

NAME INDEX

[The letter "A" following a page number denotes a reference to the present volume of the *Journal* dealing with abstracts, bibliography, book reviews, &c.]

- Abbott, E. J. See Firestone, F. A.
- Abel, E., Adler, J., Halla, F., and Redlich, O. Crystal structures of compds. formed in Sb-Cd system; (remarks on paper by M. Chikashige and T. Yamamoto), 50, 440A.
- Aber, W. C. Effects of strain-hardening on mech. properties of Al and its alloys, 50, 337A.
- Abraham, Martin. Corrosion-resistance of aircraft bracing cables with different end-connections, 50, 742A.
- Abrahams, Harold J., and Müller, John Hughes. Quant. sepn. of Co and As, 50, 240A.
- Achenbach, Albert. Book: "Die Giesereisenschachteln in Theorie und Praxis," 50, 142A (review).
- Ackermann, A. S. E. Discussion on "Observations on the Pressure of Fluidity of Annealed Metals," 48, 67.
- Ackermann, K. L. Cd in high-Pb bearing metals, 50, 17A; effect of addns. of readily fusible heavy metals to Pb bearing alloys, 50, 604A; rapid detn. of As in white metals, 50, 167A.
- Adams, Elliot Q. Thermostat regulator, 50, 557A.
- Adcock, Frank (with Preston, G. D., and Webb, C. E.). Alloys of Fe research. X.—Cr-Fe constitutional diagr., 50, 13A, 349A.
- Addicks, L. Discussion on Schumacher and Ellis's paper on "The Deoxidation of Copper with the Metallic Deoxidizers Calcium, Zinc, Beryllium, Barium, Strontium, and Lithium," 50, 771A.
- Adelson, J. S. Brittleness of Zn-coated steel, 50, 361A, 482A, 612A.
- Adler, J. See Abel, E.
- Ageew, N. W. See Kurnakow, N. S.
- Ageew, N. W., Hansen, M., and Sachs, G. Sepn. of constituents and changes of properties exhibited by supersatd. Ag-Cu alloys, 50, 20A.
- Agejnkow, W. G. Book: "Methods for the Technical Analysis of Ores and Metallurgical Products in Copper, Lead, and Zinc Manufacture" (in Russian), 50, 59A.
- Agte, C., and Schröter, K. Soldering of hard metals (Widia), 50, 110A.
- Aizawa, T., and Osanai, K. Pb alloys for cable sheaths, 50, 379A.
- Akimov, G. W. Book: "Metals and Alloys in Chemical Apparatus" (in Russian), 50, 457A; influence of contact with other metals on corrosion of Al and its alloys, 50, 229A; pamphlet: "The Gas Corrosion of Carbon Steel at High Temperatures" (in Russian), 50, 205A.
- Akimov, G. W., and Kroenig, W. Protection of Al alloys against corrosion by means of metallic coatings produced by Schoop spray process, 50, 742A.
- Akin, Richard K. What X-ray tells about castings, 50, 680A.
- Alexeevsky, J. E. Electrothermic manuf. of Si alloys, 50, 267A.
- Alexeewa, Elizabeth J. Elected member, 48, 315.
- Alison, A. Graphical detn. of blank size for conical cups, 50, 504A; line chart for dotg. blank size for a flanged cup, 50, 387A.
- Alkins, W. E. Discussion on "The Distortion of Wires on Passing Through a Draw Plate," 49, 201.
- Allan, Jas. R. Foundry refractories, 50, 199A.
- Allan, J. C., and Geruso, R. L. Hot-galvanizing as it affects mild steel, 50, 670A.
- Allcock, H. J., and Jones, J. R. Book: "The Nomogram," 50, 781A.
- Allcut, E. A., and Miller, E. Book: "Materials and their Application to Engineering Design," 50, 714A.
- Alleman, Norville J. See Moore, Herbert F.
- Allen, H. Stanley. Book: "Electrons and Waves," 50, 457A.
- Allen, John B. Cr plate in paper mills, 50, 183A.
- Allen, J. F. See McLennan, J. C.
- Allen, N. A. Pb sheaths for cables, 50, 322A.
- Allen, N. P. Paper: "The Effect of Pressure on the Liberation of Gases from Metals (with Special Reference to Silver and Oxygen)," 49, 317.—*Discussion*: W. P. Rees, 340.—*Reply to Discussion*, 342.—*Correspondence*: W. P. Rees, 343; R. S. Dean and V. H. Gottschalk, 343; D. Stockdale, 344.—*Reply to Correspondence*, 345.
- Almin, A. See Nial, O.

- Alphen, P. M. van. See Haas, W. J. de.
- Altmannsberger, Karl. Anodically oxidized Al as new constructional material for electrotechnics and automobile construction, 50, 50A; book: "Die Verchromungsbetriebe," 50, 714A; Cr plating of light alloys, 50, 449A; Cr plating of pure Al and its alloys, 50, 177A, 449A; Cr plating process for most useful metals and alloys, 50, 449A; high-duty Ni-plating baths, 50, 97A; indust. Cr plating, 50, 45A; indust. methods of old-silver colouring, 50, 120A; indust. methods of producing oxidized Ag finishes, 50, 120A.
- Altmayer, Maurice. Direct manuf. of finished products in electro copper, 50, 631A; electrolytic extraction of Cu from low grade materials, 50, 494A; electrolytic refining of Cu, 50, 494A; refining of Cu by series system, 50, 635A.
- Altmeyer, —. Bibliography of Cr plating, 50, 759A.
- Ambrose, Henry A. See Gillespie, Louis J.
- Ameline, M. Influence of metallic and non-metallic impurities in bronzes, 50, 602A.
- Anastasiadis, L. Greek bronze 2400 years old, 50, 153A; Ramet. Tantalum carbide as cutting material, 50, 387A.
- Anastasiadis, L., and Guertler, W. Example of an unstable state in Fe-Ni alloys which cannot be brought to reaction even at 1000°C., 50, 19A.
- Anceau, —. Book: "La cémentation et traitement thermique des petites pièces de mécanique," 50, 457A.
- Anderegg, Charles G. A. Elected member, 48, 18.
- Andersen, H. Bjern-. See Björn-Andersen, H.
- Anderson, E. A., and Reinhard, C. E. Cr plating on Zn alloys, 50, 371A.
- Anderson, E. A., and Wilhelm, E. J. Plating on Zn die-castings, 50, 248A.
- Anderson, H. A. Zn alloys for high- and low-temp. service, 50, 432A, 477A.
- Anderson, H. A., and Faragher, P. V. Report of Cttee. B-6 of A.S.T.M. on die-cast metals and alloys, 50, 323A, 581A.
- Anderson, H. V. See Long, J. S.
- Anderson, Joseph T. Soly. of Au in Hg.—V, 50, 663A.
- Anderson, Paul A. Molecular process of crystal growth in hexagonal metals. Depn. on mono-crystalline hemispheres of Zn, 50, 616A.
- Anderson, Robert J. Adjustment of rolls in Al rolling mills by hand polishing, 50, 190A; Al sheet prodn. IX.—Hot break-down operation, 50, 55A; X.—Hot mills, 50, 117A; XI.—Planning methods, 50, 190A; XII.—Rolling operations, 50, 386A; XIII.—Finish rolling, 50, 701A; book: "Secondary Aluminium," 50, 63A (review); dressing rolls in Al rolling mills by hand grinding, 50, 327A; heat-treatment and use of Al alloys for aircraft structures, 50, 382A; metal lubrication and roll cooling in Al hot-mill practice, 50, 190A, 327A; sampling Al scrap and waste, 50, 618A; slush casting Al utensil spouts, 50, 123A; small stationary furnace for Al melting, 50, 776A; smelting secondary Al and Al alloys. XI.—Metal recoveries in secondary Al practice; XII.—Recoveries secured in practice on different kinds of scrap, 50, 195A; testing drawing qualities of Al sheet, 50, 446A.
- Anderson, Walter, and Clark, Malcolm. Resistance welding data, 50, 258A.
- Andrade, E. N. da C. Correspondence on "The Behaviour of Single Crystals of Bismuth subjected to Alternating Torsional Stresses," 48, 250; cry of Sn, 50, 420A.
- Andrae, M. P. Corrosion phenomena in ship construction, 50, 304A, 437A.
- Andrews, Mary R. Reaction of gases with incandescant Ta, 50, 466A.
- Andruschen, A., and Diesporow, S. Pamphlet: "Tungsten" (in Russian), 50, 781A.
- Androuin, M. J. Prod'n. of aircraft parts from point of view of safety, 50, 256A.
- Andrus, Paul M. Phys. characters of penumbral shadows and their significance in röntgenography, 50, 627A.
- Anthes, Lawrence Lee. Elected member, 48, 19.
- Aoki, Nobutosi. See Iwasé, Keizô.
- Aoki, Nobutosi, Waki, Shojiro, and Ikeda, Jiro. Investigation of type metals. VI.—Microstructure of Pb-Sb-Sn alloys, 50, 78A.
- Aoki, O. Materials for overhead trolley wires, 50, 377A.
- Aoki, Yasuzo. See Iitaka, Ichirô.
- Appleton, L. W. See Lilienfeld, J. E.
- Archarov, W. I. Rationalization of an X-ray installation for structural analysis, 50, 489A.
- Archbutt, S. L. New alloys for marine engineering, 50, 109A.
- Archer, W. E. Al increases pay load, 50, 373A.
- Arend, J. Detn. of Ti in alloy steels, 50, 674A.
- Arkadiew, W. Calculation of magnetic permeability of wires and origin of apparent bands in magnetic spectra, 50, 344A; magnetic spectra due to magnetic after-effect, 50, 74A.
- Armitage, H. C. Machine tools from user's point of view, 50, 261A.
- Armstrong, G. See Butler, J. A. V.
- Armstrong, H. Clifford. Mech. stokers for metallurgical furnaces, 50, 642A.
- Arndt, K. Pt in electrochemistry, 50, 100A.
- Arndt, L. Metallic cements, 50, 186A; modern galvanizing, 50, 84A.
- Arnold, E. H. Specialized deep-drawing in Zn: 6-in. dry cell battery can, 50, 504A.
- Arnott, John. Si as alloying element, 50, 80A, 736A.

- Arnould, J.** Refractory hydraulic concrete and cement, 50, 397A, 398A.
- Arssentjev, A. W.** Book: "Auffindung und Förderung von Gold und Silber" (in Russian), 50, 524A.
- Arzens, R.** Lab. and foundry, 50, 769A.
- Aschan, Joh.** Tensile strength tests on whole and soldered Au and Ag wires and hardness tests on Ag and Au plates, 50, 594A.
- Ash, E. J.** See Saeger, C. M., Jr.
- Ashcroft, E. W.** Book: "Faraday," 50, 206A.
- Ashdown, H. H.** De-nitrating in salt baths and molten Al, 50, 689A.
- Asher, Harry H.** Elected member, 48, 315.
- Asher, Samuel Bernard.** Elected member, 48, 18.
- Aston, F. W.** Constitution of Ta and Cb, 50, 596A; isotopic constitution and atomic weights of Cs, Sr, Li, Rb, Ba, Se, and Tl, 50, 66A; unit of atomic weight, 50, 749A.
- Aston, James.** See Gibbonoy, J. H.
- Atanasiu, J. A., and Voleulosco, A. J.** Use of solid electrodes in electrometric analysis with pptn. reactions, 50, 87.1.
- Atchison, R.** See Showan, A. J. S.
- Atkin, R. K.** See Plummer, C. E.
- Atkinson, R. H.** Discussion on "Magnesium Alloy Protection by Selenium and Other Coating Processes," 48, 160.
- Ato, Sunao.** Sepn. and detn. of Ga. III.—Sepn. of Ga from bivalent elements and rare earth elements, and detn. of all these elements, 50, 88A.
- Attfield, G. C., Marks, S., Hickson, L. R., and Singleton, W.** Paints, pigments, varnishes, and resins, 50, 361A.
- Aubel, Edmund van.** Hall effect in Au-Ag alloys, 50, 296A.
- Audrieth, L. F.** See Stillwell, C. W.
- Audrieth, L. F., and Nelson, H. W.** Depn. of metals by electrolysis starting from non-aqueous solns., 50, 451A.
- Auerbach, F., and Hort, W.** Book edited by: "Handbuch der physikalischen und technischen Mechanik," 50, 715A.
- Aulich, P.** Practical tests for foundry sands, 50, 269A; some fundamental problems relating to testing of moulding sands and practical testing in foundry, 50, 641A.
- Ault, E. S.** How designers can appraise metals from hardness test data, 50, 754A.
- Austerweil, —, and Lemay, —.** Vol. method for detn. of K, 50, 241A.
- Austin, C. R., and Halliwell, G. P.** Developments in high-temp. alloys on Ni-Co-Fe system, 50, 18A, 79A.
- Austin, James Bliss.** Calculation of characteristic frequency from coeff. of compressibility, 50, 71A; temp. distribution in solid bodies during heating or cooling, 50, 279A; thermal expansion of some refractory oxides, 50, 201A.
- Austin, R. N.** Plain and anti-friction bearings, 50, 102A.
- Autenrieth, Wilhelm, and Rojahn, Carl August.** Book: "Quantitative chemische Analyse," 50, 132A.
- d'Auigny, H.** Al alloys for forging and rolling, 50, 601A.
- v. Auwers, Otto.** Magnetic properties of Permalloy; influence of internal strains, longitudinal stretching, and pressure, 50, 475A; see also v. Hippel, A.
- Averill, L. E.** Hazards in fabricating Mg metal, 50, 118A.
- Awbery, J. H.** Temps. reached with solid CO₂, 50, 680A.
- Bablik, Heinz.** Continental galvanizing practice, 50, 612A; flexibility of Zn coatings, 50, 31A; galvanizing problems, 50, 163A.
- Bach, A. N.** See Martens, L. K.
- Bachmetew, E. F.** Alteration in texture and mech. properties of Duralumin as function of working and subsequent heat-treatment, 50, 745A; texture of rolled metal and its alteration in relation to degree of deformation, 50, 238A.
- Bacon, Frederic.** Causes of breakage of rolls, 50, 69A, 190A.
- Badeau, E. C.** Suitability of Ni for milk plants increased by utilization of new alloy with Cr, 50, 692A.
- Baducci, —.** Alloy 43 in architecture, 50, 180A.
- Bailar, John C., Jr.** Comparison of solubilities of Ca with Sr *p*-bromobenzoates in acetone-water mixtures, 50, 87A.
- Bailey, G. L.** Deoxidizers and fluxes, 50, 194A; paper: "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 203.—Discussion: W. Rosenhain, 226, 230; R. S. Hutton, 227; W. J. P. Rohn, 228; A. J. G. Smout, 228; C. H. Doesch, 230; W. R. Barclay, 230; J. C. Hudson, 231.—Reply to Discussion, 231.—Correspondence: I. E. Gorshkov, 232; Otto Junker, 233; J. G. Pearce, 234.—Reply to Correspondence, 234; P in red brass, 50, 773A.
- Bailey, John Cleaver.** Elected student member, 48, 19.
- Bailey, Joseph.** Canadian manufacturers cut costs by die-casting.—I-II., 50, 122A.
- Bailey, L. C.** Thermal conductivities of certain approximately pure metals and alloys at high temps., 50, 4A, 422A.
- Bailey, R. W., and Roberts, A. M.** Testing of materials for service in high-temp. steam-plant, 50, 751A.
- Bailey, R. W., Dickenson, J. H. S., Inglis, N. P., and Pearson, J. L.** Trend of progress in Great Britain on engineering use of metals at elevated temps., 50, 532A.
- Bailey, William E.** Correcting engravings by projected electrolyte, 50, 260A.
- Bain, A. M.** See Mackay, H. M.
- Bain, E. C., Davenport, E. S., and Waring, W. S. N.** Equilib. diagr. of Fe-Mn-C alloys of commercial purity, 50, 226A.

