Basic Detail Report

Square piano

Date

1797-1800 ca.

Primary Maker

George Astor

Description

Compass: FF-f3; 61 keys Astor moved to 79 Cornhill in 1797 Stops: buff (leather); damper Construction: The case is made of mahogany, with mahogany and fruitwood stringing. Corners are mitered dovetails. The bottom is 38 mm thick. There is one molding around the bottom of the case. The rectangular tuning pins are unpierced and are arranged in 29 rows of four, and three rows of two, with letters indicating note names. The tuning pins run though a wooden plate, 95 mm wide, 4 mm thick, atop the soundboard, which is let inot the molding surrounding the soundboard. The front of this plate has a squared wooden rail with leather on the top, which dampens the tuning pin segment of the string. The front left section of the soundboard is cantilevered over the top three key levers. It is braced on teh left side by a hardwood beam which rests on and extends over a brace left of the keyboard which is at least 80 mm thick and has two holes bored through it, diameter 25 mm, to increase the sound volume. The soundboard grain runs left to right. The one-piece bridge is rectangular and cantilevered in the bass and has a broad chamfer in the treble on the right side. It is single pinned throughout. There is one rib on the right side of the bridge, running roughly parallel to it. Another rib runs somewhat perpendicular to the bridge through the lower treble section. The case sits on a trestle stand with four squared legs. Each leg has a metal medallion with an emblem of musical instruments and a music book. Action: English single action. The action is very simple; there is no escapement or backcheck. All but seven hammers have broken at the hinge. The trapezoidal hammer shanks are made of mahogany, 3.6 mm thick throughout. Hammer butts of pine, covered with one layer of leather. The shanks have rectangular notches cut in them for vertical guide pins whcih are attached to the hammer rest rail. The trapezoidal hammer moldings resemble those by Broadwood ca. 1785. They are rounded off at the top and are covered with two layers of sheepskin, one thick piece of leather, and one outer layer of thin leather. The bass hammer molding is 7 mm loing, total thickness of the leather is 4 mm. The hammers are graduated. The wire jacks are threaded at the bottom and have a wooden molding covered with leather at the top. Dampers: The dampers encompass the entire range of the piano. The trapezoidal levers are hinged to the back of the case and have baleen springs, which are also hinged to the back of the case. They are made of mahogany, 4 mm thick. Their long length gives them a somewhat elegant look. (The bass damper lever is 171 mm long, treble damper lever 46 mm long.) The dampers consist of wooden moldings with two strips of leather in the bass, one in the treble. The damper levers have a thick piece of leather on the underside in the middle, which the damper lifters contact. Instead of damper wires like those used by Zumpe, Astor used simple wooden sticks, not unlike

wooden matchsticks, to lift the dampers. The damper lifters have leather washers near the top which guide them through the holes in the hitchpin plank. There is a damper stop rail. The dampers and lute stop are engaged by sliding wooden battens, which are attached to flat iron levers with knobs at the ends. Both stops are left of the keyboard. The damper lift is not adjustable. The damper lifters in earlier Astor squares are said to be glued to the keys (Good p. 100). This would have been a serious flaw, since the lifters would have to be broken in order to get the action out. The configuration is reminiscent of the "Irish damper" patented in 1794 by William Southwell, who resided in London, but was from Dublin. Southwell's damper wires were screwed into the keys, however, not glued. This was apparently done to reduce the noise of the dampers falling back to the strings. Good points out that Clementi used the arrangement in at least one of his square pianos (Good p. 100). The damper lifters in the NMM's Astor piano are not glued to the keys. Keyboard: Ivory naturals; stained sharps with ebony caps. Key levers are guided by front rail pins and are weighted at the back. Stringing and scaling: Double strung. The strings are old, possibly original. FF-E: Brass loosely wound with copper F-G: Red brass G#-c#: Yellow brass d-f3: Iron String gauges: FF: First string: 1.70 mm; First string winding: .75 mm; Second string: 1.70; Second string winding: .50 mm FF#: First string: 1.70 mm; First string winding: .75 mm; Second string: 1.65; Second string winding: .50 mm GG: First string: 1.65 mm; First string winding: .70 mm; Second string: 1.65; Second string winding: .50 mm GG#-AA: First string: 1.50 mm; First string winding: .70 mm; Second string: 1.50; Second string winding: .40 mm AA#: First string: 1.20 mm; First string winding: .70 mm; Second string: 1.50; Second string winding: .40 mm BB-C: First string: 1.40 mm; First string winding: .70 mm; Second string: 1.40; Second string winding: .40 mm C#: First string: 1.30 mm; First string winding: .60 mm; Second string: 1.30; Second string winding: .40 mm D: First string: 1.30 mm; First string winding: .60 mm; Second string: 1.30; Second string winding: .30 mm D#: First string: 1.10 mm; First string winding: .60 mm; Second string: 1.10; Second string winding: .30 mm E: First string: 1.10 mm; First string winding: .60 mm; Second string: .55; Second string winding: .30 mm F-G: First string: .75 mm; Second string: .75 mm G#-A#: First string: .55 mm; Second string: .60 mm B: First string: .55 mm (iron); Second string: .60 mm c-c#: First string: .55 mm; Second string: .55 mm d-d#: First string: .75 mm; Second string: .50 mm e-a: First string: .50 mm; Second string: .50 mm a#: First string: .50 mm; Second string: .40 mm b: First string: .45 mm; Second string: .50 mm c1-d1: First string: .50 mm; Second string: .50 mm d#1: First string: .50 mm; Second string: .60 mm e1: First string: missing; Second string: .50 mm f1: First string: .45 mm; Second string: .45 mm f#1: First string: .45 mm; Second string: .50 mm g1: First string: .50 mm; Second string: .50 mm g#1: First string: .45 mm; Second string: .50 mm a1: First string: .50 mm; Second string: .50 mm a#1: First string: .55 mm; Second string: .55 mm b1: First string: .50 mm; Second string: .40 mm c2: First string: .50 mm; Second string: .50 mm c#2: First string: .40 mm; Second string: missing d2: First string: .40 mm; Second string: .40 mm d#2:: First string: .50 mm; Second string: .40 mm e2: First string: .50 mm; Second string: .50 mm f2: First string: .50 mm; Second string: .40 mm f#2: First string: .40 mm; Second string: .50 mm g2-a#2: First string: .40 mm; Second string: .40 mm b2-c3: First string: .40 mm; Second string: .50 mm c#3: First string: .45 mm; Second string: missing d3: First string: .40 mm; Second string: .50 mm d#3-f3: First string: .40 mm; Second string: .40 mm Cataloging by Rodger Kelly, 1991

Dimensions

Length: 1567 mm (5' 1-3/4") Width: 561 mm (1' 10-1/8") Overall height: 768 mm (2' 6-3/8") Height of case: 214 mm (8-1/2") Keyboard: Three-octave measure: 482 mm Length of heads: 43 mm Width of heads: 22 mm Scaling: FF: 1367 mm C: 1158 mm c: 849 mm c1: 559 mm c2: 305 mm c3: 153 mm f3: 117 mm