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The Restoration of the Fortepiano by Nannette Streicher Opus 961, Vienna 1813 (SAM 844)

Ina Hoheisel and Alfons Huber

1. INTRODUCTION

The Collection of Historic Musical Instruments is not only world-famous for its exceptional cimelia of the Renaissance and early Baroque, it also chronicles, among other things, the history of Viennese piano production from its origins until the first half of the twentieth century on the basis of selected pieces. With the restoration of the fortepiano by Nannette Streicher *(fig. 1)*, built in 1813, a longstanding gap in the exhibition concept could be closed.

The restoration was supported by a generous donation from the TANA Trust, London, and by Saskia van der Wel and Fritz Heller.

2. WHO WAS NANNETTE STREICHER?

Nannette Streicher (1769–1833), born Anna Maria Stein in Augsburg, was the oldest of the four surviving children of Johann Andreas Stein (1728–1792), perhaps the most famous German piano builder of the Mozart period. Already early on, she worked in her father's workshop and there from a young age learned the craft of piano making. She was a talented pianist, and already as an eight-year-old played the Triple Concert of Wolfgang Amadé Mozart together with her father and the composer, when in 1777 the latter visited the Stein workshop in Augsburg on his journey to Paris. In 1794 she married Andreas Streicher (1761–1833), a childhood friend of Schiller, with whom she moved to Vienna in the same year, and here,

Figs. 1a and b: Fortepiano by Nannette Streicher, Vienna 1813, after restoration. Vienna, Kunsthistorisches Museum, Collection of Historic Musical Instruments, inv. no. SAM 844.

Fig. 2: Portrait of Nannette Streicher, anonymous. Vienna, Kunsthistorisches Museum, Collection of Historic Musical Instruments, inv. no. SAM 734.

The piano builder family Stein-Streicher

Johann Georg Andreas Stein 1728–1792	⚭	Maria Regina Burkhard1742–1800
	4 children: Anna Maria, Matthäus Andreas, Johann Heinrich, Andreas Friedrich	
Anna Maria Stein 1769–1833	⚭	Johann Andreas Streicher 1761–1833
	2 children: Johann Baptist, Sophie	
Johann Baptist Streicher 1796–1871	⚭ ⚭	1st marriage Auguste André 2nd marriage Friederike Müller

together with her seven-year-younger brother Matthäus Andreas Stein (1776–1842), founded a piano building workshop. The siblings separated in 1802, however. Around this time Nannette Streicher, in her early thirties, had already made a reputation in her trade and has since been considered the first female piano builder in history *(fig. 2)*. Ten years later, the firm exported on a grand scale to all lands of the monarchy, to Germany, and to Italy. Pianos of the same construction type as that presented here were also owned by Carl Maria von Weber (1786–1826) and Johann Wolfgang von Goethe (1749–1832). Nannette Streicher was befriended with Ludwig van Beethoven (1770–1827) and later saw to his household.
Her son Johann Baptist (1796–1871), who received a broad education and cosmopolitan upbringing, led the company to an international reputation that lasted until the mid-nineteenth century (see family tree above).

3. THE NANNETTE STREICHER PIANO

The fortepiano SAM 844 with the opus number 961 was donated to the Collection of Historic Musical Instruments in 1991 by the Bösendorfer company, which had previously possessed a small collection of historic keyboard instruments. The provenance before this period with Bösendorfer can unfortunately no longer be traced due to a lack of documentation. In the spring of 2013, on the occasion of the 200-year jubilee of its production, the restoration of the Nannette Streicher fortepiano was declared a focus project.[1]

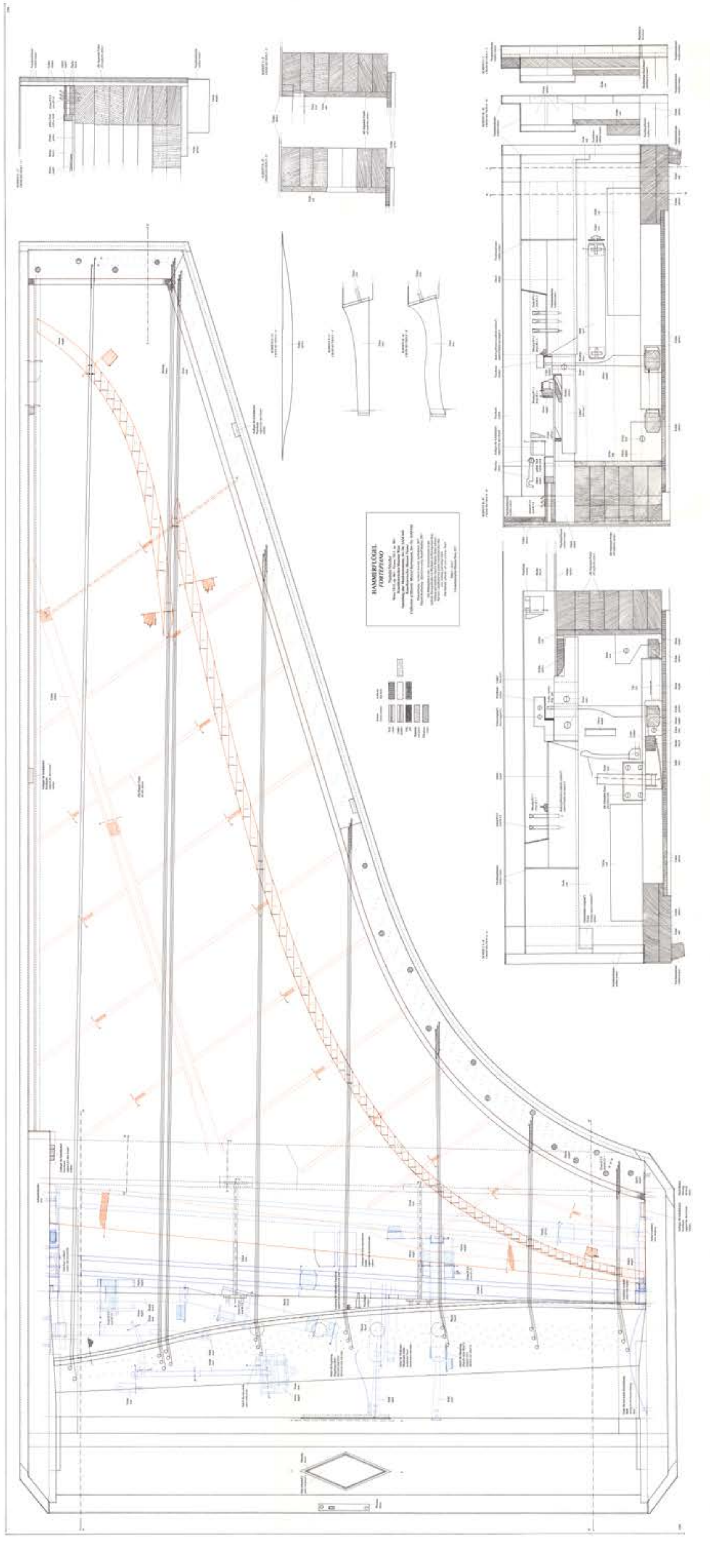
[1] Through the unforeseen turbulence around the House of Austrian History, the completion of the extensive restoration project was delayed until 2017, however. Because of the renovation works in the Collection of Historic Musical Instruments, which were divided into two phases, the conservation report could only be submitted in 2019.

