

## Historical Oboes

By Robert Howe  
Wilbraham, Massachusetts

### 1. The Development of Simple System Keywork, 1800-1825

Music is written for musicians, with instruments and their capabilities in mind. Understanding the characteristics of early musical instruments is integral to interpreting the music of past eras. In this column, which will be a regular feature of the *Double Reed*, I hope to illustrate points of historical and musical interest by sharing my collection of oboes.

These four oboes show the development of keywork in the early 19th century (figure 1). The first is by Heinrich Grenser (1764-1813) of Dresden. Dresden was a center of woodwind manufacture, with the Grensers and Grundmann



**Figure 1:** Oboes by Heinrich Grenser (Dresden, 1796-1806), Bauer (Prague, circa 1800-1820), after Johann Floth (Dresden, 1803-07), and by Thomas Weygant (Philadelphia, 1832-66).

the most prominent makers. Augustin Grenser (1720-1807) and Jakob Grundmann (1727-1800) had been apprentices of Johann Poerschmann (1680-1757) in Leipzig, where Poerschmann played bassoon under Bach (1,2,3, 4). Their instruments were greatly admired in Germany and beyond (4). Heinrich Grenser was a nephew and successor of Augustin, who furnished oboes and bassoons to Leopold Mozart in Salzburg. This oboe is a typical two key, double 3rd hole classical oboe\*. It looks like a baroque oboe but plays quite differently.

The smaller bore gives a more concentrated sound and extends the range from the top d3 of the baroque oboe to f3 or g3\*\*. The boxwood body has a cotton-reel top and is 555 mm long. The bell has a thick inner rim characteristic of 18th century oboes and of modern Viennese oboes (Figure 2), and two vent holes. This design

**Figure 2.** Bell of Grenser oboe, showing inner rim.



was used well into the 19th century; the early symphonies of Beethoven were played on such instruments. The "3" marked on the top joint suggests that this oboe once had two or three other top joints (figure 3). These "corps de rechange", labelled "0", "1" and "2", tuned the oboe to play at different pitches (5). A corp de rechange could change the comfortable playing pitch by 2-3 Hz, giving the instru-



**Figure 3:** Grenser oboe, maker's stamp on top joint.

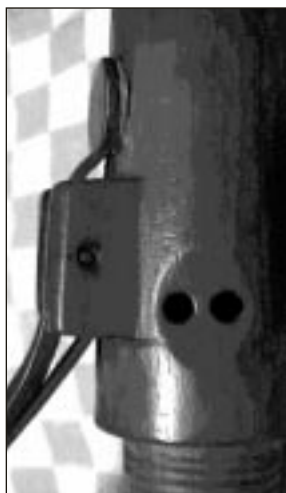
ment a total pitch variation of about 10 Hz. The markings date this oboe to 1796-1806 (1,6).

The instrument is in excellent condition, showing some signs of use. The 6-finger D is very flat in both octaves due to constriction of the bore at the lower tenon. When the lower joint from the Floth copy (below) is played with this oboe's bell and upper joint, the scale is pure.

Two keys (for Eb and c1) and a double hole at 3 were standard from the development of the oboe in circa 1680 through 1810. One may also see a double hole at 4 and/or a duplicate Eb for playing with the right hand uppermost. The tone holes are undercut, reflecting the use of a bow and brace to drill the holes. This smooths out the interface between the air in the bore and in the toneholes, giving an easier playing instrument of relatively flexible pitch. Modern makers of historical oboes use a drill press to create toneholes, then must go to considerable trouble to undercut the toneholes (7). A two keyed oboe has no low c#1, c1 is the lowest note.

The scale produced by lifting successive fingers is c1-d1-e1-f#1-g1-a1-b1-c#2. F# in both octaves is very flat, even in mean-tone temperaments, so players must leak tonehole 4, add the Eb key, or make other adjustments. Ab/G# are produced by uncovering one of the two

**Figure 4: Paired 3rd finger holes on Bauer oboe.**



paired holes for 3 (figure 4); F, Bb1 and c2 by cross fingering. In cross fingering, a tonehole below an open hole is covered to lower the pitch a half step. Thus, while b1 is fingered with 1 alone, 1-3 (and a little relaxation of the embouchure) produces Bb1. Notes above g#2 are also cross fingered; long cross fingerings such as 12-56 produce very stable, magnificent sounding high notes, in this case Bb2. The cross fingered notes sound more veiled than notes that are simply vented, giving the oboe a characteristic sound in each key; flat keys are warmer and more covered, and sharp keys are increasingly bright. A two keyed oboe plays well in the keys of Bb, F,

C, G and D and tolerably in Eb and A; more remote keys are very difficult.