- Baintner, G.** Effect of support on variations with temp. of elect. resistance of thin Pt films, 50, 213A.
- Bajmakow, J. W.,** and Drosdow, B. W. Book: "Electrochemical Industry" (in Russian), 50, 649A.
- Baker, Donald A.** Die for bending circular-shaped clip, 50, 767A.
- Baker, Edwin M.** Discussion on Canning's paper on "High-Speed Nickel Plating as Practised in England," 50, 97A; discussion on Cuthbertson's paper on "The Electrodeposition of Chromium and the Influence of the Cathodic Metal," 50, 95A; discussion on Pan's paper on "Bright Silver Plating from the Cyanide Bath," 50, 98A; discussion on Stout and Thummel's paper on "The Change in Reflecting Power Caused by Tarnishing Electrodeposited Silver-Cadmium Alloys," 50, 99A; discussion on Walter's paper on "Electrothermic Zinc," 50, 100A; discussion on Watt's paper on "Progress of the Hot Nickel Solution," 50, 97A; discussion of Willink's paper on "Chromium Plating of Steel for Wear Resistance at High Temperatures and High Current Densities," 50, 769A.
- Baker, Edwin M.,** and Holbrook, George E. Experimental study of metal polishing by flexible polishing wheels, 50, 121A.
- Baker, Edwin M.,** and Merkus, P. J. Pb and Pb-Sb anodes for Cr plating, 50, 95A, 758A.
- Baker, Robert S.** β to α transformation in hot-forged brass, 50, 730A.
- Baker, W. N.** See Ray, K. W.
- Balcar, L.** See Glazunov, A.
- Baldwin, Tom.** Elected member, 48, 18
- Bales, C. E.** Load test for refractories, 50, 515A; see also Bole, G. A.
- Balle, M. P.,** and Phillips, H. Corrosion of metals by tan liquor. I.—Introduction. II.—Corrosion of metals and alloys submerged in stationary tan liquors, 50, 547A.
- Balinkin, Isay,** and Wells, D. A. Now Hg vapour lamp for lab. use, 50, 678A.
- Ballay, Marcel.** Al plating method on smooth surface, 50, 683A; complex Cu-Ni alloys, 50, 77A, 541A; Cu alloys used in marine work, 50, 183A; electrolytic deposits on Al and its alloys, 50, 47A, 760A; ultra-rapid Ni-plating in Franco, 50, 493A; see also Guillet, Leon.
- Bamford, T. G.** Paper: "The Properties of Commercial Varieties of Copper at High Temperatures," 49, 237.—Correspondence: F. Johnson, 245.—Reply to Correspondence, 245.
- Band, William.** See T'ao, Shih-Chen.
- Bankwitz, Ernst.** Pamphlet: "Die Abhängigkeit der Werkstoffdämpfung von der Grösse und Geschwindigkeit der Formänderung," 50, 524A.
- Bannister, C. O.,** and Jones, W. D. Diffusion of Sn into Fe with special references to formation of columnar crystals, 50, 22A, 352A.
- Bannister, L. C.** See Brownsdon, H. W.
- Banta, H. E.** Some thermo- and galvanomagnetic properties of Bi crystal, 50, 593A; see also Hoops, C. W.
- Baranov, S. A.** See Kuznetzov, A. N.
- Barattini, Albert.** Efficiency of Ni anodes, 50, 759A.
- Barbanel, R.,** and Vishtynsky, I. Extrusion of non-ferrous metals and modern design of hydraulic presses, 50, 191A.
- Barbero, M.** Defects and resistances of castings in Al, related to casting temp., system of cooling, and presence of gases, 50, 195A, 580A.
- Barbour, Percy E.** Copper, 50, 376A; pamphlet: "Long Term Graphical Metal Prices," 50, 132A.
- Barclay, W. R.** Elected Vice-President, 48, 17; discussion on "Mechanical Properties of Nickel Wires," 49, 298; discussion on "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 230; discussion on "The 'Fogging' of Nickel," 48, 138.
- Barclay, W. R.,** Russell, G. A. V., and Williamson, H. Paper: "Modern Works Plant and Equipment for the Hot-Working of Nickel and Nickel Alloys," 49, 391.—Discussion: W. J. P. Rohn, 409; W. H. Hatfield, 409.—Reply to Discussion, 410.
- Bardgett, W. E.** See Barr, W.
- Bardtke, P.** Book: "Darstellung der gesamten Schweisstechnik," 50, 457A.
- Bardtke, P.,** and Matting, —. Comparative investigation of forward and backward welding, 50, 700A; economy of forward and backward welding for "building-up," 50, 700A.
- Bardwell, E. S.** Comparison of various fuels in Cu-refining furnaces, 50, 393A.
- Barfield, E.** Elect. furnaces, 50, 332A.
- Barham, Basil Stanley.** Elected student member, 49, 15.
- Barker, Pierce.** Blue vitriol produced by leaching shot, 50, 568A.
- Barkovic, D.** Qual. detn. of Sb in presence of Sn, 50, 88A.
- Barlick, B.** See Knaggs, I. E.
- Barnes, Le Roy L.** Characteristic curves of Al rectifying cell, 50, 66A; emission of positive ions from heated metals, 50, 726A.
- Barnes, R. Bowling,** and Czerny, M. Reflective power of metals in thin layers for infra-red, 50, 145A.
- Barnes, Ralph M.** Book: "Industrial Engineering and Management," 50, 132A.
- Barnett, S. J.** Researches on rotation of Permalloy and soft iron by magnetization and nature of elementary magnet, 50, 19A.
- Barnitt, J. Bryte,** and Heilman, R. H. New source of raw materials for high-temp. heat insulation, 50, 586A, 778A.
- Barr, Guy.** See Jakeman, C.
- Barr, Mark.** Elected member, 48, 19.
- Barr, W.,** and Bardgett, W. E. Accelerated test for detn. of limiting creep stress of metals, 50, 752A.

- Barr, William, and Honeyman, A. J. K. Book: "Steel and its Practical Applications," 50, 457A.
- Barrett, Charles S. See Mehl, Robert F.
- Barrett, Charles S., and Kaiser, H. F. New orientations forming in crystal of Ag-Cu during pptn., 50, 746A.
- Barrett, Charles S., Gezelius, Roy A., and Mehl, Robert F. Technic of radiography by γ rays, 50, 755A.
- Barrows, W. P. See Blum, W.
- Bartels, N. A. Book: "Metallography and Thermal Treatment of Metals" (in Russian), 50, 524A.
- Bartlett, Russell S. Thermionic emission from plane electrode, 50, 220A.
- Barton, Edward, and Weigle, Otis Melvin. Zn in water supplies, 50, 692A.
- Bartuska, R. E., and Zalesinski, E. Suitability of Zn and Zn alloys for chemical purposes, 50, 148A, 290A, 342A.
- Bash, F. E. See Harvey, Dean.
- Basil, J. L. See Horschman, H. K.
- Bassel, L., and Rœaut, —. Fuel consumption in metallurgical works, 50, 393A.
- Bassett, H. N. Cutting lubricants and soluble oils, 50, 577A.
- Bassett, W. H. Discussion of Price's paper on "Properties of Copper and Some of its Important Industrial Alloys at Elevated Temperatures," 50, 529A; discussion on fatigue of non-ferrous metals, 50, 291A.
- Bassett, W. H., Jr., and Snyder, C. J. Prepn. of Pb and Pb alloy cable sheath for micro-examination, 50, 485A, 744A.
- Bastien, P. See Portevin, A.
- Batchelder, George W., and Hurd, Loren C. Ag-Bi alloys in quant. analysis, 50, 441A.
- Bates, L. F. Apparatus for detn. of hysteresis curve, 50, 242A; thermoelect. properties of ferromagnetic substances, 50, 228A.
- Batson, R. G., and Hyde, J. H. Book: "Mechanical Testing.—Vol. I. Testing of Materials of Construction," 50, 284A (review).
- Baud, Paul. Book: "Chimie industrielle," 50, 403A.
- Baud, R. V. Study of stresses by means of polarized light and transparencies, 50, 446A.
- Bauer, O. Origin and development of Kaiser-Wilhelm-Institut für Metallforschung, 50, 398A.
- Bauer, O., and Hansen, M. Constitution of alloys of Cu, Zn, and Sn, 50, 77A; freezing temps. of casting bronzes and red brass alloys, 50, 296A; influence of third metals on constitution of brass alloys. IV.—Influence of Al. Contribution to knowledge of ternary system Cu-Zn-Al.—I., 50, 225A; II., 50, 426A; III., 50, 427A.
- Bauer, O., and Vogel, O. Tech. casting alloys, 50, 607A.
- Bauer, O., and Vollenbrück, O. Attack of metals by insects.—II., 50, 343A.
- Bauer, O., and Zunker, P. Effect of temp. and impurities on rolling Zn. I.—Rolling tests on electrolytic and refined Zn at different temps.; II.—Effect of impurities on rolling of Zn, 50, 701A; influence of small amts. of impurities on properties of refined Zn, 50, 342A.
- Bauer, O., Vollenbrück, O., and Schikorr, G. Potential measurements and dissolution tests with Sn-Cu and Zn-Cu alloys, 50, 544A.
- Baum, Robert. See Griengl, Franz.
- Baumstein, —. Elect. furnaces and oil baths for thermal treatment, 50, 393A.
- Beans, Hal Trueman, and Mossman, Dorothea R. Gravimetric sopn. and detn. of Ti, 50, 555A.
- Beard, H. C. See Parks, L. R.
- Beardman, E. L. See Krivobok, Vsevolod N.
- Beasley, A. F., Schuettenhelm, H. B., and Johnson, J. W. New Pb refinery and its operation at Bunker Hill smelter, 50, 521A.
- Beattie, James A. Precision thermostat for temps. from -26° C. to 500° C., 50, 621A.
- Beatty, John D. See Speller, F. N.
- Becchi, C. F. See Belladen, L.
- Beck, Carl A. Hall effect in induced currents in circular discs of Bi and Sb, 50, 145A.
- Beck, P., and Polanyi, M. Retardation of rocrystn. power by bending back, 50, 1A, 531A.
- Beck, Werner. See Reichel, Erich.
- Becker, E. Manuf. of Cu alloys with high Ni content, 50, 125A.
- Becker, Erich. Al paints in construction of apparatus, 50, 374A; Cu-Si alloys, new working materials for construction of apparatus and machines, 50, 51A; practical experience in making centrifugal castings of non-ferrous metals, 50, 711A.
- Becker, Joseph A. Discussion on Duffendack, Wolfe, and Randolph's paper on "The Development of an Electron Emitting Alloy," 50, 79A; electrolytic phenomena in oxide-coated filaments, 50, 70A; pamphlet: "The Use of Thermionics in the Study of Adsorption of Vapours and Gases," 50, 524A.
- Becker, Joseph A., and Soars, R. W. Phenomena in oxide-coated filaments. II.—Origin of enhanced emission, 50, 220A, 534A.
- Becker, K. Constitution of tungsten carbides, 50, 23A; system W-C, 50, 23A; X-ray evidence of grain-growth and recovery in W wires derived from the Debye-Scherrer method, 50, 36A.
- Becker, K., and Ewest, H. Phys. and radiating properties of tantalum carbide, 50, 21A.
- Becker, R. Elect. and magnetic properties of metals, 50, 72A.
- Beckmann, O. Elect. furnace for tensile tests at high temps., 50, 40A; metal melting furnaces (without crucibles) fired with coal dust, 50, 511A.

