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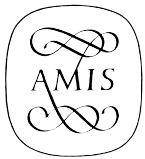


Oboes Beyond Compare: The Instruments of Hendrik and Fredrik Richters

CECIL ADKINS

AMONG THE INSTRUMENTS manufactured by the more than three-dozen wind-instrument makers active in the Netherlands during the first half of the eighteenth century,[1] the oboes of Hendrik and Fredrik Richters are without rival. The surviving instruments produced by these brothers, who were active from about 1700 until the mid-century, are preserved in a number of museums, with perhaps the largest collection held in the Gemeente Museum in The Hague. Phillip Young, in his 1982 inventory *2500 Historical Wind Instruments,* listed thirty oboes under the Richters' name, and of these at least twenty-two can be judged authentic by virtue of the Richters mark as well as by the consistency of their manufacture.[2] Since then seven other instruments have been found and authenticated, bringing the total to twenty-nine. The marks used by the brothers are the same except for the first initial and the stem of the trefoil, which turns to the

1. The most recent summary of Dutch wind-instrument makers is that of Rob van Acht, "Dutch Wind-Instrument Makers from 1670 to 1820," The *Galpin Society Journal* XLI (1988), 83–99. Van Acht summarizes and expands material selected from such studies as "Van wieldraaiers/fluitenmakers tot fabrieken in blaasinstrumenten" by S.A.C. Dudok van Heel and Marieke Teutscher, published in the exhibition catalogue *Muziek in Amsterdam* (Amsterdam, 1974, 40–43), and the reproductions of instrument makers' marks in Langwill's *An Index of Musical Wind-Instrument Makers* (6th ed., Edinburgh, 1974, 211–27). This list of marks, incidentally, originally compiled by Friedrich von Huene and published in *GSJ* XXVII (1974, 31–47), has the stems of the Richters' marks reversed, as do all of its subsequent incarnations. Other investigations cited by Van Acht include the earlier work of Bredius, Balfoort, Giskes, and Burgers.

2. Phillip Young, *Twenty-five Hundred Historical Woodwind Instruments* (New York, 1982), 100–02. Of Young's list of thirty oboes (including Michael Zadro's partial instrument) under the Richters' name in his inventory, twenty-two are confirmed or attributed in Table 1 below; eight others are unknown. There are twenty-one instruments listed in Table 1 under Hendrik's name of which Young cites seventeen, though the one which he lists as belonging to E. Van Tright (p. 102, no. 7) is now BMFA 1985.705; three others unknown to Young at that time are OBC 2037, VSM 4547, and the instrument by Fredrik (AHV-2) belonging to Han de Vries. Only three of the seven instruments by Fredrik were known to Young under that name. HGM 4-X-1952 and HGM 5-X-1952 are my attributions and are listed in his section "Attributed to 'H. Richters' Oboes" (p. 101); the other two instruments are those in the possession of Han de Vries (AHV-2) and Waddesdon Manor (BWM). Young recently mentioned to me yet another boxwood Richters with brass keys and partial ivory mountings which has recently been "found."

right (when facing the mark) on Fredrik's instruments (HGM 624-1933) and to the left on Hendrik's (WLC 158); of the twenty-nine instruments only four bear Fredrik's mark (fig. 1).[3]

Table 1 (page 66) provides basic descriptions of these twenty-nine oboes. All but three of Hendrik's instruments have ivory mounts while two of the four marked with Fredrik's name are distinguished by silver mountings. On the basis of the silverwork I have attributed three of the instruments (BWM, HGM 4X-1952, and HGM 5X-1952) in the last group of the table to Fredrik.[4]

The wooden tubes of the Richters instruments are carefully turned (fig. 2). To say that they were identical would be misleading, but comparable measurements frequently differ little, sometimes with no more than .1 mm difference in the diameter or the placement of a decoration. This suggests that the tubes may have been turned with the aid of a jig or a device similar to the *machine à raiseau* which was used to turn banisters, vases, and the like (fig. 3). Certainly, compared to the complexity of the machine used to carve the mountings, such a device would have been simple.

The overall shape of the oboes is consistent and typical of the bold patterns of the early Dutch style (fig. 4). Because of the striking contrast of the ivory with the shiny black wood, Hendrik's oboes give a visual impression of greater uniformity than is actually borne out by a study of their mounts. Fig. 5 allows a comparison of scaled profiles of the baluster sections of randomly selected groups of instruments by four different makers, all con-

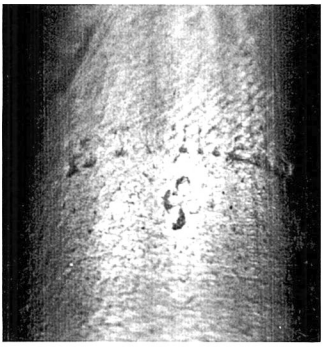
Of the eight unknown instruments, HGM 1933-0442 was unavailable to me at the Gemeente Museum, though it is still listed in Clemens von Gleich and Henk Quast, *Complete List of European Musical Instruments and Makers* (The Hague, 1989), 12. The remainder, garnered from Langwill's various editions (Loup Sale, Paris 1888, nos. 199 and 204; Samary Sale, Paris 1887, no. 101) and the 1959 Galpin Exhibition Catalogue (Colonel Myddleton), have not surfaced, though it is now believed that the oboe cited in Bingham's catalogue 7 is that belonging to Michele Piguet (BMP). Those listed as Hague Ea 707 and Ea 717 are not now known by these numbers; no. 707 is listed in the Hague catalogue (11) as an oboe by W. Milhouse under the number 1933-0434, and no. 717 is now numbered 1933-0624, an oboe by Fredrik Richters.

The Richters, overstamped Rijkstijn (Rukstyn or Ruistyn), cited by Langwill (6th ed., 145) per Bingham, is now in the possession of Daniel Bach of Lausanne (LDB), while that from the Weishaupt sale (Paris, 1895) found its way to Guy Oldham.

This corrected list has been prepared in consultation with Phillip Young and is in agreement with that to appear in the second edition of his *2500 Historical Woodwind Instruments*, which is being published by Tony Bingham as *4500 Historical Woodwind Instruments*. It will appear as a companion volume to W. Waterhouse's *The New Langwill Index*.

3. None of the Richters' marks occurs without the accompanying initial.

4. Note the mount designs and especially the key shape and decoration. HGM 4X-1952 is solidly in the Frederik camp because of the date of 1744 on the bell; Hendrik died in 1727.



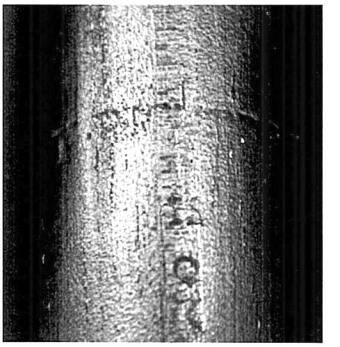


FIGURE 1. The Richters' Stamps.
(1) MMA 53.56.11

(2) HGM 624-1933
(The letters *IS* are unique to this instrument.)

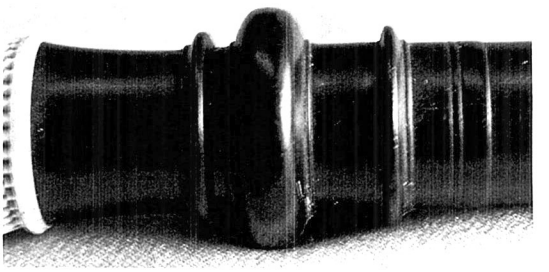
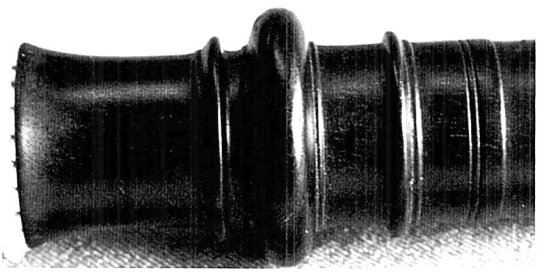


FIGURE 2. Samples of Decorative Turning on Hendrik Richters' Oboes
(1) HGM 7X-1952.



(2) HGM 15X-1952.

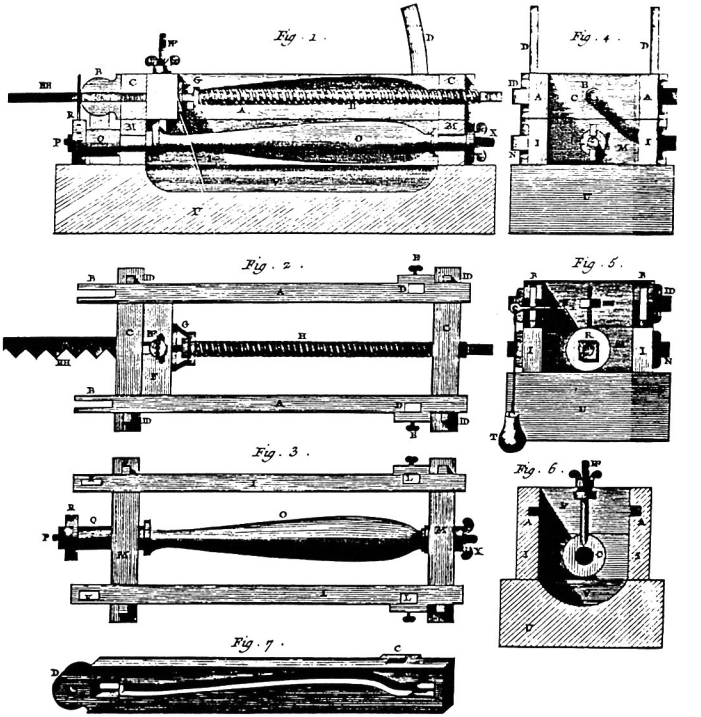


FIGURE 3. *Machine à raiseau.*

temporaries of Hendrik Richters, some of whose instruments are included as one of the groups.

One would not expect the mechanically produced mountings of Hendrik's oboes to have as much variety in shape as do the presumably free-hand turned instruments of his peers, yet the outlines are freely drawn, showing consistency mainly in the placement of the larger rings. Although the carved mountings do not demonstrate the freedom of expression that one finds on decorated oboes like that of Johannes Anciutti (ca. 1717–1740) (fig. 6-1) or that stamped with the name of Willem Beukers (ca. 1669–1750) (fig. 6-2), within the bounds of their technical idiom they suggest the possibility of almost infinite variation, restricted only, as with the

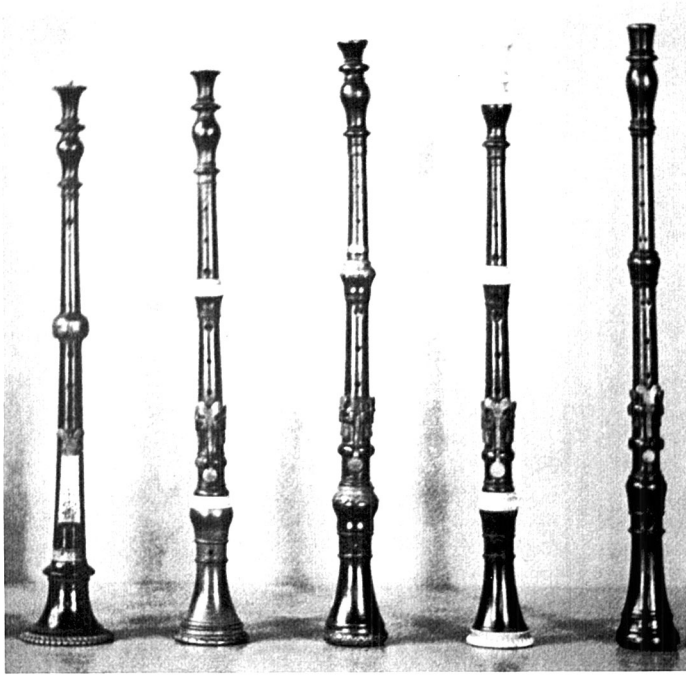


FIGURE 4. Dutch Oboes of the Late Seventeenth and Early Eighteenth Centuries
Richard Haka (HGM 6-1952)
Conrad Rijkel (HGM 6X-1952)
Fredrik Richters (HGM 5X-1952)
Hendrik Richters (HGM 7X-1952)
Thomas Boekhout (HGM 16X-1952)
(Courtesy of the Hague Gemeentemuseum)

freely carved oboes, by the imagination, ingenuity, and skill of the operator.

Perhaps the most distinctive features of these early eighteenth-century oboes are the pronounced pirouette shape of the finial (fig. 7-1), the graceful contour of the bulb, and the emphatic roundness of the socket turnings (fig. 7-2), characteristics which are intensified by the mountings. The key rings maintain the customary pattern of a square upper ring and a

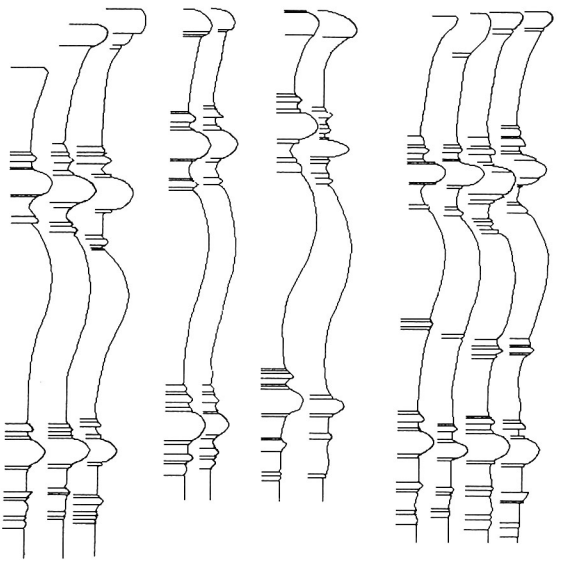


FIGURE 5. Baluster Profiles of Some Dutch Oboes.
(R. Haka, J. Steenbergen, A. van Aardenberg, H. Richters)

rounded lower (fig. 7-3), and for the most part the bell rim preserves the flared edge typical of its shawm heritage (fig. 7-4). Earlier traditions are also reflected in the design and decoration of the instruments, which reveal a geometric proportion of 1:2:4:8 from the top down (fig. 8-1). Further, several elements reflect in their placement the influence of the golden section (1.618), *e.g.*, the middle-joint bulb of OBC 2037 which lies at a distance of 220 mm from the top and the upper key ring whose distance is 354 mm from the top (fig. 8-2). The keys are also proportionally designed, for the touches of both the E-flat and C keys utilize a 4:3 ratio, and the relationship of the touch to the shank of the C key is that of the golden section (fig. 8-3).

As Young observed in the Vancouver Exhibition Catalogue of 1981, it is surprising how rarely one finds "ivory mounts carved with any design but rings turned on a lathe,"[5] yet all but three of the instruments marked with

5. Young, op. cit., 81.

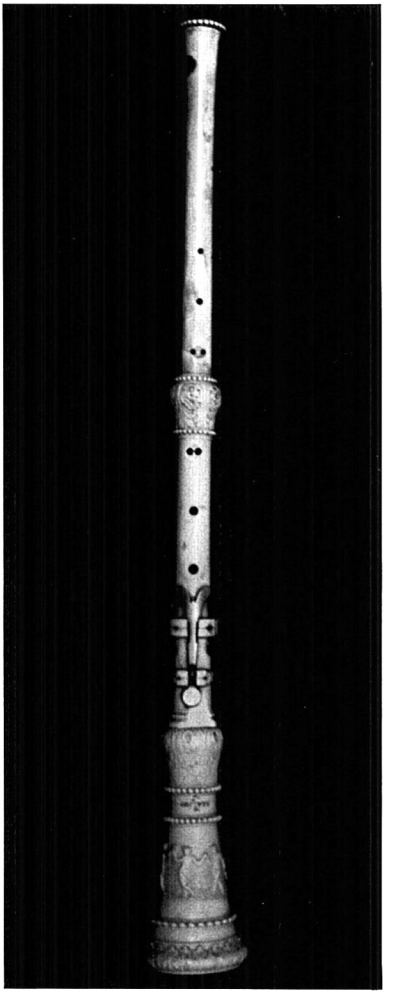
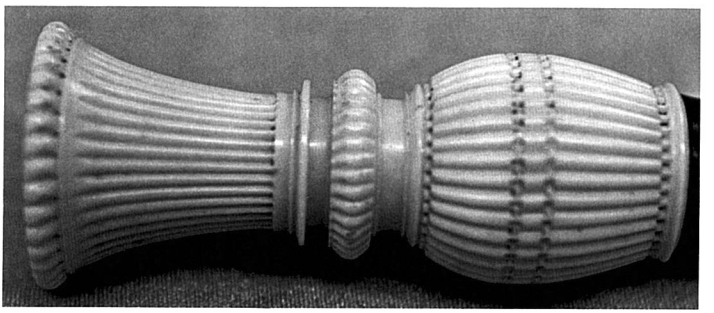
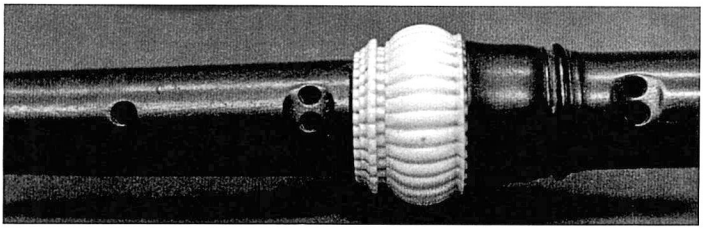


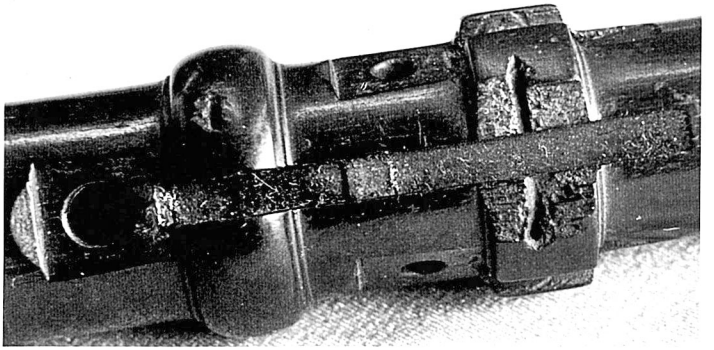
FIGURE 6. Carved Oboes of the Early Eighteenth Century.
Left: (1) Johannes Anciutti (ca. 1717–1740) (LVA 1127-1869)
Right: (2) Willem Beukers ? (ca. 1669–1750) (LVA 808-1869)



(1) Pirouette Shaped Finial. (NYMMA 53.56.11)



(2) Rounded Socket Turning. (LGO)



(3) Key Rings. (HGM 8X-1952)

FIGURE 7. Distinctive Features of the Richters Oboes.

