number 395,029).[42]

The next major alteration of the keyboard's touch and action occurred in 1890. Francis Bryan Boyes, Doctor of Philosophy, invented a piano key lever specifically designed to alleviate the still unsolved problem of ineffective action on Jankó's keyboard.[43] Boyes applied for his patent on March 31, 1890, which was granted on December 9, 1890 (U.S. Patent number 442,116).[44] Unlike the key mechanisms of Jankó

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41 Oscar Bie, A History of the Pianoforte and Pianoforte Players (London: J.A. Dent & Sons, 1899), pp. 308-309.

42 This patent can be found in Appendix II.

43 Francis B. Boyes, Das Jankó-Clavier in seiner vollkommenen ausfuhrung und Die Frage seiner Existenzberechtigung (Vienna: Botho Becker, 1894).

44 This patent can be found in Appendix II.

and Blüthner, Boyes employed a double fulcrum for his keys. Each step of the three-tiered key connected independently to a longer lever by way of a shorter pivot lever. The success of this construction is questionable as most surviving Jankó pianos are of a later construction model. Frances Boyes must have been an ardent supporter of Jankó's invention as he wrote a highly technical and detailed account of the keyboard, specifically dealing with key leverage and weights, entitled, Das Jankó-Clavier in seiner vollkommenen Ausfuhrung (Boyes Construction, in Aluminium gefertigt) und Die Frage seiner Existenzberechtigung, published in Vienna in 1894 by Botho Becker. This publication appeared two years after Jankó's last patent (1892).

Jankó applied for his final patent on May 18, 1891, and was granted the patent on May 3, 1892.[45] Even a cursory examination of this document indicates that Jankó had continued to improve his keyboard from the time of its invention. The diagrams and explicit explanations are concerned with specific constructional aspects and their merits, and leave no doubt as to Jankó's concepts for the construction of his keyboard. Unlike Boyes' modification, Jankó maintained his single fulcrum key balance and incorporated a single action in which all three steps of the key are fixed upon a single lever. If Jankó knew of Boyes' modifications, which seems highly likely, he must not have agreed with the double fulcrum and triple leverage system.

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45 This patent can be found in Appendix II.

This final patent again brings to mind the critical events in Jankó's life at this time. Jankó is listed as a resident of Buda-Pesth, Austria-Hungary, at least as of May 18, 1891, the date he applied for his last patent; it has previously been stated that Jankó was in Constantinople as of 1892. Did Jankó go to Constantinople before his patent was granted?, why would he go to Constantinople while waiting for his patent to be granted?, and why would he have gone to Constantinople after the patent was granted in 1892?

Several twentieth-century 'improvements' of Jankó's keyboard have also been accomplished. Wilhelm Menzel experimented, once again, with an improved key lever. Menzel must have worked on this problem around 1904 as the only articles which concern Menzel's work appear in that year.[46] Richard Hansmann, a supporter of the Jankó keyboard, felt that Menzel's modifications produced a keyboard which "in technical relationship, not only meets the high artistic expectations and demands, but surpasses them."[47] Menzel experimented with iron, aluminum, wood, and several combinations of materials to improve the key lever[48] by reducing the weight of the material necessary for the three-section key construction. He finally returned to a wooden construction which allowed extraordinary freedom of movement and elasticity.[49] It almost seems that Hansmann wrote his article having

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46 Richard Hansmann, "Das Jankó-Klavier," Neue Zeitschrift für Musik, 71 Jahrgang (March 16, 1904), 224-226: Richard Hansmann, "Das Jankó-Klavier und seine technische Vervollkommnung," Zeitschrift der Internationalen Musikgesellschaft, Heft IV (1904), 165-171.

47 Hansmann, "Das Jankó-Klavier," p. 225.

48 Ibid., p. 225.

49 Ibid., p. 225.

been a casual observer of the Jankó keyboard until he felt all of the 'bugs' had been worked out. With Menzel's invention, Hansmann decided the world should become aware of Jankó's keyboard.

Paul Perzina, of Schwerin, Germany, also made an attempt at Jankó keyboard reform. In 1910 he revised the key action which does not appear to be revolutionary for Jankó piano construction. (Figure 14.)

Figure 14. Perzina's Key Action[50]

Perhaps Perzina was not aware of Wilhelm Menzel's work or, for that matter, Paul von Jankó's own alterations of the key leverage. Perzina is often credited with improvements to the key action which were made by Jankó and others long before Perzina was interested and began experimentation with the instrument. Perzina's piano manufacturers constructed a piano which had reversible keyboards (Figure 15); this was not a new idea and had been available in pianos since ca. 1891.

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50 Alfred Dolge, Pianos and Their Makers (New York: Dover Publications, a reprint of a 1911 Covina publication, 1971), p. 81.

Figure 15. Perzina's Doppelklavier[51]

When one examines a Jankó keyboard, it is difficult to determine which key mechanism construction was employed. Constructional differences between the patents discussed are often of a non-detectable nature, unless one can remove the keyboard from the case. Detailed records are not availble for most of these instruments, and it is often difficult to determine the precise construction dates for the keyboard, case, or internal mechanisms, and seldom do these dates coincide. The modification which indeed produces the best keyboard, in all respects, cannot be determined at the present time.

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51 Dolge, Pianos and Their Makers, p. 81.

It must have been shortly after the first decade of the twentieth century that Jankó's keyboard all but disappeared, not only from the selling market, but also from literature (periodicals, pamphlets, music, method books, recitals, etc.). That his invention survived almost three decades only to fall so suddenly into disuse may indicate that Jankó's keyboard could have eventually threatened existing piano manufacturing establishments.

C H A P T E R III

MANUFACTURERS OF JANKÓ KEYBOARDS

Support for Jankó's keyboard was fairly widespread and did not depend entirely upon those few people who saw its merits and who actively attempted to further its acceptance. Numerous manufacturers must have found some merit and interest in the Jankó keyboard.

The Rudolph Kurka piano manufacturers of Vienna, Austria built the first Jankó grand piano (which was probably the first Jankó piano of any variety to be built commercially) in 1885.[1] (Figure 16.) Kurka appears to have been a very reputable company which was awarded numerous medals for piano construction. (Figure 17.) Figures 17 and 18[2] are advertisements for Jankó's instrument and are typical for piano manufacturers of the late 1800's. Details of Kurka's productivity concerning Jankó keyboards are not known; it seems fairly certain, however, that numerous Jankó keyboards were manufactured by Kurka possibly as late as the early 1900's. Another advertisement for Kurka is found in Jankó's 1890 publication, Mittheilungen über die Jankó Klaviatur, Heft I, published in Vienna by Julius Engelmann.

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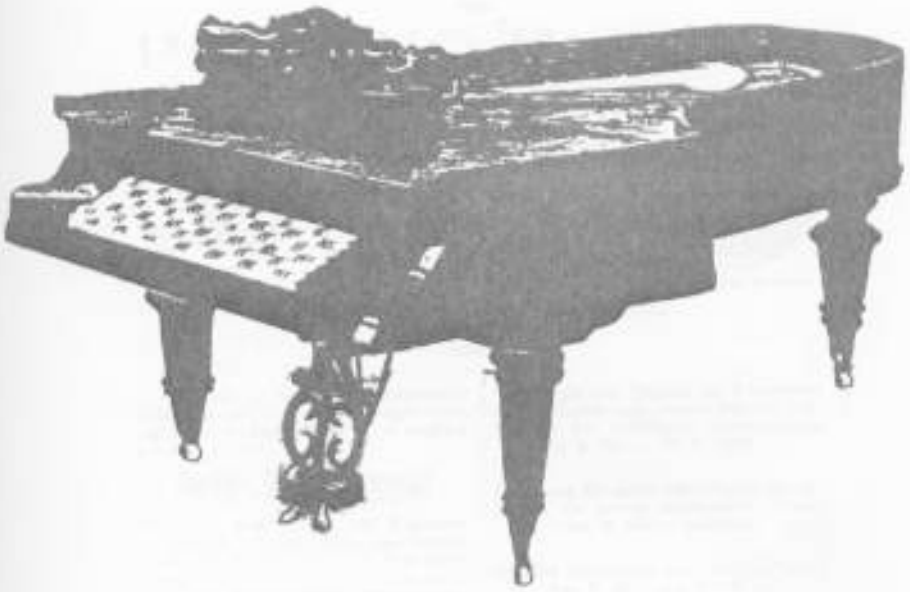
1 Alfred Dolge, Pianos and Their Makers (New York: Dover Publications, reprint of a 1911 Covina publication, 1972), p. 83.

2 Unfortunately, the pamphlet or book which contains these advertisements does not have a title or date. (The five pages are numbered in Roman numerals.) This document came to the author as an addendum to Jankó's treatise; it may not, however, be part of the treatise.

Figure 16. Jankó Grand Piano, R.W. Kurka, Vienna, 1885[3]



3 Paul von Jankó, Eine Neue Claviatur (Vienna: Th. Rattig, 1886).

Figure 17. Advertisement by R.W. Kurka

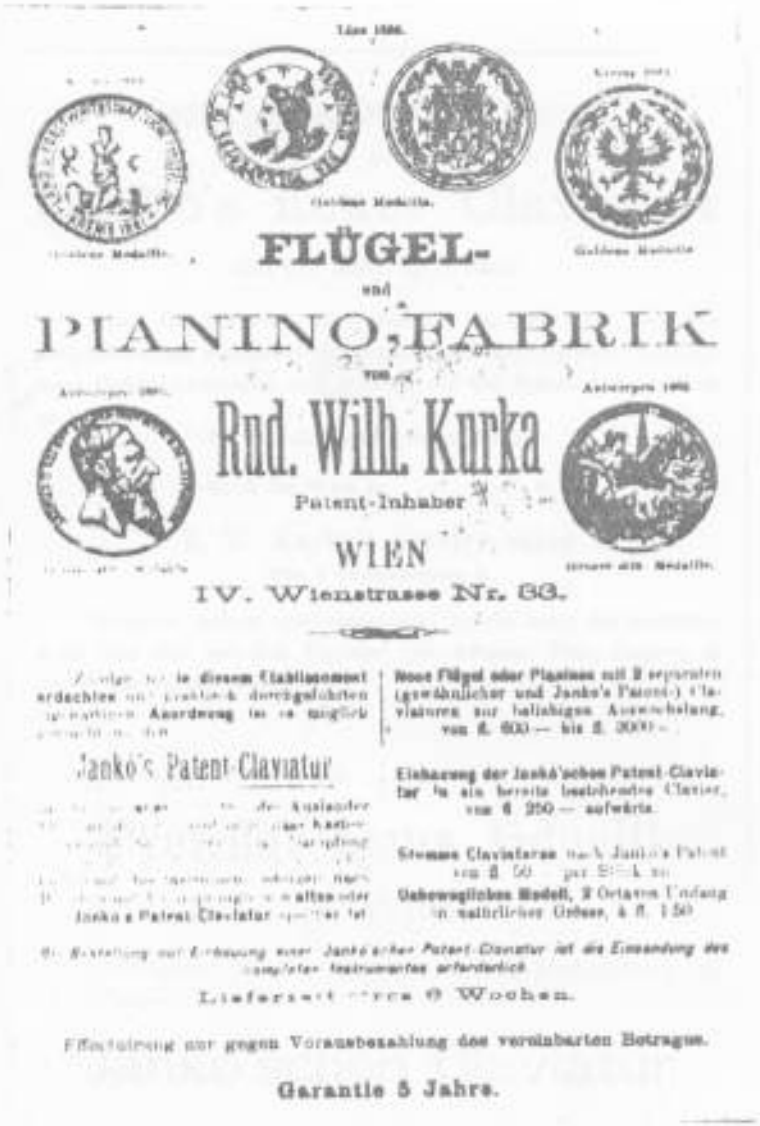


Figure 18. Advertisement by R.W. Kurka

Unentgeltliche Anweisung im Clavierspiel

auf

Janko's neuer Claviatur

durch den Erfinder.

Dieser Unterricht bezweckt, Musikern von Fach und Jedermann auch Dilettanten, welche das Clavierspiele bereits kundig sind in zwangloser Weise Anweisung auf der Janko'schen Claviatur zu geben.

Ort und Zeit nach Uebereinkommen.

Nähere Auskunft für Wien in

R. W. Kurka's Clavier-Salon

Wien, I. Elisabethstrasse 2.

Bezüglich anderer Orte Oesterreich-Ungarns sowie des Auslandes wolle man sich mit dem Verfasser (per Adresse: Totis, Ungarn) in directe Verbindung setzen.

Auch hat sich Herr

Professor Hans Schmitt

in Wien

bereit erklärt, Unterricht im Clavierspiel auf der

Janko'schen Claviatur

Teophil Kotykiewiez of Vienna built the first harmonium with a Jankó keyboard.[4] The exact date of Kotykiewiez' first Jankó instrument is not known but is presumed to be between 1885 and 1886 due to the advertisement which is found in conjunction with the Kurka manufacturers advertisements. (Figures 19 & 20.) As with the Kurka company and, unfortunately, most manufacturers to be discussed, very little evidence exists concerning the production of Jankó instruments by Kotykiewiez.

Even less information exists concerning the Goetze Company of Berlin, Germany. The Goetze factory began building pianos ca. 1866[5] and produced Jankó keyboards after 1886. One of the Goetze instruments is presently in the Gemeentemuseum, The Hague, Netherlands.[6] (Plate I) Very few constructional details can be discerned from this illustration. The compass is only seven octaves rather than seven octaves and a third, which probably marks this as an older instrument, but extra room at both ends of the keyboard bed, for possible extension of range, is quite clearly evident.

When Jankó's keyboard was introduced in the United States, between 1890 and 1891, both the Paul von Jankó Conservatory and the only American manufacturers of Jankó keyboards were established in New York City. The Decker Brothers (David and John Jacob) piano

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4 Friedrich Weisshappel, "Paul Jankó zum Gedenken," Osterreichisch Musikzeitschrift, (n.d.), p. 80.

5 N.E. Michel, Michel's Piano Atlas (Copyright, 1957), p. 81.

6 Roger Bragard and Ferdinand J. de Hen, Musical Instruments in Art and History (New York: Viking Press, 1967), p. 241.

Figure 19. Advertisement by Kotykiewiez[7]

7 Paul von Janko, Mittheilungen über die Jankó Klaviatur, Heft I (Vienna: Julius Engelmann, 1890).

Figure 20. Advertisement by Kotykiewiez[8]

K. K. HOF-

HARMONIUM-FABRIK

des

TEOFIL KOTYKIEWICZ

o. : Peter Titz Nachfolger

V. Strausengasse 18 **WIEN** V. Strausengasse 18.

Lager von

Harmoniums in allen Grössen für Kirche, Schule, Salon und Concert.

Illustrirtes Preisbuch gratis und franco.

Preise der Harmoniums mit Paul v. Jankó's Patent-Claviatur.

4 Octaven, ohne Register, lackirt . . . . . fl. 100.—

[illegible] 3 Register (Forte, Expression, Forte), in Nuss-[illegible]holz polirt . . . . . „ 160.—

4 Octaven, 3 Register (Forte, Expression, Forte), in Nussholzkasten polirt . . . . . „ 220.—

4 Octaven, 10 Register (Forte Sourdine, Bourdon, Coranglais, Grandjeu, Expression, Flöte, Clarinette, Fremblant, Forte), in Nussholz polirt . . . . . „ 320.—

Grössere Instrumente im Verhältniss höher.

8 Unfortunately, the pamphlet or book which contains these advertisements does not have a title or date. (The five pages are numbered in Roman numerals.) This document came to the author as an addendum to Jankó's treatise; it may not, however, be part of the treatise.

Plate I. Jankó Piano by Goetze[9]

9 Bragard and de Hen, Musical Instruments in Art and History, p. 241.

manufacturers of New York, began production in 1859;[10] they began to produce Jankó keyboards in 1891.[11] At one time, during the late nineteenth century, Decker Brothers, housed next to the Jankó Conservatory, was given complete rights to the production of Jankó keyboards in the United States.

> A contract has been made which gives to Messrs. Decker Brothers the commercial control of the renowned Jankó piano keyboard for the United States. There are thousands of musical persons interested in this marvelous invention, to which the Musical Courier has been devoting pages and columns, and they will be pleased to learn that some Decker Brothers grand and upright pianos are now being provided with the Jankó. The latest Decker Brothers uprights, with the new keyboard, can now be seen at the warerooms on Union Square. 12

Numerous advertisements and references to Decker Brothers' Jankó pianos attest to the success and acceptance of the keyboard in the United States during the 1890's. (Figure 21.)

Decker Brothers closed its doors in 1895, only three years after Jankó went to Constantinople. Once again, one wonders about the chain of events which surrounded Jankó's trip to Constantinople, and what events might have taken place had Jankó remained in the United States.[13]

Perzina Brothers established their company in Schwerin, Germany, in 1871[14] but presumably did not begin producing Jankó keyboards

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10 N.E. Michel, Michel's Piano Atlas (Copyright, 1957), p. 55.

11 Arthur Loesser, Men, Women and Pianos (New York: Simon and Schuster, 1954), p. 567.

12 Untitled article in The Musical Courier (1891).

13 The only evidence to indicate that Jankó was in the United States is the advertisements in The Musical Courier and Etude which indicate that Jankó was a teacher at the Jankó Conservatory in New York; this advertisement appears only in several issues of the periodicals and may not be accurate. The length of Jankó's residence in the U.S. is not known.

14 Michel, Michel's Piano Atlas, p. 166.

Figure 21. Advertisement for Decker Brothers[15]

The Paul de Janko Conservatory of Music,

9 EAST 17TH STREET,

Near Union Square, NEW YORK CITY.

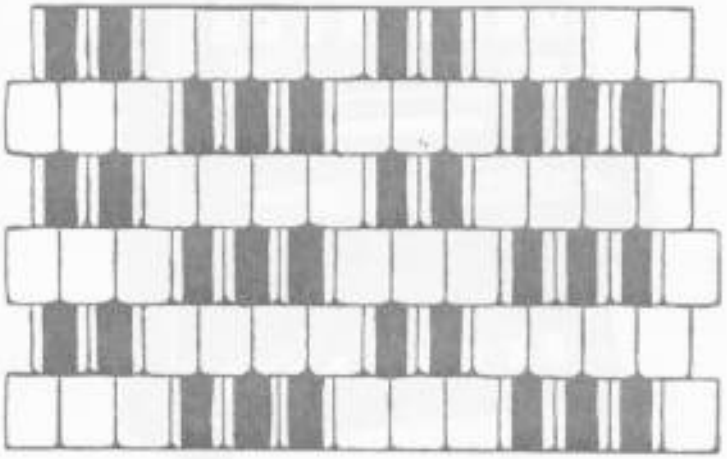

DIAGRAM OF THE JANKO KEYBOARD.
5 OCTAVES.

Open from 9 A. M. to 6 P. M. Demonstrations daily from 8 to 4 P. M.

Children, beginners, advanced pupils, professional pianists and organists will be instructed.

Beginners learn in half the time what they can accomplish on the old keyboard.

Pianists require about three months' study. Pupils can practice at Conservatory.

Pianos with Janko Keyboard for Rent or Sale.

SEND FOR CIRCULAR OF THE CONSERVATORY.

EMIL K. WINKLER, Manager,

9 East 17th Street, New York.

SPECIAL NOTICE.

All orders for Janko Keyboard should be addressed to Messrs. DECKER BROTHERS, No. 33 UNION SQUARE, WEST, NEW YORK, who are prepared to furnish the same to the general public and to the trade, and to fill orders for Grand and Upright Pianos with the new keyboard attached.

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15 Advertisement in Etude X (January 1892), p. 4.

until after 1910; Perzina's modifications of Jankó's invention were not made until after 1910. (Figure 22.)

Figure 22. Jankó Klaviatur, Perzina Co.[16]

The aforementioned manufacturers are fairly easily recognized as Jankó piano manufacturers, but they were certainly not the only producers of Jankó keyboards. A rather substantial and surprising number of keyboard manufacturers produced Jankó keyboards in numerous countries. A list of Jankó piano manufacturers compiled primarily from the following sources: Hans Schmitt, Zur Geschichte der Jankó-Claviatur (Gedenblatter zur Erinnerung an die 1889 in Wien gegebenen Concerte von Spielern aus der Jankó Claviatur), Beilage zu nr. 26

16 Gebr. Perzina, Die Jankó-Klaviatur (Berlin: Alexander Pohl, n.d.), p. 3.

der Musikalischen Rundschau verlag des Verfassers; and Walter Rehberg's, Jankó's Chromatische Terrassenklaviatur, can be found in Table I.

Table I. Manufacturers of Jankó Keyboards

F.J. Ackermann	Stuttgart, Germany, est. 1882; Jankó Klavier.
Berdux	Munich, Germany, est. 1871.
Julius Blüthner	Leipzig, Germany, est. 1853; in 1890, 1500 Jankó instruments were built by Blüthner. 17
C. F. Cuypers	The Hague, Netherlands, est. 1832.
Dethleffs and Company	Leipzig, Germany
F. Dörner & Sohn	Stuttgart, Germany, est. 1830; Jankó Flügel, Jankó Pianino, Jankó Harmonium.
Dornheim	Eichfeld, Germany.
Duysen	Berlin, Germany, est. 1860.
Adelbert Endrès	Berlin, Germany.
Friedrich Ehrbar	Vienna, Austria.
Erhardt	London, England; 1900, built a Jankó organ harmonium. 18
Albert Fahr	Zeitz, Germany, est. 1887.
Emil Felumb	Copenhagen, Denmark.
Fischer & Fritsch	Leipzig, Germany.

17 C.F. Weitzmann, A History of Pianoforte Playing and Pianoforte Literature (New York: G. Schirmer, 1897), p. 276.

18 Warlinck, "Das Jankó-Klaviatur," Systematik der Saiteninstrumente (1939), 77-78.

A.H. Francke	Leipzig, Germany, est. 1865; built 60 instruments with Jankó keyboards in one year. 19
Hölling	Zeitz, Germany.
Hopkinson	London, England, est. 1835.
Hornung & Möller	Copenhagen, Denmark, est. 1827.
Rudolph Ibach & Sohne	Barmen, Germany, est. 1794; Jankó Pianinos, Jankó Flügel.
Ernest Kaps	Dresden, Germany, est. 1858; attempted to lighten the touch of Jankó's keyboard. 20
Gebr. Knake	Münster, Germany, est. 1808.
Hermann Kluge	Barmen, Germany; Jankó Klaviaturen.
Knaus (C. Coblenz Mand)	Germany, est. 1822.
H. Kohl	Hamburg, Germany.
Wm. Korb & Adolph Hintz	Chemnitz, Germany, est. 1887.
Teofil Kotykiewiez	Vienna, Austria; Jankó Harmonium.
Rudolph W. Kurka	Vienna, Austria.
Mattern	Amsterdam, Netherlands.
W. Meyer	Lübeck, Germany
F. Mühlbach	St. Petersburg (Leningrad), Russia.
Clemens H. Müller	Dresden, Germany, est. 1877.
F.L. Neumann	Hamburg, Germany, est. 1854.

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19 Hubert Unverricht, "Paul von Jankó und seine Klaviatur," Instrumentenbau Zeitschrift, 12 Jahrgang (February 1958, Nr. 5), 126.

20 Weitzmann, A History of Pianoforte Playing and Pianoforte Literature, p. 281.

Gebr. Perzina	Schwerin, Germany, est. 1871; Perzina Jankó Flügel, Perzina Jankótasten-Hebel, Perzina Jankóbackchen, Jankó Studien-Klavier.
Carl A. Pfeiffer	Stuttgart, Germany, est. 1862; Jankó Flügel, Jankó Klavier, Jankó Vorsetzer.
A. Pratsch	Vienna, Austria.
W. Ritmuller	Germany, est. 1795.
Römhildt (Romchildt)	Weiner, Germany, est. 1845.
Carl Könisch	Dresden, Germany, est. 1881.
Ernest Rosenkranz	Dresden, Germany, est. 1793; Jankó Flügel, Jankó Pianinos, Jankó Doppelklavier.
Lorenz Sabel	Switzerland, est. 1842; Jankó Flügel, Jankó Piano.
Schaff & Company	Frankfurt, Germany.
Wilhelm & Hermann Schäuffele	Stuttgart, Germany.
Weltruf Schiedmayer	Stuttgart, Germany, est. 1809.
Schön	Berlin, Germany.
Edward Seiler	Liegnutz, Germany, est. 1849.
Smulders	Maastricht, Netherlands.
Steinway Nachf	Braunschweig, Germany.
Franz Steier	Walheim, Germany; Jankó Harmonium, Jankó Klaviatur, Jankó Pedal Klaviatur.
Rudolf Stelzhammer	Vienna, Austria; Jankó Stutzflügel, Jankó Pianinos.

Thieme	Beudnitz.
I.G. Vogel & Sohn	Plauen, Germany, est. 1828.
F. Weber	Berlin, Germany.
George Weidig	Germany, est. 1890.
Paul Werner	Dresden, Germany, est. 1816.
Gustav Zierold	Leipzig, Germany, est. 1882.

Even if the Jankó keyboards produced by these companies accounted for 1% of their total production, this would have resulted in thousands of Jankó keyboards being manufactured each year. If each of the fifty-nine companies produced 1000 pianos per year,[21] 1%, or ten keyboards might have been Jankó instruments. Thus, 590 Jankó keyboards could have been produced each year and over 5900 in the ten-year period between 1886 and 1895. This is an extreme example and most likely is not a true picture of the situation, but it does illustrate the probability that thousands of Jankó pianos, flügels, practice pianos, and harmoniums were built each year. It does not seem likely that any company would have gone to the trouble of developing Jankó construction facilities for less than ten, or even ten pianos a year. Perhaps the Jankó keyboard was far more prevalent in Europe than we will ever know; the question still remains as to the present whereabouts of such a vast number of instruments.

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21 According to the figures for piano production in Pierce's Piano Atlas (1965) many of these manufacturers produced well over 1000 pianos in any given year during the late 1800's. Several produced as many as 5000-6000 keyboards per year. The figure 1000 was chosen as an average production figure for one year and is probably a fairly accurate number.

If the publication date of Walter Rehberg's article (ca. 1933) is at all indicative of the advertisement dates, many manufacturers still produced at least a few Jankó keyboards as late as 1932. (Examples include Wilhelm Schäuffele, Hermann Kluge, Lorenz Sabel and possibly others from Table I.)

The interest in Jankó pianos was not limited or confined to Germany, although the majority of manufacturers resided there. By the late 1800's Jankó keyboards were produced in numerous countries: Austria-Hungary, Brazil, British India, Denmark, England, Germany, Italy, Java, Netherlands, Norway, Portugal, Russia, Sweden, United States, Uraguay, and Venezuela.[22] It seems strange that such a well-known, well-publicized, and well-traveled instrument could suddenly be forgotten.

Advertisements or handbills for the Jankó Klaviatur can be found in Appendix III.[23] All of these advertisements are from companies which appear in the aforementioned table of Jankó keyboard manufacturers. The advertisements are for the companies listed below.

F.J. Ackermann
F. Dörner & Sohn
Rudolph Ibach & Sohn
Hermann Kluge
Gebr. Perzina
Lorenz Sabel

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22 Hans Schmitt, "Geschichte der Jankó Claviatur," Musikalische Rundschau (1889); John Rehmann, article in Etude (VI), May 1888, 85.

23 The list of advertisements and the advertisements in Appendix III were taken from numerous sources previously mentioned in this chapter. Several advertisements are duplicated in different sources. The exact source for many of these advertisements is not known.

Wilhelm Schäuffele
Weltruf Schiedmayer
Franz Steirer
Ernest Rosenkranz
A.H. Francke
Teofil Kotykiewiez
Friedrich Ehrbar
R.W. Kurka
Rudolph Stelzhammer

Surely fifty-nine companies, many of which were prominent and respected piano manufacturers of the nineteenth and twentieth centuries, would not have shown such interest in an instrument which gained little interest from musicians and the general public. Jankó's keyboard must have been a success until the early 1900's. After 1892, references in the United States to manufacturers and literature, however, dwindle rapidly; method books, technical studies, and music for the Jankó keyboard were no longer published. There must have been thousands of Jankó keyboard owners who suddenly and perhaps unwillingly realized that they possessed an instrument of the past.

CHAPTER IV

JANKÓ PIANISTS AND CONSERVATORIES

The manufacturers of the Jankó piano, harmonium, and flügel probably had a substantial market for their products. During the last two decades of the nineteenth century and the first three decades of the twentieth century, numerous teachers, music schools, conservatories, and concert artists provided an expansive outlet for piano manufacturers.

Experimental keyboards are often thought of as instruments which never experienced any practical use or commercial production. Many experimental keyboards are in this category, but Jankó's keyboard should not be included. By the late 1800's Jankó pianos had become rather commonplace in Europe and a student could easily secure a teacher and an instrument almost anywhere.

Paul von Jankó's first concert on the new keyboard took place on October 25, 1884, at the Vienna Conservatory;[1] the first public concert, by Jankó, was not until 1886, but also in Vienna.[2]

Jankó conducted a concert and lecture tour through Germany during 1887 which came to the attention of musicians in the United States.[3] Etude, a prominent nineteenth-century American music periodical, printed numerous articles concerning Jankó's piano

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1 Hubert Unverricht, "Paul von Jankó und seine Klaviatur," Instrumentenbau Zeitschrift 12 Jahrgang (February, 1958), 124.

2 Friedrich Weisshappel, "Paul Jankó zum Gedenken," Osterreichische Musikzeitschrift (n.d.), p. 80.

3 Henry Nast, "A New Piano Keyboard," Etude V (March 1887), 42.

from 1886 through the early 1900's. These articles may have been the primary source of information for American musicians concerning Jankó's invention.

Jankó performed the concert program found below while on tour in Europe.[4]

PROGRAM

Pilgrim's Chorus from Tannhauser arr. for 4 hands	Wagner
Organ Fugue in c minor pedal part included	Bach
Etude in E-flat (arpeggio)	Chopin
Mazurka in G minor	Saint-Saëns
Etude in C	Rubinstein
Campanella Etude	Liszt
Spinning Song from "Flying Dutchman"	arr. Liszt
Schubert's "Erlking"	arr. Liszt
Transcription of Leo Delibes waltz from 'Nalla' special effects	Jankó
Hungarian Rhapsody	Liszt

The Pilgrims' Chorus was probably arranged for the new keyboard by Jankó; the four-hand version can be performed by two hands on his keyboard. All of Bach's organ fugues, which were also arranged by Jankó, include the pedal part to be executed by the left hand. Jankó probably arranged the other compositions on his concert program, at least in regard to fingering.

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4 Henry Nast, "A New Piano Keyboard," 42.

Jankó was not the only person who performed on the new keyboard. By 1888 there were numerous teachers of the Jankó keyboard, many of whom taught at music schools or conservatories. The list of Jankó piano instructors, found in Table II, has been compiled from Paul von Jankó's Mittheilungen über die Jankó Klaviatur, 1890, and Hans Schmitt's "Geschichte der Jankó Claviatur," Musikalische Rundschau, 1889.

Table II. Jankó Piano Instructors

City	Instructors
Agram	Milar Fabkowiez
Amsterdam	W. J. Corver
Berlin	Carl Krebs, Berliner Scharwenka Conservatory; 5 Professor Richard Hansmann; Professor Josef Weiss
Brünn	Marie Katholicky
Chemnitz	Curt Longer, Director der höheren Musikschule
Christiania	Thelka Nathan
Dresden	Else Alsleben
Hamburg	Meta Warnemünde
Krakau	Hermine v. Jaworska, Calvaria bei Kraken
Leipzig	Coccius, Professor am Conservatory; Louise Ilgner; Carl Wendling, Lehrer am Conservatory

5 Unverricht, "Paul von Jankó und seine Klaviatur," p. 124.

Linz a.d. Donau	Charlotte Boyes-Rucker, fürstl. Höhenzollern'sche Hofpianistin
London	John Carlowitz-Ames, Art Club
Magdeburg	Julius Bernh. Schröder
Maastricht	Carl Smulders
Prague	Trneczek, Professor am Conservatory
Vienna	Caroline Dobrofsky; Richard Hansmann; Professor Hans Schmitt
Wilkes-Barre (Pa., U.S.)	Carl F. Schmitt
Woburn (Mass., U.S.)	Mathilde Rüdiger

This list of educators and institutions attests to the legitimacy of the Jankó keyboard. Surely these people and the educational institutions which many of them represented would not have supported an instrument that was not worthy of consideration.

In the last decade of the nineteenth century the United States became increasingly aware of the Jankó keyboard. A girls' school in San José, California bought five Jankó keyboards ca. 1890.[6] During the 1890's this school had at least twenty pupils who studied the Jankó piano.[7] In 1891 the United States fostered its first and only Jankó Conservatory, in New York City.[8] The Conservatory was originally located at 708 Lexington Avenue, near 57th street, N.Y.; in October of 1891 the Paul von Jankó Conservatory of Music moved to 9 East 17th Street, near Union Square.[9] Decker Brothers Piano

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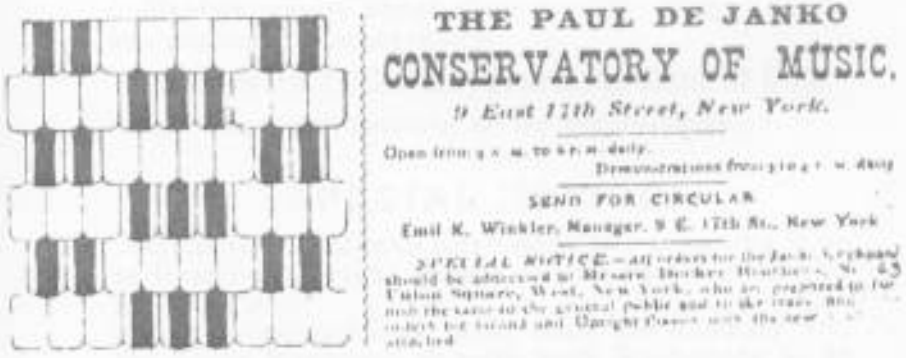
6 Weishappel, "Paul Jankó zum Gedenken," p. 80.
7 Ibid., p. 80.
8 Arthur Loesser, Men, Women and Pianos (New York: Simon and Schuster, 1954), p. 567.
9 Advertisement in Etude IX (March 1891).

Manufacturers was located next to the Conservatory at 33 Union Square, N.Y., as of 1892.[10] (Advertisements for the Jankó Conservatory can be found in Figures 23 & 24.)

Jankó's original conservatory was directed by Richard Hansmann; later in 1891, when the conservatory moved, Emil K. Winkler and Bradley Keeler assumed a large part of the directorial duties.[11] At one time, possibly between March 1891 and late in 1892, Jankó taught at his conservatory in New York[12] which may have operated long after Jankó's move to Constantinople, but the exact dates of the conservatory's existence are not known. It is entirely possible that the Paul von Jankó Conservatory closed its doors in 1895 when Decker Brothers manufacturers went out of business. The closing of the conservatory may have been influenced by Decker's closing or vice versa.

Figure 23. Advertisement for Jankó's Conservatory[13]



10 Advertisement in Etude X (1892).
11 Loesser, Men, Women and Pianos, p. 567.
12 Etude IX (March 1891).
13 The Musical Courier (1891).