- Bedinger, Margery. Elected member, 48, 19.
- Behr, Leo. Wenner potentiometer, 50, 622A.
- Behre, Chas. H., Jr. Manganese, 50, 380A.
- Beij, K. Hilding. Corrosion of open-valley flashings, 50, 608A.
- Beissner, —, and Kilger, —. Electrodes, 50, 55A.
- Belaiev, A. I., Rapoport, M. B., and Chasanow, E. I. Book: "Aluminium" (in Russian), 50, 715A.
- Belaiev, N. T. Discussion on "Some Bronze Specimens from the Royal Graves at Ur," 48, 105; discussion on "The Behaviour of Single Crystals of Bismuth Subjected to Alternating Torsional Stresses," 48, 248; discussion on "The Properties of Copper in Relation to Low Stresses. The Effect of Cold-Work, Heat-Treatment, and Composition," 48, 95; discussion on "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 43; Sumerian Cu bar in British Museum, 50, 657A.
- Belasio, —, and Mellana, —. Book: "Guida pratica per l'analisi chimica qualitativa," 50, 133A.
- Belladen, L. Cathodic disintegration of alloys, 50, 354A.
- Belladen, L., and Bocchi, C. F. Evaluation of refractories, 50, 200A.
- Bellia, C. Law of change of Hall effect in a magnetic field, 50, 344A.
- Belousov, A. M. Rapid detn. of Sn and Sb in alloys with high Cu content, 50, 621A.
- Belov, A. F. See Voronov, S. M.
- Benedetti-Pichler, A. A. Rinnmann's green test for Zn, 50, 677A.
- Benedicks, Carl. Molecular sphere of action of metals, 50, 8A.
- Benedicks, C., and Härdén, J. Metal transfer in electrical contacts and suitable Au alloys for such contacts, 50, 604A.
- Benediktova, E. J. See Koiransky, B. B.
- Bengough, G. D. Correspondence on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 120.
- Bengough, G. D., and Whitby, L. Paper: "Magnesium Alloy Protection by Selenium and other Coating Processes," 48, 147.—Discussion: H. Sutton, 159; R. H. Atkinson, 160; R. S. Hutton, 160; W. Rosenhain, 160.—Reply to Discussion, 163.
- Bengough, G. D., Lee, A. R., and Wormwell, F. Discussion on Britton and Evans' paper on "The Distribution of Corrosion," 50, 741A; theory of metallic corrosion in light of quant. measurements. V.—Corrosion of Fe and mild steel, 50, 27A.
- Benmakrouha, —. See Floury, R. do.
- Bennejeant, Charles. See Boll, Marcel.
- Bennett, R. D., Gingrich, N. S., and Pierce, W. C. Experimental oil-immersed X-ray apparatus, 50, 624A.
- Benson, L. E. "M.V.C." Al-Si alloy, 50, 223A.
- Bent, Quincey. Elected member, 48, 18.
- Benton, Arthur F., and White, T. A. Sorption of gases by Cu, 50, 417A, 658A.
- Berg, P. P. Indirect method of detg. humidity by elect. conductivity, 50, 269A; see also Selivanov, B. P.
- Berg, Walter. Analysis of Cu alloys and white metals, 50, 364A.
- Bergeon, Paul. Regulation of elect. furnaces by tension variation, 50, 777A.
- Berger, R. How must metal castings be deoxidized?, 50, 506A, 770A; manuf. of acid-resisting bronze, 50, 507A; propn. of special brasses, 50, 126A.
- Berglund, Torkel, and Dearden, William H. Book: "Metallographers' Handbook of Etching," 50, 140A (review).
- Berl, Ernst, and Lungo, Georg. Book: "Chemisch-technische Untersuchungsmethoden," 50, 592A (review).
- Berliner, Arnold, and Scheel, Karl. Book edited by: "Physikalisches Handwörterbuch," 50, 133A.
- Berliner, J. F. T. Controlled atmospheres for annealing and welding, 50, 456A.
- Bernal, J. D., and Wooster, W. A. Crystallography, 50, 238A.
- Bernhoeft, Ch. Cu wire rolling-mills, 50, 503A.
- Bernstein, Sol. A. Plating metallic lab. ware for resistancy, 50, 677A.
- Berolzheimer, D. D. See West, Clarence J.
- Bersin, Theodor. New method for detection of Co in presence of elements of third group, 50, 166A.
- Berthold, R., and Böhm, H. X-ray chamber for series observations at high temps., 50, 756A.
- Berthold, R., and Riehl, N. Principles of indust. testing with γ -rays, 50, 755A.
- Bertl, E. Galvanic coatings of pure Pb, their appn. as protection against corrosion in mining, 50, 481A.
- Bespolov, I. E. Corrosion of cracking equipment, 50, 230A.
- Bethe, H. Theory of metals. I.—Eigen values and Eigen functions of linear atomic circuits, 50, 71A.
- Betsill, J. L. See Doan, R. L.
- Betterton, Jesse O. Elected member, 48, 18.
- Betty, Bernard B. See Moore, Herbert F.
- Betz, Hans. See Günther-Schulze, A.
- Beutel, Ernst, and Kutzelnigg, Artur. Depn. of sulphide films on metals, 50, 150A; electrodepn. of Cd, 50, 247A.
- Bhaduri, Dayananda. See Rây, Priyadarajan.
- Bianchi, C. Practical experiments with Al paint, 50, 689A.
- Bichowsky, M. See Weyl, W.
- Biemiller, Lawrence E. Gas for baking radiator cores, 50, 130A; indust. furnaces for gas, 50, 130A, 270A; indust. furnaces for gas. XV.—Ovens for core baking, 50, 713A.
- Bierbaum, Christopher H. Bearing metals, 50, 179A, 373A, 453A, 685A; discussion

- on Schneidewind's paper on "Hardness of Chromium as Determined by the Vickers-Brinell, Bierbaum, and Mohs Method," 50, 338A.
- Biesterfeld, —.** See Mohle, —.
- Bihlmaier, K.** Losses of white Au during magnetic purifications of filings contg. this alloy, 50, 521A; see also Raub, E.
- Billiter, Jean.** Book: "Technische Elektrochemie. Band 3.—Schmelzfluss-Elektrolyse (Alkalimetalle, Erdalkalimetalle, Magnesium, Aluminium, Beryllium usw.)," 50, 403A.
- Billon, —.** See Guichard, —.
- Biltz, Wilhelm.** See Haraldsen, Haakon; Juzs, Robert.
- Bingham, Oren R.** See Taft, Robert.
- Binnie, D.** W-Mo thermocouple, 50, 175A, 313A.
- Biran, A. de.** Al in marine construction, 50, 180A; Al in modern marine construction, 50, 180A; thermal insulating properties of Al and their appns., 50, 209A.
- Birett, W.** Cr-plating, 50, 563A.
- Bitter, Francis.** Block structure and hysteresis phenomena, 50, 9A; inhomogeneities in magnetization of ferromagnetic materials, 50, 75A; interpretation of some ferromagnetic phenomena, 50, 345A; magnetization and magneto-caloric effect, 50, 9A; mosaic structure of Co crystals, 50, 745A; verification of theory of magnetization of single crystals, 50, 345A.
- Bjørn-Andersen, H.** Electrolytic depn. of Cu from HNO₃ solns. and a simplified method for electrolytic sepn. of Cu and Pb, 50, 631A.
- Blackall, A. C.** New light alloy, 50, 12A.
- Blackwell, E. G.** Coal and coke breakage and segregation, 50, 272A.
- Blake, Leonard A.** Correcting welders' instincts, 50, 114A.
- Blanc, M. Le, and Wehner, G.** Transformations in solid state in system Cu-Au, 50, 730A.
- Blaschke, M.** Conductivity of molten Si, 50, 521A.
- Blasich, G., and Popino, G.** Rapid analysis of P in bronzes, 50, 554A.
- Blau, Ernst.** Use of Silumin in electro-technics, 50, 567A.
- Blazey, Clement.** Large grain-size in Al wire, 50, 439A; reply to Correspondence on "Brittleness in Copper," 48, 311.
- Blazhenova, A. N.** See Britzke, E. V.
- Blechsmidt, E.** See Giebe, E.
- Bleibtreu, H.** Book: "Le charbon pulvérisé," 50, 781A.
- Bleistein, W.** Metal airships, 50, 764A.
- Blewett, William E.** New structural and decorative materials, 50, 381A.
- Bleyer, B., and Schwaibold, J.** Mutual action between metallic utensils and diatetic material. I.—Action of potable liquids on metals; corrosion, 50, 740A.
- Bliss, H. H.** See Smith, G. Frederick.
- Blומר, Ronald.** See Hodgo, Harold C.
- Bloch, F.** Theory of exchange problem and phenomenon of remanence exhibited by ferromagnetic materials, 50, 346A.
- Blokov, M.** New pyrometer at Koltchugin works, 50, 562A.
- Blood, Maurice.** Microscopes, 50, 750A.
- Blum, I. L.** Possibility of manufg. metallurgical coke from Rumanian coal.—1., 50, 777A.
- Blum, William.** Definition and detn. of "free cyanide" in electroplating solns., 50, 249A; discussion on Schneidewind's paper on "Hardness of Chromium as Determined by the Vickers-Brinell, Bierbaum, and Mohs Method," 50, 338A; round table discussion on plators' classes, 50, 250A; status of Cr plating, 50, 758A.
- Blum, William, Barrows, W. P., and Brenner, A.** Porosity of electroplated Cr coatings, 50, 32A.
- Blumenthal, B.** Constitution of Cu-Sn-Pb system, 50, 662A; Pb-Sn bronzes, their constitution and their suitability and appn. as bearing metals for severe service, 50, 603A; see also Guertler, W.; Hanson, M.
- Blusich, G.** Phys. properties of 87 : 8 : 5 Cu-Zn-Sn bronze, 50, 537A.
- Boas, W., and Rupp, E.** Deflection of electrons by W coated with O₂, 50, 755A.
- Boas, W., and Schmid, E.** Dependence of crystal plasticity on temp. III.—Al, 50, 529A; Laue diagrs. with large diffraction angles, 50, 165A; structure of surface of cut metal crystals, 50, 552A.
- Bochvar.** See Botchvar.
- Bodet, Jean.** Indust. control of hardness of metals, 50, 755A.
- Bodmer, A.** Metal blades for modern steam turbines, 50, 255A.
- Boegehold, A. L., and Johnson, J. B.** Eng. requirements of automotive industry for metals operating at high temps., 50, 632A.
- Boehme, Wolfgang.** See Tammann, G.
- Boehme, Wolfgang, and Raetsch, Werner.** Detn. of small quants. of Sb in Cu and its alloys, 50, 674A.
- Boer, J. de.** See Haas, W. J. de.
- Boerner, Martin.** Book edited by: "Draht-Welt-Buch," 50, 784A (review).
- Bogomolov, M. N.** Effect of annealing on resistance of single-crystal Te, 50, 213A.
- Bogorodsky, A. J., and Troitzky, M. W.** Vol. detn. of Tl, 50, 555A.
- Bogros, A.** Phys. properties of Li vapour, 50, 418A.
- Böhm, H.** See Berthold, R.
- Bohner, H.** Annealing of hard conducting Al, 50, 65A; effect of additions of water-glass in reducing corrosion by Br water, Cl water and solns. of bleaching powder, 50, 433A; inverse segregation of Al-Cu alloys, 50, 471A; raising of elect. conductivity of hard Al by thermal treatment, 50, 65A; tensile strength and elect. conductivity of wires of pure Al and Al conducting alloys depending on mech. and thermal treatment, 50, 294A, 417A.

- Bohner, H., Buschlinger, H., and Röhrig, H.** Review of behaviour of Al towards substances of chem. and food industry, 50, 82A.
- Bolchovitinov, N. F.** Heat-resisting alloys, 50, 227A; new data on equipment of metal testing labs., 50, 243A; technique of metallographic testing, 50, 164A; X-ray illumination of castings, 50, 246A.
- Boldyrev, A. K.** Book: "Crystallography" (in Russian), 50, 525A; development of theory of crystalline state, 50, 487A.
- Bole, G. A.** Al silicate refractories, 50, 397A.
- Bole, G. A., and Bales, C. E.** Report of Cttee. C-8 of A.S.T.M. on refractories, 50, 513A.
- Bole, G. A., and Trostel, L. J.** Report of Cttee. C-8 of A.S.T.M. on refractories, 50, 395A.
- Boll, Marcel.** New ideas on elect. conductivity of metals, 50, 217A.
- Boll, Marcel, and Bonnejeant, Charles.** Book: "Chimie des métaux et Métallurgie dentaire," 50, 133A.
- Bolle, L.** Problem of resistance of materials, 50, 7A.
- Bollenrath, Franz.** Paper: "On the Influence of Temperature on the Elastic Behaviour of Various Wrought Light Metal Alloys," 48, 255.—*Discussion*: H. Sutton, 268; J. McKeown, 268; C. H. Desch, 269; A. G. C. Gwyer, 269; W. Rosenhain, 269.—*Reply to Correspondence*, 270; Ultralumin, 50, 727A.
- Bolton, J. W., and Hechemann, F. H.** Discussion of Price's paper on "Properties of Copper and Some of its Important Industrial Alloys at Elevated Temperatures," 50, 529A.
- Bonaretti, A. W.** Influence of Sb on Al alloys, 50, 661A.
- Bonner, Walter D.** Discussion on Thompson's paper on "Cyanides in Metallurgy," 50, 249A.
- Bonner, Walter D., and Ravitz, Frederick.** Discussion on Blum's paper on "The Definition and Determination of 'Free Cyanide' in Electroplating Solutions," 50, 249A.
- Boohariwalla, D., Paranjpe, G. R., and Prasad, Mata.** Elect. conductivities of liquid alkali metal amalgams, 50, 733A.
- Booth, H.** See Green, A. T.
- Booth, Harold Simmons, and Merlub-Sobel, Menahem.** Electrodepn. of metals from solns. of their salts in anhydrous NH_3 , 50, 48A.
- Booth, Harold Simmons, and Torroy, Gilberta G.** Chemistry of Be. I.—Electrolysis in non-aqueous solns. II.—Electrolysis of Be compds. in organic N_2 derivatives, 50, 50A. III.—Electrolysis of solns. of Be compds. in liquid NH_3 , 50, 100A.
- Borchers, Heinz.** Researches on Be, 50, 145A, 721A; researches on Cu-Be system, 50, 602A, 729A.
- Borelius, G., Keosom, W. H., Johansson, C. H., and Lindo, J. O.** Measurements on thermo-elect. forces down to temps. obtainable with liquid HO , 50, 422A; measurements on thermo-elect. forces down to temps. obtainable with liquid or solid H_2 , 50, 422A.
- Bossert, T. W., and Nock, J. A., Jr.** New Al alloy, 50, 151A.
- Bosshard, M., and Zurbrügg, —.** Al corrosion in breweries, 50, 666A.
- Boston, O. W., and Kraus, C. E.** Machinability measured by simple tool, 50, 704A.
- Botchvar, A. A.** Book: "Fundamentals of the Thermal Treatment of Metals" (in Russian), 50, 587A; prevention of recrystn. phenomena in metals by means of short preliminary annealing process, 50, 189A.
- Botchvar, A. A., and Merkur'ov, N. E.** Recrystn. of solid solns. Recrystn. of alloys of Sn with Sb, Bi, Pb, Cu and Al, 50, 615A.
- Botchvar, A. M., and Irodov, S. I.** Babbitts with Sn base and low Sb and Cu contents, 50, 157A, 606A.
- Botchvar, A. M., and Lunov, F. A.** Antifriction alloys with Mg base, 50, 225A.
- Botschkow, A.** Pamphlet: "Refining of Gold and Silver" (in Russian), 50, 457A.
- Bottema, J. A.** See Jaeger, F. M.
- Boundy, R. H.** 4000-amp. Na conductor, 50, 569A, 764A.
- Boury, —.** American and British investigations on corrosion of tinplate, 50, 667A.
- Butaric, Augustin.** Adherence of lubricating films to metallic surfaces, 50, 277A.
- Boutté, M. A.** Oxy-acetylene welding of loco. Cu tube plates and fireboxes, 50, 112A.
- Bowen, A. R.** See Nash, Alfred W.
- Bowen, E. G., and Morris-Jones, W.** X-ray investigation of Bi-Sb alloys, 50, 349A.
- Bowman, John J.** Welding of Al in oil industry, 50, 186A.
- Bowman, W. H.** Survey of rolling-mill bearings, 50, 673A.
- Bowran, Robert.** Obituary notice, 49, 411.
- Boydell, H. C.** Some factors of solidification in relation to metallurgical and geological problems, 50, 299A.
- Boyer, J. A.** Discussion on Ridgway's paper on "Temperature Measurements in Commercial Silicon Carbide Furnaces," 50, 757A.
- Boyle, (Sir) William.** Voto of thanks to, 49, 16.
- Bozorth, Richard M.** Barkhausen effect: orientation of magnetization in elementary domains, 50, 345A.
- Bozorth, Richard M., and Dillinger, J. F.** Transverse Barkhausen effect in Fe, 50, 74A.
- Brace, Porter Hiscock.** Elected member, 48, 19; discussion of Skowronski and Mosher's paper on "Selenium and Tellurium," 50, 761A; discussion on Stock's paper on "Beryllium," 50, 721A.

