

Donna Agrell

**A Fine, Playable Grenser & Wiesner Bassoon,
with Three Crooks and Six Reeds**

Introduction In the spring of 1985 I had the good fortune to acquire an eleven-keyed Grenser & Wiesner bassoon along with a second wing joint, three brass crooks and a reed box containing six reeds, all in the original case (see figure 1 on page 123).¹ The instrument showed signs of being well used but was otherwise in excellent condition, making it one of the few surviving examples of a complete, playable period bassoon.² It was constructed in circa 1822 in Dresden and evidently sent to Sweden, according to information found on the address label of the instrument case. This bassoon was the starting point for my doctoral research within the docARTES programme at Leiden University (The Netherlands) which will include documentation of the instrument and its parts, and is exploring specific Swedish bassoon repertoire written in the 1820s for the bassoon virtuoso Frans Preumayr.

Bernhard Crusell, Franz Berwald and Édouard Du Puy composed solo and ensemble pieces featuring the extreme registers of the instrument, inspired by Preumayr, who was an internationally known soloist and principal bassoonist in the Swedish Royal Orchestra from 1811 to 1835.³ Concert critics mentioned Preumayr's virtuosity, referring specifically to his ability to play very high notes:

"Preumayr is the best performer on the bassoon that we ever heard, taking tone, taste and execution into consideration; he makes nothing of a rapid flight from the lowest B flat in the bass to E flat, fourth space in the treble, three octaves and a half!"⁴

Another observer, at the same concert in 1830 in London, reported:

"Keys in which, to other bassoon-players, passages are impracticable, are to him nothing; but not content with a facility or command within the bounds of former fagotto-music, he has extended his domain of flourish, and actually can arrive at will upon E flat (4th space treble), and rest there as long as he pleases."⁵

- 1 Highly Important Musical Instruments, [Sotheby's Auction Catalogue], London 1985, lot No. 134.
- 2 A nine-keyed Heinrich Grenser bassoon has since been located in its original case, with a second wing joint, two crooks and reed box. The instrument appears to be in similarly excellent condition. Auction house in Vichy, <http://vichyenchères.files.wordpress.com/2012/05/2012-06-vents.pdf> (accessed June 4, 2012).
- 3 Woodrow Joe Hodges: A biographical dictionary of bassoonists born before 1825, PhD University of Iowa, 1980, p. 519.
- 4 [Anon.]: Preumayr's Concert, in: *The Morning Post* (London), Issue 18597 (20 July 1830).
- 5 [Anon.]: Mr Preumayr's Concert, in: *The Athenaeum* No. 143 (London, 24 July 1830), p. 461.

The range of these compositions encompasses a full three and half octaves, from low B \flat 1 to E \flat 5, posing formidable performance challenges for the historical bassoonist. It is not uncommon to find three full octaves utilised in the repertoire of the late eighteenth and early nineteenth centuries, but passages ascending above B \flat 4 or C4 are relatively rare. For example, the following passage from Franz Berwald's *Konzertstück für Fagott und Orchester* (figure 1), written in 1827 for Preumayr, twice demonstrates the proud presentation of an E \flat 4, jumping from a low F2 (measures 206/208). This is clearly well beyond the usual range that most historical bassoonists have now, and was obviously also exceptional in the 1820s.



FIGURE 1 Franz Berwald: *Konzertstück für Fagott und Orchester*, Op. 2, ed. by Nils Castegren, Kassel 1984, Andante, measures 203–211

By experimenting with copies of reeds and crooks found with the Grenser & Wiesner, I am seeking solutions for such technical difficulties. This would offer new perspectives for performance of the nineteenth-century Scandinavian repertoire.