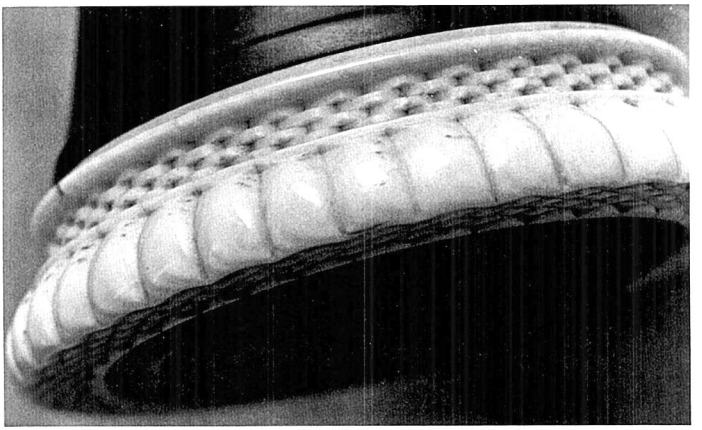


Fig. 7 (*continued*)
(4) Flared Bell Rim. (WLC 158)

Hendrik's name display these ornate carvings. Ivory was the favored material for such decorations in that it machined easily and took its finish from the tool. The clarity of such work depended upon the crispness of the cutting, and any attempt to improve the finish invariably detracted from the clarity.

Such turning is a very complex process and was done on a *tour à guilloche* (fig. 9), or "rose-engine" lathe, often referred to simply as a rose lathe or Holzappfel lathe. In fact, only the first of these terms is correctly applied to this kind of eighteenth-century ivory turning machine, for "rose lathe" designates a machine used mainly for milling designs on flat surfaces, and the last name refers to a later device developed by John Jacob Holzappfel, a German immigrant whose family firm supplied England with such machines from the 1780's until 1914.

Ornamental turning began in the sixteenth century and reached its peak with the Holzappfel family during the Victorian age. The earliest treatise on the subject, Charles Plumier's *L'art du tourner* of 1701, outlined techniques that had been developed over the preceding century. For example, the eccentric lathe, capable of only one type of turning, had been depicted in Jacques Besson's *Theatrum machinarum* (Lyon) as early as 1578 (fig. 10). By the end of the seventeenth century, when Plumier's work ap-

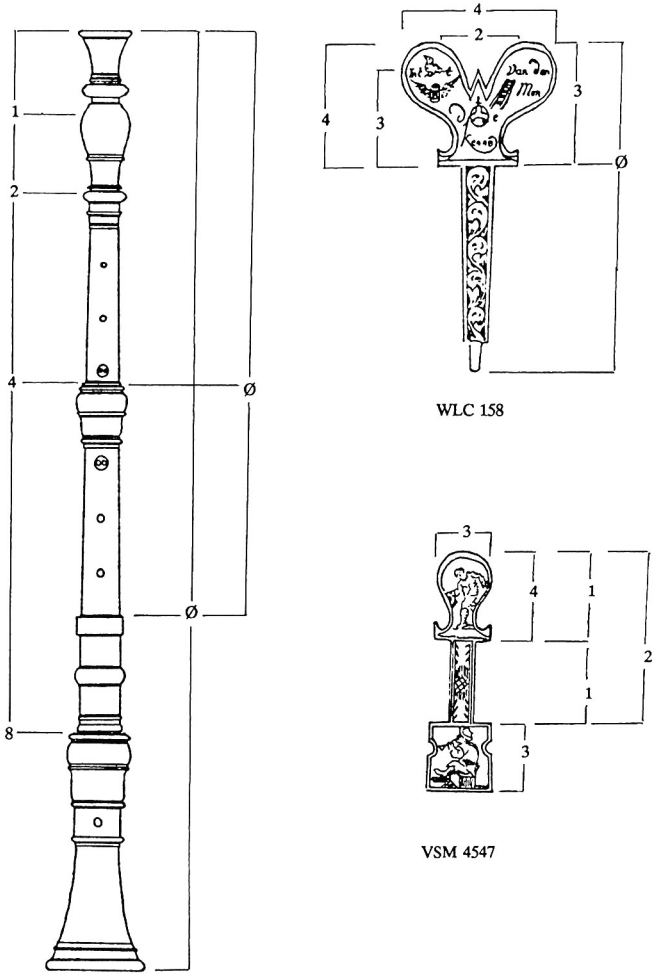
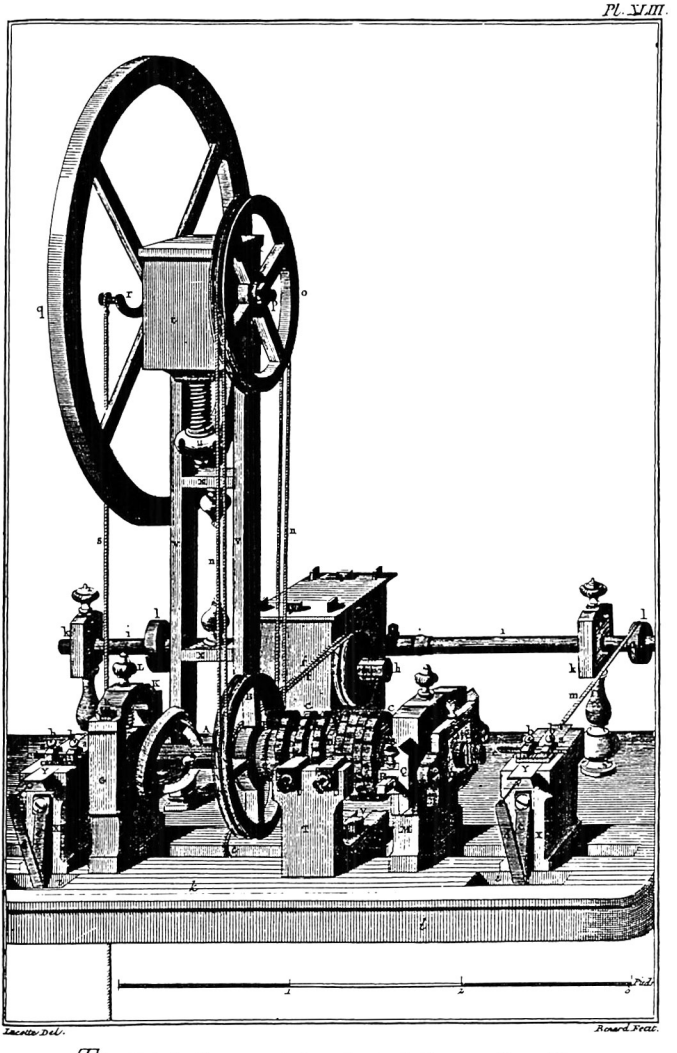


FIGURE 8. Proportional Aspects of the Richters Oboes.
(1) Geometric Proportions of a Richters Oboe.
(2) The Golden Mean Applied to a Richters Oboe.
(3) Proportional Relationships of Richters Keys.



Tourneur, *Tour à Roüe à Guillochis et Outils mobiles.*

FIGURE 9. A Lathe for Ornamental Turning.

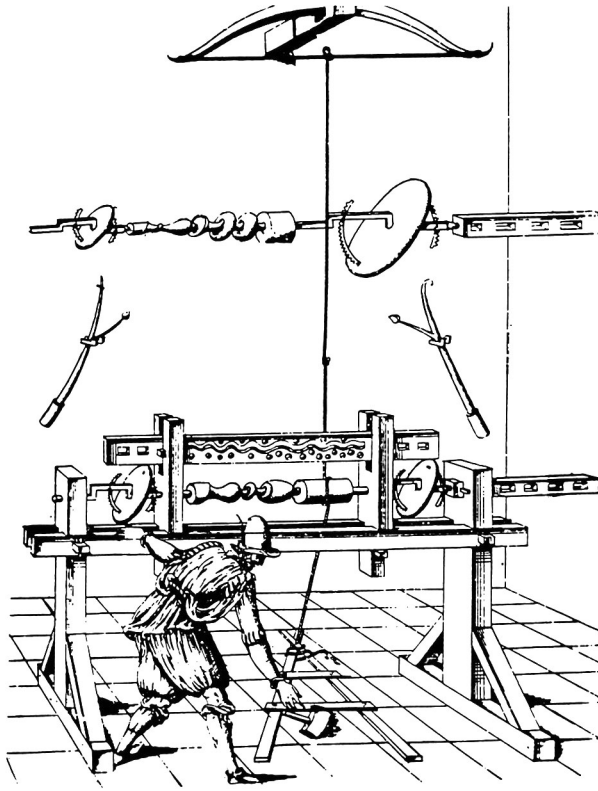


FIGURE 10. A Lathe for Eccentric Turning.

peared, turning machines were capable of all the tasks necessary for intricate ornamental work. Simply put, the main difference in plain and ornamental turning is that in the first instance only the workpiece moves, while in the other the tool can move as well.[6] The tool may move in any direction while cutting, and sometimes both the tool and the work may be in controlled movement at the same time. For example, the series of arbors in fig. 11 show some of the cams used to produce lateral, axial, and elliptical mo-

6. It is often necessary to plain turn the form before decorating it.

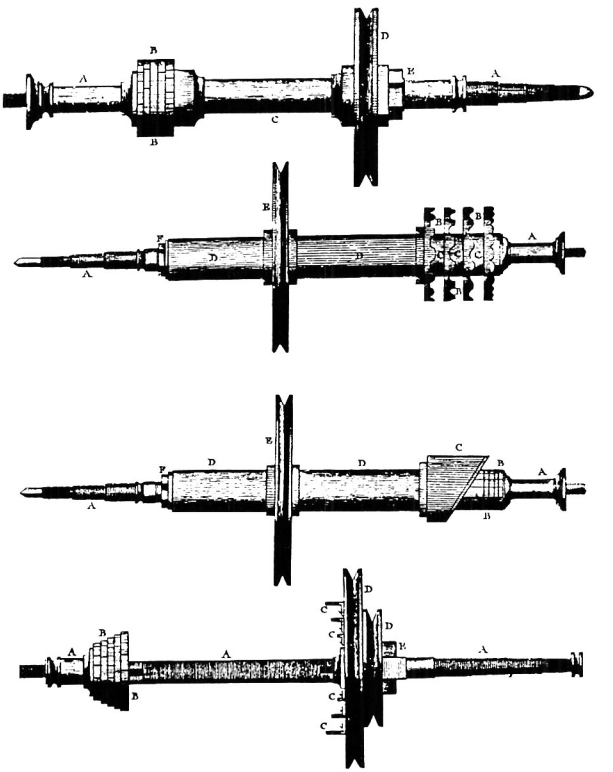


FIGURE 11. Cams Used in the Ornamental Turning Process.

tion of the work piece. The keys to the working of the ornamental lathe were the moveable bearings in the tail- and headstock (fig. 12-1, 2), which allowed the arbor and workpiece to shift sideways, and the long shafts of the arbor (fig. 12-3), which allowed it axial motion. Tool motion was controlled axially by screw feeds (fig. 13-1) and laterally by gear and cam combinations or by templates (fig. 13-2). It was the development of the treadle in the seventeenth century that brought this machine to perfection (fig. 14). The movement of the gears and cams of the turning engine required a consistent unidirectional motion that could not be supplied by the spring

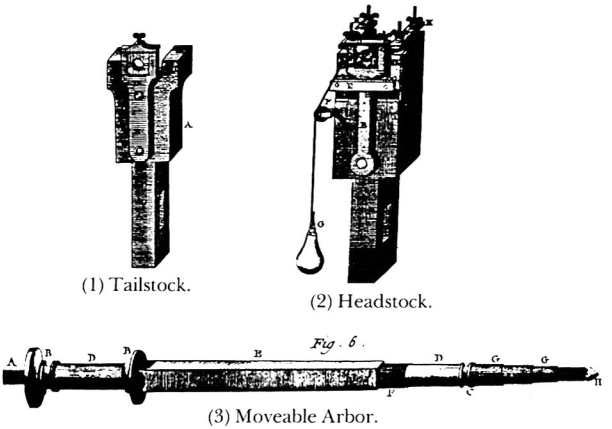


FIGURE 12. Arbor Bearings and Arbor for an Ornamental Lathe.

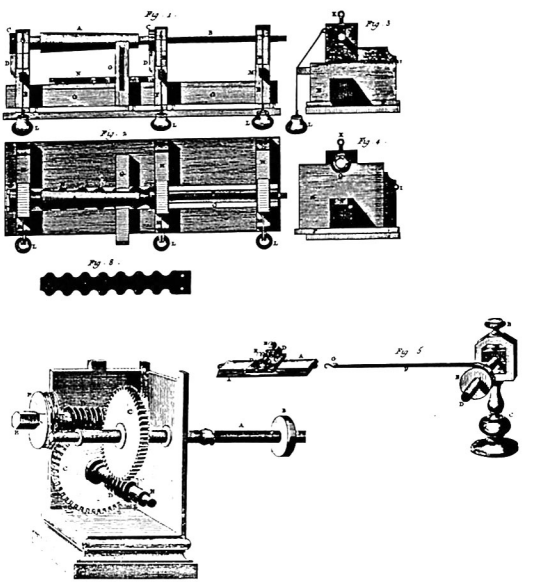


FIGURE 13. Devices for Controlling Tool Motion on an Ornamental Lathe.

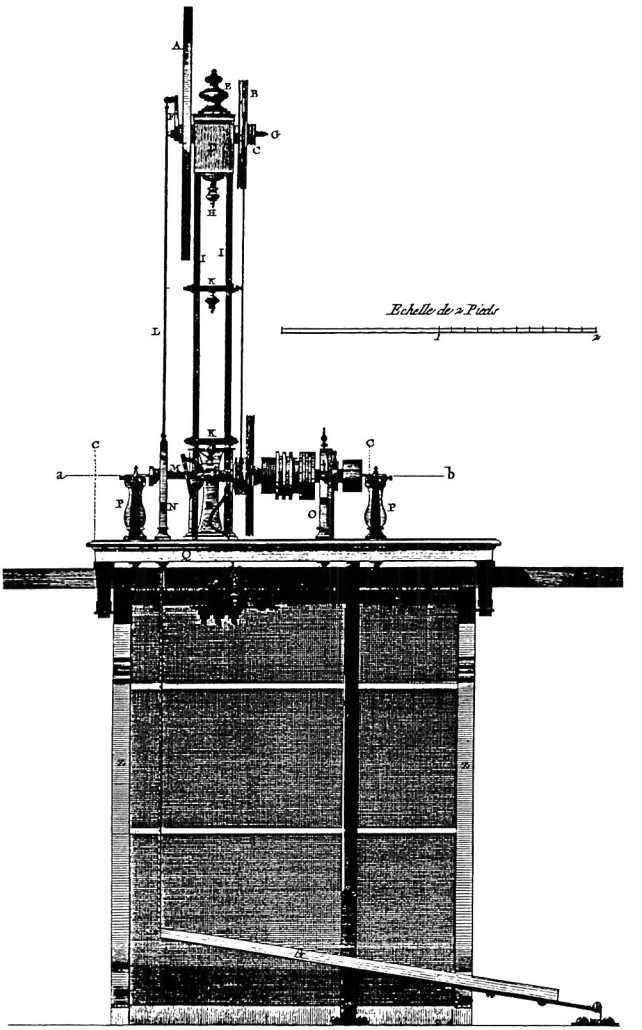


FIGURE 14. Ornamental Lathe with Treadle.

pole or bow, such as that on the Besson lathe, which had to be allowed to return after each stroke.

By the time that Hendrik Richters was producing his elegant oboes, ornamental turning was a favorite pastime of many royal houses and there are many pieces still preserved that were done by Louis XVI, Peter the Great, Kings Frederick III and Christian VI of Denmark, as well as the Danish Queen Sophie Magdalene, whose lathe of the 1730's is preserved in Rosenborg Castle in Copenhagen.

The ornamental ivory mountings on the Richters oboes follow a consistent pattern of vertical reeding indexed at 10, 11.25, or 15 degrees which provides configurations of 36, 32, or 24 reeds. On many of the mountings the reeding is interrupted by patterns of basketwork made up of one or more rows of regular indentations circling the mounting. The offsetting of successive rows of these indentations gives the decoration the appearance of a woven basket (fig. 15). Within each of the groups of mountings portions of the ornamentation fall into set patterns with little individual variation, possibly suggesting that the instruments, or at least the mounts, came from distinct construction periods.

In the group with thirty-six reeds there are twelve oboes, all of them with plain rings separating the segments of each part.[7] This feature is most apparent on the balusters, as may be seen in fig. 16, but it occurs on all of the mountings. Less consistent are the basketwork patterns. Those on the balusters exhibit two to five rows of indentations, while the middle-joint mounts have only one. Similarly, three of the bell mounts have only one row, but the others all have three. The bell rims are decorated with rows of three, four, or five indentations (fig. 17). The faces of the bell rims are carved with scalloped lines, usually in patterns of four or five rows of offset scallops. In one variant pattern the scalloped lines are grouped into two offset pairs (fig. 18). These rim-face designs are shared, with some variation, by all of the carved mountings.

Some differences of design and construction are evident in the three balusters shown in fig. 19. The finial of HGM 8X-1952 lacks the extreme flare of most of the other instruments (fig.19-1).[8] That of HGM 286-1933 was constructed in two halves which are threaded and screwed together (fig. 19-2); the joint is apparent just at the narrowest part of the pirouette.

7. Detailed examination of all twelve was not possible. Those not studied are BMP, LDB, and NPMZ, which consists only of the middle joint.

8. Similar shapes are seen also on HGM 17X-1952, which has uncarved ivory mountings, and on LHM 14-5-47/210, which is unmounted.

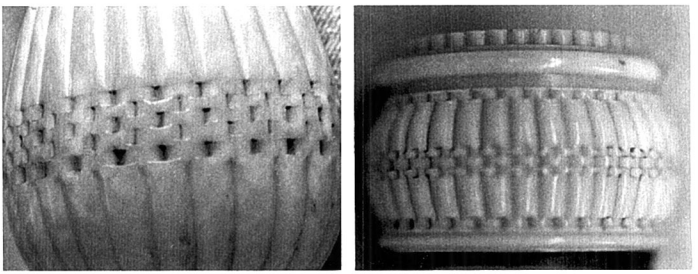


FIGURE 15. Basketwork Decoration on HGM 15-X-1952 and NYMMA 53.56.11.

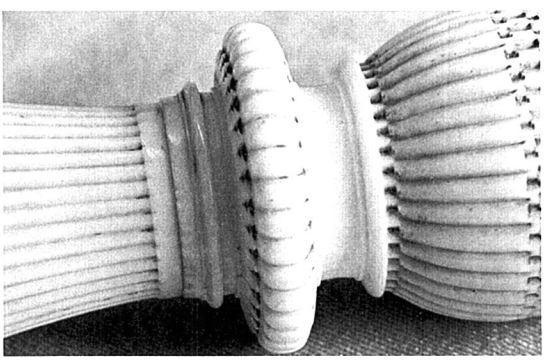


FIGURE 16. Ivory Reeding on HGM 286-1933.

