## NAME INDEX

AMBERG, 223 Anderson, 154 Arnou, 41

Benedicks, 14, 208 Borchers, 83

Campbell, 3, 6, 59 Catani, 102 Chaplet, 155 Colby, 138, 155

Eichoff, 60 Elwell, 34 Engelhardt, 18, 116

Ferranti, 14, 205 Frick, 11, 138

Girod, 67, 229 Goldschmidt, 20 Greene, 157 Grönwall 23, 140

Haanel, 23 Härden, 110, 160 Harmet, 40 Hering, 163, 232 Heroult, 14, 22, 32, 43, 212, 219 Hiorth, 143, 147

Joule, 8

Keller, 14, 21, 128, 210, 218 Kershaw, 1, 233, Kjellin, 11, 106, 119,

Lane, 100 Langenberg, 38 Leffler, 29 Lindblad, 23, 140 Lyman, 138 Lyon, 35, 38

McBennie, 38 Moissan, 13 Moldenke, 99 Mueller, 76

Nathusius, 169 Nau, 168 Noble, 32 Nyström, 29

Osborne, 50

Petinot, 230 Phelps, 33

Queneau, 171

Reid, 171 Richards, 30, 143, 172 Röchling-Rodenhauser, 10, 106

Schönawa, 110
Seager, 84
Siemens, 11
Soderberg, 172
Stalhane, 23, 140
Stassano, 14, 20, 89, 207
Stobie, 149
Swedish Association of Iron Masters,

Thieme, 120 Thury, 62 Turnbull, 44

Vom Baur, 117 Von Ödelstiern, 26

Walker, 57

## SUBJECT-MATTER INDEX

ABSTRACTS of papers and notes, Functions of the Slag, Amberg, 223 Chemical and physical tests—contd. Keller steel, 131, 187 Röchling-Rodenhauser steel, 121, Progress in Electric Furnaces, Hering, 230 Stassano Furnaces at Newcastle, Stassano steel, 104, 187, 233 Chemistry of refining process, 17, 223 Chicago, 15-ton Heroult furnace at, 50 Kershaw, 232 Use of Titanium, Girod and Petinot, Chrome alloy steel, 5, 83, 105, 121 Abstracts of patents, 204 Benedicks, 208 Classification of furnaces, 9, 230 Colby furnace, 155 Comparative power consumption and working costs, Ferranti, 205 Heroult, 212, 215, 219 iron smelting, 18, 19, 20, 41 Keller, 210, 218, 219 steel refining, 18, 19, 173 Siemens, 12 Conducting hearth furnaces, 132 Stassano, 207 Alundum as a lining material, 17, 165, Costs and yields, comparative, for iron smelting, 41 Curves for current and voltage in elec-Anderson furnace, 154 Annealing, not required for electric tric refining, 127 steel, 5, 232 Arc furnaces, general principles of, 9 DARFO, early trials at, 20 Anderson, 154 Dolomite for furnace linings, 59, 70, 80, Chaplet, 155 Girod, 67 Domnarfvet, recent trials at, 26 Grönwall, 23, 140 Härden, 110, 160 ELECTRICITY supply, systems of, 17, 53, 62, 72, 101, 103, 127, 135, 140, 151, Harmet, 40 Heroult, 14, 22, 32, 43, 212, 219 Keller, 14, 21, 128, 210, 218 Linblad, 23, 140 Electrodes, carbon and graphite, costs of, 15, 59, 82, 95 Lyon, 35, 38 defects of, 15 Moissan, 13 design of, 45, 52 Nathusius, 169 dimensions of, 15, 21, 24, 29, 47, 52, Reid, 171 Siemens, 12 general notes on, 15, 16 Soderberg, 172 heat, losses with, 76 Stalhane, 23, 140 reduced dimensions in Paragon Stassano, 14, 20, 89, 207 furnace, 160 Stobie, 149 substitutes for, 16, 68, 71, 77, 125, 155, 164 suspension of, in Keller furnace, CARBURITE, uses of, in steel refining, water-cooling of, 16, 24, 76, 93 Chaplet furnace for iron smelting, 40

Chaplet furnace for steel refining, 155 Charge sheets of Chicago 15 - ton

Heroult furnace, 55 Chemical and physical tests,

Girod steel, 83, 187 Heroult steel, 56, 59, 187. Equilibrium heat in electric furnaces, 9

FLUXES for steel refining, 18, 50, 55,

Formulæ for calculating heat and

79, 113, 117, 146

temperature, 8

Foundry, use of electric furnaces in the, | Kjellin furnace and process, 106 Frick furnace for iron smelting, 38 steel refining, 139 Future developments of electric refining, Girod furnace, 87 Heroult furnace, 66 Stassano furnace, 99 Future developments of electric smelting. 42

GAS-PLANTS for electric refining furnace, 61, 153 General principles of electric refining, Greene furnace and process, 157 Grönwall furnace, 140

HARDEN furnace, 160 Hearth electrodes, 76, 132 Heat, calculation of heat generated, 8 Hering furnace, 163 Heroult furnaces and process, chemical and physical tests of. 56, 59 Chicago 15-ton furnace, charge sheets and working costs of, description of, 50, 53 method of working the, 53, 55 future developments of, 66 general description of, 46, 50 other installations of, 60, 64 power consumption of, 65 Worcester 15-ton furnace, 60 Heroult, Shasta County, trials at, 32

