

CHAMBERS DICTIONARY OF SCIENCE AND TECHNOLOGY

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**DICTIONARY
OF SCIENCE
AND TECHNOLOGY**

W & R Chambers Ltd
11 Thistle Street Edinburgh EH2 1DG

© W & R Chambers Ltd 1971, 1974
Revised edition 1974
Reprinted 1976
Published in one volume paperback 1981

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ISBN 0 550 18019 2

Printed in Great Britain by
Clark Constable Ltd
Hopetoun Street Edinburgh

- concerned in making a piece of lace or net; varies with type of machine.
- rack-and-pin (Cinema).** Processing method in which film is wound spirally around vertical pillars mounted on a rack which can be immersed in shallow tanks of solution. Suitable only for lengths under 50 ft (ca 15 m).
- rack-and-pinion (Eng.).** A method of transforming rotary into linear motion, or vice versa; accomplished by a pinion or small gear-wheel which engages a straight, toothed rack. See pitch line.
- rack-and-pinion steering-gear (Autos.).** One in which a pinion carried by the steering column engages with a rack attached to the divided track rod.
- rack clock (Horol.).** One mounted on a vertical toothed rack and operated by gravity.
- rack development (Cinema).** See frame development.
- racked (Carp.).** Said of temporary timbering which is braced so as to stiffen it against deformation. (*Textiles*) Term applied to knitted patterns of the type used extensively for machine knitted outerwear. Known also as shaker patterns, shogged-rib.
- rack hook (Horol.).** Part of the rack-striking work. Just before the hour, the lifting piece lifts the rack hook, which allows the rack to fall.
- racking (Brew.).** The operation of conveying the beer by hose from the fermenting vat to casks, after removal of the yeast. (*Mining*) The operation of separating ore by washing on an inclined plane. (*Ships*) Distortion of the ship's transverse shape. (*Surv.*) See fixed-needle surveying.
- racking back (Build.).** The procedure adopted when the full length of a wall is not built at once, the unfinished end being stepped or *racked back* at an angle, so that when the remainder of the wall is built there is not a vertical line of junction, which might cause cracking, owing to uneven settlement.
- rack mounting (Telecomm.).** The use of standard racks, of varying height but otherwise of standard dimensions, for mounting panels carrying apparatus, such as repeaters or filters, with a uniform scheme of wiring; such mounting gives both accessibility and compactness.
- rack railway (Rail.).** A device for overcoming adhesion difficulties, as met on mountain railways. A *pinion* on the locomotive axle engages with a *rack* laid parallel with, usually in the centre of, the normal rails, which continue to carry the weight. Also mountain railway.
- rack saw (Carp.).** A saw having wide teeth.
- racon (Nav.).** Radar beacon used by navigators for identifying objects at a distance.
- rad (Maths.).** Abbrev. for *radian*. (*Radiol.*) Unit of radiation dose which is absorbed, equal to 0.01 J/kg of the absorbing (often tissue) medium.
- radar.** In general, a system using pulsed radio waves, in which reflected (*primary radar*) or regenerated (*secondary radar*) pulses lead to measurement of distance and direction of target (*radio detection and ranging*). In an alternative radar system continuous RF waves are sent out by the transmitter.
- radar beacon (Radar).** A fixed radio transmitter whose radiations enable a craft to determine its own direction or position relative to the beacon by means of its own radar equipment.
- radar indicator (Radar).** Display on a CRT of a radar system output, either as a radial line or a coordinate system for range and direction. The echo signal gives a brightening of the luminous spot, which remains for some seconds because of afterglow. Also radar screen. See A, B, C, etc., display, plan-position indicator.
- radar performance figure (Radar).** The ratio of peak transmitter power to minimum signal required by receiver.
- radar pulse (Radar).** Repeated pulse on very high frequency, usually a few microseconds in duration repeated, e.g., 1000 times per second, frequency of the radiation being up to 40 GHz.
- radar range (Radar).** Usually given as that at which a specified object can be detected with 50% reliability.
- radar scan (Radar).** The path followed by a radar beam in space.
- radar screen (Radar).** See radar indicator.
- radar V-beam (Radar).** One using 2 fan-shaped beams to produce 3-dimensional position data on a number of targets.
- raddle or wraith (Weaving).** Steel comb or half-reed used at the front of the beamer to spread the threads to width of the warp beam.
- radechon (Electronics).** A storage tube in which the controlling element is a fine mesh grid.
- radiac (Instr.).** Class of instruments for radiation survey, in mineral prospecting, Civil Defence, handling radioactive materials, and working with nuclear reactors.
- radial.** Radiating from a common centre; pertaining to a *radius* (q.v.). (*Zool.*) In *Crinoidea*, a whorl of ossicles supporting the oral disk.
- radial commutator (Elec. Eng.).** A commutator for a d.c. machine in which the commutator bars are arranged radially from the axis to form a disk instead of a cylinder.
- radial drill (Eng.).** A large drilling machine in which the drilling head is capable of radial adjustment along a rigid horizontal arm carried by a pillar.
- radial ducts (Elec. Eng.).** In an electric machine, ventilating ducts which run radially from the shaft.
- radiale (Zool.).** A bone of the proximal row of the carpus in line with the radius. *pl.* *radialia*. See somactids.
- radial engine (Aero., Eng.).** An aircraft or other engine having the cylinders arranged radially at equal angular intervals round the crankshaft. See double-row-, single-row-, master connecting-rod.
- radial feeder (Elec. Eng.).** See independent feeder.
- radial fission (Zool.).** Repeated longitudinal fission in which the daughter individuals remain in position, as in some *Protozoa*.
- radial grating (Electronics).** One consisting of radial wires inserted in a circular waveguide to suppress E-modes.
- radial longitudinal section (Bot.).** A section cut in the radius of the longitudinal axis of an organ.
- radial-ply (Autos.).** Term applied to tyres which have a semi-rigid breaker strip under the tread and relatively little stiffening in the walls. Also braced-tread. Cf. *cross-ply*.
- radial recording (Acous.).** Same as *lateral recording* (q.v.).
- radial symmetry (Biol.).** The condition in which the body of an animal can be divided into two similar halves by any one of several vertical planes passing through the centre, as in *Echinodermata* and *Coelenterata*. Cf. *bilateral symmetry*.
- radial system (Cables).** A distribution system in which the cables radiate out from a generating or supply station. If a fault occurs, all consumers beyond the fault are cut off.
- radial valve gear (Eng.).** A steam-engine valve gear in which the slide-valve is given independent

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