Figure 24. Advertisement for Jankó's Conservatory[14]

The Paul de Janko Conservatory of Music,

9 EAST 17TH STREET,

Near Union Square, NEW YORK CITY.

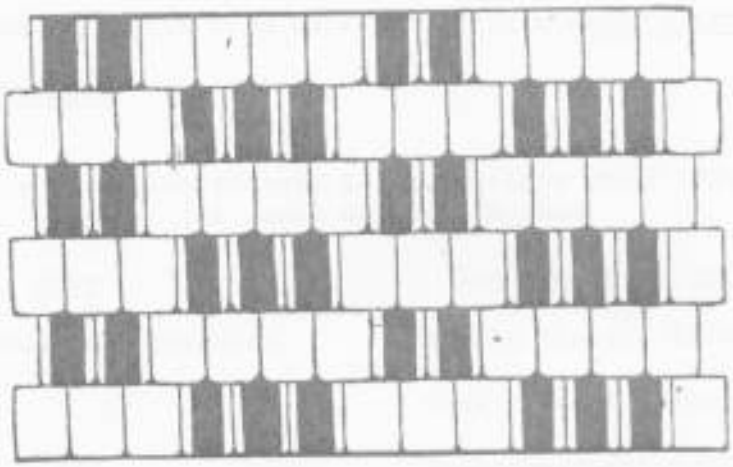


DIAGRAM OF THE JANKO KEYBOARD.
5 OCTAVES.

Open from 9 A. M. to 6 P. M. Demonstrations daily from 3 to 4 P. M.

Children, beginners, advanced pupils, professional pianists and organists will be instructed.

Beginners learn in half the time what they can accomplish on the old keyboard.

Pianists require about three months' study. Pupils can practice at Conservatory.

Pianos with Janko Keyboard for Rent or Sale.

SEND FOR CIRCULAR OF THE CONSERVATORY.

SPECIAL NOTICE.

All orders for Janko Keyboards and attaching same to Grand or Upright Pianos, of any make, promptly attended to.

Pianos reconstructed with both the ordinary and the Janko Keyboard, or with both Keyboards, to be used alternately.

For prices and particulars, please call on, or address,

EMIL K. WINKLER, Manager,
9 East 17th Street, New York.

14 Advertisement in Etude IX (October 1891), 201.

Even though Jankó's New York Conservatory may have closed as early as 1895, other conservatories and teachers continued teaching the Jankó keyboard method well into the 1930's. The list of instructors and educational institutions found in Table III has been compiled primarily from Walter Rehberg's Jankó's Chromatische Terrassenklaviatur, ca. 1933.

Table III. Instructors & Institutions which Offered the Jankó Keyboard Method

City	Instructor or Institution
Allerstus in Ostpressen	Arnold Klesse, director
Berlin	Hans Friedrich Munnich
Karlsuch-Bad	Hochschule für Musik Munz'scher Konservatorum
Staunton, Virginia (U.S.A.)	Mary Baldwin College, professor Dr. Wilmar Robert Schmidt
Stuttgart	Würtlenbergische Hochschule für Musik Walter Rehberg, private instruction Hans Brehm Konservatorum für Musik, Herdweg Anslem Kungman H.W. Osieck Martha Stoch
Vienna	Musikschule, Canongasse, Friedrich Weisshappel

The situation during the 1930's in the conservatories and of the instructors listed in Table III is not known. Many of the larger schools (Leipzig Conservatory, Vienna Conservatory, etc.) and teachers in prominent cities (Leipzig, Berlin, Vienna, London, Stuttgart, etc.) may have continued to offer instruction in the Jankó keyboard. By

the early 1930's musicians in the United States must have forgotten the keyboard as references to it are only occasional. It seems somewhat unusual that The Musical Courier and Etude magazines did not continue to follow the activities of Jankó supporters; the Jankó keyboard, however, had lost favor only in the United States.

Many musicians associated with the Jankó keyboard were not teachers or ardent supporters but concert artists. Table IV contains a list of Jankó keyboard concert artists found in Jankó's 1890 publication, Mittheilungen über die Jankó Klaviatur.

Table IV. Concert Artists

City	Performing Artist
London	Mr. John Ames
Linz	Charlotte Boyes-Rucker
Fünfkirchen	Gisela Gulyás
Vienna & Berlin	Richard Hansmann
Vienna, Berlin & New York	Paul von Jankó
Christiania	Thekla Nathan
Maastricht	Smulders
Prague	Professor Trneczek
Leipzig	Professor Carl Wendling

Victor Hansmann, Richard Hansmann's brother, must have been a competent performer as he wrote several compositions for the keyboard;[15] there is no evidence, however, that Victor Hansmann

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15 Richard Hansmann, "Das Jankó Klavier und seine technische Vervollkommnung," Zeitschrift der Internationalen Musikgesellschaft V (January 1904).

performed his works or other works for Jankó's keyboard in public concert. Hans Schmitt and Friedrich Weisshappel, who wrote numerous articles and studies for the Jankó keyboard, must have been proficient performers on the instrument.

The conservatory in New York boasted three competent teachers: Paul von Jankó, Emil K. Winkler, and R. Gilles.[16] With the cooperation of Bradley Keeler, Emil Winkler wrote a method book for use by the conservatory; Keeler must have been able to play Jankó's keyboard even if he did not teach at the conservatory. It also seems probable that Paul Perzina and Francis Boyes were competent performers on the Jankó keyboard. Although their modifications were of a technical nature, their work must have required first-hand knowledge of the working philosophies of the inventor.

An outstanding performer on the Jankó keyboard was Gisela Gulyás, a student of Professor Carl Wendling at the Leipzig Conservatory.[17] Gulyás performed numerous concerts in Europe and began a concert tour in 1888.[18] One of Gisela Gulyás' concert programs can be found below.[19] Gulyás learned to play the Jankó keyboard in nine months and, as evident by the program, did not lose her proficiency on the traditional keyboard.

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16 Untitled article in Etude IX (March 1891).
17 C.F. Weitzmann, A History of Pianoforte-Playing and Pianoforte Literature (New York: G. Schirmer, 1897), p. 281.
18 John Rehmann, untitled article in Etude VI (May 1888), p. 85.
19 Ibid., p. 85.

PROGRAM

Eighth Rhapsody on a traditional Duysen grand	Liszt
Beethoven's last sonata on a Jankó keyboard	Beethoven
Song Without Words on a Jankó keyboard	Tchaikowsky
Tarantella on a Jankó keyboard	Maskonsky

Gulyás and other Jankó performers also performed in concerts during 1889. The following programs are found in Hans Schmitt's "Geschichte der Jankó Claviatur," Musikalische Rundschau, 1889. These concerts appear to have been elaborate productions which employed numerous musicians other than Jankó pianists.

Saul Ehrbar
IV Mühlgasse 6
Freitag den 29-März 1889, Abends 7½ Uhr.
I Concert
auf der
JANKÓ-CLAVIATUR
veranstaltet von
Professor Richard Hansmann
unter gefälliger Mitwirkung der

Frau Charlotte Boyes-Rucker, hohenzoller'sche Hof-Pianistin;
Fräulein Caroline Dobrofsky; *Fräulein Gisela Gulyás*;
Herrn H. August Duesberg, Concertmeister;
Herrn Anton Stecher, Mitglied der k.k. Hof-Oper;
Herrn Theodor Luka, Cello Virtuosse; und *Herrn Paul von Jankó*

PROGRAM

1. Schumann — Quartet Op. 47
   Die Herren Hansmann, Duesberg, Stecher und Luka

2. Beethoven — Sonate Op. 111
   Fraulein Gulyás

3a. Rubinstein — Etude C-dur
 b. Liszt — Spinnerlied aus R. Wagner's "Der fliegende Hollander"
 c. Wieniaski — Concert-Walzer
   Frau Charlotte Boyes-Rucker

4. Wilhelmy — In memoria, Concertstucke für Violine
   Herr Duesberg

5. Jankó — Walzer aus Delibes 'Naïla'
   Fräulein Gulyás

6. Liszt — Rakoczy Marsch für 2 Clavier zu 8 Handen
   Frau Boyes Rucker — *Herr R. Hansmann*
   Fräulein Dobrofsky — *Herr von Jankó*

Saul Ehrbar
IV Mühlgasse 6
Mittwoch dem 3, April 1889, Abends 7½ Uhr.
II Concert
auf der
JANKÓ-CLAVIATUR
veranstaltet von
Professor Richard Hansmann
unter gefälliger Mitwirkung der

Frau Charlotte Boyes-Rucker, hohenzoller'sche Hof-Pianistin;
Fräulein Gisela Gulyás
Herrn H. August Duesberg, Concertmeister
Herrn Carl Wendling, Professor am Königl. Conservatorium in Leipzig;
und
Herrn Paul von Jankó

PROGRAM

1. Zellner — II Satz, aus Schubert's Symphonie in B-Moll für Harmonium und Clavier
Die Herren Richard Hansmann und Paul von Jankó

2a. Bach — Orgel Fuge C Moll, für die neue Claviatur gesetzt von Paul von Jankó
b. Chopin — Scherzo H-Moll; auf vielseitiges Verlangun
c. Jankó — Walzer aus Delibes 'Naïla'
Fräulein Gisela Gulyás

3a. Chopin — Nocturne, G-Dur
b. Chopin — Etude Ges-Dur
c. Smulders — Hongraise für die Jankó Claviatur geschirchen
Herr Wendling

4a. Liszt — Elegie
b. Wieniaski — Mazurka, für Violine
Herr Duesberg

5a. Scharwenka — Polinischer Tanz
b. Schumann — Nachstruck
c. Hiller — Marcia giocosa
Herr Wendling

6a. Tschaikowski — Lied Ohne Worte
b. Moszkowski — Tarantelle
Fraulein Gisela Gulyás

7. Székely — Ungarrische Rhapsodie für die neue Claviatur gesetzt von Paul von Jankó
Herr Paul von Jankó

8. Moszkowski — Polonaise, für Clavier zu vier Handen
Fraulein Gisela Gulyás und Herr Paul von Jankó

Walter Rehberg, a private teacher in Stuttgart, Germany, and professor as of 1931, may have been the last great Jankó keyboard artist. The 100th anniversary of Johannes Brahms (1933) provided the occasion for Rehberg's series of concerts in Stuttgart, Germany. Rehberg's four programs can be found below.[20]

PROGRAM
February 3

Sonata Opus 1

Klavierstücke Opus 76

Rhapsody Opus 79

Handel Variations Opus 24

PROGRAM
March 11

Sonata Opus 2

Variations Opus 21

Walzer Opus 39

Fantasien Opus 116

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20 Walter Rehberg, Jankó's Chromatische Terrassenklaviatur, c. 1933.

PROGRAM
April 1

Sonata Opus 5

Intermezzi Opus 117

Schumann Variations Opus 9

Klavierstücke Opus 112

PROGRAM
May 5

Balladen Opus 10

Scherzo Opus 4

Klavierstücke Opus 119

Paganini Variations Opus 35

These concerts attracted a great deal of attention not only from the general public but also from members of the press. The list found below is only a small sample of the journals which published reviews of Walter Rehberg's concerts.[21]

Durlacher Tagblatt
Karlsrüher Tagblatt
Tagblatt, Mannheim
Allgemeine Musikzeitung, Berlin
Dortmunde Zeitung
Dusseldorfer Tagblatt
Neikarzeitung, Heilbronn
Ubers. aus der Residentiebade, Der Haag
Ubers. aus Het Vaderland, Der Haag
Ubers. aus Der Avendpost, Der Haag
Stuttgarter, Neue Tagblatt

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21 Rehberg, Jankó's Chromatische Terrassenklaviatur, ca. 1933.

Most of these journals were published in locations other than Stuttgart which may indicate that Jankó's keyboard still attracted substantial attention as late as 1933.

The Jankó piano seems to have been very much in the foreground of European musical activity for a considerable period of time. In the early 1900's, however, American musicians had already forgotten the Jankó keyboard. As early as 1929 American and English authors of piano histories either did not know about or refused to recognize the Jankó piano as anything more than another experimental keyboard. A drastic change in attitude, for example, can be seen between Alfred Dolge's publication of 1911, Pianos and Their Makers and Alfred Hipkins' 1929 publication, A Description and History of the Pianoforte. Dolge devotes numerous pages to Jankó which contain substantial information concerning the instrument and, of more importance, is extremely supportive of its possibilities and future.

> Like all epoch-marking innovations, this great invention is treated with indifference and open opposition. That poetic performer on the piano, Chopin, refused to play on the Erard grand pianos containing the celebrated repetition action, because his fingers were used to the stiff percussion of the English action. To-day, however, English makers of concert grand pianos use the Erard action which Chopin disdained.
>
> The piano virtuosos and teacher of the present day are opposing the Jankó keyboard because its universal adoption would mean for them to forget the old and learn the new. The music publishers object to it, because their stock on hand would depreciate in value, as the Jankó keyboard naturally requires different fingering than that now printed with the published compositions. For many years the professional piano players could rightfully object to the somewhat unelastic touch of the Jankó keyboard. This objection has been completely overcome by an ingenious improvement accomplished by Paul Perzina of Schwerin, who changed the double leverage of the key successfully to a single movement assuring the desired elastic touch. In order to facilitate the attachment of the Jankó keyboard, Perzina has invented a reversible double key-

> bottom, so that the Jankó as well as the old keyboard can be used on the same piano.
>
> Although the Jankó keyboard, in its present form, is thoroughly practical, and destined to inaugurate a new era for the piano industry, its universal success and adoption seem to be impaired by the appearance of the player piano, which enables the musical amateur to enjoy his own performance of the most difficult composition with hardly any exertion on his part. It remains for a coming Titan of the pianoforte to lift the Jankó keyboard out of its obscurity and give it its deserved place in the concert hall, there to show the executing amateur its wonderful possibilities. 22

Only eighteen years later Alfred Hipkins stated: "The recently introduced Jankó keyboard has as yet made too little way to justify me to dwell upon it here."

Histories of the piano of later publication dates (1930's through the 1950's) contain even less information about Jankó's ingenious invention. Modern piano histories mention Jankó and generally include his keyboard with other experimental keyboards which died out almost as quickly as they were introduced.

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22 Alfred Dolge, Pianos and Their Makers (New York: Dover Publications, Inc., a reprint of a 1911 Covina publication, 1972), pp. 79-81.

C H A P T E R V

TECHNICAL MATERIALS, STUDIES, AND PIANO WORKS FOR THE JANKÓ KEYBOARD

The argument that Jankó's keyboard requires a new notational system, or the complete alteration of previously printed music, is unfounded. Advanced works for the traditional keyboard are often void of fingering except in extremely difficult passages where the editor of the edition may wish to suggest a fingering pattern; such fingerings are often ill-advised. This same philosophy can be applied to the Jankó keyboard; an advanced performer on any keyboard instrument does not need to have fingerings written in for the entire composition.

The late 1880's was the most flourishing period for Jankó's keyboard. Numerous manufacturers, teachers, conservatories, and concert artists were committed to the secure establishment of the new instrument. Enthusiasm for the new keyboard is also indicated by the many technical studies and concert works which were either written or transcribed for the Jankó keyboard. This body of literature was quite substantial by 1888 and continued to expand well into the 1900's.

Paul von Jankó's 1889 publication, Mittheilungen über die Jankó Klaviatur, contained an extensive list of music and technical studies which were available for his instrument as of 1888. Jankó's list includes studies concerning the philosophy and construction of the instrument, technical studies and etudes for the keyboard, compositions

with revised fingerings for Jankó instruments, and manuscripts and arrangements especially for the Jankó keyboard. This exhaustive list, as found in Jankó's article, is reproduced below.

Bis October 1888 erschienene Schriften, Studien, und Stücke für die Jankó-Klaviatur

Schriften

Jankó — Eine Neue Claviatur. Theorie und Beispiele zur Einführung in die Praxis; Vienna: Emil Wetzler (Jul. Engelmann); Mark 2, fl. 120.
Le Clavier Jankó. Französische Beschreibung
The Jankó Keyboard. Englische Beschreibung
Il Tastiera Jankó. Italianische Beschreibung
Jankó Klaveret. Dänische Beschreibung
Oteclado Jankó. Portugiesche Beschreibung
A Jankó-Claviatura. Ungarische Beschreibung

Jankó — Mittheilungen über die Jankó-Claviatur; Sonderabdruck der in der Musikalischen Rundschau erschienenen Artikel, Heft I; Vienna: Emil Wetzler; Fl. 1.50, Mark 2.50.

Studien

Paul von Jankó — Materialien zum Studium auf Paul von Jankó neuer Claviatur; Vienna: Emil Wetzler (Jul. Engelmann); Heft I, Uebersicht, sämmtlicher Griffe; Preis, Mark 2.

Heft II, Tonleitern; Preis, Mark 3.

Heft III, Accord; Preis, Mark 5.

J.C. Kessler — Opus 94, Cadenzen in allen Tonarten, Ausgabe für die Jankó-Claviatur; Vienna: Em. Wetzler (Jul. Engelmann); Preis, Mark 2.

Louis Köhler — Opus 199, 30 melodische Unterrichsstücke,
Ausgabe für die Jankó-Claviatur;
Vienna; Em. Wetzler (Jul. Engelmann);
Heft I & II;
Preis, Mark 1.50.

*Hans Schmitt — Fundament der Claviertechnik, Ausgabe für
die Jankó-Claviatur;
Heft I & II;
Preis, Mark 2.

*Hans Schmitt — Opus 30, 300 Etuden mit Fingersatz für
die Jankó-Claviatur;
Heft I-XXXVI;
Preis, Mark 3.50.

Studien
Stücke Mit Fingersatz

[L=leicht (easy), N=nicht schwer (not difficult),
M=mittelschwer (moderately difficult), S=schwer
(difficult)]

Schumann — Phantasiestücke, Opus 12, nr. 2,
Aufschwung (N)

Nr. 7, Traumeswirren (M)

Ausgabe mit Fingersatz für die Jankó
Claviatur;
Vienna: Emil Wetzler;
Preis, Mark 2.

Smulders, Ch. — Hongraise für die Jankó-Claviatur geschrichen;
Leipzig: Hans Licht;
Preis, Mark 2.

*Rubinstein — Opus 1, Melodie F-Dur (L);
Preis, Mark 1.30;

Romanze, Opus 26, nr. 1 (L);
Preis, Mark 1.30;

Kamennoy-Ostrow nr. 1 (M);
Preis, Mark 1.60;

Opus 23, nr. 2, Etude C Dur;
Preis, Mark 1.80.

*M. Moszkowski — Tarantelle, Opus 27, nr. 2 (S);
Preis, Mark 3.60.

*Mendelssohn — Scherzo a Cappriccio, Fis-Moll (M);
Preis, Mark 1.10.

*Liszt — Grosse Concert Phantasie über Spanische Weissen (S), Ausgabe mit Fingersatz für die Jankó-Claviatur;
Leipzig: Hans Licht;
Preis, Mark 4.

*Liszt — Spinnerlied aus R. Wagner's die fleigende Holländer (M);
Preis, Mark 3.60.

*Liszt — 'Der Wanderer' nach Schubert's Lied (S);
Preis, Mark 2.

*Henselt — Opus 2, nr. 6; Vöglein-Etude (M);
Preis, Mark 1.80.

*Chopin — Opus 10, nr. 11, Etude Es Dur, Arpeggio (M);
Preis, Mark 1.60;

Opus 20, Scherzo H Moll (M);
Preis, Mark 1.40;

Opus 27, nr. 1, Nocturne Cis Moll (M);
Preis, Mark 3.40

Opus 35, Sonate B Moll;
Preis, Mark 2.90.

*Beethoven — Opus 2, nr. 3, Sonate C-Dur (N M S);
Preis, Mark 3.40;

Opus 57, Sonate F-Moll (Appassionate) (M);
Preis, Mark 4.90;

Opus 90, Sonate E-Moll (N);
Preis, Mark 3.40;

Opus 111, Sonate C-Moll (S);
Preis, Mark 3.40.

*Thalberg — Opus 26, nr. 4, Etude H-Dur (M);
Preis, Mark 1.40.

*Tschaikowsky — Chansons san paroles (L);
Preis, Mark 1.10.

*verschenen sind gedruckte Musikalien mit eingeschriebenem Fingersatz, Ausgabestellen: Em. Wetzler (Julius Engelmann). Musikalienhandlung, Wien, Kärntnerring 11, und Hans Licht, Hef-Musikalienhandlung, Leipzig: Thalstrasse, 27.

Manuscripte von eigens, für die Jankó-Claviatur Geschriebenen Stücken

Jankó — Transcription über den Walzer aus Leo Delibes Ballet 'Naïla' mit speciellen Effecten der neuen Claviatur (S);
Preis, ca. Mark 7;

Pilgerchor aus Tännhauser von Richard Wagner, nach dem vierhandigen Clavieranszug (M);
Preis, ca. Mark 1.50;

Bach's Orgelfuge C-Moll für die neue Claviatur gesetzt (S);
Preis, Mark 2.50;

Bach's Orgelfuge C-Dur für die neue Claviatur (S);
Preis, Mark 2.

Székely, E. — Rhapsodie XI, für die neue Claviatur bearbeitet (S);
Preis, ca. Mark 8.

Studien und Etuden für Pianoforte

Berlini, H.	Etuden für Pianoforte in fortschreitender Reihenfolge mit Bezeichnung des Legato, Staccato, der Ausdruck Nuancen, des Fingersatzes und des Pedalgebrauches, Herausgegeben von Louis Köhler.
	EINGEFÜHRT AM WIENER CONSERVATORY
	12 Kleine Stücke
	Opus 97, 25 Studien zu vier Handen
	Opus 100, 25 Studien
	Opus 29 und Opus 32, 48 Studien (Based on J.B. Cramer's technical studies Opus 29 and Opus 32.)
Brüll, Igh.	Opus 2, nr. 2, Octaven Etude
Czerny, Carl	Opus 299, Schule der Geläufigkeit; Neue mit genaunem Fingersatz versehene und progressiv geordnette Ausgabe. Herausgegeben von Wilh. Rouch, Prof. am Wien Conservatory; Heft I, II, III, & IV.
Kessler, J.C.	Opus 93, 30 sehr Kurze und leichte Sätze in allen Dur und Moll-Tonarten;
	Opus 91, Cadenzen und Präludien; Heft I, & II;
	Opus 100, 25 Studien zur höheren Vollendung bereits gebildeter Klavierschuler; Heft I-VI;
	Opus 100, 20 ausgewählte Etuden für das Pianoforte zur Vollendung bereits gebildeter Klavierspieler; Neu revidirte, progressiv geordnette, mit Vortagszeichen versehene Ausgabe von Joseph Dachs, Professor am Wien Conservatory; Heft I, II, & III.
Ehrlich, Ed.	Opus 82 und 83, 2 universal Studien für dir linke und rechte Hand.

Jankó	Vol. I, II, & III
Köhler, Louis	Opus 199, 30 Kleine Melodische Unterrichtsstücke; Heft I, & II.
Kessler, J.C.	Opus 94, Präludien und Cadenzen; Heft I.
Schumann, Rt.	Traumerswirren, Aufschwung.

Used in Conservatories and schools in Vienna, Prague, Budapest, Lemberg, Brun, Berlin, Cologne, etc.
Verlag: Julius Engelmann

The establishment of Jankó's New York Conservatory demanded method materials and technical studies in English. Walter Bradley Keeler's How to Learn the New Keyboard was published by the conservatory in 1892 and was probably the first Jankó method book to be printed in the United States.[1] Keeler briefly discussed the advantages of the new keyboard and the necessary notational alterations. Fingering patterns for the basic aspects of performance included in Keeler's study concern major scales, major chords, minor scales, minor chords, broken chords, broken minor triads, arpeggios, dominant seventh chords, diminished seventh chords, chromatic scales, five-finger position, and scales in double notes.

A second publication by the Jankó Conservatory was also written by Keeler and Emil K. Winkler. This theory book was also published in 1892 but must have been a later publication than the first such

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1 Keeler's How to Learn the New Keyboard can be found in Appendix I.

theory book. Entitled Theory of the New Keyboard, this publication is a somewhat abbreviated version of the earlier publication and omits much of the discussion of the instrument's advantages and the philosophy which supports them. Scales, chords, and all other technical studies are presented in a compact yet thorough manner.

Shortly after the later 1892 publication yet another Jankó keyboard theory book appeared. Also entitled Theory of the New Keyboard, this publication is credited to Walter B. Keeler and is edited by Emil K. Winkler. Perhaps the most important change in this edition is that it was published by the Conservatory Music Publishing Company's sole agents, Breitkopf and Hartel, of Leipzig, Brussels, London, and New York. The text is in English and German as are the numerous instructions found throughout the book.

The publication of Jankó method books and several Jankó transcriptions for the new keyboard took place in 1892. Two of his compositions were published under the title Repertorium für die Jankó-Claviatur: Wagner's 'Pilgerchor,' aus R. Wagner's Tännhauser, by Paul von Jankó; and Leo Delibes' Grande Valse, 'Nalla,' by Paul von Jankó. Adolph Fürstner of Berlin published both compositions in 1892.[2] Numerous other compositions for the Jankó piano may have been published by Fürstner but have not yet been located by the author.

All of the compositions mentioned have been transcribed for the Jankó keyboard by Jankó, Hans Schmitt, Wendling, Richard Hansmann, or other Jankó keyboard artists. Victor Hansmann, however

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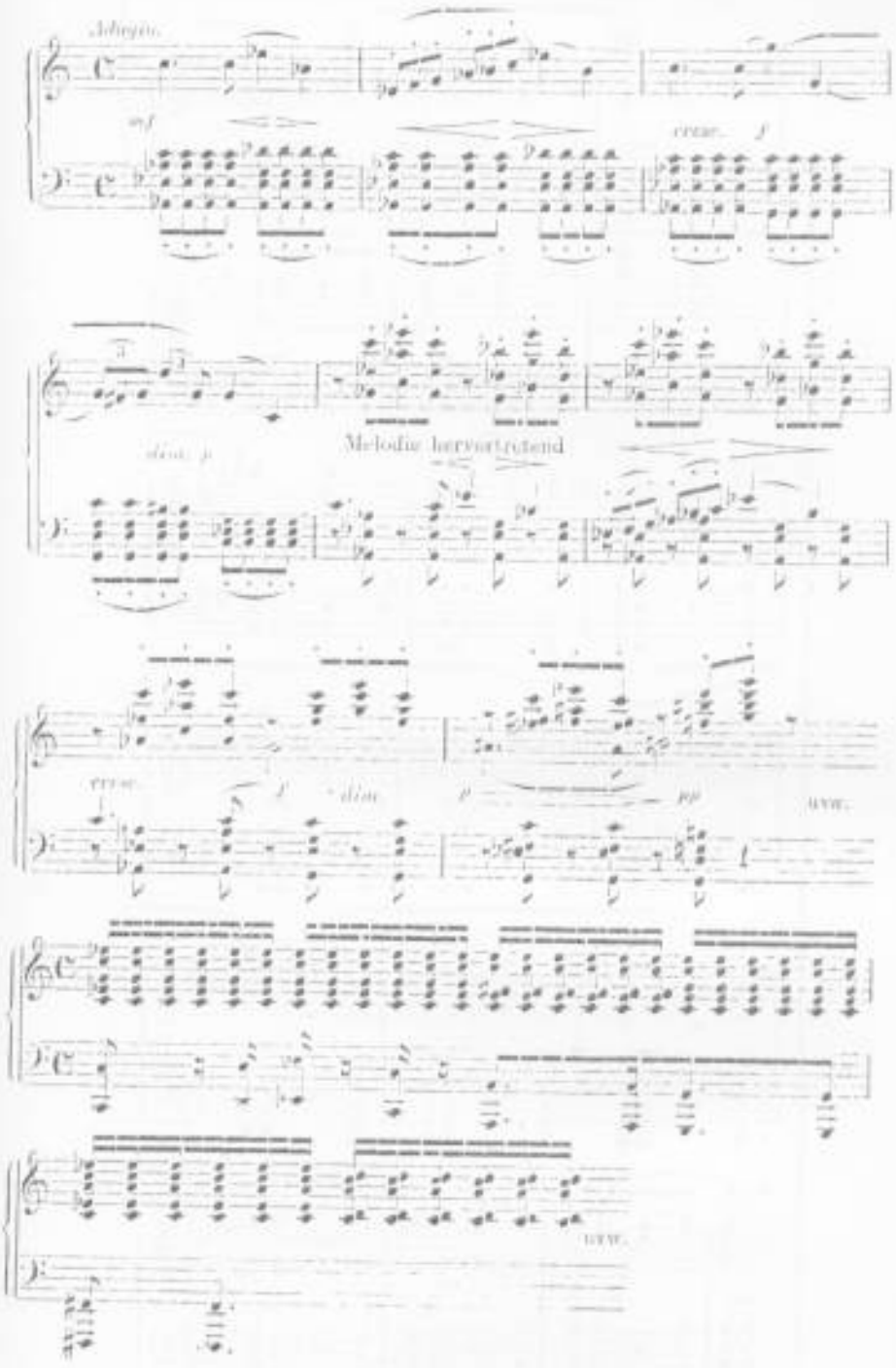
2 Both compositions can be found in Appendix IV.

wrote several original compositions for Jankó's keyboard. These works must have been written in the early 1900's as examples from them appear in two articles by Victor Hansmann's brother, Richard Hansmann, in 1904. Examples 13-15 contain sections of Victor Hansmann's compositions.

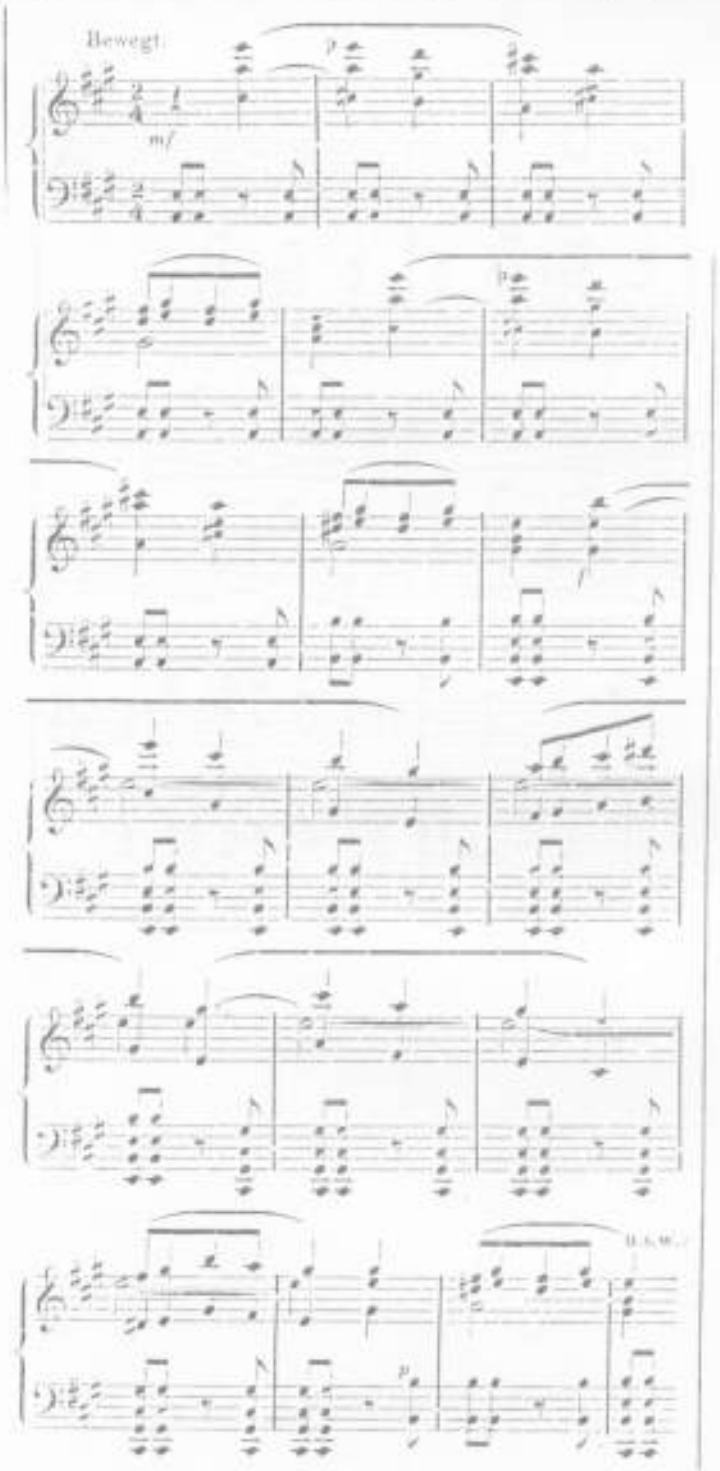
Victor Hansmann probably wrote other compositions for the Jankó piano, but these works, as well as any of his other compositions, have not been found. Very few of Hansmann's works are known to be available, and information does not exist concerning his life.

Example 13. Victor Hansmann, Sonata in A minor, Op. 23.[3]



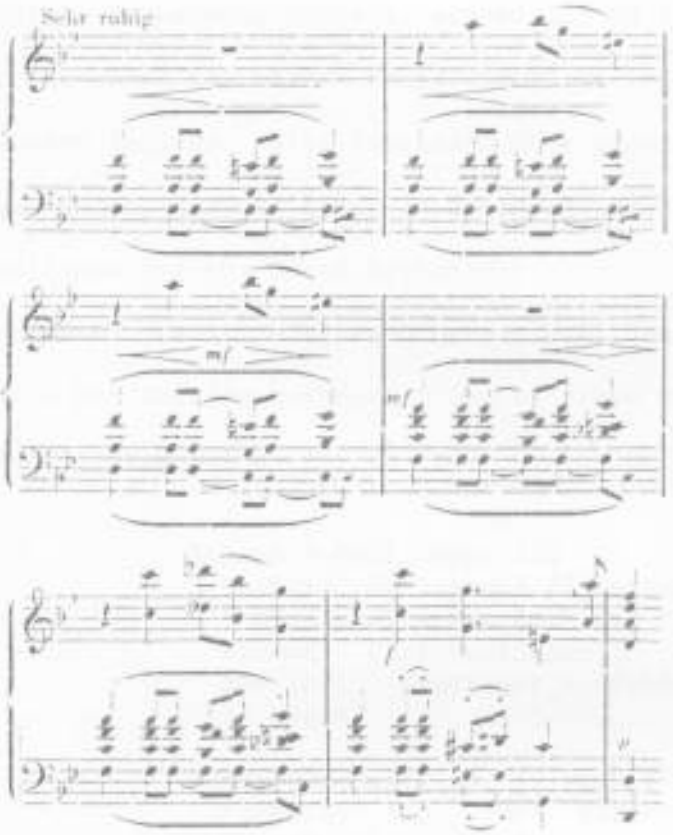
3 Richard Hansmann, "Das Jankó-Klavier und seine technische Vervollkommnung," Zeitschrift der Internationalen Musikgesellschaft, V (January, 1904), 168-169.

