

Further notes on the use of mouldings in identifying Italian keyboard instruments

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ABSTRACT

Traditional hand methods of making mouldings for Italian keyboard instrument are examined, showing that a 90° scraper type of plane gives the best results with cypress wood. Such a scraper can be "sharpened" with a dedicated tool, which thereby maintains the same shape. This can explain how old makers were able to produce virtually identical mouldings over a long period of time, such as Dominicus Pisaurensis from 1548 to 1563, even though sharpening of the tool must have taken place. Three unsigned instruments in the Tagliavini Collection were identified with others (Alessandro Trasuntino, Mattia di Gant, Ignazio Mucciardi) through a comparison of their mouldings and arcades.

Italian string keyboard instruments, which form the majority of the Tagliavini Collection, are notable for the use of intricate mouldings at various edges; the purpose of a moulding is both decorative and mechanical. The mouldings can conceal unsightly manufacturing procedures such as nails through the case sides into the baseboards, or they can stiffen the upper edges of the cases, which are typically only 4-5 mm thick. Many mouldings have been catalogued and some studies have examined the variety of shapes used with the aim of identifying the workshops that produced unsigned instruments.¹ This brief essay describes some elements of this field of study with particular reference to instruments in the Tagliavini Collection and introduces some new information derived from experience of making and examining mouldings.

In pre-industrial times all tools were made by hand and the tools instrument makers used for producing their mouldings would have been subject to the variability of the manufacturing procedure. There are basically two approaches to making mouldings: either the wood is pulled past a stationary blade, or the blade is moved over stationary wood. Understanding the methods of manufacture used improve our appreciation of the possibilities of research using mouldings to identify instruments.

¹ FRIEDEMANN HELLWIG, *Atlas der Profile* (Frankfurt/Main, 1985) and DENZIL WRAIGHT, *The identification and authentication of Italian string keyboard instruments, The Historical Harpsichord 3*, ed. H. Schott, (Pendragon Press, Stuyvesant, New York, 1992), pp. 59-161.

The first approach, the stationary "scratch block", is illustrated in Dom Bedos de Celles' treatise on organ making.² Although what he shows is a stationary plane for thickening wood, the scratch stock is basically similar and has the flat plane blade replaced with a shaped cutter.