An interesting variant on the third instrument, HGM 7X-1952 (fig. 19-3), is a baluster bulb that is only half ivory. This feature, echoed in the swelling of the bell mortise, which is also only half mounted, might well be viewed as an inspired gesture but for the circumstances of its construction. Close examination reveals that the lower half of the bulb is a wooden spool that slips down over a ferrule originally turned to receive a full ivory mounting. Although similar half mountings are found on HGM 17X-1952,[9] one must conclude that here the ivory, damaged by an accident or a mistaken adjust-

9. On HGM 17X-1952 the half baluster bulb is repeated in the middle joint mounting rather than at the bell mortise.

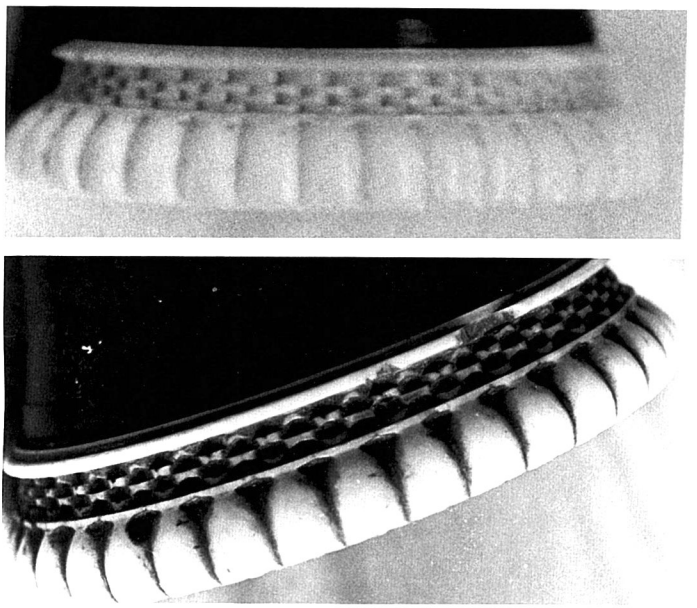


FIGURE 17. Basketwork on the Bell Rims.

ment, was redesigned by the turner, who did not want to lose the material or his labor.[10] Such intentional modification leads easily to the conclusion that much of the variation seen in otherwise similar mountings may actually have indeed been the result of happenstance.

For the most part the ivory balusters are firmly attached to the wooden portion of the body by means of a ferrule turned as the upper part of the tube (fig. 20-1). On some of the oboes this ferrule extends to the opening, where it can be seen as a dark ring in the cup of the finial (fig. 20-2). On others, however, the ferrule stops midway in the bulb, at the point where the narrowest part of the bore begins to flare out into the reed well (fig. 20-3). Though most of the mountings are apparently glued to the wood, some

10. Half mountings are, however, not an uncommon occurrence in many of the national styles and can be seen on the instruments of Denner, Kusder, Milhouse, and Tölcke, to name only a few.

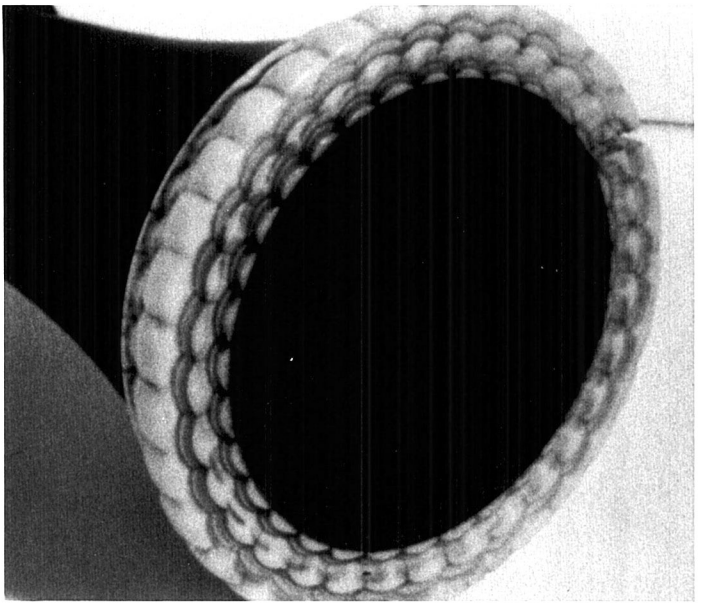
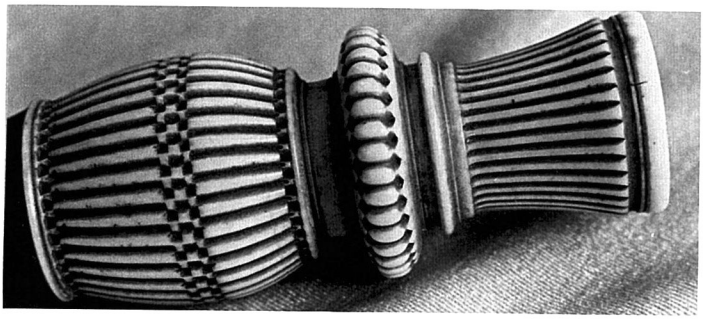


FIGURE 18. Scalloped Patterns on the Bell Rim Faces.

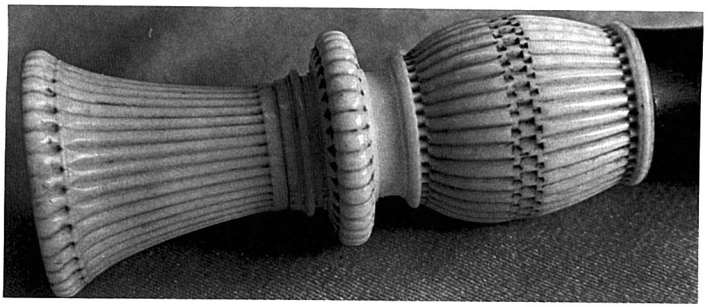
are attached to the ferrule with a thread lapping, as is that of HGM 7X-1952, which was discussed above.

The six oboes in the second group, those with mountings of thirty-two reeds, are for the most part distinguished by reeded rings (fig. 21). Basketwork occurs on the balusters of half of these instruments (BMFA 1985.705, HGM 436-1933, and HGM 584-1933), but only on the joint mountings of two (BMI 1981, HGM 436-1933); the bell rims are all decorated with basketwork in two, three, or four rows.[11] The bell-rim faces of two instruments are figured with two single rows of offset scallops (HGM 584-1933 and LGO), while those on two others are paired and stacked in the manner of a running bond, as was seen on AHV-1 above (fig. 18). Perhaps the most distinctive feature of the mountings in this group is the treatment of the lower

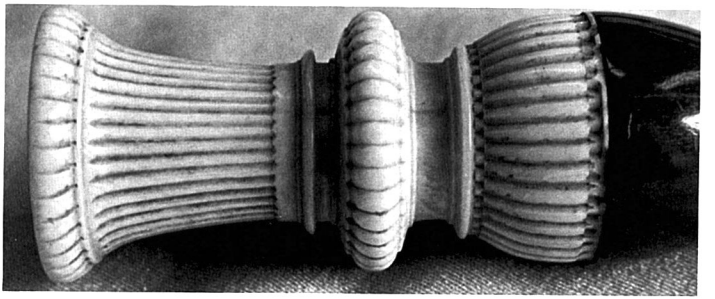
11. The original ivory rim and wooden foot of the bell of BBA Zimm.93 are replaced with a brass cone that amounts to about one-sixth of its length. It should also be pointed out that a similar treatment is evident in the finial of HGM 584-1933, which has a silver cap.



(1) HGM 8X-1952.

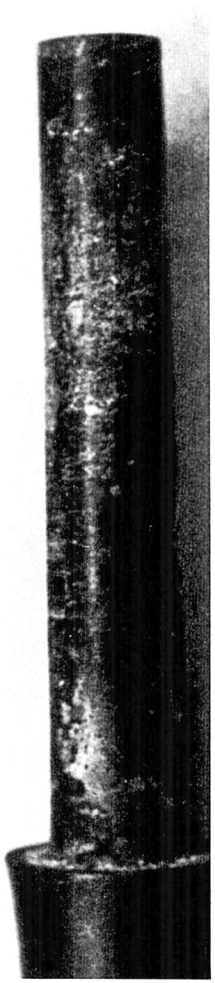


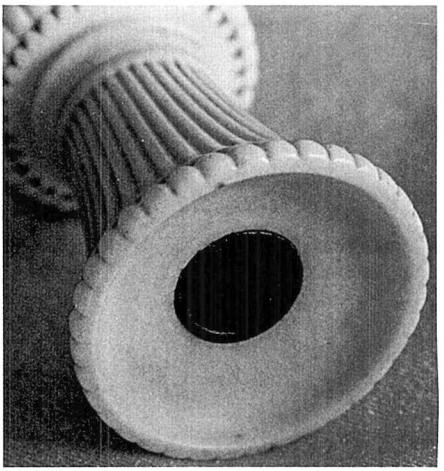
(2) HGM 286-1933.

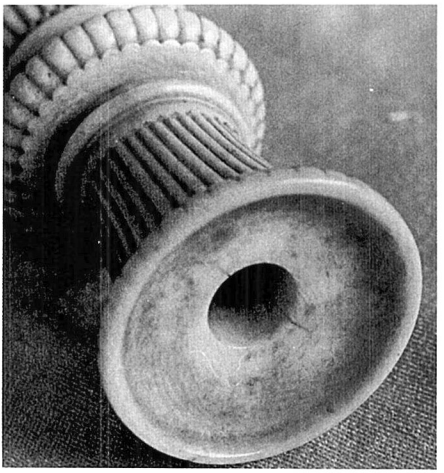


(3) HGM 7X-1952.

FIGURE 19. Variants in Baluster Design of Three Oboes.







(1) HGM 624-1933.

(3) HGM 7X-1952.

FIGURE 20. Ferrules for Mounting Ivory Finials.

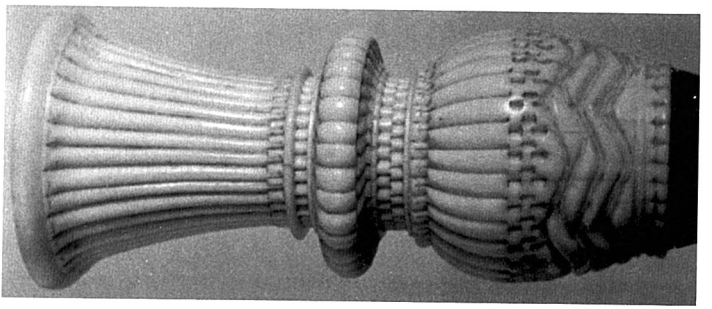


FIGURE 21. A Baluster with Thirty-two Reeds (BMFA 1985.705).

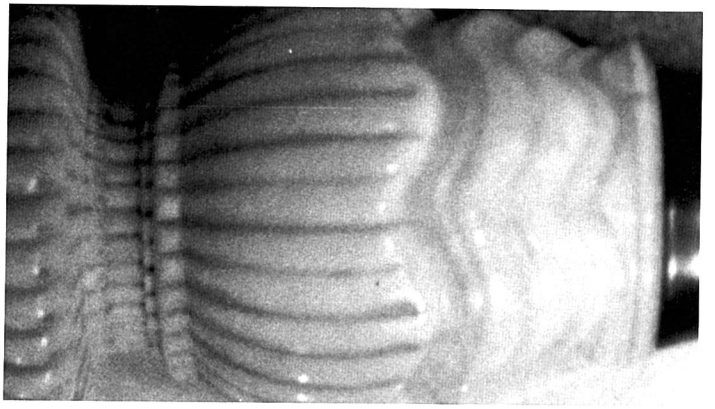


FIGURE 22. Undulating Lines on LGO.

part of the baluster bulb on all of the oboes but one (BMI 1981); the lower half of each bulb is carved with a series of undulating lines that are congruent on some and offset on others (figs. 21 and 22). On three of the bulbs these lines are added to existing basketwork designs that are absent on the others. The joint mountings of the Bonn instrument are also carved with the wavy lines instead of the prevailing basketwork. As with the corrections observed above in the discussion of the finial of HGM 7X-1952, it may be that the undulations on the Boston oboe and HGM 584-1933 were also the

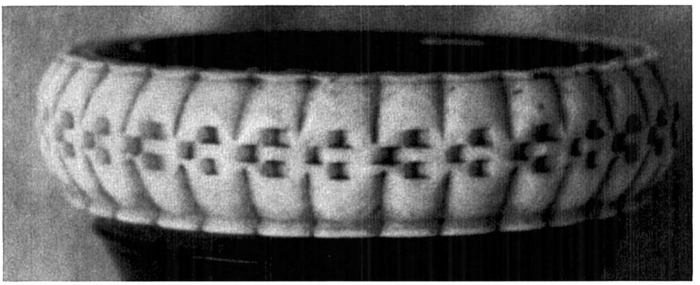


FIGURE 23. Bell Rim of HGM 436-1933.

result of necessity. Finally, the bell rim of HGM 436-1933 lacks the toothy flared edge of all the other carved mounts. Here the rim is rolled in a manner that more resembles the German style typified by the oboes of Jacob Denner (fig. 23).

The single instrument with a pattern of twenty-four reeds (HGM 15X-1952) uses multiple-lined basketwork and reeded rings on the baluster and bell ring, but has only a row of notches around the socket mountings (fig. 24). The treatment of the basketwork on this oboe is curious in that it lacks the precision seen on the other oboes. Instead of the customary sharp-edged square holes, the indentations have a lozenge shape that lends a more flowing appearance to the decoration. The bell rim here is decorated with three rows of concentric scallops (fig. 25).

Aside from the ivory mountings, the other most striking feature of the Richters oboes is the silver work. As may be noted in Table 1, most of the instruments still have their engraved silver keys, and several have silver mountings as well.[12] In part at least, the silverwork is from the hand of Hillebrand van Florij (1657–1751) whose mark, a letter F with a horizontal line at its foot, is found on keys of two different instruments. The E-flat key of HGM 286-1933 and the C-key shank of HGM 4X-1952 both have this mark on their reverse side.[13] The most beautiful of the silver-mounted

12. The brass keys on the ebony and ivory instrument in Brussels (BMI 1981) are undoubtedly replacements, but those on the stained boxwood instrument in the Horniman Museum (LHM 14-5-47/210) are most likely original. See the comment in note 2 about the discovery of another simple instrument like the latter.

13. The facsimile of the mark in fig. 26 is reproduced from K. A. Citroen, *Amsterdam Silversmiths and Their Marks* (Amsterdam, 1975), 47. I am indebted to Rob van Acht of The Hague Gemeentemuseum for the information concerning the location of the marks.

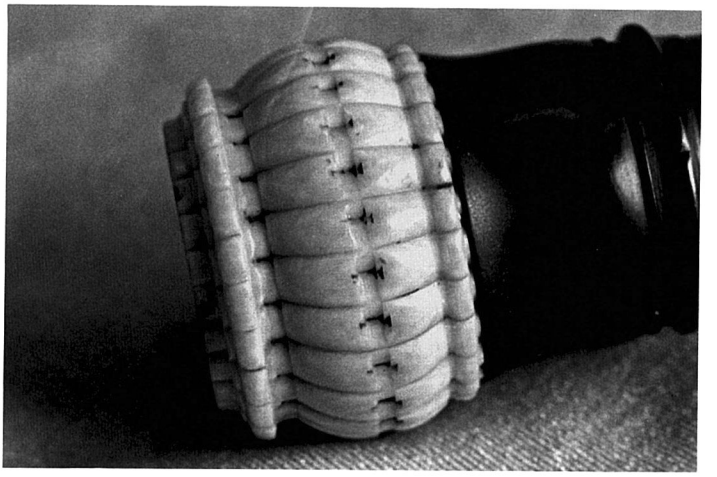


FIGURE 24. Middle-Joint Mounting of HGM 15X-1952.

FIGURE 25. Concentric Scallops on Bell Rim of HGM 15X-1952.

TABLE 1
Summary of Richters Oboes

Number	Maker	Material	Mounting	Keys
Carved Ivory Mounts[a]				
A:		*24 reeds*		
HGM 15-X-1952	Hendrik	Ebony	Carved Ivory	Engraved Silver
B:		*32 reeds*		
BBA Zimm. 93	Hendrik	Ebony	Carved Ivory, Brass[b]	Engraved Silver
BMFA 1985.705	Hendrik	Ebony	Carved Ivory	Engraved Silver
BMI 1981	Hendrik	Ebony	Carved Ivory	Pl. Brass[c]
HGM 436-1933	Hendrik	Ebony	Carved Ivory	Engraved Silver
HGM 584-1933	Hendrik	Ebony	Carved Ivory, Silver[d]	Engraved Silver
LGO (Guy Oldham)	Hendrik	Ebony	Carved Ivory	Engraved Silver
C:	*36 reeds*			
AHV-1 (Han de Vries)	Hendrik	Ebony	Carved Ivory	Engraved Silver
BMP (Michel Piguet)	Hendrik	Ebony	Carved Ivory	Pl. Silver
HGM 7-X-1952	Hendrik	Ebony	Carved Ivory	Engraved Silver
HGM 8-X-1952	Hendrik	Ebony	Carved Ivory	Missing
HGM 286-1933	Hendrik	Ebony	Carved Ivory	Engraved Silver
LDB	Hendrik[e]	Ebony	Carved Ivory[f]	Engraved Silver
NYMMA 53.56.11	Hendrik	Ebony	Carved Ivory	Engraved Silver
OBC 2037	Hendrik	Ebony	Carved Ivory	Engraved Silver
TMH (Masashi Honma)	Hendrik	Ebony	Carved Ivory	Engraved Silver[g]

(*continued*)

Number	Maker	Material	Mounting	Keys
VSM 4547	Hendrik	Ebony	Carved Ivory	Engraved Silver[h]
WLC 158	Hendrik	Ebony	Carved Ivory	Engraved Silver
NPMZ (Michael Zadro)	Hendrik[i]	Ebony	Carved Ivory	Engraved Silver
Turned (plain) Ivory Mounts				
HGM 17-X-1952	Hendrik	Ebony	Turned Ivory	Pl. Silver[j]
Silver Mounts				
VSAM 653	Hendrik	Ebony	Engraved Silver	Engraved Silver
Unmounted				
LHM 14-5-47/210	Hendrik	Stained Boxwood[k]	None	Pl. Brass
Turned (plain) Ivory Mounts				
AHV-2 (Han de Vries)	Fredrik	Boxwood	Turned Ivory	Pl. Silver
HGM 624-1933	Fredrik	Ebony	Turned Ivory	Engraved Silver
Silver Mounts				
HGM 4-X-1952	[Fredrik]	Ebony	Engraved Silver	Engraved Silver[l]
HGM 5-X-1952	[Fredrik]	Stained Boxwood[m]	Engraved Silver[n]	Engraved Silver
HGM 284-1933	Fredrik	Ebony	Engraved Silver	Engraved Silver
HGM 439-1933[o]	Fredrik	Ebony	Engraved Silver	Engraved Silver
BWM	[Fredrik][p]	Ebony	Engraved Silver	Engraved Silver

(*continued*)

Number	Maker	Material	Mounting	Keys

Sigla:

AHV:	Amsterdam, Han de Vries	LHM:	London, Horniman Museum
BBA:	Bonn, Beethoven Archiv	NPMZ:	New Paltz, NY, Michael Zadro
BMFA:	Boston, Museum of Fine Arts	NYMMA:	New York, Metropolitan Museum of Art
BMI:	Brussels, Instrumentenmuseum	OBC:	Oxford, Bate Collection
BMP:	Basel, Michel Piguet	TMH:	Tokyo, Masashi Honma
BWM:	Buckinghamshire, Waddesdon Manor	VSAM:	Vienna, Sammlung alter Musikinstrumenten
HGM:	Hague, Gemeente Museum	VSM:	Vermillion, Shrine to Music Museum
LDB:	Lausanne, Daniel Bach	WLC:	Washington, Lib. of Congress, Miller Collection
LGO:	London, Guy Oldham Collection		

[a]The mounts are carved with vertical reeding around their circumferences. These are indexed at 15, 11.25, and 10 degrees providing 24, 32 and 36 striations per mount.

[b]Bell has brass rim.

[c]Left E-flat extended so that it may be played by the left-hand little finger. All of the keys are replacements.

[d]Finial has a silver cap.