The bassoon The eleven-keyed bassoon is made of black-stained maple and stamped with a crown and “H. Grenser & Wiesner, Dresden” on all of its parts. It has two wing joints of different lengths, brass keys and saddles and shows wear around the tone holes, which is a normal sign of having been played extensively. Nonetheless, the bore of the instrument is well preserved and no damage is evident. The bassoon’s length is 126.2 cm. The instrument plays well in tune at A=428–432 Hz, depending upon reed and crook dimensions and the choice of wing joint.⁶ There are eleven keys for F, D, low B \flat , A \flat / G \sharp , E \flat , F \sharp , B \flat trill, and C \sharp (right thumb), A, C, D (wing keys) and an ivory ring inset in the low C hole of the bass joint. The keys are oval-shaped and flat and/or curved on the pad side. All of the key work is intact, and only broken springs on the F and D keys have been replaced. A few years ago, a protective tube made of Grenadilla wood was inserted in the bocal well at the top of the longer wing joint to prevent further wear in that area.

6 The exact pitches of double reed instruments cannot be determined, as differences existing among individual players have a great influence on the pitch, as do variations in reeds and crooks.

An analysis of the address label on the wooden case was recently completed by Friederike Koschate-Henning, a book restorer and paper expert in Basel. She cleaned the label and examined it in daylight, with ultraviolet and infrared lights and a colour filter. Both an additional conservator and a specialist in handwriting were also consulted. The results, however, offered little new information, as the discoloration and damage to the label were so advanced that not much more could be determined beyond what had previously been visible. The legible text is limited to fragments in each line. No direct connection to the bassoonist Preumayr can be established here, but definite references to Sweden (“gatan”, “holm”) are obvious:

... nologen
pp ... Thorvald T ... of
... gatan 16
... kholm

The case itself has deteriorated inside and is no longer useable for instrument storage or transport.

Original crooks are very rare and few have survived together with a bassoon. This important part, together with the reed, plays a major role in how the instrument sounds and responds, as well as determining its overall pitch. The three crooks here are very similar to each other and were presumably made on the same mandrel, but in different lengths (figure 4). One of the crooks has been repaired with an additional band of ornamented brass. They are considerably longer and lighter than most current copies, and are made of brass with a thickness of circa 0.5 mm. Crooks currently used on period bassoons are generally made of thicker brass (circa 0.8 mm+) and have a pinhole facilitating the overblown octaves. Originally, none of the crooks had a pinhole, but I added one later on the middle-sized crook for experimental purposes. I would like to point out that the size of the crook suggests the reed dimensions that can be used; an ideal combination enables stable intonation throughout all the registers. Variations exist among individual players, and pitch differences can be dealt with by varying the reed and crook lengths. The weight of the crook influences response as well as tone colour and dynamic range.

Accurate copies of these crooks have now been made by the Spanish builders Pau Orriols and Alfons Sibila.⁷ They will soon finish making a copy based on the Grenser & Wiesner bassoon in combination with another from Heinrich Grenser. After comparing various bassoons from the Grenser (and G & W) workshop, Orriols and Sibila have come to the conclusion that the measurements among them are very consistent; this confirms my own experiences in comparing and playing several.

7 Bonaire, email: pauorriols@ya.com.



FIGURE 2 Grenser & Wiesner Bassoon
(Courtesy of Sotheby's)



FIGURE 3 Detail label on Instrument case
(Photo by author)

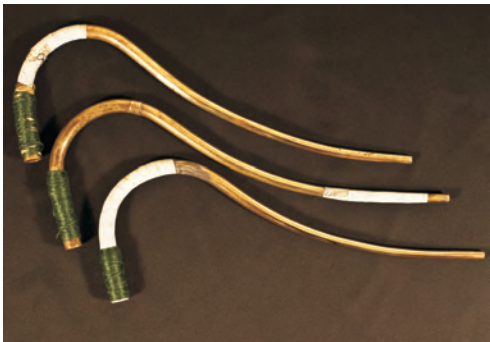


FIGURE 4 Three crooks (Courtesy of
Annelies van der Vegt)



FIGURE 5 Six Reeds and "C. J. F." Reed
Box (Courtesy of Annelies van der Vegt)

Crook Dimensions

	Length	Weight	Smallest Ø	Largest Ø
1.	311 mm	27 g.	4.45 mm	8.9–9.0 mm ⁸
2.	326 mm	27 g.	4.45–4.5 mm	9.7 mm
3.	326 mm	25 g.	4.45–4.5 mm	9.4 mm