As music became increasingly chromatic and ensembles enlarged in the late 18th century, musicians needed oboes that could play with greater volume and security of pitch. Such makers as Tromlitz (8), Simiot (9) and Baumann (10) added keys to the flute and clarinet (11, 12). The baroque flute had one key and the baroque clarinet, two or three; by 1800 an artist quality flute had four to eight keys and a similar clarinet had six (11). The broad double reed of the two keyed oboe makes it more amenable to cross fingerings than the flute or clarinet (12), so the addition of keywork was slower on the oboe than on the other high woodwinds. Still, after 1800 these examples were pursued on the oboe, whose makers added keys as alternatives to improve certain notes and to eliminate cross-fingerings (13). The addition of keys was very variable between makers and players, although a more-or-less standard of 8 to 12 keys was established by 1820 (13).

The oboe was not re-designed to accommodate the new keywork. Rather, makers added keys on an ad hoc basis to meet the needs of individual players and the demands of the musical communities they worked in. Keys were less reliable than today; tone hole design, pad materials, and metalworking techniques did not allow for a uniform, consistently sealing key. This naturally led to conservatism and skepticism on the part of established players and makers toward the addition of keys. This attitude is evident in a quote by Heinrich Grenser from 1800: "To add a key in order to improve this note or that is neither difficult nor artful. And then keys are not all that new, for when I was a boy I made use of them in order to bolster up the weak notes, and it became easy to give them their proper place..."(14)

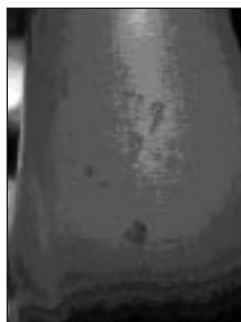
In 1823, the virtuoso oboist Wilhelm Theodor Johann Braun (1796-1867) commented:

"Too many keys would seem to impair the tone; and they have the added disadvantage that if they are imperfectly made one soon finds that the one or the other does not cover the holes properly. The advantages do not outweigh the attendant disadvantages." (14)

This illustrates a danger for modern players drawing conclusions about early instruments. We grow up with mechanised instruments and may assume that many keys means a better instrument; it is easy to assume that simple instruments were less technically capable than modern instruments (15). But this is not so; to players of 200 years ago, the two keyed oboe was

as natural as a Conservatory oboe is to us. Earlier oboes suit the music of their own times. The changes in the instruments are due to the musical demands placed upon them and the manufacturing methods available. From an evolutionary perspective, tastes and repertoire changed, so instruments were adapted to meet these demands. The expediencies of one generation of players then became the common practice of the next.

The second oboe illustrates this process. Formerly owned by Michel Piguet, this oboe is illustrated in an auction catalog (16) and is listed in a standard reference (17). All joints are stamped but only the bell mark is somewhat legible today (figure 5). This reads, (Hapsburg eagle)/I BAUER/PRAG/(star). Young and Piguet present this oboe as being by I Bauer (Jakob Bauer).



**Figure 5: Maker's mark, bell of Bauer oboe. Can you read this?**

However, the stamp which these authorities read as "I Bauer" looks to me like "F Bauer" or maybe "K Bauer", perhaps making the oboe by Franz or Karl Bauer. Exact histories of these makers and their family relationships are not known, but Jacob Bauer flourished in the late 18th century, Franz Bauer from 1803-35, and Karl Bauer to as late as 1847 (18).

The instrument suggests an early 19th century date (19). Such uncertainty in establishing the precise provenance and date of an instrument is common in dealing with historical specimens.

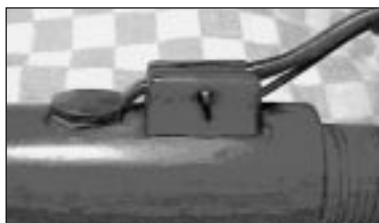
The Bauer is of boxwood with a cotton-reel top and no decorative ivory. The bell has an inner rim and two vents, the toneholes are undercut. The top joint warps in toward the player, the length is 558 mm. The oboe has seven brass keys with a twinned 3 hole and single 4 hole. On the upper joint, the keys are 8ve and side Bb. On the center joint are G# (played with the left little finger), F, D#, c#1 and c1. There is no F# corrector, as will be seen on the next two oboes. The oboe is very worn from use.

