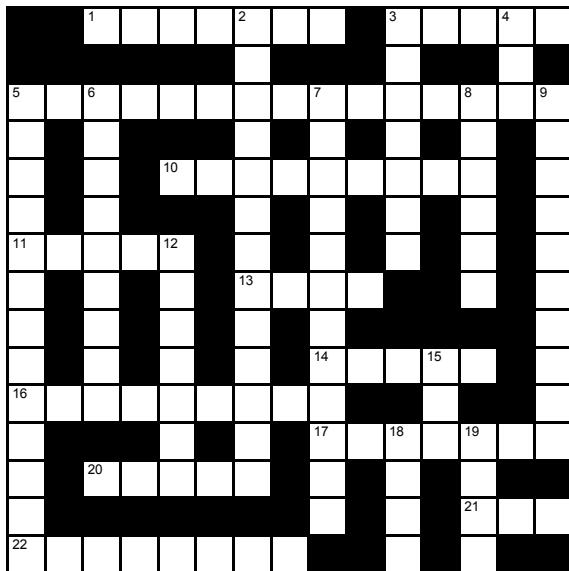


Metals_15x15_2006-11-02

B.B. Huria



Across

- 1 A bevelled surface to eliminate an otherwise sharp corner. (7)
- 3 Components. (5)
- 5 An element added to a metal, and remaining in the metal, that effects changes in structure and properties. (8,7)
- 10 A metal working operation similar to forging. (9)
- 11 Extremely small quantity of an element, usually too small to determine quantitatively. (5)
- 13 A concave surface departing from a straight line edge to edge. (4)
- 14 A form of cavity into which molten metal is poured to produce a desired shape. (5)

- 16 Chemical symbol Mn. (9)

- 17 Transferring molten metal from melting furnace to ladle. (7)
- 20 An opaque, lustrous, elemental substance that is a good conductor of heat and electricity and, when polished, a good reflector or light. (5)
- 21 A mineral from which metal is (or may be) extracted. (3)
- 22 Degree to which a metal will resist cutting, abrasion, penetration, bending and stretching. (8)

Down

- 2 Steel that is ready for the market without further work or treatment. (8,5)

- 3 Mechanical working of metal by hammer blows or shot impingement. (7)

- 4 Chemical symbol Sn. (3)

- 5 A particle of a phase that has no regular external shape. (13)

- 6 Partial melting of an alloy. (9)

- 7 An apparatus for indicating the deformation of metal while it is subjected to stress. (12)

- 8 The dressing of metal strip edges by rolling, filing or drawing. (6)

- 9 Electroplating metal objects with tin. (10)

- 12 A chemical solution used to etch a metal to reveal structural details. (7)

- 15 A surface defect, appearing as a seam, caused by forging

over hot metal, fins, or sharp corners and then rolling or forging them into the surface, but not welding them. (3)

18 A term indicating the process of passing metal through a rolling mill. (4)

19 A magnetic silver white metal of high tensile strength, ductile and malleable with melting point of about 2795 (degrees) F. (4)