[e]Mary Kirkpatrick notes that the name *Richters* on this oboe is overstamped *Rijkstijn*. She does not mention the presence of an initial, though Langwill (6th ed., 153) per Bingham cites it as an oboe by Hendrik under the name Rukstyn.

[f]Modern ivory on bell; Kirkpatrick does not mention other joints.

[g]Only the left E-flat key is original.

[h]C-key touch is a replacement.

[i]Middle joint only.

[j]Replacements.

[k]Bell joint missing.

[l]C-key pad bears date of 1744 and initials *MM*.

[m]Replacement upper joint?

[n]Top unmounted.

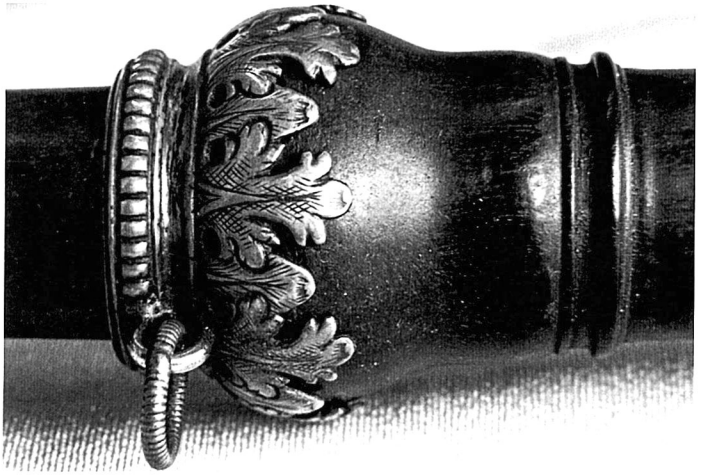
[o]Middle joint mounting marked: Pytter Heins Rob Anno 1737.

[p]Silver cartouche on bell has mirrored monogram: *FR*.

FIGURE 26. The Silver Mark of Hillebrand van Florij.

(1) Engraved Pirouette Cup.

(3) Dentated Bell Rim.



(2) Middle-Joint Mounting.

FIGURE 27. Silver Mountings on HGM 284-1933.

oboes is undoubtedly the Hague instrument No. 284-1933. From the pirouette to the bell the decorated surfaces swirl with silver acanthus leaves (fig. 27). The baluster is garnished with a filigree supporting two oval medallions, each surmounted with a crown. One medallion is engraved with a scene of the Crucifixion (fig. 28-1) and the other with what may be a stylized mirrored letter F (fig. 28-2); this instrument is stamped with Fredrik's mark. Each joint also has a strap ring attached to the mounting.

The oboe at Waddesdon manor (BWM) is more ornately decorated, but lacks the simple elegance of the preceding instrument. It may be that not all the silver on BWM was originally part of the decoration, for Mary Kirkpatrick has pointed out several places where the original turning appears to have been roughly reshaped to accommodate the mounting. All together there are twenty-four separate pieces of silver on this instrument. In addition to the usual joint mountings and keys, there are decorated straps between the keys and a fontanelle in the shape of a caryatid with a winged head-dress (fig. 29). This ornament also seems to have been added later, for the key that the caryatid covers is itself decorated. The provenance of this unsigned instrument seems confirmed by both the silver cartouche on the bell with the mirrored letters *FR,* (fig. 30), and the close match of the bore profile with those of other Richters instruments.[14]

The other silver-mounted oboes, three by Fredrik and one by Hendrik, are not as highly ornamented as is this instrument. For the most part they have only bell ring and acanthus joint mountings, some of these with strap rings. One instrument (Hague 439-1933) is inscribed on the middle joint: *Pytter Heins Rob anno 1737,* and another (HGM 4X-1952) is initialed *MM* and dated 1744 on the C-key pad. Fig. 31 illustrates the features of the silver work on the Vienna oboe (VSAM 653) and on two of Fredrik's in The Hague (HGM 4X-1952 and HGM 5X-1952).

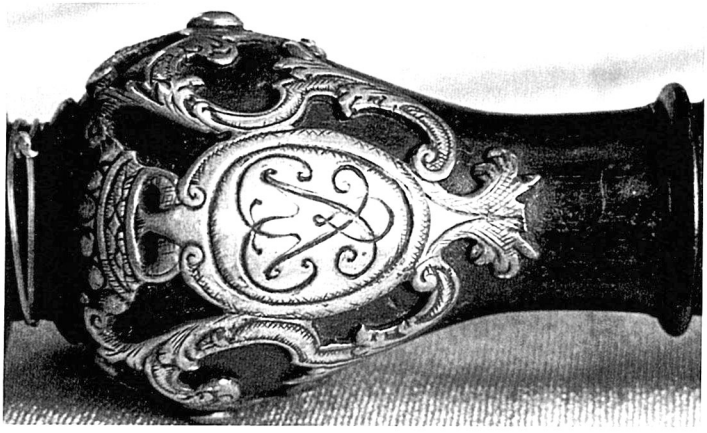
All of the original keywork found on the instruments of both brothers is elegantly engraved.[15] At least three different styles of engraving are apparent on the keys. Table 2 categorizes these types, of which the first is a shal-

14. There is a brief discussion of the instruments at Waddesdon Manor in Eric Halfpenny, "Musical Instruments," *Apollo* (June 1977), 46–51. Halfpenny points out that these instruments, including the oboe, were acquired by the Baron Ferdinand de Rothschild or Miss Alice between 1865 and 1914. Certainly the initials "FR" on the bell would intrigue any prospective buyer with the same initials.

This oboe, like HGM 624-1933 and AHV-2, gives the impression of a mixed provenance. In this case the top-joint, whose bore conforms very closely to those on Hendrik's oboes, may have come fron Hendrik's hand.

15. Except for the boxwood oboe in the Horniman Museum (LHM 14-5-47/210) whose plain brass keys probably represent its original state.

(1) Crucifixion Scene on Front of Baluster.



(2) Initialed Medallion on Rear of Baluster.

FIGURE 28. Engraved Silver Mountings of HGM 284-1933.

low, delicate style whose many curves and line shadings present the most personalized characters (fig. 32-1). The second type tends toward simpler, straighter lines, often deeply incised, frequently with coarse hachures; here the personalities of the figures are less clearly defined, especially those

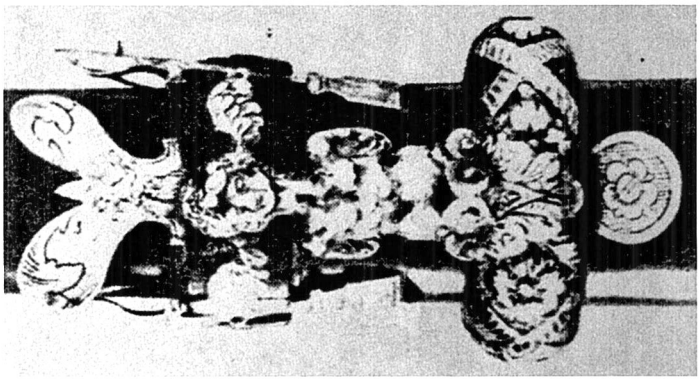


FIGURE 29. C-Key Fontanelle in the Shape of a Caryatid.

TABLE 2
Categories of Key Decorations

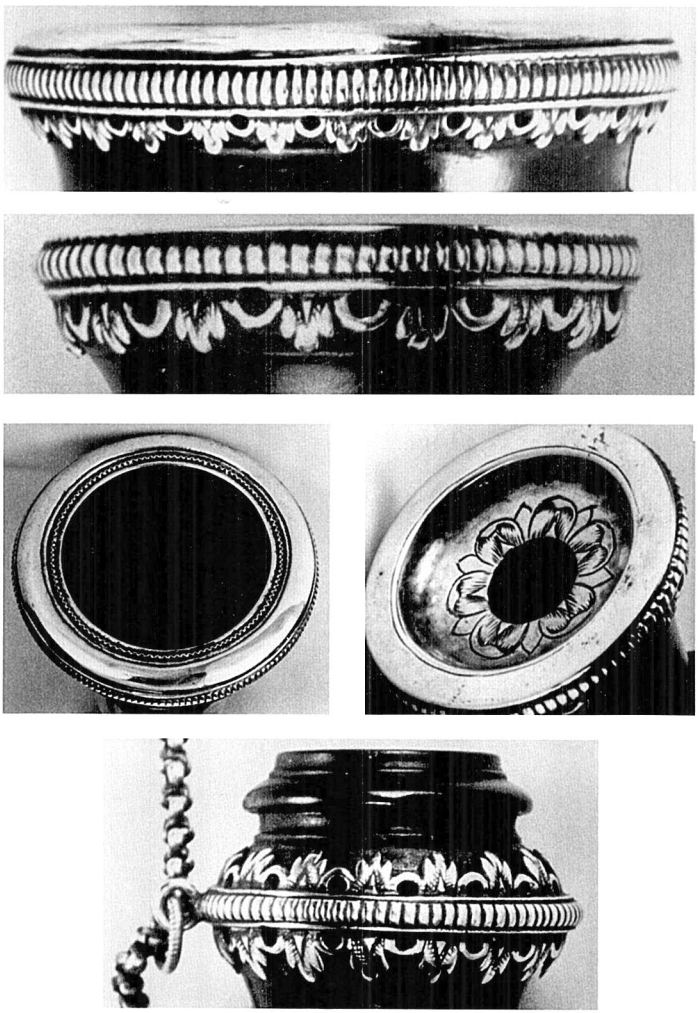
Hendrik Richters	Group 1	VSM 4547
		WLC 158
	Group 2a	HGM 436
		NYMMA 53.56.11
	b	HGM 584-1933
		BMFA 1985.705
		HGM 624-1933
		LGO
		VSAM 653
		BBH 93
		OBC 2037
	c	TMH
		AHV-1
		HGM 286-1933
		HGM 15X-1952
Fredrik Richters	Group 3	HGM 284-1933
		HGM 4X-1952
		HGM 5X-1952

FIGURE 30. Engraved Initials *FR* on the Bell Cartouche of BWM. Courtesy of Mary Kirkpatrick.

in group 2b of Table 2 (fig. 32-2). The third style, found only on Fredrik's oboes, has lines of regular width and depth, with little of the shading and modeling found in the other types (fig. 32-3).

Perhaps the most distinctive aspect of Fredrik's keys is their shape, which is accentuated by the flowing lines of their acanthus leaf borders (fig 32-3). Most of the Richter's keys, in fact, are marked by acanthus designs; three of the C-key touches are thus engraved, as are all but four of the key shanks (fig. 33). The keys of Hendrik's oboes are simpler in outline than most of Fredrik's. His E-flat keys uniformly have circular touches and rhomboid pads; and the C-keys, with one exception (See HGM 15X-1952, fig. 34-3), have butterfly touches and circular pads. The simplicity of this design is further accentuated by the single incised lines that border the keys (fig. 32-2).

Decorating the touches and pads of the keys are depictions of dancers, musicians, assorted wild animals, and a rebus. There is no design as consistent as that of the ivory carvings except for the group of oboes with 32 reeds (Table 1, Group 2), which use the rebus on the C-key touch and a representation of Bacchus riding a barrel on the pad, a dancing male and an oboist on one E-flat key and a female dancer and a violinist on the other. Only on one oboe in this group (LGO) is the E-flat key pairing reversed. On all of Hendrik's keys the dancers are on the touches and the musicians—all male—are on the pads. The most frequent order of pairing, found on

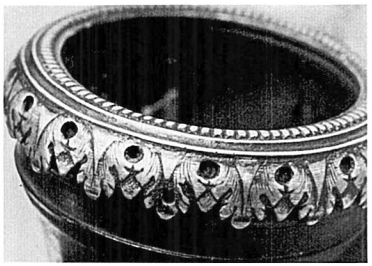


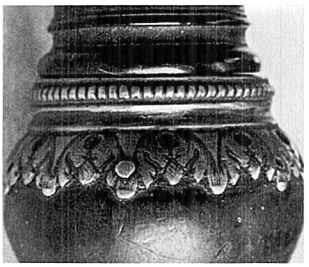
(1) Hendrik Richters, VSAM 653.

FIGURE 31. Silver Mountings on the Richters Oboes.

(2) Fredrik Richters, HGM 4X-1952. Courtesy of Kathryn Libin.

Fig. 31 (*continued*)





(3) Fredrik Richters, HGM 5X-1952.

Fig. 31 (*continued*)

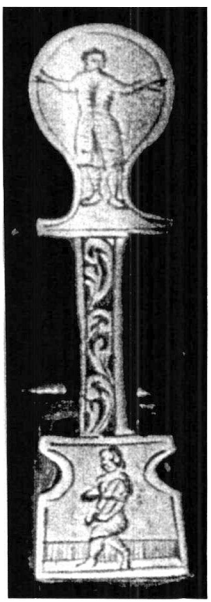


FIGURE 32. Engraving Styles on Richters Keys.
Left: (1) Group 1: WLC 158.
Middle: (2) Group 2: LGO.
Right: (3) Group 3: HGM 284-1933.

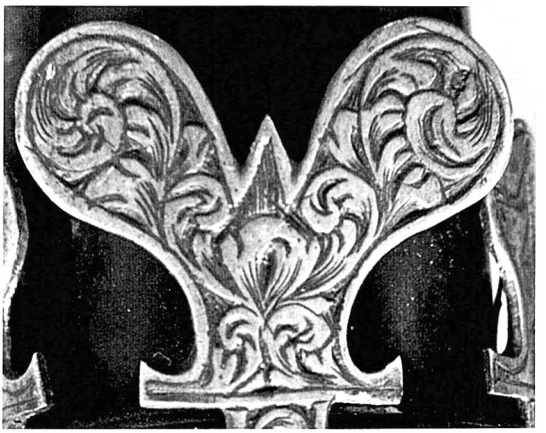


FIGURE 33. C-key Engraved with Acanthus Leaves.

eleven of nineteen instruments with engraved keys, is that which couples the man with the oboist and the woman with the violinist. Although the left and right placement of the keys on the instruments is not consistent, for the most part the woman-violinist combination appears on the right key.

Only one of Fredrik's oboes (HGM 624-1933) uses the configuration of dancers and musicians on the E-flat keys. The remainder have female dancers or acanthus leaves on the touches and songbirds decorating the keypads. Animals also decorate one of Hendrik's oboes (HGM 15X-1952) which is also notable for its 24-reeded ivory and the round touch on the C-key. This key is adorned with exotic North American animals, the turkey and opossum (fig 34-4, 5), while the E-flat keys have a squirrel and a crane[16] on the touches and large-bodied birds on the pads (fig. 34-1, 2). To the left is a raptor with hooked beak (fig. 34-1); to the right a long-beaked lark sitting on a flower (fig. 34-2).

The female dancers gracing the remainder of the E-flat keys are dressed in traditional costumes: a long skirt, open overblouse or one with a deep V-neck, long sleeves, and a short apron (fig. 35-2, 3, 4). This costume is modified somewhat for the young girls found on VSM 4547, WLC 158, and HGM 436-1933 (fig. 35-1). Here the dresses have narrower, tighter waists

16. During a later repair to the key spring a rivet was placed through the bird's head in the center of the touch.

FIGURE 34. Animal Engravings on the keys of HGM 15X-1952 (from left):
(1) Squirrel and Bird on Left E-flat Key. (3) Opossum on Round C-Key Touch.
(2) Crane & Bird on Right E-flat Key. (4) Turkey on C-Key Pad.

with fitted bodices and such variations as scooped necklines or square overcollars. The dresses are shown with rolled-up sleeves and bloused aprons or possibly hip-length blouses. The girls on these three oboes are also depicted with bare heads, while those of the women on the other instruments are covered with either a close cap or a headdress resembling the *frontange* or *commode* popular in the early eighteenth century (figs. 36 and 40).[17]

The hand positions of the women vary considerably. Some have their hands on their hips (seven), while others have one (one) or both (six) arms raised. Though most of the women (eight of fourteen) have both feet sol-

17. A close cap of lawn or lace covering the back of the head with, and rising in front in one or more tall, wired, and ruffled tiers that projected obliquely forward. Francis Kelly and Rudolph Schwabe, *Historic Costume*, 2nd. ed., (New York, 1968), 176.

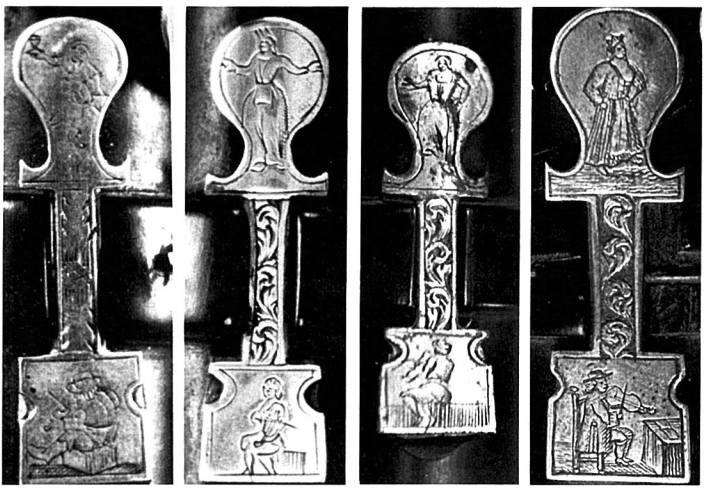


FIGURE 35. Women Dancers and Musicians on the Richters E-flat Keys (from left):
(1) VSM 4547.
(2) VSAM 653.
(3) NYMMA 53.56.11.
(4) HGM 7X-1952.

FIGURE 36. A Frontange or Commode Cap.

idly on the ground, all seem to be dancing, an activity confirmed by the remainder (six), who have either the left (two) or right (four) foot raised. Similarly, the three girls all have the right foot raised, and two have upraised goblets in the right hand.

The male costumes are more nearly uniform. Except for the three boys clad in short coats, knee breeches, and brimmed or tricornered hats (fig. 37-1), all are in collarless knee-length coats with simple uncuffed sleeves (fig. 37-2, 3). Most of these costumes are adorned at the neck with a chest length cravat. Like the women, the men are shown in a variety of dance positions, with one foot raised (right-three, left-one) or with both on the ground (four). All, however, have both arms raised. Only one of the men wears a hat, and this, adorning a portly fellow with a clay pipe in his left hand, resembles a sleeping cap (fig. 38).

The musicians on the E-flat keypads are equally divided between oboists (fifteen) and violinists (fifteen).[18] Most of them are seated (twenty-three), with the majority (twelve) on a crate or box (fig. 35-1) and the remainder (nine) on a low wall (fig. 35-3) or on chairs (two, fig. 35-4). The boxes depicted in key group 1 (Table 2) are three dimensional, while those in group 2 are shown without perspective. These boxes or walls are decorated so as to resemble crating slats or wainscotting. The postures of the figures are casual, especially those in group 1; these have their backs to the viewer, as does the jaunty violinist on WLC 158, who appears to have his eye on the girl at the top of the key (fig. 39). Over half (fourteen) of the musicians have their knees crossed (fig. 40), and for the most part they are facing right (twenty-three). In this regard it is notable that all of the oboists but one, who is facing left, have their left hands lowermost on their instruments.[19] It is tempting to point out this left hand position as evidence for the playing technique of the time. However, the lower right hand of the sole player who is facing left strongly suggests that a desire for pictorial balance rather than accurate performance practice dictated the placement of the hands. The violins are all held on the left breast, as they were customarily depicted at that time (fig. 35-2).