INDUCTION furnaces, general principles of, 10 Benedicks, 14 Colby, 138 Ferranti, 14, 205 Frick, 11, 138 Greene, 157 Hiorth, 143, 147 Kjellin, 11, 106, 119 Röchling-Rodenhauser, 10, 106 Schönawa, 110

Historical details of electric furnace

Hiorth furnace, 143

developments, 14

Keller furnace and process, 128 conducting-hearth furnace, 132 historical notes on, 128 power consumption of, 131 Unieux furnace, description of, 129

current and voltage curves for, 126 defects of, 110 general description of, 106 methods of work with, 107 power consumption of, 108

LININGS for refining furnaces, cost of, 80 refractory materials for, methods of using, 16, 17, 46, 51, 59, 70, 109, 113, 132, 141, 144, 165, 167 Lists of English and foreign patents, 196 Lists of furnaces in operation, 188 Livet, early trials at, 23 Ludvika, recent trials at, 23

MAGNESITE, use of for furnace linings, 46, 51, 71, 80, 112, 132, 141, 144, 165, Moissan's arc furnace, 13

NATHUSIUS furnace, 169 Nau furnace, 168 Nickel steel, 5, 83, 105, 121

OIL, use of, for heating up electric furnaces, 57, 153

"PARAGON" type of furnace, 160 Patents, abstracts of early Benedicks, 208 Ferranti, 205 Heroult, 212, 215, 219 Keller, 210, 218, 219 Siemens, 12 Stassano, 207 Patents for electric furnaces, dates and numbers of, English patents, 196 Girod patent, 202 Heroult patents, 201 Kjellin and Röchling-Rodenhauser Patents, 202 Physical and chemical tests. Girod steel, 83, 187 Heroult steel, 56, 59, 187 Keller steel, 131, 187 Röchling-Rodenhauser steel, 121, Stassano steel, 104, 187, 233 Pinch effect, use of in furnace design,

Power consumption for electric refining, | Smelting iron-ore, Colby furnace, 157, 184 Frick furnace, 139, 184 Girod furnace, 18, 80, 175 Heroult furnace, 18, 65, 174 Hiorth furnace, 184 Keller furnace, 18, 131, 183 Kjellin furnace, 108, 180 Röchling-Rodenhauser furnace, 19, 117, 181 Stassano furnace, 18, 94, 178 Power consumption, electric smelting, Power supply, systems of electric, 17, 53, 62, 72, 74, 101, 103, 127, 135, 140, 151, Progress in electric furnace design, 7,

## QUENEAU furnace, 171

RAW materials for electric refining, cost of, 81, 101, 118, 145 Refractory materials for furnace linings, 16, 17, 46, 51, 59, 70, 109, 113, 133, 141, 144, 165, 167 Reid furnace, 171 Resistance furnaces, general principles of, 9 Chaplet, 155 Hering, 163, 232 Nau, 168 Queneau, 171 Röchling-Rodenhauser, 10, 106 Röchling-Rodenhauser furnace and process, 111 chemical and physical tests of steel produced, 121 current and voltage curves for, 126 general description of, 111 methods of work with, 113 notable installations of, 122 power consumption of, 117 working costs of, 118 Roof, construction of, for refining

furnaces, 51, 59, 71, 142 SAULT SAINTE MARIE, early trials at, 23 Siemens arc furnace, 12 Silica bricks, use of for roof construction, 46, 51, 80 Silicon, use of alloys in electric refining, 61, 79, 145 Slag, functions of, in steel refining, 11, 18, 47, 54, 61, 77, 78, 112, 158, 168,

comparative yields and costs, 41 early trials at Darfo, Livet and Sault Sainte Marie, 20 recent trials, 23 Soderberg furnace, 172 Stassano furnace and process, chemical and physical tests of the finished steel, 104, 232 future developments of, 99 historical notes on, 89 notable installations of, 100, 232 power consumption and working costs of, 94 rotary furnaces, earlier types of, 91 new forms of, 95 Stobie furnace, 149 Sulphur, absence of, in electrically refined steel, 64

TEMPERATURE, calculation of temperatures attained, 8 Temperature of arc furnace, 9 Tests of raw materials and finished steel. Heroult steel, 56, 59, 187 Keller steel, 131, 187 Röchling - Rodenhauser steel, 121, Stassano steel, 104, 187, 232 Titanium, use of, in foundry practice.

Transformer coils for induction furnaces, 125, 126 Trollhätten, recent trials at, 27 Tungsten alloy steel, 105, 121

VANADIUM steel, 5, 121

WATER-COOLING for electrodes, 76, 93 Worcester, 15-ton Heroult furnace at,

Working costs for electric refining, Girod furnace, 81 Hiorth furnace, 146 Keller furnace, 131 Kjellin furnace, 109 Röchling-Rodenhauser furnace, 117 Stassano furnace, 95 Working costs for electric smelting, 41

YIELDS and costs, comparative for iron smelting, 41



## CAPILLA ALFONSINA U. A. N. L.

Esta publicación deberá ser devuelta antes de la última fecha abajo indicada.

<b>图</b> 题		
1 4 9 1		
	 4	
		-

TN705 K4		
AUTOR	1:	27.959
KERSHAW, John	Bakes C	
TITULO Electro-tho-	- Contes Ge	unnington.

127959

TN705 K4

AUTOR

127,959

KERSHAW, John Bakes Cannington. TITULO Electro-than

127959

