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ABBREVIATIONS

MMA The Metropolitan Museum of Art
MMAB The Metropolitan Museum of Art Bulletin
MMJ Metropolitan Museum Journal

Height precedes width and then depth in dimensions cited.
The keyed guitar at The Metropolitan Museum of Art, made in Germany in the mid-nineteenth century, was part of the collection of musical instruments originally established by Mary Elizabeth Adams Brown in 1889. This guitar has long been worthy of greater attention, despite its being neither the most ornate example of nineteenth-century guitar making nor an object that fits into a clear tradition of guitar playing. The ingenuity of its design has been overshadowed by the instrument’s peculiarity, current state of deterioration, and plainness, and consequently it has entirely avoided academic coverage. As the only such instrument in a public collection, and one that bears two labels inside—"Matteo Sprenger / fece à Carlsruhe¹ 1843," and “F. Fiala”—the Museum’s keyed guitar is essential to identifying and contextualizing the
THE MET's GERMAN KEYED GUITAR
sparse body of nineteenth-century literature on the topic. This article examines the history of the nineteenth-century keyed guitar using the Metropolitan Museum’s instrument as the basis for understanding the provenance of other instruments and establishing them within an historical narrative.

In many respects the instrument is typical for an early Romantic German guitar: it is fretted, with six strings of the usual scale-length, and the *plantilla* (body profile) is in *Wappenform* (fig. 1). It is exceptional for the removable piano hammer mechanism housed within the guitar body, which can be used to strike the strings through a hole in the soundboard. Only two other keyed guitars from the period have been identified: one was made in 1810 in Mittenwald, Germany, by Mathias Neüner, and is now in the collection of Rainer Krause. The other has no clear provenance, but was likely made toward the middle of the nineteenth century and eventually entered the Museum of Musical Instruments, University of Leipzig, prior to being lost during the Second World War. Despite this scarcity of extant instruments and the confusion about their history in the nineteenth-century literature, there is evidence that various forms of keyed guitars achieved moderate success in the period.

By the time these instruments were made in the nineteenth century, the concept of adding keys to a guitar was not new, having arisen in 1780s London in response to that century’s piano-mania. The piano, invented by Bartolomeo Cristofori at the turn of the eighteenth century, had grown steadily in popularity, and by the 1760s the affordability and novelty of the square piano in particular made it a highly successful domestic instrument in London. At this time, London was a lively cosmopolitan port city where the precious materials necessary for musical instrument manufacture were readily available, as was a skilled workforce from across Europe. As a result, many London-based makers of pianos and citternlike English “guittars” were first-generation German immigrants. Most prominent among them was Johannes Zumpe who, in addition to being a guitar maker, is credited with inventing the square piano.

In the eighteenth century the guitar was in vogue throughout the United Kingdom, and was the first instrument of the guitar family to be fitted with piano hammers. The German instrument maker Christian Claus was granted a patent in London in 1783 for a keyed instrument that he advertised as a “pianoforte guitar” (fig. 2a). He spent years fighting to support his claim as the first, and therefore only, lawful maker of pianoforte guittars, and attempted to sue another manufacturer, the large firm Longman & Broderip, for intellectual property theft. Longman & Broderip, however, had advertised pianoforte guittars for sale before Claus’s 1783 patent, which makes Claus’s claim to the instrument’s invention disputable. Another system in use at the time, known as Smith’s Patent Box, involved the addition of an external piano hammer action to the instrument body (fig. 2b). Pianoforte guittars were common enough in the eighteenth century that they can be found today in most prominent collections of musical instruments around the world.