Fig. 3: Condition before treatment 2013.
a. Compression crack in the long wall.
b. Inhomogeneous appearance with corroded and broken strings.

3.1 CONDITION BEFORE TREATMENT

In 2013, the instrument was in a badly damaged, partially altered and modified, unplayable state *(fig. 3)*. The goal of the conservation and restoration measures was only partially clear at the start, so that for documentation purposes and in-depth examination a technical, 1:1 hand drawing of the entire instrument was first made *(fig. 4)*.[2]
The resulting intensive engagement with the condition allowed the possibility of gradually formulating a restoration concept. The question of re-establishing playability at first remained open, however, as ca. 25% of the preserved string set consisted of historic but heavily corroded strings. Following a comprehensive measurement study and in comparison with preserved instruments from the same workshop, the historic string material was finally found to not be original, on the basis of its larger diameters and damage-related tension.
Ultimately, it was decided unanimously as a team to completely restore the fortepiano – with the goal of also being able to play it again. The primary arguments for this were the intact statics of the instrument, the string material assessed as not original, the renewed hammer leather, as well as two further, collection-specific reasons: As our didactics emphasize the history of Viennese piano production, but the display collection lacked a playable instrument from this prominent workshop, a sort of ‘gap closing’ was to be achieved through the project. Additionally, although the availability of financial resources was not tied to conditions from the sponsors, the recovery of playability nonetheless appeared desirable as a ‘happy side effect’.

[2] This hand drawing can be acquired by instrument builders or restorers from the Image Reproduction Department of the Kunsthistorisches Museum.



Figs. 4a and b: Technical drawing.

