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Two Tangent Square Pianos in Poland

BENJAMIN VOGEL

THE TANGENT ACTION was but one of several action types used in the eighteenth-century piano. The term itself reflects the similarity of the piano's tangent mechanism to that of the clavichord, where the string is struck by a metal blade, or *tangent*, mounted vertically on the key lever. On the piano the tangent is actually a wooden peg suspended vertically above the key lever and activated so that it strikes the string from below.

The *dulce melos*, a keyboard instrument described by Henri Arnaut de Zwolle about 1440, is often cited as the prototype of both the piano and the tangent action. Nearly three hundred years later, in 1716, Jean Marius presented designs for four different *clavecin-à-maillets* (harpsichord with hammers) actions to the Académie Royale des Sciences in Paris. One of these designs had wooden hammers attached vertically to the ends of the key levers; this was related directly to the action of the clavichord. Two others, although also tangent actions, were more closely related to the action of the harpsichord; one replaced the harpsichord jacks with small wooden pegs, while the second attached simple wooden pegs to the jacks. But none of Marius's actions had any practical application; they remained merely designs.¹

Christoph Gottlieb Schröter of Dresden designed two tangent actions: the first in 1717 and a second one, with intermediate levers, in 1739.² In his actions the hammers were suspended vertically in a modified harpsichord-jack slide and pushed up by the back ends of the key levers (or the intermediate levers). We should note that Schröter designed his actions for the harpsichord's horizontal case in the wing (*Flügel*) shape, which eventually became known in English as the grand piano. A later version of the tangent grand action was one that achieved some prominence; it was developed about 1774 by the firm of Späth & Schmahl in

1. See Albert Cohen, "Jean Marius' *Clavecin brisé* and *Clavecin à maillets* Revisited: The 'Dossier Marius' at the Paris Academy of Sciences," this JOURNAL 13 (1987): 30–32.

2. For an illustration, see Rosamond E. M. Harding, *The Piano-Forte: Its History Traced to the Great Exhibition of 1851* (Cambridge: Cambridge University Press, 1933; repr. New York: Da Capo Press, 1973), 20, fig. 10.

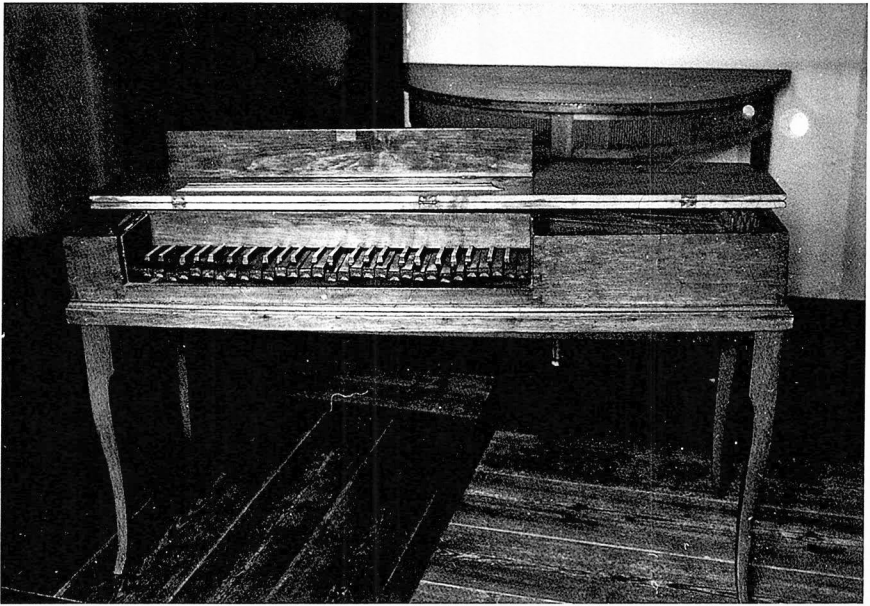


FIGURE 1. Tangent square piano by Jan Skórski, Sandomierz, 1774. Diocesan Museum, Sandomierz. Photo by Benjamin Vogel.

Regensburg. This tangent action also has an intermediate lever and a system of wedge dampers.³

To summarize briefly, we find that the earlier solution, a square tangent action proposed by Marius but rejected by the Académie, connected a hammer-shaped tangent directly to the key lever, as on the clavichord. The second type, the true tangent action, resembles the harpsichord action and incorporates a system of intermediate levers. The hammer-shaped tangent is not connected to the key lever itself but, guided in a jack slide, is pushed upward by the end of the key lever.