Like the guittar without keys, these keyed examples would have been used almost exclusively in the home and were popular among both men and women, despite being advertised chiefly for young women to use as an accompaniment for the voice. Those wanting to appear comfortable in London’s fashionable society could use the pianoforte guittar to perform the latest songs from the pleasure gardens and to entertain and sing with their guests. Compared to other domestic instruments such as the square piano, the pianoforte guittar was almost exclusively an amateur instrument; with the tuning set to an open chord of C major, it was relatively easy for a beginner to make a pleasant sound. What is more, its piano-like sound, produced by striking wire strings with a hammer as opposed to plucking them with the fingers, was considered fashionable. Guittar makers also often added a third string to the two highest-pitched courses, increasing the similarity to the piano in tone and structure. It is important to emphasize the contrast between the simple repertoire and utility of the pianoforte guittar with the marvelous sophistication of its hammer mechanism. The type of piano hammer mechanism used on Longman & Broderip’s guittars, for example, was breathtakingly complex, and entirely new in design in relation to contemporary piano actions. There were two distinct types of internal mechanism for the pianoforte guittar: that used exclusively by Christian Claus, and another predominantly sold by Longman & Broderip that was made in the workshops of Charles Pinto and Culliford & Co (fig. 2c). Although these instruments appear similar from the exterior, their mechanisms are entirely distinct in design, probably as a result of multiple lawsuits that forced their makers to differentiate their work. The pianoforte element of the guittar must be seen in this context, as a fashionable curiosity more impressive for the intricacy of its design than for the music that would have been played on it.
The pianoforte guittar was only in production in London during the 1780s—by 1789, Christian Claus had fled from his creditors to New York, and the firm Longman & Broderip was eventually bankrupted in 1795. Claus continued to make instruments, however, notably in partnership with Thomas Dodds, and a square piano at the Metropolitan Museum, marked “Dodds and Claus,” is thought to be the earliest extant piano made in New York, about 1791 (fig. 3). It was also about the turn of the nineteenth century that the Spanish guitar was starting to take precedence over the English guittar in popularity. The amateur status of the guitar continued for a short period while music sellers arranged the same kinds of popular music for it, but musicians such as Fernando Sor, Niccolò Paganini, and Hector Berlioz helped to make it an instrument of virtuosity.

In the nineteenth century, keyed guitars were produced in fewer numbers by makers who were more geographically dispersed than their London-based counterparts of the 1780s. Consequently, there is comparatively little primary source information, and few instruments from the period survive. However, early sources indicate that keyed guitars other than the
examples discussed here might have been made. French piano maker Juan Puyol, who moved from London to Madrid in the 1790s, advertised himself as a maker of both pianoforte guitars and keyed Spanish-style guitars, while Adolphe Le d’Huy was granted a French patent in 1806 for his organized lyre (Lyre-Organisée) (fig. 4). In 1812 a certain Mr. Pertosa, from Naples, gave a poorly reviewed performance in Königsberg (present-day Kaliningrad, Russia) on a keyed guitar he claimed to have invented. Later nineteenth- and early twentieth-century authors attribute a different kind of keyed guitar to the Bachmann workshop in Berlin. Georg Kinsky, writing in 1912, attributes the now-lost keyed guitar from the University of Leipzig to Carl Ludwig Bachmann (fig. 5), although since this attribution was never explained and the object itself cannot be consulted, this detail remains in question. Unless clear evidence can be found to support Kinsky’s attribution, it seems more likely that Bachmann acted solely as a dealer of London-made pianoforte guitars and that the lost Leipzig instrument was by another maker.

Many nineteenth-century texts on the keyed guitar do not clearly distinguish between the pianoforte guitar and keyed guitars in the Spanish form. Authors sometimes relied on secondhand information, and often conflated the two types of instrument. In 1812, Ernst Ludwig Gerber writes of having visited Bachmann in 1793 and been shown the “newly invented guitar with piano keys,” but subsequently uses the word “either” to refer to the instrument and gives a description similar to the London-made works of the 1780s. Gustav Adolph Wettengel, in an 1828 account, provides a cumbersome description of a keyed guitar in the Spanish form and even includes diagrams, but the mechanism he discusses is on the right side of the body, and he attributes the invention to “a German artisan in London,” likely the patent holder Christian Claus. Nevertheless, these various sources demonstrate that keyed guitars were known in the nineteenth century, if not properly understood.

Considering the significant presence of German makers of guitars, pianofortes, and pianoforte guitars in London, it is not surprising that keyed guitars gained a foothold in Germany in the nineteenth century. The main focus of activity was in the central and southern parts of the country, in Karlsruhe, Leipzig, and Mittenwald. Matteo Sprenger and Franz Fiala, whose labels appear inside the Metropolitan Museum’s guitar, were based in Karlsruhe, home of the Baden court. Franz Fiala, one of the instrument’s greatest publicists, appears in the Baden state archives, primarily as a court musician, in entries spanning from 1812 to 1843. In 1819, he received a permit from the Grand Duke granting him the sole right to manufacture and sell “Tastengitarren,” or keyed guitars, for four years, beginning on January 1, 1820. The ducal permit describes him as the inventor of the keyed guitar, distinguishing him as an important character in the instrument’s history despite the fact that the design probably did not