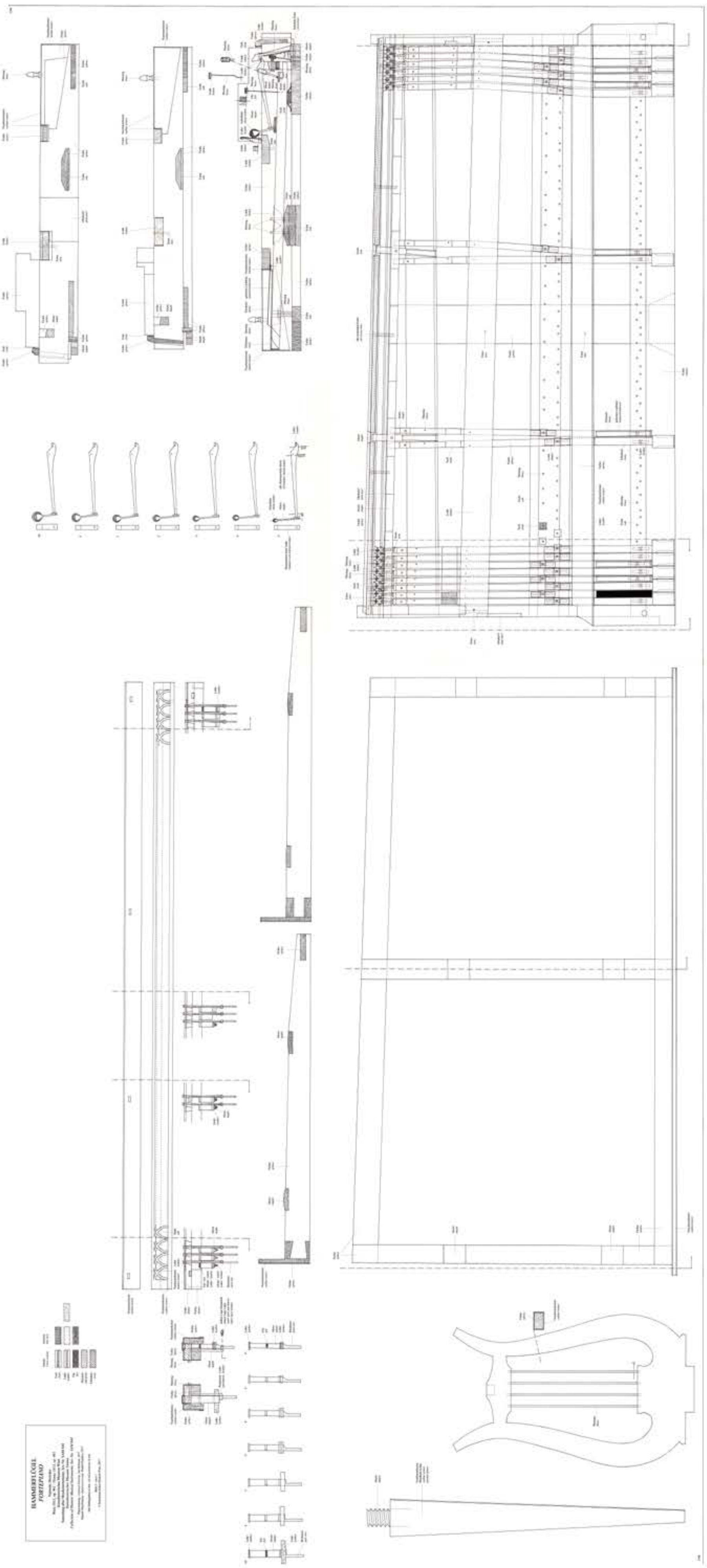

HAMMERFLÜGEL
FORTEPIANO

Fig. 5: Rebuilt pedal system (2nd half of the 19th century).
a. Original lyre on new pedal bar.
b. Traces of the original mounting of the lyre.

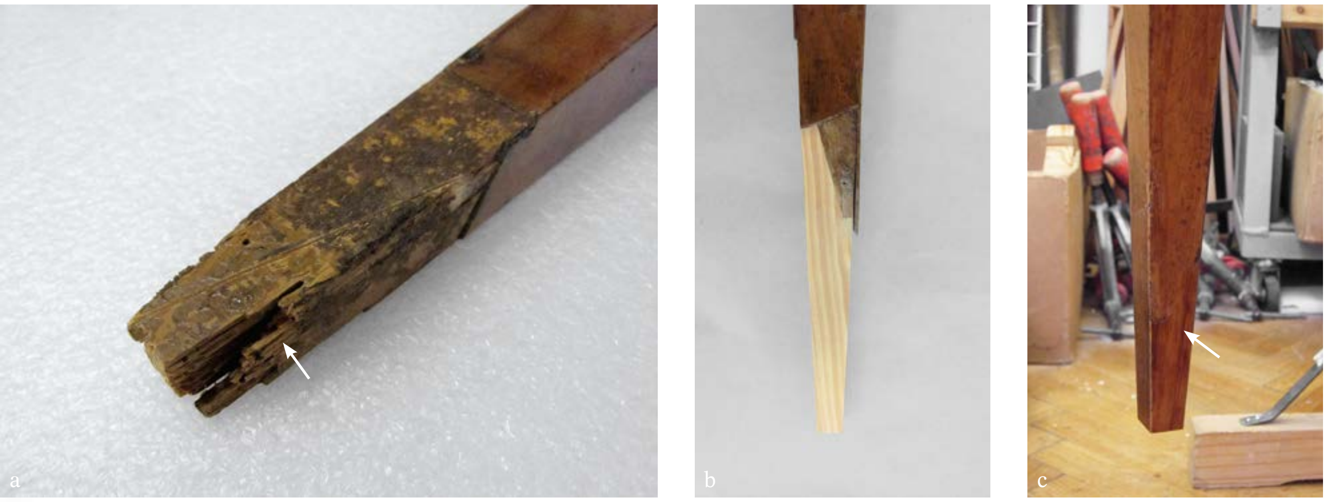


Fig. 6: Creating stability.
a. Leg damaged by furniture beetle activity.
b. Repair of the worm-damaged foot.
c. Veneer compensation with old veneer.

3.2 RECONSTRUCTION OF THE PEDAL SYSTEM

One of the at first glance most visibly disturbing changes lay in the alteration of the original pedal system, in which, likely in the second half of the nineteenth century, the original lyre was screwed to a new construction. The original wooden pedals were replaced by pedals of brass and screwed with a new mounting to the underside of the piano, where the traces of the original lyre attachment were still visible *(fig. 5)*.

Due to the fact that one leg was missing and two legs were damaged by furniture beetle activity, the piano could not be placed on its feet. That, however, was a prerequisite for the reconstruction of the pedal system, or rather of the length of the activating wires. As the wood core of one leg was crushed and broken away through insect holes, this had to be replaced with new wood. The visible surfaces were closed through loss-free compensation using old, already lacquered veneer, which proved advantageous as the

Fig. 7: Comparison instruments for the reconstruction of the pedal bridge.
a. Fortepiano Nannette Streicher, Vienna 1814. Stockholm, Swedish Museum of Performing Arts, inv. no. F332. (© Image by Sofi Sykfont, Swedish Museum of Performing Art. https://creativecommons.org/licenses/by-nc-sa/4.0/).
b. Fortepiano Nannette Streicher, Vienna 1819. Vienna Museum of Technology, inv. no. 15 276. (© Technisches Museum Wien.)

surface was aged and bore traces of use, and thus matched the overall appearance of the instrument *(fig. 6)*. The piano surely had a curved pedal bar originally. Two sibling instruments were found for comparison, in the Swedish Museum of Performing Arts in Stockholm from 1814 *(fig. 7a)* and the Vienna Museum of Technology from 1819 *(fig. 7b)*. Two facts are evident from these comparison instruments:
1. Within a company, there were (presumably always) multiple models with differences in features, pitch range, and price.
2. Our six-octave fortepiano op. 961 was obviously a proven standard model, which was still in demand almost unchanged six years later.
In June 2015, the instrument in Stockholm could be measured, a 1:1 scale sketch made, and a series of detail photos taken. However, the Stockholm instrument displayed a greater pitch range from CC to f^4 and is equipped with five pedals, whereas the Streicher piano SAM 844 was built from FF to f^4 and with only four pedals. The construction thus had to be adjusted. The connection points were plumbed from the case bottom to the drawing. This allowed the determination of the midpoint of the pedals, giving a distance of exactly 12 Viennese inches[3] between the first and the fourth midpoints.

[3] 1 Vienna foot (at 12 inches) = 316 mm.

Fig. 8: Damage to the soundboard.
a. Compression crack on the long wall.
b. Detached ribs.
c. Shrinkage cracks in the treble.

