

INDEX

- 1720 Cristofori piano, 16, 122, 317, 324–325, 327–330, 332–337, 359, 510
- 1722 Cristofori piano, 324–325, 327, 329, 331, 333–334
- 1726 Cristofori piano, 325, 333–335, 337, 359, 366, 400
- 18:17 rule, 89, 268
- 1821 Érard patent, 132, 141
- à double pilotes*, 127
- A General History of Music*, 379
- Aaron, Pietro, 195, 234
- Abduction from the Seraglio*, 435
- Abel, Carl Friedrich, 380
- Académie Royale des Sciences, 223, 338
- Accademia Chigiana, Siena, 20
- Accademia Filarmonica, Verona, 396
- Accademie Poetico-Musicali, Rome*, 296
- “Accelerated Action,” 496
- accidentals, first use of, 4
- archicembalo*, 203
- Acordante*, x, 285, 308
- acoustical impedance, 102
- action regulation, 119–120, 424
- action, suspended, 119
- Adlung, Jakob, x, 12, 30, 34, 38, 46, 54, 62, 78, 82, 107–108, 134, 136, 242, 244, 248–249, 258, 266, 304–306, 308, 376, 439, 529
- Affekt*, 268
- A-frame piano case construction, 97, 453
- after-touch, 327
- Agricola, Johann Friedrich, vii, 7, 34, 45, 134, 166–169, 182, 193, 195, 207, 242–243, 248, 250, 254, 305, 356, 529
- A-Kammerton*, 45
- Albert V, Duke of Bavaria, 77
- Albisi (Albizzi), Marchese Luca degli Albizzi, 318
- Albizzi, Luca Casimiro degli, 295
- Albizzi, Monsignor Rinaldo degli, 295
- All Hallows Church, Barking, 51, 59
- alla quarta bassa*, 57
- alla Turca*, 126, 435–436
- Allen, Thom and William, 98
- Almack’s Great Room, 380
- Altnickol, Johann Christoph, 269
- Amati family, 184
- Amati, Andreas, 49
- American Museum of History and Technology, Smithsonian Institution, Washington, DC, 215
- Ammer firm, 513
- Anglo-German action, 119
- Anleitung zu der musikalischen Gelahrtheit*, 108, 304, 529
- Antegnati, Giovanni Francesco, 167
- António, Infante of Portugal, 280
- Antunes, Joachim José, 64, 283
- Antunes, Manuel, 53, 283
- Antwerp school of harpsichord making, 42, 80, 92, 110, 176, 187, 204, 237, 507
- Apel, Willi, 6
- Apolliricon*, 437
- apron, 105
- Aquincum Museum, 1
- Archicembalo*, 42, 199, 201, 208, 531, 548
- Archives Nationales, France, 219
- Archivio di Stato, Florence, 314
- Aristoxenus, 191
- Arnaut, Henri, v, ix, xvii, 4, 11, 29, 32, 37, 42, 53, 80, 88, 90, 106, 110, 142–146, 149–150, 153–155, 158, 162–163, 165–166, 192, 338, 460, 496, 529–530
- Arnim, Achim von, 455
- Arnold-Rudolph Dolmetsch, 518
- Arouet, François-Marie (Voltaire), 345
- arpa giacente*, 12
- arpichordum* stop, 114, 175, 179
- arpicimbalo*, 16, 18, 292, 313
- arpicordo*, 11
- arpsicord*, 184
- Ars magna consoni et dissoni*, 244
- Artaria, 382, 384
- Arts and Crafts Exhibition of 1896, 512
- Arts and Crafts Movement, 511
- Ashmolean Museum, Oxford, 519
- assessment of pianos by Walter, Shantz, and Streicher, 416
- Attaignant, Pierre, 167
- Augsburger Intelligenzblatt*, 397
- Augustus II (“The Strong”), Elector of Saxony, 249, 251, 346–347, 546
- Austro/German-style piano action, 116

- authenticity, 520
 auxiliary lever, 130
- Babcock, Alpheus, 36, 99, 449, 472, 486
 Babel, William, 379
 baby grand piano, 46
 “Bach cembalo,” 504
 “Bach disposition,” 257, 513
 Bach, Carl Philipp Emanuel, 109, 140, 243, 247, 252, 363, 366–367, 380, 397, 438, 500, 529, 531, 542
 Bach, Johann Christian, 241, 373, 380, 500
 Bach, Johann Christoph, 109, 500
 Bach, Johann Nikolaus, 44, 242, 266
 Bach, Johann Sebastian, 34, 45, 106, 109, 210, 239, 242, 245, 248, 252, 254, 267, 303, 308, 361–362, 498, 500–501, 509, 514, 529, 537–538, 547, 549
 Bach, Wilhelm Friedemann, 247, 255, 258, 438, 500, 531
 Bach’s preferred keyboard temperament, 260
 Bachhaus, Eisenach, 368
 Baciero, Antonio, 510
 backcheck, x, 82, 117, 131, 133, 326, 329, 344, 378, 400, 411, 453
 Backers, Americus, 64, 117, 257, 365, 373, 377–378, 532
 Badura-Skoda, Eva, 377, 401
 Badura-Skoda, Paul, 412
 baffle, 105
 Baffo, Giovanni Antonio, 57, 185, 291
 Balbastre, Claude, 115, 212, 344–345, 363–364
 Ballard, Jean-Christoph, 211
 Banchieri, Adriano, 12, 16, 30, 205, 234, 302, 530, 535
Bandlony, 356, 371
 Banowitz, Joseph, 126, 436
 Barberini, Cardinal Francesco, 202
 Barbier, 58
 bare-wood hammers, 370, 399, 402
 Barnes, John, 57–58, 61, 261
 Bartok, Béla, 516
 “Bartolo,” “Bortolo,” and “Burtulo,” nicknames of Bartolomeo Cristofori, 274
 Barton, Thomas, 273, 278–279
 Bas, Louis, 346, 460
 basic parts of stringed keyboard instruments, 24
 Bassano family, 183
 Bassilichi, Giovanni, 315
basson stop, 125, 434
 bassoon stop, 124–125, 391, 426, 434, 436, 469
 Baudeceti, 142–143, 163
 Bauer, Harold, 516
 Baumann, Matthias Christian, 371
 Baumgarten & Heins firm, 470
 Bauza, Juan, 480
 Bayerisches Nationalmuseum, 56
Bebung, ix, 78, 109, 400
- Bechstein firm, 70, 470–471, 476, 495
 Bédos de Celles, Dom François, 37
 Beecham, Sir Thomas, 515
 Beethoven and the Viennese piano, 450
 Beethoven, Broadwood piano, 458–459, 463, 465
 Beethoven, conversation books, 456
 Beethoven, deafness, 447
 Beethoven, Érard piano, 456–458, 465
 Beethoven, Érard piano, alterations, 458
 Beethoven, Graf piano, 457, 465
 Beethoven, Ludwig van, 38, 64, 85, 126, 129, 139, 141, 375, 383, 392–393, 411, 436, 441–444, 447–459, 461, 463–467, 469, 471, 486, 488–490, 515, 524, 529–531, 533–535, 539, 541, 545–547
 Beethoven, Piano Sonata Opus 27, no. 2 (“Moonlight”), 465
 Beethoven, Piano Sonata Opus 53 (“Waldstein”), 457
 Beethoven, Piano Sonata Opus 106 (“Hammerklavier”), 459
 Beethoven, pianos, 464
 Beethoven, Piano Trio Opus 1, no. 2, 448
 Beethoven, sonata keyboard ranges, 464–465
 Beethovenhaus, Bonn, 459
 Beghini, Francesco, 200
Bellesonore, 76
 Bellot family, 221, 238
 Bellot, Louis Charles, 221
 Bellot, Pierre I, 212, 221
 Bellot, Pierre II, 221
Bellsonore, 76
 belly rail, 91, 94, 96–98, 100–101, 104, 122, 215, 278, 322, 331–332, 335, 399, 433, 449, 454
 Belt, Philip, 520
 Belvoir Castle Psalter, 1
 Bemetzrieder, Anton, 214
 Benda, Georg, 363
 Bendeler, Johann Philipp, 73–74, 137, 197, 208, 403, 443, 530
 Benton Fletcher Collection, Fenton House, London, 187, 276
 bentside, 11, 17, 32, 50, 57, 93–98, 100, 104, 153, 163, 168, 215, 218, 221, 237, 241, 276–278, 323, 333–335, 360, 411, 454
 bentside spinet, 93–95, 277–279
 Berlin wire, 72
 Berlin wire gauges, 66, 69
 Bermudez, Egberto, 83
 Bermudo, Fray Juan, 2, 5
 Berndt firm, 485
 Bernstein, Leonard, 497
 Bernuth, Julius, 476
 Berti, Antonfrancesco, Piero, and Michele, 315
 Berti, Niccolò, 293
 Berti, Niccolò and Pier Francesco, 315
 Bertie, Willoughby, 274
 Bessalié firm, 485

- Bessaraboff, Nicholas, 505
 Bessemer process, 471
 Beyer, Adam, 125, 140, 377, 532
 Biber firm, 485
 Biblioteca Capitolare, Verona, 325
 Bibliothèque Nationale, Paris, 142
 bichord stringing, 64, 86, 91, 106–107, 330, 366,
 378, 400, 411, 448, 453–454, 482–483
 Bidermann, Samuel, 402
 Biest, Martin van der, 178
 Binder, Christoph Siegmund, 357, 369
Biographie universelle des musiciens, 503
 Birmingham wire, 72
 Bitti, Martino, 288
 blackwood, African, 39
 Blanchet family, 82, 96, 238, 344, 520
 Blanchet, François-Etienne, 212, 221, 344
 Blanchet harpsichords, 53, 71, 140, 212, 222, 225,
 300, 360, 527, 531, 533
 Blanchet, Nicolas, 222, 238
 Blankenburg, Quirinus van, 30, 114, 177, 206, 236,
 302, 531
 Blasser, Thomas, 272
 Bleyer, Jakob, 66, 97
 Boalch index, 258
 Boalch, Donald, 44, 505, 508
 boar bristle, 110
 Body, Thomas, 276
 Boethius, Anicius Manlius Severinus, 4, 8, 78, 498,
 540
Bogenflügel, 76
Bogenhammerklavier, 76
 bog oak, 39
 Bogotá, Colombia, 83
 Bohak, Johann, 382, 455
 Böhm, Joseph, 468, 510
 Boisselot & Fils, 126, 436
 Bolgioni, Antonio, 314–315
 Bolcioni, Antonio, Stefano, and Vincenzo, 315
 Bolton, Thomas, 187, 276
 Boni, Giovanni Battista, 41
 Bononiensis, Hieronymus, 20
 Borren, Charles van den, 519
 Bos, Hans, 57, 177, 206
 Bosanquet, Robert Holford Macdowall, 262
 Bösendorfer piano firm, 43, 104, 121, 123, 449,
 470–471, 473, 476, 487, 495, 497
 Bösendorfer Imperial Grand, 54
 Bossus, Johannes, 48
 Bostem, Mathias, 284
 Boston Museum of Fine Arts, 401
 Botanical Museum at Kew, 502
 Bottrigari, Ercole, 8, 199, 202
 boxwood, 38–40, 281, 297, 316, 325
 Brahms, Johannes, 98, 464, 469–471, 473–475, 491,
 504, 529, 531, 546–547
 Brandenburg Concertos, 240–241
 Brandenburg, Margrave of, 34
 Branitzky, Count of Bialystok, 254
 brass stringing, 58, 61–62
 brass wire, 55, 174
 Brauchl, Joseph Xaver, 456
 brays of harps, 114
 breaking frequencies of strings, 62–65
 Breitkopf & Härtel, 411, 455, 458, 519
 Brentano von Arnim, Bettina, 455
 Breuning, Gerhard von, 467
 bridge, 335
 bridge, continuous, 453
 bridge, divided, 85
 bridge, mitered bass section, 86
 bridge, repositioned, 50, 399
 bridges and nuts, positioning of, 49, 54, 56
 British Museum, London, 62, 85, 502
 Broadwood & Sons firm, 448
 Broadwood firm, 12, 50, 71, 84, 91, 97, 105, 116,
 125, 269–270, 375, 378, 381, 463, 467, 469, 485,
 496, 503, 518
 Broadwood grand pianos, 91
 Broadwood square pianos, 128
 Broadwood square piano, wire gauges, 69
 Broadwood square wrestplank, 91
 Broadwood string tension, 72
 Broadwood, John, 62, 85, 97, 378, 495
 Broadwood, John & Son firm, 463
 Broadwood, John & Sons firm, 463
 Broadwood, Thomas, 458, 463
 Brockwell, Henry, 184
 Brodmann, Joseph, 391
 broken-octave, 40–42, 188–189, 191, 225, 238, 279
bronze coulé, 125
 Broschi, Carlo, 286, (see Farinelli)
 Brossard, Sebastien de, 211
 Brown & Sharpe micrometer, 72
 Brown, Mary Elizabeth Adams, 505
 Bruni, Antonio Bartolomeo, 181, 502
 Brussels Conservatory, 518
 Brydges, James, Duke of Chandos, 273
 buckskin, 327
 Buechenberg, Matheus, 289
 buff stop, 114–115, 123, 179, 217, 243, 258, 365, 383,
 434, 466, 513, 515
buffle stop, 466
 Bull, John, 187–189
 Buntebart, Gabriel, 377
 Buonarroti, Filippo, 318
 Buoni, Giuseppe, 294
Bürger, 411
 Burgländisches Landesmuseum, Eisenstadt, 413
 Burgundy, 164–165, 549
 “Burkat Shudi et Johannes Broadwood,” 378
 Burney, Charles, 109, 115, 199, 208, 212, 251, 257,
 273–275, 286–287, 299, 306, 309, 357, 361,
 363–364, 366–369, 373, 377, 379–381, 385–386,
 437–439, 521, 531
 Busoni, Ferruccio, 43