- Bradbury, E. G. Pb versus compds. for pipe joints, 50, 183A.
- Bradley, A. J., and Jay, A. H. Formation of superlattices in alloys of Fe and Al, 50, 362A; lattice spacings of Fe-Al alloys, 50, 308A, 486A; method for deducing accurate values of lattice spacing from X-ray powder photographs taken by Debye-Scherrer method, 50, 673A.
- Bradley, A. J., and Jones, Phyllis. Al-Mn system of alloys, 50, 33A.
- Bradley, J. Electrical Cu, 50, 146A.
- Bradshaw, W. N. See Clarke, S. G.
- Brady, F. L. Corrosion-resistance of B.N.F.M.R.A. ternary alloys of Pb in buildings, 50, 301A.
- Brandt, A. See Wolters, C.
- Brandt, Walter. Relationship between Barkhausen and Wiedemann effects, 50, 74A.
- Branham, J. R. Calculating gas heating value from analysis, 50, 271A.
- Brattain, Walter H. Evapn. and migration of Th on W, 50, 724A.
- Brauer, Eberhard. See Ostwald, Wilhelm.
- Braun, H. See Röntgen, P.
- Braunbek, Werner. Change of elect. conductivity of molten Bi produced by soln. of BiCl_3 , 50, 66A.
- Braund, B. K. Throwing power of plating solns. with particular reference to certain Zn plating solns., 50, 47A.
- Brauns, E. See Tammann, G.
- Braverman, M. M. See King, Cecil V.
- Brazener, W. F. Casting of tough-pitch Cu, 50, 125A.
- Breakey, James. Al pots and kettles are foundry products, 50, 125A; cutting prodn. costs in brass foundry, 50, 265A; novel pattern methods devised to make decorative castings, 50, 128A.
- Breaux, H. Varnishing, colouring, and painting of Cu, 50, 439A.
- Brecher, C. See Vieböck, F.
- Breitung, Max. Al foil as basis of insulation, 50, 639A.
- Bremer, Edwin. Washing machine and ironer parts a speciality of midwestern foundry, 50, 125A.
- Bremmer, H. See Haas, W. J. de.
- Brennecke, Erna. Potentiometric titration of Zn with $\text{K}_2\text{Fe}(\text{CN})_6$, 50, 242A.
- Brenner, A. See Blum, W.
- Brenner, Paul. Book: "Jahresbericht der Stoff-Abteilung der D.V.L.," 50, 592A (review), 781A; corrosion of Duralplat riveted joints, 50, 738A; stress-corrosion cracks of light metals, 50, 738A.
- Bretschneider, Otto. See Hartmann, Hellmuth.
- Brevoort, M. J. Julius suspensions, 50, 678A; see also Wiebe, R.
- Brewer, A. K. See Kueck, P. D.
- Briard, Vincent. Bank notes in Cu, 50, 497A; bronze in antiquity—mirrors, 50, 497A; mirrors, 50, 497A.
- Brice, L. J. Discussion on "The Effect of Different Elements on the Annealing and Grain-Growth Characteristics of Alpha Brass," 49, 261.
- Brickwedde, F. G. See Scott, R. B.; Silsbee, F. B.
- Bridges, R. W., and Leo, M. F. Detn. of Na in Al. I.—Chem. analysis, 50, 675A.
- Bridgman, P. W. Book: "The Physics of High Pressure," 50, 143A (review); new kind of e.m.f. and other effects thermodynamically connected with 4 transverse effects, 50, 423A; phys. properties of single-crystal Mg, 50, 212A.
- Briesemeister, S. Miscibility gap in systems Pb-Cu and Pb-Cu-Sn, 50, 16A.
- Briggs, H. B. See Ives, Herbert E.
- Bright, H. A. See Lundell, G. E. F.
- Brill, Rudolf, and Haug, Walter. Fe-Hg and Ni-Hg, 50, 350A.
- Brint, James. Cd as reducing agent for trivalent Fe, 50, 39A; Ni additions affect bearing wear resistance, 50, 15A; what is best pouring temp. for genuine Babbitt? 50, 266A.
- Brintzinger, H. Sepn. and vol. detn. of Cu and Zn, 50, 168A.
- Briscoe, Henry Vincent Aird, Kikuchi, Suotaro, and Peel, John Buttery. Revision of atomic wt. of Tl, 50, 3A.
- Britton, Hubert Thomas Stanley. Book: "Hydrogen Ions: Their Determination and Importance in Pure and Industrial Chemistry," 50, 206A.
- Britton, Hubert Thomas Stanley, and Robinson, R. A. Electrochem. and metallurgical industries, 50, 683A.
- Britton, Hubert Thomas Stanley, and Westcott, Oliver Brentwood. Electrodepos. of Cr from trivalent Cr salt solns. I.— CrCl_3 and $\text{Cr}_2(\text{SO}_4)_3$ baths. II.—Cr acetate, oxalate, and tartrate baths, 50, 758A.
- Britton, Sidney Charles. Elected member, 48, 315.
- Britton, Sidney Charles, and Evans, U. R. Distribution of corrosion, 50, 232A, 668A, 741A; practical problems of corrosion. VII.—Some tests on protective painting. Interim report, 50, 612A.
- Britzke, E. V., and Kapustinsky, A. F. Affinity of metals to S. II.—Thermal dissociation equilibria of sulphides of Ag, Cu and As, 50, 431A; thermochemistry of sulphides of Sb, As, Bi, Cd, Sn, and Fe, 50, 661A.
- Britzke, E. V., Shumanenkov, I. V., and Blazhenova, A. N. Removal of S from metallurgical coke. I.—Chlorination of coke, 50, 643A.
- Brockman, J. C. Book: "Electrochemistry," 50, 133A.
- Broderick, S. J., and Ehret, W. F. X-ray study of alloys of Ag with Bi, Sb, and As.—I.—II., 50, 36A.
- Brombacher, W. G., and Melton, E. R. Temp. coeff. of modulus of rigidity of aircraft instrument diaphragm and spring materials, 50, 82A, 158A.
- Broniewski, W., and Kostacz, S. Ag-Cu alloys, 50, 351A.

- Broniewski, W., and Wesolowski, K. Au-Ag alloys as a type of continuous solid solns., 50, 474A.
- Brønsted, J. N., and Kano, N. L. Ross. Dissoln. of metals in acids, 50, 27A.
- Brooke, F. W. Discussion on Rhoads and Morken's paper on "The Application of the Rocking Indirect Arc Electric Furnace," 50, 777A; discussion on Ridgway's paper on "Temperature Measurements in Commercial Silicon Carbide Furnaces," 50, 757A.
- Brooks, H. B. How to determine wire sizes for electromagnets, 50, 172A.
- Brophy, Dorothy H. Electrolytic detn. of Co, 50, 88A.
- Brown, B. Cost reduction through materials, 50, 402A; Zn casting alloys, 50, 23A.
- Brown, Richard E. Eng. requirements and trends for metals in non-ferrous roasting, smelting, and refining industry, 50, 532A; nickel-silver in rod and wire, 50, 327A.
- Brown, Roy W. Precision thermo-junction needle, 50, 628A.
- Brown, William H. Elected member, 48, 18.
- Browne, Charles Gordon Knight. Elected student member, 48, 18.
- Brownlie, David. Corrosion from flue gases, 50, 608A; modern pickling methods, 50, 120A; pickling and cleaning of metals, II-III.—Chem. reactions involved, 50, 706A.
- Brownsdon, H. W. *Correspondence on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides,"* 49, 314; *discussion on "Atmospheric Action as a Factor in Fatigue of Metals,"* 49, 114.
- Brownsdon, H. W., and Bannister, L. C. *Paper: "A Modified Impingement Corrosion Apparatus,"* 49, 123.—*Discussion:* Kenneth Gray, 130; R. May, 131; J. C. Hudson, 132; L. B. Pfeil, 133.—*Reply to Discussion,* 133.
- Brukl, A. Quant. detn. of Ga, 50, 240A.
- Brumfield, R. C. Precious metal alloys, 50, 81A.
- Brüning, H. See Sieverts, A.
- Bruzzo, Tomaso. Book: "Il calcolo dei tempi nelle lavorazioni meccaniche," 50, 133A.
- Bryan, A. B. See Zirbel, N. N.
- Bryan, J. M. Corrosion of Sn, 50, 544A; corrosion of Sn, Fe, and Sn-Fe couple, 50, 161A; effect of H-ion concn. on corrosion of Sn, 50, 26A.
- Buchanan, G. H. Discussion on Thompson's paper on "Cyanides in Metallurgy," 50, 249A.
- Buchanan, Wm. Y. Sand testing in foundry, 50, 391A.
- Bucharer, N. I. See Martens, L. K.
- Bucherer, H. Th., and Meier, F. W. Sepn. of Ni and Co and their quant. detn. by filtration method, 50, 620A.
- Buchholz, H. Autogenous welding of Al and its more important alloys, 50, 257A.
- Buchkremer, R. See Röntgen, P.
- Buchmann, W. See Thum, A.
- Budgen, N. F. Book: "The Heat-Treatment and Annealing of Aluminium and its Alloys," 50, 653A (review).
- Bullen, F. J. Corrosion of evaporator tubes, 50, 667A.
- Bultman, Robert E. Babbitt bearings spun and diamond-cut, 50, 50A.
- Burg, A. Degreasing and cleaning metal parts, 50, 192A, 505A.
- Burg, B. van der, and Koppejan, C. A. Corrosion of Al, 50, 432A.
- Burgers, W. G. Crystal structure of β -Zr, 50, 440A; relation between deformation and working recrystn. structure of Al. (A) Single crystals. (B) Polycrystalline Al, 50, 614A.
- Burgers, W. G., Claassen, A., and Zernike, J. Chem. nature of oxide layers formed upon metals Al, Zr, Ti, and Ta by anodic polarization, 50, 289A.
- Burgess, C. F. Discussion of S. Skowronski and M. A. Mosher's paper on "Selenium and Tellurium," 50, 761A.
- Burkhardt, A., and Sachs, G. Degassing of Cu castings by Li, 50, 594A.
- Burkhardt, A., Linicus, W., and Sachs, G. Cu-P alloys with high content of P, 50, 602A.
- Burn, J. H. Al in food. Critical examination of evidence available as to toxicity of Al, 50, 762A.
- Burningham, Arthur Charles James. Elected member, 48, 18.
- Burns, R. M. Discussion on Stout and Thummol's paper on "The Change in Reflecting Power Caused by Tarnishing Electrodeposited Silver-Cadmium Alloys," 50, 99A.
- Burns, Robert S. See Kenyon, Roid L.
- Burrell, Loomis. Metals and milk, 50, 357A.
- Burstall, Aubrey, F. Tests of welding and weld metal and their interpretation, 50, 243A.
- Burton, A. C. See McLennan, J. C.
- Buschlinger, H. Al containers for storage and transport of liquid foodstuffs, 50, 496A; see also Bohner, H.
- But, A. I. Capital expenditure in non-ferrous metal industry of U.S.S.R. in 1931, 50, 779A.
- Butcher, C. H. Wider use for Al paint, 50, 640A.
- Butler, J. A. V., and Armstrong, G. Electrochem. periodicities, 50, 452A.
- Butts, Allison. Book: "A Text-Book of Metallurgical Problems," 50, 649A.
- Buxbaum, Ivy Bertold. Book: "Feilen," 50, 715A.
- Buzzard, R. W., and Mutchler, W. H. Advantages of oxide films as bases for Al pigmented surface coatings for Al alloys, 50, 236A, 481A.
- Byck, H. T. See Rice, F. O.
- Byers, J. L. Surface effects on assay beads caused by metals of Pt group, 50, 441A.