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There is a puzzling lack of specific information in the organological literature about the tangent action in Polish keyboard instruments. In

3. See Martha Novak Clinkscale, *Makers of the Piano 1700–1820* (Oxford and New York: Oxford University Press, 1993), 247–49, 271–72; and Heinrich Herrmann, “Die Regensburger Klavierbauer Späth und Schmahl und ihr Tangentenflügel” (Ph.D. diss., University of Erlangen, 1928).

addition, little is known about its use in squares.⁴ This article will consider two tangent square pianos from the last quarter of the eighteenth century. They are owned by the Muzeum Diecezjalne (Diocesan Museum) in Sandomierz and the Muzeum Narodowe (National Museum) in Cracow. The first, and earlier of the two, is very likely of Polish origin and is said to have been built in 1774 by Jan Skórski, who was active in Sandomierz between 1774 and 1796. However, in 1980 I made a very careful examination of the instrument and found that there were no signatures anywhere on it. Włodzimierz Kamiński, who published a report on this instrument in 1971, obtained his information years earlier from the late Polish organologist, Zdzisław Szulc.⁵ An anonymous repair bill from the local organ maker, perhaps Skórski himself, was found for a square piano; it proved, at least, that the instrument had been located at a Benedictine cloister in Sandomierz in the years between 1789 and 1796.⁶

The Sandomierz piano has a compass of four and one-half octaves (C–f³), and its silhouette and proportions remind us of the Louis XV-style tables from Prince Ogiński's manufactory and other influences of French decorative arts on Polish furniture. This square is equipped with an action whereby tangents are raised by double-armed intermediate levers. When the rear of a lever stops against the restraining batten, the front part moves with increased velocity, thus propelling the tangent against the string. The intermediate lever absorbs some of the force of the tangent's movement as it falls back into place. There is no full keyboard frame, only a balance rail with its pins fastened directly to the keybed. Similar to that of the clavichord are its rack and rack pins, which prevent sideways motion of the key levers: a function that was later replaced by front-rail pins.

4. Extant tangent squares are rare. Besides the two Polish examples which are the subject of this article, the Bachhaus in Eisenach owns a claviorganum, which combines a tangent square piano with a positive organ. This was probably made by C. F. Schmahl of Regensburg, ca. 1804–14. See Herbert Heyde, *Historische Musikinstrumente im Bachhaus Eisenach* (Eisenach: Bachhaus, 1976), 161–64. I would like to thank John Koster for pointing out a tangent square of English or Irish origin, listed in *Sotheby's Musical Instruments* (London: Sotheby's, November 1992), 222–23.

5. Włodzimierz Kamiński, *Instrumenty muzyczne na ziemiach polskich* (Cracow: PWM, 1971), 121, 124. There must once have been some definite source of information, for Szulc listed the first and last names of the maker, as well as the place and date of manufacture.

6. Biblioteka Seminarium Duchownego w Sandomierzu (Library of the Ecclesiastic Seminary in Sandomierz), G. 889, Regestra podskarbskie klasztoru benedyktynek z lat 1769–1806, 33. This information was kindly sent by Wiktor Łyjak.

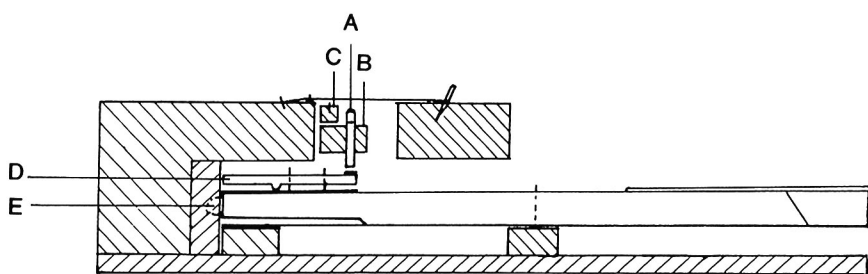


FIGURE 2. Skórski's tangent action, Sandomierz, 1774. A. tangent. B. slide box. C. lute (harp) stop. D. intermediate lever. E. projection of the key lever. Drawing by Benjamin Vogel.