Fig. 9: Restoration of the soundboard, securing cracks with pieces of parchment.

On the basis of the adapted drawing, the core planks and cross pieces were cut, with the Stockholm instrument serving as a model for the dimensions and design. Matching the new connecting brace between the lyre and case bottom to the existing gluemarks revealed that the brace was not positioned exactly symmetrically to the middle axis of the instrument. In order to avoid the brace sitting crookedly on the lyre, whereby the pedal wires would not run parallel to the lyre 'strings', this was shifted slightly off of the middle axis and the pedals had to be secured slightly asymmetrically.
The veneering of the pedal bar likewise occurred using the detached veneer with its aged surface including traces of use. The reconstruction of all missing pieces was done following the Stockholm model, the feet and all of the brass decorations were oriented on the Streicher piano in the Vienna Museum of Technology. Moulding and casting of the brass appliqués was done by the metal restorer Martin Klobassa.

3.3 RESTORATION OF THE SOUNDBOARD

The soundboard displayed multiple shrinkage cracks, loose ribs, deformations, and a typical compression crack along the long wall, which was caused by excessive tension and the detached bass hitchpin rail *(fig. 8)*.
To allow the lasting repair of the damage, the soundboard was removed from the instrument, which thanks to the thinness of the glue layer was achieved within an hour aided by some ethanol and warmth.

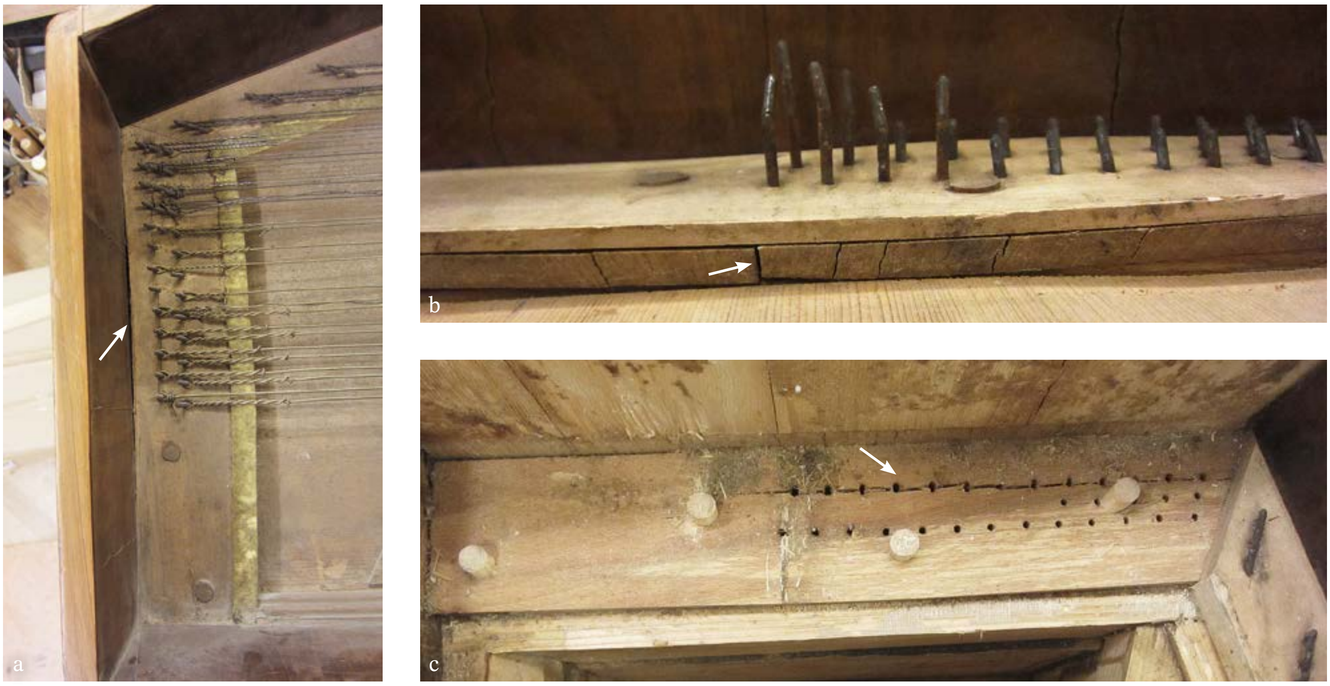


Fig. 10: Damage to the bass hitchpin rail.
a. Detached, deformed bass hitchpin rail.
b and c. The wood of the second and third layers is incorrectly oriented and cracked along the main cleavage direction.

A plywood sheet was prepared with holes cut for the bridges to be able to lay the soundboard upside down. The ribs – if the adhesion had not already failed in the past – were 2/3 detached to relax the soundboard. Through underlaying the outer edges of the soundboard with strips of fabric and placing warm sandbags on the distorted areas, a return to plane could be achieved. Further, all open cracks were repaired and the considerable shrinkage compensated for through the insertion of strips of new soundboard wood in the treble area. The long crack along the long wall was glued in stages.
After the reduction of deformations to the soundboard and gluing of all ribs to the pre-dried soundboard, the joins and crack edges were secured from the bottom with small pieces of pre-dried parchment *(fig. 9)*, before the soundboard was glued back into the instrument.

3.4 RESTORATION OF THE BASS HITCHPIN RAIL

Through the later restringing of the instrument with strings that were much too strong – this will be discussed later in more detail – a tension of around 6,000 N (equivalent to about 600 kg) bore on the bass hitchpin rail alone. This hence detached from the back wall and distorted. On the hitchpin rail, constructed in three layers, the layers had separated, which due to the inauspicious wood choice in its creation were multiply cracked and thus no longer functional *(fig. 10)*.