- Buterne, Jean-Baptiste, 223, 338
 Buxheimer Orgelbuch, 10
 Buxtehude, Dieterich, 210
 Byrd, William, 187, 189
- c^2 string lengths, 53–64
 Cabazon, Hernando de, 2
 cabinet upright piano, 20, 133, 437
Cammer-Ton, 46
 Canut, Doña Elena Choussat de, 481
 Cappi, Jean, 448
 Casadesus, Robert, 516
 case structure, 90–102
 Casini, Giovanni Maria, 323
 Casparini, Eugen, 250
 cast-iron frame, 65, 99
 cast-iron plate, 486
 castrati, 286
 Catajo Palazzo, Padua, 504
 cauldron-maker's instrument, 345
 C-based keyboard, 41, 49, 57–58, 81, 167, 186, 203–204
celeste stop, 124, 466
 Celestini, Giovanni, 295
Cembal d'Amour, x, 76, 82, 108, 138, 249
cembalo cromatico, 4, 189, 191, 198
cembalo in piedi, o sia ritto, upright harpsichord or clavicymbalum, 292
cembalo traverso, 53, 108
Cembalo Triarmonico, 202
 cents, 64, 191, 193, 197–198, 261, 268
 cents, misleading indicator of interval size, 64
 Cersne, Eberhardus, 2–3
 Chabot, Duchess Elisabeth Louise de, 388
 Chaliapine, Feodor, 516
 Challis, John, xviii, 112, 140, 520
 Chambonnières, Jacques Champion de, 210–214, 501, 524
 Chandos, Duke of, 273
 Charles I, King of England, 184–185
 Charles II, King of England, 110, 289
 Charleston Museum, 222
 Charlotte, Queen of England, 271
 Charter of Incorporation to the Musicians' Company, 512
 check-rail, 117–118
chekker, 2, 11
chequer, 11
 Cherubini, Luigi, 448
 Chez Jollain, 211
 Chicago Exhibition, 1893, 72
 Chickering and Sons firm, 486
 Chickering, Charles Francis, 486
 Chopin, Frédéric, 134, 437, 447, 450, 464, 480–481, 483–484, 492, 500, 532
 Chopin, Frédéric, Piano Concerto in E minor, 450
 Chopin, Frédéric, Preludes, 437, 479, 492
- Chorton*, 46–47
 Christian Ludwig, Margrave of Brandenburg-Schwedt, 240
 Christie's, 271
 chromatic bass octave, 41, 188, 224, 235, 244
 chromatic genus, 192
Chromatische Fantasie und Fuge, 255
 Cigulari, Agnolo, 315
 Cima, Gian Paolo, 60
cimbalo in piedi, o sia ritto, 292–293
Cimbel, 436
 Clapisson, Antoine-Louis, 502
 Clapisson, Louis, 503
 Clarke, Jeremiah, 210
 Classical period, 362
 Claudius, Carl, 505
clavecin, 12–13
Clavecin, 12, 125, 239, 368. See also *Clavecin royal*
clavecin à maillets, 223, 338–339, 343–344
clavecin à marteau, 344
clavecin brisé, 78, 223, 338
Clavecin harmonieux, 369
Clavecin royal, 76, 125, 366–368, 371, 401–402, 434, 438
Clavemusicum omnitonum, 42, 78, 200
Clavessin acoustique, 369
clavicembalum, 2
 clavichord, viii–ix, xv–xvi, xviii, 3–4, 8, 11–13, 19–21, 37, 64, 75, 78, 88–89, 101, 105–109, 115, 142–143, 145–146, 148–149, 155–156, 159, 162–163, 170, 172, 188, 192, 200, 212, 222, 240, 243–244, 246–247, 249, 287, 289, 294, 304, 313, 342, 348, 350, 352, 366–368, 370–371, 376, 382–383, 385, 389, 392–393, 404, 406, 414–415, 421, 431, 441, 446, 455, 466, 502, 509, 512, 515–517, 521
 clavichord action, 106, 109
 clavichord, fretted, 89–90, 106, 200, 392
 clavichord, leathered tangents, 108, 446
 clavichord, unfretted, 89, 106
clavichordium, 13
clavicimbalum, 3, 6
clavicinbalo, 3
clavicitherium, 6, 13
clavicordio, 4, 11, 13, 19, 281–282, 285
clavicordio de piano, 19, 281
clavicordium, 2–3, 11, 143–144, 148, 157, 159, 161–164
Clavicordium, 6, 168
clavicordo de piano, 281–282
clavicymbal, 12
clavicymbalum, 12–13
Clavicymbel, 13, 93, 169
clavicymbolum, 2
clavicytherium, 13, 19–20, 75, 110, 134, 164, 166, 179–180, 193, 292–293, 437
 Clavier, 12
Clavier vors Frauenzimmer, 18

- Clavierbüchlein der Anna Magdalena Bach*, 256
Clavierbüchlein vor Wilhelm Friedemann, 255
Clavier-Stimmbuch, 420
Clavier-Übung, 256
 claviorgan, 173, 178, 181, 186
claviorganum, 12
clavis, 12
clavisimbalum, ix, xv, 3, 11, 32, 37, 80, 143, 149, 151, 153, 155–157, 159, 161–163
 Clement VIII, Pope, 172
 Clementi firm, 461
 Clementi, Muzio, 375, 456, 500
 Clemm, Gottlob, 93
 Clinkscale, Martha, 435
 Cliquot firm, 51
 closed helix overwound strings, 82
 Cobbe Collection Trust, Hatchlands Park, Guildford, 482–483
Codex Atlanticus, 77
 coefficient of linear thermal expansion, 98
 Coelho, Manuel Rodrigues, 210
 Cole, Michael, 272
 Colombo, Vincenzo, 199
 Colonna, Fabio, 200
 combination harpsichord/harpsichord, 395–396, 399, 401–403
 combination piano/harmonium, 402
 comma of Didymus, 197
 comma of Ptolemy, 197
Commission temporaire des Arts, 181
Commonplace Book (Roger Long), 58
 Communauté des maîtres faiseurs d'instruments de musique, 223, 338, 343
 compass, or keyboard range, 10
 compensation frame, 98
 composite (wood and metal) frames, 482
 Concentus Musicus, 507
 concert grand piano, modern, 99
Concerts spirituels, 480
Conclusioni nel suono dell'organo, 234
 Conservatoire de Paris, 503
 Conservatoire National Supérieur de Musique et de Danse de Paris, 503
 Conservatoire Royal de Bruxelles, 503
 Conservatorio di Musica San Pietro a Majella, Naples, 398
 Constantine V, Emperor, 12
 Cordier, Baude (Fresnel, Baude), 142
 Continental gauge system, 54, 65–67
Cometzug, 243
corpes de recharge, 45
 Corregge, Claude de, 501
 Corrette, Michel, 16, 58, 136, 211, 225, 228–230, 301, 533
 Coston, Francis, 273, 278
 Cotgrave, Randle, 184
 cottage upright, 134
 Couchet family, 218, 235, 275
 Couchet, Ioannes I, x, 35, 40, 53, 80, 84, 96, 134, 138, 211–215, 217, 219, 235, 299–300, 302, 543, 545
 Couchet, Ioseph Ioannes, 213, 215, 219
 Couperin Nicolas, 212
 Couperin, Armand-Louis, 221
 Couperin, François, 51, 210–212, 222–224, 300, 338, 360, 447, 533
 Couperin, Louis, 51, 210, 212, 222, 300
 cow bone, keyboard, 39
 Cramer, Johann Baptist, 375, 500
cravos con martelos, 283
 Cricca, Hippolito, 172–176, 205
 Crisp, Samuel, 274–276
 Cristofori hammer action, 26
 Cristofori piano, 1720, 511
 Cristofori piano, case construction, 331
 Cristofori “tradition,” 372
 Cristofori, Bartolomeo, viii–xi, xv, 11, 16, 18, 29–30, 35, 41–42, 53, 62, 64, 85–86, 88, 91, 100, 103–104, 115–116, 120, 122–123, 127–128, 131, 133, 141, 176, 223, 250–251, 273–275, 279–280, 283, 286, 288–289, 291–293, 295, 305, 313–318, 321, 324–328, 331–338, 346–347, 349, 356, 358, 359, 360, 362, 366, 369, 372, 375, 376, 378, 385, 386, 394, 396, 400–401, 403, 437, 442, 448, 460, 494–496, 505, 510–511, 524–526, 531–532, 543–544, 546–547
 Cristofoi, hammer action described by Maffei, 319–322
 Cristofori in Florence, 314–316
 Cristofori in Padua, 313–314
 Cristofori, interview with Scipione Maffei, 315–324
 Cristofori, position at Medici court, 314
 Cristofori, stipend at Medici court, 314
 Cristofori, unusual case design, 331
Critica Musica, 346, 403
 critically stressed strings, 49–50, 61, 79, 81–82, 86, 135, 242
 Croft, William, 210
 Crosby Brown Collection, Metropolitan Museum of Art, New York, 504
 cross-stringing of bass strings, 84, 86–87
 crowning of soundboards, 103
 Crystal Palace, London, 511
 Curtis, Alan, 188
 Cusins, William, 270
 cutoff bar, 104, 221, 334–335, 360, 433
Cyclopaedia, or Universal Dictionary, 373
cymbalum, 13
 cymbalum harpsichord stop, 114
 cypress wood, 94–95, 102, 174, 179, 183, 207, 281, 292, 294, 316, 323, 325, 332, 334
cythara, 151
 Czerny, Karl, 126, 141, 436, 445, 447, 451, 461, 464, 466, 489, 491, 533