- Cadwell, H. V. Exhibit of testing apparatus and machines held in connection with 34th annual meeting of A.S.T.M., 50, 557.A.
- Caglioti, V. See Parravano, N.
- Caglioti, V., and Sachs, G. Prodn. of specific tensions by stretching, 50, 291.A; rolling texture of Zn and Mg, 50, 303.A.
- Cahier, De. Calculation of calorific value of coal, 50, 272.A.
- Calbiani, G. Zn-plating of ferrous materials by immersion and by Shorardizing, 50, 669.A.
- Caldwell, Frank R. See Roeser, Wm. F.; Swanger, Wm. H.
- Caley, Earle R. Direct gravimetric detn. of Na in commercial Al, 50, 676.A; errors involved in detn. of minute amts. of Na by Mg uranyl acetate method, 50, 310.A; see also Furman, N. Howell.
- Calvet, Jean. Sepn. of Cu in presence of Al by 8-hydroxyquinoline. Appn. to Al alloys, 50, 619.A.
- Cameron, G. Harvey. X-ray method of detg. sizes of sub-microscopic crystals, 50, 673.A.
- Cameron, H. A. See Hudgins, L. C.
- Cameron, H. K. See Müller, Wolf Johannes.
- Campbell, A. B. See Capp, J. A.
- Campbell, Margaret A. See Morgan, J. Livingston R.
- Campbell, William, and Thum, E. F. Report of Cttee. B-2 of A.S.T.M. on non-ferrous metals and alloys, 50, 398.A, 495.A.
- Campredon, Roger. Enamelling of Cu wire, 50, 236.A; manuf. of enamelled Cu wire. II.—Influence of nature of Cu in enamelling operation, 50, 236.A, IV., 50, 702.A.
- Canfield, R. H. Methods for computing lattice energy constants, 50, 746.A.
- Cannari, G. Alloys of Lu, 50, 153.A.
- Canning, Ernest R. High-speed Ni plating as practised in England, 50, 97.A, 177.A.
- Cantelo, R. C., and Payne, E. C. Transference number of $\text{Co}_2(\text{SO}_4)_3$, 50, 453.A.
- Canzler, C. Ni-welding, 50, 257.A.
- Capp, J. A. Report of Cttee. B-1 of A.S.T.M. on Cu wire, 50, 497.A.
- Capp, J. A., and Campbell, A. B. Report of sectional Cttee. of A.S.T.M. on Zn coating of Fe and steel, 50, 306.A, 482.A.
- Cardwell, Alvin B. Photoelect. and thermionic emission from Co, 50, 210.A; photoelect. properties of Ta, 50, 213.A.
- Carli, F. De. Constitution of Cu-Mg alloys rich in Mg, 50, 429.A.
- Carman, W. Floyd. Elected member, 48, 18.
- Carnegie, H. S. Elect. driving of rolling mills, 50, 328.A.
- Carpenter, (Sir) H. C. H. Metal crystal, 50, 597.A; moves vote of thanks to Past-President, 48, 21.
- Carpenter, (Sir) H. C. H., and Fisher, M. S. Metallographic investigation of native Ag, 50, 362.A.
- Carpenter, L. G., and Harle, T. F. Atomic heat of Bi at higher temps., 50, 338.A; vacuum calorimeter for high temps., 50, 622.A.
- Carr, W. Cochran-. See Cochran-Carr, W.
- Carrasco, O., and Sartori, E. Corrosion phenomena on tinplate, 50, 356.A.
- Carrière, E., and Lautié, Raymond. Detn. of Mo by KMnO_4 , 50, 443.A.
- Carter, F. E. Discussion on Swanger's paper on "Properties of the Rare Metals for High-Temperature Service," 50, 533.A.
- Carter, Glenn O. Phases of gas welding, 50, 258.A.
- Cartland, J. Discussion on "The Constitution of the Lead-Tin Alloys," 49, 282.
- Cartwright, C. Hawley. Evapn. of Ag, Be, Cr and Si, 50, 596.A; Te-Bi vacuum radiation thermocouple, 50, 561.A.
- Cartwright, C. Hawley, and Strong, John. Apparatus for evapn. of various materials in high vacua, 50, 622.A.
- Casberg, Carl H., and Schubert, Carl E. Suitability of soya-bean oil for core oil, 50, 775.A.
- Casberg, Carl H., and Spencer, William H. Endurance of bond strength of various clays in moulding sand, 50, 775.A.
- Case, F. A. See Gardner, I. C.
- Case, John. Book: "The Strength of Materials," 50, 715.A.
- Case, W. G., and Dennison, W. E. Boilers and metals, 50, 323.A.
- Castelain, —. Organization of the bronze and cast-iron foundry of the Compagnie du Chemin de Fer du Nord (France), 50, 580.A.
- Castner, —. First light metal ladder, 50, 254.A; light metal in construction of automobile rotary ladders, 50, 254.A; longest fire-escape of light metal in world, 50, 254.A.
- Cathcart, A. N. Discussion on "The Open-Air Corrosion of Copper. III.—Artificial Production of Green Patina," 49, 161.
- Catlett, J. T. Atomic H arc welding, 50, 258.A.
- Cave, Joseph J. Progress in welding.—I.—II., 50, 113.A.
- Cazaud, R. Book: "Agenda Dunod. Métallurgie, 1932," 50, 59.A, 403.A; corrosion tests of metals, 50, 610.A; fatigue of metals, 50, 530.A; Mg and its alloys, 50, 154.A.
- Center, Jakob Alexandrovich. Elected member, 48, 19.
- Centnerszwer, M., and Straumanis, M. Rate of dissoln. of some Zn-Ag alloys in acids, 50, 357.A.
- Centnerszwer, M., with Eicher, I. Behaviour of pure Al towards acids and bases, 50, 24.A.
- Centnerszwer, M., with Lewi, S. Rate of dissoln. of Ti in acids, 50, 26.A.
- Challen, W. B. Economy in prodn., 50, 280.A.
- Chalmers, Bruce. Cry of Sn, 50, 420.A, 724.A; geometrical method of detg.

- crystal axes of single-crystal wires, 50, 671A.
- Chanojian, —.** See Kotcharovsky, —.
- Chapell, Revere.** Unoven heating causes grinding wheel breakages, 50, 579A.
- Chaplet, A.** Cu and its alloys in antiquity, 50, 497A; Cu in construction of mixing machines, 50, 455A; Cu in Middle Ages, 50, 780A.
- Chapman, Cloyd M.** Corrosion tester for pressure vessels, 50, 161A.
- Chapman, Cloyd M.,** and Hess, R. E. Report of Cttee. E-8 of A.S.T.M. on nomenclature and definitions, 50, 398A.
- Charles, W. E.** See Thompson, M. de Kay.
- Chasanow, E. I.** See Belaiew, A. I.
- Chaston, J. C.** Discussion on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 114.
- Chattopadhyaya, Akshoya Kumar.** See Rāy, Priyadarshan.
- Chaudron, G.** See Hérenghuel, J.; Herzog, E.
- Chaussain, Marcel.** See Cournot, Jean.
- Chaves, F. de.** Appn. of Volhard method to detn. of Ag in electrolytic Cu refinery slimes, 50, 241A.
- Chen, Graham M.** See Ferguson, A. L.
- Chernik, G.** Analysis of several specimens of native Pt from Lena Basin, 50, 466A.
- Cherry, Alexander William.** Elected student member, 49, 15.
- Cherry, R. M.** Elect. heated galvanizing furnace, 50, 392A.
- Chesters, J. H.,** and Rees, W. J. High-temp. tensile tests on refractories, 50, 201A; refractories, ceramics, and cements, 50, 646A.
- Chetverikov, S. S.** Plant for heat-treatment of Kolchugalumin at aviation works, 50, 512A.
- Chevenard, Pierre.** Dilatometric analysis and quality of metallurgical products, 50, 228A, 311A; lab. furnaces and temp. regulators, 50, 171A; mech. properties of metals at elevated temps., 50, 533A; new apparatus for study of transformations of alloys. Isothermal dilatometer. Registering thermomagnetometer, 50, 677A; see also Portevin, Albert.
- Chikashige, Masumi.** Anniversary volume dedicated to, by his pupils in celebration of his sixtieth birthday, 50, 141A (review).
- Chilton, Thomas H.,** and Huey, William R. Handling of corrosive gases, 50, 436A.
- Chlebnikov, G.** Real and fictitious lowering of prodn. costs in non-ferrous metal-working industry of U.S.S.R., 50, 648A.
- Chloupek, J.,** and Daneš, V. Z. Corrosion of metals, 50, 610A; electrochem. method for measuring corrosion of metals, 50, 611A.
- Chou, P. Y.** Diamagnetism of free electrons in metal, 50, 343A.
- Choulant, H.** Corrosion-resistance of new dental alloy "Chrogo U42," 50, 739A.
- Christiansen, W. G.** See Meredith, B. L.
- Chudakov, E. A.** Defects of pistons in aero engines, 50, 496A.
- Cicccone, A.** Hall effect in Be, 50, 594A.
- Cissarz, A.,** and Jones, W. R. Book: "German-English Geological Terminology," 50, 782A.
- Claassen, A.** See Burgers, W. G.
- Claffin, H. C.** Discussion on Stock's paper on "Beryllium," 50, 721A.
- Clain, M.** Measuring temp. in foundry, 50, 44A.
- Clapham, Dorothy P.** Elected member, 48, 19.
- Clark, B.,** and Jones, E. O. Effect of addition agents on conductivity, cathodic polarization, and grain-size of deposits obtained from cell: $\text{Cu}[\text{CuSO}_4, \text{H}_2\text{SO}_4]\text{Cu}$, 50, 252A.
- Clark, C. Foster.** Indust. heating processes, 50, 512A.
- Clark, C. L.** See White, A. E.
- Clark, C. L.,** and White, A. E. Influence of recrystn. temp. and grain-size on creep characteristics of non-ferrous alloys, 50, 432A, 665A; non-ferrous alloy metals at elevated temps., 50, 159A, 737A.
- Clark, C. W.,** and Heimrod, A. A. Recovery of precious metals from electrolytic Cu refining at Canadian Copper Refiners' Plant, Montreal East, Quebec, 50, 372A, 684A.
- Clark, George L.** X-rays as research tool in chemistry and industry, 50, 448A.
- Clark, L. W.** Discussion on Bailey, Dickenson, Inglis and Pearson's paper on "The Trend of Progress in Great Britain on the Engineering Use of Metals at Elevated Temperatures," 50, 532A.
- Clark, Malcolm.** See Anderson, Walter.
- Clark, M. B.** See Kiessling, O. E.
- Clark, P. H.** Elect. melting pots have been simplified, 50, 643A.
- Clarke, Beverly L.** Role of analytical chemistry in indust. research, 50, 364A, 525A.
- Clarke, Beverly L.,** and Hermance, H. W. Pamphlet: "Improved Apparatus for Micro-Electroanalysis," 50, 457A.
- Clarke, R. R.** Fundamentals of brass foundry practice, 50, 126A, 709A.
- Clarke, S. G.** See Macnaughtan, D. J.
- Clarke, S. G.,** and Bradshaw, W. N. CuF_2 method for detn. of fluoride with special reference to analysis of Ni plating solns., 50, 450A.
- Clarke, T. E.** Effect of surface changes on photoelect. emission of Ag and Au, 50, 213A.
- Claus, Willi.** Chem. resistance of some non-ferrous alloys, 50, 355A; distillation phenomena in brazing with Cu-Zn alloys, 50, 53A, 500A; system Cu-Pb and related heterogeneous systems, 50, 77A, 152A.
- Claus, Willi,** and Fincke, Hans. Book: "Säure beständige Bronzen," 50, 403A; corrosion-resistance of Cu, Sn-bronzes, and Sn to inorganic acids. I.-II., 50, 434A.
- Claus, Willi,** and Goederitz, F. Cast "aluminium-bronzes." IV. — Theory

