## INDEX

A

Adjusting processes of iron manufacture			PAGE
Allotropic changes of state in solids	•	•	330
	•		225 to 228
modifications are phases: the phase rule states in the iron-carbon compounds .			297
of sulphur .	•	4.	214 to 216
Alloy, microstructure of a bismuth-tin .	•	•	225 to 227
		•	32
copper-aluminium silver-copper	•		48, 88
tin-antimony		•	46 to 49
steels	•		46, 89
Alloys, constitution of non-eutectiferous	•	105,	316 to 325
containing definite chemical compounds, series		•	64 to 71
, cooling curves of	OI	•	148 to 152
, electric conductivity of lead-tin .	•		17 to 52
silver-copper .	S. V.	•	156
silver-gold		•	157
, electromotive force of lead-tin .			155
, eutectic of copper-antimony			159
, eutectiferous range of binary .	•		33
, freezing-point curve of copper-antimony	•		62 to 64
gold-aluminium			150
lead-tin		1	150 55, 60, 61
, lead-tin	57		
, methods of study of the constitution of .	10	• 4.	3, 52 to 57
, microscopic examination of			13 14
of limited reciprocal solubility type .			68 to 75
the solid solution type			64 to 68
, on the eutectic structure of copper-silver.			41
, possible components of			2
, series of copper-antimony			148
gold-aluminium			149
, their resemblance to the crystalline rocks .			3
Alpha iron			215
, influence on magnetic properties .		4	447, 448
Aluminium-copper alloy, microstructure of an			48, 88
			TARREST SERVICES OF THE PARTY O

Index		479
Plant from 1 Cr. 1 Cr. 1		PAGI
Blast-furnace slag, effect of deoxidation on the lime-content of		40
, regulation of the melting-point of	1	402
slags, composition of certain		40
stoves, hot	338 to	
Blowholes		
Boundary between steel and iron .		447
Boynton on troostite		180
Brinell on blowholes	369 to	
Brittleness caused by overheating and its cure	309 10	250
, Stead's		
Rurning	257 to	255
Burnt steel, microstructure of	25/ 10	
		258
contraction of the contraction o		
C1-1.4		
Calculations, stoichiometric	182,	183
Campbell, H. H., on classification and definitions of iron and		
steel		440
Campbell's tilting furnace	352,	
Carbide-carbon	00,	176
Carbon condition, influence of quenching temperature on		224
in iron, conditions of		172
monoxide, its oxidation in the blast-furnace process		470
Carburizing processes, the Harvey and Krupp		325
car-casting system, the	358 to	
Castings, the annealing of chilled .		280
the manufacture of malleable		•
Cast iron, definition of .	110	442
Cast iron, definition of	442,	443
, gray, constitution of . 162 168	435 to	43/
, microstructure of	431 10	435
mottled		
of 4% carbon its constitution 1		168
, the chilling of	437 to	
, the handling of molten .		279
the beet treatment C		332
white constitution of	276 to	
, white, physical properties of .	163,	
irons reactions in fraction and all the contractions		162
Cement-carbon	277 to	
Cement-carbon		176
Charging eyetem the Wellman	160,	175
Chemical compounds among with		354
Chemical compounds among metals Chilled castings, the annealing of		8
		280
Chilling of cast iron, the		279
Chrome steel		323

Classification of iron and steel by carbon-content	PAGE
, general	186, 187
; names and apparatus in which	166, 167
renerally 1	
processes of iron manufacture	Property Committee Committee
COMparison of gas-firing and diagrams of	0-3
regenerative and recuperative form	411 to 416
steel processes	416, 417
the acid and basis Possess	365
the acid and basic Bessemer processes	363, 365
the acid and basic open-hearth processes	349, 365
Components and phases: the phase rule Composition of basic Bessemer iron	294 to 297
2 Desicher Holl	327, 363
slag "	. 364
steel	327
iron blast-furnace slags	403
self-hardening steels, limits of	324
Taylor-White steel	324
typical kinds of steel	172
-temperature curves	
Compounds, chemical, among metals	8
CUIIDIESSION, Tillid of steel ingots	
COllditions of equilibrium	373
Conductivity, electric	285 to 288
Continuous heating furnace, Morgan's	-5-, -55
rolling-mill	377, 378
Constitution of alloys, methods of study of study	378
binary alloys forming as at a six	13
binary alloys forming no chemical compound .	59 to 148
cast iron of 4% carbon	437 to 440
hardened steel 163, 168,	431 to 435
	164
iron and steel, microscopic	186, 187
	84
carbon compounds	- 184, 185
non-eutectiferous alloys	64 to 71
pearlite series, theoretical	184, 185
white cast iron	163
wrought iron 164,	168 to 170
Consumption of from the capita	382
Conversion or purifying processes of iron manufacture .	330
Converter minigs, life of	364
Converters, maximum production by a pair of American	
, range in size of .	361 361
cooling curve, its correspondence with the temperature-com-	301
position curve	
of a solid solution alloy	145
alloys of limited reciprocal solubility	68, 71
high-carbon steel	70, 71
	220

Index	481
	PAGE
Cooling curve of tin	
OHPTIOS	. 17 to 52
distortions of	. 20
, inflections in	. 19
: jog	. 28
malobservation in recording	. 20
of lead-tin alloys	. 60
salt-water	. 18, 29, 30
the iron-carbon compounds: deformation	ns
by lag	. 218
, their relation to freezing-point curves .	. 52 to 61
, thermo-electric method of recording .	. 52 to 01
Copper-aluminium alloy, microstructure of a	. 48, 88
-antimony alloys entectic of	. 40, 00
-antimony alloys, eutectic of	• 33
, the series of	
-silver alloys, electric conductivity of , microstructure of	157
, microstructure of	. 46 to 49
, on the structure of the eutectic of .	· 4I
-tin alloy, microstructure of a	. 72
Cost of iron and steel manufacture	. 380, 381
Cost of iron and steel manufacture	. 341, 342
Citical curves (see Saturation-Doint curves)	
temperature in heating processes, its importance	. 460 to 475
the blast-furnace process, its impor	
ance	. 467 to 475
of a heating process defined	. 460
temperatures of iron and steel 20, 1	194, 214 to 217
Cryohydrate	. 31
Cryohydrate	. 17 to 52
, freezing-point	. 52 to 61
《大学》的《大学》,"我们是我们的"大学"的"大学","大学"。 第一章	
D. K. Berthall	
Darby's recarburizing process	
Definition of "critical" temperature in a heating process	364
Definitions of the iron coulon commends album f	
Definitions of the fron-carbon compounds, scheme of 170, 1	171, 442 to 447
Degree of interty: the phase rule	299
Density, stratification according to	• 44, 45
Deoxidation in the blast-furnace	. 392 to 396
Degree of liberty: the phase rule	100 to 102, 113
Direct-firing, advantages of gas-firing over	. 411 to 416
	. 40/
	• 357
Distortions of cooling curves	. 20
"Draft" fluid compression of steel ingots	. 373
Dry-blast process, Gayley	. 457 to 475
Ductility of manganese steels	. 320, 322

Finishing temperature, its influence on the grain-size . . . 263 to 267

microstructure of steel

482

483

150

216

178

, influence on magnetic properties . . . .