This oboe has more keys than the Grenser but shows no major changes in the body or in manufacturing techniques. The design and proportions are similar to the Grenser, showing a typical Germanic contour (19, 20). Side Bb, G# and F are all mounted on blocks left in the wood

during turning or glued on later, whereas low c1 and Eb remain in the traditional rings--one squared, one rounded--as on the Grenser oboe. The consistency of these small details shows the extent to which esthetics influence woodwind design (21). Young suggests that this oboe originally had two keys, with the others added later (17). I doubt this, as the G# and F blocks seem integral to the wood of the lower joint; note how elegantly the G# block grows out of the joint turning (figure 6). I believe that the 8ve, side Bb and c#1 keys are later additions to a 4 key oboe. The block for side Bb seems to be added to the top joint (figure 7), and is the only key on the oboe with a brass sleeve. The low c#1 touchpiece does not match others on the oboe and is

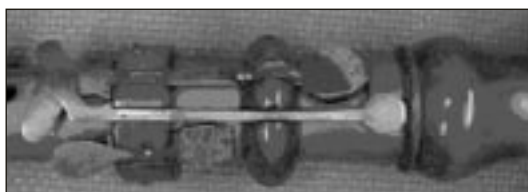


**Figure 6: G# block and key on Bauer oboe.**



**Figure 7: Bb key on Bauer oboe.**

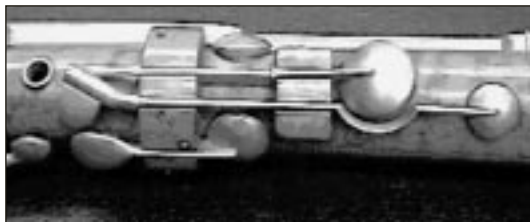
awkward to press (figure 8), and the c#1 tonehole is not on a flattened area of wood, as is every other keyed tonehole on the instrument. Arguing against this is that the distance between the low c1 and Eb key slots, 21.5 mm, is wider than on any of five other late 18th-early 19th century oboes I own (by Grenser, Cahusac, Milhouse and Gehring; range 18.9-20.0 mm). This suggests that the low c#1 is original despite the awkward design of its



**Figure 8: c#1 key on Bauer oboe.**

key. Oboes which were designed to have a low c#1 generally incorporate the key in a more tasteful and comfortable fashion (figure 9). This illustrates a common theme in early oboes; as makers developed new keys, players had these added to increase the capabilities of favorite instruments (22). It can be difficult to tell what is original and what is added (23).

The musical ramifications of this keywork are astonishing. This oboe can be played comfortably



**Figure 9. c#1 key on Ludwig & Martinka oboe (Prague, 1857-86). Note how the c#1 touch fits deliberately into the c1 touch.**

by a modern oboist. The c#1 key completes the chromatic scale. Cross fingerings for Bb1 and for some F's can be avoided, and an easier approach to G#/Ab using the key rather than the double hole simplifies playing in sharp and flat keys. F# is still flat but is helped by opening the F key. The octave key is not required but helps the production of upper register notes, especially in slurs; indeed, this key was referred to at the time as the "slur key". Importantly, it permits the player to use the same fingerings in the upper and lower registers rather than requiring the use of long cross-fingerings above g#2. But at heart, this is a two-keyed oboe; if the player uses only the c1 and Eb keys, the oboe works perfectly well. The presence of keys does not mean that the older fingerings were outmoded; historical fingering charts show that cross fingerings and double holes were used with keyed fingerings for several generations (24). The Parisian virtuoso Henri Brod was playing an oboe of his own manufacture when he died during a recital in 1839; that oboe has G# and F# corrector keys, yet has double toneholes on 3 and 4 (25). The G# key and double hole 3 co-exist on instruments by Zimmermann, Kohlert, Buffet and other makers from the late 19th and early 20th centuries (figure 10).