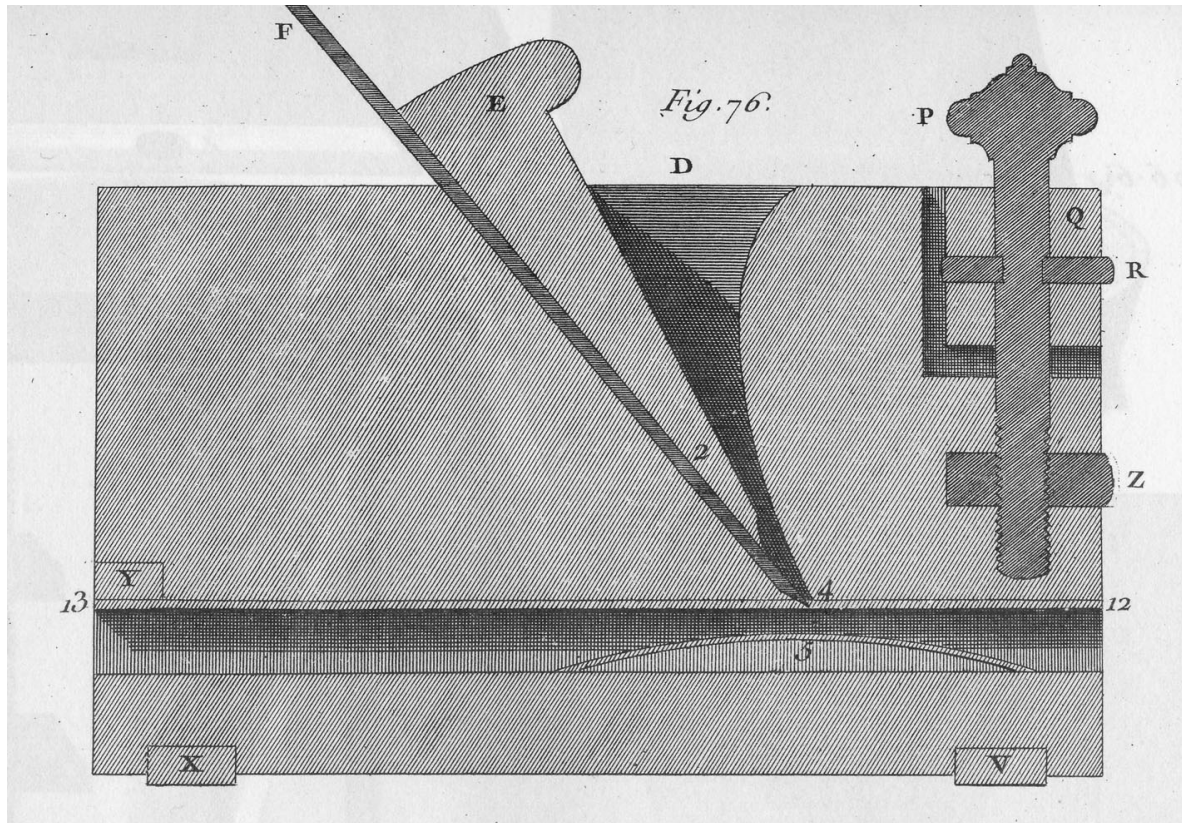


Fig. 1. Dom Bedos de Celles, 1766, *L'art du Facteur d'Orgues*.

The scratch *block* has the advantage that blades can be interchanged relatively quickly, thus a number of different profiles can be created with one tool, but making mouldings is rather slow and tedious. Nevertheless the approach was used even when considerable effort was necessary to draw the work through the tool. Greber documents tools made with a windlass, or cog and track with hand winding, which gave sufficient mechanical advantage for the heavy work.³

² DOM BEDOS DE CELLES', Dom., *L'art du Facteur d'Orgues*, (Paris, 1766; Lauffen am Neckar, R/1977), Band II, Abbildungen, p. 27.

³ J.M. GREBER, *Die Geschichte des Hobels*, (Zurich, 1956; Hannover, R/1987), pp. 315-333. See Abb. 171, 172, and 175.

The second approach is exemplified by the the scratch stock as shown in Fig 2.⁴

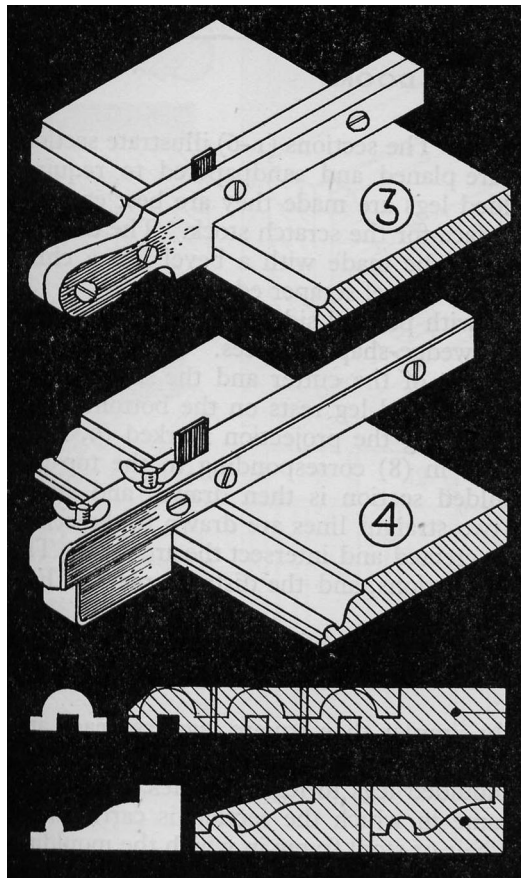


Fig. 2. Hooper, Modern Cabinet Making, 1909.

The scratch stock is pulled past the wood by hand, the depth of cut being determined by the projection of the blade and the dimensions of the scratch stock body. The disadvantage is that the blade tends to follow variations in the grain or hardness of the wood and can therefore yield variable results.

An interesting example of such a piece of reject-quality moulding was found glued inside the case of the 1594 Celestini virginal;⁵ the wavy pattern of the moulding enables us to conclude that a scratch stock was used in producing it, not a scratch block.

⁴ From JOHN HOOPER, *Modern Cabinet Making*, (London, 1909; 6/1952), p. 119.

⁵ Kunst und Gewerbe Museum, Hamburg. Inv.-Nr. 1908.69.