- of shrinkage, 50, 13A; V.—Mech.-tech. properties, 50, 601A.
- Claus, Willi, and Honsel, Robert. Primary crystal. II.—Investigations on laws of formation of primary structure, 50, 149A.
- Claussmann, Paul. Elected member, 49, 15. See Guichard, —.
- Clay, Reginald S., and Court, Thomas H. Book: "The History of the Microscope," 50, 715A.
- Clayton, Cecil Edward Every-. See Every-Clayton, Cecil Edward.
- Clayton, C. Y. See Hanley, H. R.
- Clenshaw, W. J. See Tapsell, H. J.
- Clever, Otto. Annealing of metal strip in automatic continuous elect. furnaces, 50, 570A.
- Clews, F. H., and Green, A. T. Permeability of refractory materials to gases. I.—Experiments with fireclay and SiO_2 products at ordinary temps. II.—Experiments with fireclay and SiO_2 products at temps. up to 500° , 50, 275A, 647A.
- Clews, F. H., Mills, E. O., and Green, A. T. Comparison of rates of flow of water and of air through refractory materials, 50, 275A.
- Clough, Ray W. Tooth gearing, 50, 106A.
- Clough, Ray W., and Shostrom, O. E. Importance of traces of S on corrosion of food containers, 50, 608A.
- Clowes, Frank, and Coleman, J. Bernard. Book: "Quantitative Chemical Analysis," 50, 144A (review).
- Cocbet, —. See Hardouin, —.
- Cochran-Carr, W. Second (triennial) Empire Mining and Metallurgical Congress, Canada, 50, 202A.
- Code, Alfred R. Lubrication of Al alloy pistons, 50, 638A.
- Coehn, Alfred, and Jürgens, Hans. Part played by protons in conduction of electricity by metals. II.—Measurement of resistance, 50, 9A.
- Coffman, A. W. Corrosion-resistant material made with metallic adhesive, 50, 613A.
- Cohn, Ralph F. Debismuthizing Pb with Ca, 50, 276A; effect of impurities in cleaning and finishing materials, 50, 121A.
- Coker, E. G. Polarized light and its appns. to engineering, 50, 368A.
- Coker, E. G., and Filon, L. N. G. Book: "A Treatise on Photo-Elasticity," 50, 460A (review).
- Coker, E. G., and Levi, R. Stress distribution in fusion joints, 50, 174A.
- Colby, M. Y. X-ray diffraction patterns of mixtures, 50, 747A.
- Colby, S. K. Aluminum Company of America, 50, 519A.
- Cole, Charles Bradford, and Curtis, Frank W. Book: "Tool and Die Design," 50, 525A.
- Coleman, J. Bernard. See Clowes, Frank.
- Coley, Glenn. See James, R. F.
- Collet, Paule, and Foex, G. Magnetic properties of Pt. Different varieties. Influence of field. Passage from one state to another, 50, 213A.
- Collie, C. H. See Gratius, O.
- Collins, P. A. Colouring of metals, 50, 328A.
- Colombel, C. A. Extrusion of metals. —I.—VI., 50, 326A.
- Colonnetti, G., and Pugno, G. M. Elastic and tensile properties of some light alloys, 50, 347A.
- Colvin, Fred H., and Stanley, Frank A. Book: "American Machinist's Handbook and Dictionary of Shop Terms," 50, 715A.
- Colvin, J. See Coppock, J. B. M.
- Colwell, D. L. Effect of compn. on Al-base die-casting alloys, 50, 323A.
- Compton, Arthur H. Precision X-ray spectrometer and wave-length of $\text{Mo K}\alpha_1$, 50, 750A.
- Comroe, R. Ruth. See Hogness, T. R.
- Comstock, J. A. See Guthrie, R. G.
- Constant, F. W. Evidence of mosaic crystals in Cu and Pt, 50, 671A; see also Lowance, F. E.
- Constant, F. W., and Lowance, F. E. Structure sensitiveness of magnetism in metals, 50, 599A.
- Constant, G. D. See Ries, H.
- Cook, Gilbert. Elastic limit of metals exposed to tri-axial stress, 50, 658A; yield-point and initial stress of plastic strain in mild steel subjected to uniform and non-uniform stress distribution, 50, 244A.
- Cook, J. W. See Silsbee, F. B.
- Cook, Maurice. Discussion on "Mechanical Properties of Nickel Wires," 49, 298.
- Cook, Maurice, and Miller, Herbert J. Paper: "The Effect of Different Elements on the Annealing and Grain-Growth Characteristics of Alpha Brass," 49, 247.—Discussion: L. J. Brice, 261; C. H. Desch, 261.—Reply to Discussion, 262.—Correspondence: M. Hanson, 263; F. Johnson, 264; K. G. Lewis, 265.—Reply to Correspondence, 266.
- Coolidge, W. D., Dempster, L. E., and Tanis, H. E. High-voltage cathode-ray and X-ray tubes and their operation, 50, 91A.
- Cooney, J. O. Rapid methods for detn. of S in brass and bronze, 50, 310A.
- Cooper, P. Refractory formers for elect. heating elements, 50, 514A.
- Copp, C. R. Developments in elect. furnaces, 50, 511A.
- Coppock, J. B. M., Colvin, J., and Hume, J. Constant-temp. cells for microscopic observations, 50, 623A.
- Coriolis, E. G. de, and Cowan, R. J. Bright-annealing of metals with hydrocarbon gases, 50, 456A.
- Coste, J. H. Discussion on Vernon's paper on "A Laboratory Study of the Atmospheric Corrosion of Metals," 50, 28A; discussion on Vernon's paper on "An Air Thermostat for Quantitative Laboratory Work," 50, 28A.
- Cottrell, Ray. Combating corrosion in textile world, 50, 303A.

- Cournot, Jean.** First internat. congress on aerial safety, 50, 279A; novel features of study of corrosion and protection against corrosion, 50, 304A; protection of metals against corrosion, 50, 548A; *see also* Grard, C.; Guillet, Léon.
- Cournot, Jean, and Chaussain, Marcel.** Estn. of loss in weight in corrosion tests, 50, 480A.
- Court, Thomas H.** *See* Clay, Reginald S.
- Courty, André.** Casting properties, under constant pressure, of Al and Al₂O₃, 50, 389A; "flowability" of Al and its alloys, 50, 389A.
- Cowan, R. J.** Chem. effect of gaseous atmospheres in bright-annealing of metals, 50, 185A; *see also* Coriolis, E. G. de.
- Cox, Edwin R.** *See* Lyon, Dorsey A.
- Cox, G. L.** Effect of temp. on corrosion of Zn, 50, 26A; *see also* Roetheli, B. E.
- Cox, H. L.** *See* Gough, H. J.
- Craig, G. L.** Pouring practice for avoidance of defects in Al ingots for rolling, 50, 194A.
- Craighead, C. M.** *See* Hartman, F. V.
- Cramer, F. A.** Modern welding installations in Great Britain, 50, 55A.
- Cramp, William.** Book: "Michael Faraday: and Some of his Contemporaries," 50, 133A.
- Crampton, D. K.** Discussion on the paper by De Wald on "Some Important Factors Controlling the Crystal Macrostructure of Copper Wire-Bars," 50, 552A; *see also* Mathewson, C. H.
- Crane, E. V.** Rate and limits of strain-hardening of plastic metals, 50, 6A; why cold-work changes the properties of metals, 50, 7A.
- Crawford, C. A., and Worthington, Robert.** Ni and Ni alloys other than Ni-Cr-Fe group, 50, 511A.
- Cremer, E.** *See* Fetkenheuer, Bruno.
- Crepez, E.** Cu-rich Cu-Ni-Si alloys, 50, 349A.
- Creutzfeldt, —.** *See* Schulz, E. H.
- Crook, Welton J., and Philbrook, W. R.** Black magnetic rouge polishes rapidly and without flow, 50, 552A.
- Cross, H. C.** *See* French, H. J.
- Crowell, Charles.** *See* Hodge, Harold C.
- Crowell, Walter S.** Elected member, 48, 19; *see also* Wise, E. M.
- Crown, J. E.** Bronze pressure castings, 50, 123A, 196A, 503A.
- Crowther, A.** Correspondence on "The Testing of Castings," 48, 304.
- Crowther, J. G.** Book: "Industry and Education in Soviet Russia," 50, 403A.
- Croxson, C.** *See* Pullin, V. E.
- Curtis, Frank W.** What we have learned about tungsten carbide, 50, 576A; *see also* Cole, Charles Bradford.
- Curtis, Robert M.** Use of Zn and Zn alloys in automotive industry, 50, 322A; Zn and Zn alloy used in automotive industry. II-III., 50, 569A; Zn in die-casting, 50, 267A.
- Cuthbertson, Joseph William.** Elected member, 49, 15; electrodepn. of Cr and influence of cathode metal, 50, 95A; electrodepn. of Ni and Cr, 50, 450A.
- Cutler, William.** Elected student member, 48, 316.
- Czerlinsky, Ernst.** *See* Gans, Richard.
- Czernichowski, M. G.** *See* Dorfman, J. G.
- Czerny, M.** *See* Barnes, R. Bowling.
- da Fano.** *See* Fano.
- Dahl, O.** Changes of phase in Fe-Ni alloys which are capable of supercooling. (High permeability of air-cooled Permalloy), 50, 733A.
- Dahl, O., and Pfaffenberger, J.** Anisotropy in magnetic materials, 50, 76A.
- Dahl, O., and Schwartz, N.** Pptn. hardening of Si-Ni alloys, 50, 605A.
- Daland, Judson.** Evolution of modern printing and discovery of movable metal type by Chinese and Koreans in 14th century, 50, 764A.
- Dale, Halvard.** Estn. of Si in Al and its alloys, 50, 554A.
- Dalton, M. P.** Speed in relation to deformation of Cu, 50, 574A.
- Damany, G.** New electrolytic apparatus for detg. small quants. of As and its appn. to detn. of As in presence of Sb, 50, 675A.
- Dammer, Otto.** Book: "Chemische Technologie der Neuzeit," 50, 461A (*review*).
- Damon, Glenn H.** Effect of applied voltage on electrolysis in residual current range, 50, 684A.
- Daneš, V. Z.** *See* Chloupek, J.
- Daniels, Edward J.** Paper: "Some Reactions Occurring in 'Hot-Dipping' Processes," 49, 169. *Discussion*: R. S. Hutton, 183; G. K. Rylands, 183; W. R. Lysaght, 184.—*Reply to Discussion*, 184.
- Daniloff, B. N.** *See* Epstein, Samuel.
- Daniltchenko, P. T.** Mercurides of Co, La, Pr and Nd, 50, 540A.
- Darby, E. R.** Properties of bearing metals at normal and elevated temps., 50, 539A.
- Darling, C. S.** Fusible Sn plugs, 50, 692A.
- Das-Gupta, Pabitra Nath, and Saha, Hari-bola.** Use of phenolic acids in detection, sepn. and estn. of metals. V.—Seppn. of Cu from Cd and their subsequent estns., 50, 366A.
- Dafta-Ray, Benoy Krishna.** *See* Sarkar, Pulin Bihari.
- Daues, K. Ewig-.** *See* Ewig-Daues, K.
- Dausch, H.** *See* Frick, C.
- Dautrebande, J.** Anti-friction metals, 50, 253A; dolomites and magnesite, 50, 397A.
- Davenport, E. S.** *See* Bain, E. C.
- Davey, Wheeler P.** *See* Hollabaugh, Cleveland B.; Phelps, Robert T.
- David, W. T., Davies, W., and Jordan, J.** Flame temps., 50, 44A.
- Davies, Lewis.** Oxy-acetylene welding in brewing industry, 50, 384A.

- Davies, W. See David, W. T.
- Davies, W., and Welch, K. N. Organic reagents in inorganic chem. analysis, 50, 309A.
- Davies, W. L. Milk and metals, 50, 83A.
- Davis, A. E. See Hatmaker, Paul.
- Davis, C. H., and Harder, O. E. Report of Cttee. E-4 of A.S.T.M. on metallography, 50, 306A, 485A.
- Davis, H. W. Pamphlet: "Platinum and Allied Metals in 1930," 50, 403A.
- Davison, C. J., and Germer, L. H. Diffraction of electrons by metal surfaces, 50, 747A.
- Davy, C. Humphrey. Elected member, 48, 18.
- Daw, Burton G. Some prodn. methods used in Cr plating, 50, 563A.
- Dawidenkow, N. Elected member, 48, 18; calculation of residual tensions in cold-drawn tubes, 50, 327A.
- Dawson, J. R., and Kinzel, A. B. Destructive and non-destructive tests of welds, 50, 490A, 751A.
- Dean, J. S. Tests show importance of correct Babbitting, 50, 638A.
- Dean, R. S. Pamphlet: "A Bibliography of the Metallurgical Work of the U.S. Bureau of Mines in 1930," 50, 133A; pamphlet: "The Use of Thermodynamical Data to Study the Chemical Reactions of Metallurgical Processes," 50, 133A; see also Gottschalk, V. H.
- Dean, R. S., and Gottschalk, V. H. Correspondence on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 314; correspondence on "The Effect of Pressure on the Liberation of Gases from Metals," 49, 313.
- Dean, W. A. See Kempf, L. W.
- Dearden, William H. See Berglund, Torkel.
- Debińska, Zofia. Crystalline structure of thin films of metals, 50, 237A.
- De Biran, —. See Biran.
- de Boer. See Boer.
- De Cahier. See Cahier.
- De Carli. See Carli.
- De Chaves. See Chaves.
- Decherf, E. Forging and stamping light and ultra-light alloys, 50, 192A.
- De Coriolis. See Coriolis.
- Deeley, R. B. Al-Si alloys: their properties and some appns., 50, 294A; discussion on "The Testing of Castings," 48, 291.
- de Fleury. See Fleury.
- DeFrance, E. Analytical method for detection of metals, 50, 166A.
- de Haas. See Haas.
- Dehlinger, Ulrich. Book: "Röntgenforschung in der Metallkunde," 50, 412A (review); causes of broadening of lines in powder and rotating crystal photographs with X-rays, 50, 37A; mechanism of allotropic transformation of Co and Ti, 50, 615A; structural variations on complete fracture, 50, 342A; transformations of solid metal phases. II.—Kinetics of fundamental atomic principles, 50, 306A.
- Dehlinger, Ulrich, and Giesen, F. Relation between regular distribution of atoms and resistance limits, 50, 741A.
- Dehlinger, Ulrich, and Mendl, F. Tensile properties of β -brass, 50, 731A.
- Deitz, Louis S., Jr. Discussion on Cohn's paper on "Debismuthizing Lead with Calcium," 50, 277A.
- De Jong. See Jong.
- de Kruff. See Kruff.
- De Laszlo. See Laszlo.
- De Lattre. See Lattre.
- Delayer-Paggi, V. E. Cu in transport material, 50, 568A.
- Deller, Anthony William. Book: "Principles of Patent Law for the Chemical and Metallurgical Industries," 50, 133A.
- Del Nunzio. See Nunzio.
- de Lutis. See Lutis.
- Demand, Léon. Book: "Nouveau lexique technique allemand-français et français-allemand. Exploitation des mines, métallurgie, industries textiles," 50, 206A.
- de Mongeot. See Mongeot.
- de Montessus de Ballore. See Montessus de Ballore.
- Dempster, L. E. See Coolidge, W. D.
- Denecke, W. New apparatus for testing resistance of building materials to corrosion and orosion, 50, 438A.
- Dennison, W. E. See Case, W. G.
- Densham, Alec Bramley. Elected member, 48, 315.
- Derechinskii, I. D. Moulding sands, 50, 713A.
- Deretchey, E. G. Book: "Non-Ferrous Metals, Volume II" (in Russian), 50, 404A, 587A; cardinal factors in development plan of non-ferrous manufactures, 50, 398A; gases in metals and alloys, 50, 149A.
- Dering, B. K. Monel metal and Ni castings, 50, 266A.
- Dering, B. K., Smiriagin, A. P., and Kumanin, I. B. Casting of cylinders at "Krasnyo Fakel" Works, 50, 264A.
- Derstroff, H. Annealing plant in Al industry, 50, 185A.
- Desai, Manohar S. Detn. of heat of dissociation of F₂ and latent heat of vaporization of Li, 50, 339A.
- Desch, Cecil H. Constitution of solid solns., 50, 745A; discussion on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 113; discussion on "Inter-crystalline Corrosion of Duralumin," 48, 183; discussion on "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 230; discussion on "On the Influence of Temperature on the Elastic Behaviour of Various Wrought Light Metal Alloys," 48, 269; discussion on "Some Bronze Specimens from the Royal Graves at Ur," 48, 107; discussion on "The Age-Hardening of Some Aluminium Alloys of High Purity," 48, 210; discussion on "The Behaviour of