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fig. 4 Drawing after an 1806 patent document by Adolphe Le d’Huy (possibly French, act. early 19th century). Institut National de la Propriété Industrielle, Paris (Patent 1BA373)
originate with him. Mathias Neüner’s keyed guitar, discussed below (see fig. 8), was made ten years before Fiala’s permit was issued, and its pianoforte element is clearly the same design as that used in the Met’s keyed guitar in 1843. As historical sources, patents do not provide proof of the origins of an invention; often the publicity they generated was more important to instrument makers than legal security. It is therefore feasible that in his prestigious role as court musician, Fiala acted as the promoter of instruments that in actuality were designed and made by others.

In 1820, Fiala published an article celebrating his recent endorsement from the Grand Duke and addressing the merits of the keyed guitar for the German nobility.20 Fiala’s status as court musician would have given him credibility in this social sphere, and his article, which mentions several members of the German nobility by name, was intended to create a high-end market for the keyed guitar. There are notable differences in Fiala’s approach from that of his London-based predecessors, who marketed the pianoforte guitar for a wider range of society, in particular the middle class and women. Although in describing the player Fiala confines himself to male pronouns, he also mentions his female patrons, implying that he anticipated the instrument’s appeal to both genders. Similar to the pianoforte guitar, however, Fiala envisioned the keyed guitar for amateurs, albeit primarily among the nobility. He states that “every guitar player, as long as he is familiar with the piano, can play this instrument without much practice so comfortably that he will be in a position to play arpeggios much faster than normal.”21 Fiala describes that the left hand uses the ordinary chord positions and compares the use of the keyboard mechanism to strumming. As a highly esteemed musician his demonstration of this instrument would have been more spectacular, but in his article he appeals to his audience’s desire for speedy learning and modest ambition.

fig. 5  Keyed guitar.
Germany, ca. mid-19th century. Maple body, front decorated with embossed leather rings centered with mother-of-pearl. L. \(36\frac{3}{4}\) in. (92 cm). Location unknown, formerly in the Museum of Musical Instruments, University of Leipzig

fig. 6  Side and plan views of the keyed guitar made by Matteo Sprenger and Franz Fiala (fig. 1)
Unusually, given Fiala’s promotion of the keyed guitar among the German nobility, the Met’s instrument in its current state does not appear to have been created for an affluent clientele. Many of its eccentricities can be explained through examination, which reveals that it was built first as a guitar without keys and only later underwent an invasive and comprehensive conversion into a keyed guitar. The *plantilla* of the instrument is strikingly asymmetrical—the left side of the body has a more pronounced curve as compared to the right (fig. 6). The reinforcement bracing on the back, typical for guitars, has been cut to allow space for the mechanism, and traces of the original bracing footprint can still be seen on the back. The raised and curved fingerboard is also a later addition, and has been glued on top of an earlier flat fingerboard that was level with the soundboard. The soundboard itself is a replacement and currently has a trapezoidal sound hole positioned to allow the piano hammers to strike the strings.

For this conversion the instrument would have been almost entirely disassembled. It is likely that the original body shape was more symmetrical than its current form, as the left-side profile, if mirrored, as shown in the diagram in figure 7, follows the theoretical proportions of design that are typical for workshops suited to the use of dividers.22 This pre-conversion body profile can be reconstructed almost entirely from circles arrayed on the perimeter of a common circle, seen in the diagram in red. The curve of the bottom of the guitar is a perfect arc which, if continued, would intersect precisely with the corners of the upper bout.23 The mechanism itself is made with precision and suits the instrument well, although in its current state it is held in place by small brass screws entering through the back of the guitar.

The reasons for, and shortcomings of, the conversion—namely the object’s asymmetry and its crudely carved bridge—are difficult to account for, given the credentials of Franz Fiala and also Matteo Sprenger, both of whose labels appear inside the guitar. Finding the labels together indicates that the two were likely in some sort of partnership, but this does not mean that both participated in the conversion. Rather, the work was probably undertaken by Sprenger, a master violin maker who apprenticed in Mittenwald and worked for Mathias Neüner before moving to Karlsruhe.24 He is also known to have been a highly regarded craftsman after he emigrated to New York in 1846 where he won awards for his instruments.25 At the time this particular guitar was converted in 1843, twenty-three years had passed since the Grand Duke of Baden issued Fiala a permit to make and sell keyed guitars; demand had probably diminished and the instrument had become less associated with the high-ranking nobility.26 It is likely, too, that, subsequent to its conversion, the Met’s guitar was poorly repaired. Its mechanism might even have been salvaged together with its makers’ labels and added to this guitar by an unscrupulous dealer, a surprisingly common practice, and one that might explain the instrument’s poor condition and craftsmanship, including the brass screws that hold the hammer mechanism in place. Yet regardless of the quality of workmanship in the Met’s guitar, its piano hammer element bears an indisputable connection to an earlier, more ornate keyed guitar by Mathias Neüner, made in Mittenwald in 1810.