- D minor tuning, 242
d'Alembert, Jean-Baptiste le Rond, viii, 24–25, 30, 232–233, 261, 301, 370, 438, 529, 533
d'Anglebert, Jean-Henry, 210–211, 219, 243, 546
d'Este, Alfonso II, Duke of Ferrara, 172, 174–175
d'Este, Beatrice, Duchess of Milan, 170
d'Este, Borso, 3
d'Este, Cardinal Ippolito, 203
d'Este, Cardinal Ippolito II, 201
d'Este, Cesare, Duke of Modena, 172
d'Este, Isabella, Marquise of Mantua, 170
d'Este, Niccolò, Marquis of Ferrara, 164
da Montefeltro, Federico, Duke of Urbino, 89, 145, 171
da Prato, Lorenzo, 51
da Vinci, Leonardo, 77
Dagly, Gerard, 241
Dale, William, 270
Dallam, Thomas, 51, 59
damper mechanism, 322, 330
damping board, 107
Dart, Thurston, 224
Das Wohltemperierte Clavier, 260–261
Dastenot, 58
Daulphin family, 180
de Coulomb, Charles-Augustin, 63
De harmonia musicorum, 167
de Ispania, Iacobus, 142
de l'Aine, M., 115
de l'Escale, Jules, 13
de Machaut, Guillaume, 11
de Muris, Johannes, 4, 142
de Piis, Chevalier Pierre-Antoine-Augustin, 345
de Virbés, 369
Debain, François, 126, 436
deerskin, 120, 425
deffaut de l'accord, 228
del Mela family, 362
Delius, Frederick, 516
della Rovere, Eleonora, 171
della Rovere, Francesco Maria I, Duke of Urbino, 171
della Valle, Pietro, 202
Deloeuvre family, 180
Demus, Jörg, 473
dendrochronology, 215
Denis family, 58, 180
Denis, Jean, 211, 225–226
Denis, Jean III, 238
Denis, Louis, 93, 238
Denis, Philippe, 211, 238, 396
Denner, Johann Christoph, 289
density of wire, 63, 81
Der Minne Regel, 2
design principles, 78
Desruisseaux, Gilbert, 238
Desruisseaux, Louis, 238
Deutsch, Erich Otto, 468
Deutsches Museum, Munich, 389
Diaghilev, Sergei, 516
“Diaphragmatic Soundboard,” 497
diatonic genus, 192
diatonic-free fretting, 245
Dictionnaire de Musique, 233–234
Dictionnaire portatif de commerce, 71
Diderot, 370
Die Kunst der Füge, 257
Die Kunst des reinen Satzes in der Musik, 263
Die Schöpfung, 382
Dieffopruchar, Magno, 289
Diémer, Louis, 512, 518
diesis, 191, 199, 201, 267
diesis, greater, 191
diesis, lesser, 191
Dietz firm, 485
Dieudonné and Schiedmayer firm, 54, 375, 420, 425–427, 432, 451
Dieudonné, Carl, 474
Dieudonné, Carl and Johann Lorenz Schiedmayer, 419
Dieudonné, Wilhelm Friedrich, 431
Directoire, 181
Diruta, Girolamo, 2, 5, 8, 28–29, 533
disposition, xviii, 15, 112, 180, 187, 203–204, 217, 220–221, 224, 236, 241, 257–258, 272, 289, 303, 398, 415, 513–515, 521
disposition notation, 112
Ditanaklasis, 133, 437
divided bridge, 62, 74, 84–87, 139, 453, 482, 497
dogleg jacks, 113, 217, 219, 236, 238, 259, 279, 365
Dolge, Alfred, 121
Dolmetsch, Arnold, xix, 111, 177, 188, 389, 506, 511, 513–517, 520, 527, 533
Dolmetsch, Mabel, 506
Domenico of Pesaro (Dominicus Pisaurensis), 54, 94, 98, 198, 288, 290, 323, 363, 364
Dom-Musik-Verein, 414–415
Doni, Giovanni Battista, 45, 201
Donzelague, Pierre, 221
Dossier Marius, 339
double pinning of bridges, 103
double virginal, ix, 82, 96, 114, 177, 181–182, 188
double-escapement action, 126, (see repetition action)
double-repetition action, 467
Douwes, Klaas, 30, 83, 138, 176, 205, 533
Dowd, William, 222, 520
down-bearing, 103
down-striking piano action, 101, 139, 342, 356, 389, 435, 454
drop screw, 132
Du Mont, Henri, 211, 213
Duddyngton, Anthony, 51
due corda, 434
Dufour, Claude, 58

- dulce melos*, 4, 11, 37, 143, 149, 155–157, 159, 161–164
 Dulcken, Johann Daniel, 373
 Dulcken, Louis, 520
 dummy strings, 101
 Dumont, Nicolas, 58, 221, 224
 “Duplex Scale,” 497
 Dürr, Alfred, 255
 Dussek, Jan Ladislav, 130, 375, 378, 448, 450, 485, 500
 dust boards or “shades,” 105
 dynamic flexibility, 109
- earliest examples of stringed keyboard instruments, 19
Early Music, xix, 28–29, 31, 136, 165, 205, 307, 309–311, 358, 412, 439, 441, 444–445, 490, 498, 507, 525–526, 530, 532, 535, 537, 539–542, 544–547, 549
eschaquier, 2
 Edward VI, King of England, 184
 Ehrbar firm, 470
El arte Tripharia, 6
 Elizabeth I, Queen of England, 181, 185
 Ellis, Alexander John, 51
 Elsche, Jakob van den, 373
 Elwerkember, Heinrich, 468
Empfindsamkeit, 243
Encyclopédie méthodique, 345, 370
 Enesco, George, 516
Englischen Suiten, 255
 English double action, 116
 English grand action, 27, 120, 131, 375, 482
 English piano action touch compared to Viennese action, 463
 English school of harpsichord making, 278
 English single (simple) action, 116
 English square piano actions, 119
 English system of wire gauges, 65
 English virginal, 181
 English virginals and bentside spinets, 276
 English/French school of piano making, 374–375
 enharmonic genus, 192, 198
 enharmonic keyboard, 42, 198, 201, 203, 393, 404
 enharmonics, 59, 90, 145, 190, 193, 198, 260
Entführung aus dem Serail, 435
épinetiers, 15
épinette, 11–13, 16, 58, 93, 169, 181–182, 371
épinettes à marteaux de bois dur, 370
 equal temperament, 60, 64, 89–90, 189–190, 192–193, 197–198, 203, 226, 228, 230, 232–234, 246, 260–266, 268–269, 301, 305, 307, 427, 429–430
 Érard compensation frame patent, 98
 Érard firm, 19, 51, 64, 99, 113, 121, 123, 126–127, 129–131, 376, 383, 448–449, 457–458, 460, 462–463, 467, 469–470, 475, 478–479, 483, 485–486, 491, 495–496, 513, 517
 Érard firm, company record books, 485
 Érard firm, in London, 460
 Érard grand piano tension, 91
 Érard square pianos, 128
 Érard, Pierre, 462, 486
 Érard, Sébastien, ix, 126–127, 132–133, 346, 375, 382, 460, 484–485, 502
 Ernst, Friedrich, 258
 escapement jack, 117, 318, 322, 329, 378
 escapement lever, x, 116, 127–129, 131, 133, 326, 426
 escapement mechanism, 329, 387
 escapement, spring-loaded, 116, 118–119, 127, 129, 370, 378, 391, 399
eschaquier d’Engleterre, 11
eschiquier, 143
espinette, 13, 16, 76, 169, 211, 226, 277, 301
Essercizi per Gravicembalo, 280
 Esterháza Palace, 384
 Esterházy court, 384
 Esterházy family, 469
 Euphonicon, 133, 437
 expression, 401
 expressive *Clavier*, 400–401
 expressive double-manual harpsichord, 113, 199, 213, 219, 236
Extra Grand Modèle de Concert, 43
 Eyck, Count Maximilian Emanuel Franz van, 385
- F-based keyboard, 41, 49, 55, 57–58, 81, 170–171, 186, 203–204
 Faber, Daniel Tobias, 244
 Faber, Nicolas, 5
 Faby, Pietro, 502
facteurs de clavecins, 16
facteurs de épinettes, 16
 Faenza Codex, 10
 Fagott stop, 436
faiseur d’épinettes, 180
faiseur de clavecins, 15
faiseur de clavecins et d’épinettes, 15–16
 Falconi, Giuseppe and Iacopo, 315
 Falla y Matheu, Manuel de, 516
 false inner-outer harpsichord case, 95
 Farinelli (Carlo Broschi), 251, 286–287, 310, 367–368, 385, 532
fausse table d’harmonie, 105
 felt, 104, 114, 117, 121, 348, 411, 426, 447, 449, 473–474, 482, 496
 Ferdinand II, Archduke of Austria, 504
 Fernández, Diego, 283, 310, 542
 Fernández, Julian, 283
 Feroci, Michele and Giuseppe, 315
 Ferrabosco family, 183
 Ferrini, Giovanni, 53, 62, 64, 85, 86, 141, 223, 251, 274, 276, 280, 283, 286, 359, 362, 385, 396, 401, 544, 547

- Fétis, François-Joseph, 498–499, 502–503
 Field, John, 500
 Fischietti, Domenico, 388
 Fitzwilliam Museum, Cambridge, 518
Fitzwilliam Virginal Book, 187, 189, 207–208, 518–519, 534
 Flemish school of harpsichord making, 51, 204
 Flemish virginals, 17, 39, 93, 114
 Florentine pianofortes, 250–251, 280, 287
 Florentine pianos, 115, 251, 299
 Floriani, Benedetto, 185
Flügel, 11–12, 19, 133, 141, 306, 390, 399–400, 419, 425, 490, 534, 537, 541, 549
 folding harpsichord, 289
 foreshortening of bass strings, 81
 Forkel, Johann Nikolaus, 109, 140, 241, 243–244, 246–247, 251–252, 254, 303, 305, 307, 365, 367, 369, 438, 534
 Forqueray, Antoine, 210–211, 220–222, 300, 548
 Forqueray, Michel, 211
 Forqueray, Nicolas Gilles, 211
Fortbien, 76, 367, 371, 438
 Fortepiano, 357
 fortepiano maintenance, 419
 fortepiano revival, 496
 Francesco of Padua (“Il Ongaro”), 294
 Franciolini, Leopoldo, 506
 François de Castagnères, Abbe de Châteauneuf, 357, 369, 438
 Franz II, Archduke of Austria, 464
Französische Ouverture, 256
 Frauenkirche, Dresden, 51
 Frecker, William, 97
 Frederick Historic Piano Collection, Ashburnham, Massachusetts, 43
 Frederick II (“The Great”), King of Prussia, 42, 45, 248, 250–252, 254, 272–273, 279, 362–365, 368, 376, 394, 438, 548
 French double-manual harpsichord, 513
 French *ligne*, 33
French Overture, 259
 French Revolution, 180
 French transposer double-manual harpsichords, 235
 Frescobaldi, Girolamo, 102, 170, 203, 209–210, 501, 535
 fretted clavichord, 106, 245
 fretting hazards, 107
 Freudenthaler, Jean-Guillaume, 503
 Freudenthaler, Jean-Guillaume, firm of, 461
 Friederici, Christian Ernst, viii, 23, 53, 76, 243, 347, 366–367, 371, 385–386, 401, 549
 Fritz, Barthold, 266
 Froberger, Johann Jacob, 210
 Fuchs, Alois, 476
 Fuga, Giovanni, 288
 Fuller-Maitland, John Alexander, 519
 Fusoris Jean, 143
 Fux, Johann Joseph, 211
 Gabriel, Infante of Spain, 285
 Gabrieli, Andrea, 170
 Gaetano, Luigi, 315
 Gafari, Franchino, 167
 Galilei, Galileo, 268
 Galilei, Vincenzo, 11, 29, 77, 138, 268, 308, 535
 Gall, Franz Josef, 419–421, 423–424, 426–427, 429–430, 445, 535
 Galleria Armonica, Rome, 364
Galpin Society Journal, 28, 135–138, 140, 165, 205–207, 304, 310–311, 359, 361, 412, 438, 444–445, 507–508, 527, 529–530, 532–533, 537–540, 542–545, 547–548
 Galpin, Canon Francis William, 505
 Ganer, Christopher, 377
 gap spacer, 96, 99–100, 122, 279, 317, 330, 332, 449, 454, 472
 Garcka, George, 377
 Gassmann, Florian Leopold, 363
 gauge numbers, 65, 67, 69, 73, 337, 407–408, 420, 423
 Gaular, Phelipe, 283
 Gaveau firm, 113, 513–515
 Geib, John, 36, 116, 377
Geigeninstrument, 76
Geigenklavicymbel, 76
Geigenwerk, 75–76, 106, 137, 526, 536
 Gelinek, Josef, 447
Gemseneder, 121
Génération harmonique, ou Traité de musique théorique et pratique, 211, 230
genouillère, 111, 124, 433
 Genzinger, Marianne von, 383
 George III, King of England, 270
Gepresster Resonanzboden, 105
 Gerber, Ernst Ludwig, 347, 396, 431
 Germain, Johannes, 502
 German currency equivalencies, 431
 German/Viennese hammer action, 120, 376
 German/Viennese school of piano making, 374, 376
 Germanisches Nationalmuseum, Nuremberg, 55–56, 178, 251, 368, 394, 423, 436, 453, 465, 502, 504, 506
 Gernsheim, Friedrich, 475
 Geronimo (Hieronymus) of Florence, 58
 Gerstenberg, David, 246
Geschwister Stein, ix, 54, 104, 116–117, 123, 409, 427, 468
Gesellen (journeymen), 411, 454
 Gesellschaft der Musikfreunde, 98, 382, 441, 471, 502
 Gevaert, François-Auguste, 503
 Gheerdinck, Artus, 86
 Ghent, Church of St. Bavo, 5
 Giardino, Count Giusti del, 385
 Gibbons, Orlando, 187
 Gilbert, Kenneth, 224