Another method is to use a moulding plane, like the “rabot à moulures” shown in the *Encyclopédie*⁶ illustrated here as Fig. 3. The sole of the plane is the negative of the moulding to be produced and thereby guides the tool effectively.

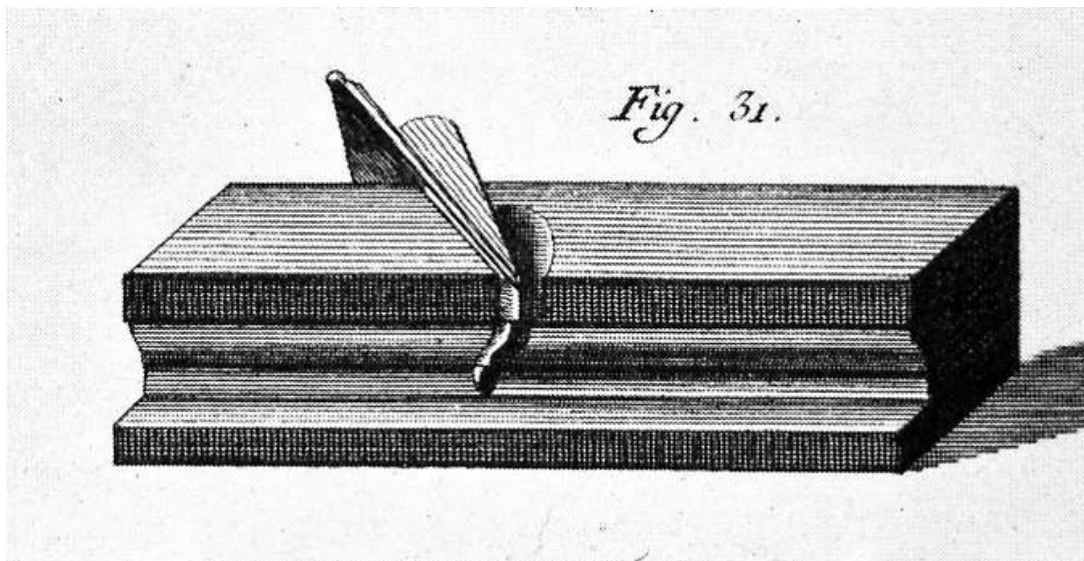


Fig. 3. Diderot, *Encyclopédie*, from Plate XXXII, Hubbard, 1965.

Although these normally have a blade angle of about 45° to the work, it is probable that many of the tools used by Italian instrument makers were more like scrapers with blades nearer 90°. Fig. 4 shows a plane of this type made by the author.



Fig. 4. Moulding plane with 90° scraper blade, by the author

⁶ DIDEROT, *Encyclopédie*, ou: Dictionnaire raisonné des sciences, des arts et des métiers, Volume 4 (Paris, 1767), Plate XVII, Fig 31 in the section on Lutherie. Illustrated in FRANK HUBBARD, *Three Centuries of Harpsichord Making* (Cambridge, MA, 1965), Plate XXXII.

The wood of choice for many Italian instruments was cypress (*cupressus sempervirens*), a conifer with a distinctive resinous smell. The grain is often wild, or reverses direction, so that planing this wood is difficult and scraping (or sanding with modern technology) is preferable. The wood can take on a fine finish when scraped and moulding cutters made on this principle yield excellent results; cypress mouldings made in this way appear almost to be polished. The advantage of the moulding plane working on the scraper principle is that the blade is guided more securely than in the scratch stock and excellent results are obtained relatively easily and consistently, albeit slowly.

A further detail of considerable significance for the comparison of mouldings concerns the sharpening of the blade. In order to obtain a good finish on a cabinetmaker's scraper it is necessary to produce a small "hook" or edge. Exactly the same sort of edge is required on the cutter tool of the 90° scraper-moulding plane. Filing the edge just does not produce the requisite finish and the edge does not remain sharp for long in use. This practical problem led me to consider tapping or "dressing" the edge of the cutter in order to produce the requisite "hook". This can be done in a number of steps using small, hardened steel sections of the appropriate shape (i.e. round, v-shaped, etc.), or it can be achieved in one stage with a special tool which is the negative of the required moulding shape. This type of edge preparation has the advantage that the cutter is work hardened. The quality of the moulding finish achievable is largely dependent on the finish of the dressing tool. Fig. 5 illustrates the dressing tool used for preparing the edge, and the cutter itself.