Unlike the Met’s guitar, from the beginning Neüner’s instrument was designed and made to be a keyed guitar, and has survived largely unaltered since its construction (fig. 8). Inlaid with mother-of-pearl and ebony, it is built from high-quality woods traditional to the construction of fine guitars and, other than its keyboard mechanism, it is typical for an early Romantic guitar.27 Whereas the hammer actions of the pianoforte guitar were built according to an entirely new principle in relation to contemporary piano actions, the mechanisms in the keyed guitars by both Neüner and Sprenger have a piano hammer action essentially identical in design to early English grand pianofortes.28 Only two small differences exist between the two guitars’ mechanisms: Neüner’s has no check (a component that stops the hammer from striking the string multiple times when pushed with force) and features wood hinges to pivot the hammer arms (fig. 9b) instead of the brass...
kapseln, typical in Viennese actions, that are found on the Met’s guitar (fig. 9a).

This similarity between the two piano hammer mechanisms suggests that Sprenger had hands-on knowledge of Neüner’s keyed guitar. Both men were from Mittenwald, an international center for stringed instrument making where Neüner, a skillful violin maker and canny businessman, was active from about 1800. By the time Sprenger is thought to have been active there, Neüner had transformed his business into a large and high-functioning factory that employed

other Mittenwald violin makers. A further link can be traced from the Met’s keyed guitar through Sprenger’s roots in Mittenwald and the Neüner workshop to the pianoforte guittar as well. Before 1800, Neüner had traveled to, and built connections in, England, which he continued to foster throughout his career. During these visits he would have become familiar with instrument makers and sellers in London, and consequently would have seen pianoforte guittars firsthand during his trips.29 While Neüner’s keyed guitar does not share any obvious design elements with the pianoforte

![Keyed guitar](https://example.com/images/keyed_guitar.jpg)

**fig. 8** Keyed guitar. Mittenwald, Germany, 1810. Made by Mathias Neüner (German, act. ca. 1800–1830). Maple back and sides, spruce soundboard, mother-of-pearl frets, and ebony-veneered spruce neck, L. 37 in. (94 cm). Collection of Rainer Krause

![Comparison of piano hammer mechanisms](https://example.com/images/piano_hammer_mechanism.jpg)

**fig. 9** Comparison of piano hammer mechanisms. (a) Keyed guitar made by Matteo Sprenger and Franz Fiala (fig. 1); (b) Keyed guitar made by Mathias Neüner (fig. 8)
guitar, it is nevertheless important to acknowledge the likely connection between their makers, which informs both our understanding of the Met’s keyed guitar and, consequently, the historiographic sources that mention Fiala.30

The third known example of a nineteenth-century keyed guitar, once in the collection of the University of Leipzig and now lost, bears important differences from the two instruments discussed above. First, the keys were located at soundboard level, diagonally opposite the position of the keys on the surviving instruments (fig. 5). Second, the mechanism itself was accessed by a door in the side of the guitar that was either attached to the front of the mechanism or could be removed separately. Kinsky’s description of the hammer action itself, however, hints at a connection to the Met’s guitar. He refers to the mechanism as an “‘English’ action, or ‘Stössermechanik’ [push mechanism],” indicating that the hammers, mounted on a rail, were pushed by the escapement mounted on the key levers, similar to the diagrams in figure 9a, b. Given that the guitars by Neüner and Sprenger share a mechanism design despite their differences in appearance, it is possible that the lost Leipzig instrument is also connected to this lineage.31

Kinsky’s short description of the English hammer action is currently the best indicator of the instrument’s provenance. His attribution, however, is doubtful—he proposed a date of manufacture of about 1805, but probably did so to fit his attribution to Carl Ludwig Bachmann, who died in 1809. Various features of the instrument, including the raised fingerboard and the bridge pins, suggest that it was made later in the nineteenth century.32 Unless this instrument is recovered it will not be possible to establish its provenance, but the keyed guitar at the Met provides the context to test any evidence that might surface.