- Giornale de' letterati d'Italia*, ix, 30, 132, 223, 275, 309, 315–317, 322, 346, 359, 540
- Giovannini, Giuliano, 293
- giraffe piano, 20, 134, 437, 455
- Giustini, Lodovico, xi, 274, 280, 310, 511, 527, 535
- glass harmonica, 76
- glasschord, 487
- Gleichenstein, Baron Ignaz von, 455–456
- gleichschwebenden Temperament*, 260, 262–263, 428
- Glinka Museum, Moscow, 273, 365
- Gluck, Cristoph Willibald, 363
- Goermans family, 238
- gold strings, 290
- Goldberg Variations*, 259
- “Golden Harpsichord,” 364
- Goll, Johann Jakob, 468
- Gontershausen, H. Welcker von, 425
- Gonzaga, Camillo, Count of Novellara, 200
- Gonzaga, Francesco II, Marquess of Mantua, 170
- Goodway, Martha, 70, 135–137, 535
- Gough, Hugh, 520
- Gould, Glenn, 497
- Gradus ad Parnassum*, 211
- Graf, Alois, 468
- Graf, Conrad, ix, 33, 36, 43, 54, 64–66, 68, 70–71, 74, 82, 85, 91, 98–100, 104, 117–118, 134, 136, 448–450, 455, 459, 463–465, 467–474, 476–480, 485, 488, 490–491, 495, 504, 544, 549
- Graffman, Gary, 497
- grand piano, 12
- grand ravalement*, 214, 224, 237
- grasshopper action, 116
- Grassi Museum für Musikinstrumente, Leipzig, xv, 19–20, 179, 185, 246, 304, 505
- Graun, Karl Heinrich, 251–252
- gravecembalo or gravecimballo*, 16, 309, 317, 319, 322–323, 334, 337, 346, 362, 540
- Great Exhibition of 1851, London, 486, 511
- Greek genera, 191
- Greville, Fulke, 275
- Griesinger, Georg August, 458
- Grimani, Cardinal Vincenzo, 363
- Grondig Onderzoek van de Toonen der Musijk*, 176
- grösse Stadt temperament*, 265
- Grosses Universal Lexicon*, 82, 138, 249, 304
- Grottrian-Steinweg firm, 498
- Grotthuss, Baron Dietrich Ewald von, 367
- Grouwels, Lodewijck, vii–viii, 18, 35, 77, 96, 138, 177–178, 188–189, 206, 543
- Grove, Sir George, 512, 519
- Grzymala, Wojciech, 483
- Guarneri family, 521
- Guarracino, Onofrio, 92
- Gubbio studiolo*, 41
- Guido of Arezzo, 78, 138
- Guidonian hand, 4
- Guild of St. Luke, 40, 177–178, 186, 188, 213, 235
- Guittarre stop*, 365
- Gusnasco, Lorenzo (Lorenzo da Pavia), 170
- Gutmann, Adolf, 483
- Hadinger family, 415
- Hagenauer, Lorenz, 384
- Haka, Richard, 289
- Halberstadt organ, 5
- Hälsinglands Museum, Hudiksvall, 240
- Hamburg Steinway firm, 498
- Hamilton, Lady Catherine Barlow, 279, 363
- Hamilton, William, 386
- hammer actions, ix–x, 115–116, 132, 176, 223, 251, 317, 321, 325, 328–330, 338–339, 341–343, 346–349, 351, 354, 356, 366, 376–378, 394, 413–414, 433, 435, 444, 460–462, 487
- hammer head covering, 120–121, 131, 133, 327–328, 359, 449, 474
- hammer leather, 425, 473
- hammer, felt, 473
- hammer, piano, viii–x, 11, 26, 76, 87, 101, 115–118, 120–121, 127–133, 141, 146, 176, 223, 250–251, 275, 280, 285, 317–318, 320, 322, 325–329, 331–332, 336, 339–342, 344, 346–350, 352–353, 356, 359, 366, 373, 376–378, 391, 395, 397, 399–400, 413–414, 424, 426–427, 433, 435, 444, 449, 458, 460–461, 462, 472–474, 487–488, 496–497, 511
- hammered dulcimer, 75, 108, 155, 162, 356–357, 370
- Hämmerpantalon*, 75
- hammers, bare-wood, 357, 368, 371, 399
- hammers, leather-covered, 400
- hammers, re-leathering, 425
- Hammerwerk*, 75
- Hancock, Thomas, 273, 278
- hand stop, 112, 122, 124, 204, 365, 434–435
- Handel, George Frederick, 50, 210, 211, 269–274, 276, 279, 296, 299, 303, 305–306, 309, 312, 439, 498, 500, 509, 514, 531–533, 535, 540, 544–545, 549
- Hanover Square Rooms, London, 380
- Hardel, Jacques de, 210–211
- Harding Bible, 1
- Harding, Rosamund, xvi, 1, 139, 141, 489–490, 493, 496, 524, 535
- Harfe stop*, 365
- Harfenklavier*, 76
- Harfenwerk*, 242
- Hammonelo*, 437
- Harmonie universelle*, vii–viii, 3, 14, 28, 30, 58, 62, 73, 77, 88, 135, 137, 202, 206, 211, 225, 244, 304, 307, 541
- Harmoniehammerflügel*, 203, 392
- harp stop, 114–115, 123, 221, 352, 434
- harpa*, 12
- harpechorde, 184
- harpichordium virginal stop*, 114

- harpsichord, 3
 harpsichord action, 110–115
 harpsichord jack, 25
 harpsichord keyboard, 24
 harpsichord kits, 515
 harpsichord revival, 519
 harpsichord revival, critical reception, 515
 harpsichord, earliest extant, 167
 harpsichord, fake, 506–507
 harpsichord, wing-shaped, 94
 Harpsicon, 111
 Harrass, Johann Heinrich, 258
 Harris family, 93
 Harris, James, 274, 381
 Harris, John, 93
 Harris, Thomas, 274
 Harrison, Lou, 203
 Härtel, Gottfried Christoph, 451
 Harvard University, 520
 Harwood, Christopher, 185
 Hasard, John, 183, 186, 207
 Hass, Johann Adolph, 39, 53, 107, 140, 259, 367, 389, 505, 549
 Hassler, Hans Leo, 402
 Hatley, Robert, 187, 276
 Hauk, Alexander, 411
 Hauslaib, Lorenz, 35, 169, 205, 543
 Haward, Charles, 17, 278
 Haward, John, 17, 110–111, 207, 277, 279
 Häyden, Hans, 77
 Haydn, Franz Joseph, 126, 139, 375, 381–384, 392–393, 413, 417, 436, 439–442, 446, 452, 455, 457–458, 466, 483, 488, 501, 509, 534–535, 541, 545–546, 548
 Haydn, Énard piano, 457
 Hebenstreit, Pantaleon, 76, 108, 356–357, 369
 Heek firm, 485
 Heinitz, Johann Michael, 244
 Helmholtz, Hermann, xxi, 84, 99, 136, 309, 334, 536
 Hemsch family, 238
 Hemsch, Henri, 502
 Henestrosa, Luis Venegas de, 2
 Henkel, Hubert, 31, 179, 206–207, 303–305, 311, 360, 401, 442, 536
 Henri IV, King of France, 180
 Henry VII, King of England, 181, 206
 Henry VIII, King of England, 181, 184–185, 206, 542, 547
 Hertz firm, 485
 Hertz, Eva, 402
 Herz, Henri, 500
 Heyden, Jean, 13
 Heyer collection, 505
 Heyer, Wilhelm, 505, 514
 Hieronymus of Bologna, 211
 Hildebrandt, Zacharias, 45, 51, 242–243, 269
 Hill, Arthur F., 512
 Hiller, Ferdinand, 467, 476
 Hiller, Johann Andreas, 397
 Hingston, John, 111
 Hipkins, Alfred James, 71–72, 84–86, 137–138, 269, 378, 439, 491, 517–518, 527, 536
 historically informed performance practice, 447, 521
 Hitchcock, John, 84
 Hitchcock, Thomas, 93, 272–273
 hitchpin loops, 66, 101, 473
 hitchpin plate, 98–99, 333
 hitchpin rail, 91, 99, 101, 103, 215, 300, 332, 346, 432–433
 Hofmann, Ferdinand, xi, 35, 53, 64, 70, 124, 375, 434
 Holdsworth, Edward, 274
 Hoppenhaupt, Johann Christian, 365
 Hoppenhaupt, Johann Michael, 365
 Hombostel, Erich Moritz von, 504
 Hombostel–Sachs classification system, 504
 Horniman Museum, London, 222
 Horszowski, Mieczyslaw, xi, xviii, 511
 Howard, Charles, 272
 Hubbard, Frank, xvi, xviii, 30, 44, 57, 74, 95, 135, 139–140, 206, 214, 224, 258, 299–300, 303, 360, 439, 515, 520, 522, 537
 Huber, Alfons, 65–66, 68, 70–71, 136, 141, 165, 205, 392, 413, 441, 443–444, 490, 530–531, 537, 543
 Hubert, Christian Gottlob, 82, 404
 Hullmandel, Nicholas, 380
 Hummel, Johann Nepomuk, 500
 Hungarian National Museum, Budapest, 385, 392, 459, 469
 Hüttenbrenner, Anselm, 468
 Huygens, Christiaan, 234
 Huygens, Constantijn, 84, 211, 217, 299–300, 537, 549
hydraulic, 1
 Ibach firm, 513
Ideen zu einer Ästhetik zu einer Tonkunst, 372
Il desiderio, 8
 “Il Ongaro,” Francesco of Padua, 294
 Imperial Standard Wire Gauge, 72
in sesta, 41, 288, 290–294
 independent backchecks, 118
 inner–outer harpsichord case, 95
 Institut National de Musique, 181, 503
instromento piano e forte, 174
 intermediate lever, 116–117, 120, 127–128, 130–133, 322, 326, 346, 350–352, 354–356, 378
 internal bentside, 333
 International Bureau of Weights and Measures, 66
 International Exposition of 1873, Vienna, 471
 international expositions, 511
 inverted wrestplank, 317, 331–332, 366, 376, 394, 399
 iron framing, 99, 482–483

- iron stringing, 58, 61–62, 456, 471
 iron wire, 54, 81
 irregular temperaments, 261
istromento piane e forte, 173
istrumento pian e forte, 174
Italian Concerto, 259
 Italian school of harpsichord-making, 168
Italienisches Konzert, 256
 ivory, keyboard, 39
- Jacobi-Kirche, Hamburg, 51
 Jacquet, Claude, 180, 238
 Jacquet, Jean, 58
 Jakesch, Joseph and Mathias, 452
 janissary stops, 125, 434, 436
 Jay, Henry, 273
 d'Alembert, Jean-Baptiste le Rond, 225, 232, 301
 Jeanne Louise Constance de Neufville, Duchess of Villeroy, 460
 Jeckel, Johann Christoph and Christian, 356, 371
 Jennens, Charles, 274
 Jerome (Hieronymus of Bologna), 211
jeu de Harpe, 466
jeu de Luth, 466
 jingling johnny, 125
 Joachim, Joseph, 503
 João IV, King of Portugal, 202
 João V, King of Portugal, 280
 John, King of Aragon, 11
 Jungcurt, Heinrich Wilhelm, 367
 Jürgensen, Johann Christian, 76
 just intonation, 192
- Kalkbrenner, Frédéric, 450, 464, 489, 496, 501
kanon, 4
Kanzellenführung, 413, 453
 Kaps firm, 485
Kapsel, 117, 346, 411, 488
 Karest, Joannes, 177
 Karest, Ioes, 203
 Kämtnerthor Theater, Vienna, 463
 Kastner, Macario Santiago, 507
 Kaunitz-Rietberg, Prince Joseph Clemens, 390
 Kawai piano-making firm, 33
 Keene, Stephen, 93, 187, 276–277
 Kelletat, Herbert, 392
 kerf-bent bridge, 335
 key actions, viii–x, 1, 26, 33, 76, 100–101, 110, 115–118, 120, 122, 126–130, 132, 141, 155, 157, 162–164, 223, 247–248, 250, 274, 280, 283, 317–318, 322, 325, 327–328, 332, 338, 342, 344, 346, 348–350, 353, 356, 359, 376, 378, 383, 386, 390, 397, 403, 419, 434, 449, 451, 454, 460–461, 467, 472–473, 475, 484, 496, 515, 523, 525, 547
 key dip, 119, 126, 129–130, 327, 342, 400, 417, 419–420, 425, 458, 513
 keyboard dimensions, 32–36
 keyboard layout, 32, 37–38, 40, 142
 keyboard octave spans, 35
 keyboard range, 4, 16, 42, 44, 64, 146, 168, 188, 193, 203, 213–214, 219, 222, 235, 240–241, 255–257, 272, 288, 378, 448
 keyboard, non-aligned, 57
 keyboard, origins, 1
 keyboard, reverse, 39–40
 keyboard, short and broken octave, 42
 Kiedolps, F., 107
 King's Theatre, London, 380
 Kinsky, Georg, 505
 Kintzing, Christian, 108
 Kircher, Athanasius, 11, 29, 211, 403, 442, 538
 Kirckman family, 96, 275, 278, 363
 Kirckman firm, 115, 279
 Kirkpatrick, Ralph, 112, 140, 296, 299, 310–311, 527, 538
 Kimberger II temperament, 262
 Kimberger, Johann Philipp, 261–263, 266–267, 307, 363, 427, 445, 538
 Kisting firm, 485
Klavicymbel, 76
Klavier, 12
Klaviergambe, 76
Klavierkapselmacher, 411
Klaviorganum, 76
Klavizimbel, 13
 Klein, Dr. Peter., 215
kleine Stadt temperament, 265
 Klemm, Carl August, 475
 Klems, Johann Bernhard, 473
 Kloster Marienthal/Ostritz, 244
 Knapp, Leopold, 473
 knee lever, 111, 122, 124, 369, 391, 412, 433
 knee lever, ambigenuous, 391, 453
Kniehebels, 124, 433
 Kohlman, Georg, 432
 Kohlman, Tobias, 432
 König, Johann Ulrich, 132, 141, 250, 253–254, 346–347, 349, 356, 361, 376, 393, 403, 439, 442, 538
 Könnicke, Johann Jakob, viii, 23, 54, 203, 382, 392–393, 404
 Koussevitzky, Serge, 516
 Kraft, Mathias Petter, 108
 Kraus, Alessandro, 505
 Krehbiel, Edward, 337
Kritische Briefe über die Tonkunst, x, 248, 348–351, 354, 361, 394
 Kunsthistorisches Museum, Vienna, 98, 391–392, 417, 469, 471, 473–474, 502, 504
 Kupelwieser, Josef, 468
- L'Art d'accorder soi-même son Piano*, 121
L'Art de facteur d'orgues, 37