According to two experts I consulted, the reed box was most likely made by a bookbinder.⁹ It appears that it is from the nineteenth century or possibly even earlier, based on the materials of its construction (figure 5 on page 123). Made of pasteboard, it is covered with fine red leather, embossed with the gold initials “C. J. F.” and has border embellishments. These ornaments are similar to those I have found in pattern examples from the Swedish bookbinder Melcher Wilhelm Statlander, who was active in the early 1800s.¹⁰ The box is in the shape of a parallelogram, which provides stability and may be partly responsible for the box and its contents having survived intact. The inside of the top is lined with marble paper, while the bottom has sections divided into compartments for six reeds. The identity of both the owner and the maker(s) of these particular reeds remains a mystery. As with crooks, very few original reeds have survived together with an instrument. They are extremely fragile and also commonly discarded when no longer functional.¹¹ In 1984, Paul White published a survey of 28 early reeds with very detailed measurements, drawings and descriptions.¹² Only three reeds from White’s survey could definitely be associated with a specific instrument: an eight-keyed Milhouse bassoon from the Waterhouse collection.¹³ Some other examples had previously been connected to instruments from Jehring, Rust and Winnen, but unfortunately they were later separated and can no longer be connected with a specific instrument.¹⁴ White additionally summarises five historical sources of early reeds found in methods or treatises, the earliest being from 1761, the latest from 1842.¹⁵ The range of dimensions given by White generally indicates larger reeds than those found in the “C. J. F.” reed box. The six

⁸ This measurement takes into account a small contraction, due to repair.

⁹ Thanks to Dr Martin Kirnbauer, curator and director of the Basel Musical Instrument Museum, and Beat Gschwind, a Basel bookbinder, in consultations on 1 and 8 December 2011.

¹⁰ Arvid Hedberg: *Stockholms Bokbindare 1460–1880. With an English Summary. Vol. 2. Tiden från omkring 1700 till 1880*, Stockholm 1960 (Nordiska Museet Handlingar, Vol. 37), p. 170.

¹¹ Hansjürg Lange/Bruce Haynes: The Importance of Original Double Reeds Today, in: *Galpin Society Journal* 30 (May 1977), pp. 145–149, here p. 146.

¹² Paul White: Early Bassoon Reeds. A Survey of Some Important Examples, in: *Journal of the American Musical Instrument Society* 10 (1984), pp. 69–96.

¹³ *Ibid.*, p. 82.

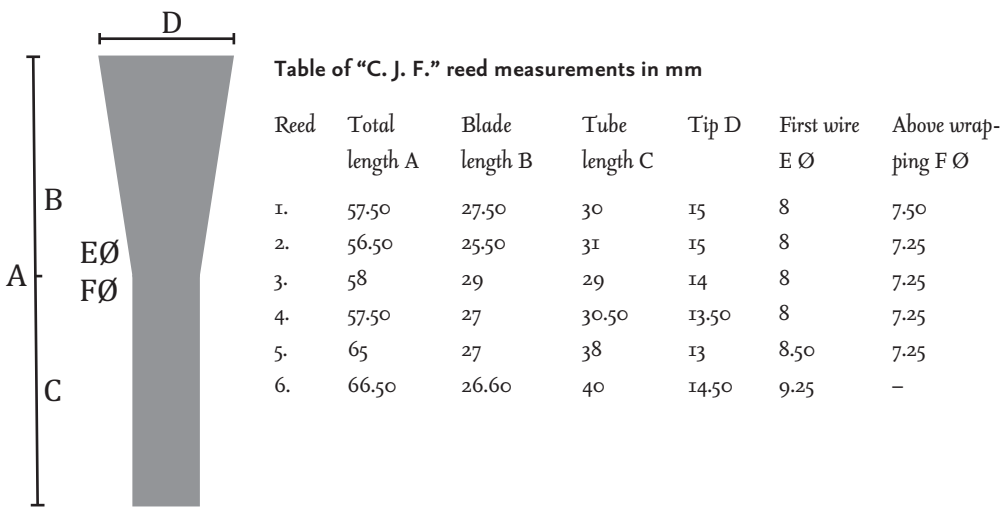
¹⁴ *Ibid.*, p. 80.

¹⁵ *Ibid.*, pp. 76f.