- Single Crystals of Bismuth Subjected to Alternating Torsional Stresses," 48, 248; discussion on "The Effect of Different Elements on the Annealing and Grain-Growth Characteristics of Alpha Brass," 49, 261; pure and applied science, 50, 401A.
- Desgranges, A. Autogenous welding of Cu, 50, 697A.
- Dessent, J. See Thyssen, H.
- Deutler, H. Dependence of tensile stresses on rate of strain, 50, 291A.
- Devereux, W. C. Heat-treating and forging light alloys, 50, 110A; high-strength sand-casting Al alloys, 50, 124A, 330A.
- Devine, John M. See Schmidt, Ludwig.
- de Winiwarter. See Winiwarter.
- Dews, Herbert Clifford. Obituary notice, 48, 343; difficulties of indust. research associations, 50, 402A; recent developments in non-ferrous foundry industry, 50, 194A.
- Dick, J. See Lea, F. C.
- Dick, James E. Pamphlet: "Refractory Cement," 50, 206A.
- Dickens, Peter, and Thanheiser, Gustav. Pamphlet: "Die Anwendung der potentiometrischen Massanalyse im Eisenhüttenlaboratorium."—III.—IV., 50, 716A.
- Dickenson, J. H. S. See Bailey, R. W.
- Dicks, H. Glass or metal discharge tubes, 50, 173A.
- Dieckmann, D. Metals and mortar materials, 50, 161A.
- Dietschlag, Ernst. Book: "Der Hochofen," 50, 649A.
- Dierker, A. H., and Kinnear, H. B. Pamphlet: "A Resumé of Published Data on Steel Foundry Practice," 50, 134A.
- Diesperow, S. See Andruschen, A.
- Dietert, Harry W. Calculations in foundry, 50, 268A; control of hardness and other mould properties, 50, 713A.
- Dietsch, G., and Fricke, W. Transverse magnetostriction effect, 50, 73A.
- Digges, T. G. Cutting tests with cemented tungsten-carbide lathe tools, 50, 119A.
- Dike, Paul H. Bridge for measurement of conductance of electrolytes, 50, 684A.
- Dillinger, J. F. See Bozorth, R. M.
- Dimon, R. A. Manuf. of phonographic records, 50, 451A.
- di Nola. See Nola.
- Dippy, John Frederick James. Rhythmic crystn. of melts. I.—Prelim. investigation of factors influencing phenomenon, 50, 671A.
- Dix, E. H., Jr. Correspondence on "Two Years' Corrosion Tests with Duralplat in the North Sea," 49, 145.
- Dix, E. H., Jr., Keller, F., and Willey, L. A. Equilib. relations in Sb-Al alloys of high purity, 50, 11A.
- Dix, E. H., Jr., Sager, G. F., and Sager, B. P. Equilib. relations in Al-Cu-Mg and Al-Cu-Mg silicide alloys, 50, 222A.
- Dixmier, G. Protection of aeronautical materials by paints and varnishes, 50, 236A.
- Dixon, E. S. Needs of oil industry for metals at high temps., 50, 531A; needs of refiners for metals at high temps.—I.—II., 50, 343A.
- Drougatch, Léon. Recent tendencies in methods of study of metals and alloys (1928-1930), 50, 778A.
- Doan, Gilbert E. γ -rays and their uses, 50, 447A; inspection of welds with γ -rays, 50, 93A, 756A; see also Mehl, Robert F.
- Doan, J. B. Experience with tungsten carbide tools, 50, 768A.
- Doan, R. L., and Betsill, J. L. Force relations in drawing Cu wire, 50, 259A.
- Dobbins, J. T., and Sanders, J. P. Detn. of Al. Formation of Li aluminato, 50, 240A.
- Dobbs, E. J. Cyanides in relation to Au and Ag solns., 50, 46A, 98A, 248A.
- Dobrovosky, F. Calculations in Cr plating, 50, 681A; electrolytic deposits of metals on porcelain, 50, 634A.
- Doidge, R. M. Refractories.—I.—II., 50, 516A, 585A.
- Dollé, —. The hull; economy in weight, 50, 374A.
- Donaldson, J. W. Correspondence on "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 44.
- Donath, Ed. Reduction of SO_2 to H_2S and analytical appn. of this reaction, 50, 618A.
- Dōno, Tsurumatsu. Chem. studies of ancient Chinese coins.—I., 50, 152A.
- Dopf, Karl. Graphite—its winning and use in metallurgical industry, 50, 514A.
- Doremus, R. C. Proper care of brine aids prevention of corrosion, 50, 609A.
- Dorfman, J. G., Jaanus, R. I., Grigorow, K. W., and Czernichowski, M. G. Thermoclect. properties and ferromagnetism, 50, 344A.
- Dorgerloh, Erhart. Pptn. hardening and possibilities of appn., 50, 159A; see also Schwinning, W.
- Dorn, E. New Zn die-casting alloy, 50, 158A.
- Douchement, J. Al alloys used in foundry, 50, 224A.
- Doughty, E. Oxidation—cause of porosity in leaded bronzes, 50, 196A.
- Downie, C. C. Refining of Ni, 50, 761A.
- Dowson, R. See Homfray, S. G.
- Dózsa, A. See Schulek, E.
- Drahokoupil, R. Detn. of internal stresses in metals by means of X-rays, 50, 43A; X-rays in foundry—elementary technique, 50, 448A.
- Drake, Ernest B. Effect of crystal size on phys. properties of Sn-base Babbitts, 50, 299A.
- Drane, H. D. H. Elected member, 48, 315.
- Dreyer, K. L. See Tammann, G.
- Dreyer, M. Autogenous welding of Cu applied to Cu firebox plates of locos., 50, 500A.

- Drier, R. W. X-ray study of Cu end of Cu-Ag system, 50, 35A.
- Driggs, F. H. Electrolytic prodn. of Th and U, 50, 636A.
- Driggs, F. H., and Mardon, J. W. Ti and Zr, 50, 381A.
- Drosdow, B. W. See Bajmakow, J. W.
- Drossbach, P. Use of Al in chem. industry, 50, 300A.
- Druce, J. G. F. Chemistry of divi-Mn (rhenium), 50, 290A.
- Drucker, C., and Proskauer, E. Book edited by: "Physikalisch-chemisches Taschenbuch, Band I," 50, 404A.
- Drury, C. W. Cobalt, 50, 376A.
- Dubercet, G. Melting of Cu, 50, 772A; remelting Cu scrap, 50, 772A; remelting old brass in reverberatory furnace, 50, 773A; simplification in manuf. of special brasses, 50, 774A.
- Du Bois, C. Ni dermatitis, 50, 493A.
- Dubpernell, G. Bright dipping of metals and adherence of electrodeposits, 50, 635A; cause of adherence of electrodeposits, 50, 634A.
- Dubridge, Lee A. Further experimental test of Fowler's theory of photoelect. emission, 50, 219A.
- Dubridge, Lee A., and Roehr, W. W. Photoelect. and thermionic properties of Pd, 50, 212A.
- Duff, R. D. See Kershner, K.
- Duff, R. L. Combating corrosion in oil refineries, 50, 436A.
- Duffendack, O. S., and Wolfe, T. A. Quant. spectrographic analysis, 50, 748A.
- Duffendack, O. S., Wolfe, R. A., and Randolph, D. W. Development of electron emitting alloy, 50, 79A.
- Dullenkopf, W. See Zintl, E.
- Dumas, A. Mg: prodn.—properties—appns., 50, 147A; use of Al in apparatus for making varnish, 50, 254A.
- Dumas, A., and Rockaert, F. Binary alloys of Mg, 50, 604A.
- Dumont, —, Schmitz-. See Schmitz-Dumont, —.
- Duncan, W. A. Indust. appns. of oxy-acetylene welding and cutting process, 50, 115A.
- Dunkak, E. B. Immersion melting with gas, 50, 510A.
- Dunlap, W. M. Elect. arc-welding of Al, 50, 186A, 765A; spot welding Al, 50, 765A; welded Al in chem. and process industries, 50, 111A; welded Al in tank trucks, 50, 600A, 765A.
- Dunlop, J. P. Pamphlet: "Gold and Silver in 1929," 50, 134A; pamphlet: "Gold, Silver, Copper, Lead, and Zinc in the Eastern States in 1930," 50, 134A.
- Dunn, Robin. See Hodge, Harold C.
- Dunningham, A. C. See Grumoll, E. S.
- Dunsheath, P. Progress in power cable technique, 50, 322A.
- Duponchelle, J. Book: "Manual del fundidor de metales," 50, 525A.
- Dupuis, E.-L. Shock tests, 50, 764A.
- Dupuy, Eugène. Testing of refractory materials, 50, 396A.
- Durbin, F. M. See Firestone, F. A.
- Dusen, M. S. Van. Appns. of data on thermal conductivity of metals, 50, 533A.
- Dworzak, Rudolf, and Reich-Rohrwig, Wilhelm. Quant. detn. of Ca with picrolonic acid, 50, 167A.
- Dwyer, Pat. Prevent losses with proper gates and risers.—XIII.—XX., 50, 124A.
- Dyson, G. Malcolm. Zn and Cd in chemistry and pharmacy. I.—Historical. II.—Metals and their alloys. III.—Comps. of elements, 50, 764A.
- Dyson, H. G. See Thompson, F. C.
- Eardley-Wilmot, V. L. Abrasives, 50, 388A. II.—Corundum and diamond, 50, 705A.
- Eash, J. T. See Wise, E. M.
- Eastman, L. R. Buffing compns., 50, 193A.
- Ebert, Fritz. See Hartmann, Hellmuth.
- Eckart, Hans. Manuf. of small bells, 50, 127A.
- Eckel, John F. See Gonsamer, M.; Walters, F. M., Jr.
- Eckert, G. Armatures on Al fermenting and storage tanks, 50, 479A; causes of corrosion phenomena which occasionally occur in Al kettles for linseed oil, 50, 82A; increase of heat radiation of Al by surface treatment, 50, 593A; is Al suitable as material for insertions in beer siphons? 50, 566A; M.B.V. process, 50, 438A, 481A.
- Eckman, M. L. Possibilities of elect. resistance welding, 50, 385A.
- Eckstein, Horst. Detn. of Be in alloy steels and ferro-Be, 50, 442A; vol. detn. of MgO and Al₂O₃ in minerals and refractories, 50, 398A.
- Eda, Washirô. Supposed allotropy of Pb, 50, 211A, 339A.
- Eddy, C. E. Spectrum analysis in metallurgy, 50, 618A.
- Eddy, C. E., and Laby, T. H. Quant. analysis by X-ray spectroscopy, 50, 748A; quant. analysis of alloys by X-ray spectroscopy, 50, 86A.
- Eddy, C. T. As elimination in reverberatory refining of native Cu, 50, 400A.
- Edmunds, Gerald, and Fuller, M. L. Relation of crystal orientation to bending qualities of rolled Zn alloy, 50, 735A.
- Edmunds, William Thomas. Elected member, 49, 15.
- Edwards, C. A., and Preece, A. Constitution of Fe-Sn alloys, 50, 22A, 352A.
- Edwards, Hiram W. Interference in thin metallic films, 50, 8A.
- Edwards, J. D. Colours in Al by plating, dyeing, and oxidizing, 50, 577A; discussion on Stock's paper on "Beryllium," 50, 721A.
- Egeberg, B. Pewter and its manuf., 50, 22A, 432A.
- Egeberg, B., and Promisel, N. Ag-plating solns., 50, 98A.