- L'Avant-coureur*, 344
 l'Épine, de, 460
 la Couture, Pierre de, 58
La Poule, 225
 labels, falsified, 506
 lamination in case construction, 333–335, 433
 Landi, Agostino and Giovanni, 315
 Landon, H. C. Robbins, 383
 Landowska, Wanda, 480, 512, 514–515, 519, 527
 Landständischen Saal, 480
 Lanfranco, Giovanni Maria, 268
 Langenbucher, Viet, 402
 Langenmantel, Archmagistrate Jakob Alois Karl von, 387
 Languhedul, Mathis, 51
 Lanier, Nicholas, 184
 Laurentius Papiensis, 170
Lauten Werck, 239
Lautenklavier, 76
Lautenwerk, 241–243
Lautenzug, 108, 115, 245, 328
 Lawrence, T. E., 516
 Le Bègue, Nicolas, 210
Le Maître de clavecin, 228
 Le Sieur Foucart, 211
 leather-covered hammers, 399, 484
 leather plectra, 75
 leathered, 108, 110, 116, 118, 121, 141, 187, 222, 244, 300, 330, 357, 372, 378, 400, 449, 453
 Lebègue, Jean, 211
 Lebègue, Nicolas-Antoine, 223, 338
Leçons de Clavecin, et Principes d'harmonie, 299
 Lefebvre, Nicholas, 507
Lehrling, 411
 Leicht firm, 485
 Lemme, Karl, 19, 30, 36, 105, 139, 419, 427, 539
 Leonhardt, Gustav, 507
 Leopold, Grand Duke of Tuscany, 386
Les Cyclopes, 225
 let-off, 119, 419, 425, 445
Lettres de création du métier de faiseur d'instruments de musique, 180
 Leversidge, Adam, 276
 Lew, Henry, 514
 Lewes, William, 139, 141, 181, 545
Liber viginti artium, 3–4, 164
 Liborna Echavarría, Pedro de, 283
 Liborna Echavarría, Pedro Manuel de, 283
Librem Segreti de Buttogha, 403
 Liceo Comunale di Musica, Bologna, 502
 Lichnowsky, Princess Marie Christiane, 451
 Lichtenthal, Demetrius, 382
 lid flap, 434
 lid flap “swell,” 125
 Lindholm, Pehr, 109
 linear transversal scale, 265
 Liszt Ferenc Memorial Museum and Research Centre, Budapest, 487
 Liszt, Franz, 43, 130, 459, 464, 485–487, 493, 501, 537, 539, 548
 Livignano, Vincentius, 167
Livre de musique pour le lut (Perrine), 60
 locust wood (*courbaril*), 482
 Lœillet, Jean-Baptiste, 210
 logarithms, 262, 265
 Long (or Longfellow), R., 273
 Long, Roger, 58
 Longman & Broderip firm, 35, 53, 116, 125, 382–383, 389, 434, 512
 Longo, Magno, 289
 long-scaling, 57–58, 61, 96, 171, 204, 353, 513
 Loosemore, John, 187, 276
 Lorenzo da Pavia, 170, 175, 205, 531, 544, 548
 Lorillart, Médéric or Medery, 180
 Lorillart, Pierre, 180
 Lotti, Antonio, 250
 Loucks, Richard, 245
 Louis XIII, King of France, 213
 “Louis XIV Parenthesis,” 51
 Louis XIV, King of France, 51, 108, 357, 369
 Ludwig, Christian, Margrave of Brandenburg, 255
 Luithlen, Victor, 412
 lute, ix–x, 12, 52, 60, 73, 92, 99, 103, 106, 108, 113–115, 143, 168, 180, 182, 217, 219, 237, 239, 241, 243, 259, 269, 279, 287, 289–290, 319, 352, 368, 371, 373, 381, 505, 517
 lute stop, ix, 84, 108, 113–115, 217, 219, 259, 279, 365, 513–515
 luth stop, 124
 Luython, Carolus, 4, 202
 Luzzaschi, Luzzascho, 202
 lying harp piano, 133, 371
 Lyon, Gustav, 514
Lyra Barberina, 202
 lyre piano, 20, 133, 437, 455
 lyrichord, 275, 377
 Mace, Thomas, 110–111
 machine stop, ix, xi, 109, 111–112, 279, 365, 381, 386
 Maendler firm, 515
 Maendler-Schramm firm, 113, 513
 Maffei, Francesco Scipione, Marchese di, ix–x, 16, 30, 122, 132, 141, 223, 250, 274–275, 309, 315–319, 321, 325–333, 336, 338, 346–347, 349, 358–359, 361–362, 376, 403, 439, 442, 538, 540, 542
Magadis, 76
 Magnelli, Giovanni Battista, 293
 Mahillon, Victor-Charles, 503
 mahogany, 39, 125, 381, 414, 420, 435, 452, 457–459, 477–478, 481–483, 487
 Mahoon, Joseph, 272
 Mainwaring, John, 296
Makers of the Harpsichord and Clavichord 1440–1840, 508
 Mälzel, Johann Nepomuk, 455

- Mancini, Signor, widow of Giovanni Bassista
Pescetti, 199
- Mandelli, Tomasso, 82
- manichordion*, 13
- manicordion*, 370
- Mapes wire, 71
- Marchionus, Franciscus, 42
- Maria Bárbara, Queen of Spain, 19, 187, 251, 280, 283, 362
- Maria Casimira, Queen of Poland, 280
- Maria Louisa, Archduchess of Austria, 464
- Marie Antoinette, Queen of France, 460
- Marius, Jean, x, 78, 101, 222–223, 289, 300, 313, 338–343, 360, 396, 460, 532
- Marmol, Juan del, 284
- Marpurg, Friedrich Wilhelm, ix–x, 45, 109, 134, 225, 261–264, 266–268, 302, 305, 307–308, 348–350, 354, 361, 394, 427–428, 445, 539–540
- Martini, Padre Giovanni Battista, 385
- Mary I, Queen of England, 185
- Mathushek firm, 509
- Mathushek, Frederick, 87
- Mattheson, Johann, 346, 348, 403
- Maunder, Richard, 377, 412
- Mazzocchi, Marin, 202
- meantone temperament, 42, 59–60, 80, 89–90, 106, 190, 192, 195, 197–200, 226, 228–230, 233–235, 245–246, 260–261, 263–264, 266, 268–269, 284–285, 290–291, 301–302, 305, 392–393, 507
- meantone, one-third comma, 197, 403
- meantone, two-sevenths comma, 197
- meantone, quarter-comma, 197
- meantone, one-fifth comma, 197, 234
- meantone, one-sixth comma, 233, 404
- Mears, Richard, 273
- mécanisme à étrier*, 127, 129, 375
- Medici, Ferdinando de', Grand Prince of Tuscany, 314, 315, 317
- Medici, Gian Gastone de', Prince of Tuscany, 273
- Medici court, 115, 251, 288, 291, 313–315, 358, 362, 386, 505
- Medici keyboard instruments, 288
- Medici musical instrument inventory, 18, 41, 122, 289, 293, 295, 313, 316, 325, 334, 362, 401
- Mehlgrube, 390
- Meisel, Maribel, 520
- Melissenda, Countess of Anjou, 155
- Mell, Davies, 184
- Melodica*, 397, 400, 442, 545, 547
- Mendel, Arthur, 51
- Mendelsohn Bartholdy, Abraham, 477
- Mendelssohn, Felix, 464, 476, 498, 500
- Mendler-Schramm firm, 520
- Mercier, Philip, 272
- Mercure de France*, 396
- Merken, Johann Kilian, 460
- Merlin, John Joseph, 374, 381
- Mersenne, Marin, vii–viii, 3, 13, 15, 28, 30, 44, 58, 62–63, 70–71, 73, 77–78, 81, 83, 88, 135, 137, 180, 182, 202, 206, 211, 225, 228, 244, 263, 266, 301, 304, 307–308, 541
- Mersenne's Law, 44, 63, 70, 81, 83
- Merulo, Claudio, 170
- metal framing, 471
- metal hitchpin plate, 482
- Metastasio, Pietro, 363
- Methodus incrementorum directa et inversa*, 63
- metric system, 52
- Metropolitan Museum of Art, New York, vii–xi, xvi–xviii, 17, 19, 21, 38–39, 41, 55, 75, 77, 82–83, 86, 92, 108, 114, 116, 118, 135–136, 138, 140, 167, 169, 171, 177, 188, 206, 212, 214–215, 217–218, 221, 245, 279, 290, 299–300, 324, 335, 337, 358, 364, 370, 375, 390, 396, 402, 504–506, 510–511, 515, 525–527, 543–544
- Meyer, Meincke, 377
- mezzo tuono*, 45
- micrometer, invention of, 66
- micrométrique* tuning system, 515
- Mietke, Michael, 53, 240–241, 254–255, 259–260, 303, 537–538
- Migliai, Antonio and Michelagnolo, 315
- Milhaud, Darius, 516
- Minden Cathedral, Germany, 3, 163
- Mirabal, Francisco Perez, x, 53, 64, 283–284
- Mizler, Lorenz, 120, 140, 347–349, 361, 541
- moderator, 123–126, 368, 383, 391, 414, 434, 436, 453, 459, 466, 469
- modern piano action, 29
- modes, 202
- moeder* and *kind* virginal, 83
- Monasterio de Santa Clara, Tordesillas, Spain, 177
- Mondini, Giuseppe, 293–295, 299
- monochord, x, 3–4, 8, 13, 44, 62, 78, 88, 106, 138, 142, 175, 194, 197, 200, 229, 261, 263–266, 285, 403
- monocordium*, 2
- Montal, Claude, 66–67, 70–71, 105, 121, 126–129, 131, 137, 140, 436, 484, 493, 541
- Morris, William, 511
- Moscheles, Érard piano, 462
- Moscheles, Charlotte, 461, 498
- Moscheles, Ignaz, 461, 463, 478–479, 484–485, 498, 500
- Moser, Aloyse, 455
- mother-and-child virginal, 167
- Moxon, Joseph, 71
- Mozart, Constanze, 126, 413–415, 444, 548
- Mozart, extant instruments, 392
- Mozart, Fantasia in C minor, K.475, 392
- Mozart, Franz Xaver Wolfgang, 414–415
- Mozart *Geburtshaus*, Salzburg, 393, 415
- Mozart, Karl, 331, 413–414, 436
- Mozart, Leopold, 384–386, 390, 412