Example 14. Victor Hansmann, Deutsch Marchen.[4]



4 Richard Hansmann, "Das Jankó-Klavier," Neue Zeitschrift für Musik LXXI Jahrgang (March 1904), 225-226.

Example 15. Victor Hansmann, Klavierstück in B.[5]



5 Hansmann, "Das Jankó-Klavier," 226.

Walter Rehberg, a competent Jankó keyboard artist, also wrote several original compositions for the Jankó piano. Very little information exists concerning Rehberg, especially in relation to his works for the Jankó keyboard. Rehberg's known compositions for the Jankó keyboard include: Five Fantasien über eine Theme von Verdi; Two Tanzetuden; Klavier Konz. in G; and several pedagogical studies and editions for the Jankó keyboard.[6]

The Smithsonian Institute in Washington, D.C. has several volumes of music for Jankó's keyboard. One of these volumes contains the compositions listed below.

Chopin	Sonate B-Moll, Opus 35; Berlin: Verlag und Eigenthum der Schlesinger'schen Buch und Musikhandlung; Vienna: Carl Haslinger; New York: Copyright G. Schirmer; 19 pages.
Chopin	Scherzo H-Moll, no. 1, Opus 20; Hamberg: Aug. Cranz. Eigenthumer; Vienna: C.A. Spina; Leipzig: Hans Licht; 11 pages.
Chopin	Etude Es-Dur, no. 11, Opus 10; Leipzig: Fr. Kistner; 5 pages.
Chopin	Nocturno, Cis-Moll, no. 1, Opus 27; Leipzig: Fr. Kistner; 5 pages.
Rubinstein	Kamennoi Ostrow, Opus 10, nr. 1; Paris: Mayence B. Schott's Sohne; 5 pages.

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6 Willi Schuh, "Willy Rehberg," Die Musik in Geschichte und Gegenwart, XI, 144.

Liszt	Spinnerlied aus der fliegende Holländer von Richard Wagner. (With a one-page manuscript of variants by Paul von Jankó.) Leipzig: Breitkopf and Hartel; 15 pages.

All of these works have fingerings written in pencil or red ink by Paul von Jankó. Another composition in this collection, Liszt's Grosse Concert Fantasie, was published with Jankó keyboard fingerings, by the Hans Licht publishers of Leipzig; the date of publication is not available.

A second volume of music in the Smithsonian Institute includes manuscript transcriptions for the Jankó keyboard, in Jankó's hand. This volume includes the compositions listed below.

Wagner	'Pilgerchor,' aus Tännhauser, 5 pages.
Delibes	Waltz aus 'Naïla,' 21 pages.
Bach	Orgel fuge, C-Dur, 6 pages.[7]
Bach	Orgel fuge, C-Moll, 8 pages.

This is a fairly substantial body of literature to have been transcribed and published for a new instrument. Obviously, a great amount of effort provided for the availability of technical studies and music for Jankó instruments.

The transcriptions for Jankó's keyboard most often include large chords, trills, chromatic passages, pedal points, extended range, chromatic glissandi, and additional notes. Almost any page of music in Appendix IV exhibits one or several of these compositional devices.

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7 This composition can be found in Appendix IV.

Four major companies, Hans Licht, Adolph Fürstner, Breitkopf and Hartel, and Julius Engelmann (Emil Wetzler) published materials for the new keyboard. These publishers must have made the necessary printing adjustments for Jankó keyboard music publication quickly and easily. Obviously, the process did not involve excessive alterations in printing or cost of publications. The publication of materials for the Jankó keyboard could not possibly have jeopardized printed material for the traditional keyboard as one does not affect the other in any way.

The wealth of written materials for the Jankó keyboard may be indicative of the instrument's position in Europe during the late 1800's and early 1900's. Unfortunately, most of these publications have not survived, as the majority of Jankó music publishing companies no longer exist; primarily due to the devastation of war, the publishers of Jankó keyboard music which are still in existence have not retained records of such publications. Only six Jankó compositions or transcriptions have been found by the author in Europe and the United States, but it is doubtful that this is the sum of remaining Jankó keyboard literature. The question remains unanswered concerning the whereabouts of Jankó keyboard publications.

C H A P T E R VI

THE JANKÓ SOCIETY, PRESENT LOCATIONS OF JANKÓ KEYBOARDS, AND REACTIONS TO THE JANKÓ KEYBOARD

In the late 1800's the Paul von Jankó Society was established in Vienna. The society's primary purpose was to promote production of and interest in Jankó's instrument. Numerous articles appeared in music periodicals in reference to this society during the late 1800's and early 1900's; most of these articles, however, are very general and do not attempt to report any detailed actions of the society. The Musical Courier and Etude in the United States, and Zeitschrift für Instrumentenbau in Leipzig, Germany, published articles about the Jankó Society between 1890 and 1895.

In the early 1890's the society resided at 18/1 Canongasse 19, Vienna, Austria. At that time the membership included many concert artists, teachers, and manufacturers previously mentioned.

Members of the Jankó Society[1] (Jankó Verein)

Freidrich Weisshappel	Dr. F. Hefcht
Unna Weisshappel	Rudolph Stelzhammer
Bernhard Herzmanst	Gustav Oechsle
Isna Tinter	Mizzi Lebn
Dr. F.B. Boyes	C. Goetze
Sophie Steinbach	Dr. Karl Storck
Otto Heitzmann	Dr. Rudolph Kaifer
Valerie Walla	Victor Hansmann
Josef Schöpfleuthner	Richard Hansmann
Albert Sild	Hans Steinboct
Therefe Reichart	Ed. Gottfried

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1 This membership list appears on a flyer for the Jankó Society. This flyer is not dated but must be from the late 1890's or early 1900's because of the known activities of some of the members during this time.

Hugo Pauli	Hans Schöpfleuthner
Hans Theimer	Johanna Stochdorpb
Unna Probft	Prof. Dr. Oscar Maner
Mizzi Schlimm	Louise Hofbauer
Gottfried Doftal	W.J. Corver
Franz Kemmler	Mathilde Rüediger
Karl Dörr	U.F. Walter
Ulois Doftal	Otto Thrift
T. Schweigbojer	

Freidrich Weisshappel, a most active figure in Jankó keyboard history, acted as the president or chairman of the Jankó Society at this time; the length of time for which Weisshappel held this position is not known.

Dr. Francis Bryan Boyes was a member of the Jankó Society and wrote at length about the Society in his 1894 article, Das Jankó-Clavier in seiner vollkommenen Ausfuhrung. Boyes' article gives quite specific information concerning the society's activities and its charter. (Table V.)

Table V. Charter for Jankó Societies[2]

1. Name and residence of society:
   Name; Jankó Verein,
   Residence; Vienna.

2. Purpose of the societies:
   The furtherance and circulation of Jankó pianos and to restore a firm union with the followers of the invention by common abilities to complete the task.

3. Means by which to accomplish this purpose.

4. Finances.

5. Membership.

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2 Francis Bryan Boyes, Das Jankó-Clavier in seiner vollkommenen Ausfuhrung (Vienna: 1894), pp. 32-43.

6. Acquisition and withdrawal of membership.

7. Management and representation of the societies.

8. Powers of the societies.

9. Arbitration committee.

The Jankó Society existed well into the twentieth century and may still exist in Vienna. The exact status of the Jankó Society in Vienna, however, is not known.

Present Location of Jankó Keyboards

Thousands of Jankó pianos must have been built before its somewhat abrupt disappearance. Unfortunately, the present location of these instruments in the United States and Europe is all but unknown. Many museums in Germany have Jankó keyboards in their holdings but do not know of any large numbers of the keyboard in existence. It is very possible that thousands of Jankó instruments still stand in homes, conservatories, and music schools in Germany and Austria. Unfortunately, the piano manufacturers who produced Jankó pianos, and who are still in existence, lost most of their production and sales records during the first and second World Wars. Such manufacturers include Blüthner, Mätthes, and Schiedmayer. The Blüthner company, which was at one time a leading Jankó piano manufacturer, has lost all of its records, and Mr. Julius Blüthner can not even attest to having ever produced a Jankó keyboard.[3]

Presently, the existence of a few Jankó pianos is known to the author. The list of Jankó pianos and their locations found in Table VI has been compiled with the cooperation of numerous museum curators in Europe and the United States. These are the only extant Jankó keyboards known to the author.

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3 Julius Blüthner, in a letter of 1976, to the present author.

Table VI. Extant Jankó Keyboards

Museum or Owner	Holdings
Gesellschaft der Musikfreunde in Vienna, Austria	Jankó piano Jankó harmonium Jankó practice piano
Staatliches Institut für Musikforschung Preussischer Kulturbesitz Musikinstrumenten-Museum, Berlin, Germany	Jankó keyboard, after 1882, not in a case; Kat. nr. 1007.
Germanisches Nationalmuseum, Nürnberg, Germany	Jankó keyboard by H. Roloff, Neubrandenburg; Neupert Collection; Ihr. nr. MINe 256.
	two separate Jankó keyboards, without cases; Neupert Collection.
Kunsthistorisches Museum Sammlung Alter Musikinstrumente Vienna, Austria	Nummern 22, Jankó-Klaviatur, Carl Dorr, Vienna; 6 Tastenterrassen, A_2-a^4; 134 cm long, 75 cm wide, 32 cm high; 1911.
Gemeentemuseum, The Haag Netherlands	C. Goetze upright.
Smithsonian Institute[VI] Washington, D.C., U.S.A.	Decker Brothers upright; Compass, AAA-c^5; two pedals: una corda and damper; Smithsonian Institute, Hugo Worch Collection; number 299,840; ca. 1890.
Stephen Foster Memorial Museum, White Springs, Florida U.S.A.	Steinway grand piano with Jankó keyboard; Date unknown, keyboard maker unknown.

Yale University Collection of Musical Instruments, New Haven, Connecticut, U.S.A.	Jankó keyboard, without a case; Date unknown, Maker unknown.
College of Notre Dame, Belmont, California, U.S.A.	Decker Brothers upright; Date unknown, ca. 1890.
Merritt A. Williamson (private owner) Engineer, Vanderbilt University, Nashville, Tennessee, U.S.A.	Decker Brothers upright, Date unknown, probably ca. 1890.

The manufacturers of most of these pianos were not disclosed in the correspondence with their holders, and many do not appear in musical instrument catalogues for their respective museums.

Reactions to the Jankó Keyboard

Immediate reactions to Jankó's keyboard must have been quite positive. By 1888, two years after the keyboard's public debut, Jankó's keyboard was successful in the commercial market and boasted a constantly growing repertoire of music. The majority of articles written between 1886 and 1890 in European and American periodicals are of a highly supportive and accepting nature.

Numerous European journals contained reviews of the Jankó keyboard and concerts performed on the instrument. Between 1886 and 1887 many major European publications devoted time and space to Jankó's invention. Several of the more well-known European journals which offered their views on Jankó's keyboard are listed in Table VII.

Table VII. European Journals which Published Articles Concerning Jankó's Keyboard 4

Journal	City	Date
	Austria:	
Deutsche Zeitung	Vienna	April 4, 1886
Musikalische Rundschau	Vienna	May 20, 1886
Neue freie Presse	Vienna	April 23, 1886
	Germany:	
Berliner Börsencourier	Berlin	November 20, 1886
Norddeutsche Allgemeine Zeitung	Berlin	November 21, 1886
Allgemeine Musikzeitung	Berlin Charlottenburg	November 26, 1886

4 Rudolph Wilh. Kurka, Jankó-Claviatur (Vienna: Reisser and M. Worthner, 1887).

Die Clavier-Lehrer	Berlin	December 15, 1886
Zeitschrift für Instrumentenbau	Leipzig	December 1, 1886
Musikalisches Wochenblatt	Leipzig	December 2, 1886
Neue Zeitschrift für Musik	Leipzig	January 26, 1886 February 2, 1886 February 16, 1886
Neue Musik Zeitung	Cologne	January 1887
Die Post	Berlin	February 27, 1887
Dresdener Zeitung	Dresden	February 8, 1887
Tagespost	Graz	April 2, 1887
Grazer Morgenpost	Graz	April 2, 1887
Linzer Zeitung	Linz	April 16, 1887

Later reactions to the keyboard are easily obtained but often indicate the author's lack of knowledge concerning the instrument. These reactions are frequently based upon the author's perception of the Jankó keyboard and are usually inaccurate. Several of the most common fallacies concerning the Jankó keyboard are: the keyboard must be placed in a special case; the keyboard requires three sets of strings; the keyboard is enharmonic; the three steps of the keys produce tones in subsequent octaves; and, perhaps the most critical, the keyboard never gained any acceptance or enjoyed any success. Such beliefs have been passed from generation to generation of piano historians and are largely responsible for the lack of general knowledge among musicians about Jankó's keyboard.

Friedrich Weisshappel is easily recognized as a major figure in Jankó keyboard history. Weisshappel's article, "Paul Jankó zum Gedenken," from the late 1800's indicates not only his opinion of the invention but also his optimism for its future.

> The new keyboard shows advantages so obvious, so immense as compared to the old, that we can predict for it a great future. It is the most important and most practical invention of the century in the area of piano building which will make its way through the world. 5

In the early 1900's Alfred Dolge shared Weisshappel's enthusiasm for the ingenious keyboard.

> Entirely new music can be written by composers, containing chords, runs, and arpeggios, utterly impossible to execute on the ordinary keyboard, and thus does the Jankó keyboard make the piano, what it has often been called, a veritable "house orchestra." 6

Dolge, however, recognized the indifference and open opposition which the invention met.[7] The main objections to the keyboard had already been overcome by 1911, the year of publication for Dolge's book. Dolge's attempt to inform musicians of the improvements in Jankó's instrument went virtually unnoticed.

Percy Scholes does not emphatically support the Jankó keyboard in his 1938 edition of The Oxford Companion to Music, but he does indicate the past and potential interest for the instrument.

> Public demonstrations were given to show the increased facility offered and much interest was aroused. Liszt and Rubinstein praised the system. It is quite believed by many

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5 Friedrich Weisshappel, "Paul Jankó zum Gedenken," Osterreichische Musikzeitschrift, p. 80. Translated by J. R. Knoblock, student, W.V.U.

6 Alfred Dolge, Pianos and Their Makers (New York: Dover Publications, a reprint of a 1911 Covina publication, 1972), pp. 78-79.

7 Ibid., p. 79.

> musicians for some years that the Jankó keyboard would supersede the existing one; in Vienna a society for its promotion still (1937) hopefully survives, and a number of German manufacturers are prepared to supply their instruments fitted with it. It has supporters in the United States. 8

By the 1950's historians touched upon Jankó's life, the advantages of his keyboard, and vague aspects of its success but did not indicate any urge to support a Jankó keyboard revival or, for that matter, the need for such a revival. Arthur Loesser, a respected piano historian, wrote more on the Jankó keyboard in his 1954 publication, Men, Women and Pianos, than did other historians of his time. Loesser refers to the Jankó keyboard as the "most radical, most intelligently conceived, and most efficient innovation ever put forward in its field." Unfortunately, this opinion is voiced as an insolated thought and is followed merely by acceptance of the Jankó keyboard's defeat.

> The fact was that the Jankó keyboard, however practical and efficient in principle, could not overcome the pressure of accumulated habit and tradition of centuries, in which the practice of the keyboard players and that of the keyboard builders supported each other. 9

This seems to be a logical answer to the question of defeat, yet it does not truly reflect the twenty to thirty-year battle which the Jankó keyboard survived before defeat was finally acknowledged.

Prior to his book, a letter of 1947 by Loesser states additional thoughts on the Jankó keyboard.

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8 Percy A. Scholes, The Oxford Companion to Music (London: Oxford University Press, 1938), p. 496.

9 Arthur Loesser, Men, Women and Pianos (New York: Simon and Schuster, 1954), p. 568.

> The Jankó keyboard has indeed many advantages: it simplifies much playing since on it all scales have identical fingerings; furthermore, many large stretches are easily feasible on it that would be impossible on a standard keyboard. However these advantages are largely theoretical; too much habit and tradition and capital was invested in the older keyboard, and the Jankó invention, though it attracted considerable interest, never was able to make any practical headway.
>
> My father, the late Henry Loesser, who taught music in New York, must have seen and heard a demonstration about that time [1892 at the Jankó Conservatory] I know he mentioned it to me several times when I was a young boy.
>
> The Jankó keyboard is indeed an ingenious invention and is based on sound principles. Many scholars know of it, it is quite possible that it may again come into general notice. 10

The only point of contention in Loesser's letter is that of 'practical headway.' Jankó's keyboard made sufficient 'practical headway,' but news of such progress unfortunately never reached the United States.

More recent piano histories do little more than mention the Jankó keyboard and the philosophies upon which it is based. This lack of attention has forced Jankó's keyboard into obscurity.

Jankó's keyboard, as are most musicians and instruments, was the victim of satire. The caricature in Figure 25 appeared in Karl Storck's publication, Musik und Musiker in Karikatur und Satire. An obvious oversight on the part of the artist, the piano has five keyboards instead of six and each keyboard is arranged with the traditional key placement.

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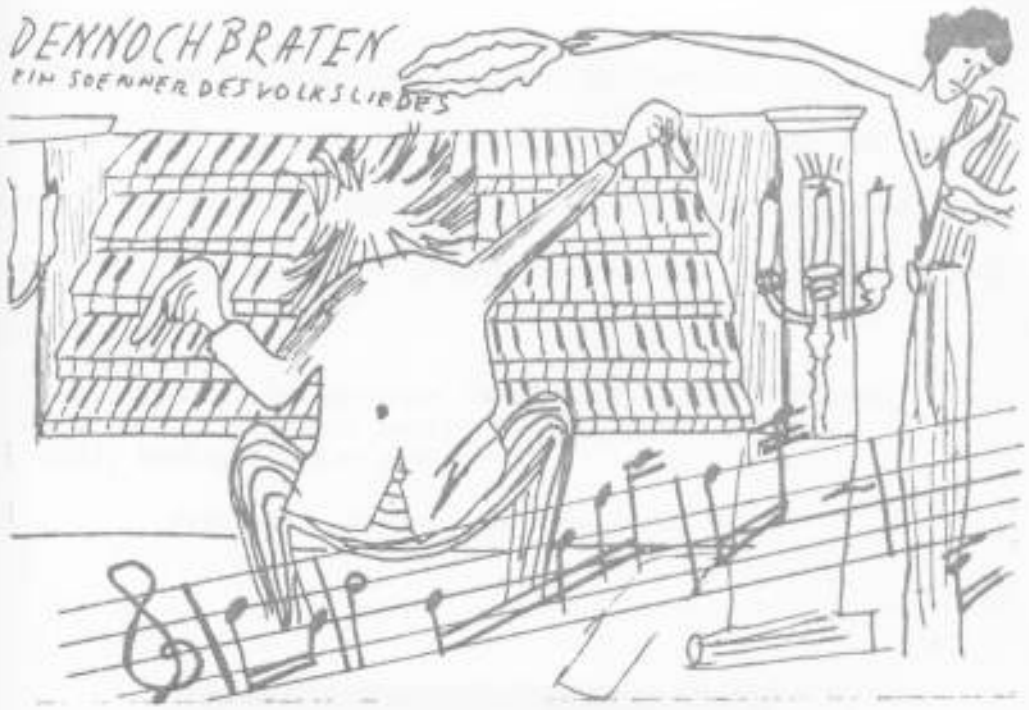
10 Arthur Loesser, letter concerning a Jankó piano. Apparently written to the Barney Neighborhood House, June 13, 1947.

Figure 25. Das Jankó-Klavier[11]



Any form of attention is better than indifference, and even satire would have taken Jankó's keyboard to the public. But satire, as well as serious forms of communication, slowly dwindled to the point where the instrument was ignored.

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11 Dr. Karl Storck, Musik und Musiker in Karikatur und Satire (Oldenburg in Grossherzugtum: Gerhard Stalling, 1910).

C H A P T E R VII

THE DECKER BROTHERS UPRIGHT PIANO AT THE SMITHSONIAN INSTITUTE AND THE STEINWAY GRAND PIANO AT THE STEPHEN FOSTER MUSEUM

The Decker Brothers piano at the Smithsonian Institute, Washington, D.C., provided the impetus for this study and has also served as the primary source for the author's personal research. A thorough study of the Jankó pianoforte reveals the technical details discussed below.

Jankó Piano: Smithsonian Institute, Decker Brothers, New York. Institute number 25,184; case built in 1885, keyboard after 1891.

Plate II. Decker Brothers Jankó Piano

Plate III. Decker Brothers Jankó Piano (front removed)

Plate IV. Decker Brothers Upright Jankó Piano

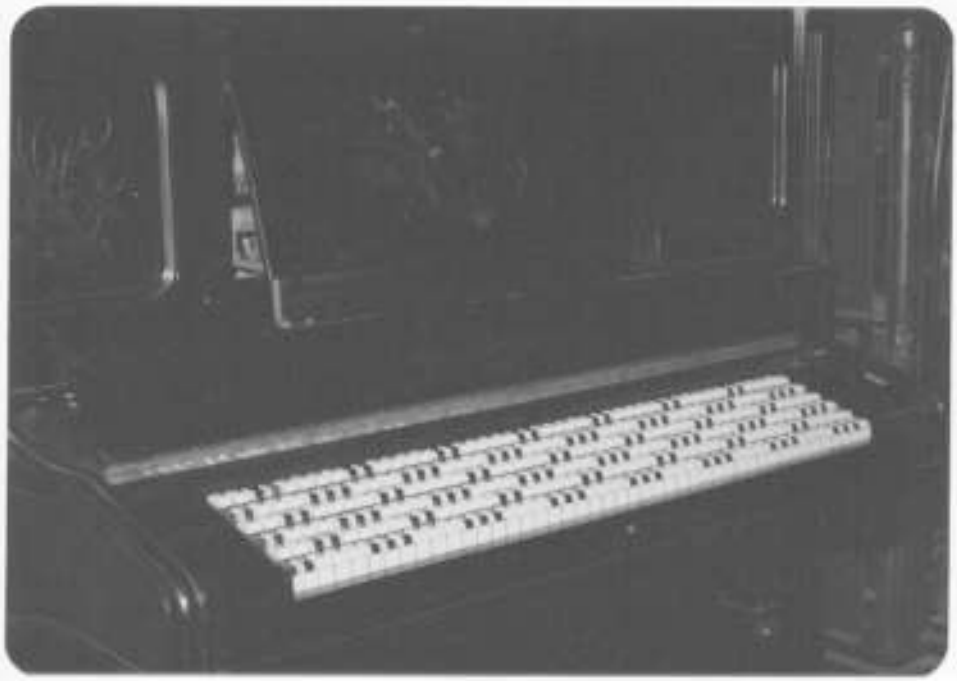
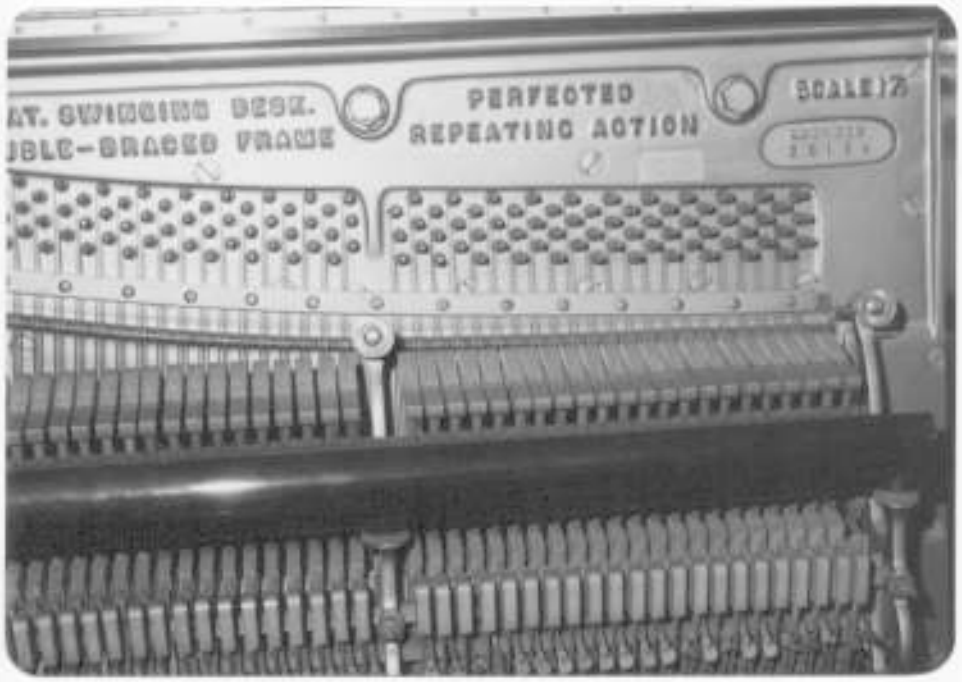


Plate V. Inscription

Inscription: Decker Brother/New York
Separable Case
Shifting Jack Rail
Improved Standards and Action Frame

Plate VI. Inscription



Pat. Swinging Desk
Double-Braced Frame

Perfected
Repeating Action

Scale 17
Ebonized 25184

Above Hammers: Decker Brothers
34 Pat.d March 29, 1887
Pat. applied for 34

Hammers and Dampers:

Hammer felt width: 1.1 cm

Damper felt width (three strings per hammer): 1.1 cm

Damper felt width (two strings per hammer): 0.5 cm width that goes between the strings

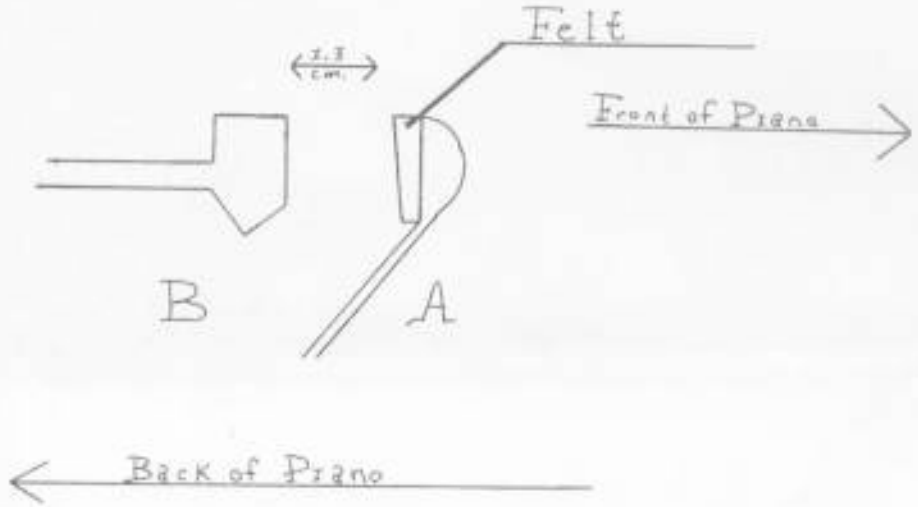
Damper felt width (one string per hammer): 1.0 cm; on either side of the string

Distance between hammer and strings: 5.6 cm

Distance of repeating action from the strings: 0.5 cm

Distance of hammer A to hammer B: 1.3 cm (See Figure 26)

Figure 26. Distance between Hammers



DESCRIPTION OF CABINET WORK:

Case:	Length; 152.4 cm Width; 39.0 cm Height; 134.3 cm	Solid black case, medium sized. Scroll work on the front three panels.

Plate VII. Scroll Work on Cabinet

PEDALS:

Two pedals: una corda, left
damper, right

PIN BLOCK:

Material: Cast iron
soundboard, one man casting
shape of pins;

arrangement of pins;

STRINGING:

Bottom pitch GG
Strings per pitch: 1 on first 12, 2 on second 18, 3 on remaining
Cross stringing: bottom 28 strings over remaining strings

Material: first 28 are brass wound, the remaining are steel - single and double strings.

Gauge Numbers:

c-c#	19	$f\#^3$-g^3	14½
e-f	17	e^4-$c\#^4$	14
b^b-b	16½	$f\#^4$-b^4	13½
g^3-g^1	16	a^4-b^{b4}	13
d^2-e^{b2}	15½		
e^3-$c\#^3$	15		

COMPASS:

GG-b^{b4}

Number of octaves: seven plus a third

Number of keys per set: 88, total 264 keys

KEYS:

Width of the playing surface of a key: 1.2 cm
Entire width of key: 1.7 cm

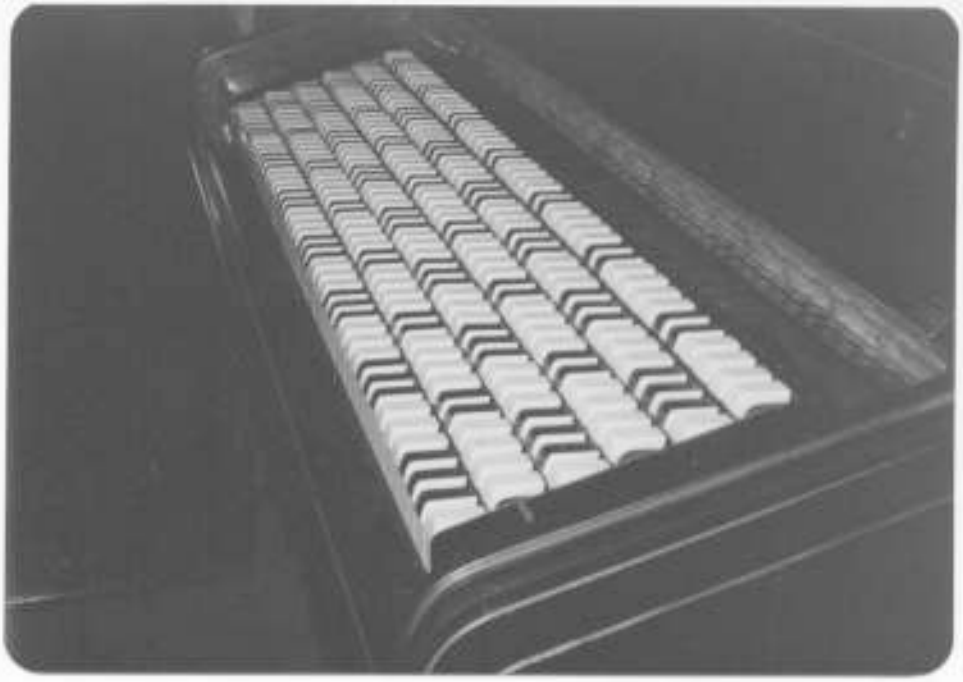
Playing length of key: 2.2 cm
Entire length of key: 2.5 cm

Distance between two adjacent playing surfaces: 0.8 cm
Actual distance between two adjacent keys: 0.3 cm

Plate VIII. Keys on Jankó Keyboard

Height between playing surfaces of two terraced rows: 1.0 cm
Distance between terraced rows: 0.2 cm

Plate IX. Terraced Rows of Keys



Width of entire keyboard (all six rows): 16.5 cm
Length of entire keyboard: 89.6 cm

End key, doubled, (a key and a half) width of playing surface: 2.5 cm
Entire width of double key: 2.9 cm

Plate X. Action Mechanism and Hammers

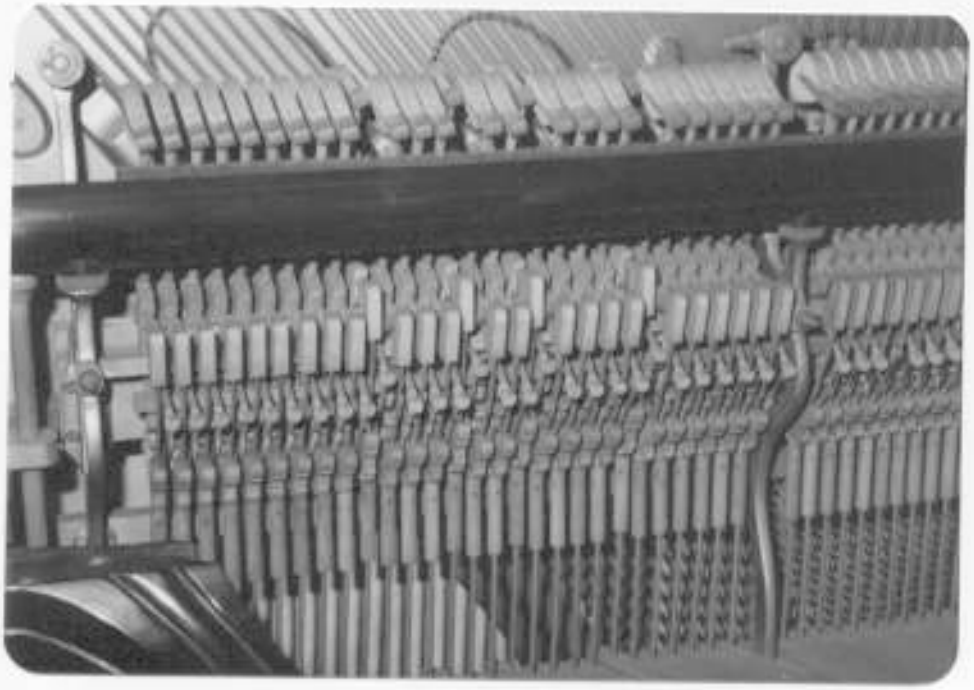


Plate XI. Keyboard with Decker Brothers Label

Plate XII. Decker Piano without Case Front

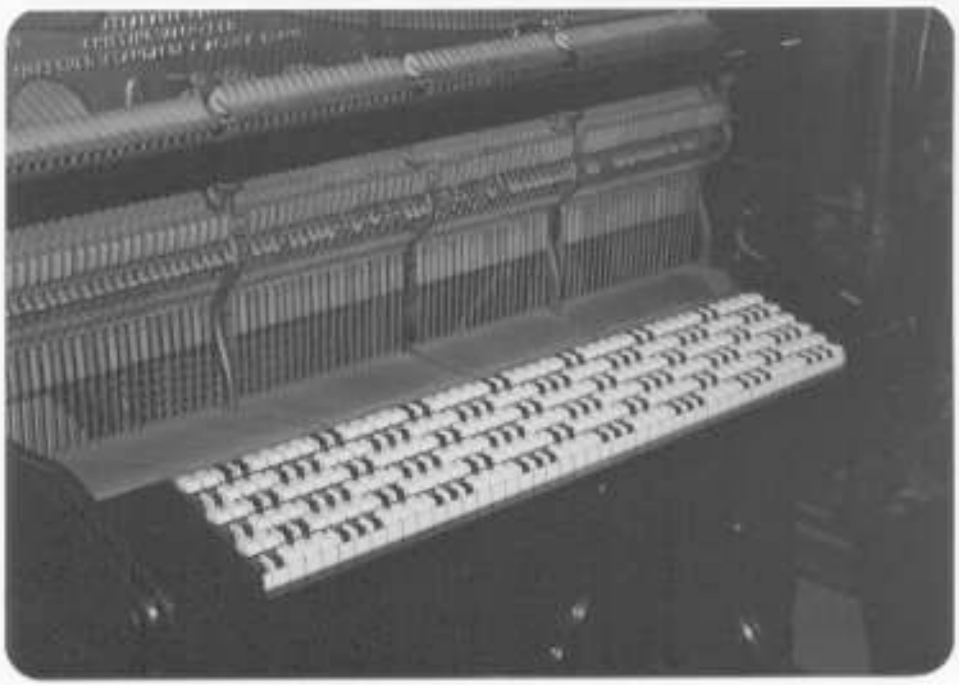


Plate XIII. Four-Octave Chord Position

Plate XIV. Jankó Keyboard (music transcribed for the Jankó keyboard)

This Decker Brothers Jankó piano appears to be in excellent condition. The cabinet is slightly marred in front, below the keyboard bed, but it is otherwise unmarked. Internal elements, strings, hammers, hammer felt, etc., also appear to be in excellent condition; this is quite evident in the tone quality produced by the instrument. Both pedals, una corda and damper, work properly and the instrument is quite well in tune. According to the Smithsonian Institute staff, the piano has not been tuned for at least twenty years. In spite of this, the instrument has retained its tuning with minor exceptions in the extreme upper and lower registers.