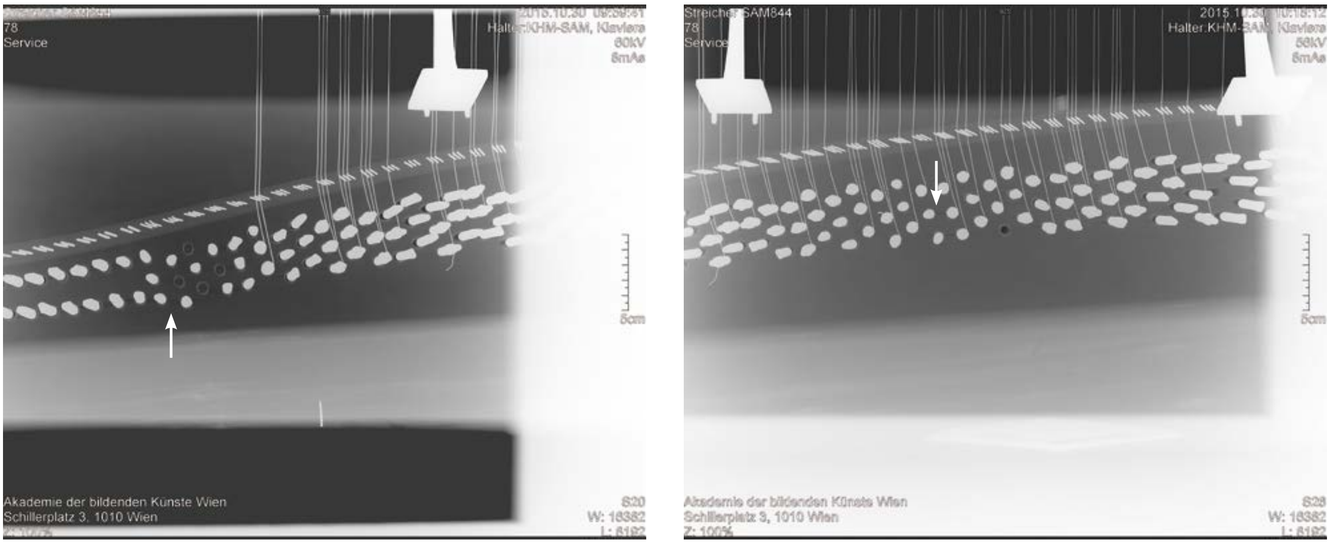


Fig. 11: X-radiographs of the wrest plank identified a crack. (Photo: Manfred Schreiner, Academy of Fine Arts Vienna.)

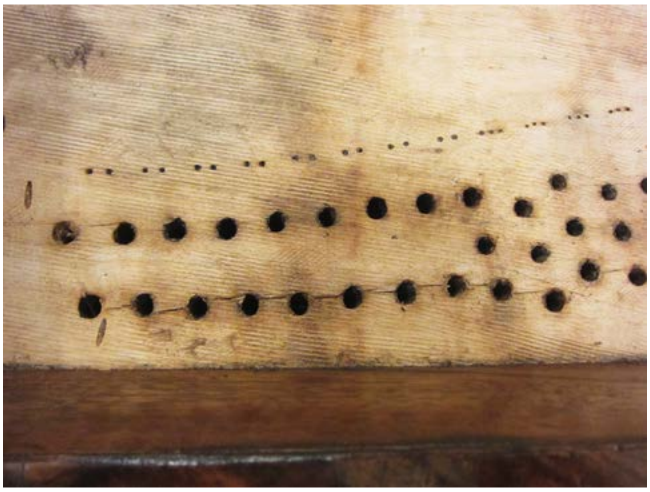


Fig. 12: The extent of the wrest plank crack was revealed on removal of the veneer.

As for layers 2 and 3, the main split direction of the wood lay parallel to the plate pins – which caused the present crack formation and would have resulted in further cracks – it was decided, against usual museum conventions, to replace these two layers for static reasons. With the removal of deformations and adhesion of the upper layer, the original appearance was preserved.

3.5 RESTORATION OF THE WREST PLANK

Although there was initially no strong suspicion of a crack in the wrest plank for the Streicher piano, it was prophylactically decided to have an x-radiograph of the critical component made. Manfred Schreiner of the Academy of Fine Arts Vienna was commissioned to do this *in situ*. It was thus revealed that the wrest plank showed cracks of varying widths in multiple places. As to be expected the bass area, where the highest tensile forces occur, was most effected *(fig. 11)*.

Fig. 13a: Introduction of synthetic resin.

Fig. 13b: Securing the crack with fiberglass fleece.

Following the diploma thesis by Markus Brosig,[4] which already seven years before had provided orientation in the restoration of the fortepiano by Johann Schantz, where the method discussed therein could be successfully realized,[5] the decision was made unanimously with the collection curators to also repair the cracks with Araldite® epoxy resin in this case. After removal of the wrest plank bridge, the covering veneer could be removed with a minimum of damage using damp sponge cloths and an infrared heater, upon which the suspicion of a compound crack in the wrest plank was confirmed *(fig. 12)*.
Before gluing, dowels were inserted into the pinholes to prevent their filling with epoxy resin. Altogether, only 5 ml Araldite® was introduced into the wrest plank *(fig. 13a)*. Due to good prior experience, the pin block was next secured with a fibreglass fleece *(fig. 13b)*. After a test on a mock-up, the fleece was adhered using bone glue to the pin block, with the warp and weft threads placed at a 45° angle to the cracks to increase stability. Earlier experiments showed that the highest possible pressure is decisive for adhesion. A 10 mm thick prewarmed acrylic sheet proved a good interlayer. Through swelling the pieces of veneer facing, these could finally be precisely glued into their old locations before the dowels in the pinholes were drilled open.

4 Markus Brosig, *Restaurierung von Stimmstockrissen an flügelförmig besaiteten Tasteninstrumenten*, in: Friedemann Hellwig (ed.), *Studien zur Erhaltung von Musikinstrumenten. Teil 2: Besaitete Tasteninstrumente, Orgeln* (Kölner Beiträge zur Restaurierung und Konservierung von Kunst und Kulturgut, vol. 17), Munich 2006, 9–89.

