INDEX

A

Aluminum, 99.
Aluminum, addition to steel, effect of, 27-32, 33, 38, 40, 41, 43, 50, 78-80, 82, 92.
Aluminum alloys, 21, 89, 96-97.
Aluminum bronze, 88, 99.
Angle bend test, 11.
Armco iron, 25.
Austempering of steel, 51.
Austenitic steels, see eighteen-eight, Cr-Ni, Cr-Mn, Mn-Ni steels.
A. W. Dyn-el steel, 34.

B

Beryllium copper, beryllium bronze, 88, 99.
Bessemer steel, 25, 33, 35, 37.
Brass (70:30), 99.
Brass, naval, 18, 88.

C

Carbide-forming elements, 43.
Carbon in plain steel, 44, in nickel steel, 74.
Carbon steels:
  Low carbon, 8, 25, 41, 43, 49, 55, 92, 101-102.
  Medium carbon, 8, 17, 44.
  High carbon, 44-45, 50, 54.
“K20,” 8, 24, 87.
Cast iron, 24.
Cast steel, 56-58, 68, 72-80, 84.
Charpy impact bar, conventional, 12, 14.
Charpy impact bar, Izod notch, 15.
Charpy notch versus Izod notch, 8, 9, 15, 68, 71, 79.
  CrCu, 39, 40, 53.
  CrCuSi, 39.
  CrMn, 21, 22, 67.
  CrMnSi, 26.
  CrMo, 17, 57, 60-67, 98, 103.
  Cr (5)-Mo (0.5), 17, 62-63.
  CrNi:
    18-8, 19, 21.
    25-14, 21.
    12 to 17 (Cr), 2 (Ni), 67, 95.
  CrNiCu, 39-40.
  CrV, 52, 57, 60-62, 66, 98.
Cold-worked alloys, 11, 19, 24, 38, 49, 88.
Columbium-treated steels, 40, 94.
Conversion of impact data, inaccurate, 8, 12.
Cooling for low-temperature testing, technique of, 11, 12.
Copper, 99 102.
Copper-base alloys, 16, 18, 99.
Copper steels, 32, 35.
  CuNi, 69.
  CuNiCr, 38, 42-43, 74.
  CuMo, 57.
Cor-Ten steel, 34.
Cupro-nickel, 17, 99.

D

Deformation, restriction upon, 10.
Directional properties, 22, 33, 35, 41-42, 46-48, 104.
Double width impact specimens, 14, 69, 78, 104.
Ductiloy steel, 36.
Duplex steel, 25.
Dyn-el, A. W., 34.

E

“Eighteen-eight” steel, 17, 19, 21, 90, 94, 99-100.
  Plus Mo, Ti, W, 21, 94.
Everdur, 16.

F

Fatigue, 23, 89, 90, 92.
Ferrite-strengthening elements, 43.
Ferronickel, 18, 19, 102.
Fracture, impact, character of, 6, 13.

G

Grain size, 7, 25, 27, 50, 81.

H

Heat-treatment, effect, 7, 44, 45, 52, 79.
Histeel, 34.
Hole-tension test, 11.

I

Impact test specimens, 11, 12, 14.
Inconel, 19-20, 88, 93.
Invar cast iron, 24.
Izett steel, 25.
Izod bar, 15.

K

K Monel, 18, 93.
“K20” steel, 8, 24, 87.
INDEX

L
Lead, 21, 102.
Longitudinal versus transverse specimens, 22, 33, 35, 41, 42, 46–48, 104.
Low alloy, high-yield strength steels, 34.

M
Magnesium alloys, 22, 89, 95.
Malleable iron, 25.
Manganese bronze, 16, 18, 88, 99.
Manganese steels, 36, 55, 57, 60, 72.
McQuaid-Ehn test, limitations of, 47, 51.
Molybdenum steels:
CMo, 26, 53, 54, 56, 103.
CrMo, 17, 57, 60–67, 98, 103.
Cr(5)-Mo(0.5), 17, 62–63.
MnMo, 52.
NiCrMo, 85–87, 101, 103.
NiMo, 53, 76, 82, 84.
Monel, 19–20, 88, 93.
K Monel, 18, 93.

N
Naval brass, 18, 88.
Navy bronze, 18.
N.A. X. steel, 36.
Nickel, 18, 20, 93, 99.
Nickel steel:
Cast, 68, 73–80, 84.
NiCr, 86–87.
NiCrMo, 85–87, 101, 103.
NiCrMoV, 87, 103.
NiMn, 72.
(13 Ni, 7 Mn), 18.
NiMo, 53, 76, 82, 84.
NiV, 53, 69, 76, 82, 84.
Nickel wrought iron, 68.
Ni-resist cast iron, 24.
Nitriding steel, 82.
Non-ferrous alloys, 16, 88.
Notch depth, 8, 14.

O
Otiscoloy steel, 34.

P
Phosphor bronze, 18, 88.
Phosphorus in steel, 34, 36, 38–40.
Pipe steels, 32–33, 41, 46, 55, 68.
“Plexiglas,” 91.

R
Rail steel, 11, 24.
Red brass, 18.
Rimmed steel, 38, 46, 55.

S
S.A.E. steels, various, 43, 51, 53, 92.
Silicon bronze, 16.
Silicon deoxidation of steel (versus Al), 27–30, 33, 43–47, 50, 92.
Size sensitivity, 6, 7, 38.
Slow bend test, 8.
Solder, 99.
Specifications, 12, 13.
Specimens, test, 11, 12, 14.
Size of, 6, 7, 38.
“Split,” see transition temperature.
Standardization of impact testing, 8, 11, 12.
Structural steels, 32.
Submicroscopic particles, 27, 28, 41, 106.
Subsize specimens, 6, 16.

T
Tension test data at low temperatures, 88–103.
Test specimens, 11, 12, 14.
Titanium-treated steels, 21, 40, 57, 94.
Transition temperature, 6, 8–10, 58, 106.
Transverse versus longitudinal specimens, 22, 33, 35, 41, 42, 46–48, 104.
Triaxial stresses, 13.
Tungsten-chromium steel, 60.

V
Vanadium-treated steels, 26, 36, 40, 53, 57, 59–62, 72, 84.
Vanadium steels:
CrV, 52, 57, 60–62, 66, 98.
MnV, 36, 57.
NiV, 53, 69, 76, 82, 84.
Velocity sensitivity, 15.

W
Welds, 41–43, 68.
Wrought iron, 36, 68.

Y
Y-alloy, 99.
Yoloy steel, 36.

Z
Zinc-base alloys, 23.