Four of the five musicians who are standing have knee-length coats like those of the dancers (fig. 37-2), but the remainder wear hip-length jackets that often appear to be belted at the waist (fig. 41). All the instrumentalists are in knee breeches, but only a third (nine) have hats (fig. 39), most of which are brimmed (six), though one is cone shaped and another appears to have a rolled cuff like that often found on fur hats (figs. 42 and 35-3).

The C-keys are similarly varied in their decoration. The majority of their touches (eleven) are decorated with the Richters' rebus (fig. 43), a conundrum that John Henry van der Meer has rendered as "Vat den tijd en leer den wereld kenne" or "Grasp time and learn to know the world," with visual puns on the words *vat* and *leer.* Here the word for barrel, *vat,* also means grip or grasp, and *leer,* the word for ladder, is related to learning. The orb symbolizes the world and time is represented by the hourglass. Considering the omnipresent Bacchus on the keypads and the dancers and musicians on the other keys, this might well be paraphrased as "Take time and learn to enjoy the world."

18. The numbers given in these sections describing the keys will usually not add up to the total expected for the nineteen instruments discussed. This is due to missing and broken keys as well as to indistinct engravings.

19. The keys often show only the foreground arm or leg.

FIGURE 37. Male Dancers on the Richters E-flat Keys.
(1) VSM 4547. (2) VSAM 653. (3) HGM 286-1933.

Variations in the rebus occur in the use of the letter *d* for *de* on four of the six thirty-two-reeded instruments and on HGM 624-1933, in the rising rather than drooping wings on the hourglass of HGM 436-1933 (fig. 44), and finally in the complete reordering of the design on WLC 158. This key has the hourglass beneath a bird on the right side and the words *Van den Men* on the left lobe (fig. 45). The remaining C-key touches are decorated with acanthus designs (four, fig. 33), an oboist (fig. 46), a pair of dancers (fig. 47), the earlier mentioned opossum (fig. 34-3), and finally, according to Halfpenny, a representation of Faith (BWM).[20]

20. Halfpenny, 49. Halfpenny does not mention the E-flat touches, but might one hope that they are engraved with Hope and Charity?

FIGURE 38. Dancer with a Clay Pipe on HGM 7X-1952.

FIGURE 39. Violinist and Dancing Girl on E-flat Key of WLC 158.

For the most part the pads of C-key with the rebus on the touches have a representation of Bacchus riding a barrel. In all instances the raised right hand is holding a goblet (fig. 48), more often stemmed (seven) than not (four). HGM 436-1933, whose hourglass with raised wings was cited above, has a winged Bacchus on the pad, as does also BBA Zimm. 93. The Bacchus figures on the remainder, except for the goblet details (figs. 48 and 49), are strikingly similar. The several instruments not so decorated substitute flowers (fig. 50-1), a turkey (fig. 34-4), winged seraphs (fig. 50-2), and a monogram (fig. 50-3), while the two oboes in key-group 1 have invertible faces substituted for the barrel-riding Bacchus. The C-key pad of WLC

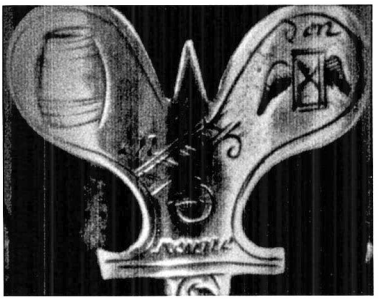
FIGURE 40. Seated Oboist with Crossed Knees on HGM 624-1933.

FIGURE 41. Musician with Belted, Hip-Length Coat on TMH E-flat Key.

158 is engraved with an old man whose visage inverts to that of a youth (fig. 51-1), and that of VSM 4547 depicts a man with a brimmed hat like those of the musicians in the upright form and shows the face of a jester when inverted (fig. 51-2).

At first glance, the keyshanks give a strong impression of uniformity because of the acanthus leaf decorations, but closer scrutiny admits a considerable variety in the number and style of the leaves, as well as in the direction that they are facing. The number of leaves per key varies from three to six. All but two of the acanthus-leaved E-flat keys have three leaves, alternating in direction, with the topmost curled toward the right; the remain-

FIGURE 42. Oboist with Cone Shaped Hat on E-flat Key of HGM 436-1933.



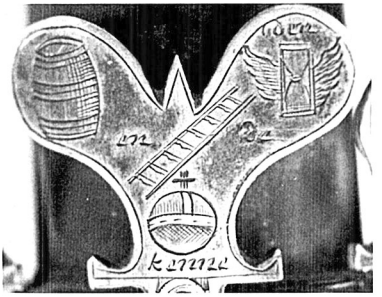


FIGURE 44. Rebus with Rising Winged Hourglass on the C-Key of HGM 436-1933.

ing two have the top leaf curled to the left, as is the top leaf on those keys with four leaves. Eight of the large keys have leaf designs equally divided between right and left facing patterns. In addition there are four right-curling, six-leaf keys, three left-curling six-leaf keys, and one right-curling four-leaf key. Examples of these designs can be seen in figs. 32–51. It is perhaps significant, in terms of style, that the four instruments with other kinds of keyshank design are the two in key group 1 (VSM 4547 and WLC 158) and two of the three in key group 3 (HGM 4X-1952 and HGM 5X-1952); these other shank designs are reproduced in figs. 37-1 and 50-3.

Let us return for a moment to the contribution of the silversmith Hillebrand van Florij, whose silvermark is found on two of the oboe keys (HGM

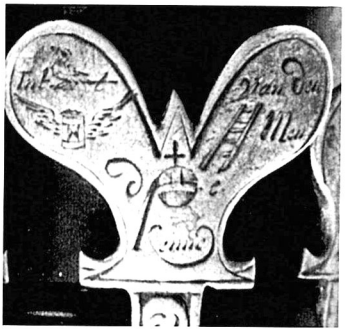


FIGURE 45. Rebus with Bird on WLC 158.

FIGURE 46. Oboist on the C-Key of HGM 284-1933.

FIGURE 47. Dancers on the C-Key of NYMMA 53.56.11.

FIGURE 48. Bacchus on the C-Key Pad of HGM 624-1933

286-1933 and HGM 4X-1933). Van Florij's dates (1657–1751) encompass the working lives of the brothers, and Richters lore holds that he was the creator of all the silver work on the oboes. There are, however, several reasons why this cannot be conclusively documented. First, Hillebrand's mark was used by his son Pieter (1695–1754), who was also a silversmith;[21] and second, the varying styles of silver work on the instruments make it difficult to assert that all are from the same hand. It should be noted, however, that

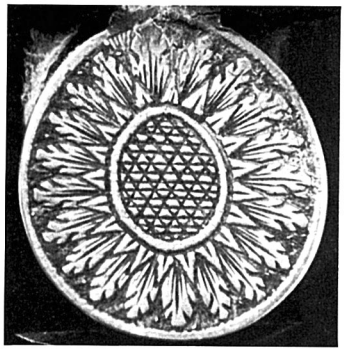
21. Another son, Gerrit, was also a silversmith. Citroen, op. cit., 47.

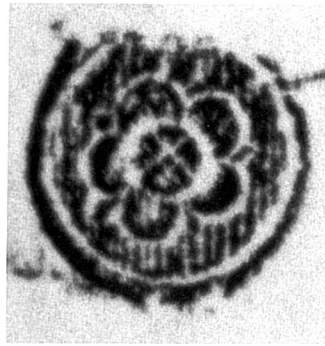
FIGURE 49. Winged Bacchus with Stemmed Goblet on the C-Key pad of HGM 436-1933.

the silverwork may represent half of a century of Van Florij's craftsmanship, and that the keys for HGM 4X-1952, dated 1744, would have been completed in his eighty-seventh year. With the exception of the heavily encrusted instrument at Waddesdon manor, the silver style on the mountings of VSAM 653, HGM 439-1933, HGM 4X-1952, and HGM 5X-1952 is more convincingly by the same maker than are the keys, though the mountings are not known to bear any marks (fig. 31).

The keys, as may be recalled from Table 2, fall into three stylistic groups of which the second is subdivided. Hillebrand van Florij's mark occurs on Hendrik's oboe HGM 286-1933 in Group 2c and on HGM 4X-1952 in Group 3, which is attributed to Fredrik. By extrapolation the other keys in these groups can be related to Van Florij's work, but the remaining groups—1, 2a, and 2b—are less easily attributable.

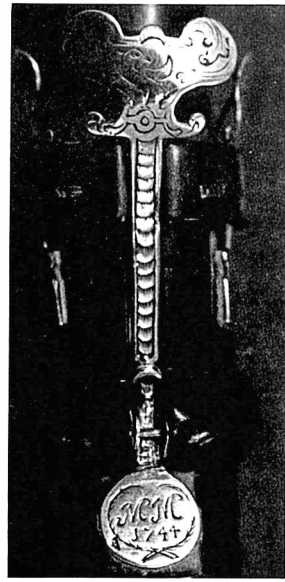
Resonances in the designs of key groups 2c and 3 can be seen in fig. 52, which demonstrates their similarities both in subject matter and style. The prominent features of the keys of HGM 4X-1952, whose C-key shank is stamped with Van Florij's mark, are the acanthus touches, the keyshanks which appear to be made up of overlapping discs, and the birds on the E-flat pads. The key shapes of this oboe, the bird design, and the silver joint mountings, are like those on Fredrik's instrument HGM 5X-1952, and help to confirm its attribution to him. Further, the keys of HGM 5X-1952 are similar in shape to those of HGM 284-1933, which has the same birds





(1) Flowers on HGM 7X-1952 and BWM. Courtesy of Mary Kirkpatrick.

(2) Seraphs on HGM 284-1933 (above) and HGM 5X-1952 (below).



(3) Monogram on HGM 4X-1952. Courtesy of Kathryn Libin.

Figure 50. Variant C-Key Pads on Richters Oboes.

(1) WLC 158.

(2) VSM 4547.

FIGURE 51. Invertible Faces on C-Key Touches.

FIGURE 52. Keywork by Hillebrand van Florij: HGM 4X-1952 (left) and HGM 286-1933.

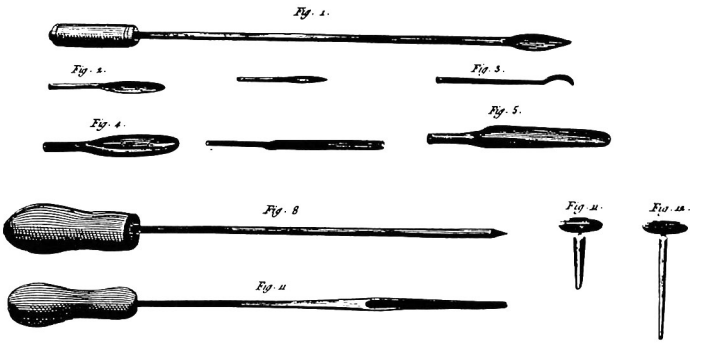


FIGURE 53. Eighteenth-Century Reamers.

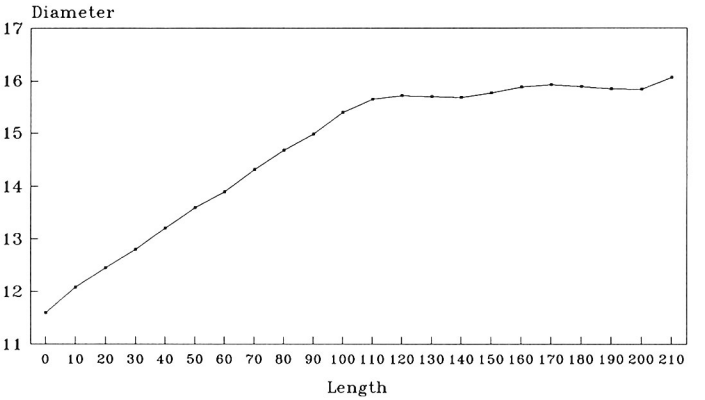
on the E-flat pads and the same keyshank on the C-key as does HGM 4X-1952, and like HGM 5X-1952, a seraph on the C-key pad.

The key characteristics of Hendrik's oboe HGM 286-1933 include acanthus leaves on the touch of the C-key, a Bacchus figure on the keypad,[22] and moderately detailed engraving on the E-flat keys—all traits shared by AHV-1. Some of these features also occur on HGM 7X-1952, which shares the acanthus C-key touch and the engraving detail of the small keys. In turn, the acanthus touches relate to Fredrik's HGM 4X-1952. Although the other features of HGM 286-1933—the barrel-riding Bacchus, the dancers, and the acanthus keyshanks—cannot be directly paired with the instruments in key groups 1, 2a, and 2b because of stylistic inconsistencies, they nonetheless lend considerable authority to the assertion that Van Florij engraved a larger number of the keys than can be proven by marks alone.

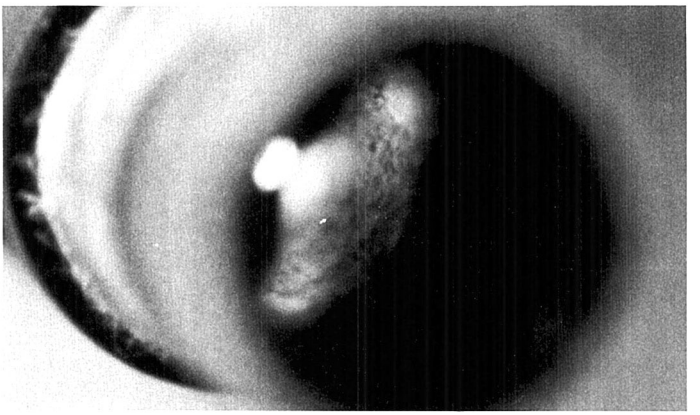
The Bores of the Richters Oboes

The congruity of the bores of the Richters oboes is surprising when one considers the simple tools available for shaping bores in the eighteenth century. Each of the Richters bores was shaped through the use of multiple reamers like those shown in fig. 53, and as a result the bore profiles in the upper two joints are complex, often with the marks of three different reamers (fig. 54).

22. Although the Bacchus figures occur on these two oboes, no keys directly attributed to Hillebrand van Florij are engraved with rebuses.



(1) Middle Joint of HGM 286-1933.



(2) Tool Marks in the Top-Joint Bore of BMFA 1985-705.

FIGURE 54. The Profile of a Bore Shaped by Three Reamers

Standard deviation can be used as a quantitative comparison of the bores of two instruments, or, for that matter, simply as a measure of accuracy of manufacture in the reproduction of a bore profile. It is true, of course, that the standard deviation compares the amount of difference between two bores and that the same figure can result from the comparison of quite different bore profiles, but the use of accurate graphing proce-

dures provides an easy visual check of such anomalies.

The reliability of this observation is corroborated by the low standard deviation resulting from three different measurements of the top joint of the same instrument (WLC 158). The measurements, one by Mary Kirkpatrick and two by Cecil Adkins, were taken at different times:

Adkins no. 1 :	Kirkpatrick	0.07 mm
Adkins no. 2 :	Kirkpatrick	0.068 mm
Adkins no. 1 :	Adkins no. 2	0.013 mm

If one were to assume, as is asserted by such instrument makers as Friedrich von Huene, that the finest reproducible standard in a wooden instrument is .1 mm,[23] and to accept that also as the maximum amount of admissible measuring error, then it can be seen that these measurements fall well within that margin. Indeed, the variances (.0049, .00462, .000169) of the standard deviations cited above are less than half of that (.01) required by the .1 mm maximum.

The use of standard deviations of the bore segments simplifies the comparison of the amount of divergence in bore congruity throughout the length of the instruments; however, the effects of these differences on the pitch and tone of the several instruments that have been played are not obvious, since there has been no opportunity to bring them together for extensive testing. As a result, the conclusions of this discussion of the bores are based only on the physical evidence gathered from the instruments and not on any empirical knowledge derived from performance, acoustical studies, or experimentation with reeds.

The consistency of design and dimension in the upper segments suggests that the concept of the top-joint bore was well established in the minds of the Richters brothers, and that they found little in its variations to cause problems. Further, the use of the multiple reamers gives this bore section the kind of arch that produced the full tone and powerful low register preferred by many northern eighteenth- and nineteenth-century makers. If these reamers had been used simply to chamber the top segment for the adjustment of certain pitches, timbres, or ease of speech, one would expect the same sort of variation between the intervals of the arches that is found in the rest of the instrument where such techniques are known to have been applied. Indeed, it seems logical to conclude that the bore variations in the two lower segments of the oboes directly relate to voicing corrections need because of the lack of precision in the manufacture of the top joints.

23. Other instrument makers and measurers also adhere to a repetitive measuring standard of at least 0.1 mm.

Top-joint Bores

The twenty-one Richters (or attributed Richters) oboes in this sample were compared to that in the Dayton Miller Collection in the Library of Congress (WLC 158), which was selected as a representative instrument. The top joints of these oboes can be classified into three groups according to the contour of their bores. Comparison of the bore diameters of these segments resulted in standard deviations ranging in mm from .045 to .538, with those of the first group ranging from .045 to .206, the second from .169 to .30, and the last from .386 to .538 (Table 3).

The standard deviation of the first group, which is comprised of fourteen oboes including WLC 158, ranges from .045 mm to .206 mm. With

TABLE 3
Top-Joint Bore Groups with Standard Deviations

	Group 1	Group 2	Group 3
WLC 158	.000		
HGM 439-1933	.045		
BWM	.065		
HGM 15X-1952	.118		
HGM 17X-1952	.125		
HGM 436-1933	.145		
NYMMA 53.56.11	.155		
HGM 8X-1952	.157		
HGM 584-1933		.169	
BMFA 1985.705	.175		
HGM 286-1933	.185		
BMI 1981	.192		
OBC 2037	.192		
BMP	.195		
LGM 14-5-47/210		.197	
HGM 7X-1952		.204	
TMH	.206		
HGM 624-1933		.222	
LDB		.300	
HGM 5X-1952			.386
HGM 284-1933			.538

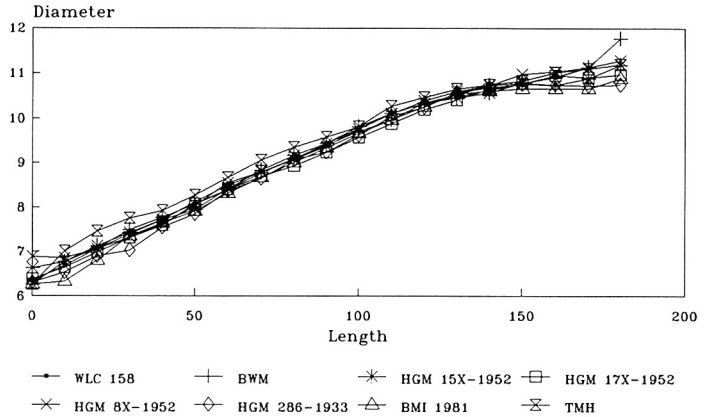


FIGURE 55. Profiles of Top-Joint Bore Group 1.

the exception of TMH, which appears to have been re-reamed,[24] these bores closely follow that of the Washington instrument, whose bore expands evenly from its narrowest point of 6.33 mm to its widest of 11.25 mm with nodes, produced by the secondary and tertiary reamers just above the first and second fingerholes (60 and 100 mm range). As may be noted in fig. 55, these bore profiles cluster closely around that of WLC 158. Some of the instruments show a slight contraction of up to .3 mm in the lower 40 mm of this joint, which can be attributed to compression of the tenon, though this is by no means regular and is not apparent in every example (fig. 56).[25]

The second group of instruments, five in number, have standard deviations (.169 mm–.30 mm) that lie in the upper reaches of those in group 1

24. Although the general profile of this top-joint bore resembles those in group 1, there are pronounced enlargements in the 20 and 70 mm areas unlike those found in any other Richters instrument.