The keyboard does not appear to be marred, discolored, or damaged in any manner. All 264 keys are present and are in perfect condition. There is some sluggishness in the action which may, however, be due to a lack of use. This is most noticeable in the upper rows of keys (5 & 6) and the lowest keys. This problem may be partially due to the key balance problem which plagued Jankó's piano; this depends on the date of the keyboard. If the construction date of the keyboard is before 1891, this instrument could not have been built by Decker Brothers. It is possible that Decker Brothers imported the Jankó keyboards from Germany and installed them in their own cases. There is no evidence, however, to support or refute this supposition. If Decker Brothers manufactured the keyboard as well as the case, it must have been built after 1891. By 1891 numerous constructional alterations had improved the key action and balance problems.

In all probability, the keyboard was built after 1891 as the action does not seem to be uniformly unbalanced. The balance problems and sluggish action seem to be due to age rather than construction. As it was not possible to remove the keyboard from the case, the exact 'model' of Jankó keyboard which was used for this Decker Brothers piano could not be determined.

Decker Brothers must have produced instruments of excellent quality. If this instrument is dated as late as 1891, it has already survived eighty-six years, at least twenty of which have not been in practical use. That the instrument has retained its fine tuning and tone quality indicates the quality of its construction.

The terraced rows of keys (Plate IX) can only be thoroughly understood from actual contact with the keyboard. Figure 11 allows one to block out chords and acquire basic knowledge of Jankó fingerings but cannot give one the true 'feel' of terraced keys. Although the entire width of Jankó's keyboard is only 16.5 cm, the hand fits comfortably over four and five rows but can cover all six rows. Jankó would not suggest that the performer attempt to use more than four rows of keys in one hand simultaneously. The terraced keyboard, its angle, and the distance between rows facilitate comfortable execution and freedom; this can only be understood by firsthand experience with the Jankó keyboard.

This instrument is an excellent example of Jankó's invention. The necessary adjustments to restore the instrument to its very best condition would be minor and of a rudimentary nature. Such a fine

instrument could be very beneficial in informing musicians of the instrument's abilities and possibilities.

The Stephen Foster Memorial Carillon Tower in White Springs, Florida, contains a Steinway grand piano with a Jankó keyboard. This instrument was given to the museum by Mrs. Winifred Bush Hill of Miami in memory of her father, Franklin Coleman Bush.[1] Franklin Bush was a pioneer Floridian (1896-1940) who began the first school of music in Miami.[2] Mr. Bush must have played the Jankó keyboard rather proficiently to have purchased such a fine and expensive instrument.

The case and internal construction of the instrument appear to be identical to those of any Steinway grand piano. This instrument has all of the patents common to the Steinway instruments of the late 1800's, the latest being 1879. It seems doubtful that Steinway manufactured the keyboard, especially since the latest date on the instrument, 1879, is before Jankó's invention of 1882. Decker Brothers had exclusive rights to the production of Jankó pianos by 1892, and it is also doubtful that they produced the keyboard for the Steinway case. In all probability, the keyboard was imported from Germany by Mr. Bush and was installed in the pre-existing Steinway case. As previously mentioned, the Jankó keyboard could fit into any existing case.

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1 This information is found on an information sheet which is available at the Stephen Foster Museum; no date is included on the one-page printed sheet.

2 Ibid. The dates may be those of Mr. Bush, or the dates for his work in Florida.

Unfortunately, the author has not seen this instrument but assumes that it is of high quality and produces a sound identical to that of any other Steinway grand produced in the late nineteenth century. This instrument appears to be in excellent condition and is known to be in working order. Differences in the key action and mechanism probably exist between the Steinway and Decker Brothers instruments. The exact date of either keyboard or, for that matter, the manufacturer, is not known.

Plate XV. Steinway Jankó Grand Piano

This magnificent instrument and the Decker Brothers upright have gone virtually unnoticed by musicians for forty years. Their existence has been, and continues to be, a novelty which has been ignored by music historians who classify the Jankó keyboard with any and all experimental inventions in piano construction. Both instruments exhibit the fine qualities and capabilities of the Jankó piano as well as excellence in construction by competent manufacturers.

C O N C L U S I O N

Paul von Jankó's keyboard invention of 1882 fell into obscurity almost as quickly as it rose to prominence. Although Jankó's invention enjoyed fairly widespread success throughout Europe and the United States during the remainder of the nineteenth century and early twentieth century, this success was obviously not of sufficient magnitude to warrant continued interest in the instrument. Thus, a complete history of Jankó's keyboard has not been written, and the lack of a systematic study has caused numerous misconceptions to arise concerning the construction and practical use of the keyboard. The primary cause of this neglect has been the lack of readily available information concerning Jankó's work. Bits of information concerning Jankó's keyboard can be found in numerous articles, books, music publications, reviews of performances, and concert programs; this information, however, has not been sufficiently compiled to offer the musician an accurate survey of the keyboard's history. Hopefully this study has provided a succinct collection of materials concerning Jankó's keyboard for those interested in its musical and historical value as well as the various aspects of Jankó's success and failure.

The dichotomy of the success and failure of Jankó's keyboard is complex and may hinge on the acceptance and rejection of the positive aspects of the instrument. Initially, Jankó wished to compact the octave so that larger intervals could be executed by one hand. This concept, coupled with the multi-tier concept, enabled Jankó to

construct a keyboard on which the performer could retain a natural five-finger position which allowed for extraordinary freedom of the thumb and fifth finger. Scales and arpeggios were less complicated on Jankó's instrument not only due to the compact size of the keyboard but also the identical or similar fingering patterns which could be used in all keys. Transpositions could be made easily because of the identical fingering patterns, and exceedingly large or full chords were executed with ease. Such advantages, and numerous others previously mentioned, do not support the failure of Jankó's instrument but raise questions concerning its defeat.

The exact circumstances which surrounded the seemingly abrupt disappearance of Jankó's keyboard are not known. Numerous factors, however, can be speculated upon which may have influenced the rapid decline of the instrument's use. By 1892 Jankó's keyboard was recognized in Europe and the United States, and Jankó must have enjoyed the support which was offered to his invention by various manufacturers, music publishers, music schools, and musicians on both continents. Considering the variety of positive events which occurred in 1892, it seems curious that Jankó made his move to Constantinople in the very same year. Jankó's hasty move to a tobacco farm in Turkey may have had a drastic effect and influence upon those who tried to further the acceptance of the Jankó keyboard. To some, this move may have been indicative of the inventor's own doubts about his instrument or his willingness to accept defeat. In spite of Jankó's disassociation with the invention, his European followers continued

to support the Jankó keyboard and attempted to secure its acceptance by the musical public well into the 1930's.

This apparently self-imposed decision to live on a tobacco farm in Constantinople remains one of the unsolved mysteries which surround Jankó's life. It seems unusual that an obviously dedicated and talented musician would suddenly decide not only to abandon his philosophies but the entire music field. Thus, it is not only the timing of Jankó's decision which is bothersome but also the factors which led to such a decision. As there is no concrete evidence available to support the details of Jankó's move to Constantinople (except for the letter which Jankó wrote to F. Weisshappel in which the inventor expressed his intense dislike of the conditions of his life), one can only speculate on the possible chain of events which led to Jankó's 'disappearance' from the musical society.

Through an examination of the numerous manufacturers of Jankó keyboards, publishers of Jankó keyboard materials, Jankó keyboard artists, and conservatories which offered Jankó keyboard instruction, it is apparent that the invention attracted sufficient attention to offer at least potential competition to the traditional keyboard. It seems doubtful that any major European manufacturer of traditional pianos felt at all threatened by the new instrument as many of them were actively involved in Jankó keyboard production by the close of the nineteenth century. In the United States, however, the production of the Jankó keyboard was limited to one New York firm. As early as 1891 the Decker Brothers Piano Manufacturers of New York gained exclusive rights to the production of Jankó pianos in the United States. Had

Jankó's invention continued to achieve success and acceptance in the United States, Decker Brothers could have attained a prestigious position in Jankó piano production. Such a possibility may have concerned American manufacturers of traditional keyboards who would have been forced to obtain rights to Jankó piano production and assume their place behind the more experienced Decker Brothers Manufacturers. This potential competition may have had some direct effect upon Jankó's 'decision' to move to the tobacco farm in Constantinople.

One can easily understand why traditional keyboard builders and instructors would have frowned upon the adoption of the Jankó piano as the primary keyboard instrument, as this would have involved a relearning not only of piano technique but also of instruction. Jankó may have faced decisive opposition from a substantial group of musicians in the United States. The manner in which such opposition was expressed is not known but may have contributed to Jankó's rather hasty decision to leave his invention and all aspects of music. Thus, while one may be able to comprehend Jankó's decision to discontinue the fight for the acceptance of his keyboard, it is not as easy to comprehend his total disinvolvement with music and his native country. Jankó spent most of the formative years of his life in Austria and Germany and achieved notable success in a variety of music-related fields. Such a background breeds doubt as to the motives of Jankó's escape from music. Indeed, it may be possible that such a decision was not made entirely by the then thirty-six year old musician.

These speculations may have been realities in 1892, but the possible explanations for Jankó's failure are seemingly endless. Besides the weight of tradition and possible pressure from outstanding manufacturers of traditional keyboards, the Jankó keyboard may have had defects inherent in the instrument which led to its eventual defeat. There are numerous merits to Jankó's keyboard and indeed many factors, previously discussed, which may have been decided 'improvements' on the traditional keyboard concept. There merits, however, may not have been of sufficient value to outweigh even the basic psychological problem involved when confronted with a multi-tiered keyboard. The apparent complexity of Jankó's keyboard which immediately confronts the musician is overwhelming. At first glance the multi-tiered keyboard appears to have an overabundance of keys which would involve an extremely complex fingering system to facilitate performance on the instrument. Even after one has adjusted to the vast number of available playing surfaces, there may remain a crucial lack of orientation due to the whole-tone scale concept which places 'black' keys in all rows. Thus, the uninitiated is immediately confronted with multiple rows of keys and the lack of any physical orientation upon which to base his frame of reference. This lack of orientation may not be as crucial to one who has never attempted to play any keyboard instrument. Indeed such problems may have existed only for those who had sufficiently mastered the traditional keyboard and thus had a substantial frame of reference and expectation of their instrument.

Other problems, however, may have faced even the novice pianist who could not base his opinions upon his experience with any other

keyboard instrument. The touch plates on Jankó's instrument are extremely small which could have offered extensive problems to anyone with a large hand. Whereas the overall width of the touch plates is greater than the comparable surface on the traditional keyboard, the length is considerably shorter and thus offers only one position where the key may be struck. It is difficult to determine the eventual outcome of working with such a system; it is possible that Jankó's keys may have facilitated greater accuracy for the experienced performer, or perhaps only for the performer whose hand was of small dimensions. Answers to such questions necessitate extensive pedagogical research.

Further psychological problems may have existed in that musicians tend to become oriented toward a difference in 'feel' between white and black keys on the traditional keyboard and base their reference upon the positioning of these keys. This is impossible to do on Jankó's instrument as all keys feel and appear, in size and position, to be identical. In our tonally based musical system such a lack of differentiation between naturals and sharps or flats may have been an extreme hindrance to the furtherance of theoretical understanding and aural recognition by the student. Such problems could definitely impair the learning process and result in a lack of basic knowledge concerning key structures and chordal functions. Many chordal functions in Western music are based upon directional resolution; such direction does not have to be 'felt' on Jankó's keyboard to execute the proper notes.

Perhaps all of the previously mentioned problems only augmented the likely possibility that Jankó's keyboard may have been invented at an inappropriate time for it to gain widespread acceptance by musicians. Nineteenth-century composers greatly expanded the musical possibilities of the traditional keyboard in a constant attempt to exceed previous limitations of the instrument. By 1882, the year of Jankó's keyboard invention, a substantial body of exciting and demanding, but playable, literature already existed for the traditional keyboard, and technical mastery of the accepted keyboard was a highly respected and revered art. There seemed to be little, if any, necessity for a multi-tiered keyboard to expand musical possibilities as composers and performers of the nineteenth century achieved sufficient sophistication and virtuosity with the long-established keyboard instrument. The reduced octave span and the possibility of additional sonorities must not have been of sufficient merit to encourage the adoption of Jankó's keyboard.

Jankó's main objective was not to make keyboard performance simple, as his six-six concept does not alleviate all technical execution problems and offers other problems unique to multi-tiered keyboards. The primary concern of Jankó involved the artistic performance of compositions and musical freedom. Technical difficulties with any instrument can impede a musician's interpretation and performance because his mind is not free to produce music. Jankó attempted to construct a keyboard which allows for a more facile technique so that the performer's mind could be free from technical trauma and directed toward the interpretation and production of music.

These points indicate that a re-evaluation of Jankó's keyboard is necessary, regardless of the role which it assumed earlier, if it is to be recognized in the future as a legitimate instrument with viable possibilities for twentieth-century musicians. Such an evaluation need not be based on previous knowledge of the instruments' success and failure or its comparison to the traditional keyboard but must be conducted on its own merits as a potential instrument for twentieth-century composition. Only when such an evaluation has taken place will we be able to competently accept or reject the Jankó keyboard.

For such an evaluation to take place Jankó's keyboard must become more well-known throughout the musical community. Hopefully, museums which have Jankó keyboards will make them more accessible to the public so that knowledge of the instrument can be perpetuated and, perhaps, interest rekindled. Those who are presently concerned about and interested in Jankó's keyboard must continue to strive for more widespread exposure and acceptance of the instrument. Thomas Reed's Musical Six-Six Newsletter has contributed a great service to the furtherance of the six-six concept, as well as the Jankó keyboard; such a newsletter, however, must reach a larger audience of musicians, colleges, and universities if the six-six concept is ever to gain more than superficial notice. Those persons presently involved with six-six keyboard construction, such as Paul Vandervoort of San Francisco, California, hopefully will not only continue their work but also attempt to widen the circle of musicians interested in the six-six concept as it relates to Jankó's keyboard. Jankó's invention will face

continued obscurity unless such factors work together to seek a more widespread knowledge of the instrument.

A P P E N D I X I

METHOD BOOK FOR THE JANKÓ KEYBOARD

How to Learn the New Keyboard

Walter Bradley Keeler,
Published by the Paul von Jankó
Conservatory, New York,

How to Learn the New Keyboard

PUBLISHED BY
THE PAUL VON JANKO
CONSERVATORY OF MUSIC
NEW YORK

THE Management of THE PAUL VON JANKO CONSERVATORY OF MUSIC beg to announce that Messrs. DECKER BROTHERS, Piano Manufacturers, have concluded arrangements for the manufacture and sale of the NEW KEYBOARD, invented by Mr. Paul von Janko, and are prepared to furnish the same to the general public and the trade. Prices for the Keyboard, and for pianos with the same, will be furnished on application. Address, Messrs. DECKER BROS., Union Square, New York.

OUTLINES OF THE THEORY
OF
PAUL VON JANKO'S NEW KEYBOARD.

By W. B. KEELER.

One of the great advantages of the new keyboard is its extreme simplicity.

It has no *awkward stretches* nor positions, whether the hand be small or large.

There are *only two keys* to be learned, one major and one minor, instead of twenty-four.

The different figures that occur in each key are reduced to a few simple principles.

The keyboard having such an endless variety of possibilities and no irregularities, it is most necessary to have a perfectly logical and complete system of fingering, in order to possess the full advantage of its simplicity.

A careful study of the following rules and examples will save the student time and discouragement of useless experimenting.

The key-board consists of six under or *long keys*, C, D, E, F♯, G♯, A♯ (in the row nearest the player), and of six upper or *short keys*, C♯, D♯, F, G, A, B. The terms long and short are used simply for convenience in designating. This natural arrangement gives a normal series of half-tones, thus

	C♯		D♯		F		G		A		B	
C		D		E		F♯		G♯		A♯		C

making a whole key a whole tone, and the distance of half a key a half tone.

Each key has three different places where it may be struck, and looks to the unprejudiced eye like three different keys, giving the whole keyboard the appearance of six rows of keys arranged in the form of stairs.

We have seen that the entire scale comes in the first two rows. The third and fourth rows are a repetition of the first and second, and the fifth and sixth the same. Three banks of keys, as it were, all run together [illegible].

In noting the fingering, a dot below the figure indicates the first two rows, $\dot{2}$. A dot above, the two upper rows, $\ddot{2}$. The two middle rows are understood when the figure has no dot.

MAJOR SCALES.

Each major scale consists of three tones on one row, and four tones on the row lying directly below and above.

In playing the scale in octaves, for instance, commencing with C in the third row, three notes lie next to each other, and the remaining four lie in the second row; C is again taken in the third row, thus:

Right hand	5	5	5	$\dot{5}$	$\dot{5}$	$\dot{5}$	$\dot{5}$	5	Left hand the same.
	1	1	1	$\dot{1}$	$\dot{1}$	$\dot{1}$	$\dot{1}$	1	

For octaves this order is always preserved.

The fingering for all scales in single notes is like that of F♯ major on the old keyboard. The 3d finger (German fingering) beginning on F♯ (the first of the group of three black keys) *in the third row*, and taking B and E♯ with the thumb in the second row. C♯ and D♯ are played with the 2d and 3d fingers in the fourth row, thus using in all *three rows* as follows:

R. H.	2	3	4	$\dot{1}$	2	3	$\dot{1}$	2
	F♯	G♯	A♯	B	C♯	D♯	E♯	F♯
L. H.	4	3	2	$\dot{1}$	3	2	$\dot{1}$	4

For the other five long keys G♯, A♯, C, D, E) use exactly the same rows and positions, for instance

	C	D	E	F	G	A	B	C
R. H.	2	3	4	$\dot{1}$	2	3	$\dot{1}$	2 .

The six short key scales begin on the next row above—the fourth row—thus:

R. H.	2	3	4	1	$\ddot{2}$	$\ddot{3}$	1	2
	D♯	E♭	F	G♭	A♭	B♭	C	D♭

It is necessary to be most careful to notice the rows designated by the dots, or their absence, otherwise only confusion will be the result.

The *middle fingers must not play on the same row with the thumb.* It is one of the first principles of the new keyboard that the fingers shall be used as they naturally fall—the thumb always on some row below the long fingers.

Where the thumb is used, NEVER LESS THAN TWO NOR *more than four rows* are employed at the same time. NEVER PLAY OVER FIVE ROWS AT ONCE.

MAJOR CHORDS.

All regular chords that occupy the compass of an octave, are founded on the chord octave which places the thumb and little finger two rows apart—for instance, in C major the thumb on C in the third row, and the 5th finger on C in the fifth row, thus:

5 5 5 5 5 5 5 5
1 1 1 1 1 1 1 1 the left hand the same.

The short keys begin on the second and fourth rows.

The major triad, four voiced, is then played with the thumb on C III row; 5th finger on C, V row; 2d finger on E, V row, and the 3d finger on G, VI row.

R. H.	C 5		E 5		G 5
	G 3	} position of { chord with }	C 1	} next { position }	E 4
	E 2		G 3		C 2
	C 1		E 1		G 1

All regular chords occupying the compass of an octave use *four rows*. Left hand fingering is:

L. H.	C 1		E 1		G 1
	G 2	} next { position }	C 2		E 2
	E 4		G 4		C 3
	C 5		E 5		G 5

Notice that the two middle notes of each chord are the same in both hands, the octave being reversed to fit the shape of the hand.

This fingering, and all given hereafter, is for the long keys. The major chords, beginning on the short keys, lie a row lower (thumb on D♭, II row, third finger on A♭, V row, etc.

All chords being alike in all keys they can be played chromatically, without moving the fingers, simply by moving the whole hand from one key to another.

The exact shape of these chords must be thoroughly learned before proceeding. They should be learned in C major before trying the other keys.

MINOR SCALES.

R. H	2	3	4	1	2	3	1	2	
	C	D	E♭	F	G	A♭	B	C	for the harmonic.
L. H.	4	3	2	1	3	2	1	4	

The melodic descends in its relative major (E♭).

R. H.	2	3	4	1	2	3	1	3	2	1	4	3	2	1	2
	C	D	E♭	F	G	A	B	C	B♭	A♭	G	F	E♭	D	C
L. H.	4	3	2	1	3	2	1	2	3	1	2	3	4	1	4

The short keys one row higher, the same as majors.

MINOR CHORDS.

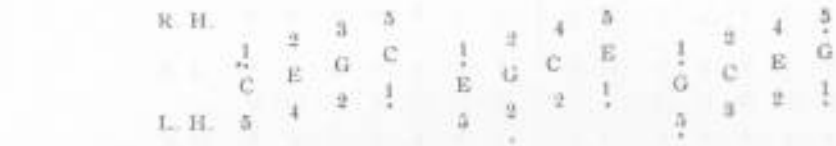
The minor triads for the right hand are, in shape, exactly like the major for the left hand, the minors of the left like the major right hand.

R. H.	C 5	E♭ 5	G 5	L. H.	C 1	E♭ 1	G 1
	G 3	C 4	E♭ 4		2	2	2
	E♭ 2	G 2	C 3		4	4	3
	C 1	E♭ 1	G 1		5	5	5

The short keys one row higher.

BROKEN CHORDS.

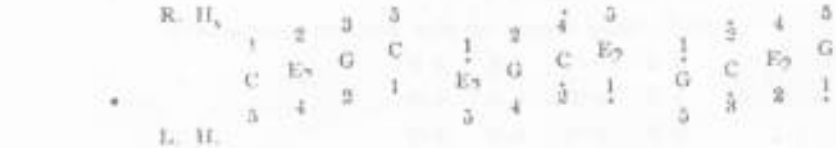
In both major and minor triad chords the thumb has two positions on one row, and one position on the *next below—when the chords are struck;* but when they are broken this single note played by the thumb is contracted to the same row with the little finger, for greater ease and smoothness.



Short keys one row higher.

All passages in single notes are played as much as possible in the middle of the keyboard. When, as in the long key broken chords, the choice is between the *extreme* upper or lower position, the lower is always preferable.

BROKEN MINOR TRIADS.



Short keys one row lower.

Notice that in the major the 3d position of chord is contracted; in minor the first position

ARPEGGIOS.

Arpeggios, like scales, do not exceed three rows.

MAJOR.

R. H.	1	2	3	1	2	3	5
	C	E	G	C	E	G	C
L. H.	5	3	2	1	3	2	1
R. H.	1	2	4	1	2	4	5
	E	G	C	E	G	C	E
L. H.	5	4	2	1	4	2	1
R. H.	1	2	4	1	2	4	5
	G	C	E	G	C	E	C
L. H.	5	3	2	1	3	2	1

Short keys one row lower.

MINOR.

R. H.	1	2	3	1	2	3	5
	C	E♭	G	C	E♭	G	C
L. H.	5	4	2	1	4	2	1
R. H.	1	2	4	1	2	4	5
	E♭	G	C	E♭	G	C	E♭
L. H.	5	4	2	1	4	2	1
R. H.	1	2	3	1	2	3	5
	G	C	E♭	G	C	E♭	G
L. H.	5	3	2	1	3	2	1

Short keys one row higher.

DOMINANT SEVENTH CHORD.

5-VOICED.

is the same as the triad, with the seventh added, thus:

G 5	B 5	D 5	F 5
F 4	G 4	B 4	D 4
D 3	F 3	G 3	B 3
B 2	D 2	F 2	G 2
G 1	B 1	D 1	F 1

Always over four rows in all positions. When broken, like the triad it is derived from, it has its third position, D, F, G, B, D, contracted to [illegible] position.

DOMINANT SEVENTH, ARPEGGIO.

it is all on three and two rows.

R. H.	1	2	3	4	1	2	3	4	5
	G	B	D	F	G	B	D	F	G
L. H.	5	4	3	2	1	4	3	2	1
R. H.	1	2	3	4	1	2	3	4	5
	B	D	F	G	B	D	F	G	B
L. H.	5	4	3	2	1	4	3	2	1
R. H.	1	2	3	4	1	2	3	4	5
	D	F	G	B	D	F	G	B	D
L. H.	5	4	3	2	1	4	3	2	1
R. H.	1	2	3	4	1	2	3	4	5
	F	G	B	D	F	G	B	D	F
L. H.	5	4	3	2	1	4	3	2	1

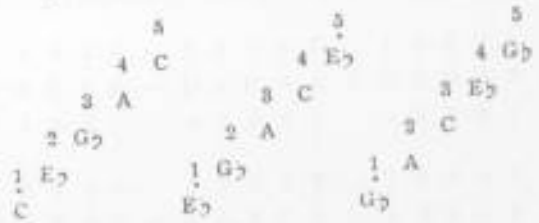
Short keys one row higher.

DIMINISHED SEVENTH,

when struck, 5-voiced, has but one form, for instance: thumb on C, I row; 2d finger Eb, IV row; 3d finger Gb, III row; 4th finger A, IV row; 5th finger C, III row

DIMINISHED SEVENTH, BROKEN.

Every other position is contracted to staccato octave position, thus:



The left hand the same, reversed.

AS ARPEGGIO

it has but one position occupying three rows, 1 2 3 4 1 2 3 4 5; the thumb and 3d finger always coming in the second or third row.

THE CHROMATIC SCALE.

on two rows either

1 2 3 4 1 2 3 4 5 or 1 3 1 3 1 3 1 3

according as strength, rapidity, or accent demands.

For [illegible] of three notes it may be played,

1 2 3 1 2 3 1 2 3 1 2 3

FIVE FINGER POSITIONS.

Only those using the thumb are given. The others are too simple to need explanation.

Each five-finger position by itself never uses more than three rows.

R. H. 1 2 3 4 5 — 1 2 3 4 5 — 1 2 3 4 5 —
C D E F G — D E F G A — E F G A B —

L. H. 5 4 3 2 1 — 5 4 3 2 1 — 5 4 3 2 1 —

R. H. 1 2 3 4 5 — 1 2 3 4 5 — 1 2 3 4 5 —
F G A B C — G A B C D — A B C D E —

L. H. 5 4 3 2 1 — 5 4 3 2 1 — 5 4 3 2 1 —

R. H. 1 2 3 4 5 — 1 2 3 4 5
B C D E F — C D E F G

L. H. 5 4 3 2 1 — 5 4 3 2 1

Groups of six notes:

R. H. 2 1 2 3 4 5 — 2 1 2 3 4 5
C D E F G A — D E F G A B etc.

Seven notes:

2 3 1 2 3 4 5

Eight notes:

2 3 4 1 2 3 4 5

Nine notes, and more, like regular scale. Two, three and four notes as fractions of first example. Short keys one row higher.

BEST ENDINGS FOR SCALES.

				(1	2	3	4)									
R. H.	2	3	4	1	2	3	1	2	3	4	1	2	3	4	5
	C	D	E	F	G	A	B	C	D	E	F	G	A	B	C
L. H.	4	3	2	1	3	2	1	4	3	2	1	4	3	2	1
				(3	4)										

SCALES IN DOUBLE NOTES.

MAJOR THIRDS.

R. H.	4	5	3	4	3	4	3	4
	2	3	1	2	1	2	1	2
	E	F	G	A	B	C	D	E
	C	D	E	F	G	A	B	C
L. H.	2	1	2	1	2	1	3	2
	4	3	4	3	4	3	5	4

[illegible] keys one row higher.

MELODIC MINOR.

R. H.	4	5	3	4	3	4	3	4
	2	3	1	2	1	2	1	2
	E♭	F	G	A	B	C	D	E♭
	C	D	E♭	F	G	A	B	C
L. H.	1	2	1	2	1	3	2	1
	3	4	3	4	5	5	4	3

[illegible] keys one row higher.

HARMONIC.

R. H.	5	3	4	3	4	5	4	5
	3	1	2	1	2	1	2	3
	E♭	F	G	A♭	B	C	D	E♭
	C	D	E♭	F	G	A♭	B	C
L. H.	1	3	2	1	3	1	2	1
	3	5	4	3	4	3	4	5

Short keys one row lower.

MAJOR SIXTHS.

R. H.	5	3	4	5	4	5	4	5
	2	1	1	2	1	2	1	3
	C	D	E	F	G	A	B	C
	E	F	G	A	B	C	D	E
L. H.	2	1	2	1	2	1	1	2
	5	4	5	4	5	4	5	5

Short keys one row lower.

Chromatic thirds and sixths are easily found, and may be fingered after the principle of either Chopin or Czerny, using two or three rows.

All other chords are readily fingered from the examples already given, the same rules applying to all.

Chords beyond the compass of the ninth are fingered according to the size of the hand, following these rules: The 2d finger never plays on a row

above the 3d finger. Two adjoining fingers *never* play over more than two rows. The thumb never plays above the other fingers. For instance:

1	E	3		1	E♭	3
2	C	4		2	A	3
3	G	2		3	G♭	2
5	C	1		5	C	1

Chords less than an octave are either fingered as parts of 4-voiced chords (octave compass) or in compact form, thus:

G	3		C	3		E	3		G	3		
E	3		G	2		C	3		E♭	3		
C	1		E	(1)	1	G	1		C	1		etc.

In adapting fingering to pieces, the hands should use the same rows, except to avoid conflict of the hands. All passages to be fingered as nearly as possible like the harmonic figures from which they are derived.

A P P E N D I X II

PATENTS

F. J. Blüthner, Jr.	Pianoforte Attachment	December 25, 1888
F. B. Boyes	Piano Key Lever	December 9, 1890
Paul von Jankó	Keyboard for Musical Instruments	May 3, 1892

(No Model.)

F. J. BLÜTHNER, Jr.

PIANO FORTE ATTACHMENT.

No. 395,029. Patented Dec. 25, 1888.

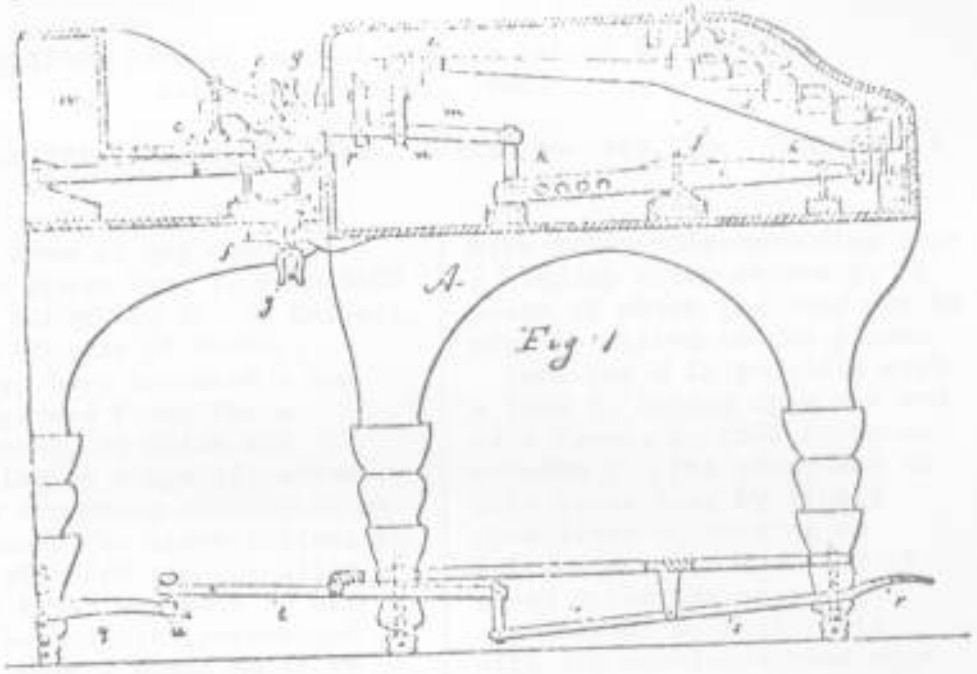


Fig. 1

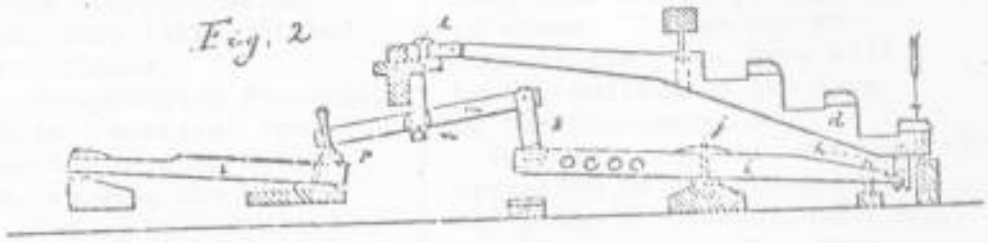


Fig. 2

Witnesses
Max Huber.
Alfred Youngmann

Inventor:
F. J. Blüthner Jr.
by his attorneys.
Baxter & Bilson

UNITED STATES PATENT OFFICE.

FERDINAND JULIUS BLÜTHNER, JR., OF LEIPSIC, SAXONY, GERMANY

PIANO-FORTE ATTACHMENT

SPECIFICATION forming part of Letters Patent No. 395,029
dated December 25, 1888.

Application filed August 7, 1888. Serial No. 282,125. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND JULIUS BLÜTHNER, Jr. of Leipsic, in the Kingdom of Saxony, Germany, have invented a new and Improved Piano-Forte Attachment, of which the following is a specification.

This invention relates to an attachment for piano-fortes, by means of which the so-called "janco keys" are made to act upon the ordinarily-arranged keys. Thus a piano built in the old style can be played upon by the new keys.

The invention consists in the various features of improvement, more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical transverse section through my attachment, showing the key raised. Fig. 2 is a similar section through its principal parts, showing the key depressed.

The letter *a* represents the forward part of an ordinary piano, having the white keys *b* and black keys *c*.

A is a case of the same height as the piano and containing the new style or janco keys *d*, turning on the pivots *e*. The case A is provided with rearwardly-extending lugs *f*, having clamp-screws *g*, by means of which the case may be rigidly united to the piano.

Each key *d* is provided with a link *h*, acting upon one end of a lever, *i*, that turns on fulcrum *j*. The other end of this lever acts by link *k* upon lever *m*, turning on fulcrum *n*. The free end of lever *m* carries an adjustable screw, *p*, that rests with its cushioned head upon one of the keys of piano *a*. Some of the screw-heads rest upon the white keys *b* and some upon the black keys *c*, as shown. In use the motion of the janco keys will be transmitted to the keys of the instrument *a*.

In order to permit the operation of the pedal *q* of the piano *a* the attachment A has the pedal *r*, that acts upon the pedal *q* through the levers *s t* and binding-screw *u*.