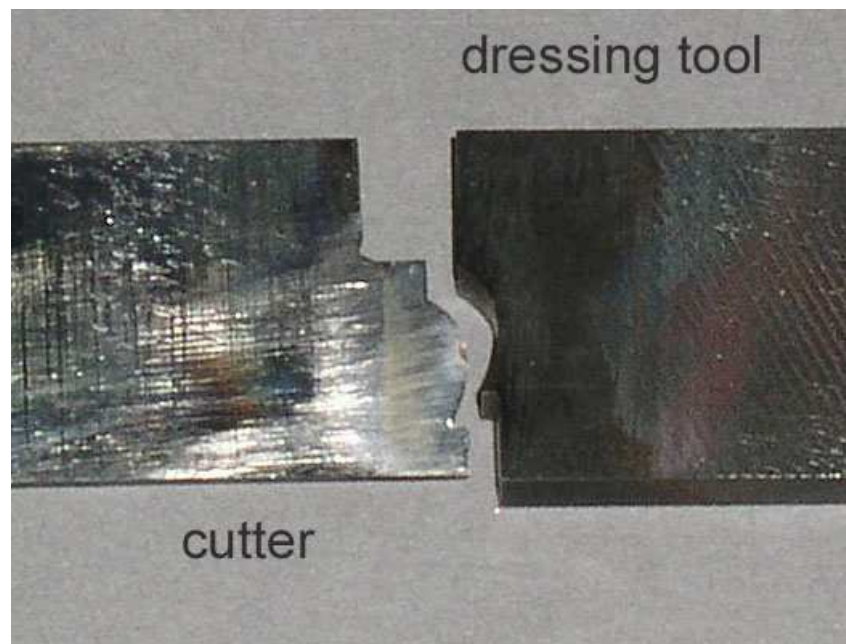


Fig. 5. Cutter and dressing tool by the author

The results achieved with this method of dressing the cutter were so good, and so easily achieved, that it appears to explain how instrument makers would not only have been able to achieve their high quality mouldings, but also have been able to maintain the same shape of cutter over many years, despite repeated sharpening. An example is the workshop of Dominicus Pisaurensis (in Venice) which was able to

maintain accurately the cutter shape from 1548 to 1563.⁷ It is exactly this detail of consistent production over a period of time which I was not able to explain in my earlier publication on this subject.⁸

Although this explains how workshops such as that of Dominicus were able to maintain accurate cutter shapes, I do not wish to suggest that this practice was used in every workshop. We find, for example, in the instruments attributed to the workshop of Vito Trasuntino considerable variation in the size of the mouldings, even though they have the same basic shape.

As I have found from an extensive empirical study of moulding cross sections in Italian instruments, the mouldings produced in one workshop were usually different from those employed by another maker. This is true, even in one city, such as Venice, so there is no indication that instrument makers were buying mouldings from a central supplier. In practice it is extremely difficult to reproduce a moulding so that it could not be distinguished from the original by close examination. This was probably less a matter of a desire to create a personal emblem, but is instead to be explained by the variation which the hand production of tools brings with it.

Following the suggestion of Gernhardt and Singer, it has become standard practice in keyboard instrument catalogues to include a cross section of a moulding, usually made by means of a two-part dental silicone material.⁹ It is now possible to compare cross sections of such publications, but the reader is advised that this is only a preliminary part of an identification. For a reliable assessment of the similarity of mouldings it is necessary to compare "positive" moulding impressions with the "negative" of another moulding. In this way it is possible, with magnification, to examine the closeness of the fit to the order of 0.1 mm.

Occasionally there is a flaw in a cutter which is repeated in a moulding found in another instrument. Thus, an unsigned Italian clavichord in Brussels can be assigned to Giovanni Celestini since the same flaw occurs on a moulding of his 1587 virginal.¹⁰ However, when there is no such highly individual feature in common it is necessary to assess the likelihood of an attribution based on several mouldings. Of course, constructional style and any other features of two instruments are also compared; one does not compare simply mouldings and ignore the rest of the instrument.