The production of keyed guitars in Germany during the nineteenth century was far less substantial than that of the pianoforte guitar in London during the 1780s. Its considerably long period of manufacture, spanning the first half of the century, combined with the instrument’s relatively small presence in music history, suggests that its popularity was sporadic at best.33 Like the pianoforte guitar before it, the keyed guitar was designed to impress by its nature more than by the music that could be played on it. Its novelty value and promotion by Franz Fiala were central to its success in the period but were no foundation for a lasting legacy, accounting for why it is nearly unheard-of today. The keyed guitar at the Metropolitan Museum, with its ties to Franz Fiala, Matteo Sprenger, and Mathias Neüner, gives a tangible connection to the otherwise vague documentary accounts of these instruments and provides vital insight into an obscure part of music history. Other instruments that might emerge can be set against this object and located within the limited source material.

DANIEL WHEELDON
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NOTES
1 Today spelled “Karlsruhe.”
2 Wappenform (or wappengitarre) describes an instrument in the shape of an escutcheon, or coat of arms. This form was popularized in Southern Bavaria and Austria, including Mittenwald.
3 A piano by Bartolomeo Cristofori is also in the Met (MMA 89.4.1219).
4 The spelling guittar is retained here to differentiate between the citternlike English guitar and the later Spanish guitar, which became ubiquitous.
5 Poulopoulos 2011a.
6 Claus in fact could not establish his ownership even in the 1780s; in his 1783 patent (N° 1394) he makes allowances for the pianoforte guitars that existed before the patent. See Wheeldon 2017.
7 This invention comes from the 1784 patent by William Jackson (N° 1448) for his British lyre. It was possibly made by guitar maker and music seller John Preston, and could be fitted to any existing guitar, hence why this key mechanism is found on instruments by various makers. See Wheeldon 2017, p. 99.
8 With respect to stringed instruments, a course refers to a playable unit of strings (commonly two) either of the same pitch or an octave apart. A typical pianoforte guitar, with three strings in each of the two highest-pitched courses, is a six-course instrument with twelve strings and has the following tuning: c – e – g g – c’ c’ – e’ e’ e’ – g’ g’. The pianoforte guitar was sometimes marketed as a “portable piano.” In this sense there are parallels with the orphica, which was a small, portable piano with a Viennese hammer action that was invented in 1795 by Carl Leopold Röllig. Orphicas were often fitted with shoulder straps for ease of transportation. Early illustrations show players standing, holding the instrument like a guitar, and using only the right hand to operate the keyboard.
10 Wheeldon 2017, p. 104.
11 For more on Longman & Broderip and Claus, see Nex 2013.
12 A pianoforte guitar marked “Dodds & Claus / New York” is located at the Luigi Cherubini Collection, Florence (1988/76), as listed in Poulopoulos 2011b, p. 467.

13 On Puyol, see Kenyon de Pascual 1983, p. 216.

14 The review is critical of both the performance and the instrument itself: “The invention of Mr. P., to give his guitar six keys, which when pressed the strings would sound, . . . is by the way not new . . . and is without the slightest benefit.” See Forkel 1812, col. 479: “Die Erfindung des Hrn. P., seiner Gitarre 6 Tasten zu geben, durch deren Niederdrücken die Saiten zum Klingen gebracht werden . . . ist übrigens nicht neu . . . und ohne den mindesten Nutzen.”

15 Fétis 1835, p. 26; Schilling 1835, p. 309; Gassner 1849, p. 89; Kinsky 1912, p. 170. This has puzzled more recent authors, too, including Martin Elste in Droysen-Reber, Elste, and Haase 1987, p. 12; Poulopoulos 2011b, p. 442; and Wheelon 2017, p. 98.

16 It is highly likely that Kinsky’s attribution was informed by the confusion in the nineteenth-century German texts mentioned here. Paul de Wit also catalogued this keyed guitar (de Wit 1903, p. 81) and gave neither a specific date nor an attribution, indicating that the instrument had no obvious maker’s mark. Recently, Andreas Michel and Philipp Neumann suggested that the instrument was by Franz Fiala, although this attribution was made without reference to the instrument in the Met. Michel and Neumann 2016, pp. 260–62.