What I claim is--

1. The combination of case A, having janco keys *d*, with the links *h*, levers *i m*, and cushioned screws *p*, substantially as specified.

2. The combination of case A, having lugs *f* and clamp-

screws g, with the janco keys d, links h, levers i m, and screws p, substantially as specified.

3. The combination of case A, with pedal n, levers o t, and binding screw a, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FERDINAND JULIUS BLÜTHNER, Jr.

Witnesses:
EDMUND BACHS,
MAX MATTHAI.

(No Model.)

F. B. BOYES.

PIANO KEY LEVER.

No. 442,166. Patented Dec. 9, 1890.

FIG-2-

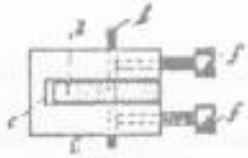


FIG-3-

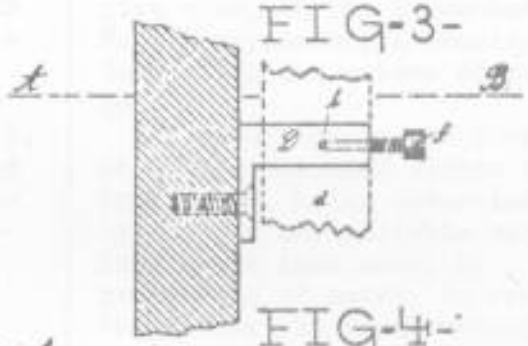


FIG-1-

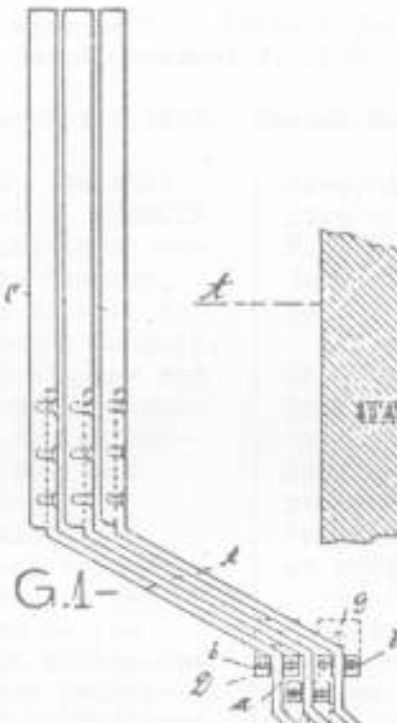


FIG-4-

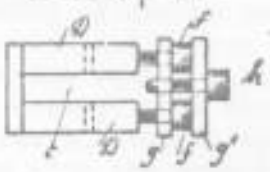
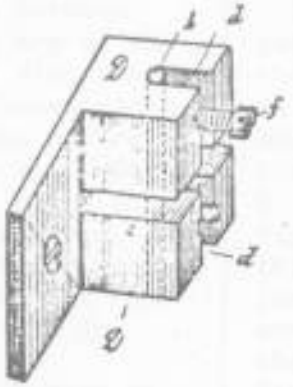


FIG-3ª-



Witnesses
A. Steigel
A. Jänicke

Inventor:
Francis Boyes Boyes
by Wells Shaw
Atty

UNITED STATES PATENT OFFICE.

FRANCIS BRYAN BOYES, OF VIENNA, AUSTRIA-HUNGARY.

PIANO-KEY LEVER.

SPECIFICATION forming part of Letters Patent No. 442,166
dated December 9, 1890.

Application filed March 31, 1890. Serial No. 346,081. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS BRYAN BOYES, a subject of the Emperor of Austria-Hungary, and a resident of Vienna, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Piano-Levers, of which the following is a full, clear, and exact specification.

My invention relates to piano levers, which may especially be applied to the Janko keyboard and to the horizontal English mechanisms.

My improved lever principally consists of an inclined bar forming two knees or angles at its center part and having its fulcrum between these angles. One arm of the lever is connected with the key-board and the other with the mechanism of the action.

In order to make my invention more clear, I refer to the accompanying drawings, in which similar letters denote similar parts throughout the different figures, and in which--

Figure 1 is a plan view of several piano-levers lying one beside the other. Fig. 2 is a sectional view through line A B of Fig. 3; Fig. 3, a side view, and Fig. 3[a] a perspective view, of the lever-bed. Fig. 4 represents a securing device for the screws of such bed.

A *a* A represents the lever obliquely arranged within the instrument, being conveniently made of any suitable material other than wood, by preference of metal, in order to prevent the usual warping or shrinking of wooden parts.

The lever A *a* A is connected at its ends A A by means of screws, with the wooden arms B, bearing the keys, and with the arms C going to the action mechanism. (Not shown in the drawings.)

The lever A *a* A at its support *a* is bent at angles, so that the key-board, as well as the hammer-row of the mechanics, lies parallel to the axles *b* of the lever A *a* A. Each axle *b* (shown in Figs. 1, 2, 3, and 3[a]) passes through that part of the lever which is bent at angles, and is situated in a bed D of the construction shown in Figs. 2, 3, and 3[a]. This bed D is provided with a longitudinal slot *c* for the lever A *a* A, and two other slots *d* *d*, through which the axle *b*

passes, which is then fixed by means of screws *b b*. The axles for each lever are so arranged as to stand perpendicular to the keys--that is to say, parallel to the key-board, marked by the line M N in Fig. 1--thereby producing both a correct touch and a precisely vertical fall of the single levers without any lateral movement. Of course the arms A A of the lever A *a* A are arranged in a slanting position to the key-board M N. The screws *b b* may further be secured by two plates *g g'*, Fig. 4, one of which lies below the other upon the screw-heads, and which plates are pressed together by another screw *h*, fixing them at any convenient position. The plates *g g'* are provided with screw-threads, and the screw *h* engages therewith.

In consequence of the bending at angles of the lever A *a* A, and in consequence of supporting it in a bed by an axis being parallel to the key-board M N and perpendicular to the keys, any lateral injuring of the lever-axis (inevitable till now with the common inclined transmission-levers) is prevented. Any lateral friction is also avoided, and the piano-lever gets a completely vertical motion without shaking or disturbing its bed.

The bed itself of the lever is arranged so as to produce a very correct motion of the lever A and to make the latter very sensible.

I do not confine myself in carrying my invention into effect to pianos only; but I may use my improved lever in connection with key-instruments of any kind.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is--

1. In piano-levers for key-instruments, a double-inclined lever A *a* A, the arms A A of which are arranged diagonally to the key-board and the part *a* of which lies perpendicular to the key-board and bears the axle *b*, lying parallel to the key-board, for the purpose as described.

2. A double-inclined lever A *a* A, the arms A A of which are arranged diagonally to the key-board and the part *a* of which lies perpendicular to the key-board and bears the axle *b*, lying parallel to the keyboard, which axle is secured in a bed D, having the slots *c* and *d d*, by screws *b b*, for the purpose as described.

3. A double inclined lever A *a* A, the arms A A of which are arranged diagonally to the key-board and the part *a* of which lies perpendicular to the key-board and bears the axle *b*, lying parallel to the key-board, which axle is secured in a bed D, having the slots *c* and *d d*, by screws *b b*, and by the screw *h* with plates *g g'*, for the purpose as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRANCIS BRYAN BOYES.

Witnesses:
ADOLF LEOPOLD,
NETTIE S. HARRIS.

(No Model.) 3 Sheets—Sheet 1.

P. v. JANKÓ.

KEYBOARD FOR MUSICAL INSTRUMENTS.

No. 474,016. Patented May 3, 1892.

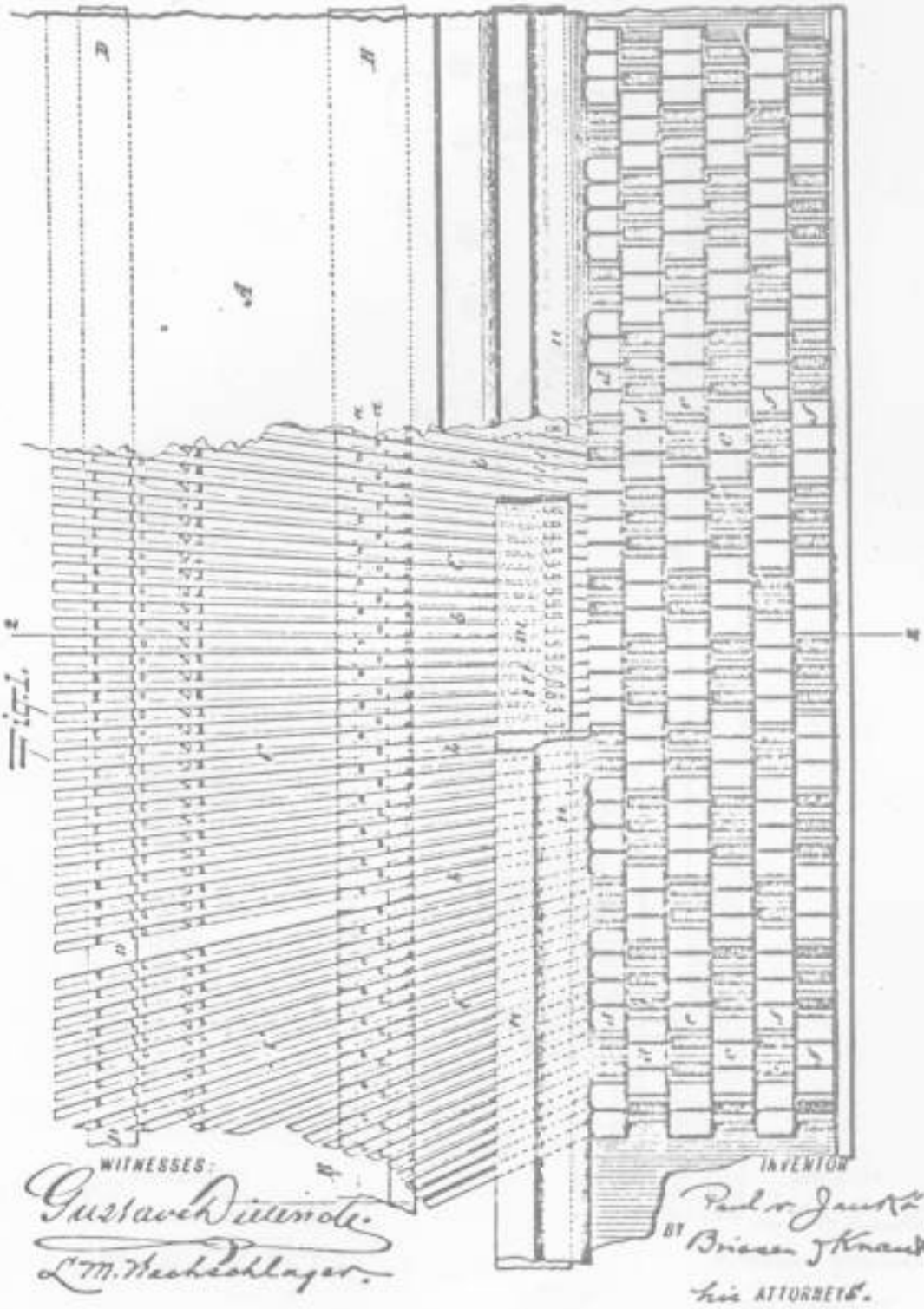


Fig. 1.

WITNESSES:

Gustave Dittmar

L. M. Rachenlager.

INVENTOR

Paul v. Janko

BY Briesen & Knauth

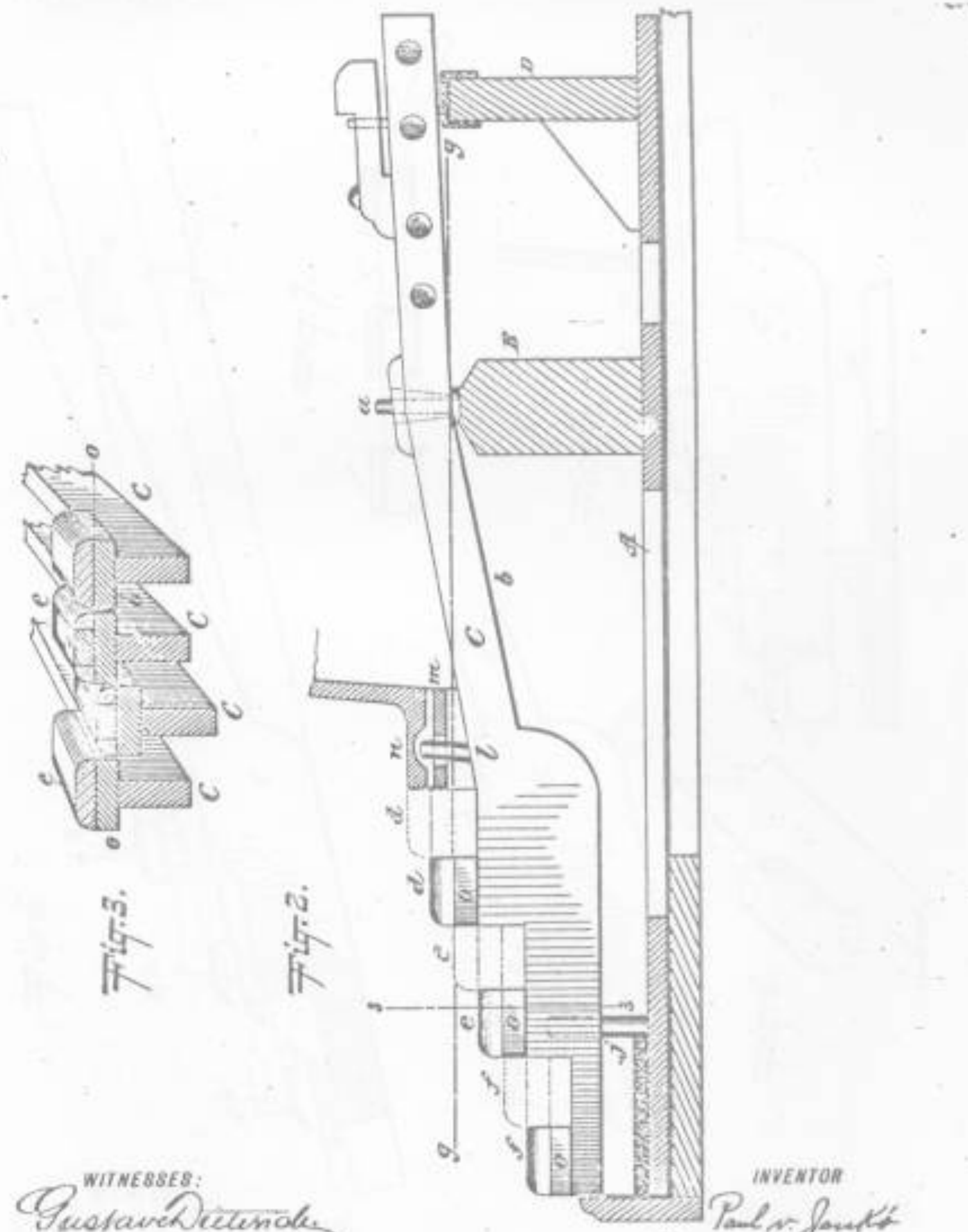
his ATTORNEYS.

(No Model.) 3 Sheets—Sheet 2.

P. v. JANKÓ.

KEYBOARD FOR MUSICAL INSTRUMENTS.

No. 474,016. Patented May 3, 1892.



WITNESSES:

Gustave Dieterich

L. M. Waschlager

INVENTOR

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BY Briesen & Knauth

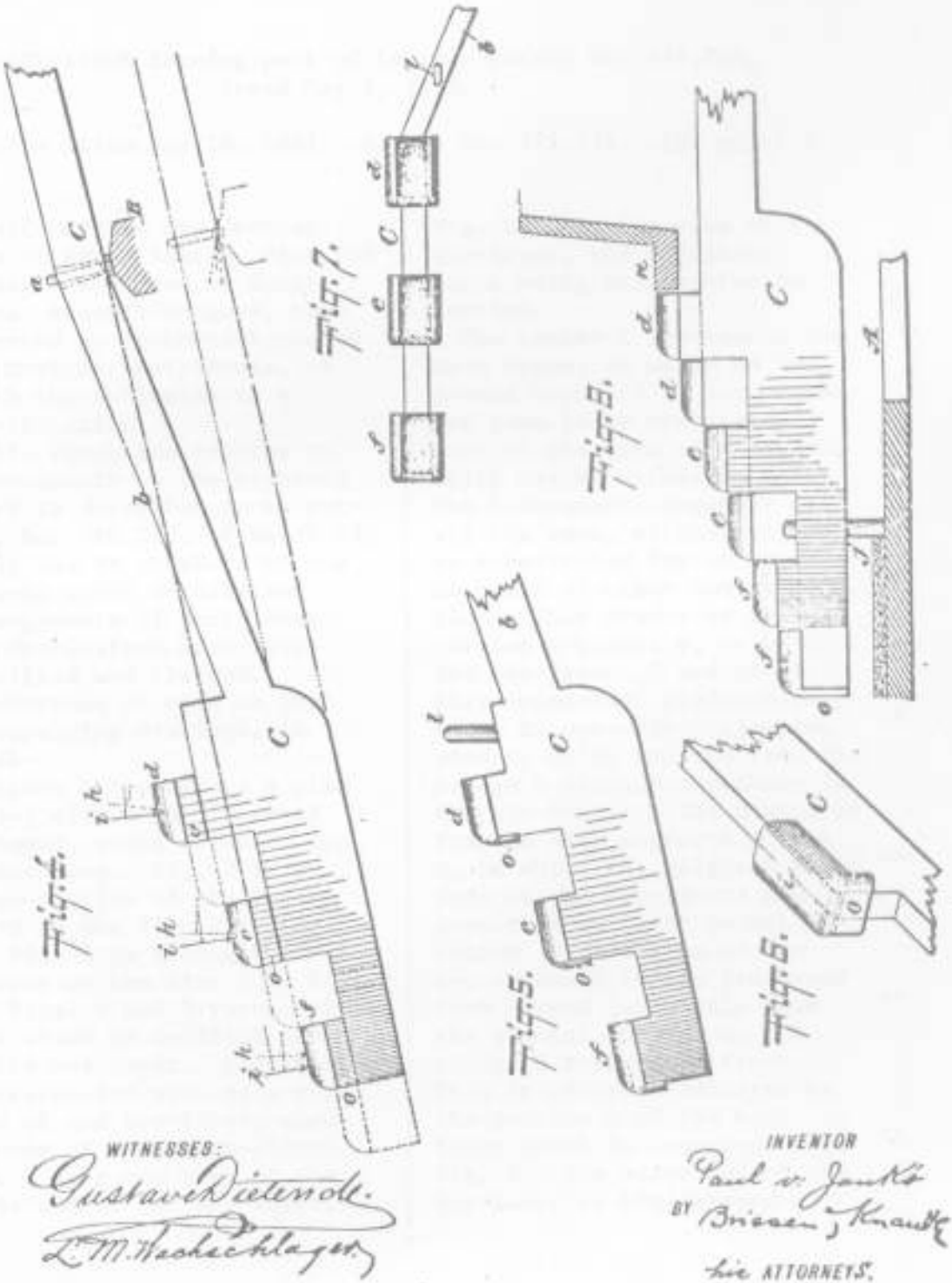
his ATTORNEYS.

(No Model.) 3 Sheets—Sheet 3.

P. v. JANKÓ.

KEYBOARD FOR MUSICAL INSTRUMENTS.

No. 474,016. Patented May 3, 1892.



WITNESSES:
Gustave Dieterode.
L. M. Hashechlager.

INVENTOR
Paul v. Janko
BY Briesen & Knauth
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

PAUL V. JANKÓ, OF BUDA-PESTH, AUSTRIA-HUNGARY.

KEYBOARD FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 474,016, dated May 3, 1892.

Application filed May 18, 1891. Serial No. 393,036. (No model.)

To all whom it may concern:

Be it known that I, PAUL VON JANKÓ, a resident of Buda-Pesth, Austria-Hungary, have invented an Improved Keyboard for Musical Instruments, of which the following is a specification.

This invention relates to improvements on the keyboard which is described in my patent, No. 360,255, of March 29, 1887; and it consists of the various novel details and arrangements of parts that are hereinafter more fully specified and claimed.

Reference is made to the accompanying drawings, in which--

Figure 1 represents a plan or top view of my improved keyboard, parts of which are broken away. Fig. 2 is a cross-section of the keyboard on the line 2 2, Fig. 1. Fig. 3 is a longitudinal section on the line 3 3, Fig. 2. Figs. 4 and 5 represent side views of modified forms of the key-lever. Fig. 6 is a perspective view of a portion of the key-lever, showing one of the touch-plates. Fig. 7 is a top view of the outer end of the key-lever. Fig. 8 is a side view of a key-lever, the adjoining parts being represented in section.

The letter A represents the main frame, in which my improved keyboard is supported. The same is by preference made in the form of a drawer, which may be withdrawn from the instrument, together with all the keys, so that it could be substituted for or by a keyboard of other construction. This drawer or frame A carries a bridge B, on which the key-levers C are pivotally supported, preferably by means of upwardly-projecting pins *a*, which project from the bridge B through apertures in the key-levers. The drawer or frame A also supports a rest D, on which the weighted inner ends of the key-levers are supported in their normal position. The shanks of the key-levers C in the preferred form extend downwardly from the pivotal support on the bridge B toward the front. This is clearly indicated by the portion *b* of the key-lever which is represented in Fig. 2. The outer end of the key-lever is step-shaped or

otherwise constructed to support the three touch-plates *d e f* at varying heights. It will be seen by reference to the line *g g* in Fig. 2, which is drawn on the plane of the pivotal support on the key-lever, that said pivotal support is at a height above the plane of the lower touch-plate *f*. I find this location of the pivotal support to be an important advantage, because it enables the player to move the key-lever downward by a substantially vertical stroke. Fig. 4 illustrates in principle what I here mean to express. It shows in dotted lines a lower pivotal support such as my former patent would lead to and in full lines the elevated pivotal support, and it shows by the dotted arrows *h* that the player would have to draw his fingers downward and forward in playing the instrument with the lowered pivotal support, while the arrows *i* in the same figure indicate that with the elevated pivotal support he can move the fingers in a substantially vertical line while playing.

The front or outer portions of the key-levers are in their movements guided on the usual guide-pins *j*; but with an instrument having several touch-plates to each lever I find it necessary to supply further guidance to prevent wabbling of the keys. To this end I place upon the upper edge of each key-lever another guide-pin *l*, which passes through apertures in a perforated stationary board *m*, (see also Fig. 1) and which greatly assists in furnishing proper guidance to the key-levers and in avoiding lateral play thereof. This perforated board *m* should, as Fig. 2 indicates, be covered by a fixed rail *n*. Now this fixed rail *n* is substantially horizontal, as indicated in Fig. 2, (it is also represented in Fig. 8,) and its upper face is on a substantial level with the upper faces of the uppermost touch-plates *d* of the key board. This is a great advantage over a rail which extends vertically against the rear faces of the uppermost touch-plates and which therefore would be liable to cramp the finger ends of the player and to be struck by them, causing more or less pain and inconvenience; but by placing the rail *n* on a level substantially with the level of the upper touch-plates all inconvenience of that character is avoided. I also find that a key-lever having the general step-shaped form and the series of touch-plates placed alongside of another key-lever having the touch-plates breaking joints with those of the first is liable to hurt and pinch the fingers, as the depressed touch-plate entering below the level of the undepressed touch-plate above it will in raising catch the finger below the undepressed touch-plate. To avoid this, I have provided the touch-plates with downwardly-projecting aprons or shields *o*, which have the full width of the touch-plates and which extend downwardly so far that the touch-

plates beneath and in front of them in their downward motion will never get below these aprons or shields *o*. Fig. 6 most clearly indicates this arrangement of shields or aprons; but in lieu of these shields or aprons hanging only over the front of the step of the key-lever they may be extended back, as in Fig. 2 and 3, so as to reach wholly under the respective touch-plates.

Having now described my invention, what I claim is--

1. The key-lever C, having series of touch-plates *d e f* at different heights, combined with a pivotal support B, all arranged so that the pivotal support of the key-lever shall be lower than the plane of the upper touch-plate of said key-lever, substantially as herein shown and described.

2. The frame or drawer A, having the bridge B, combined with key-levers C C, said key-levers having touch-plates *d e f* at different elevations, the top of the bridge B being higher than the plane of the lower touch-plate *f* and lower than the plane of the upper touch-plate *d*, substantially as and for the purpose herein shown and described.

3. The key-lever C, having step-shaped front or outer portion and series of touch-plates *d e f* at varying elevations, and provided with the rearwardly and upwardly inclining shank *b*, so arranged that the pivot of said key-lever may be higher than the plane of the lower touch-plate *f*, substantially as and for the purpose specified.

4. The key-lever C, having series of touch-plates *d e f* at varying elevations and pivoted to a fixed support, all arranged so that each touch-plate will have its front portion above the plane of the pivotal support, substantially as herein shown and described.

5. The key-lever C, having series of touch-plates *d e f* at varying elevations, each touch-plate having a downwardly-extending apron or shield *o*, substantially as and for the purpose specified.

6. The key-lever C, having touch-plates *d e f* at varying degrees of elevation, and combined with the fixed guide-pin *j*, and with the movable guide-pin *l* and guide-board *m*, substantially as and for the purpose specified.

7. In a keyboard having series of key-levers C and step-shaped touch-plates *d e f*, arranged substantially as described, the combination of said key-levers with the rear rail *n*, whose upper surface is substantially on a level with the uppermost row of touch-plates *d*, substantially as and for the purpose herein shown and described.

The foregoing specification of my improved keyboard signed by me this 1st day of May, 1891.

PAUL v. JANKÓ.

Witnesses:
WINTHORNE SCRUPLIUS,
EMIL K. WINKLER.

A P P E N D I X III

ADVERTISEMENTS FOR THE JANKÓ KEYBOARD

Ackermann

Dörner

Ibach Sohn

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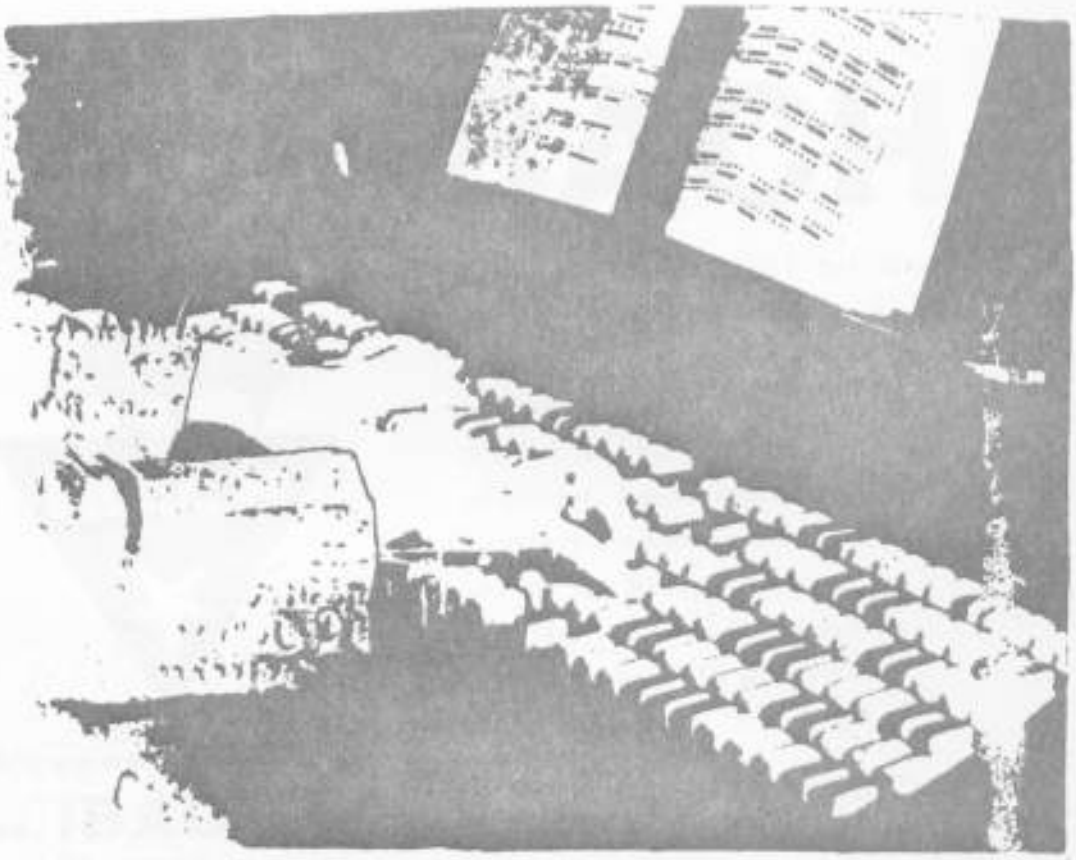
Advertisement for Ackermann Manufacturers

Advertisement for Dörner Manufacturers



PIANOS DÖRNER

Terras en-Klaviatur

Advertisement for Ibach Sohn Manufacturers

IBACH

baute im Jahre 1887 als erste Klavierfirma einen Janko-Flügel für den Gebrauch der damals bestbekannten Janko-Pianistin AGNES ZEEH, Berlin. Das Instrument, heute noch auf Janko-Konzert-Podien, legt bestes Zeugnis ab für Klangadel, angenehme Spielart und solide Konstruktion der seit über 135 Jahren in Welt bekannten

IBACH-PIANINOS und FLÜGEL

Anfragen erbeten an

Rud. IBACH Sohn
Stammhaus
Wuppertal-Barmen

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PAUL PERZINA Hof-Pianofortefabrikant **SCHWERIN i. M.** Fernruf 2915

Mitbegründer und Erbauer des Perzina-Hauses und Konzert-Saal.
Hervorragende Musikstätte • Vorzügliche Akustik!

Beachtenswertes!

pezialfach: Jankó Flügel-Pianobaukonstruktionen aus langjähriger praktischer Tätigkeit und Erfahrung. • Anfertigung von Skizzen-Entwürfen!

Techn. Neuerungen:

P. Perzina Jankó-Flügelmechanik
erleichtert den Jankobau!
1912 patentiert.

P. Perzina Jankótasten-Hebel
höchste Kraftleistung!
1907 patentiert.

P. Perzina Jankóbäckchen
Form authentisch!

Jankó-Studier-Klavier

Jankó-Pionierarbeit seit 1888.
1907 ausschlaggebender Erfolg durch
P. Perzina-Tastenhebel-Neukonstruktion.
Konzertfähigkeit erprobt und bewiesen!
Höchste Leistungsfähigkeit anerkannt!

Paul von Jankó †,

Mit hervorragendem Erfolg konzertierten im **Perzina-Konzert-Saal** **Prof. Richard Hansmann † Berlin**, der **Kaiserl. Russ. Professor Josef Weiss, Berlin** und **Professor Walter Rahberg in Stuttgart** ... **Jankóflügel** ...

Jankó-Instrumentenbau:

FLÜGEL

PIANOS

Uebungs-Instrumente.

Klaviere alten Systems (Flügel-Pianos ...

Perzina-Flügel-Pianos weltbekannt! **Tradition weit über 100 Jahre!**

PAUL PERZINA Hof-Pianofortefabrikant **SCHWERIN i. M.** Fernruf 2915

Advertisement for Sabel Manufacturers

Advertisement for Schäuffele Manufacturers

WILHELM SCHÄUFFELE

INHABER: WILHELM UND HERMANN SCHÄUFFELE

STUTTGART

FANGELSBACHSTR. 5

Bedeutendste

„KLAVIATURFABRIK"

Süddeutschlands

in Fachkreisen des In- und Auslandes

anerkanntes

„Qualitäts-Fabrikat"

Spezialität: Jankó-Klaviaturen

Fabrikation: Ia Ebenholzhalbtöne

2. Nov. 1882 **2. Nov. 1932**

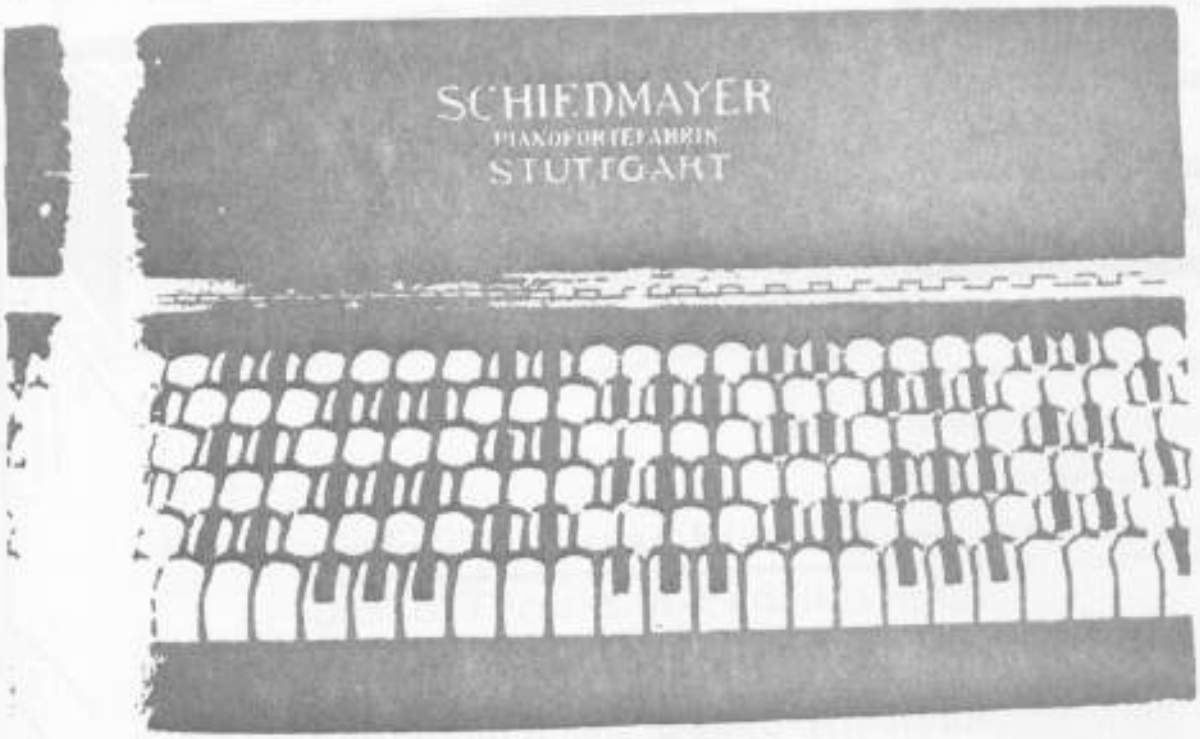
in 50 Jahren

200 000

„Schäuffele Klaviaturen"

Advertisement for Schiedmayer Manufacturers

J KÓ S E N
TERRAS KLAVIATUR



FLUGEL • PIANOS • HARMONIUM

SCHIEDMAYER NECKAR STRASSE 12

Advertisement for Steirer Manufacturers

FRANZ

STEIRER

Orgel- u. Harmonium-

bau-Anstalt

WALHEIM

bei Besigheim

empfiehlt sich zur Anfertigung von Orgel und Harmonium mit ein-, sowie auch zweimanualig, auch mit

Jankó-Terrassen-Klaviatur,

Jankó-Terrassen-Pedalklaviatur.