Note that on this and the two oboes below, the c#1 key is a modification of c1 (figure 8). Logically, a tonehole higher on the instrument should be closed in moving from d1 to c#1, rather than in moving from d1 to c1. This was standard



**Figure 10. G# key with double 3rd hole on oboe by Zimmermann, St. Petersburg, circa 1890. Such oboes were used in the Leningrad Philharmonic until the 1960s.**

on flutes of the day. Rather than redesign the lower joint of the oboe to allow this, early 19th century makers added the mechanism seen here, in which the c#1 key closes c1 and opens another hole lower on the joint (figures 11, 12, 13). Unfortunately, proper design of this system placed the c#1 tone hole on the lower tenon, so a



**Figure 11: Lower joints of Bauer oboe (behind), flute by W. Milhouse, London, circa 1810 (in front). Key venting for the note d1. Note the large upper hole is open and the small lower hole is closed on the oboe; two equal sized keys are open on the flute.**

smaller hole was placed higher on the instrument. This tiny hole for c#1 speaks and sounds less well than low c1 and d1, which are correctly vented. This design is maintained in virtually all oboe mechanisms except the Boehm. Although the tone hole sizes are corrected on a modern Conservatory model oboe, d1 and c#1 still vent differently. We pay for this design flaw of circa 1800 with our flat, squawky low c#1.

The third oboe is a replica of a historical oboe but suffices to illustrate a point. It is by Sand



**Figure 12:** The same, venting for c#1. On the flute, the upper key is closed. On the oboe, the large key is closed and the small lower key opened.



**Figure 13:** The same, venting for c1. All keys are closed.

Dalton, after an oboe by Johann Floth (1760/61-1807) preserved at Yale University (26). Floth trained with and succeeded Jakob Grundmann, making instruments under his own name between 1803 and 1807 (27). No more than 11 years separate the Grenser and Floth specimens. It is intriguing to see the many keywork changes that occurred in this time without altering the fundamental nature of the instrument.

The original is of boxwood, with 9 silver keys mounted on wood turnings, while this replica is of grenadilla with 8 brass keys; the original has a low b, which was clearly added later. The body is similar to the Bauer with the usual 2 vents and internal rim in the bell. The internal dimensions of this oboe are those of Grundmann two-keyed oboes (28) and Dalton's replica plays well as a two-keyed instrument. Young believes that Floth built a 5-keyed oboe and that the low b, F#, c#1 and 8ve were added (25). The one key on this replica that is not on the Bauer, the F# corrector, puts the F# right in tune in an equal-tempered

scale. This key is opened by finger 6 and can be awkward to find during passage work. Its function is maintained today by the little key between fingers 4 and 5 on a conservatory oboe (figure 14).

The last oboe is by Thomas Weygandt (1800-



**Figure 14:** F# vents on Floth copy and on Loree oboe KLA0 (1993). Note the common relationship to the tone holes for 3 and 4 and to the short key for F.

1874) of Philadelphia, who worked from 1832-66 (29). This oboe has an 8 key system identical to that of the Floth copy. The body is of blackwood with 4 ivory mounts and measures 571mm. The bell has vent holes but almost no internal lip. Since the bell ring is a replacement, this may be a mistake made by the maker of the new mount. Keys are of hard silver and are mounted on wood turnings, except for the 3 low keys (c1, c#1, Eb) which are on the typical square and round rings. This oboe is shown in an auction catalog (30); these catalogs are a rich source of information for students of historical woodwinds.

Weygandt was born and trained in America but his oboe shows French and German influences. Note the elegant design, the smooth turnery, the doubly-articulated lever mechanism on 8ve (figure 15); this mechanism is seen on the modern Wieneroboe. The G# is now on the upper joint, requiring that the hole be smaller and that the



**Figure 15:** Octave key on Weygandt oboe.

joint be placed lower than on the earlier oboes. The G# key coexists with a double hole 3. The keys are strikingly beautiful with a very French look. They are cast rather than cut out of sheet metal as on the three other oboes (figure 16). The pads are sewn rather than flat strips of leather. These seal much better than do leather pads,



**Figure 16: Lower joint keywork on Bauer and Weygandt oboes.**

allowing the maker to place more keyed toneholes without crippling the oboe with leaks. The body contour differs from the Floth but does not have the very narrow proportions of contemporary French oboes. The use of ivory and silver, the key design and the fact that this oboe has few signs of wear suggest that it was an amateur's instrument. It plays very well with a classical oboe reed but curiously, does not work well as a two-keyed oboe (although this may be my problem as a player, and not the instrument's). Weygandt's bore and toneholes, which are not undercut, are designed in a way that removed some of the flexibility needed in a two-keyed oboe. This is truly an 8-keyed oboe rather than a two-keyed oboe with some added keys. Such an oboe (like the Bauer and Floth) meets the technical demands of late Beethoven, Berlioz, Mendelssohn and other mid 19th century composers.