25. Cary Karp inconclusively discusses this phenomenon in his article "Woodwind Instrument Bore Measurement," *Galpin Society Journal* XXXI (1978), 12, suggesting that if the "tenon bore was originally finished with a reamer that extended past the distorted area, the curve representing that reamer can be extended from the reliable area [of the bore] into the tenon and the distorted data ignored." No attempt has been made to rectify this distortion in the graphs of the Richters bores. In note 6 Karp further councils that the constrained joints such as those in thread-wrapped woodwind tenons will gradually assume a smaller dimension when subjected to repeated wetting and drying.

While it may be possible that the thread wrapping would distort the bore to the extent seen in some of these examples (the thread generally covers about 20 mm of the 25 mm tenon of the top joints), on many of them the depressed area is as much as 40 mm in length. It seems as likely that the deformation resulted from the instrument's having been left assembled for great lengths of time, as in an attic or a museum storeroom. During such time it would not have been subjected to the constant wetting of the tenon that results from playing, but it would have suffered more than a century of constant changes of humidity in an uncontrolled environment. On the other hand, if the distortion occurred in the hands of the player, and was not caused by the tenon wrapping, is it likely that he left it assembled and perhaps undried for great lengths of time? In this regard note the chains linking the sections of a number of the silver-mounted oboes. Little is known of early instrument hygiene, but if indeed, the compression occurred in the relatively short playing life of the instrument, the lack of consistency of compression in the Richters oboes in the following compilation, or for that matter, in those of their contemporaries might well tell us which ones were most used.

In the following Table each Joint is assigned a number, ranging from 1 to 10, that approximates the degree of constriction. The amount of bore inflection varies from 0 to .3 mm with 10 being equal to the latter number. The second column indicates the year it was acquired by its present owner. M (museum), P (private collection).

Tenon Constriction of Richters Oboes

Instrument	Museum	Top	Middle
WLC 158	M 1926	0	1
HGM 439-1933	M 1933	0	1
BWM	P 1865-1914	1	1
HGM 15X-1952	M 1952	5	3
HGM 17X-1952	M 1952	5	0
HGM 436-1933	M 1933	0	1
NYMMA 53.56.11	M 1953	8	2
HGM 8X-1952	M 1952	1	4
HGM 584-1933	M 1933	7	0
BMFA 1985.705	M 1985	10	6
HGM 286-1933	M 1933	3	3
BMI 1981	M	1	2
OBC 2037	M 1989	0	0
BMP	P	2	1
LHM 14-5-47/210	M c1947	4	10
HGM 7X-1952	M 1952	4	4
TMH	P	0	1
HGM 624-1933	M 1933	0	1
LDB	P	3	0
HGM 5X-1952	M 1952	6	10
HGM 284-1933	M 1933	3	1

To address the possibility that the compressed area might be the result of something other than tenon pressure, we can look at an oboe like BMFA 1985.705 (figs. 54-2 and 67), which shows active tool marks in the 30–50 mm area. The chambering which left these tool marks could have been done with a spoon shaped reamer such as those depicted by Diderot (fig. 53). Might it be possible that what appears to be compression in the bore was left as the residue of the primary reaming after the secondary tuning and speech adjustments were made to the bore?

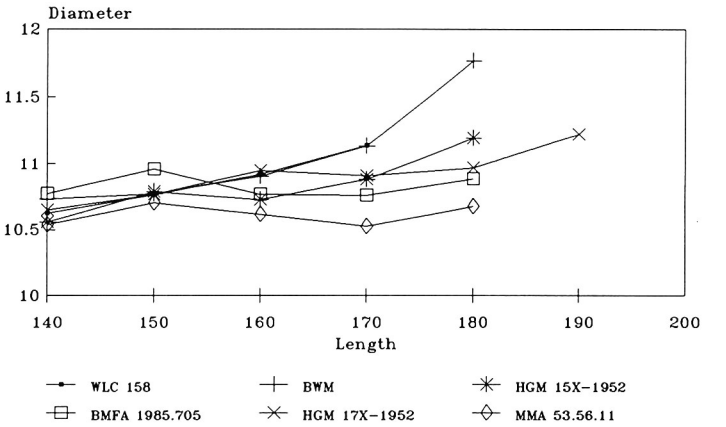


FIGURE 56. Tenon Compression in the Lower 50 mm of the Richters Top-Joint Bores.

(.065 mm–.206 mm), are slightly narrower in diameter than that group, and also show a distinct change in profile in the 40–80 mm range (fig. 57). Where the former group has a swelling in the 60 mm area, these bores show a determined narrowing ranging up to .2 mm. Several have a similar constriction in the 80 to 120 mm range as well. The two oboes in group 3 vary considerably in profile from those of the other two groups, and in the case of HGM 5X-1952, the authenticity of the top joint may be questioned (fig. 58).[26]

A more obvious variation in the manufacture of these bores occurs in the placement of the bore shape within the length of the tube. This can best be seen in the three sample profiles depicted in fig. 59. In fig. 59-1 the profile of BWM is oriented to that of WLC 158 at the point of minimum diameter for both instruments, yielding a close match and a standard deviation of .065 mm. A similar comparison between the bores of WLC 158 and NYMMA 53.56.11 generates a standard deviation of .317 mm (fig. 59-2), indicating that the bores are not closely aligned. If, however, the bores of these two oboes are compared from their largest corresponding diame-

26. Besides the lack of similarity of this bore to those of other Richters oboes, this joint is not as finely made. In spite of its black color, it is more likely of stained boxwood, for it is not as heavy as the ebony joints and is also badly warped.

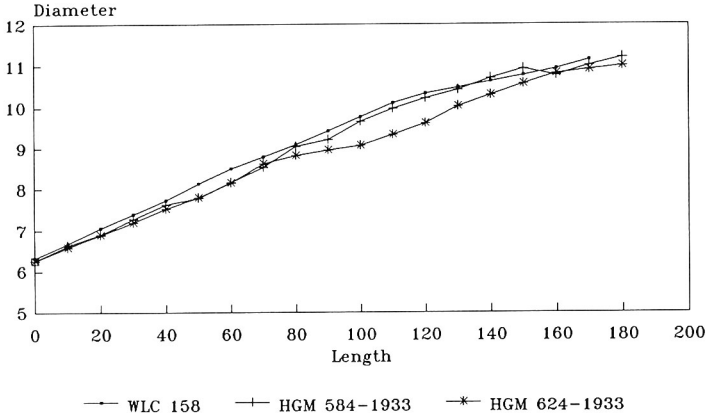


FIGURE 57. Profiles of Top-Joint Bore Group 2.

ters as in fig. 59-3, the profiles match more closely, yielding a standard deviation of .155 mm, which would be even smaller but for the constriction of NYMMA 53.56.11 in the tenon area.

Among the twenty-one instruments the length of the reamed portion of the upper-joint bore varies as much as 31 mm and the air column itself by 25 mm, although the largest difference in the tube lengths is only 11.5 mm. This anomaly results from the heretofore unmentioned, and usually ignored, section of the bore—the minimum-diameter, cylindrical interstice that lies between the base of the reedwell and the reamed section. In the Richters oboes this area ranges in length from .4 mm to 40 mm (fig. 60).[27]

Interestingly, the fingerhole positions, also depicted in fig. 60, remain fairly constant in spite of the varied length of the reamed portion of the bore. Table 4a gives the maximum and minimum distances of the hole centers from the end of the tenon; the mean distances of the three holes range from .05 mm to .55 mm greater than the median length. Similarly, the varying positions of the reamed bore do not seem to bear any relationship to the finger hole sizes, which occur as a result of the tuning and voicing

27. For the most part researchers, using fixed-sized gauges, measure the reamed portions of the upper joint, the bore proper and the reedwell, from the opposite ends of the tube. Although the length of the interstice can be determined easily by calculation, it simply appears in their measurements as an area through which a particular gauge "passes," with no note made of its length.

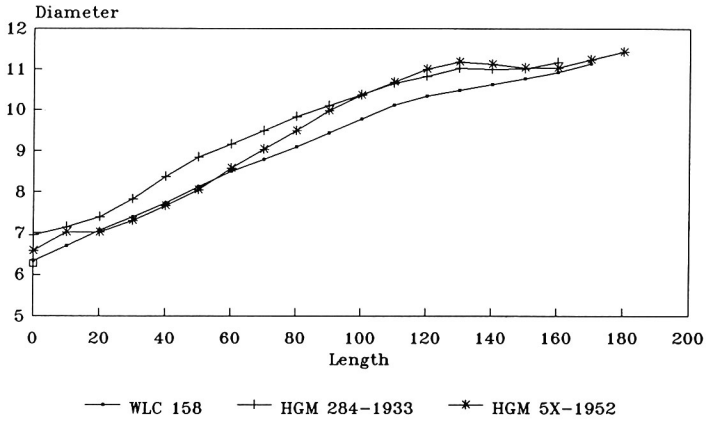


FIGURE 58. Profiles of Top-Joint Bore Group 3.

process. The extremes of their sizing is given in Table 4b. The particularly wide range of diameters in the paired third hole, more than 1.3 mm in the right and 1.25 in the left, points up the difficulty of adjusting this pitch.

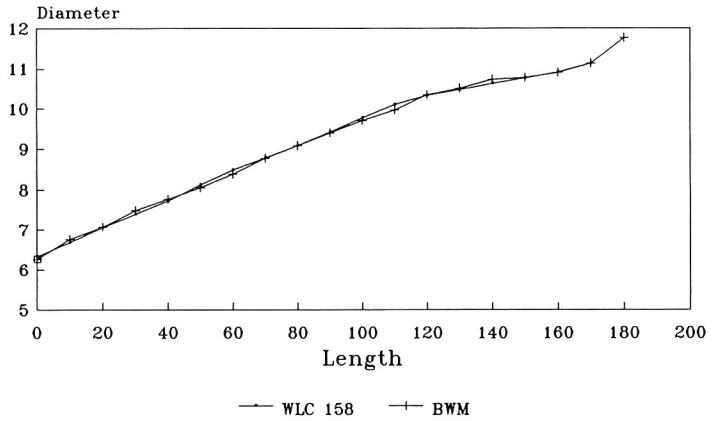
Undercutting of the fingerholes in the top joints is not common. Six of the eighteen oboes for which tone-hole information is available have the first hole bored upward between ten and fifteen degrees; four of the second holes slant downward and one upward; while only two have the right third hole slanted downward about five degrees and one has the left hole projected slightly upward. Opposite boring of the third holes would not have been effective for instruments that were nominally played both left and right handed, though the purchaser may have been consulted about his preferences. In some cases the downward-bored holes have then been undercut, in effect leaving the top side of the hole perpendicular. Though this may have been done simply to raise the pitch, the resulting conical underhole was also used for speech adjustment, especially when the two holes were joined together by the coning, as they are on a number of the oboes.

Middle-joint Bores

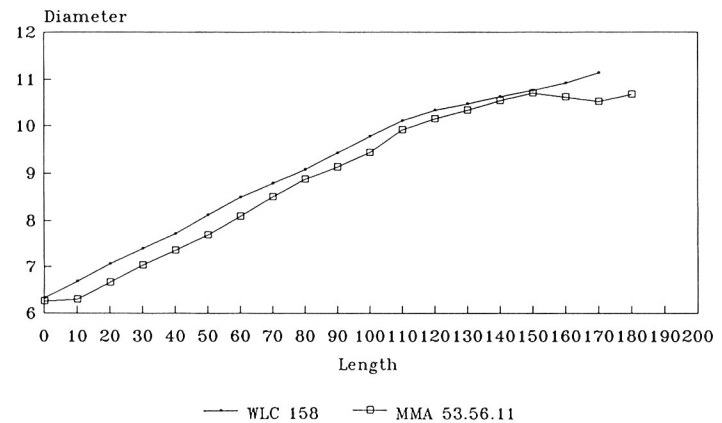
The middle-joint bores are reamed in two basic shapes, of which the first group consists of seven instruments, and the second twelve (Table 5).[28] All of the oboes in the first group have a middle-joint profile akin to that of

28. HGM 439-1933 was not considered in this sample because of insufficient data.

WLC 158, from which the standard deviations for the middle joints were derived. For this group the standard deviations range from .135 mm to .390 mm, while those of the second group range from .326 mm to .599 mm.

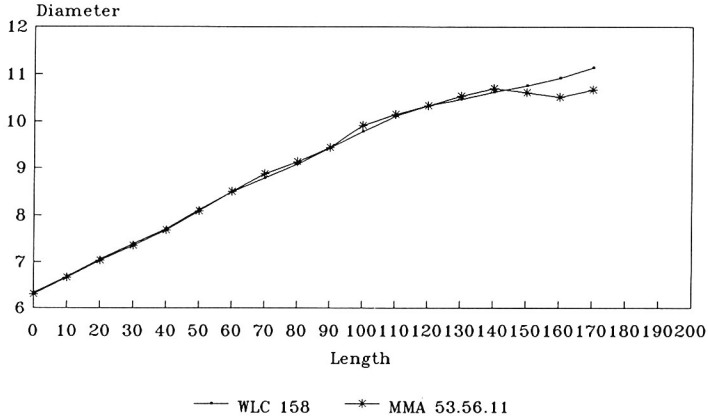


(1) WLC 158 and BWM Compared from Their Smallest Diameters.



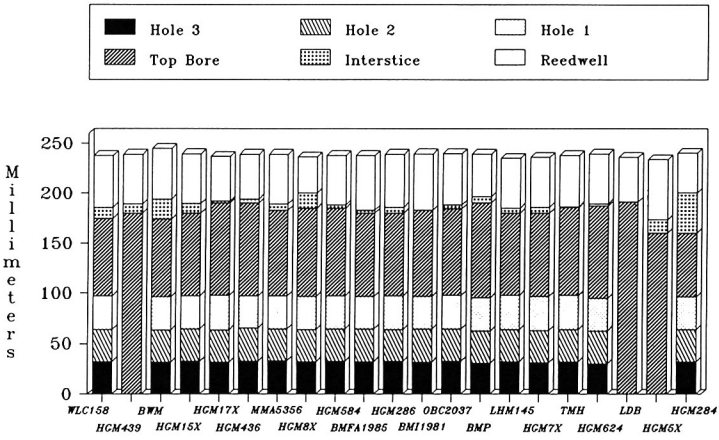
(2) WLC 158 and NYMMA 53.56.11 Compared from Their Smallest Diameters.

FIGURE 59. Sample Comparisons of Closely Matching Top-Joint Bores.



(3) WLC 158 and NYMMA 53.56.11 Compared from Their Largest Diameters.

Fig. 59 (*continued*)



No hole meas. for HGM439, LDB, or HGM5X

FIGURE 60. Comparative Positions of the Bore Segments and Fingerhole Positions in the Richters Top Joints.

TABLE 4
Top-Joint Fingerhole Specifications

a. DISTANCE[a]	Hole1	Hole 2	Hole 3	
Maximum:	97.70	65.46	32.54	
Mean:	96.89	64.03	32.20	
Minimum:	95.50	62.50	30.39	
b. DIAMETER			Rt.	Left
Maximum:	3.37	3.85	3.93	3.95
Mean:	3.10	3.65	3.02	3.06
Minimum:	2.90	2.60	2.60	2.70

[a]Distance measured to end of Tenon.

TABLE 5
Middle-Joint Bore Groups with Standard Deviations

	Group 1	Group 2
WLC 158	.000	
HGM 286-1933	.135	
NYMMA 53.56.11	.234	
OBC 2037	.243	
HGM 436-1933	.271	
HGM 8X-1952	.282	
HGM 284-1933	.297	
BMP		.326
HGM 584-1933		.329
HGM 624-1933		.335
HGM 17x-1952		.342
BMI 1981		.361
HGM 15X-1952		.363
LHM 14-5-47/210		.365
BMFA 1985.705		.385
BWM	.390	
TMH		.394
HGM 5X-1952		.443
HGM 7X-1952		.448
LDB		.599

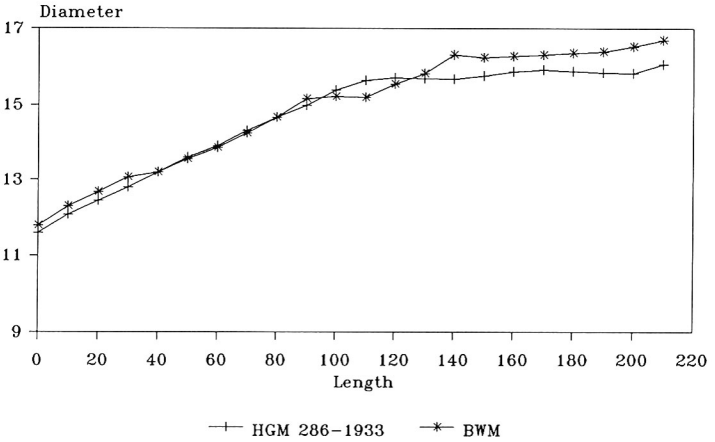


FIGURE 61. Sample Profiles from Middle-Joint Bore Group 1 (HGM 286-1933 and BWM).

The basic shape of the bores of group 1 resulted from the use of several reamers, of which the first created a smooth line from the smallest diameter up to the 110 mm area. The remainder of the tube is comprised of two plateaus, the first beginning in the 90–110 mm range and the second around 140 to 160 mm or about 50 mm farther down the bore. The main differences in these bores are seen in the relative diameters of the tube at the plateaus, where that at the second plateau ranges from .16 mm to 1.2 mm greater than that of the preceding segment (fig. 61). These bores exhibit little of the tenon compression found in the top-joint bores or in the remaining group of middle joints. Only in WLC 158 is a significant compression found (.17 mm); in the remainder it is .05 mm or less (fig. 62).

The bores of the second group exhibit less consistency in profile than do the upper segments. While their fundamental contour consists of a regular curve 140–160 mm in length that breaks slightly before continuing its expansion to the end of the tube (fig. 63-1), some of them have a cylindrical plateau 40 mm or more in length before the continuation (fig. 63-2). Obvious tenon compression occurs on only four of the instruments, though in HGM 5X-1952 the last 30 mm of the bore precipitously decreases 1.0 mm

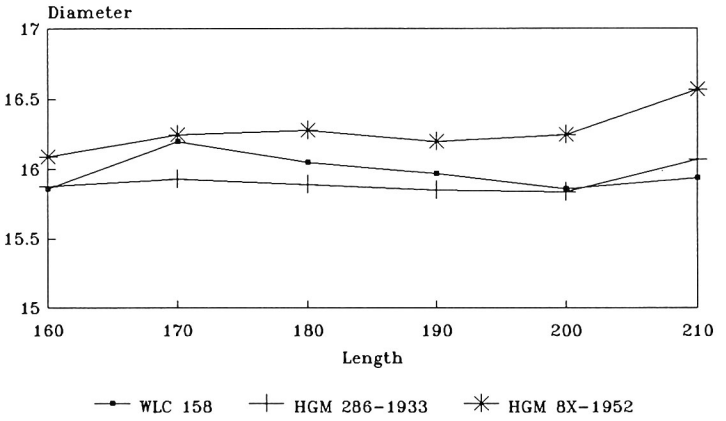


FIGURE 62. Tenon Compression in the lower 50 mm of the Richters Middle-Joint Bores.

in diameter (fig. 63-3).[29] The profiles of this group do not show the incursion of the tertiary reamer used on the bores of the first group, giving rise to the notion that this middle joint pattern may reflect a concept of bore design other than that seen in the top joints. The low difference (.086 mm) in the standard deviations (.326 mm to .394 mm), for nine of the twelve joints certainly supports this hypothesis.