“C. J. F.” reeds are interesting in that they are associated with an instrument and crooks, their measurements differ markedly from those of other surviving reeds, and they have other unusual characteristics (such as the number and placement of their wires). There is no discussion mentioned by White about crooks or crook dimensions in combination with reeds.

I admit that when I initially acquired the “C. J. F.” reeds, their measurements appeared to be too radically different from what I had previously found to be useful. However, the longer I played this bassoon and experimented to find the ideal response and tone, the more my own reed measurements evolved towards these dimensions until they finally reached similar lengths. Although the “C. J. F.” reeds are no longer playable, they are in excellent condition and their measurements offer ample information to allow us to make reasonable copies. We cannot exclude the possibility that this type of reed and crook combination might function well with copies based on other historical models; this could be a matter of further investigation. I am currently conducting experiments with reed and crook copies, focusing particularly on the influence that these dimensions have on the extreme high register (yet still maintaining the quality of the lowest notes), as found in the repertoire from Stockholm in the 1820s.

Measuring method I measured the reeds as follows, using digital callipers: 1) Total length (A), divided into blade (B) and tube (C). The end of the bark and beginning of the softer layer of cane were used as the points separating tube and blade. As these were not completely consistent on both sides of the reed, the longer measurement of the blade and the shorter measurement of the tube is used. 2) Tip length (D). 3) Diameters just above the first wire (E) and just above the wrapping (F).



Reed details Four of the reeds (Nos. 1–4, in photo from left to right) appear to have been made by the same hand; their measurements are similar, as are the shapes and style of the wrappings. The remaining two longer reeds (Nos. 5, 6) are close to each other in size, but the clear differences in scraping style and wrapping suggest two additional makers.

Thickness of cane: Nos. 1–4 are made of cane gouged to circa 1.20 mm thickness. No. 5 measures only circa 0.80 mm thick at the crook end (but may have been reamed to fit) and No. 6 is made from cane gouged to circa 1.30+ mm.

Scrape, gouge: Only one of the reeds, No. 5, has a fixed shoulder line above the first wire; Nos. 1–4 and 6 have a slight “U”-shaped scrape, resulting from “internal gouging”.¹⁶ Reed Nos. 1–4 are gouged slightly thinner at the sides than Nos. 5 and 6, which is indicated by an arch with collapsed sides, seen when looking at the tip.

Wires, wrapping: Only two wires are used. It is not possible to confirm the definite presence of a second wire under the wrappings except in No. 4, but it can be assumed that these wires are present. The wrapping is made of flax or linen.

Reed experiments based on “C. J. F.” dimensions Experiments currently being carried out within the context of my doctoral research are focussing on the consequences of using the dimensions of the “C. J. F.” reeds and original crooks, hoping to better meet the technical requirements of the repertoire written for Preumayr.

- 1) Reconstructions are divided into two groups (corresponding to the dimensions of reed Nos. 1–4 and 5–6).
- 2) A given number of reeds is constructed using cane from various suppliers and regions (for example, Italian, French and Spanish cane).
- 3) The density and hardness of the cane is measured, noting the results.¹⁷ Taking these values into account, several methods of gouging and scraping can be applied.
- 4) Variations of wrapping types and numbers of wires are included.
- 5) Test criteria include: range, response, aspects of tone colour and dynamic capabilities. Final tests with bassoon students and colleagues will use selected passages from Berwald’s *Konzertstück für Fagott und Orchester* or similar material, with various models

¹⁶ In the “internal gouging” process, wood is removed from the inside of the piece of cane and bark remains on the outer blades. For a detailed description of this technique, see White’s section on scraping methods: White: *Early Bassoon Reeds*, pp. 70 f.

¹⁷ The method invented by Jean-Marie Heinrich for testing cane density is mentioned by James B. Kopp: *Counting the Virtues of Bassoon Cane*, in: *The Double Reed* 26/4 (2003), pp. 45–57. The article is also accessible on his website <http://koppreed.com/virtues.html> (accessed 3 July 2017).

of crooks and instruments. An important factor, the variable of a closed or open crook pinhole will be tested. The documentation of results will include audio examples, written notes and photos.