Woodwinds were imported from Europe, especially Germany and England, to America until the early 19th century. The legendary financier John Jacob Astor came to Baltimore from London in 1783 with a load of his brother's woodwinds to sell, setting up shop in New York (31). He later sold "Furs & Pianos", making his first fortune in the fur trade (32, 33). Later in life he told of "sitting around Indian campfires while on fur-trading expeditions, and playing his flute to the

delight of his hosts" (34). This commerce ended in 1807 when the United States imposed a total embargo on foreign trade, which was reduced two years later to a prohibition of trade with England, France and their dependencies only. After the War of 1812 this led to a succession of tariffs on goods imported from England, reaching as high as 44% of value in 1829. These tariffs led to a thriving American industry in musical instrument manufacture in the early 19th century; indeed, the stimulation of native industry was one of the purposes of these laws. Given the relative ease of making a flute or clarinet versus an oboe or bassoon, it is not surprising that almost all of the several hundred known early American made woodwinds are flutes and clarinets (35); only two oboes are known before 1840. Both were made in Hartford, Connecticut, the first by John Meacham between 1806-08 (36, 37) and the other by Uzal Miner between 1807-15 (37, 38). Both have two keys and are of the straight top design used in English churches at the time (39, 40). The Weygandt may be the earliest known American oboe after these two. (41, 42)

Geoffrey Burgess has pointed out that American publishers produced fingering charts for the two keyed oboe in 1816 and 1829, a sign of growing amateur interest in the instrument (43). The 1830s and 40s were a time of rapid expansion of musical activities in major American cities. The New York Philharmonic was founded in 1843 and most of the players, including the oboists Stark and Weise, were German or Bohemian (43). If this specimen is a typical example, Mr. Weygandt's fine oboes were almost certainly used in symphonic or operatic performances in Philadelphia and New York in the mid 19th century. The manufacture of such an instrument in the United States demonstrates a thriving musical culture.

As wonderful as they sound and as beautiful as they look, the oboes in this column became obsolete in the 1840s. During this decade Guillaume Triebert in Paris applied then-contemporary standards of metalworking and principles of instrument design borrowed from Theobald Boehm, Auguste Buffet and others to join a second French revolution—a woodwind revolution. I'll discuss this event and how Triebert and his sons invented the modern oboe, in the next issue.

#### **Acknowledgements:**

I thank Geoffrey Burgess, Richard Cochran, Stephen Hammer and Albert Rice for their helpful suggestions. Michael Finkelman, John

Eells and Tina Naumec stimulated me to write this paper.