17 Gerber admitted that his account of Bachmann might have needed some correction. It is probably from Gerber that Carl Ludwig Bachmann gained the reputation for inventing the German keyed guitar, but this would have been based on a mis-reading of the original text, which does not identify the inventor: “Another new invention, that he showed me at that time [1793], consisted of various new guitars with piano keys. These keys were located on the right side of the belly of the cither, and by pressing down on them with the right hand, little hammers caused the strings to make a sound.” See Gerber 1812, p. 225: “Eine andere neue Erfindung, welche er damals vorzeigte, bestand in verschiedenenen Guitten mit Klaviaturen. Diese Tasten befanven sich an der rechten Seite des Bauchs der Cither, durch deren Niederdruck mit der rechten Hand kleine Hämmerchen die Saiten zum Erklingen brachten.”

18 Wettengel describes how to make a keyed guitar, along with other guitars and violins. A bow maker by trade, he used observations from others to compile his book on instrument making. His description matches the pianoforte guitar mechanisms by Claus. Either he confused the two schools of making (probable, since he implies Claus was the inventor), or there were in fact keyed guitar makers who copied Claus’s mechanism on Spanish-form instruments. Wettengel 1828, pp. 460–66.


20 Morgenblatt für gebildete Stände 1820, p. 144. The article describes Franz Fiala in the third person, but the detail and subject matter of the piece strongly suggest he was the author.

21 Ibid., p. 144: “jeder Guitarrespieler, zumal wenn er mit dem Klavier bekannt ist, kann solche ohne große Uebung in kurzer Zeit so bequem spielen, das er im Stande ist, die Harpeggios weit schneller als gewöhnlich hervorzubringen.”

22 In the study of objects from traditional workshops, it is often useful to consider dimensions in terms of proportion rather than individual measurements recorded in a given unit (e.g., inches or millimeters). Dividers have been an essential tool for artisanal crafts since antiquity, when proportionality and scaling were more highly regarded and more immediately practical than the assignment of a unit value to each element of design. In the nineteenth century, dividers were still an important tool for instrument makers who had a strong tradition in theorizing and using the proportions of art.

23 Bout refers to the curvature of the guitar body, which typically has an upper bout (near the neck) and a lower bout (containing the bridge).

24 I am grateful to Anton Sprenger, a descendant of Matteo Sprenger’s brother Andreas who continues the family tradition of violin making (and lives and works in the same house in Mittenwald), for providing me with local records for Matteo and informing me of his work in Neüner’s factory.


26 It is not clear how Franz Fiala began his association with keyed guitars, but he certainly did so before he partnered with Sprenger (who was only five years old at the time the ducal permit was issued), and most likely after Neüner’s guitar was made in 1810.

27 Judging from the head joint, the head seems to be a later adaptation—most likely it originally had wood friction tuning pegs instead of the brass mechanical tuners present today. Furthermore, “Winkler, München 1827” is inscribed in pencil on the base of the piano hammer mechanism. Winkler was a piano maker in Munich, and probably repaired the mechanism at this date. The pianoforte element is so well incorporated into this instrument that it is unlikely to have been Winkler’s addition. By 1827 Neüner was focused much more on the business side of his firm, and it was most likely the subsequent owner of the instrument who commissioned the repairs from Winkler.

28 It is nearly identical to the grand pianoforte action by Americus Backers (1772), on loan to the Wellington Collection, Apsley House, London.

29 Lütgendorff 1904, p. 450.

30 This topic will be further explored along with detailed technical information in my forthcoming PhD dissertation, “Reconstructing German Keyed Guitars from the Romantic Period.”

31 Even with the keys raised to soundboard level the instrument’s design could have accommodated this type of hammer action—the orphica, for example, was sometimes made with raised keys that operated the hammer mechanism beneath by means of rods. An example of an orphica with a raised keyboard is in the Germanisches National Museum, Nuremburg (MIR1179).


33 For example, Wettengel, a bow maker based in Markneukirchen, Saxony, Germany, was unaware of Fiala’s permit and promotion of these instruments in 1828, despite the fact that we know from Fiala’s 1820 article (see note 20 above) that they were displayed at the Leipziger Messe (Leipzig Fair) in Saxony eight years before. See Morgenblatt für gebildete Stände 1820, p. 144, and Wettengel 1828, pp. 460–66.
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