The piano's clavichord-harpsichord stop uses tangents without leather covers. These are placed alternately with the leather-covered tangents in the slide box. A hand stop situated at the left side of the keyboard allows the performer to select either set of tangents. The uncovered tangents create sound similar to that of the harpsichord; indeed, the size and shape of the tangents remind one of harpsichord jacks. There is also a buff (or lute) stop, a wooden batten with a leather strip fastened to its upper edge and placed under the strings. A second hand lever, also situated at the left side of the keyboard, causes the batten to move up so that the leather touches the strings from below, damping their vibrations. The short, dry sound of this stop reminds one of a lute or harp. If the lute stop is added simultaneously to the harpsichord stop (tangents without leather covers), the resultant sound is similar to that of the clavichord. We can see a similar combined clavichord-harpsichord stop, for example, on the small piano called the *clavecin royale*, or *clavecin royal*, invented about 1774 by Johann Gottlob Wagner and his brother, Christian Salomon Wagner, in Dresden.⁷ The *clavecin royal* had a traditional action, but its wooden hammer heads were not covered. Skórski might have built his square without dampers deliberately to imitate the sound of Panteleon Hebenstreit's pantalon or the pantalon stop found on certain clavichords of the time.

7. For an illustration of the Wagner brothers' *clavecin royal* action, see Harding, *Piano-Forte*, 36, fig. 23. For more information on their *clavecins royales*, see Clinkscale, *Makers*, 309–10.

The second Polish tangent square under discussion has belonged to the Muzeum Narodowe (National Gallery) in Cracow since 1893. Attributed to Jan Skórski and catalogued under the inventory number EW-IV-SP-317, it is dated about 1780 to 1790. Except for a few details, it is almost identical to the Sandomierz square. The case dimensions (163 x 54.5 x 19 cm) of the Cracow piano are slightly larger than those of the Sandomierz square (126.5 x 47.5 x 17.2 cm) because of the five-octave (FF–f³) keyboard compass. Both cases are made of solid oak, with a molding surrounding the bottom edge. The nameboard, part of the case lid, and the legs are missing from the Cracow square. Furthermore, where the four rows of tuning pins are placed along the right case wall of the Sandomierz piano, the Cracow instrument's three rows of treble pins are placed obliquely. Only the pins of the bass strings break the pinblock line parallel to the right wall; this is possibly because of the wider keyboard compass and the larger number of strings and tuning pins. At the triangle made by pins and case walls, there is a round soundboard hole filled with a simple paper rose, which may not be original. The piano's tangent action and lute stop are identical to that of the Sandomierz instrument. At the case bottom there are traces of two missing knee levers, one of which controlled the movable slide box for the harpsichord stop and the other perhaps a lid swell.

We do not know the complete history of these instruments. However, the many identical construction details suggest that they were made in the same workshop within a span of ten to twenty years. It is very likely that Skórski made both of them, alone or with one of his pupils. How does one explain the appearance of this instrument in Poland, and how does one tell if it was based on precedents from other countries? Kamiński sees in it the influence of either Schröter or Späth. Skórski may have wandered as a journeyman or an apprentice into Germany, where he would have met and studied the work of other makers, including Franz Jakob Späth.⁸ However, Späth's actions were designed for grand pianos and thus required a different, if similar, construction and also the use of dampers. It is logical to assume that Skórski could have seen Späth's tangent action, for which the German maker was said to have

8. One remembers that in the mid-eighteenth century the King of Poland was also the Elector of Saxony. Consequently there was an active musical communication between the two places.

been commended as early as 1751.⁹ Even the briefest comparison of the known Italian tangent pianos with those of German origin testifies to their distinct character. This observation reaffirms Germany as an independent center for tangent-piano manufacture in the last quarter of the eighteenth century.¹⁰ Skórski's tangent squares reveal his contribution to the history of the piano and help to suggest Poland as another significant center of piano building.

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I should like to thank Dr. Cecil Adkins for his valuable advice and assistance in the preparation of this article.

9. See Donald H. Boalch, *Makers of the Harpsichord and Clavichord 1440–1840*, 2d ed. (Oxford: Oxford University Press, 1974), 169. Boalch quotes from the second edition of Ernst Ludwig Gerber's *Historisch-biographisches Lexicon der Tonkünstler*, vol. 2 (Leipzig, 1814; facs. repr. Graz: Akademischer Druck, 1969).

10. For a description of early Spanish tangent pianos, see Beryl Kenyon de Pascual, "The Five-Octave Compass in Eighteenth-Century Harpsichords," *Early Music* 15, no. 1 (February 1987): 74–75. John Henry van der Meer discusses early Italian tangent pianos in "A Curious Instrument with a Five-Octave Compass," *Early Music* 14, no. 3 (August 1986): 397–400; and his brief response to Kenyon's article appears in "Observations," *Early Music* 15, no. 1 (February 1987): 75–76.