### References:

1. Waterhouse, William. *The New Langwill Index. A dictionary of Musical Wind-Instrument Makers and Inventors*. Tony Bingham, London 1993. Pages 145-6, "Grenser".
2. Waterhouse, opus cit, page 149, "Grundmann".
3. Waterhouse, opus cit, pages 305-6, "Poerschmann".
4. Young, Philip T. *Loan Exhibition of Historic Double Reed Instruments*. University of Victoria, 1988. Items 28, 57.
5. Young, Philip T. *Loan Exhibition of Historic Double Reed Instruments*, items 28, 36, 61 and 66.
6. Young, Phillip T. *4900 Historical Woodwind Instruments*. Tony Bingham, London 1993. Pages 99-106, "Grenser, Heinrich".
7. Vas Dias, Harry. Personal communication. October 20, 2000.
8. Powell, Ardal. *The Keyed Flute by Johann George Tromlitz*. Oxford University Press, Oxford 1996.
9. Shackleton, Nicholas. The development of the clarinet. In, Lawson, Colin (ed), *The Cambridge Companion to the Clarinet*. Cambridge University Press, Cambridge, 1995. Pages 16-32.
10. Waterhouse, opus cit, page 23, "Baumann".
11. Baines, Anthony. *Woodwind Instruments and their History*. W. W. Norton, New York 1963. Chapter XII.
12. Benade, Arthur H. *Woodwinds: The Evolutionary Path since 1700*. The Galpin Society Journal XLVII (March 1994). Pages 63-110.
13. Bate, Philip. Oboe. In Sadie, Stanley (ed), *The New Grove Dictionary of Music & Musicians*. Macmillan, London 1980. Volume 13 pages 468-471. Bate's classic reference, *The Oboe*, Ernest Benn Limited, London, 1956, might also be quoted here, but the information in *The New Grove* is more up to date.
14. Joppig, Gunther. *The Oboe and the Bassoon*. Amadeus Press, Portland, Oregon 1988. Pages 67 (Grenser), 68 (Braun). Both quotations come from *Allgemeine musikalische Zeitung*, Leipzig (no date).
15. Joppig, opus cit, page 143.
16. Sotheby's (London) auction catalog. Sale LN7691, December 17, 1997, lot 103.
17. Young, Phillip T. *4900 Historical Woodwind Instruments*, pages 13-14, "Bauer, various initials". This oboe is listed on page 13 as oboe 1.
18. Waterhouse, opus cit, pages 22-24, "Bauer"; "Bauer, Franz"; "Bauer, I (?Johann)"; "Bauer, Karl" and "Baur, Jakob".
19. de Vries, Han. *Hobo d'amore*. The collection of oboes (1680-1980) of Han de Vries. Rijksmuseum Twenthe, Enschede (Holland), 1999. To compare German and French stylings, see pages 17-18, oboes 21-24; pages 22-24, oboes 31-35.
20. Young, Philip T. *Loan Exhibition of Historic Double Reed Instruments*. To compare German and French stylings at this time, see items 41, 42 and 43; and items 32, 37, 38, 39 and 40.
21. Adkins, Cecil. *Proportions and Architectural Motives in the Design of the Eighteenth-Century Oboe*. *Journal of the American Musical Instrument Society* XXV; pages 95-132, 1999.
22. de Vries, opus cit, page 21, oboe 30.
23. Young, Philip T. *Loan Exhibition of Historic Double Reed Instruments*, items 27, 29, 30, 32, 37, 38 and 47.
24. Brod, Henri. *Method de Hautbois*. Paris, no date. Brod died in 1839 so the fingering chart included in his *Method* is certainly from before that date.
25. Young, Philip T. *Loan Exhibition of Historic Double Reed Instruments*, item 41. A similar oboe by Brod is displayed at the *Musee de la Musique*, Paris.
26. Young, Phillip T. *4900 Historical Woodwind Instruments*, pages 77-78, "Floth, Johann Friedrich". The Yale oboe is listed as oboe 5.
27. Waterhouse, opus cit, page 119, "Floth".
28. Dalton, Sand. Personal communication, December 1998.
29. Waterhouse, opus cit., pages 425-26, "Weygandt".
30. Sotheby's (London) auction catalog. Sale LN8667, November 4, 1998, lot 13.
31. Young, Phillip T. *4900 Historical Woodwind Instruments*, pages 7-10, "Astor, George".
32. Waterhouse, opus cit., page 12, "Astor".
33. Young, Philip T. *Loan Exhibition of Historic Double Reed Instruments*, item 34.
34. Young, Philip T. *The Look of Music*. University of Washington Press, Seattle, 1980. Page 150.
35. Young, 4900 *Historical Woodwind Instruments*, pages 10-13, "Badger"; 47, "Camp"; 47-48, "Catlin"; 73-77, "Firth"; 92-94, "Graves";

124-125, "Hopkins"; 168, "Nickels & Badger"; 252-253, "Whiteley"

36. Young, 4900 Historical Woodwind Instruments, pages 155-157, "Meacham, John".

37. Eliason, Robert E. George Catlin, Hartford Musical Instrument Maker. *Journal of the American Musical Instrument Society* IX; pages 29-30, 1983.

38. Young, 4900 Historical Woodwind Instruments, page 166, "Miner, Uzal".

39. Adkins, Cecil. William Milhouse and the English Classical Oboe. *Journal of the American Musical Instrument Society* XXII; pages 42-88, 1996.

40. Howe, Robert. Communication on Adkins, William Milhouse and the English Classical Oboe. *Journal of the American Musical Instrument Society* XXV; pages 164-65, 1999.

41. Young, 4900 Historical Woodwind Instruments, page 190, "Ronnberg, William", oboe 1.

42. Waterhouse, opus cit., page 333, "Ronnberg, William".

43. Burgess, Geoffrey. Personal communication, October 18, 2000.

**Footnotes:**

\*Fingers are labelled 1-6 from the top of the instrument down.

\*\*I use the pitch notation c1-b1 for the octave extending up from middle C, c2-b2 is the upper octave of the treble staff, etc; for simplicity, notes that may apply to either octave are in capital letters.