The middle-joint bores do not demonstrate the longitudinal shifting of the bore pattern seen in the top joints, though it will be seen later that there are several instances where this phenomenon occurs in the bell. This may be because the adjustment of this section is even less critical than that of the top joint, where adjustments seem to have little effect on the tonal production, or in the bell, where the placement of the profile relates directly to the end of the instrument. On those oboes where the bell is longer, the lengthening is effected in the more cylindrical upper part of the bore.

Fingerhole size and placement show much greater variation on the middle joint than on the upper section, where the maximum variation in hole position is no more than 2.96 mm (mean difference = 2.44), and the largest

29. The lower section of the middle joint of HGM 5X-1952 is chambered to a diameter greater than 16 mm in the area 120–180 mm from the upper end. The measuring tool was not capable of determining the true extent of the diameter of this portion through the constricted end of the tube, which measured only 15.03 mm at its orifice.

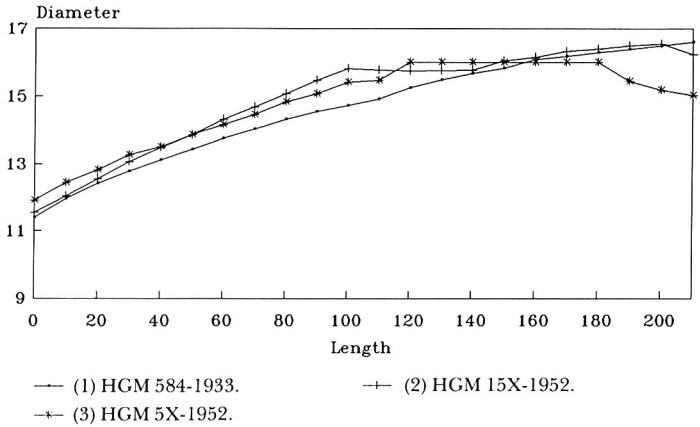


FIGURE 63. Sample Profiles from Middle-Joint Bore Group 2.

variation in hole size is no more than 1.35 mm. On the middle joints the placement can vary as much as 11.22 mm (fig. 64), and the hole diameter by as much as 3.3 mm. Table 6a provides a summary of the distances of the holes from the top of the joint, and the extremes of their sizes are given in Table 6b. This greater irregularity may stem in part from the shifting bore profile of the top joint (*e.g.,* BMP in fig. 60), but it is more often related to the awkward placement of another finger hole, such as hole 5 on BMP, which is only 26 mm below hole 4, as opposed to the average of 33.9 mm.

Undercutting of the fingerholes on the middle joints is minimal, occurring only once on these instruments on holes 5, 6, C, and E-flat. There are several instances where the holes are slightly coned from below, but this was done for voicing purposes only on the sides and bottom of the hole, leaving the top surface straight. The bell vent holes are similarly treated, with only one bell needing this kind of adjustment.

Foot-joint Bores

The great variation in bore profiles demonstrated by the Richters foot joints, or bells, is due for the most part to the freehand nature of their manufacture. Only the uppermost part of the bore was shaped with a fixed reamer, and the remainder was turned freehand. In view of this technique,

TABLE 6
Middle-Joint Fingerhole Specifications

	Hole 4		Hole 5	Hole 6	Hole 7	Hole 8
a. DISTANCE[a]						
Maximum:	49.02		83.22	122.68	162.49	199.50
Mean:	48.04		81.95	115.60	160.14	191.29
Minimum:	46.05		72.05	111.90	155.80	189.10
b. DIAMETER	Rt.	Left				
Maximum:	3.91	3.92	5.00	4.86	5.90	9.40
Mean:	3.40	3.44	4.37	4.37	4.41	6.49
Minimum:	3.19	3.19	4.60	4.00	4.30	6.10

[a]Distance to top of joint.

it is surprising that the foot joints display much congruence at all. The standard deviations for this segment range from 1.839 mm to 8.41 mm, though there are a number in the first of seven groupings that show a closer affinity for one another than the deviations would imply. Fig. 65 presents a composite of the profiles of the bells of this first group of instruments (BMFA 1985.705. HGM 584-1933, HGM 584-1933, OBC 2037, WLC 158). Note the correspondence in the profile of the upper 60 mm of these bores, a pattern evident in this section of 15 of the instruments examined. It would seem that the control instrument, WLC 158, is in this case the anomaly.

The seven bell groupings were made to point out the similarities between the profiles, but it must be emphasized that in this portion of the oboe there is the greatest irregularity. Fig. 66 illustrates how the varied curves found in the bell groupings range from a regular parabolic shape expanding smoothly to the apex (NYMMA 53.36.11), to an almost reversed image of that curve (HGM 5X-1952). The reason for the expanded area below the vent holes in HGM 5X-1952 and HGM 286-1933 is not clear, and may simply be the result of an unskilled freehand turning technique. Some of the bells show chatter marks[30] in the center third of the

30. Mary Kirkpatrick identifies this phenomenon with the expression "jutter marks," which, she relates, comes from her apprentice days in England. When doing the freehand turning of the throat of the bore, the lathe operator has little support for the chisel which is extended well into the bell. The chattering will result if the operator loses control of the chisel and allows it to bounce against the wall of the tube. "Jutter" = jut, is, according to the *Oxford English Dictionary*, an obsolete word meaning "to knock against something." *The Compact Edition of the Oxford English Dictionary* (Oxford, 1971), I, 1525. It should be noted, however, that the marks in such bells as that of VSM 4547, because of their fineness, evenness, and length—they extend from the curve of the throat to the lip—may instead result from the use of a dressing tool or toothed scraper unknown to me.

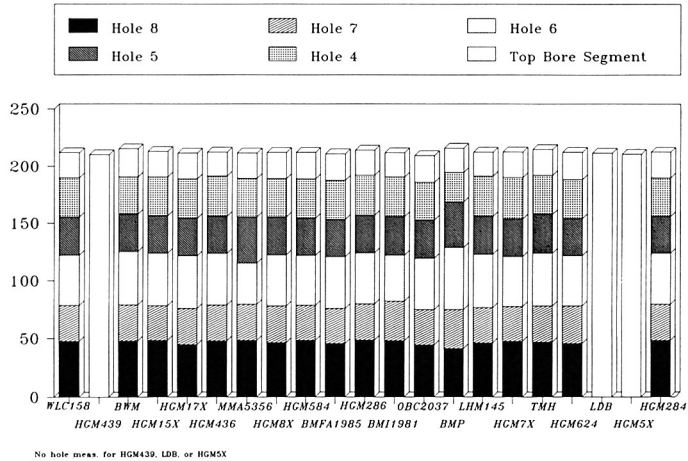


FIGURE 64. Comparative Positions of the Bore Segments and Fingerhole Positions in the Richters Middle Joints.

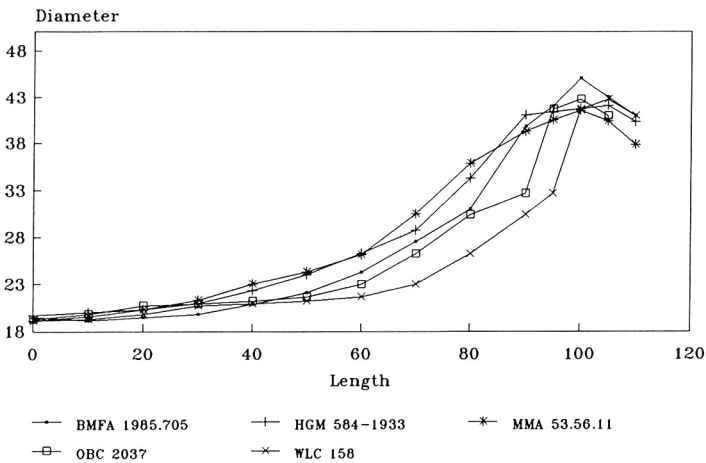


FIGURE 65. Profiles of Bell-Bore Group 1.

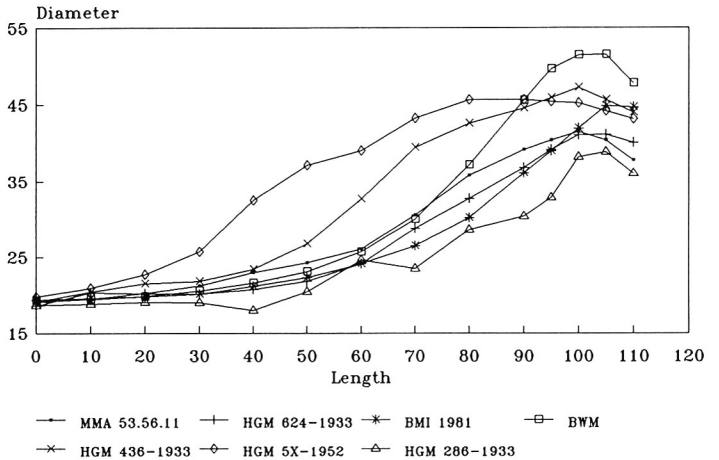


FIGURE 66. Sample Bell Bore Profiles of Groups 1–7.

bore (fig. 67), which indicates that these areas have not been subjected to later adjustment.[31]

The bells show the greatest variation in length of all of the portions, ranging in length from 140.5 to 162 mm. In spite of this variation the vent holes are consistently placed, and even on the longest bell, that of BMP, the holes are 51.7 and 52.1 from its top, in keeping with the distances on the other oboes. In terms of the proportions of the various oboes, it is interesting that although there is only a variation of 33.8 mm in their total lengths (555.6 to 590.4), the bores vary as much as 44.5 mm from the base of the reedwell to the opening (502.9 to 547.4). Adjustments made in the placement of the vent holes reduces this differential to 19.5 mm, and farther up

31. The fullest account of voicing techniques is that given by Karl F. Golde, a Dresden oboe maker who died in 1873. Golde's remarks were published by Friedrich Drechsel in "Über den Bau der Oboe," *Zeitschrift für Instrumentenbau* LII (1932), 258–9. It is also available in an English version by Karp, op. cit., 19–21. Though written more than a century after the work of the Richters brothers, one assumes that many of the techniques remained the same, whether transmitted from master to apprentice or simply acquired empirically. With regard to Golde's comments and many of the techniques discussed in his article, Karp's remarks "that the criteria used in judging the successfulness of the bore are solely musical and that the absolute measurements of the reamers and the subsequent finished bore profile do not appear to be of any direct concern whatsoever" are of seminal importance.

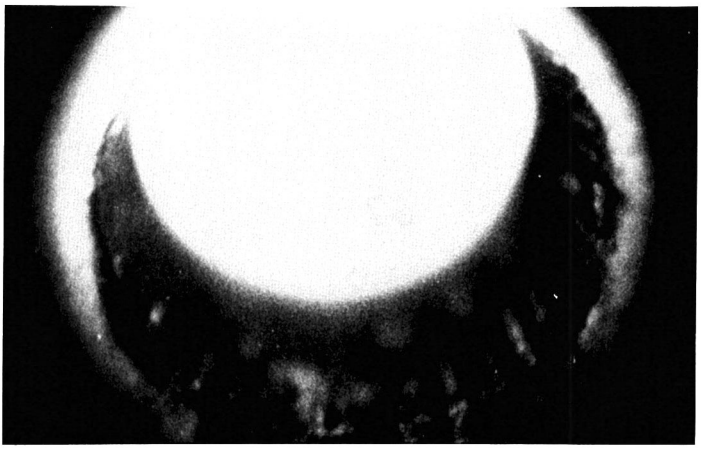


FIGURE 67. Lathe Tool Chatter Marks in the Bell of BMFA 1985-705.

the instrument, for example, at the C-key hole, the hole that most influences the pitch of the D and the scale above it, the difference is only 9.38 mm.[32]

The Richters in Amsterdam

The Richters[33] family worked among the craftsmen of Amsterdam for about three-quarters of a century, beginning with the immigration of the brothers' father, Frederik, from Laar in Germany's Münsterland sometime before 1677.[34] He worked as a woodturner, a trade that he had apparently learned in his homeland. Van Heel and Teutscher suggest that his

32. But for two instruments, the size of this hole is very consistent on the Richters oboes, ranging from 6.1 mm to 6.85 mm. This extent of this variation is considered normal for Dutch instruments for the early 18th century. The sizing of the other holes is somewhat dubious: that on BMP is 7.65 mm in diameter, and on TMH the hole size is 9.4 mm. To conclude that the latter, at least, has been altered is in keeping with the earlier conjecture that the upper-joint bore had been re-reamed.

33. The German form *Richters* was maintained by the family throughout its first 100 years in Holland, but the Dutch spelling *Rigters* occurs with some frequency in official documents after ca. 1719. This is especially true with reference to the married daughters.

34. LDB notes, Van Heel 42. The LDB notes came to me through Mary Kirkpatrick. They were most likely prepared by S.A.C. Dudok van Heel and C.M.D. Teutscher.

influence can be seen in Hendrik's ivory turning, which to them has a decided German cast.[35] However, existing pieces of seventeenth-century Continental ivory carving tend more to reflect individual skill than national influence. In 1716 Frederik was cited as one of the best turners in Amsterdam in a list compiled by Abraham Joosten at the behest of the city elders.[36] Frederik was married twice, first to Maria Maas, who died before 1681, and later to Catrinna Jans.[37] Of his eight children, seven were by his second wife (fig. 68).[38] He is known to have maintained residences at 74 Rosenstraat, and later on Egelantierstraat, where he lived at the time of his death about 2 June 1626.[39]

Three of the Richters sons followed their father's profession: the eldest, Johannis, was also a turner (*Wieldraaier*) and the second and fourth sons, Hendrik and Fredrik, turned these skills to wind-instrument manufacture. The third son, Jacobus, is said to have been a wine merchant,[40] and is known to have spent considerable time abroad.[41] Little, other than their spouse's names, is known of the two daughters or of the fifth son, Elisah.[42]

35. Van Heel, 41.

36. Van Acht, 47, erroneously conveys this honor to Hendrik. Cf GAA. (Gemeenmelijke Archiefdienst, Amsterdam) arch. 5061 (RA.) 1820 (register van goede mannen) of 22 March 1716. Frederick is fourth on the list, which is ordered according to age with the eldest first.

37. Also cited as Catharina Massen (GAA arch. 5075, not. arch. 8096, akte nr. 566, Not. Hendrik van Aken, 1727-12-02), Catrinna Maas (GAA arch. 5075, not. arch., 8097, akte nr. 7, Not. Hendrik van Aken, 1728-01-02), and Maria Catharina Jansdochter Maessen (LDB). A familial connection between the two wives has not been ascertained.

38. The eldest daughter, Aaltje (Aleyda), born in 1677, was by his first wife, Maria Maas (GAA arch. 5075, not. arch., 7461, p. 49, Not. Martin Lindouw, 1710-08-08). She was married to Melcher (Melchert, Mellegijor) van Wagtendonk (Wachtendonk) (GAA arch. 5075, not. arch., 8096, akte nr. 566, Not. Hendrik van Aken, 1727-12-02), and is also mentioned at the reckoning of Hendrik's estate as the daughter of her stepmother's deceased husband (GAA arch. 5075, not. arch., 8097, akte nr. 7, Not. Hendrik van Aken, 1728-02-02).

39. GAA. arch. 5001 (DTB.) 1058 (NK.) fol. 39v. 5 June 1726 was the date of interment.

40. LDB.

41. At the time of the filing of the numerous documents dealing with the disposition of Hendrik's estate between December 1727 and June 1729, Jacobus was out of the country. His interests were represented in these affairs by Gerrit Velthoen. See GAA arch. 5075, not. arch. 8096, akte nr. 566, Hendrik van Aken, 1727-12-02 which has him on his way to the East Indies; GAA arch. 5075, not. arch. 8097, akte nr. 7, Not. Hendrik van Aken, 1728-01-02; and GAA arch. 5075, not. arch. 8103, akte nr. 319. Not. Hendrik van Aken, 1729-05-12/13, which note that he is in a foreign land.

42. Johannis was born in 1681 and was buried 6 March 1745 (GAA. arch. 5001, DTS., 1058, NK., fol. 126). His son Fredrik was for a time apprenticed to Hendrik (4 June 1724). At the latter's death the guardianship was given to Han Dirxe and Jan Lardijn (GAA. arch. 5075, not. arch., 8096, akte nr. 581, Not. Hendrik van Aken, 1727-12-09), later shifting to Fredrik (GAA arch. 5075, not. arch., 8110, akte nr. 155., Not. Hendrik van Aken, 1731-04-07).

Hendrik was born in 1683 as the second son of Frederik and his second wife. Although his principal business was apparently that of an instrument maker, he was involved in a number of enterprises, as witnessed by his sizable estate, which included three houses and land, a wooden shed, and half interest in another building. The range of Hendrik's affairs is revealed by a 1728 inventory of his estate which lists, in addition to these properties, the contents of his shop as well as other assets and liabilities. Among the outstanding liabilities were significant amounts involving his younger brother Fredrik—a shipping invoice in the amount of 7000 florins and a personal debt of 2500 florins. To what extent he may also have been involved in business with his other brother, the foreign-traveling Jacobus, cannot be determined,[43] but Hendrik did have access to numerous foreign materials: the coconuts which he advertised for sale in the Amsterdam *Courant* in 1719;[44] a basket of West Indian amber; and the exotic ebony which he used for his oboes, a material uncommon in instrument manufacture of the time and one which originated in the East Indies where his brother was working.[45]

Van Heel, 42, lists Jacobus as a wine merchant, with the dates 1684 to before 1740. He is mentioned as being in the East Indies in a document of 2 Dec. 1727 (GAA arch. 5075, not. arch., 8096, akte nr. 566, Not. Hendrik van Aken, 1727-12-02). Catrinna, born 1690 (LDB), was married to Hendrik Reijne (GAA arch. 5075, not. arch, 8096, akte nr. 566, Not. Hendrik van Aken, 1727-12-02), who was a surgeon (GAA arch. 5075, not. arch., 8080, akte nr. 124 [I], Not. Hendrik van Aken). Maria Richters, born in 1696 (LDB), was the wife of Francis Wijnants (GAA arch. 5075, not. arch., 8096, akte nr. 566, Not. Hendrik van Aken, 1727-12-02). Nothing is known of the youngest son, Elisah, other than the citation of his birth in LDB. The 1710 will of his father does not mention the children by name, and Elisah is not cited in any of the later family documents. It is assumed that he died young.

43. The inventory of his estate (GAA arch. 5075, not. arch. 8097, akte nr. 7, Not. Hendrik van Aken) dated 2 January 1728 lists outstanding debts to Jacobus of *f.*275.

44. *Amsterdamse Courant,* nr. 44, 13 April 1719.

> In Amsterdam, from the flutemaker Hendrik Richters in Nieuwe Lelystraat can be obtained very curious new coconuts (first arrived by sea), the large for 29, the small for 19, and the broken ones for 9 pennies per hundred pieces.
>
> Tot Amsterdam in de Nieuwe Lelystraat by Hendrik Rigters Mr. Fluytemaker, zyn extra curieuse nieuwe Cocosnooten te bekomen, (nu eerst uyt zee gekomen) de groote voor 29, de kleyne voor 19, and de slegte voor 9 stuyvers de hondert stuks.