The subjectivity involved in this last step of the experimental process cannot be avoided; “fixed” data cannot be gathered. Due to variations in the natural material from which it is constructed, no reed can ever be truly duplicated. General tendencies, however, can be identified and reported and these methods are usual and consistent with other reed-making treatises for bassoons. Although the project outlined above involves much more research, I can already report that initial experiments based on the measurements of reeds Nos. 1–4 have been relatively successful. It was easily possible to play notes up to Eb₄ on several newly made examples, as well as the low C₂ and Bb₁. Details such as tone colour and dynamic possibilities will also be noted during my experiments.

Conclusion No one has yet determined what kind of bassoon, crooks or reeds Frans Preumayr used, and we have even less information about his technique. But as Phillip T. Young points out, “Grenser & Wiesner instruments are numerous and especially so in Sweden, where perhaps half the surviving instruments are found”.¹⁸ Preumayr’s colleague and father-in-law, the clarinettist and composer Bernhard Crusell, played a Heinrich Grenser clarinet from about 1810 onwards. This is presently exhibited at the Scenkonstmuseet in Stockholm.¹⁹ Preumayr joined the orchestra in 1811 and was obviously familiar with Grenser’s instruments, although further research is needed to confirm a closer connection.²⁰ An eight-keyed Heinrich Grenser instrument was found in the theatre at the Royal Palace in Drottningholm in the 1980s, though it was unfortunately missing the bell, or top joint.

Wind instruments, unlike string instruments, are not normally used generation after generation, and therefore historical documentation about their players is easily lost. Radical innovations and acoustic experimentation involving bore size, keys and materials

¹⁸ Phillip T. Young: Inventory of Instruments: J. H. Eichentopf, Poerschman, Sattler, A. and H. Grenser, Grundmann, in: *Galpin Society Journal* 31 (May 1978), pp. 100–134, here p. 108.

¹⁹ Heinrich Grenser: 11-keyed clarinet of boxwood, brass keys, ivory rings, Museum No. N43554 (Scenkonstmuseet Stockholm, from Dresden, circa 1810). At the collection in Stockholm, fifteen bassoons from various Dresden makers, including several each the various Grensers and Samuel Wiesner (including Grenser & Wiesner), can be found, in addition to bassoons made by Friedrich Heinrich Finke and Johann Friedrich Floth. A perfectly preserved octave bassoon (without bocal) made by Carl August Grenser Jr is noteworthy. The museum also possesses five Grenser & Wiesner clarinets, an alto clarinet, and a basset horn and numerous other examples from Dresden; oboes and flutes are also well represented.

²⁰ Hodges, p. 519.

made some early nineteenth century wind instruments obsolete within a relatively short time. As Klaus Hubmann describes it:

“The endeavour to do justice to the new challenges, especially with regard to the instrument’s ability to assert itself in the orchestra, the desire for a balanced sound in all the registers and flexibility in different keys, led to a well-nigh unmanageable flood of experiments, new models and also to failed developments.”²¹

This Grenser & Wiesner exemplifies a bassoon at the peak of a solid tradition established by that workshop. It is not very experimental, except that it has several additional keys and thus distinguishes itself from numerous eight- and nine-keyed Heinrich Grenser instruments made some years earlier.²²

It would be difficult to prove that this particular instrument was ever used by the celebrated bassoonist Preumayr in Stockholm, but it can be viewed as a rare example from a specific region and time that is associated with exceptional repertoire. The data about the surviving crooks and reeds may offer significant clues to advancing the technique required to play the virtuoso works written for Frans Preumayr in the early nineteenth century.

- 21 Klaus Hubmann: Wiener Holzblasinstrumente in der ersten Hälfte des 19. Jahrhunderts. Bauliche Besonderheiten, Klang, Spieltechnik etc., in: *Tradition und Innovation im Holzblasinstrumentenbau des 19. Jahrhunderts*, ed. by Sebastian Werr, Augsburg 2012, pp. 213–224, here p. 214.
- 22 Variations can be found in the types and numbers of keys on Grenser instruments; they do not necessarily follow a chronological order.

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LE BASSON SAVARY

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