- Mozart, Maria Anna (“Nannerl”), 363, 384, 386, 390
- Mozart, Piano Concerto in D minor, K.466, 392
- Mozart, Piano Concerto in C major, K.467, 392
- Mozart, Piano Sonata in A major, K.331, 390
- Mozart, pianos of Anton Walter, 410, 412–413, 444, 504
- Mozart, pianos of Johann Andreas Stein, 393
- Mozart, Wolfgang Amadeus, 19, 85, 105, 126, 262, 307, 363, 375, 384–388, 391, 393, 398–399, 404, 410, 412, 414–415, 435–436, 443–444, 446, 471, 509, 521, 530, 537, 544, 550
- Müller wire, 70
- Müller, Hans, 20, 36, 179–180, 183, 203, 439, 541
- Mulliner Book*, 167
- Musée de l’Homme, Paris, 504
- Musée de l’Université Jagellone, Cracow, 482–483
- Musée de la Musique, Paris, 238, 482, 502–503
- Musée des Instruments de Musique, Brussels, 93, 188, 204, 213, 276–277, 503
- Musée Frédéric Chopin, Warsaw, 483
- Musée Municipal, Varzy, 238
- Musées Nationaux de France, 346
- muselar*, vii, ix, 17, 40, 80, 82, 114, 167, 176–177, 187
- Museo Civico, Bologna, 78
- Museo Correr, Venice, 170
- Museo Nazionale degli Strumenti Musicali, Rome, 20, 177, 204, 385
- Museo di Castelvecchio, Verona, 396
- Museum Carolino Augusteum, Salzburg, 390
- Museum of Fine Arts, Boston, 505
- Museum of the East India House, London, 502
- Museum of the London Missionary Society, 502
- Music Loan Exhibition held at Fishmonger’s Hall, London, 512
- Musica antica et della moderna*, 77
- musica ficta*, 6
- Musica getuscht*, vii, 3, 6–7, 28, 164–166, 169, 193, 205, 545, 548
- Musica instrumentalis deusch*, 168
- Musica mechanica organoedi*, x, 30, 108, 134, 242, 248–249, 304, 306, 308, 439, 529
- Musica secreta* (society), 175
- Musica speculativa*, 4
- musical clock, 402
- Musicalisches Lexicon*, 18, 30, 211, 244, 549
- Musicalisches Opfer*, 253, 256
- Musikalische Bibliothek*, 120, 361
- Musikhistorischen Museum*, Cologne, 514
- Musikhistoriska Museet, Stockholm, 5, 108, 505
- Musikinstrumenten-Museum des Staatlichen Instituts für Musikforschung, Berlin, 258, 368, 394, 503
- Musikmuseet, Copenhagen, 505
- Musurgia universalis*, 11, 29, 211, 403, 442, 538
- mute *ceballo*, 296
- My Ladye Nevells Booke*, 189
- Nachersberg, Johann Heinrich Ernst, 419, 421, 429–430, 445, 542
- nag’s head stop, 122
- nag’s head swell, 109, 111, 115, 279
- National Music Museum, Vermillion, South Dakota, 371
- National Trust Collections, 271
- Neidhardt, Johann George, 79, 260, 264–266, 269, 306, 308, 542
- Neu eröffnete musikalische Bibliothek*, 347
- Neue Bibliothek der schönen Wissenschaften und der freyen Künste*, 400
- Neues historisch biographisches Lexikon*, 431
- Neues Schloss, Potsdam, viii, 76, 251, 256, 306, 364–366, 394
- Neukomm, Sigismond von, 478
- Neupert collection, 504
- Neupert firm, 113, 513
- Neupert, Johann Christoph, 504
- Nissen, George Nikolaus von, 414
- Nivers, Guillaume Gabriel, 338
- nonspeaking lengths of strings, 103
- Norrlanda organ, 5
- Notre Dame, Dijon, organ at, 163
- Nouveau système de musique théorique*, 211, 230
- Nunns & Fischer firm, 402
- Nuova invenzione d’un gravicembalo col piano e forte*, 223
- Nuremberg wire, 70, 72, 408
- Nuremberg wire gauges, 66, 70, 74, 408
- nürnbergisches Geigenwerk*, 76
- nut, 112–113
- O’Brien, Grant, 213, 216, 220, 271
- Oberösterreichische Landesmuseum, Linz., 457
- Obizzi collection, 504
- Obreskoff, Contessa Natalia, 482
- octava* harpsichord stop, 114
- octave stretching, 495
- Odell, Jay Scott, 70, 135–137, 535
- Odo of Cluny, 78, 138, 542
- Ohlsson, Garrick, 497
- open helix overwound strings, 82
- organ pipe length, 60
- organ pipes, 43–44, 48–50, 52, 267
- organistrum*, 2
- Orgel-Probe*, 202
- original stringing, Cristofori pianos, 336
- ormolu, 125, 414, 435, 478
- Orsfall wire, 70
- ottava bassa*, 289
- ottava bassa* register, 295
- ottava stesa*, 41, 288–294, 296–298, 311, 316
- Ottner, Helmut, 412
- Ottoboni, Cardinal Pietro, 138, 187, 209, 280, 296, 299, 312, 316, 532
- Ottoboni, Prince Antonio, 81
- oval spinets of Bartolomeo Cristofori, 292

- overspun bass strings, 51, 107
overspun strings, ix, 64, 82, 107, 138, 258, 389, 404, 406, 423
over-wound strings, 82, (see overspun strings)
Owen, Wilfred, 516
- Palazzo de Diamante, Ferrara, 172
Palazzo Ducale, Urbino, 89, 145
Paliarino (Hippolito Cricca), 172
Pandoret, 76
pandurina, 506
Pannini, Giovanni Paolo, 298
Pantaleon, 357
Pantaleone, 357, 369, 371
Pantalon, xvii, 108, 245, 356, 368–370, 372, 399
pantalon pianos, xvii, 371–372, 401
pantalon stop, 107–108
Pantalon tradition, 370, 399, 496
Pantolonclavichord, 108
Pantolonzug, 245
Papafava, Roberto, 315
Pape, Jean-Henry, 43, 87, 101, 121, 449, 461, 484–485, 487
Papi, Iacopo and Lorenzo, 315
Paris Exposition, 1844, 43
Partch, Harry, 203
Parthenia, 187, 190
Pasqualini, Marc'Antonio, 501
Pasquini, Bernardo, 210
patent fever, 496
Paulirinus, Paulus, 3–4, 28, 164–165, 537, 543
Pavana Dolorosa, 188–189
pavillon chinois, 125, 435
peacock damper, 132
pear tree wood, 456
peau de buffle, 109
peau de buffle stop, 115, 345, 361, 548
pedal clavichord, 246
pedal harpsichord, 112, 140, 211, 247
pedal lyre, 126
pedal piano, xi, 54, 344, 390–391, 412, 414, 416, 523
pedal trapwork, 436, 454
pedal-operated stop action, 110
pedals, 110–111, 122, 434
Pepin, Frankish King, 12
Pepusch, Johann Christoph, 273
Perau firm, 485
Perrine, 60
Pertici, Giovanni, 315
Pertici, Giovanni, Piero, and Bartolomeo, 315
Pescetti, Giovanni Battista, 199, 364
Pesenti, Martino, 198
Pessl, Yella, 515–516
petit ravement, 214, 224
Petri, Johann Samuel, 372
Petzold firm, 485
Petzold, Guillaume Lebrecht, 99, 128, 131, 461, 484
Peveara, Laura, 175
Pfeiffer firm, 513
Philip the Good, 142, 164
Philips, Peter, 188
Phonurgia nova, 211
pianino, 54, 476, 480–481, 485, 492
piano action, 115–122
piano action, modern, 126–133
piano hammer breakage, 488
piano in the Romantic Era, 446
piano making, two schools of, 374, 449–450
Piano Manufacturers Association, 51
piano technician's kit, 496
piano, invention of, 313
piano, modern, 522
pianoforte, 357
pianoforte à queue, 19
pianoforte carré, 19
pianoforte en forme de clavecin, 19
Pianozug stop, 433
Picasso, Pablo, 516
Pichileri, Giovanni, 315
pièces croisées, 217, 224
Pièces de Clavecin, 338
Pini, Bartolomeo, 315
pinning of nuts and bridges, 114
Piston, Walter, 516
pitch, 44, 203
pitch, background, 46
pitch, chamber, 44–49, 57, 80, 204, 423
pitch, chamber and choir, 46–51
pitch, choir, 44–49, 57, 59, 80, 169, 423
pitch, cornett, 44
pitch, English Philharmonic, 72
pitch, Florence, 45
pitch, high Renaissance, 50
pitch, historic tuning forks, 50–51
pitch, Lombardy, 45
pitch, low French Baroque, 50, 61, 64
pitch, Naples, 45
pitch, organ, 51
pitch, Rome, 45
pitch, Venice, 45
“Pitman Linkage,” 497
Player, John, 93, 187, 276–277
plectra, 4, 12, 74–75, 84, 106, 110, 113, 115, 155, 286, 345, 396
plectra, bird quill, 513
plectra, Delrin and Celcon, 520–521
plectra, leather, 513–514
plectra, synthetic, 513
Plenius, Roger, 115, 275
Pleyel firm, 54, 99, 111, 113, 121, 134, 437, 447–448, 450, 479–485, 488–489, 492, 495, 513–515, 520, 522, 530, 534
Pleyel *Grand Modèle de Concert* harpsichord, 515
Pleyel *pianino*, 437
Pleyel, Camille, 450
Pleyel, Ignaz Joseph, 483

- plucking and striking points, 87
 plucking point, 87
 plywood, 511, 521, 525–526
 Poggi, Francesco and Piero, 315
 Pohlmann wire, 72
 Pohlman, Johannes, 72, 124, 374, 377, 503
 Polizzino, Giovanni Pietro, 202
 Poll, Hermann, 2
 polygonal spinets, 93, 133, 184, 437
 polygonal cases, 20, 75
Poly-Toni-Clavichordium, 397, 400–401
Pommersfelden Bible, 1
 Ponsicchi, Cesare, 337, 544
 Potin family, 180
 Potin, Antoine, 180
 Potin, Jean, 180
 Potsdam, viii, x, 45, 76, 250–254, 256, 306, 362, 364
 Potter, Cipriani, 448, 463, 500
 Poulenc, Francis, 516
 Pound, Ezra, 516
 Poussin, Caspar Dughet, 298
 Praetorius, Michael, I, 4–5, 8, 12, 44, 48, 57, 60, 62, 76, 93, 106, 114, 169, 182, 188, 202, 236, 276
 Prank, Count Ferdinand Joseph, 387
 Preisler, Joachim Daniel, 391
Prell-Leiste, 118
Prellmechanik, 118
Prellzunge, 118
Prellzungenmechanik, 117–118, 395, 400, 413
 Prete da Imola, 293
 Printz, Wolfgang Caspar, 262
 Ptolemy, Claudius, 4
Public Advertiser, 379
 Puertas, Augustin de, 283
 Puliti, Leto, 314, 328, 358–359, 544
 Purcell, Henry, 210
 Puyana, Rafael, 259
 pyramid piano, 20, 134, 437, 455
 Pythagorean comma, 193, 198, 230
 Pythagorean intonation, 192–193, 195, 197–198, 246
 Pythagorean scaling, 52, 54–56, 80, 89–90, 106, 135, 143, 145, 154, 172, 191–193, 230, 242, 264, 301–302, 307
 quadrichord stringing, 64, 459, 523
 Quantz, Johann Joachim, 45, 134, 251, 544
 Queen Elizabeth's virginal, 185
 Querci, Vincenzio and Pasquino, 315
 quill plectra, 75, 84, 115, 241, 281, 286, 391, 428, 521
 Rachals firm, 485
 Rachmaninov, Sergei, 516
Rafael d'Urbino pianoforte, 368
 Rameau, Jean-Philippe, 210–212, 224–225, 230–232, 234, 261, 267, 300–301, 364, 380, 501, 524, 529, 532, 535, 544
 Ramos de Pareja, Bartolome, 78, 190, 208
 Rastoin, 58
 ratios of plucking and striking points to string lengths, 87
ravalement, 213, 215, 221, 224, 237
 Raymond Russell Collection, University of Edinburgh, 236, 239, 261, 378, 512–513
Real-Lexikon der Musikinstrumente, 504
 Rebele, Andrea, 392
Recanetum de musica aurea, 167
 red brass, 63, 81, 83
 red copper wire, 83
 Redern, Count Friedrich Wilhelm von, 479
 Redford, John, 167
Rees's Cyclopaedia, 275
 Rees, Abraham, 275, 373
 Reggio, Monsignor Antonino, 363
Regina coeli, 201
 registers, harpsichord, 110
règle du clavier, 37
 Reicha, Antoine-Joseph, 452
 Reign of Terror, xvii, 180–181, 483, 502
Reiseclavier made by Johann Andreas Stein, 385, 392, 441, 537
 Renner firm, 449
 repetition action, 126–127, 130–132, 453, 458, 472, 474, 484–486, 496–497
 repetition lever, 486
 Restle, Konstantin, 412
 Restout, Denise, 512
Revue et Gazette Musicale de Paris, 499
 Rewallin, Charles, 276
 Ricevuti, Aurelio and Appollonio, 315
 Richard, family, 58
 Richard, Michel, 93, 238
 Rieder, Wilhelm August, 469
 Rigault, Jean-Baptiste, 58, 220
Rime e prose, 132, 317, 359, 540
 Rimsky-Korsakov, Nikolai, 516
 Ringling Museum, Sarasota, Florida, 180, 238
 Ripin, Edwin M., 28, 136–137, 139–140, 165, 180, 206, 215, 218, 221, 245, 299–300, 304, 311, 442, 520, 526, 531, 545
 Robertsbridge fragment, 10
 Rockstro, Richard S., 519
 Rockstro, William Smith, 270, 519
 Rodin, Auguste, 516
 Roger, Estienne, 211
Rondo alla Turca, 435
 Roseingrave, Thomas, 210
 Rosenbaum, Josef Karl, 468
 Roser Johann George, 393
 rosewood, 310, 482, 486
 Rossi, Annibale dei, 40, 502
 Rossi, Michel Angelo, 210
 Rost, Johann, 240
 Rousseau, Jean, 220
 Rowenau, Gottlieb, 505
 Royal College of Music, London, 19, 166, 179–180, 204–205, 382, 439, 512, 518, 549

