PHYSICAL CONDITION OF IRON AND STEEL.

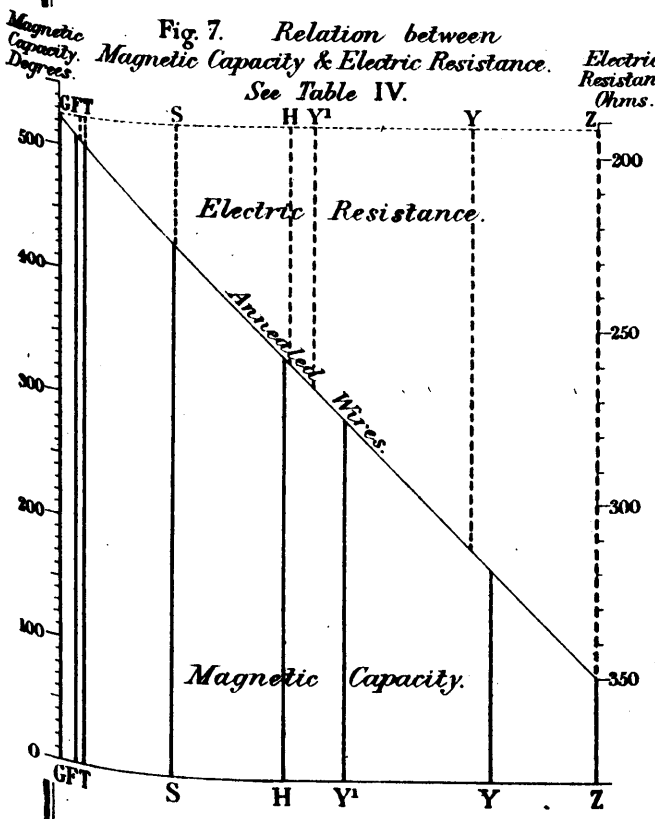

Fig. 7. *Relation between Magnetic Capacity & Electric Resistance. See Table IV.*

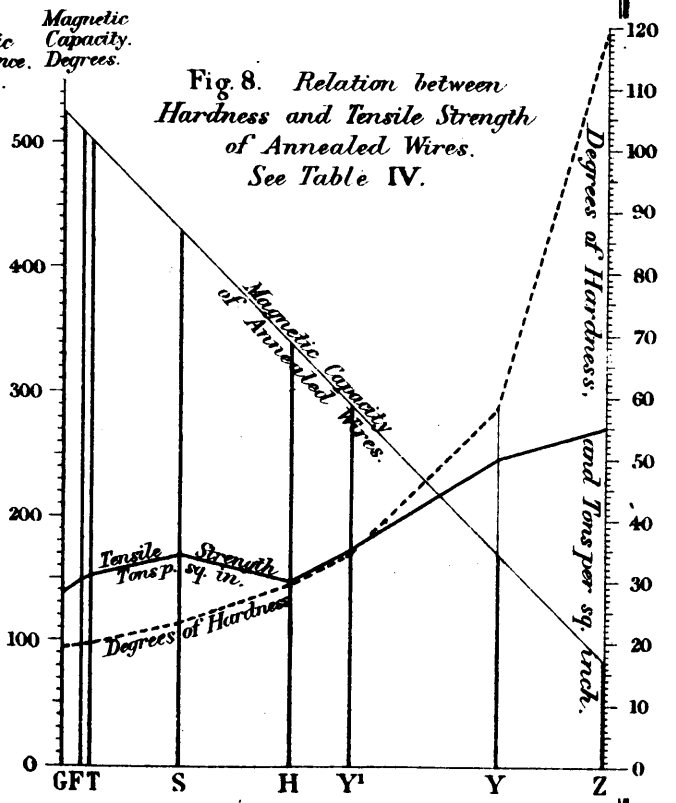

Fig. 8. *Relation between Hardness and Tensile Strength of Annealed Wires. See Table IV.*

TABLE IV.

Mark.	Description of Iron or Steel.	Electric Resistance per Mile of 0.04 in Diameter.	Tensile Strength per sq. Inch.	Magnetic Capacity. Bright Hard.	Magnetic Capacity. Annealed.	Magnetic Capacity. Tempered Hard.	Chemical Analysis Percentages. Carbon.	Silicon.	Sulphur.	Phosphorus.	Manganese.	Copper.	Iron.
		Ohms.	Tons.	Deg.	Deg.	Deg.							
G	Best Swedish Charcoal Iron No. 1.	191.52	28	230	525	435	0.09	Trace.	Trace.	0.012	0.06	Trace.	99.69
F	" " " " " 2.	198.40	30	236	510	415	0.10	"	0.022	0.045	0.03	"	99.70
T	" " " " " 3.	199.62	31	275	503	395	0.15	0.018	0.019	0.058	0.234	"	99.44
S	Swedish Siemens-Martin Iron.	226.32	34	165	430	390	0.10	Trace.	0.035	0.034	0.324	"	99.60
H	Puddled Iron, best best.	259.92	30	212	340	328	0.10	0.09	0.0[illegible]	0.218	0.234	0.015	99.11
Y₁	Best Homogenous Bessemer Steel, [soft	266.52	35	150	291	255	0.15	0.018	0.092	0.077	0.072	Trace.	98.74
Y	" " " hard.	312.69	50	115	172	60	0.44	0.028	0.126	0.103	1.296	"	98.20
Z	Fine Crucible Cast Steel.	350.[illegible]8	55	50	84	28	0.62	0.06	0.074	0.051	1.584	"	97.41