Similarities are often found between mouldings on two different instruments, but the skill required in an attribution lies in estimating the degree of probability that the two instruments came from the same workshop. In the case of no. 9 in the Tagliavini Collection, an unsigned polygonal virginal,¹¹ the soundboard moulding was found to

⁷ For examples of Dominicus' work see WRIGHT, 'The identification...' pp. 104-106.

⁸ WRIGHT, 'The identification...', p.112.

⁹ KLAUS GERNHARDT and UTE SINGER, *Über die zeichnerische Darstellung von historischen Musikinstrumenten*, Schriftenreihe des Musikinstrumente-Museums der Karl-Marx-Universität 3 (1976), pp. 24-27.

¹⁰ The clavichord is in the Musical Instrument Museum of the Conservatoire Royal, Brussels, no. 1620, W643 in the catalogue, p. 105, from Part 2 of DENZIL WRIGHT, *The stringing of Italian keyboard instruments c.1500 - c.1650*, Ph.D. dissertation, Queen's University of Belfast 1997 (Proquest order no. 9735109). The 1587 Celestini was in the ownership of F.R.Greenen before it became part of the Beurmann Collection, no. 6. See ANDREAS BEURMANN, *Historische Tasteninstrumente* (Prestel Verlag, München, 2000), pp. 34-37.

¹¹ LUIGI FERDINANDO TAGLIAVINI, *Clavicembali e Spinette dal XVI al XIX Secolo: Collezione L.F. Tagliavini*, a cura di Luigi Ferdinando Tagliavini e John Henry van der Meer (Grafis Edizioni, Bologna, 1986), pp. 136-143.

be identical with that on a harpsichord carrying a faked name. This "Bortolus" fake had previously been attributed as probably having come from Alessandro Trasuntino's workshop.¹² Subsequently Giuliana Montanari's archival work uncovered a document which described exactly the "Bortolus" harpsichord and named its maker as Alessandro Trasontino, with a date of 1547, thereby confirming the preceding attribution through the mouldings.¹³

However, any soundboard moulding is very small and an attribution can rarely rest upon such a moulding alone. It was also found that the top edge moulding of Tagliavini no. 9 is the same size as that on the "Bortolus". Furthermore the lower edge moulding of no. 9 is of the same shape and shares some dimensions with the "Bortolus". Thus, it is probable that Alessandro Trasuntino made the no. 9 virginal.

When we examine Alessandro (and Vito) Trasuntino's mouldings we find that the same style of moulding is used, but that dimensions change across instruments. Such a variation in moulding sizes probably has to do with the method of sharpening the tools. The lack of a clear identity need not surprise us in this case, but of course it prevents us from establishing conclusively that Alessandro was the maker of Tagliavini no. 9.

The harpsichord no. 2 in the Tagliavini Collection, permits a clearer identification to be made in another collection.¹⁴ Before Tagliavini established that the maker of this harpsichord was Mattia di Gand, a clear link was found via four mouldings to an unsigned harpsichord in the Museo Civico, Treviso,¹⁵ thus, this instrument can now also be attributed to Mattia di Gand.

The illustration of arcades has been undertaken in the current catalogue of the Tagliavini Collection because these ornamental details on the fronts of the keys have also been found to afford an accurate means of comparison.¹⁶ As with the mouldings, different manufacturing techniques were used. Many of the 16th-century arcades in Gothic style were made from two sections of thin cypress. The outer layer being about 1.5 mm thick and pierced with a hole of about 16 mm diameter. Behind this was glued a layer of cypress about 0.5 mm thick, reinforced on the back with thin parchment. The Gothic pattern traditionally found in such arcades was cut out of the thinner layer. Such arcades being largely hand made do not contain as much individual information as is conferred by a single, dedicated cutter.

Whereas mouldings on an instrument, especially those on the lower and upper case edges, were installed by the maker and usually remained there, arcades were often

¹² W54 in WRIGHT catalogue, pp. 294-296.

¹³ GIULIANA MONTANARI, "Strumenti a corde a tastiera della Guardaroba medicea nel XVII secolo. II: 1650-1670", *Informazione organistica*, XXI, 2 (Aug. 2009), pp. 190-192. He is named as "Trasontino" in the document, but Trasuntino is the preferred form in MARCO DI PASQUALE, 'TRASUNTINO', *Dizionario Biografico degli Italiani* - Volume 96 (2019). http://www.treccani.it/enciclopedia/trasuntino_%28Dizionario-Biografico%29/

¹⁴ TAGLIAVINI op. cit., pp. 74-85.