Koffer-Tisch-Harmonium, sowie auch zusammenklappbar.

Harmonium mit Jankó-Klaviatur.

Auch Einbau von Jankoklaviatur in alte Instrumente.

Advertisement for Rosenkranz Manufacturers

Ernst Rosenkranz, Dresden.

Pianoforte - Fabrik.

Gegründet 1797. 15 Preismedaillen.

Flügel & Pianinos.

Insbesondere auch **Pianinos mit Janko-Claviatur**, sowi **Doppelclaviatur** (Patent Rosenkranz).

D.R.P. No 42004.

Advertisement for Francke Manufacturers

DIE HOF-PIANOFORTE-FABRIK

A. H. FRANCKE, LEIPZIG

Advertisement for Kotykiewiez Manufacturers

K. k. Hof-

HARMONIUM-FABRIK TEOFIL KOTYKIEWICZ

(V. Titz Nachfolger)

WIEN, V. Straussengasse 18.

Lager von **Harmoniums** in allen Grössen für Kirche, Schule, Salon und Concert

Harmonium mit Janko-Claviatur.

Advertisement for Ehrbar Manufacturers

Friedrich Ehrbar

k. k. Hof- und Kammer-Klavierfabrikant

hält

Concertflügel, Salonflügel, Stutzflügel

und

Pianinos

mit

Jankó-Claviatur

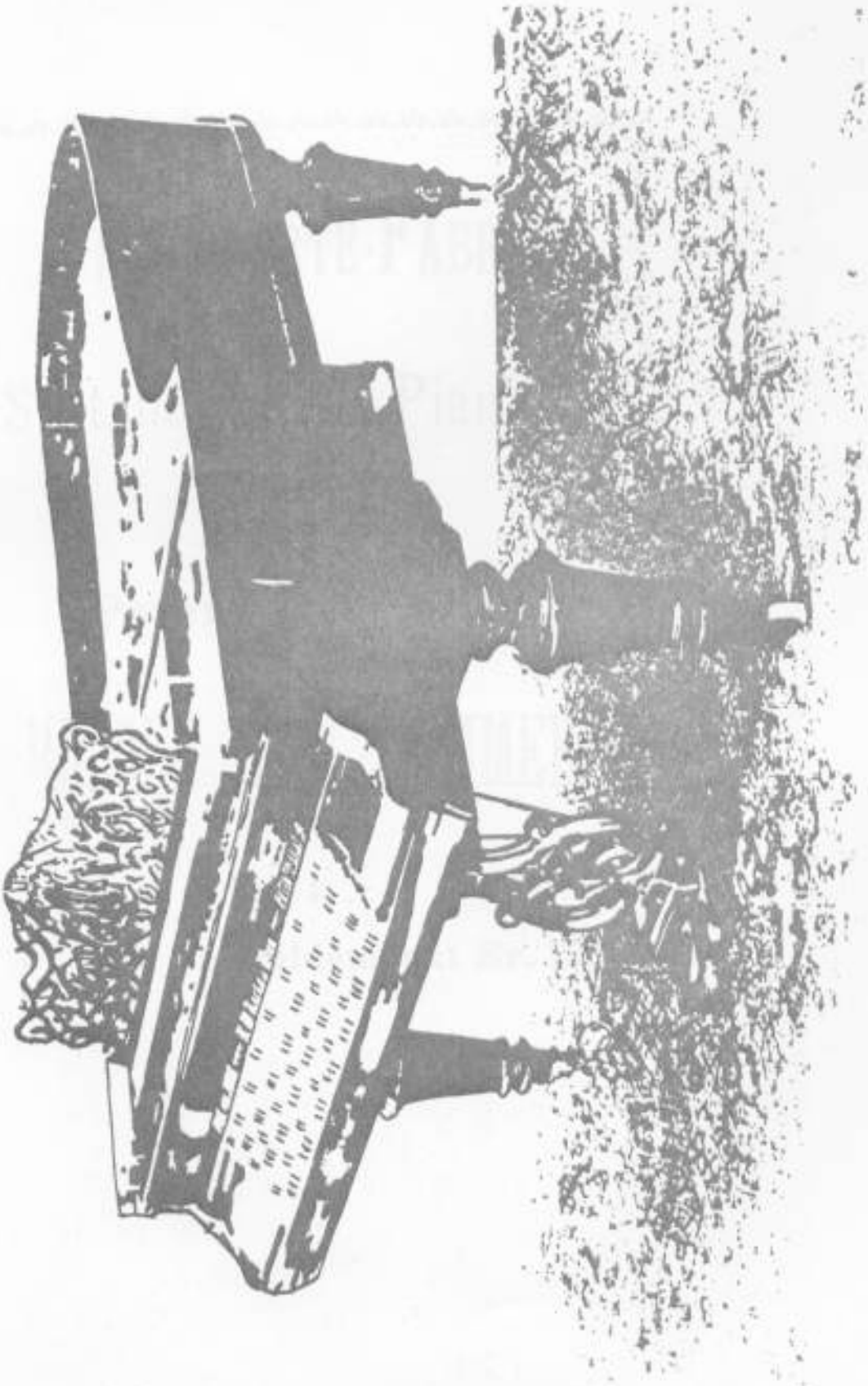
auf Lager.

„Der innigste Dank gebührt hauptsächlich dem Hof- und Kammer-Klavierfabrikanten Herrn *Friedrich Ehrbar*, dem ersten grossen österreichischen Klavierfabrikanten, der sich in liebenswürdigster Weise meiner Erfindung zugewendet hat und mit seinem reichen Wissen und unübertrefflichen Können einen Concertflügel mit meiner neuen Claviatur verfertigte, ein Instrument, welches meine kühnsten Erwartungen übertraf und durch die unvergleichliche Spielart, Tonfülle und Klangschönheit den Mitwirkenden es möglich gemacht hat, ihre Kunst voll und ganz zu bethätigen.

Wien, am 30. März 1889.

Paul v. Janko.

Advertisement for Kurka Manufacturers



Advertisement for Stelzhammer Manufacturers

PIANO-FORTE-FABRIK

Stutzflügel und Pianinos

Janko's

Patent-Claviatur

RUDOLF STELZHAMMER

WIEN

VI Bez Getreidemarkt Nr. 15.

Advertisement for Stelzhammer Manufacturers

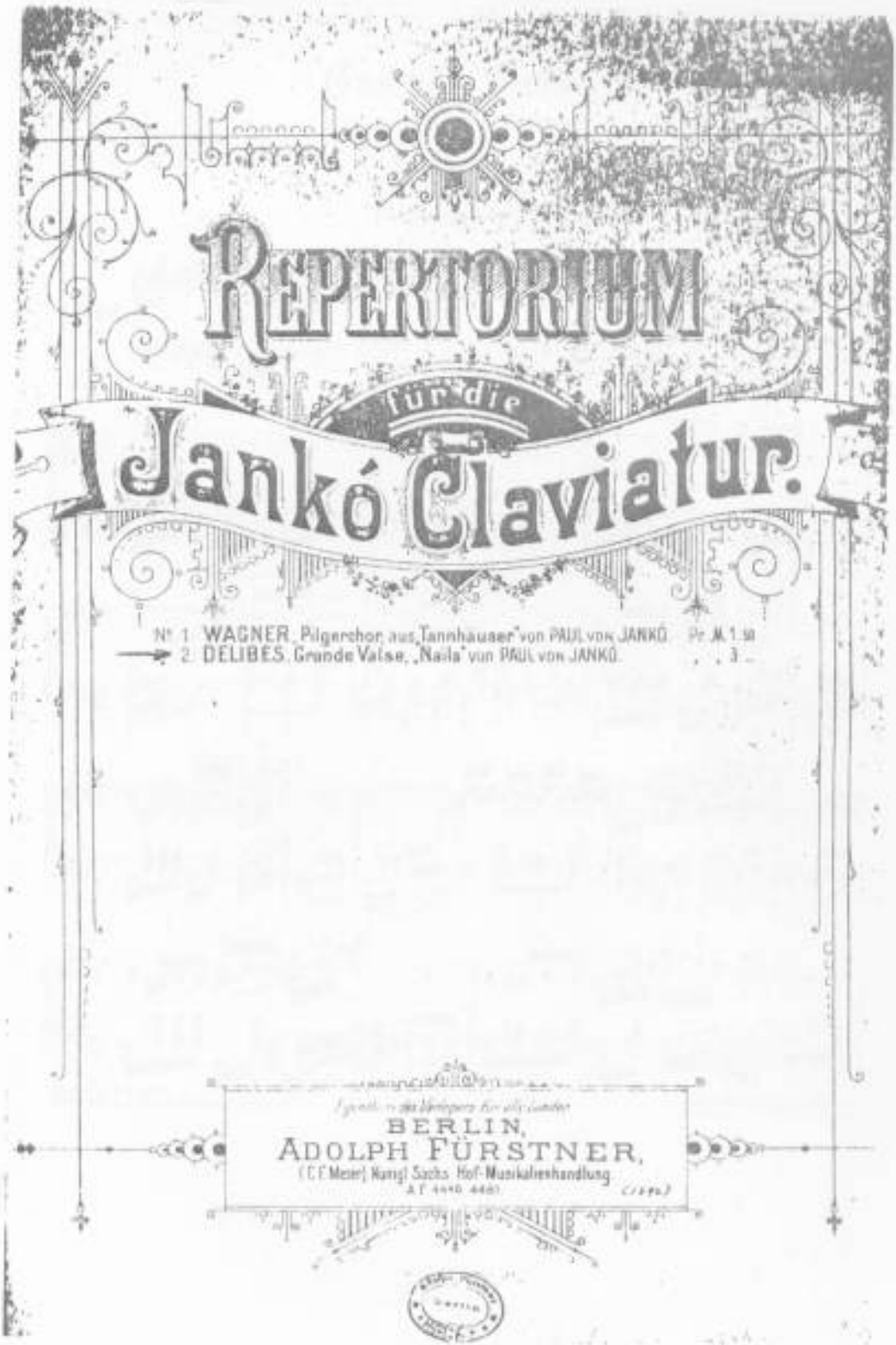
A P P E N D I X IV

MUSIC FOR THE JANKÓ KEYBOARD

Delibes, Grande Valse, aus 'Naïla' von Paul von Jankó;
Berlin: Adolph Furstner, 1892.

Wagner, "Pilgerchor," aus Tannhäuser, von Paul von Jankó;
Berlin: Adolph Furstner, 1892.

Johann S. Bach, Orgel-Fuge C-Dur, für die neue Claviatur
gesetzt von Paul von Jankó. (Manuscript in Jankó's hand.)


REPERTORIUM
für die
Jankó Claviatur.
№ 1. WAGNER. Pilgerchor aus „Tannhauser" von PAUL von JANKÓ. Pr. M. 1.50
2. DELIBES. Grande Valse, „Naila" von PAUL von JANKÓ. „ „ 3.—
BERLIN,
ADOLPH FÜRSTNER,
(C. F. Meser) Königl. Sächs. Hof-Musikalienhandlung.

Grande Valse.

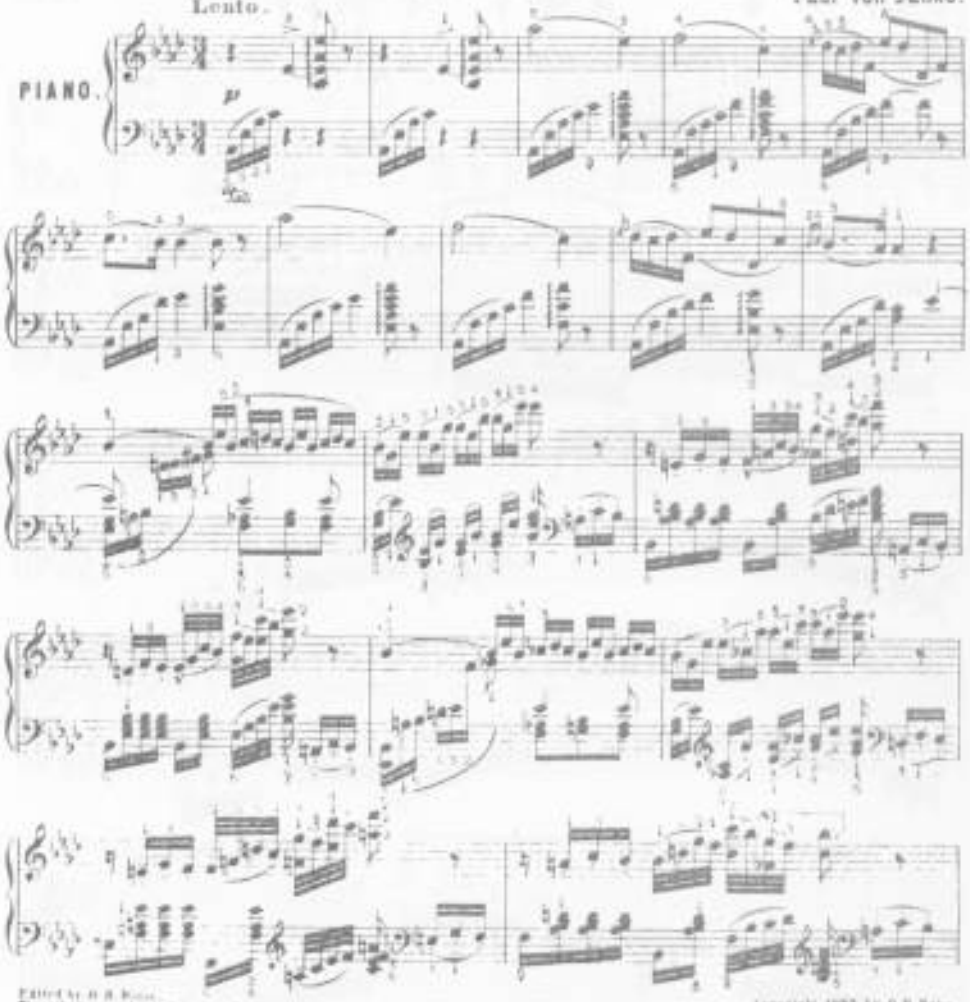
(Le Pas des fleurs)

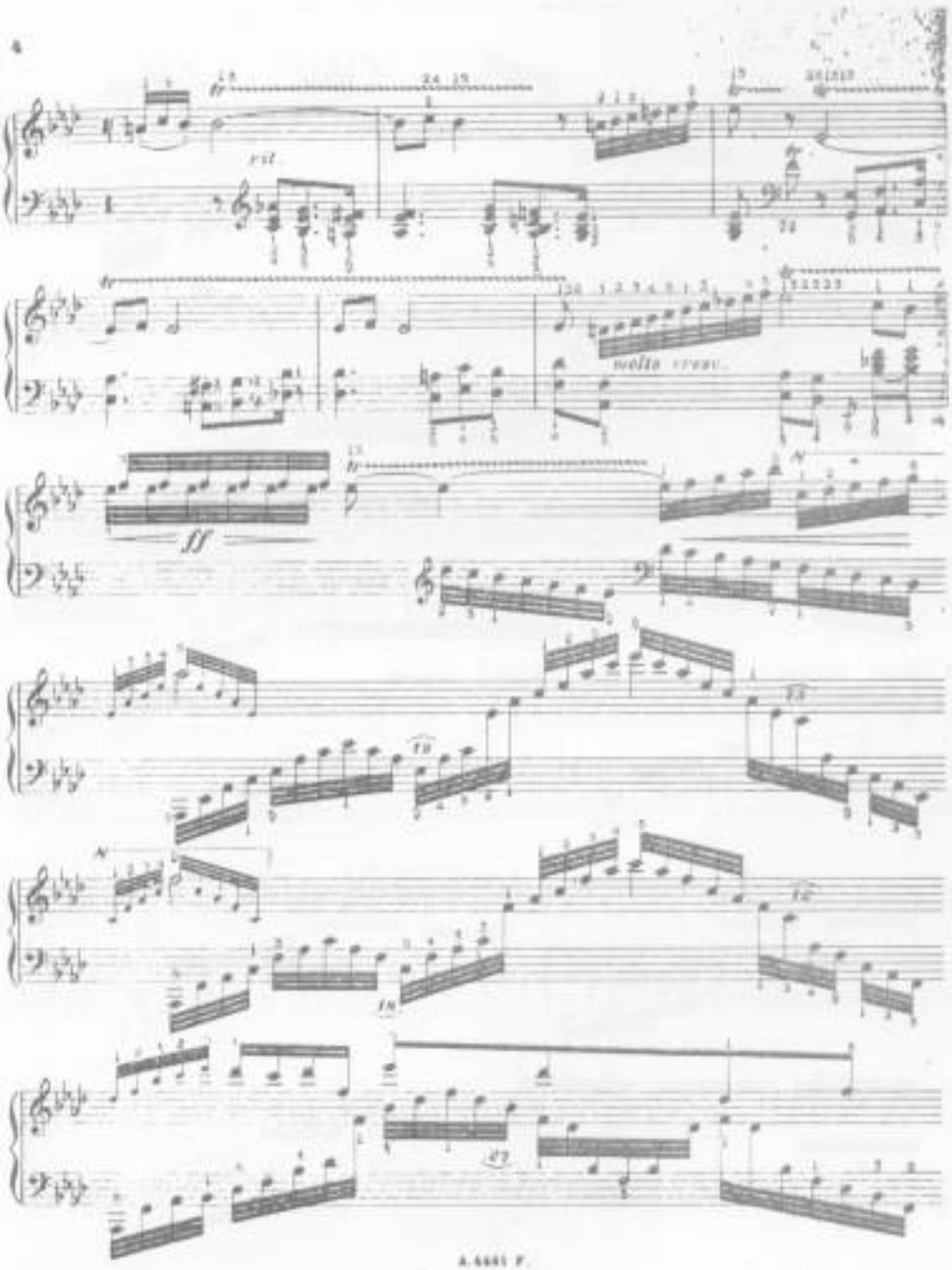
de

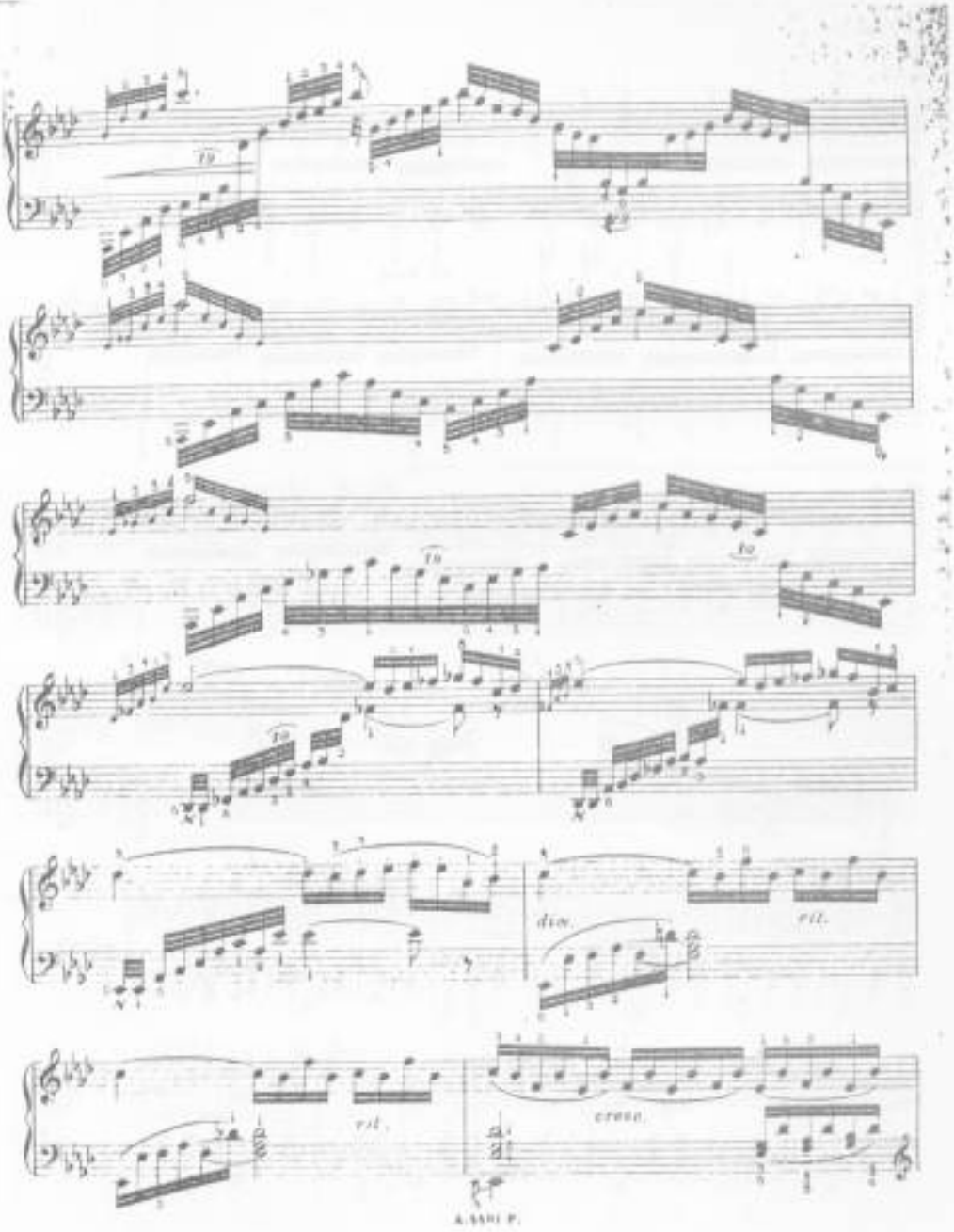
Léo Delibes.

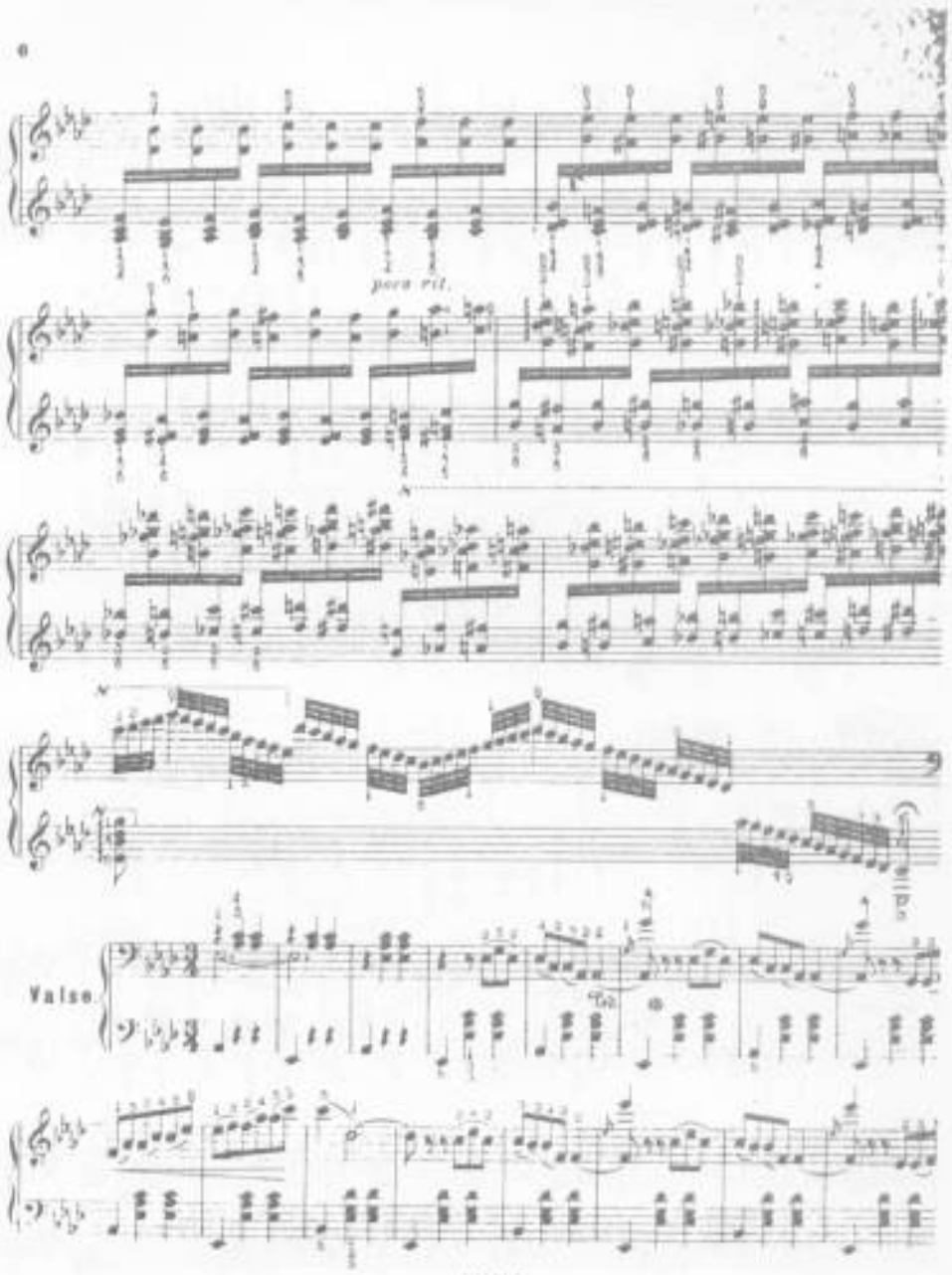
Transscription.

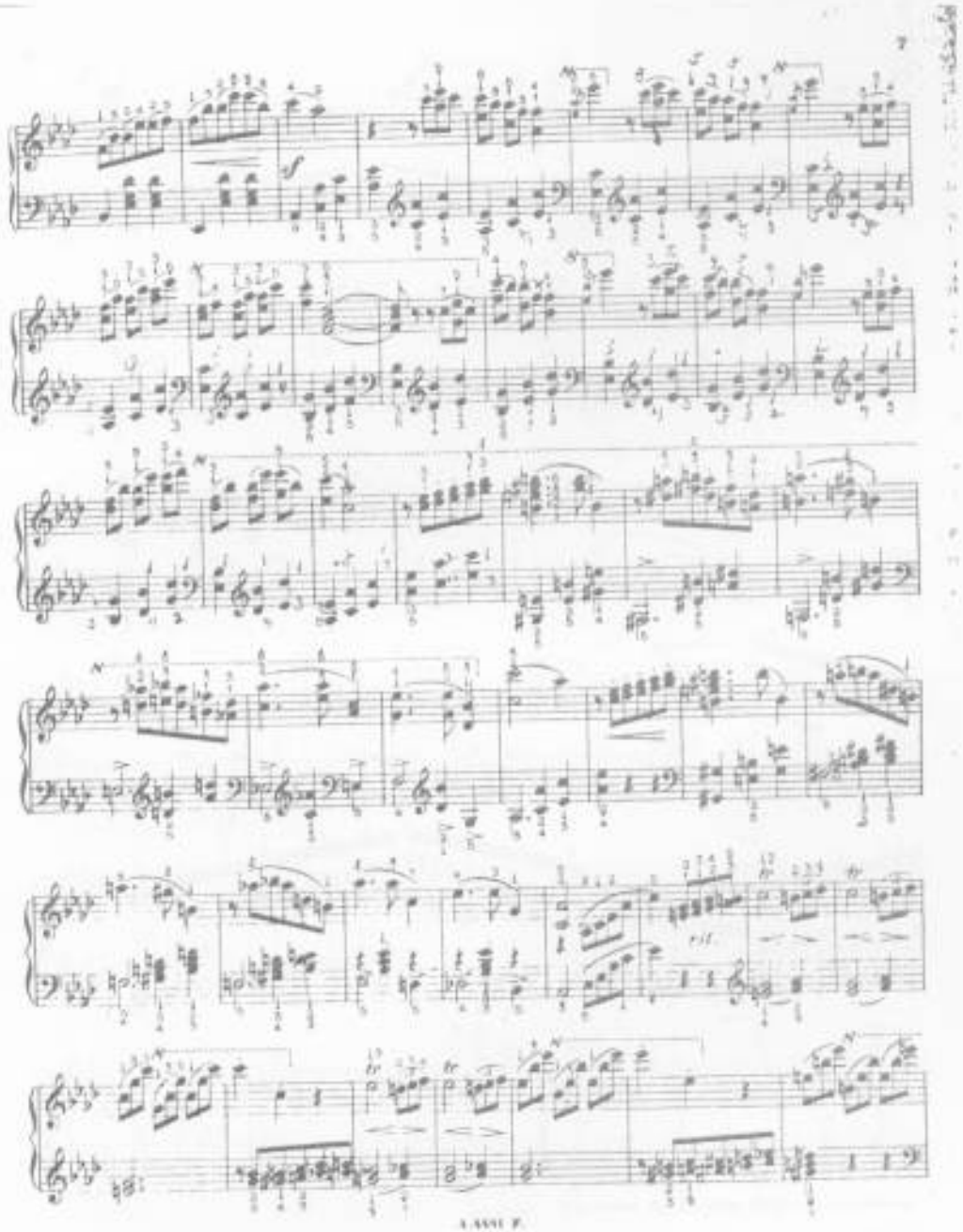
Paul von Jankó.

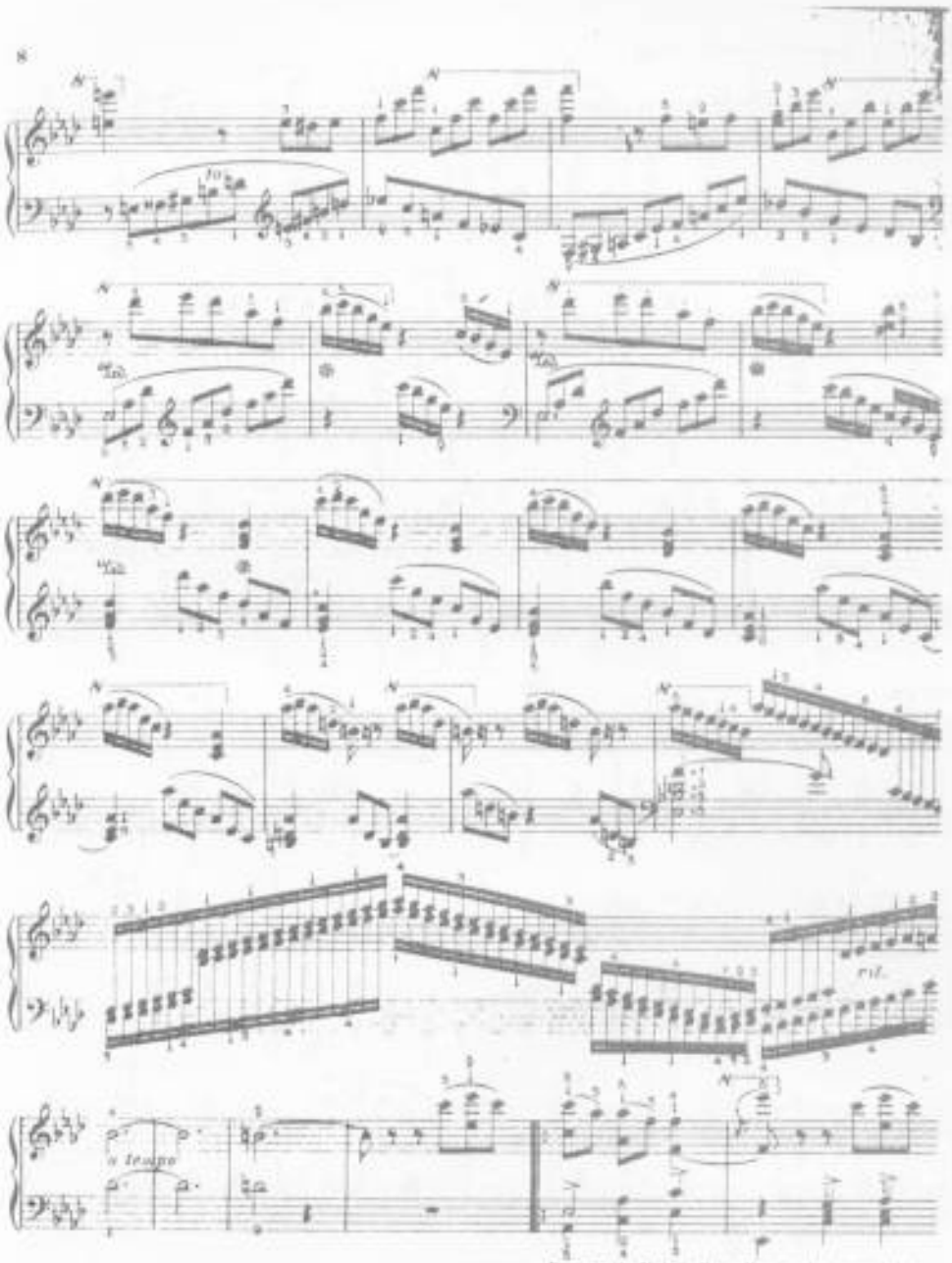



volta

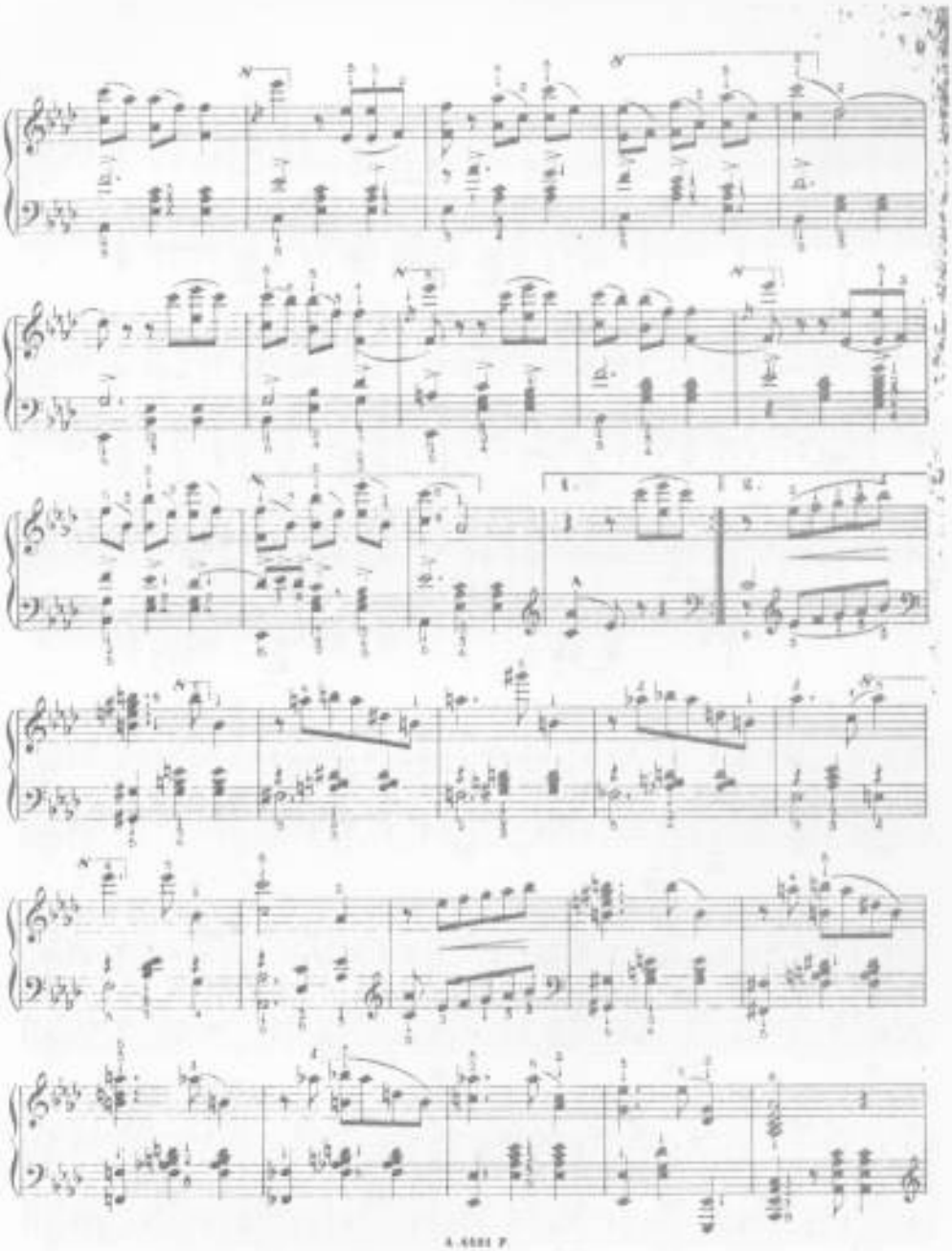

dim.
rit.
rit.
cresc.