5 Ina Hoheisel – Alfons Huber, *Ein Hammerflügel, der Joseph Haydn hoffentlich Freude gemacht hätte*, in: Restauratorenblätter 29, 2010, 179–186.

Fig. 14: Restoration of the action.
a. Necessity of replacing eleven non-original hammer shanks.
b. Comparison of original (below) and non-original (above) hammer shanks.
c. Hammer shank reconstructed after the original.
d. Comparison of original underlying leather and non-original playing leather.

3.6 ACTION

Eleven non-original hammer shanks, which differed from the originals in form and material, had to be replaced in the mechanism *(figs. 14a and b)*. The new hammer shanks were reconstructed following the original model *(fig. 14c)* and acoustically tuned to the neighbouring hammers through plucking and thinning, following the method discovered by Paul McNulty.[6] The extant inhomogeneous intoning leather, that is, the uppermost leather layer on the hammerheads, obviously derived from later repairs on the basis of its appearance, thickness, tanning method, and quality of application (*fig. 14d*). In the search for the optimal striking points, it was revealed that multiple hammers became stuck on the front edge of the wrest plank due to the excessive thickness of the renewed leather in the descant. To solve this problem, it was decided to remove the non-original leather and attach a thin vegetable-tanned leather from the same animal (sheep) as a so-called 'sacrificial layer' to protect the original core leather. The adjustment and regulation of the mechanism alone – parallel to the breaking-in phase – required several weeks.

6 Paul McNulty, *Shaping Hammer Shanks by Ear – A Common Practice*, in: Beatrix Darmstädter – Ina Hoheisel (eds.), *Unisonus. Musikinstrumente erforschen, bewahren, sammeln,* Vienna 2014, 600–604.

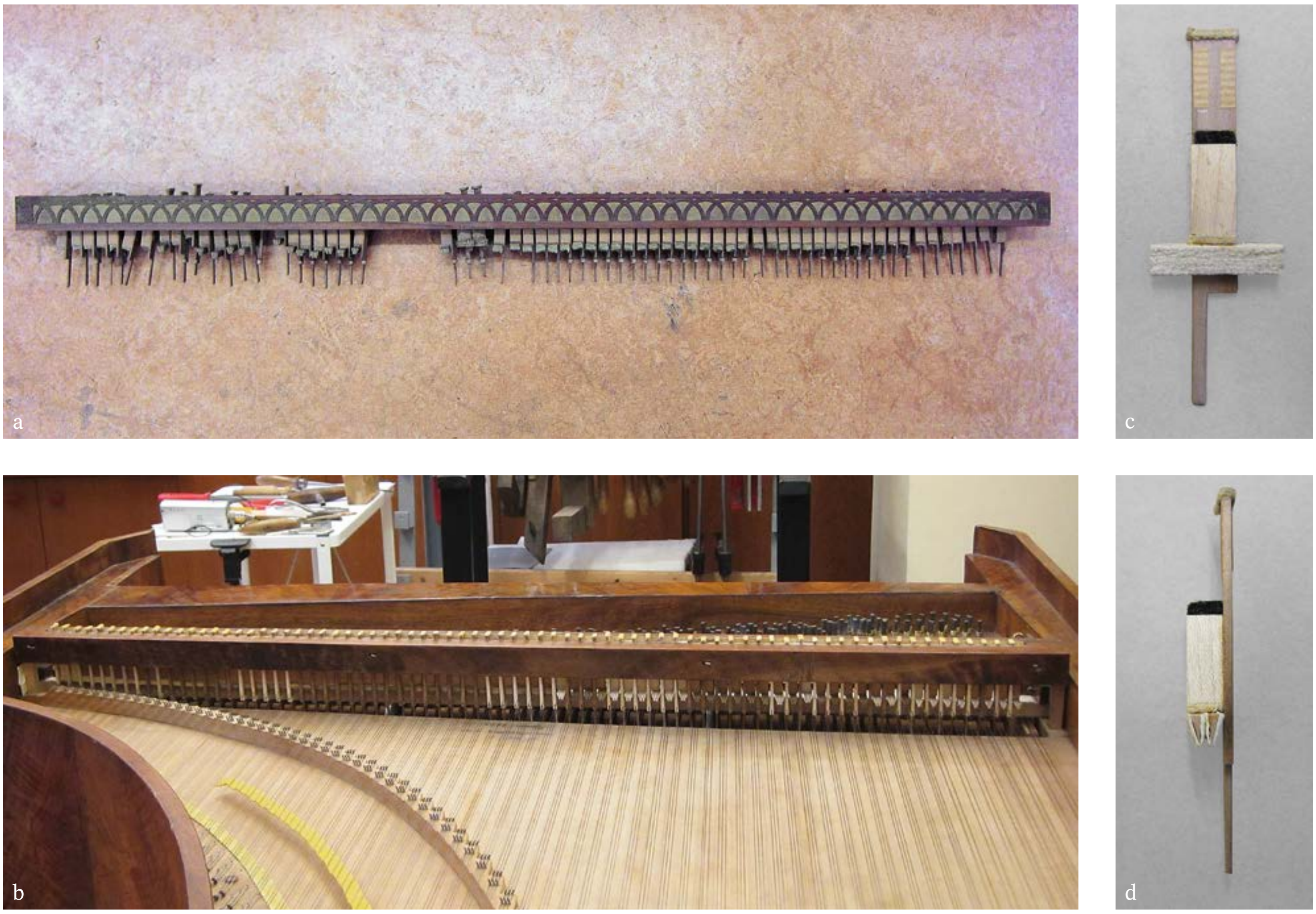


Fig. 15: Restoration of the damper.
a. Condition before treatment.
b. Replacement of missing pieces.
c and d. Reconstructed wedge-shaped damper.