Two lots of coconuts, one in the attic of his warehouse and one in the basement of his dwelling, were listed in the 1728 inventory of his estate. One wonders if, indeed, they were too curious for the Amsterdamers!

45. Numerous imported materials are also described below in the inventory of his estate. GAA arch. 5075, not. arch., 8097, akte nr. 7, Not. Hendrik van Aken, 1728-01-02.

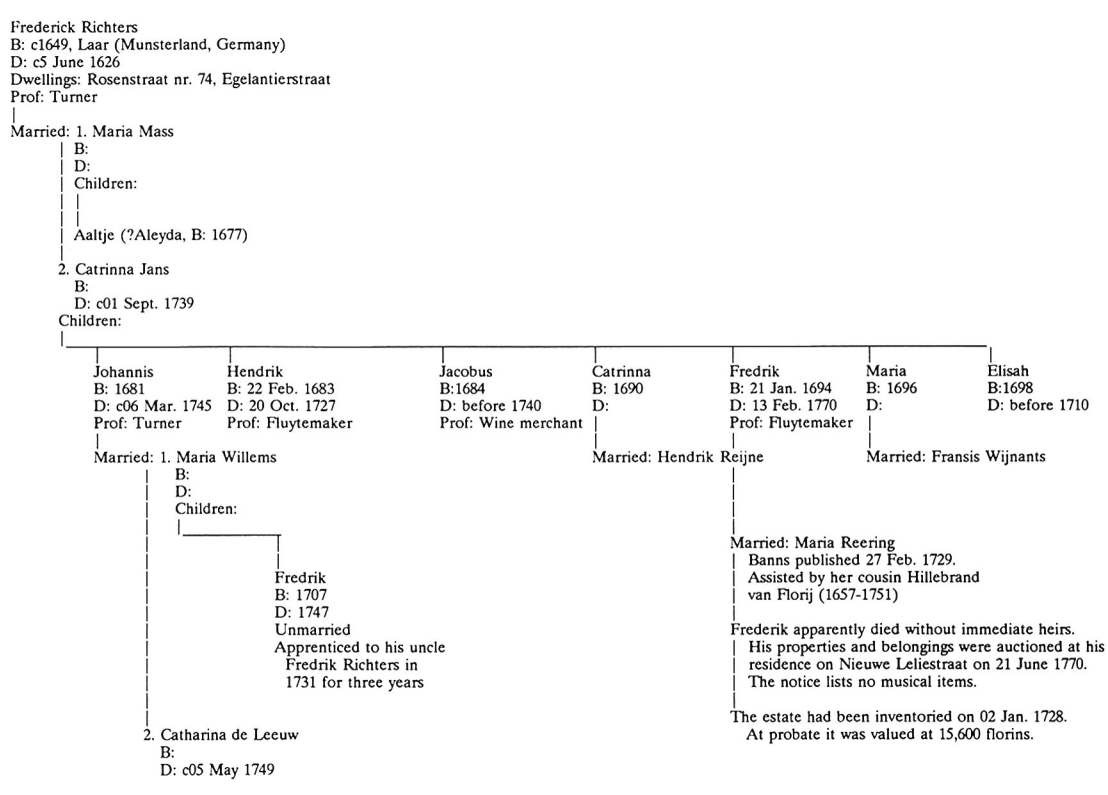


FIGURE 68. The Family of Frederik Richters.

Hendrik, a bachelor, died intestate on 20 October 1727.[46] His estate was inventoried on 2 January 1728,[47] and a power of attorney was given by the court to his brother Fredrik on 27 January.[48] A final settlement in the amount of 15,600 florins was made by the court in May of 1729. His mother's share, which was half of the estate, consisted of a house and land valued at 5325 florins and 2475 florins in cash; Each of the six surviving siblings received f. 1300.[49]

Besides the buildings, furniture, and other personal belongings of Hendrik's that were entered into the tax rolls on 16 December 1727,[50] there was a large quantity of untaxed, mostly musical material that was part of the 1728 inventory (fig. 69):[51]

> Four old broken cane whistles, twenty-four *moffe* flutes,[52] nine ivory flutes, a quart flute with ivory mountings, seven fluyt *doesen* [douce?] of which one is old. two *fesellette* fluyten [chained?], two transverse flutes, three old altos [recorders?], three bass flutes and one unfinished bass flute, an old bassoon, two yellow oboes [boxwood?, probably new] and one painted black [stained? or ebony?], three new oboes and one old one, one *hobo de moer* [oboe d'amore], nine schalmeys, and five old violins.
>
> Also 137 violin bridges, l00 violin screws, fifty-seven bows, strings, thirty-four pieces of boxwood, ivory, a trash of flute parts, a reed with a silver pipe, three copper reed boxes, twenty pieces of letter wood [snakewood], all sorts of buttons and knobs, a fine-tooth comb, copper pipes, upper and lower bands, 128 silver bands, fifty-seven snuff boxes, a basket of West Indian amber, amber pictures, a curved ivory tooth, 180 old knives, a great quantity of cane, old copper, fifty-four needlecases, drills and saws, scale and weights; further two lots of coconuts, . . . and eleven *stoffluyters*.

These materials came into the possession of Fredrik, who moved from his shop in the Egelantiersstraat into Hendrik's house in Nieuw Leliestraat

46. GAA. arch 5001, DTB., 1058 NK., fol. 46v. The burial was registered on 24 October along with a payment of *f* 15 for two hours of tolling.

47. GAA arch. 5075, not. arch. 8097, akte nr. 7, Not. Hendrik van Aken, 1728-01-02.

48. GAA arch. 5075, not. arch. 8097, akte nr. 76, Not. Hendrik van Aken, 1728-01-27.

49. GAA arch. 5075, not. arch. 8103, akte nr. 319, Not. Hendrik van Aken, 1729-05-12/13 & 1729-06-03.

50. This is mentioned in GAA arch. 5075, not. arch. 8097, akte nr. 7, Not Hendrik van Aken, 1728-01-02, as having been done under the hand of Barbara Verbiest, a bonded assessor in Amsterdam. This document has not come to hand.

51. GAA. arch. 5075, not. arch. 8097, akte nr. 7, Not. Hendrik van Aken.

52. Except for the specifically mentioned transverse flutes (*dwarsfluiten*), the remaining "flutes" were undoubtedly recorders. The *moffe* flutes may possibly have been recorders with fontanelles, since *mof* can mean sleeve or muff. The form *moffel* (muffle) also suggests a eunuch's flute.

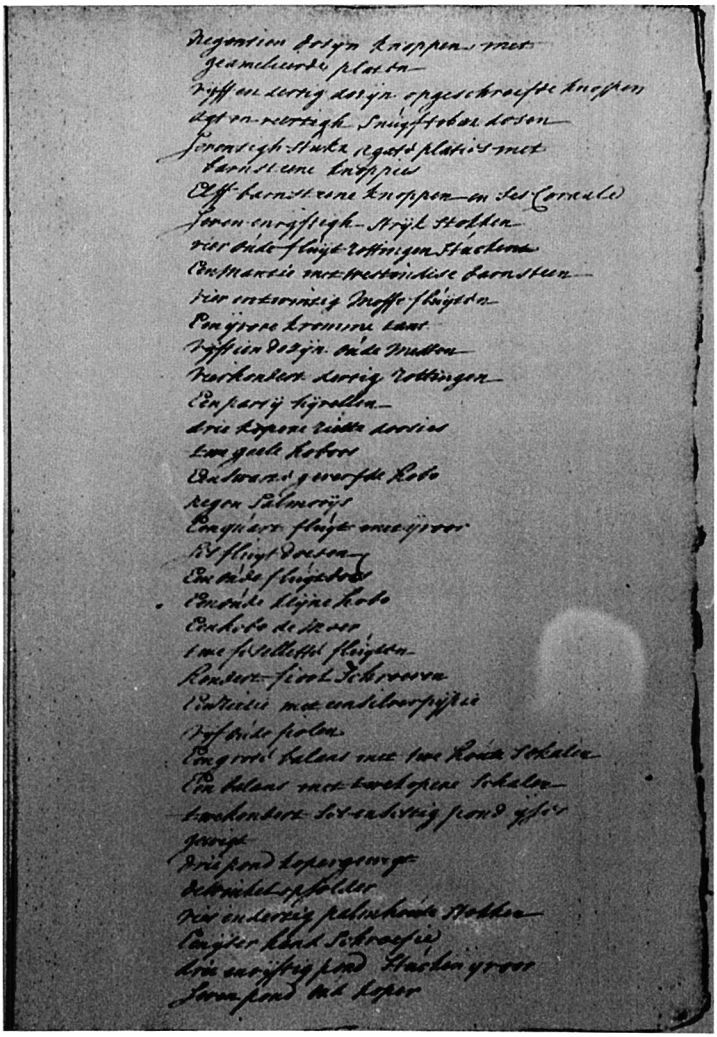


FIGURE 69. A Folio from the Inventory of Hendrik Richters Estate. GAA. arch. 5075, not. arch. 8097, akte nr. 7, Not. Hendrik van Aken.

when he assumed control of the instrument-making business. Since there is no specific mention of shop machinery in the inventory, it may have been that the lathes were catalogued with the furniture in the December reckoning. The one hundred eighty knives and the drills and saws mentioned here could certainly encompass sufficient hand tools to outfit a shop.

The content of this list is interesting in that it reflects little of the surviving Richters "oeuvre," which consists entirely of oboes. Curiously, none of the seven oboes cited in the inventory was described as having ivory mounts, as do most of Hendrik's instruments, and none is said to be of ebony, as most of them were, with the possible exception of the "black-painted" oboe, which was more likely of stained boxwood. Although it was uncommon for an early eighteenth-century maker to specialize in oboes to the exclusion of all other instruments, it seems not implausible, especially since both brothers were well-to-do when they died, that their efforts were chiefly directed toward the production of these elaborate and expensive instruments. If this were so, then much of the material in the inventory was probably stock for Hendrik's related business as an importer and dealer. Further, the occasional description of each of the brothers in the records as a *fluitenmaker* is not contradictory, in that it was a generic term used in reference to all woodwind instrument makers, even by themselves.

On 27 January 1729 banns were published for the marriage of thirty-five year old Fredrik and Maria Reringh, who was 38.[53] Their attendants at the wedding, which took place seven days later on 2 February were his mother, Catrina Maas, and her cousin Hillebrand van Florij.[54] This familial connection with Van Florij is interesting in that it confirms a relation with the Richters brothers only suggested by others. Van Florij, it may be recalled, was mentioned earlier as the silversmith who is purported to have done much of the silver engraving on the oboes. An English version of the 1980 exhibition catalogue article "Van wieldraaiers/fluitenmakers tot fabrieken in blaasinstrumenten" by Dudok van Heel and Marieke Teutscher,[55] given to me by Phillip Young, appends the sentence: "He [Fredrik] left legacies to many people, for example, to the children of the silversmith Hillebrand van Florij (1657–1751), who probably (made? and) engraved the pictures and decorations on the silver keys."[56]

53. GAA arch. 5001 (DTB.) 7171, p. 45, 1729-01-27.

54. GAA arch. 5001 (DTS.) 954 (Stadhuis), p. 248, 1729-2-20.

55. S.A.C. Dudok van Heel and C.M.D. Teutscher, "Van wieldraaiers/fluitenmakers tot fabrieken in blaasinstrumenten," *Muziek in Amsterdam,* 1980, 40–43.

56. This sentence does not appear in the printed versions of the article, though Young relates that the material had undergone later revision.

The surviving records, however, do not confirm these circumstances, for at the time of Fredrik's death in 1770 his house and goods were sold at auction.[57] Further the 1740 will made by Fredrik and his wife was very specific in its bequests: the survivor was to inherit everything except that if Fredrik died first, his heirs [mother and siblings] were each to receive 1000 florins, and if Maria preceded him, her sister Sara was to choose either the same amount or all of her gold and silver ornaments and her jewels.[58]

On the seventh of April 1731 Fredrik executed indenture papers with his brother Johannis for the services of Johannis' son Fredrik, the same boy who had earlier been under the guardianship of Hendrik. For a period of three years, beginning on 7 Feb. 1731, the boy was to work as a servant and learn to make flutes and instruments. As an assistant he was to earn six stuivers per week during the first year and ten stuivers a week for the last two years. The circumstances of the contract give some understanding of what was expected of such an apprentice: during the first year he was allowed to work two days per week for his father, but for the remainder of the agreement he was to labor every day except Sunday; he was allowed to go home for lunch, but was expected to work as late as the master desired; any days missed during the contract period were to be made up at the end.[59] According to Van Heel, young Fredrik later returned to work for his father at no. 74 Rozenstraat as a turner and instrument maker; he died in 1747 at the age of 40.[60]

Fredrik lived in Hendrik's house in Nieuwe Leliestraat for twelve years, moving across the street in 1741 to no. 11, where he remained until his death in 1770 at the age of 76.[61] To what age he continued to work as an instrument maker is not known. Two of his oboes are dated—the only two Richters instruments that are—1737 and 1744, with the latter being crafted in his fiftieth year. Besides these two, only five other oboes survive that bear his mark or that can be attributed to him. Of these, two with simple ivory mounts (HGM 624-1933 and AHV-2) give an initial impression of

57. *Amsterdamse Courant,* nr. 70, 1770-06-12. The auction took place on 21 June, and included all of his personal property as well as the house and land. No mention is made of any musical materials.

58. GAA arch. 5075, not. arch. 8147, akte nr. 184, not. Hendrik van Aken, 1740-04-12. The will also included the stipulation that the remaining capital would be distributed to the nearest kinsmen upon the remarriage of the survivor. No later will has been found, though it is possible that Fredrik as survivor could have executed another in which he made bequests to Van Florij's children.

59. GAA arch. 5075, not. arch. 8110, akte nr. 155, Not. Hendrik van Aken, 1731-04-7.

60. Van Heel, 42.

61. Van Heel, 43.

his brother's hand, as if the parts had been completed by Hendrik and later marked by Fredrik. Except, however, for the concrete fact that only Hendrik's oboes have *carved* ivory mounts, such impressions, as well as judgements regarding the chronology of the Richters *oeuvre,* and the involvement of other artisans, tend to be inconclusive.

Even so, one last conjecture must be made concerning the identity of the manufacturer of the ivory mounts. Just as the silver work was done by fellow artisan Hillebrand van Florij, it would seem likely, because of the specialized skills and equipment required, that the turned ivory was the work of an unidentified artisan. Yet if this were so, then why did Fredrik, whose instruments otherwise closely resemble those of his brother, continue to use only the work of the silversmith and not that of the ivory turner? Perhaps it was because the ivory mountings were turned by Hendrik himself, and after his death his brother, newly entered into the instrument trade, lacked the skill to continue in this style. If Hendrik did indeed turn the mountings himself, the tedious labor involved might also account for the relatively small number of these choice instruments surviving.

TABLE 7
Standard Deviations for Top-Joint Bores of Oboes by Early Eighteenth-Century Dutch Makers

Hendrik Richters		Willem Beukers, c1669–1750	
WLC 158	.000	HGM 10X-1952	.000
HGM 15X-1952	.118	LVA 80819	.623
HGM 17X-1952	.125		
HGM 436-1933	.145	Richard Haka, 1646–1705	
MMA 53.56.11	.155		
HGM 8X-1952	.157	Dombrech	.000
HGM 584-1933	.169	HGM 6-1952	.427
BMFA 1985.705	.175		
HGM 286-1933	.185	Jan Steenbergen, 1676–c1730	
BMI 1981	.192		
OBC 2037	.192	HGM 3X-1952	.000
BMP	.195	HGM 7-1952	.193
LHM 14-5-47/210	.197		
HGM 7X-1952	.204	Englebert Terton, 1676–1752	
TMH	.206		
		HGM 437-1933	.000
		WSI 208A8	.426

Contrasted with the work of other eighteenth-century makers, the bore profiles of the top joints of Hendrik's oboes show a coherence in pattern not seen in any other oboes of his time. This is borne out by the standard deviations for these bores, which show witness to a much greater precision in duplication than was exhibited by any of his contemporaries. For example, Table 7 compares a range of standard deviations from .118 to .206 for fifteen of Hendrik's oboes with the smallest standard deviations found among the instruments of four makers working during his lifetime. Note that the smallest deviation (.193) occurs between two instruments of Jan Steenbergen, while all of the others exceed .4. The congruence of some of these bores is shown in fig. 70, where it will be noted that the tendency toward smaller bores that would become a trend in the later 18th century is already observable among Hendrik's contemporaries. Fig. 71, depicting bores by a sampling of prominent English and Continental makers from late in the century, gives a good idea of the extent of this development.

When we regard the output of the Richters brothers as a whole, it is especially consistent in terms of its design and manufacture. The widest variation is found in the decoration of the carved ivory mounts and the keys. The latter, though notably uniform in style, are replete with interesting and sometimes amusing variations; in the case of the former, the idiosyncracies of the carving machine sometimes got in the way of intent. Yet, how fortunate that these freely-drawn elements were combined with the exactly turned tubes and the accurately reproduced bores, components that demanded the greatest precision and skill on the part of the maker, to give us instruments that are exceptional works of art as well as superb musical instruments—truly oboes beyond compare.

University of North Texas

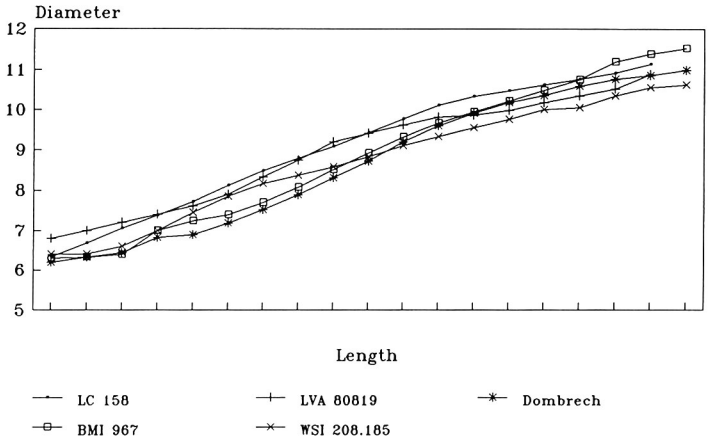


FIGURE 70. Top-Joint Bore Profiles of Hendrik Richters and His Contemporaries.

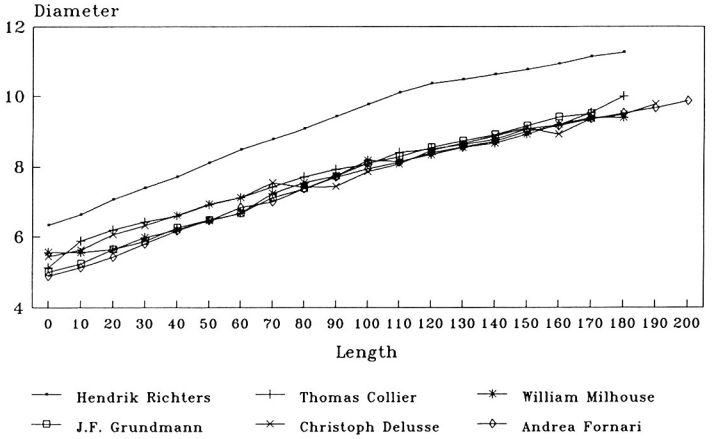


FIGURE 71. Top-Joint Bore Profiles of Late 18th-Century Makers.