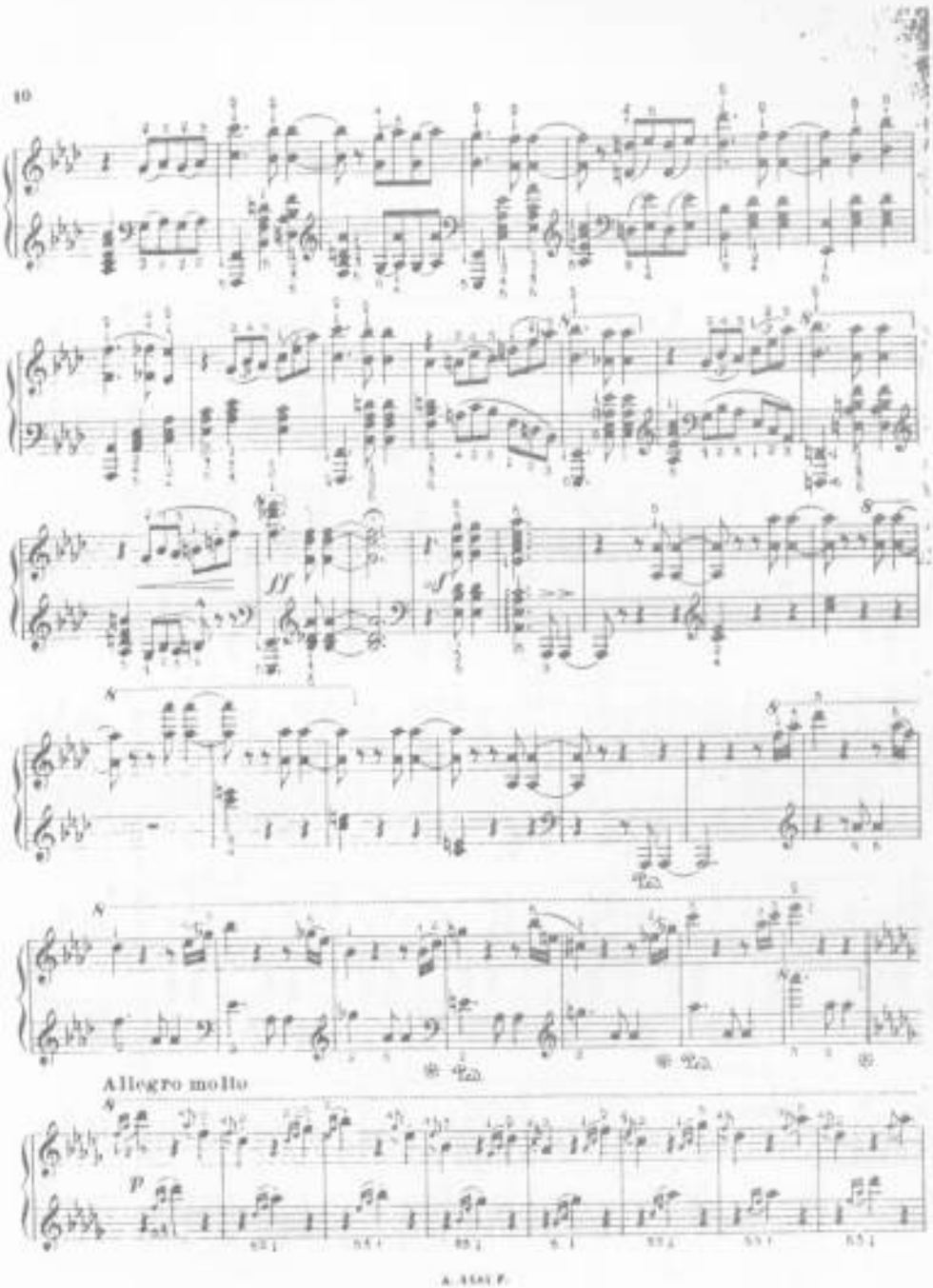

poco rit.
Valse

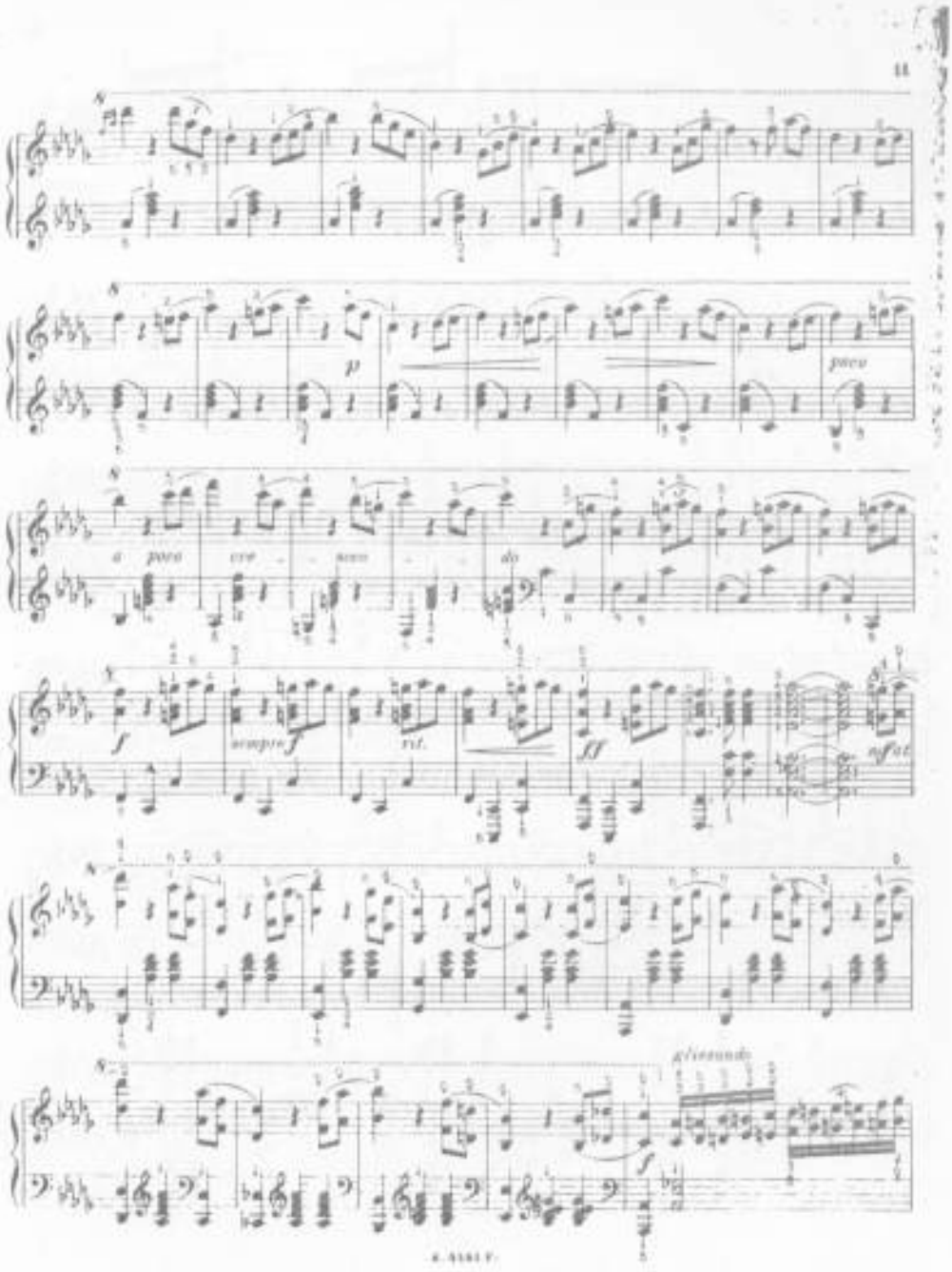


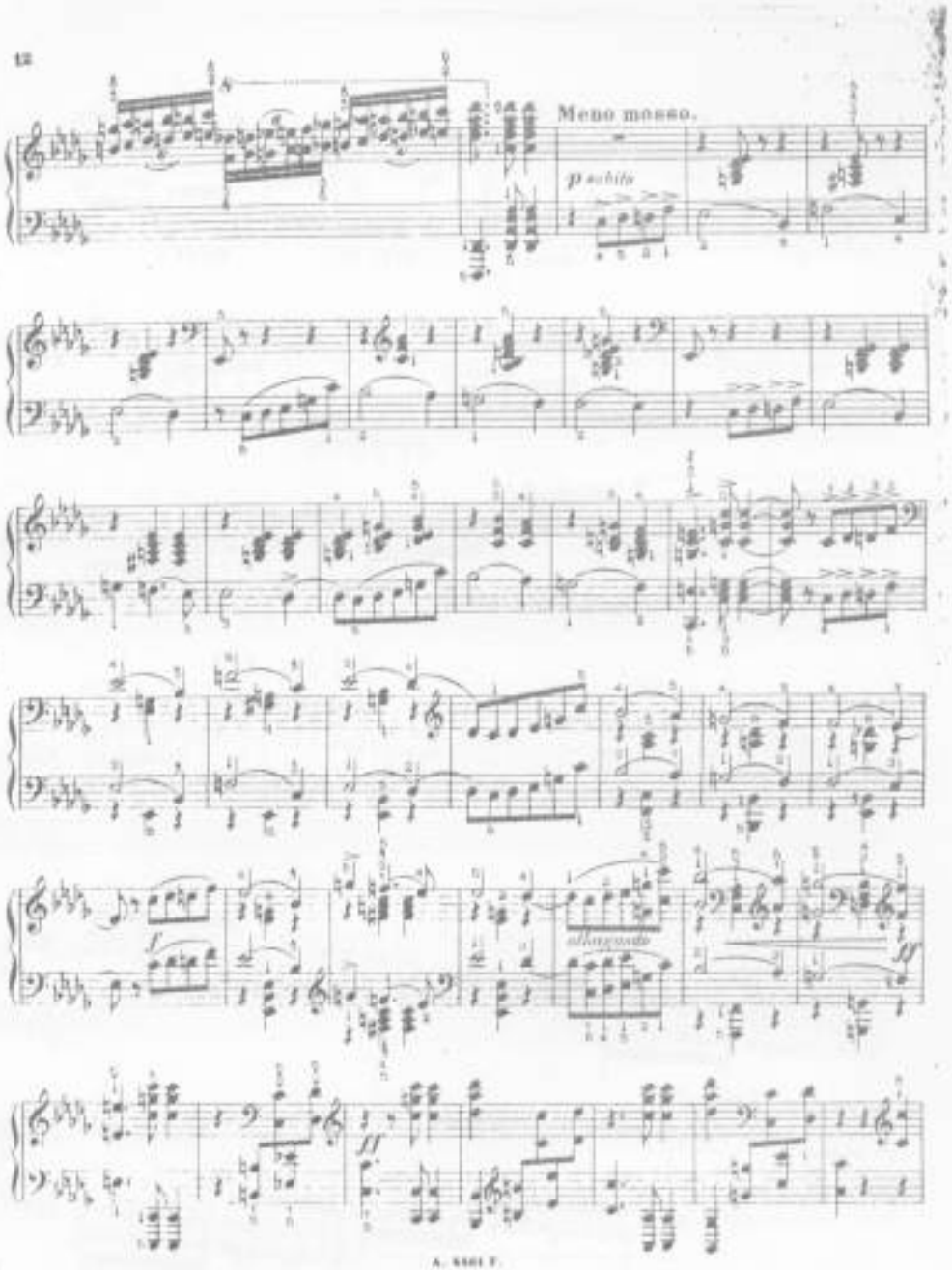


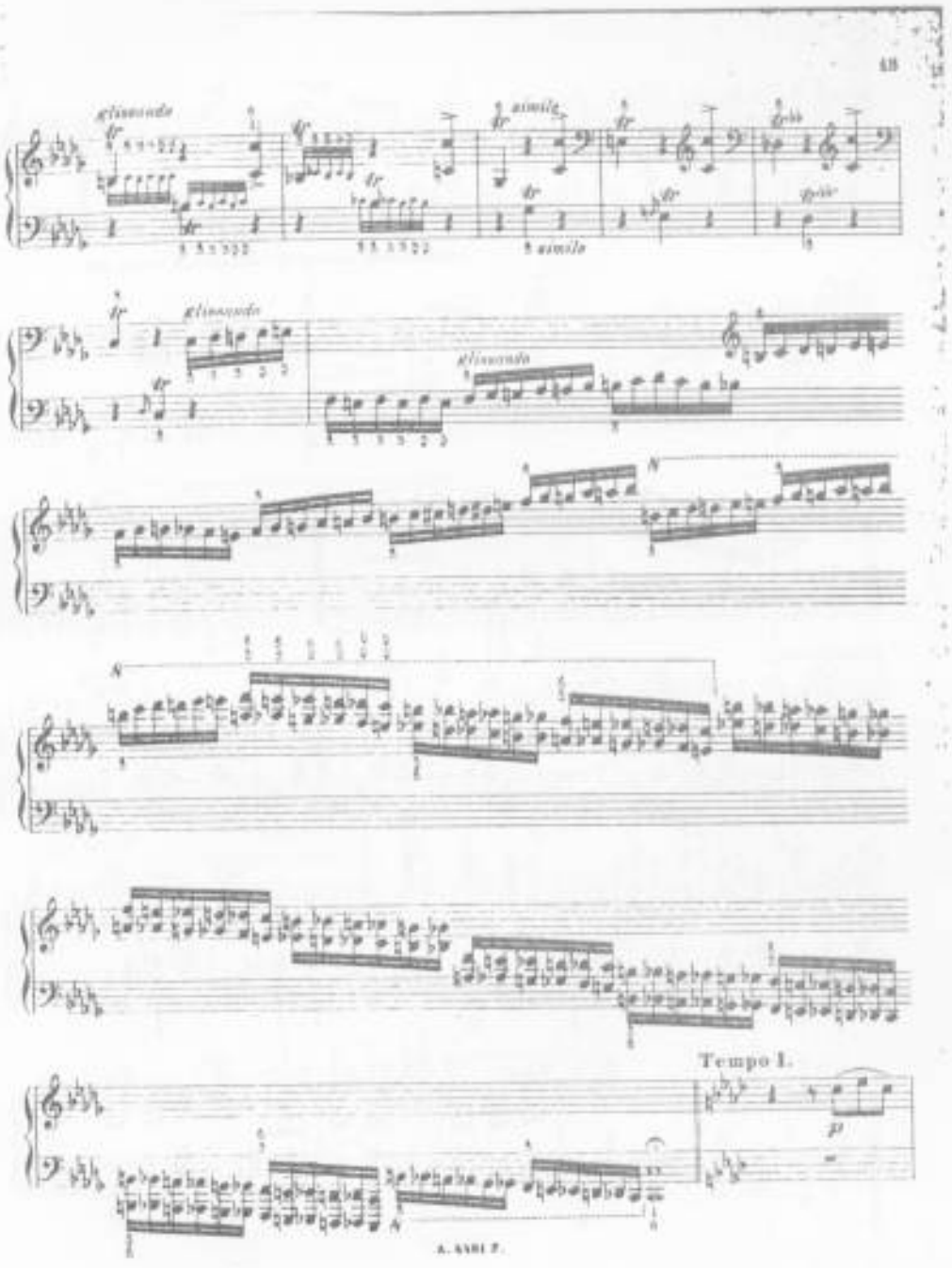
A 4451 P. Das zweite Mal die linke Hand sehr hervorheben.