¹⁵ WRIGHT catalogue, p. 331 on W346. For Tagliavini's attribution see 'Mattia di Gand: un clavicembalo del 1685 ritrova la sua paternità', *Recercare* XIII, (2001), pp. 257-274.

¹⁶ LUIGI FERDINANDO TAGLIAVINI, *Collezione Tagliavini, Catalogo Degli Strumenti Musicali*, a cura di John Henry van der Meer e Luigi Ferdinando Tagliavini con contributi di Wanda Bergamini, Maria Cristini Casali, Friedemann Hellwig, Denzil Wraight, 3 Volumes, (Bononia University Press, 2008): Volume 2, Frontalini dei Tasti, pp. 698-708.

replaced. This is due to the fact that the endgrain of keylevers does not provide such a secure hold for glue; arcades often simply fell off during the course of time and it is not unusual now to find three or four different types of arcades on a keyboard. This accretion of repairs over time may provide useful information about the passage of an instrument through a maker's workshop.

Thus, the highly individual arcades from a harpsichord attributed to Mucciardi¹⁷ and also found on Tagliavini no. 2, made by Mattia di Gand in Rome, indicate that Mucciardi probably worked on the instrument about a century later. Fig 6 compares plaster casts from the impressions of the mouldings, which clearly show they were not made by the same cutter, even though they have similar size and style.

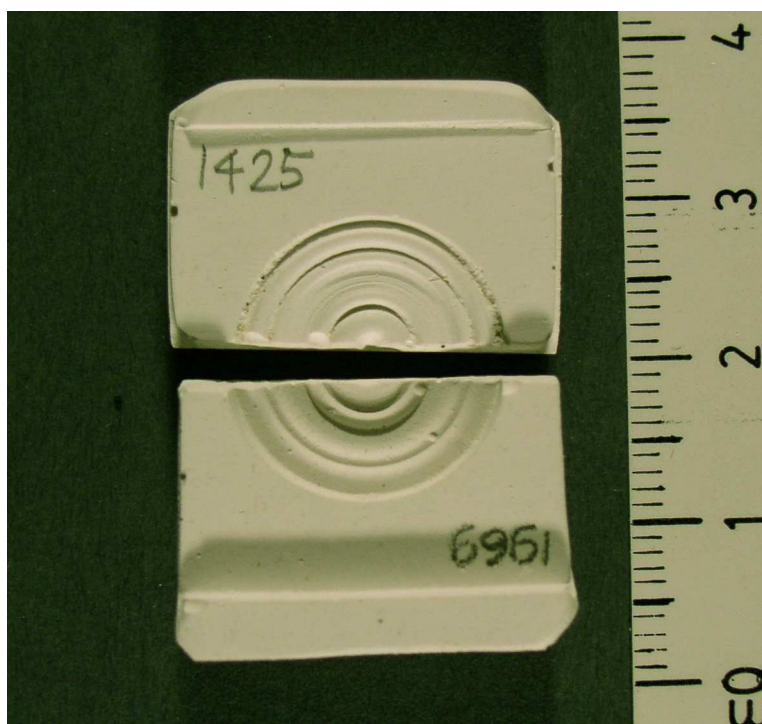


Fig. 6. Mucciardi (1425) and Mattia di Gand (1969) arcade impressions¹⁸

This is an interesting circumstance since the unsigned harpsichord Tagliavini no. 5 has also been attributed to Mucciardi.¹⁹ Thus, repairer and maker are united in an unexpected way again in a single collection of instruments.

¹⁷ WRIGHT, catalogue, p. 220, W626; in the Museum für Hamburgische Geschichte, Hamburg.

¹⁸ The numbers on the arcades are from my unpublished moulding catalogue.

¹⁹ TAGLIAVINI 1986, pp.108-113. WRIGHT, catalogue, p. 220, W488 attributed to Mucciardi on the basis of a lower moulding comparison with the unsigned harpsichord (W596) formerly in the Mirrey Collection, now part of the Russell Collection, Edinburgh: see WRIGHT catalogue, p. 219, W596. Grant O'Brien had previously attributed W596 to Mucciardi based on constructional features similar to those in the signed 1780 Mucciardi harpsichord in the Museo degli antichi strumenti musicali, Rome, inv. no. 1380.