- Royal Museum of Northern Antiquities,
Copenhagen, 502
- Royal Society, London, 62, 369
- Rozé, 58
- Rubenstein, Arthur, 497
- Rück collection, 504–505
- Rück, Ulrich, 412
- Rück, Wilhelm, 504
- Ruckers, 40
- Ruckers family, vii, ix, 35, 37, 40, 42, 46, 57, 59–60,
80, 82–83, 92, 96–97, 114, 134, 136, 138,
177–178, 181, 190, 199, 204, 206, 211, 213–214,
216, 218–221, 235, 237, 271–273, 275,
299–300, 302, 364, 373, 396, 502, 506–507,
526, 541–543
- Ruckers, bridge positioning, 80
- Ruckers transposing harpsichords for the French
market, 213
- Ruckers, Andreas, 55, 181, 211, 213, 270, 373
- Ruckers, Andreas I, 235
- Ruckers, Andreas II, 235
- Ruckers, Hans, ix, 35, 42, 53, 82, 114, 138, 153, 167,
177, 181, 213, 235, 271, 545
- Ruckers, Ioannes, vii, 17, 53, 59, 74, 114, 135–136,
212–213, 235–236, 239, 270–271
- Rudolph, Johann Joseph Rainier, Archduke of
Austria, 459
- Rust, Jakob, 388
- Rutland Psalter, 1
- Sachs, Curt, 28, 203, 209, 360, 504, 525, 527, 543,
545
- Sachs–Hornbostel classification system, 504
- Saint Lambert, 211
- Saint-Colombe, Jean de, 220
- Saint-Saëns, Camille, 516
- Saitenharmonika*, 400–401
- Salinas, Francesco, 268
- Salle Érard, 485
- Sambuca lincea*, 200
- Sammlung alter Musikinstrumente, Berlin, 503
- San Petronio, Bologna, 51
- Sand, George, 480–481, 492, 532, 545
- Sanssouci, x, 251, 256, 273, 362, 366, 394
- Santa María, Tomas de, 2
- Santiago de Compostela, Cathedral of, 2
- Santos, Andrés Fernández, 283
- Sarrette, Bernard, 502
- Sassmann firm, 513, 515, 520
- Sauvageot, Alexander Charles, 502
- Sauveur, Joseph, 44
- Savoie Collection, Paris, 238
- scaling, 52–62, 64, 74, 80, 84–85, 88–89, 99, 135,
142, 154, 165, 167, 180, 186–187, 204, 216–217,
241–242, 271, 278, 304, 399, 403, 408, 423,
426, 471, 495, 497, 513, 515, 521, 525–526
- scaling design note, 52
- scaling, long and short, 57, 278
- Scarlatti, Domenico, 112, 140, 210, 279–280,
283–284, 286–287, 295, 299, 303, 305–306,
310, 368, 380, 444, 447, 498, 500–501, 509,
516, 524, 527, 534–535, 538, 544, 546, 549
- Schachtbret*, 2
- Schantz, 85, 382, 411, 455–457
- Schantz, Johann, 416–417, 456
- Schanz, Wenzel, 382, 384, 417
- Schelke, Jacob, 464, 468
- Schellenbaum*, 125, 435
- Schenck, Peter, 241
- Schiedenhofen, Johann Baptist Joseph Joachim
Ferdinand von, 386
- Schiedmayer & Dieudonné firm, 64, 474
- Schiedmayer & Söhne, 74
- Schiedmayer notebook, 430, 432
- Schiedmayer, Johann David, 64, 246, 430–433, 445,
474, 489
- Schiedmayer, Johann Lorenz, 384, 419, 430,
432–433, 445, 474, 489
- Schilling, Gustav, 349
- Schindler, Anton, 467
- Schlick, Arnolt, 59–60, 136, 171, 530
- Schloss Ambras, 504
- Schlözer, Kurd von, 486
- Schmahl, Christoph Friedrich, 356
- Schmahl, Johann Matthäus, 371
- Schmid, Balthasar, 211
- Schmidt, Johann, xi, 53, 390, 412
- Schmied (Schmidt), Johann Christoph, 347
- Schneider, Johann Licham, 273
- Schnitger, Arp, 51
- Schoene & Co., 127
- Schoene, George, 377
- Schöffstoß, Joseph, 411
- Schönemann firm, 485
- Schönfeld, Johann Ferdinand von, 416
- Schott, Howard, 243
- Schröter, Christoph Gottlieb, x, 101, 120, 248,
250–251, 313, 341–342, 346–349, 356, 361, 373,
394, 441, 543
- Schubart, Christian Friedrich Daniel, 363, 371–372,
438, 546
- Schubart, Ludwig, 372
- Schubert, Ferdinand, 464, 468
- Schubert, Franz, 467
- Schübler, Johann Georg, 211
- Schumann, Clara Wieck, 469–470, 473, 475–476,
487
- Schumann, Robert, 464, 469, 471
- Schumann/Brahms Graf piano, 98, 469
- Schumanns, Robert and Clara, 504
- Schünemann, George, 328
- Schutzvenvandt*, 411
- Schweinskopff*, 12
- Schwind, Moritz von, 468
- sciences, 343
- Seiffert, Franz Martin, 456

- Seixas, Carlos de, 210
 Senft, Ignace-Joseph, 371
senza sordino, 465
senza spezzati, 41
 service-tree wood, 456
 Seuffert, Franz Martin, 97
 Seyffarth firm, 513
 Sforza Ludovico, Duke of Milan, 170
 shade, 105
 Shanz, Wenzel, 382–383
 Shaw, George Bernard, 516
 sheepskin, 120–121, 327, 371, 425
 Shilling, Gustav, 519
 Shore, John, 44
 short scaling, 57, 61, 204
 short-octave keyboard, 40–46, 188, 191, 222, 235, 255–256
 Shortridge, John, 57–58
 shove coupler, 217, 221, 237, 258
 Shudi, Burkat, 41–42, 53, 71, 91, 96–97, 111, 115–116, 257, 272, 275, 278–279, 306, 363–365, 373, 377–378, 382, 386, 438, 498, 548
 side-bearing, 103
 Sievers, Christoph, 377
 Silbermann clavichord, 367
 Silbermann family, 376, 394–395
 Silbermann, Andreas, 394
 Silbermann, Gottfried, viii, x, 45, 51, 53, 64, 76, 82, 93, 108, 248–251, 254, 256, 267, 269, 283, 305, 343, 345–347, 349, 356, 361–362, 364–367, 369, 375–378, 393–394, 399, 404, 438–439, 534, 541, 543
 Silbermann, Johann Andreas, 393, 403
 Silbermann, Johann Daniel, 393
 Silbermann, Johann Gottfried, 393
 Silbermann, Johann Heinrich (Jean Henri), 93, 343, 360, 376, 393–394, 460, 502
Silberton/Eisenton, 426
silver tone/iron tone, 410
 Sitwell, Sir Sacheverell, 516
 Sitwell, Sir Osbert, 516
 Skinner, Belle, 505
 Skowronek, Martin, 507
 Slade, Benjamin, 272, 278
 Smith, Christopher, 270
 Smith, Joseph, 98, 449
 Smith, William, 272, 278
 Smithsonian Institution, Washington, DC, 70, 86, 107, 505
 Snetzler, John, 365, 377
 Snoeck, César, 503
 Socher, Johann, 506
Societät der musikalischen Wissenschaften, 349
 Sodi, Vincenzo, 494
 soft pedal, 124
 Soldini, Agostino and Domenico, 315
 Soler, Padre Antonio, 266, 284
 Somfai, László, 381
 Sonnenburg, Baron Carl von, 415
 Sophia Dorothea, Queen of Hanover, 241
sordino, 11, 294, 465
 Sorge, Georg Andreas, 266–267, 308, 349, 547
sostenuto pedal, 126, 436
 soundboard, 62, 80, 92, 102–106, 133, 168, 179, 183, 207, 237, 331, 334, 437, 506, 511, 515, 521
 soundboard construction, 102
 soundboard flutter, 104
 soundboard ribbing, Cristofori pianos, 334–335
 soundboard ribs, 100, 103–104, 153, 221, 335, 360, 432–433
 soundboard rose, 99, 334
 soundboard, laminated, 105
sourdine stop, 383, 466
 South Kensington Museum, London, 270, 502, 511
 Spanish Netherlands, 507
 Späth & Schmahl firm, 120, 356, 394
 Späth, Franz Jakob, 347, 356, 372, 387, 393–394
 Spaun, Josef Edler von, 469
Speculum musicae, 142
 Sperrhake firm, 513, 520
 Speth, Johann, 107, 244, 304, 547
spezzati, 41, 200, 288, 290–294, 316
Spiegel der Orgelmacher und Organisten, 59, 171
 Spiess, Meinrad, 403
 spinet, 20
spinett, vii, 18, 40, 82, 93, 177, 187
Spinett, ix, 76, 169
spinetta, 12, 93, 95, 169, 289, 291–293
Spinetta harpsichord stop, 114
spinetten, 17, 176
 Spinetti, Giovanni, 12
spinettina, 12, 93, 290–291
spinettone, 12, 93, 95, 169, 292
spinettone for the orchestra, 292
 Spitta, Philipp, 503
 split keys, 41–42, 175, 188–191, 198, 202, 269, 290–294, 507
 split-key and enharmonic keyboards, 190
 square piano, 20
 Squire, William Barclay, 519
 Stein, Nannette and Matthäus firm, 446
 St. Cyr, Nevers, organ at, 163
 St. Gervais, church of, Paris, 51
 St. John's College, Oxford, 51
 Staartstukken, 12
 Staatliche Schlösser und Museen, Berlin, 240
 Staatliches Institut für Musikforschung Preußischer Kulturbesitz, Berlin, 113, 513
 Stainer, Jacob, 273, 289
 steel music wire, 55, 71–72, 102, 295, 456
Steert-stukken, 12
 Steffan, Johann Gottlieb, 431
 Stehlin, Benoit, 16
 Steibelt, Daniel, 500
 Stein notebook, 402–403, 416