3.7 RESTORATION OF THE DAMPER

The damper action showed serious mechanical damages *(fig. 15a)*. Numerous damper guiding rods and lost dampers had to be reconstructed, and finally the entire damper action in the instrument reconfigured *(figs. 15b to d)*.

3.8 STRINGING

The sound of a piano is the result of a very complex vibration system – consisting of the mass and elasticity of the soundboard, the mass and striking dynamics of the hammers, and not least the mass, tension, elasticity, and capacity of the strings – that is, a system with at least eight variables, in part unknown parameters, among them also the intended pitch. Precisely in consideration of the rapid development in piano construction in this period, it was first not excluded that some original stringing remained within the extant, very inhomogeneous set of strings. The extant stringing was thus first reconstructed by interpolation and the tension calculated. With brass bass strings of 1.25 mm and steel strings up to 0.49 mm in the treble (this corresponds approximately to the period around 1830), the result was a total string tension of around 34,000 N, corresponding to an equivalent of ca. 3,400 kp. Comparison with other,

in part somewhat earlier Streicher pianos with original strings and string numbers and an almost identically constructed instrument from 1819, which likewise displayed original string numbers, revealed that, versus the presumed original strain of ca. 2,260 kp-equivalent, the later stringing lay around 12,000 N or 1.2 tons higher – a convincing explanation for the described damage. The tension of the string set finally chosen, somewhat thinner especially in the tenor and bass (with 0.90 mm brass strings in the bass and 0.36 mm iron strings in the treble) lays, at a pitch of a^1 = 435 Hz, about 7% deeper than the original strain. The conservational 'trick' of exploiting the sound potential of the instrument with lower strain lies in choosing thinner strings but achieving the full capacity of the strings through the selection of an adequate pitch.
The missing bassoon stop was reconstructed using a soft, old handmade paper and toned thin raw silk, following the original model in the Vienna Museum of Technology. The same was done for the moderator bar with the fabric strips that on activation of the pedal could be slid between the hammerheads and the strings to modulate the tone toward the piano *(fig. 16)*.

3.9 SURFACE OF THE REAR WALL

The veneer of the long wall had severe mechanical damage and showed numerous deep scratches, dents, and injuries to the lacquer. The different character of the veneer, differences in the colour of the lacquer, and a different wood structure of the marquetry suggested that the veneer in the last third of the long wall had been replaced *(fig. 17a)*. The appearance of the replacement indicated a coating containing cellulose nitrate. Investigation under UV illumination confirmed this assumption through the observation of differing fluorescence at the interface of the two veneer types *(fig. 17b)*. As the differences in colour were very disturbing, the colour of the repaired surface was matched to the original.
After cleaning the entire surface of the instrument, a mixture of methoxy-2-propanol and tung oil was prepared and the colour matched to the original lacquer using Orasol® dyes. With the help of a fine grit sanding paper, the non-original surface was polished with the addition of this mixture. The long-chain alcohol allows a retarded dissolution of the lacquer, while the oil could penetrate thanks to the slight sanding, resulting in an increase in saturation. The damages to the original veneer could be retouched using Orasol® dyes dissolved in shellac. A more uniform appearance of the long side could thus be realized *(fig. 18)*.

Fig. 16: Completion of the bassoon stop and moderator ('bassoon' = vibration strip of paper and silk; the moderator is made of cloth strips).

Fig. 17: Condition of the rear wall before treatment.
a. Non-original veneer with recent lacquer.
b. Differing fluorescence at the interface seen under UV light.

Fig. 18: Surface of the rear wall after retouching.

Fig. 19: Surface of the lid.
a. Condition before treatment with remains of the original lacquer.
b and c. Intermediate stage during removal of the overpaint.

3.10 SURFACE OF THE LID

The exterior of the lid had been carelessly overpainted at a later date with a dark brown lacquer, presumably pigmented with soot. The coating was so unaesthetic that at no point was there doubt about removing it rather than leaving it as an 'organic condition' *(fig. 19)*. As the original lacquer was previously sanded off except for a small area, there was no concern about removing the black layer with solvents, which was easily achieved using a mixture of ethanol and acetone. To match the exposed veneer surface to the appearance of the adjacent original surfaces, a ground of toned modified linseed oil varnish was applied, and finally a mixed polish based on a contemporary recipe[7] was put on with a pad.

3.11 FACSIMILE OF THE NAMEPLATE

As the original nameplate over the keyboard was either replaced by a sheet of matte glass or the original ink signature had been effaced *(figs. 20a and b)*, the decision was made to attach a reproduction plate to this prominent place. This was adjusted from the model in the Vienna Museum of Technology using Photoshop *(fig. 20c)* and – printed in reverse on a transparency – laid reversed on the glass in the original frame so that the lettering on the back of the transparency would be properly legible. The facsimile is indicated through a small dated annotation *(fig. 20d)*.

[7] Mixed polish of 150 g lemon shellac, 80 g purified sandarac, 50 g gum elemi dissolved in 1 L ethanol and filtered. From: Jean-Paul Coutrait, *Trucs et procédés du bois*, Paris 1993, 254.

Fig. 20: Facsimile of the nameplate.
a. Condition before treatment.
b. Matte glass without signature.
c. Original plate, Streicher piano, Vienna Museum of Technology. (© Michael Kirchweger.)
d. Signature facsimile on the old matte glass. (Photo: Rudolf Hopfner.)

3.12 RECONSTRUCTION OF THE SECOND SOUNDBOARD

A characteristic component of Viennese pianos of the Biedermeier period after ca. 1810 is the so-called *Schalldeckel* (second soundboard). This regulates the sound balance between the treble and bass ranges, especially when playing with the main lid open. The development in the course of the nineteenth century toward ever greater volumes, however, led to its removal from many older instruments – as on our Streicher piano. The second soundboard was reproduced following the model in the Vienna Museum of Technology.