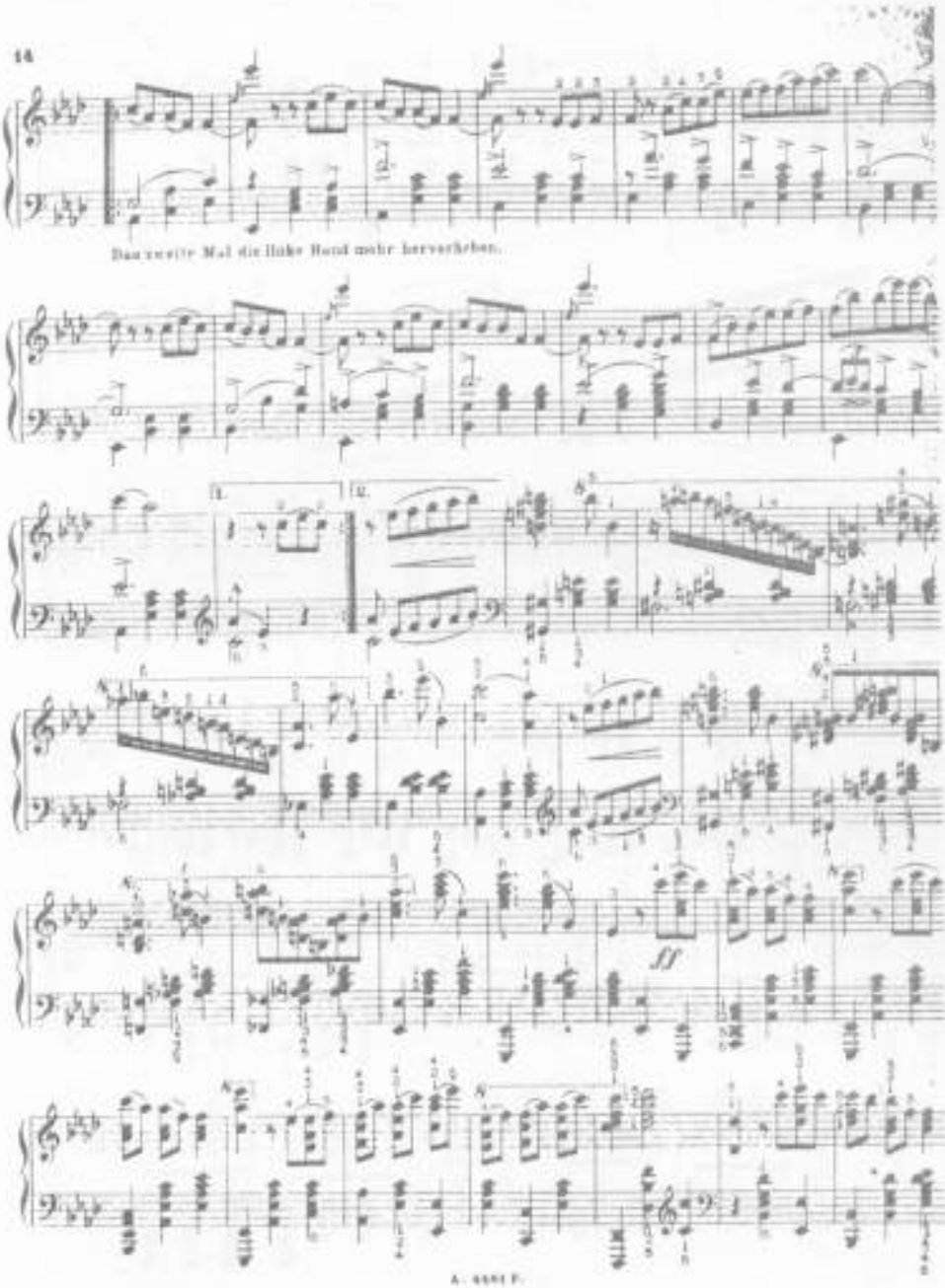


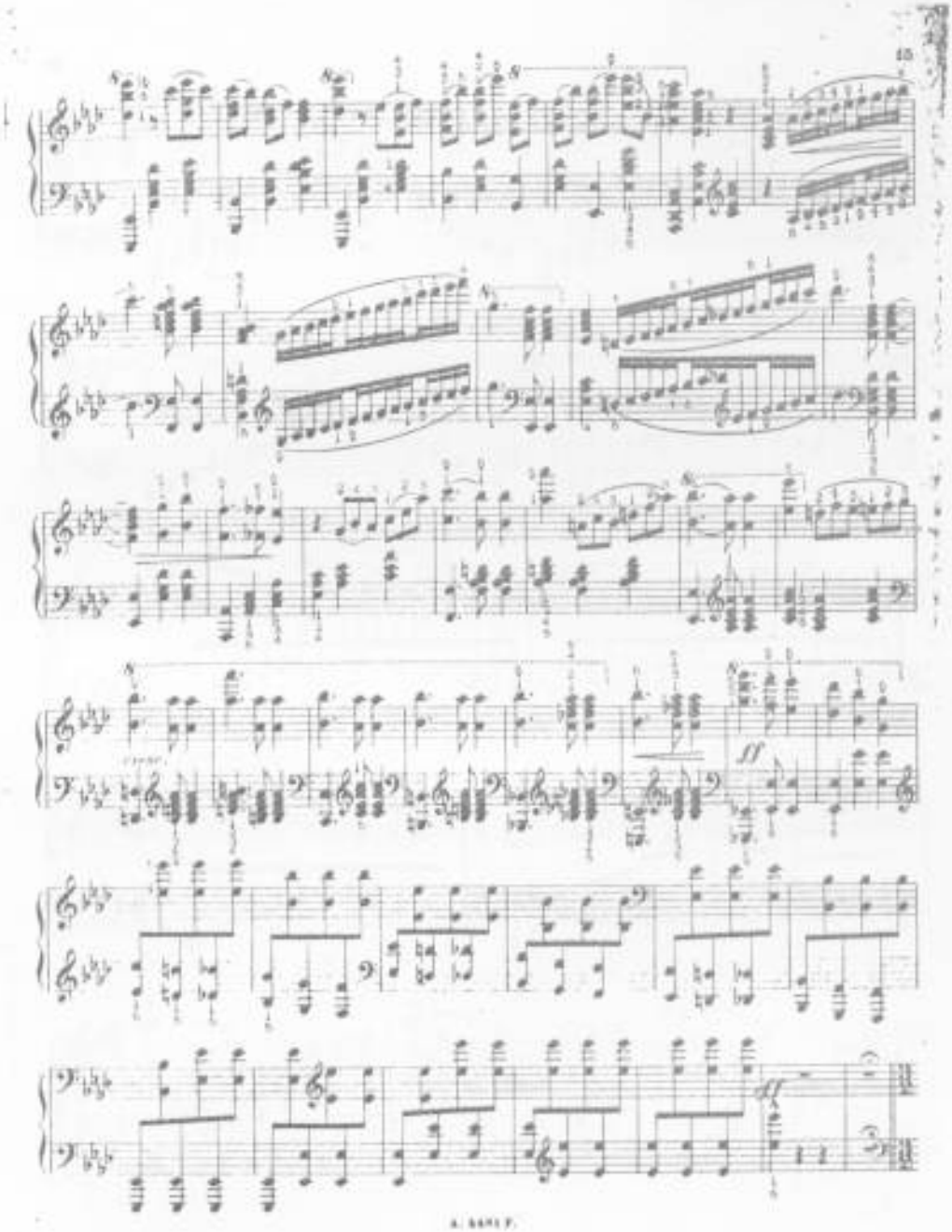

10
ff
Allegro molto
p

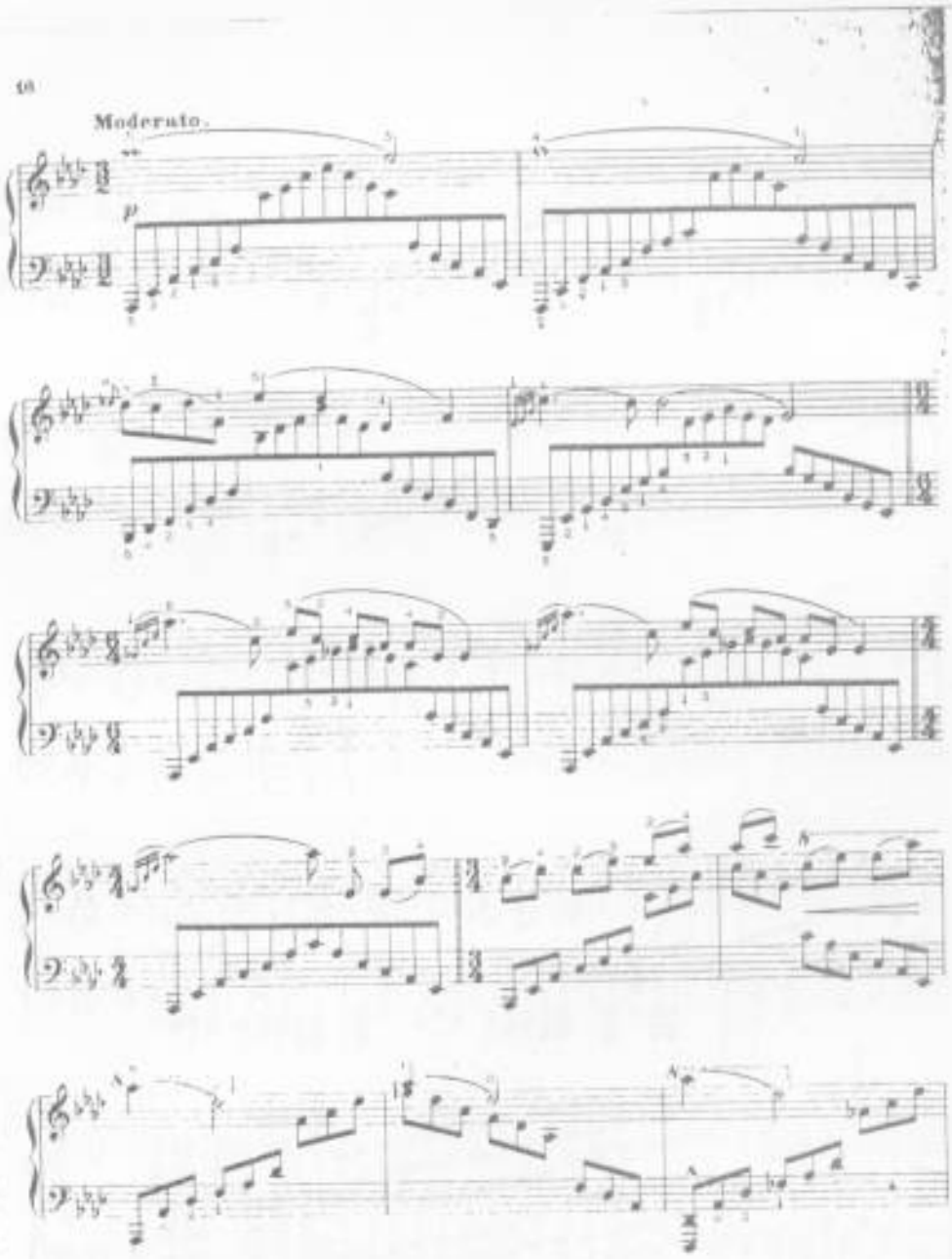

p
poco
a poco cre - scen - do
f
sempre f
rit.
ff
sfzz
glissando
f

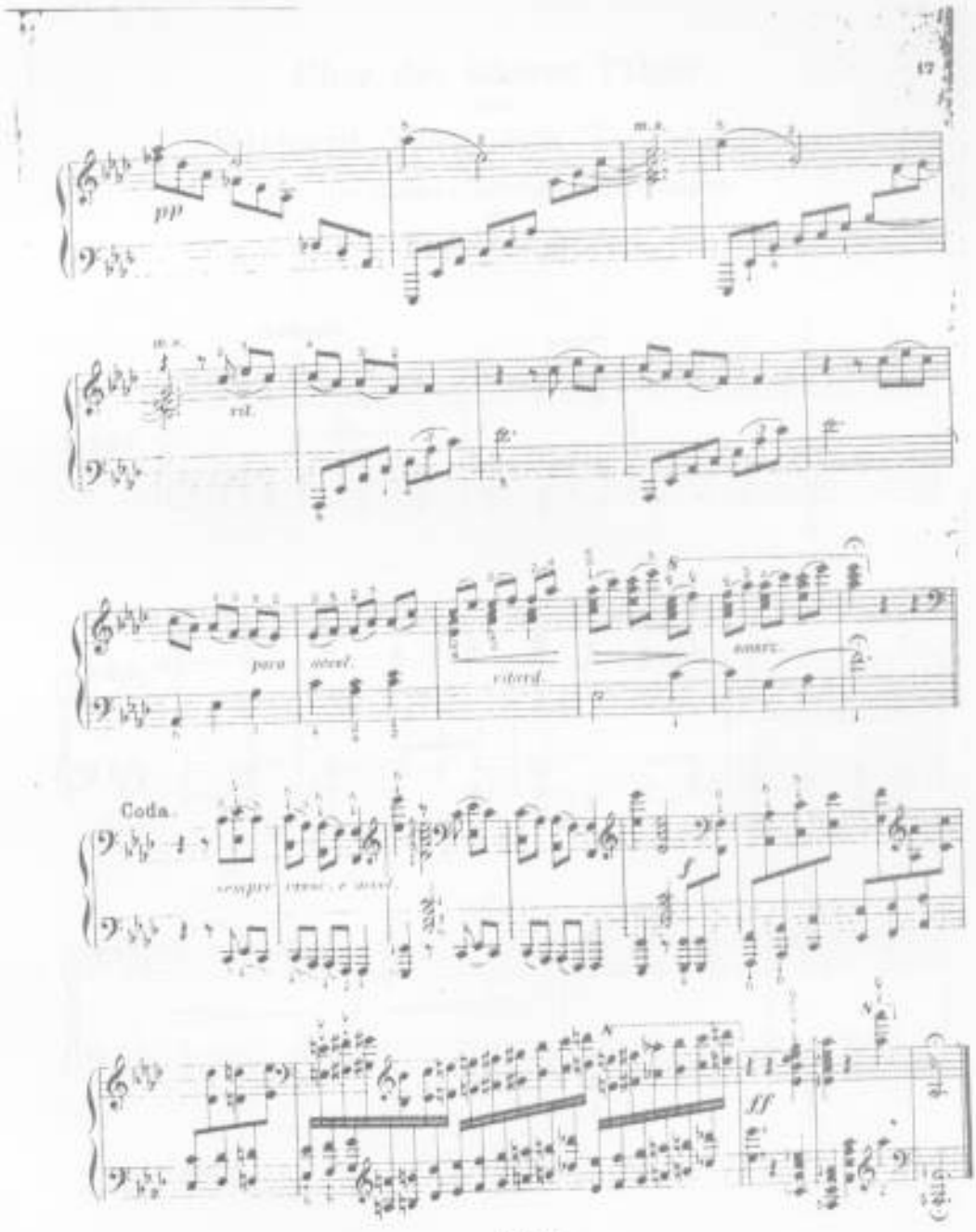

Meno mosso.
p subito
allargando


48
glissando
simile
Tempo I.
p


14
Das zweite Mal die linke Hand mehr hervorheben.
1.
2.
ff




Moderato.
p


pp
rit.
poco
ritard.
smorz.
Coda
sempre cresc. e accel.
f
ff

Chor der älteren Pilger

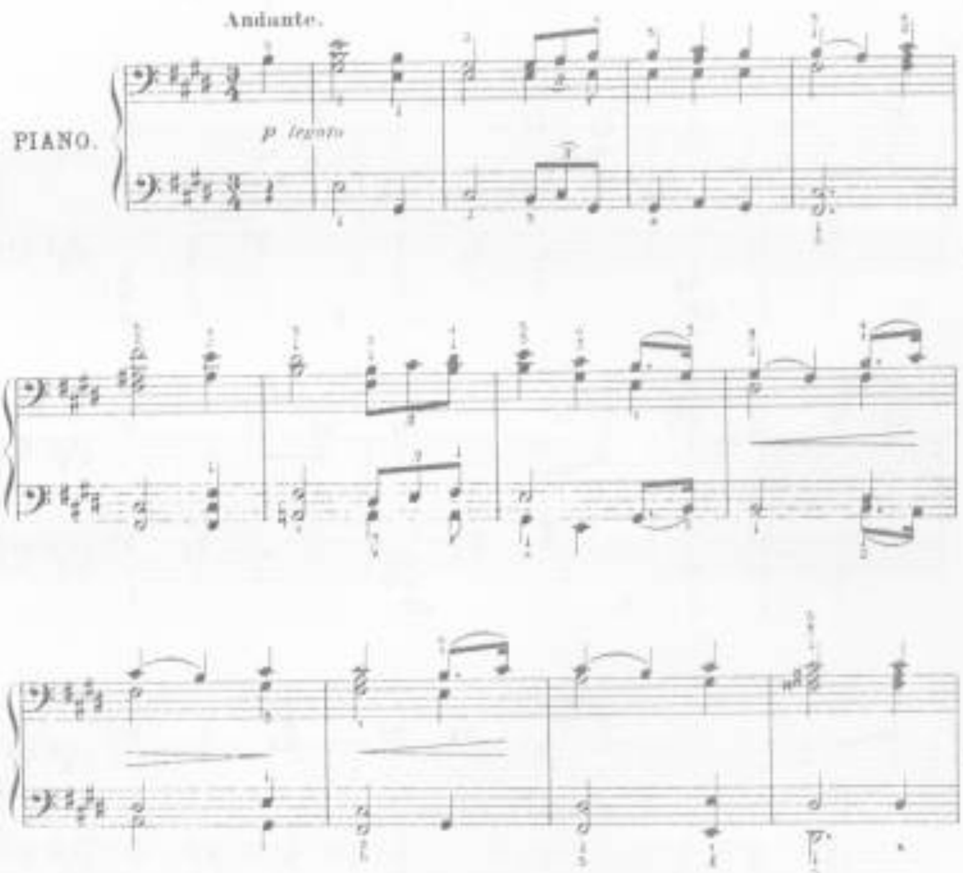
aus

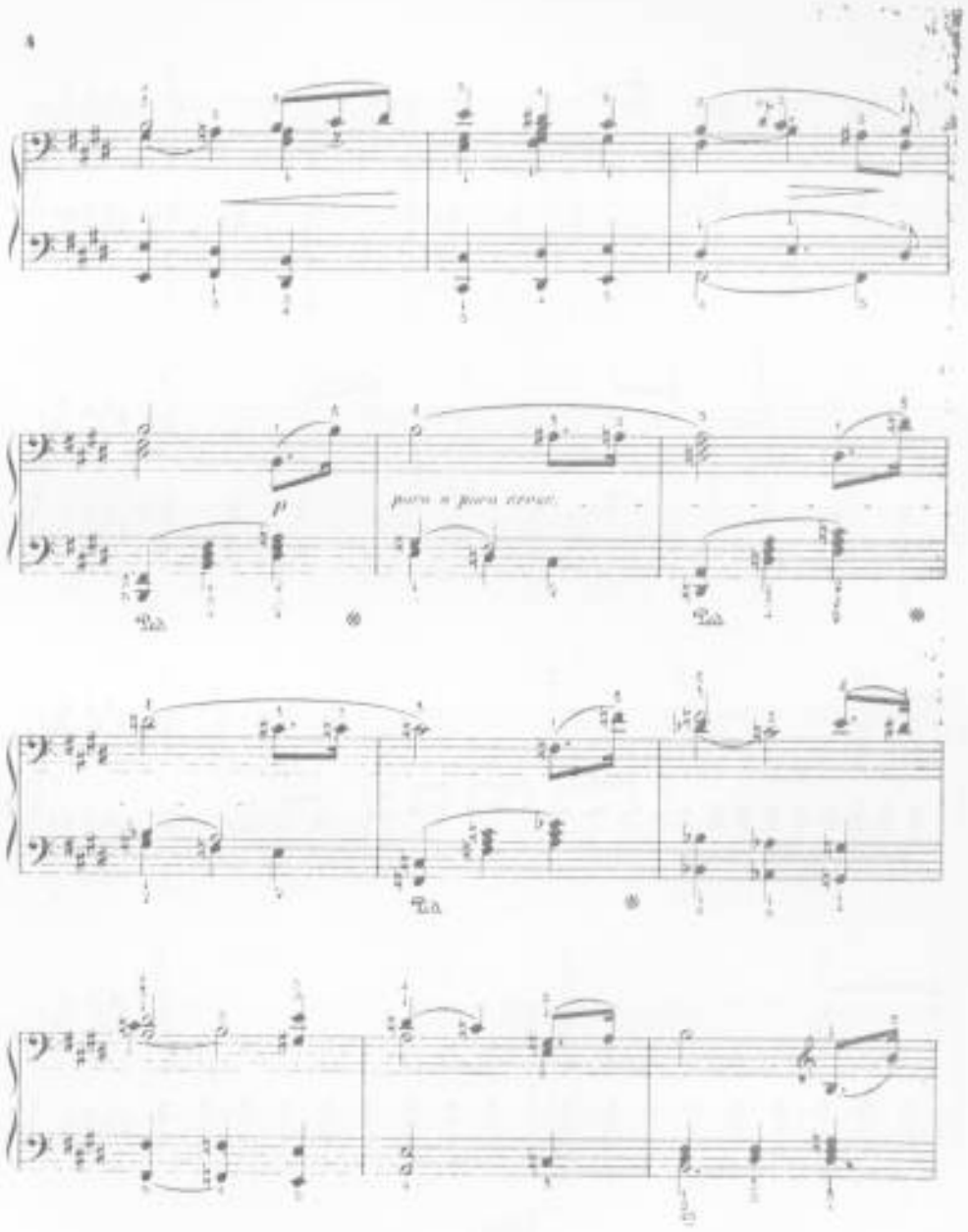
Richard Wagner's Tannhäuser

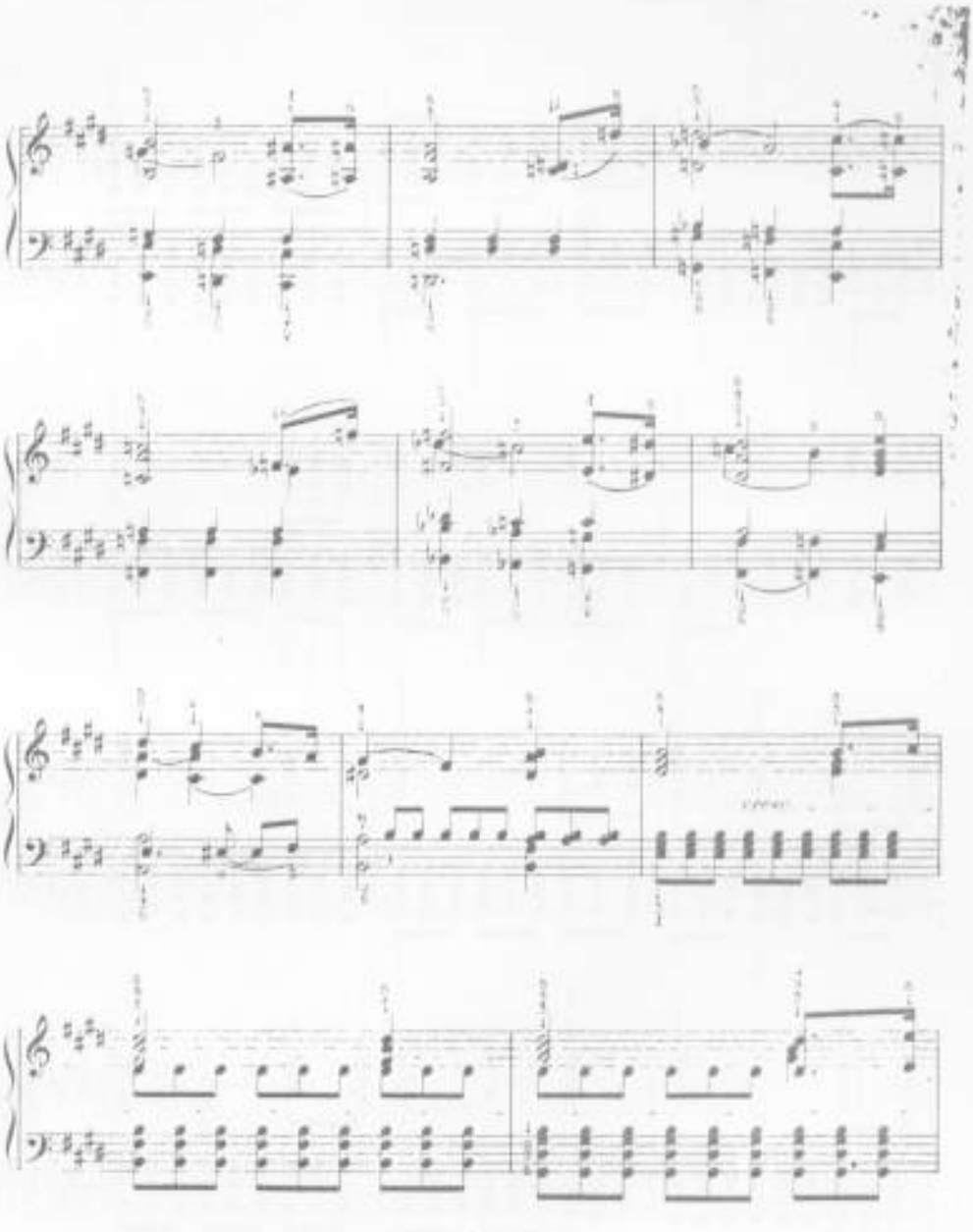
Für die Jankó-Claviatur übertragen

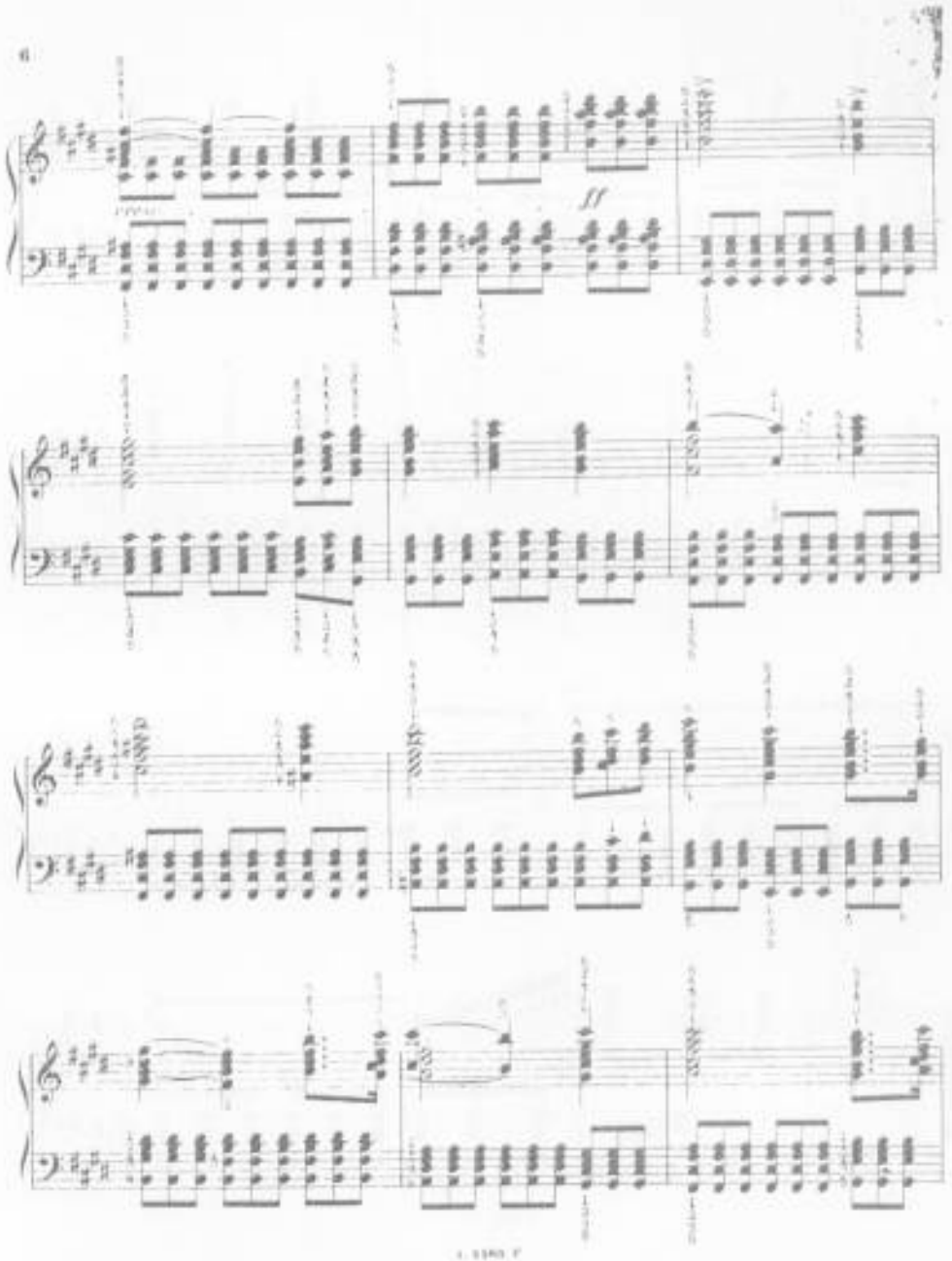
von

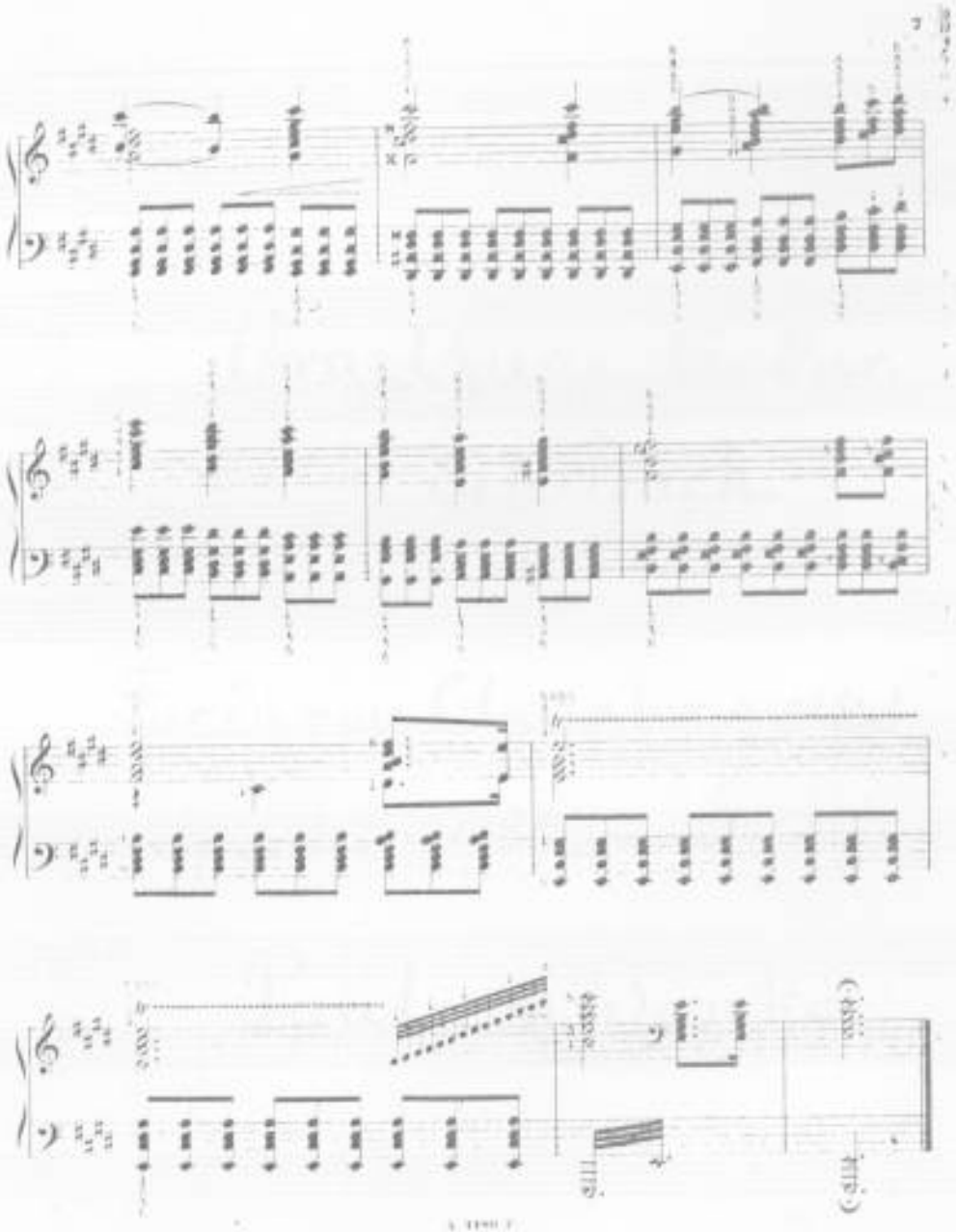
Paul von Jankó.




p
pure a pure sonar







Orgelfuge. C-dur.

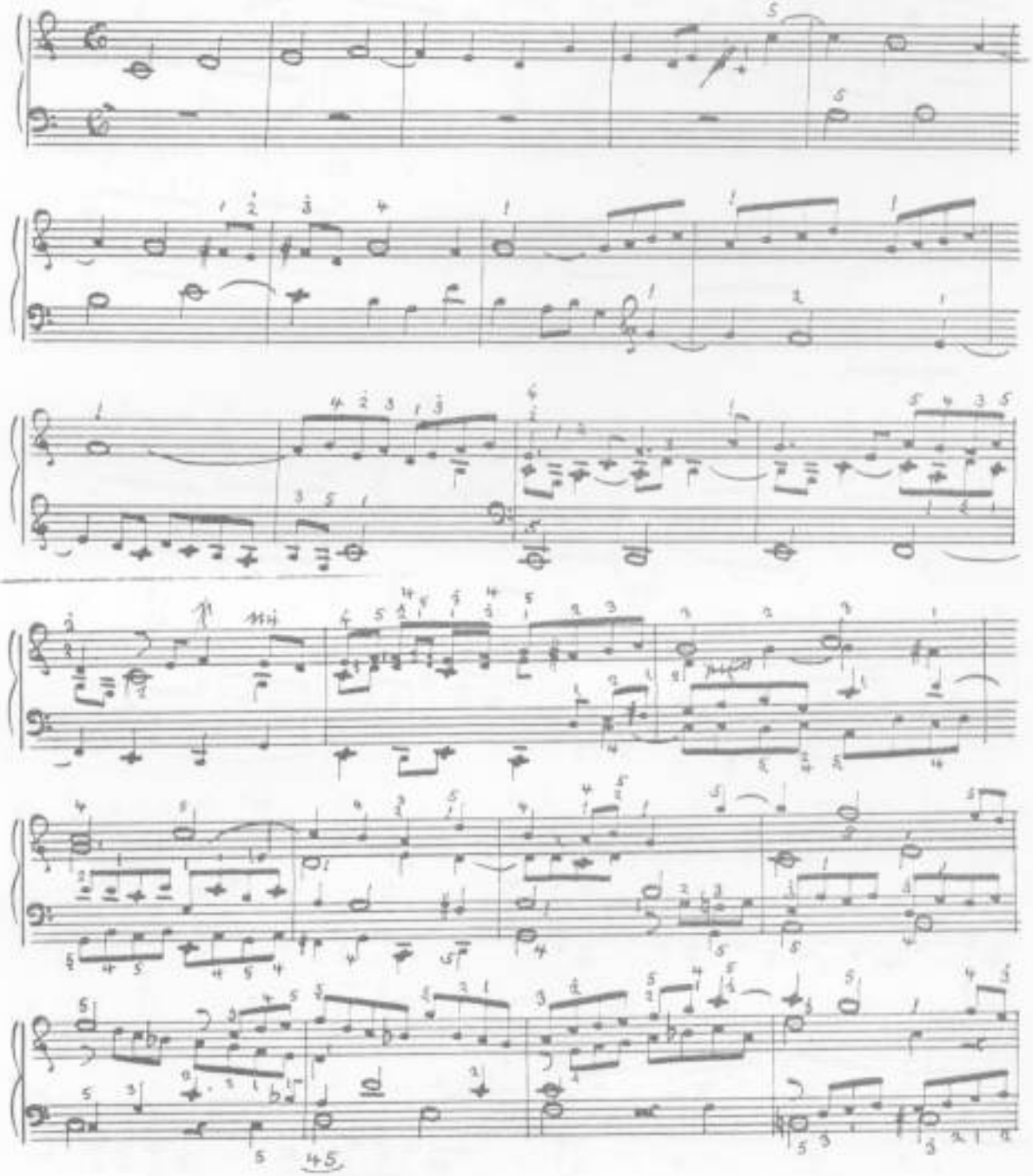
Seb. Bach.

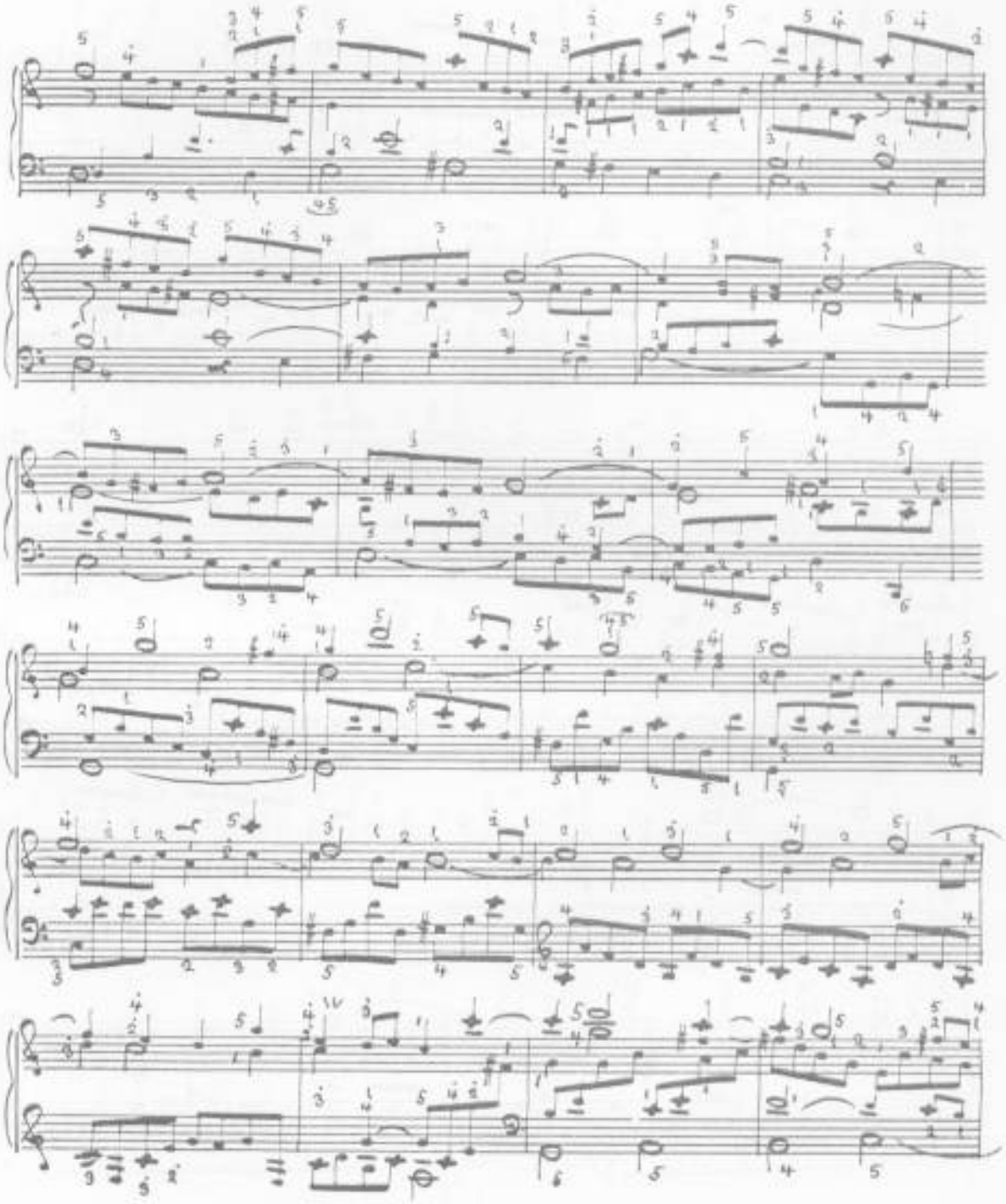
Für die neue Claviatur gesetzt

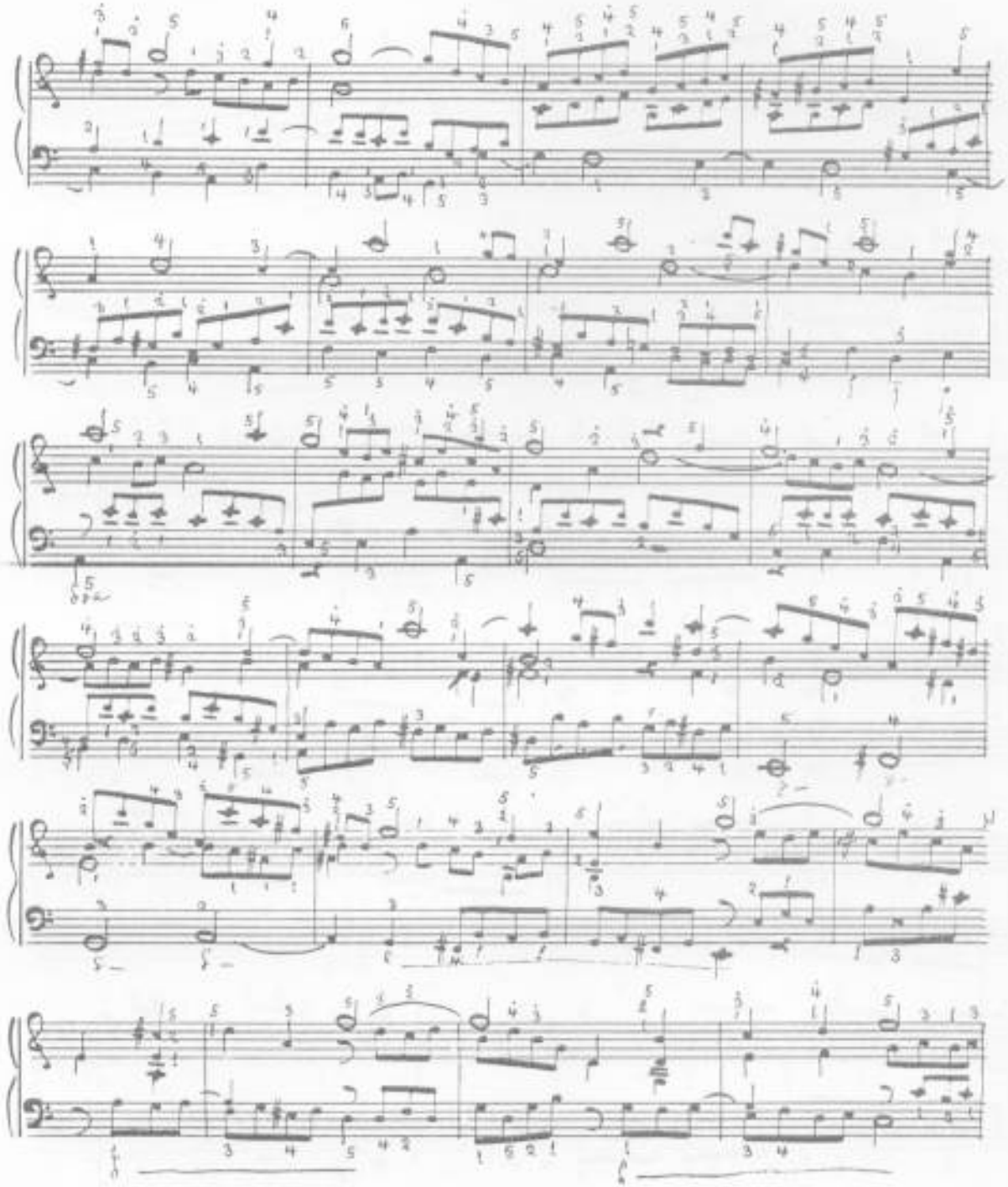
von

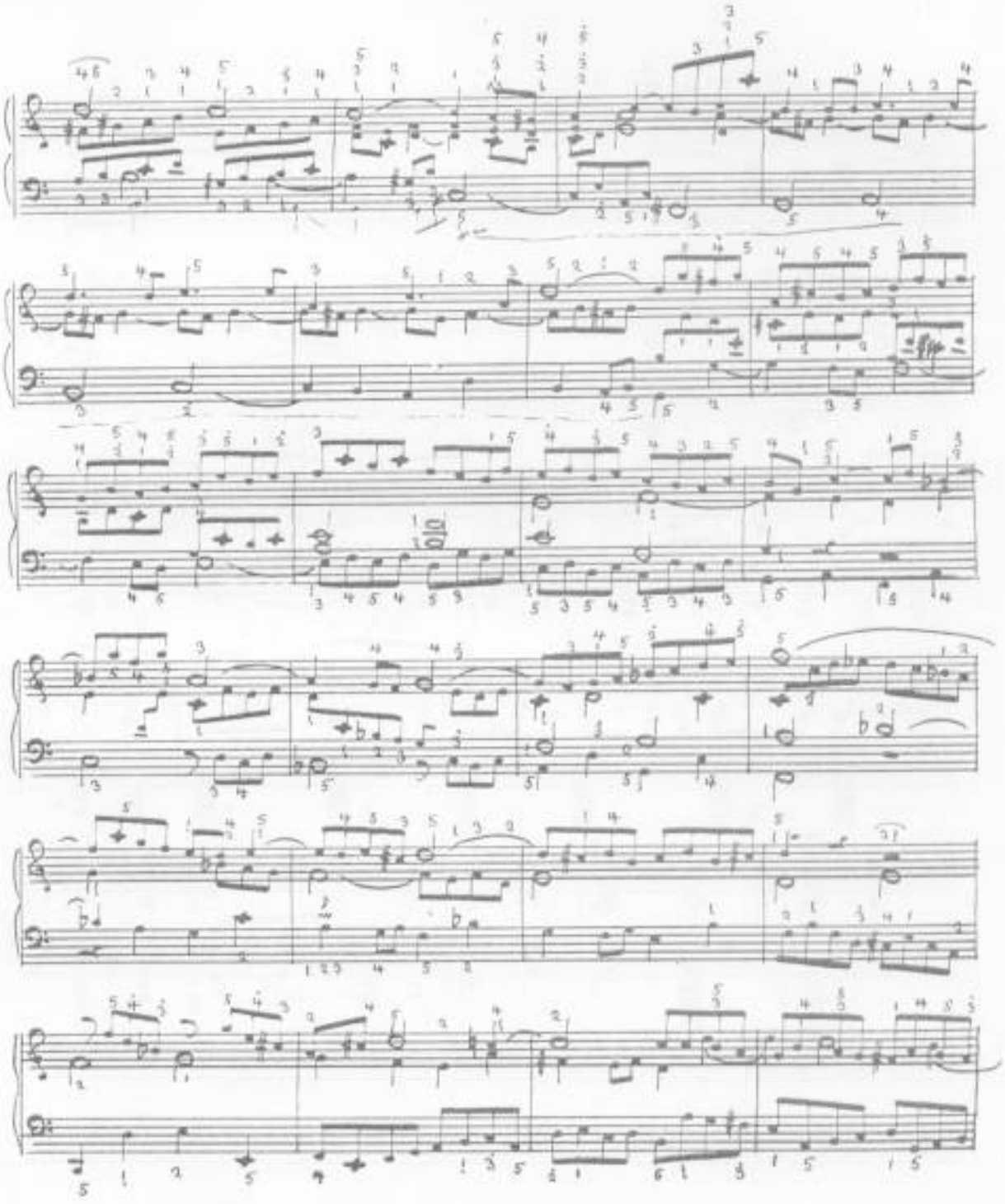
Paul von Jankó.

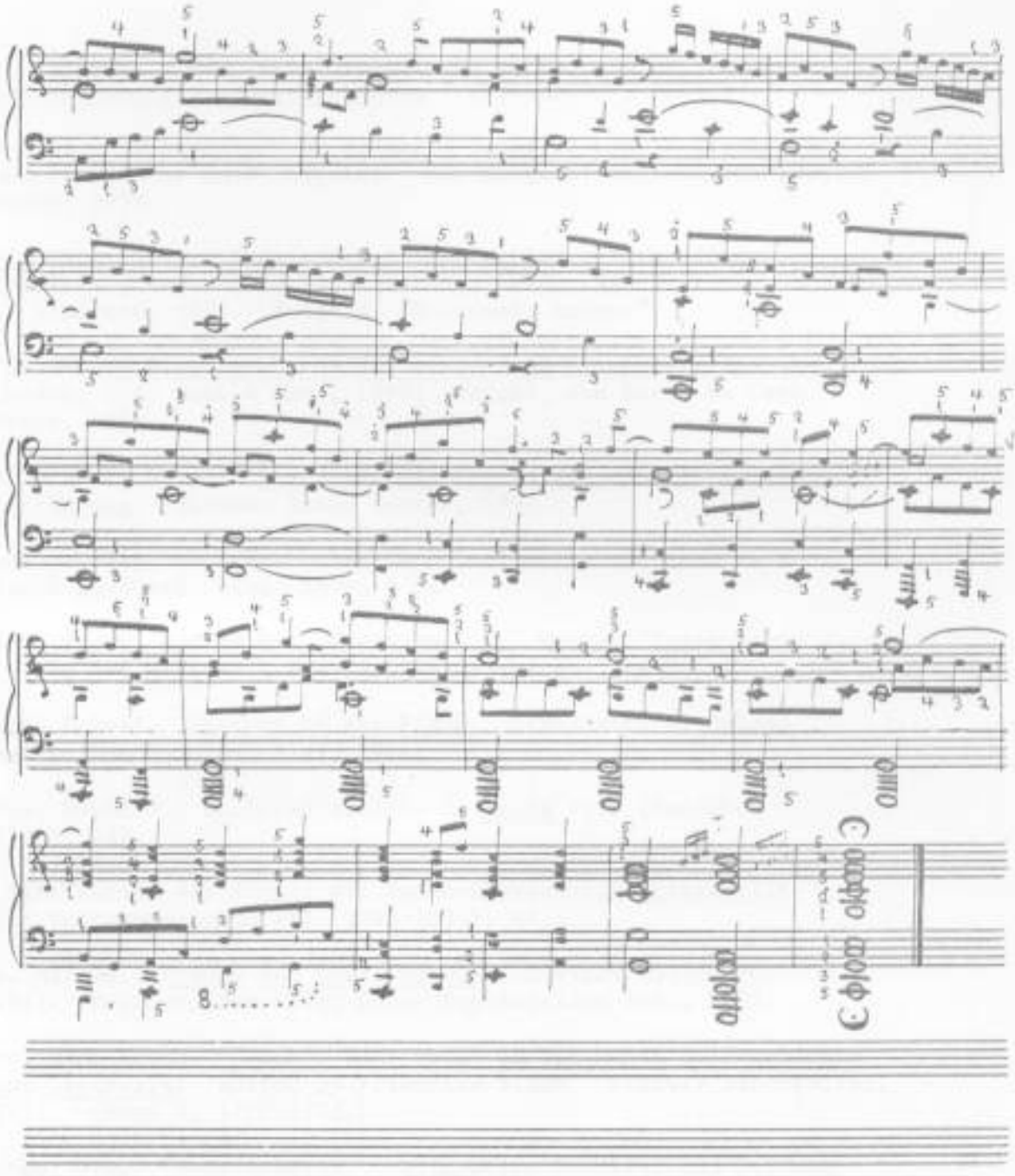
Fuga.










molto
molto

B I B L I O G R A P H Y

General

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A B S T R A C T

Paul von Jankó's keyboard invention of 1882 is an important instrument in the history of experimental keyboards. Unlike many previous and subsequent keyboard innovations, Jankó's instrument remained in practical use for many years and was still produced in Europe during the early 1900's. From the time of its inception to the present this instrument has received at least minor attention from historians, performers, and composers of various nationalities. Numerous piano manufacturers in Europe and the Decker Brothers Manufacturers of the United States produced Jankó instruments.

Placed in an historical perspective of traditional and experimental keyboards, this work offers a presentation of the wealth of materials which concern various aspects of Jankó keyboard construction, reform, production, and performance technique. The Decker Brothers Jankó piano at the Smithsonian Institute in Washington, D.C. serves as a representative of Jankó keyboard construction; constructional data and photographs taken by the author are presented. Several hypotheses concerning the disappearance of Jankó and his instrument are offered as well as information concerning present Jankó keyboard supporters. Appendices include a method book for the instrument, patents concerning the instrument's construction, advertisements for Jankó keyboard manufacturers, and music written or transcribed for the Jankó keyboard.

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