- Stein und Sohn firm, 452
- Stein, Carl, 99
- Stein, Frère et Sœur*, 410
- Stein, Johann Andreas, 19, 42, 50, 53, 56, 64, 70, 85, 91, 104–105, 117, 119, 123, 137, 376, 385–387, 389, 392–393, 395, 399–400, 402, 409–410, 413, 416–417, 423, 430–432, 438, 441–442, 445, 448, 452, 467, 488–489, 495, 520, 536, 545, 547
- Stein, Johann Andreas, clavichord made for Mozart, 392
- Stein, Johann Andreas, *Vis-à-vis* combination harpsichord/piano, 395
- Stein, Johann Georg, 393
- Stein, Matthäus Andreas, 129, 410, 417, 458–459, 463–464, 480
- Stein, Nannette, 403, 409–410
- Stein, Nannette and Matthäus, 33
- Stein/Streicher school, 97
- Steinert, Morris, 505, 508
- Steingraeber firm, 113, 513
- Steininger, Johann Gottlieb, 425
- Steinway, 51
- Steinway concert grands, straight strung, 86
- Steinway firm, 51, 103, 436, 447, 471, 476, 485, 495–496, 509
- Steinway model B, 43
- Steinway model D, 497
- Steinway, string tension, 73
- Stetten, Paul von, 397, 442, 547
- Stichmass*, 35
- sticker, 127–128, 130, 133, 346, 435
- sticker action, 119
- Stiftelsen Musikkulturens Främjande, Stockholm, 107, 482
- Stiftung Mozarteum, 412, 414–415
- Stirling, Jane, 483, 492
- stirrup action, 130
- Stöcker firm, 485
- Stodart, Robert, 12, 36, 54, 64, 98–99, 117, 378, 396
- stop levers, 110
- stops, 122
- Störer*, 411
- Stoßmechanik*, 118, 369–370, 403, 413, 444, 537
- Stoßzungenmechanik*, 119, 369, 375, 435
- Stradivari violin proportion, 33
- Stradivari, Antonio, 403, 521
- straight-stringing of bass strings, 86
- Streicher & Sohn, 33
- Streicher firm, 98, 101, 449, 453–454, 457, 477, 485
- Streicher grand piano tension, 91
- Streicher, J. B. und Sohn firm, 454
- Streicher, Johann Andreas, viii, 26, 36, 50, 66, 69, 85, 91, 97–98, 101, 139, 141, 409–410, 416–419, 427, 432, 435, 443, 445, 451–452, 456, 458–459, 463–467, 470–471, 475, 486–489, 495, 535, 546–547
- Streicher, Johann Baptist, 99, 375, 452, 454, 504
- Streicher, Marie Anne (Nannette) Stein, 464
- Streicher, Nannette, 33, 54, 104, 125, 416–417, 419, 423, 431, 434, 436, 448, 451–453, 457
- Streicher, piano firm, 43
- Streichersche Pianoforte Fabrik, 454
- string breakage, 456
- string gauges, 73, 102, 332, 404, 408, 420, 473
- string length equals organ pipe length, 52
- string material/scaling controversy, 62
- string tension, 44, 62, 65, 72, 90, 92, 94, 96–100, 103, 106, 423, 449, 453–454, 456, 471, 494, 496
- string tension curves, 74
- string tension, equalization of, 85
- string tension, modern piano, 449
- stringing of fortepianos, 420
- Stuart & Sons, 43, 523
- Sweelinck, Jan Pieterszoon, 210
- Symphonia*, 76
- Syntagma musicum*, 4, 28, 48, 106, 135, 169, 202, 205, 209, 305, 544
- syntonic comma, 197, 266
- Tabel, Hermann, 272, 275, 278
- Table, Hermanus, 273
- Tafelklavier, 470
- Tagliavini Collection, Bologna, 238, 401
- Tallis, Thomas, 184
- tambourin à cordes*, 162
- tangent action, 120, 162, 342, 356, 372, 394
- tangent action with bare-wood striking surface, 372
- tangent action, Christoph Gottlieb Schröter, 355–356
- Tangentenflügel*, 120, 347, 394
- tangents, clavichord, 88, 105
- tangents, piano, 106
- tanning, 120
- Tantini, Sesto, 3
- Taskin family, 238
- Taskin, Pascal, 50, 53, 81–82, 96, 115, 225, 237–238, 345, 375, 502, 512–513, 520
- Tasso, Torquato, 175
- tawing, 120
- Taxis, Count Torre, 287, 368
- Taylor, Brook, 63
- Technisches Museum, Vienna, 413
- temperament, 192
- tempérament ordinaire*, 225, 232, 234–235, 524
- tensile pickup, 54, 56, 80–81, 423
- tensile strength, 55, 58, 61–63, 70–71, 81–82, 456, 471, 488, 495
- Testa, Andrea, 277
- tetrachord*, 191, 200
- Thalberg, Sigismund, 448, 485, 487, 500
- Thatched House Tavern, 379
- Theatrum instrumentorum*, 57
- Theewes, Lodewijk, 178, 186
- Theorbenflügel*, 76
- theorbo, 294

- thick-walled Italian harpsichord case, 94–95
thin-walled Italian harpsichord case, 94
Thomaschek, Johann Wenzel, 447
Thomee, H., wire gauges, 66
Thon, Christian Friedrich Gottlieb, 419, 427–428, 474
Thon, Friedrich Gottfried, 420
Three Centuries of Harpsichord Making, 520
Thun, Countess Maria Wilhelmine, 390
Thuringia, 34
Tibaut, Vincent, 238
Tiefenbrucker family, 168
Tielke, Joachim, 70
tiorbino register or stop, 95, 115, 290, 293–295
Tisseran, Joseph, 273, 278–279
Todini, Michele, 364, 438, 543
Tolbecque, August, 518
Tomaschek, Wenzel Johann, 455
Tomasini, Louis, 512
Tompkinson firm, 485
Ton de chamber, 46
Torre Taxis, Count, 286–287
tortoiseshell, 39
Toscanello in musica, 195, 234
Townsend, Gabriell, 187, 276
tracker-action, 119
Traité de l'accord de l'espinette, 226
transition point from iron to brass, 61
transposing keyboards, 40–41, 50–51, 57, 59–60, 178, 180, 190, 199, 204, 211, 213–214, 219–220, 235–236, 238–239, 271, 287, 366, 460
transposing plates, 507
transposing plates on nuts, 59
Trasuntino, Vito (or Guido), 42, 78, 94, 200, 204, 502
Treasurer, William, 185
Treatise on the Art of Pianoforte Construction, 56
Trichet, Pierre, 13, 15–16
trichord eight-foot clavichord, 107
trichord stringing, 64, 74, 86, 91, 101, 123, 378, 383, 411, 448, 453, 459, 482–483, 497
Tripelkonzert, 257
Trouflaut, l'Abbé Gilbert, 345
tuning instability, 427
tuning of fortepianos, 427
tuning, folk, 44–45, 50, 427
tuning pins, 91, 100, 102, 146, 214, 216–217, 325, 331–332, 424, 515, 526
tuning wrench, 427
Turca, Laura, 174
Türk, Daniel Gottlob, 75–76, 109, 137, 438, 548
Turkish crescent, 435
Twelve Apostles, 377
twisted bass strings, 82
types of keyboard instruments, 75
types of stringed-keyboard instruments, 11
Über Johann Sebastian Bachs Leben, Kunst, und Kunstwerk, 247
Uffizi Galleria dei Lavori, 316
Ulm, Germany, 19
una corda, 122–126, 176, 317, 330, 378, 383, 434, 436, 452–453, 457–459, 466, 469, 481–483, 486
Undeus, Hieronymus, 288, 324
une corde, 125
une corde, deux cordes, 435
unfretted clavichord, 107, 244
ungesponnene, 82
Unisonus harpsichord stop, 114
Universal Exposition of 1889, Paris, 512
universelle, 44
Università dei Fabbricanti, 315
upright keyboard instruments, 133, 437
upright pianos, 133–134, 342, 436
Uslenghi, Stefano, 386

Valenti, Antonio, 170
Valisnieri, Antonio, 317
Van Eyck, Jan, 5
Vanneus, Stephanus, 167
Varena, Joseph von, 456
Vater family, 238
Vater, Antoine, 71, 502
Vaughan Williams, Ralph, 516
Venetian swell, xi, 109, 111, 115, 122, 279, 381, 498
Venice, Carnival of, 314
Verjure (Ferchur), Jean, 58
vernier caliper, 66
Versuch über die musikalische Temperatur, 263
Versuch über die wahre Art das Clavier zu spielen, 363
Vicentino, Nicola, 42, 199, 201–202, 208–209, 498, 529, 531, 548–549
Victoria and Albert Museum, London, 20, 40, 167, 185, 187, 270–271, 276
Vienna wire gauges, 66
Viennese action, 101, 118, 129, 162, 413, 444, 461, 467, 472, 487–488, 537
Viennese piano-maker's guild, 411
Viennese *Zoll*, 33, 420
Vieuxtemps, Henri, 518
Villa di Pratolino, 314
Vincenti, Ferdinando and Sabatino, 315
Vincenti, Livigimeno, 20
Vincentius Pratenis, 94
viola organista, 77
Violante Beatrice of Bavaria, 314
Violdigambenwerk, 76
viole d'amour, 108
violin fraud, 184
Virdung, Sebastian, 3, 7–8, 164, 166–169, 182, 193
virginal, 16, 20, 93
Virginal, 6, 76, 168
Virginal, 76, 93, 169
Vis-à-vis keyboard instrument, 119, 395–400
Visée, Jean, 2
Vivaldi, Antonio, 211
Vogal, Sebestyén Antal, 451

- voicing, 425
voicing of piano hammers, 121
Volkening firm, 485
Voltaire, 345
- Wachtl, Joseph, 66, 97, 139, 419, 531
Wafaelghem, Louis van, 518
Wagenseil, Georg Christoph, 363
Wagner, Johann Gottlob and Christian Solomon,
76, 140, 306, 367–368, 402, 438, 442, 527, 534,
540, 544
Walsh, John, 210
Walter und Sohn firm, 469
Walter, Anton, 42, 54, 64–65, 104, 117, 123–124,
383–384, 393, 410–412, 414, 416, 418, 423, 443,
451, 457, 465, 467–468, 489, 495, 520,
530–531, 545, 547
Walther, Johann Georg, 30, 211, 244, 304, 384, 444,
531, 549
Walther, Johann Gottfried, 18
Warrington Museum, Cheshire, 276
Wasserblei, 427
Watzdorf, Count Christian Heinrich von, 251
Weber, Karl Maria von, 468
Webster wire, 70, 72
Weigel, Christopher, 211
Weisse, Christian Felix, 432
well-tempered, 260
Well-Tempered Clavier, 245, 307, 539
Welsh Folk Museum, Cardiff, 276
Weltman, 124
Weltman (or Veltman), Andries, 343
Werckmeister, Andreas, 107, 140, 202, 209, 247,
260–262, 266, 305–308, 549
White, James, 187, 276
White, Thomas, 187, 276
Wieck, Friedrich, 487
Wiener bass-octave, 41
Wiener Zeitung, 397, 415
Wienerisches Diarium, 398
Wilbrook, John, 272, 278
Wilder, Philip van, 182
Willaert, Adrian, 201
Willenbrock, Hermann, 260
Wills, Andrew, 71
wing-shape, 26see also *Flügel*,
wing-shaped case, 20, 102, 133, 238
wippen, 132
wire drawing, 65–75
wire drawing dies, 63, 66
wire gauge, tension transitions, 73
wire half-gauges, 68–70, 407–408
wire, high-tensile strength, 471
- Wise, Christopher, 289
Wit, Paul de, 504–506
Wittmayer firm, 513, 520
Wittmayer, Kurt, 412
Wohltemperierte Clavier, 245–246, 255–256, 260, 262,
268–269
wolf fifth, 42, 190, 197, 226, 228, 269, 285
wolf tone, 197
Wolf, Ernst Wilhelm, 500
Wolfenden, Samuel, 56
Wolff, Lyon & C^{ie}, 514
wood framing, 471
Wood, Father (unidentified), 275–276
Woodhouse, Violet Gordon, 515–516
Woodington, John, 184
Worcester Cathedral, 51
Worch, Hugo, 505
world music, 201
Wornum firm, 454
Wornum, Robert, 101
Worshipful Company of Musicians, 512
Wraight, Denzil, 20, 58, 167, 170, 186
wrestplank, 13, 52, 74, 91–92, 94, 96, 98–101, 114,
122, 146, 149, 151, 154–155, 158, 204, 207,
214–217, 222, 237, 279, 317, 322, 324, 330–332,
337, 350, 352, 354, 356, 359, 399, 449, 454, 474,
482, 488, 511, 525
Würfel, Wilhelm Vachlav, 480
- Yale University Collection, New Haven, 42, 115,
238, 276, 505, 508
yellow brass, 81
yellow copper wire, 83
yoke, 100
- Zarlino, Gioseffo, 198, 208, 363, 550
Zedler, Johann Heinrich, 82, 138, 249, 305, 346,
361, 550
Zeno, Apostolo, 317
Zenti, Girolamo, vii, 19, 35, 53, 85, 93, 168, 183,
277, 289, 294–295, 311, 334, 525–526, 545, 549
Zichy von Vasonyko, Count Karl, 390
Zimbel stop, 365
Zmeskill, Nikolaus, 451, 457
Zolfanelli, Francesco, 315
Zuckermann, Joachim, 521
Zugmechanik, 119, 398
Zugzungenmechanik, 119, 391, 395, 398
Zumpe & Buntebart, 503
Zumpe square pianos, 35, 53, 107, 116, 124,
127–128, 380–381
Zumpe, Johann Christoph, 116, 124, 373, 377,
503