4. THANKS

In conclusion, it is emphasized that all of these complex and in part contradictory circumstances were discussed amongst the entire collection team and decisions made unanimously. Our thanks go to all our colleagues who helped us in word and deed and material.
Not least, since September 2016 many musician friends made their time available during the adjustment phase. This feedback played a decisive role in the development of the sound potential of the finished instrument *(fig. 21)*. The pianist Birgit Streicher, additionally a direct descendent of the builder, gave us the most time.

Fig. 21: Condition after treatment with reconstructed pedal system and soundboard.

5. MATERIALS USED

Acetone: Neubers Enkel, 1060 Vienna
Araldite® AY 103/ HY 951 (Bodo Möller Chemie): produced by CIBA Geigy
Watercolours (Schmincke): Otto Kummer Artists' Materials, 1070 Vienna
Ethanol: Neubers Enkel, 1060 Vienna
Fibreglass textile (fibre composites): Composit Technology
Skin and bone glue: Beck, Koller & Fischer, 1010 Vienna
Natural resins: Kremer-Pigmente, D-88317 Aichstetten
Intonation leather: Maximilian Hauser, 1020 Vienna
Linseed oil: Kremer-Pigmente, D-88317 Aichstetten
Methyl cellulose: Kremer-Pigmente, D-88317 Aichstetten
Orasol® dyes: Kremer-Pigmente, D-88317 Aichstetten
Strings: Marc Vogel, D-79795 Jestetten
Shellac: Kremer-Pigmente, D-88317 Aichstetten
Petroleum benzine 100–140°C: Kremer-Pigmente, D-88317 Aichstetten
Turpentine: Kremer-Pigmente, D-88317 Aichstetten
Wishup (dry cleaning sponge – Akemi): Deffner & Johann, D-97520 Röthlein
(All other materials from respective specialist stores or from the holdings of the Conservation Department of the Collection of Historic Musical Instruments).

SUMMARY

On the occasion of the 200th anniversary of its production year in 2013, the fortepiano op. 961 (inv. no. SAM 844) by the famous and first female piano maker Nannette Streicher, part of the Collection of Historic Musical Instruments (*Sammlung alter Musikinstrumente*) of the Kunsthistorisches Museum Vienna, was selected as the collection's main conservation project. At that time, the instrument was highly damaged, partially altered and rebuilt, and in unplayable condition.
Before defining the aim of the project, a hand drawn 1:1 engineering detail drawing of the whole instrument was made for documentation purposes. The time consuming close examination of the instrument's existing state allowed the goals of the conservation to be developed gradually.
The question of playability remained unanswered, since 25% of the preserved strings appeared to be contemporary with the piece. After a detailed analysis of the scaling and stringing and comparison with period instruments from the same workshop, it became clear that not only was the present heavy stringing not original, it was also responsible for the serious damage to the wrest plank, hitchpin rail, and soundboard. The suspicion of a cracked wrest plank was confirmed by x-ray examination.
After weighing the pros and cons, the whole collection team decided by mutual agreement to realize a complete restoration including playability.
The entire project took about four years. The main steps of the process are presented, including the reconstruction of the pedal rail; the restoration of the wrestplank, hitchpin rail, soundboard, and the action; and the treatment of the surface. Reflections on the scaling and an invisible method to restore a cracked wrestplank while preserving the historic material [Brosig, 2006] are also discussed.
The project was funded by the TANA Trust London, Saskia van der Wel, and Fritz Heller.

ZUSAMMENFASSUNG

Im Frühjahr 2013, anlässlich des 200-Jahr-Jubiläums seiner Herstellung, wurde die Restaurierung des Hammerflügels (op.-Nr. 961; Inv.-Nr. SAM 844) von Nannette Streicher, der ersten Klaviermacherin der Geschichte, zum Schwerpunktprojekt der Sammlung alter Musikinstrumente des Kunsthistorischen Museums Wien erklärt. Zu diesem Zeitpunkt befand sich das Instrument in einem stark beschädigten, teils veränderten und umgebauten, unspielbaren Zustand.
Zu Beginn war das Ziel der konservatorischen und restauratorischen Maßnahmen nur teilweise klar, so dass zu Dokumentationszwecken und zu einer vertiefenden Befundung zunächst eine technische 1:1-Handzeichnung des gesamten Instruments angefertigt wurde. Die damit verbundene intensive Auseinandersetzung mit dem Bestand eröffnete die Möglichkeit, schrittweise ein Restaurierungskonzept zu formulieren.
Jedoch blieb die Frage nach der Wiederherstellung der Spielbarkeit zunächst offen, da ca. 25 % des erhaltenen Saitenbezugs aus historischen, jedoch stark korrodierten Saitenbestand. Nach einer umfangreichen Mensuranalyse und im Vergleich mit erhaltenen Instrumenten der gleichen Werkstatt wurde das überlieferte Saitenmaterial jedoch letztlich aufgrund der größeren Durchmesser und schadensrelevanten Zugkräfte, die zu erheblichen Beschädigungen des Stimmstocks, des Anhangs und des Resonanzbodens führten, als nicht original eingeschätzt. Der Verdacht auf einen vorliegenden Stimmstockriss konnte durch eine Röntgenuntersuchung bestätigt werden.
Schlussendlich wurde vom wissenschaftlichen Team der Sammlung einvernehmlich entschieden, den Hammerflügel komplett zu restaurieren – mit dem Ziel, ihn auch wieder spielen zu können.
Im vorliegenden Beitrag werden die wesentlichen Punkte des vierjährigen Restaurierprojekts vorgestellt, wie die Rekonstruktion des Pedalstegs, die Restaurierung des Stimmstocks, des Anhangs, des Resonanzbodens und der Mechanik sowie die Regenerierung und Behandlung der Oberfläche. Überlegungen zur Mensurierung sowie eine unsichtbare, materialschonende Methode zur Klebung gerissener Stimmstöcke werden ebenfalls besprochen und diskutiert.
Das Projekt wurde mit einer großzügigen Spende durch den TANA Trust London sowie Saskia van der Wel und Fritz Heller unterstützt.