- Eger, Georg. Cu electrolysis at Tin Works Wilhelmsburg G.m.b.H., 50, 100A.
- Egerton, A. C. See Pidgoon, L. M.
- Eggebrecht, Bruno Grosse-. See Grosse-
 Eggebrecht, Bruno.
- Eggenschwiler, C. E. Effect of Sb on mech. properties of bearing bronze, 50, 537A; effect of casting temps. and of addns. of Fe on bearing bronze, 50, 225A, 390A.
- Egorova, N. P. See Isgarischev, N. A.
- Ehret, W. F. See Broderick, S. J.
- Ehrig, (Frln.) Hildegard. Behaviour of metals towards salts, especially NH_4 salts with and without presence of NH_3 , 50, 545A.
- Eicher, I. See Contnerszwer, M.
- Eisbein, W. See Sachs, G.
- Eisbein, W., and Sachs, G. Power consumption and mechanism of flow in extrusion presses, 50, 58A, 189A, 387A.
- Eiseman, J. H. See Weaver, E. R.
- Eisenhut, O., and Kaupp, E. Investigations on Au-Cu alloys by means of diffraction of fast-moving electrons, 50, 16A.
- Eisner, Abner. See Miller, John Hughes.
- Ekman, W. See Westgron, A.
- Elam, C. F. Discussion on "The Behaviour of Single Crystals of Bismuth Subjected to Alternating Torsional Stresses," 48, 248, 251; Paper: "Some Bronze Specimens from the Royal Graves at Ur," 48, 97.—Discussion: T. A. Rickard, 105; N. T. Belaiew, 105; C. H. Desch, 107.—Reply to Discussion, 107.—Correspondence: T. A. Rickard, 108.—Reply to Correspondence, 108; see also Knaggs, I. E.
- Eldridge, C. H. Discussion on Baker and Merkus' paper on "Lead and Lead-Antimony Anodes for Chromium Plating," 50, 758A; rapid Ni-plating. Comparison of present-day practice in U.S.A. and in Europe, 50, 564A.
- Elenbaas, W., and Peyppe, W. F. van. Magnetic properties of thin metal films, 50, 599A.
- Ellerton, H. See Hugill, W.
- Ellinger, George A. Pamphlet: "Thermomagnetic Investigation of Tempering of Quenched 0.75 per Cent. Carbon Steel," 50, 60A.
- Ellis, B. A. See Fox, J. J.
- Ellis, E. T. Fluxes for precious metal prodn., 50, 266A, 331A.
- Ellis, O. W. Review of work on gases in Cu, 50, 210A.
- Ellis, W. C. See Schumacher, Earle E.
- Ellithorn, J. Cu wire laid in Babbitt on bearing, 50, 102A.
- Elmen, G. W. Permalloys, 50, 298A.
- Elssner, G. See Pfanhauser, W.
- Elssner, G., and Siebo, P. Elect. conductivity of Cu, 50, 658A.
- Emich, Friedrich, and Feigl, Fritz. Book: "Microchemical Laboratory Manual," 50, 525A.
- Ende, J. N. van den. Sp. heat of metals at very low temps., 50, 8A; see also Keesom, W. H.
- Endell, K. Gas permeability of refractories, 50, 647A.
- Enderlein, G. Pamphlet: "Sächsische Zinnbergwerke," 50, 281A.
- Endicott, De W. Bronze welding progress, 50, 113A.
- Endô, Hikozi, and Morioka, Susumu. Corrosion of binary alloys of Mg.—I.—II., 50, 740A.
- Endô, Kishio. Comparison of different fluxes for Mg alloys, 50, 266A.
- Endô, Yositosi. Atomic heat of crystalline substances at constant pressure, 50, 216A.
- Engel, Niels. Book: "Untersuchungen über die Stahlhärtung," 50, 206A.
- Engel, Walter. Elected member, 49, 15; book: "Die heutige theoretische Grundlage der Materialprüfung der Metalle," 50, 457A.
- Engelhardt, Günter. See Wagner, Carl.
- Engelhardt, Victor. Book edited by: "Handbuch der technischen Elektrochemie. Erster Band, 2 Teil," 50, 404A.
- Englert, Erno. Change of resistance and magnetization at Curie point, 50, 344A.
- Eppley, Marion, and Gray, William R. Improved Feussner type potentiometer, 50, 622A.
- Epstein, Samuel, and Daniloff, B. N. Selected bibliography on embrittlement of structural steel in galvanizing, 50, 235A.
- Ernst, R. C., and Mann, C. A. Electrodepos. of ternary alloys of Cu, Cd, and Zn from cyanide baths, 50, 247A.
- Esau, A. Dynamic testing of materials, 50, 558A; time of relaxation of some metals under dynamic stresses, 50, 626A.
- Esau, A., and Kortum, H. Effect shown by ferromagnetic materials in alternating electromagnetic fields, 50, 218A.
- Esine, O. Formation of anode slime in Cu baths, 50, 251A.
- Esmont, P. N. K flux in elect. welding, 50, 258A.
- Esnault-Pelterie, R. Hertz hardness, 50, 754A.
- Ettisch, G., and Tamchyna, J. Capillarychem. micro-method for detection of Ag, 50, 366A.
- Eucken, A. Nature of metallic state, 50, 216A.
- Eujeu, H. M. Effect of secondary structure on interference of X-rays, 50, 672A.
- Evans, B. S. Rapid method of dissolving Pb alloys preparatory to detn. of Sn and Sb, 50, 676A.
- Evans, E. B. See Garner, F. H.
- Evans, E. J. See Richards, Wallace.
- Evans, U. R. Correspondence on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 116; discussion on "The 'Fogging' of Nickel," 48, 136; discussion on Vernon's paper on "A Laboratory Study of the Atmospheric Corrosion of Metals," 50, 28A; discussion on

- Vernon's paper on "An Air Thermostat for Quantitative Laboratory Work," 50, 28A; *see also* Britton, S. C.
- Evans, U. R., and Hoar, T. P. Velocity of corrosion from electrochem. standpoint.—II., 50, 610A.
- Everett, F. L. Discussion on Bailey, Dickenson, Inglis, and Pearson's paper on "The Trend of Progress in Great Britain on the Engineering Use of Metals at Elevated Temperatures," 50, 532A.
- Everhart, John L. Layout of small electro-zincing dept., 50, 178A; metals that resist alkali corrosion, 50, 436A; NCT 3—a recent addn. to heat-resisting alloys, 50, 605A.
- Every-Clayton, Cecil Edward. Elected member, 48, 315.
- Ewald, K. F. A. *See* Wöhler, Lothar.
- Ewest, H. *See* Bocker, K.
- Ewig-Daues, K. Hard Cu alloys of high quality, 50, 730A.
- Ewing, Dwight T., and Wilson, Mabel. Electrometric titration of U with ceric sulphate, 50, 90A.
- Ewing, Scott. Tests of coated pipe, 50, 86A.
- Eyles, A. Brazing metals with Ag solders, 50, 571A, 695A, 765A; high-speed blanking press, 50, 118A; lead welding, 50, 113A; material for permanent moulds, 50, 712A; new elect. heater for soldering irons, 50, 696A; oxy-acetylene welding of sheet Cu, 50, 765A; plated Al die-castings, 50, 565A; practical notes on light-metal work, 50, 571A; practical notes on solders and soldering fluxes, 50, 110A; removing automobile sheet metal dents, 50, 328A; salvaging expensive parts, 50, 786A; salvaging expensive parts by electrodepn., 50, 635A; salvaging scrap in railroad shop, 50, 780A; welding Al and Duralumin, 50, 696A.
- Fabry, C. New experimental method of investigating elastic stress, 50, 753A.
- Fahrenhorst, W., and Schmid, E. Alternating torsional tests with Zn crystals, 50, 467A; temp. coeff. of crystal plasticity.—II., 50, 37A.
- Faint, H. W. Education of electroplater, 50, 48A.
- Fairlie, James. Elected member, 48, 18.
- Fakidow, Ibrahim. *See* Kikoin, I.
- Fakidow, Ibrahim, and Kikoin, I. Change of elect. conductivity of liquid metals in magnetic field, 50, 432A.
- Falck, G. Essential considerations when selecting resistance welding machines, 50, 116A; survey of various kinds of arc-welding machines for hand and automatic operation, 50, 55A.
- Falck, Karl. Pt and its alloys in dentistry, 50, 184A.
- Fallon, John. Indust. furnaces, 50, 129A.
- Fangmeier, Erich. *See* Siebel, Erich.
- Fano, Ettore da. Chem. corrosion of Pb in presence of phenol, 50, 356A.
- Faragher, P. V. *See* Anderson, H. A.
- Faris, Charles H. Appn. of electro-deposited metals to engineering, 50, 493A; repairs to Diesel engine parts by electrodepn., 50, 635A.
- Farnsworth, F. F. Report of sub-cttee. VI of Cttee. A-5 of A.S.T.M. on specifications for metallic-coated products, 50, 549A.
- Farnsworth, H. E. Diffraction of low-speed electrons by single crystals of Cu and Ag, 50, 616A.
- Faulkner, Vincent C. *Correspondence on* "The Testing of Castings," 48, 305.
- Faure, Petrus. Book: "Histoire de la Métallurgie au Chambon-Feugerolles," 50, 404A.
- Faust, Charles L. *See* Stout, Lawrence E.
- Fawcett, Lewis H. Moulding practice for heat-treated Al-alloy castings, 50, 125A.
- Featonby, W. Repair of rolling stock by welding, 50, 384A.
- Fedorenko, W. K. Gravimetric detn. of K, together with Na and Mg, 50, 169A.
- Fedotieff, P. P. Electrometallurgy of Al, 50, 635A.
- Fehse, A., and Schröter, K. Osrarn hard metal and its use in technology, 50, 119A.
- Fehse, W. W-wire furnaces for very high temps., 50, 270A.
- Feigl, Fritz. Drop reactions and their use in analysis, 50, 366A; remarks on paper by Holzer on "On the Application of *p*-Dimethylaminobenzylidenerhodamine in Spot Analysis," 50, 366A; *see also* Emich, Friedrich.
- Feigl, Fritz, with Weidenfeld, L., Fränkel, E., and Kapulitzas, H. J. Catalysis and microchemistry, 50, 37A.
- Fennell, Charles Augustus Francis. Elected member, 48, 18.
- Fenno, J. E. Hopper for brass shells, 50, 703A; inverting shells after they leave hopper, 50, 767A.
- Ferguson, A. L., and Chen, Graham M. Studies on overvoltage.—V., 50, 684A.
- Ferguson, R. F. Pamphlet: "Sieve Analysis for Refractory Materials," 50, 281A.
- Fernandez, C. P. Simple process for testing refractories, 50, 586A.
- Ferrán, José Uthoff. Utilization of Au, Ag, and Pt residues, 50, 648A.
- Ferrand, A. Vella-. *See* Vella-Ferrand, A.
- Fetkenheuer, Bruno, and Cremer, E. Qualification of Ta as material for lab. apparatus, 50, 445A.
- Feussner, Otto. Causes of destruction of precious metal thermocouples, 50, 561A; problem of pptn. hardening, 50, 736A.
- Feussner, Otto, Gebhard, K., and Wiester, H. J. Recrystn. of Ag and Pt, 50, 486A.
- Ficklen, J. B. Tetramethyldiaminodiphenylmethane, 50, 87A; *see also* Krans, Edward W.
- Fidrmuc, Paul. New process might restore Ni plating to popularity, 50, 371A; use of Elektron in Europe, 50, 106A.

- Field, A. J. Discussion on Boegehold and Johnson's paper on "Engineering Requirements in the Automotive Industry for Metals Operating at High Temperatures," 50, 532*A*; light alloys in near future, 50, 496*A*.
- Field, Crosby. Hg vapour in indust. heat transfer, 50, 691*A*.
- Field, Samuel. Control of electroplating solns.—VII.—XI., 50, 250*A*; XII., 50, 450*A*; XIII., 50, 564*A*.
- Fieldner, A. C., Porter, H. C., and Selvig, W. A. Report of Cttee. D-5 of A.S.T.M. on coal and coke, 50, 395*A*, 512*A*.
- Figour, H., and Jacquet, P. Comparison of electrodeposits of Zn and Cd from point of view of protection of steel against corrosion, 50, 450*A*.
- Filon, L. N. G. See Coker, E. G.
- Fincke, Hans. See Claus, Willi.
- Findikaki, W. I. Melting practice with Al turnings, 50, 263*A*.
- Findlay, Alexander. Book: "The Phase Rule and its Applications," 50, 281*A*.
- Fink, Colin G. Discussion on Baker and Merkus' paper on "Lead and Lead-Antimony Anodes for Chromium Plating," 50, 758*A*; discussion on Becker's paper on "Electrolytic Phenomena in Oxide-Coated Filaments," 50, 70*A*; discussion on Canning's paper on "High-Speed Nickel Plating as Practised in England," 50, 97*A*; discussion on Cuthbertson's paper on "The Electrodeposition of Chromium and the Influence of the Cathodic Metal," 50, 95*A*; discussion on Egeberg and Promisel's paper on "A Study of Silver-Plating Solutions," 50, 98*A*; discussion on Riddle's paper on "The Possibility of Sillimanite Minerals as Refractories," 50, 273*A*; discussion on Sasaki and Sekito's paper on "Three Crystalline Modifications of Electrolytic Chromium," 50, 95*A*; discussion on Skowronski and Mosher's paper on "Selenium and Tellurium," 50, 761*A*; discussion on Stock's paper on "Beryllium," 50, 721*A*; discussion on Stout and Thummel's paper on "The Change in Reflecting Power Caused by Tarnishing Electrodeposited Silver-Cadmium Alloys," 50, 99*A*; discussion on Thompson's paper on "Cyanides in Metallurgy," 50, 249*A*; discussion on Wernick's paper on "The Stability of Cadmium Cyanide Plating Solutions," 50, 247*A*; discussion on Willink's paper on "Chromium Plating of Steel for Wear Resistance at High Temperatures and High Current Densities," 50, 759*A*; tungsten, 50, 381*A*.
- Fink, Colin G., and Gray, Otis H. Copdn. of Pb and Bi, 50, 632*A*.
- Fink, Colin G., and Jones, Frank L. Electrodepn. of W from aqueous solns., 50, 99*A*.
- Fink, Colin G., and Rohrman, Frederick A. Corrosion of metals by milk, 50, 302*A*; prepn. of pure electrolytic Ni. III.—Chem. and phys. properties, 50, 67*A*.
- Fink, L. M. See Ptitzyn, S. W.
- Fink, M., and Hofmann, U. Phenomenon of "frictional oxidation" of Cu, 50, 529*A*.
- Fink, William L., and Freche, H. R. Equilib. relations in Al-Co alloys of high purity, 50, 221*A*.
- Fink, William L., and Van Horn, Kent R. Equilib. relations in Al-Zn alloys of high purity, 50, 223*A*.
- Finkeldey, William H. Adherence of Zn coatings, 50, 163*A*; report of sub-cttee. VI. of cttee. B-3 of A.S.T.M. on atmospheric corrosion. Atmospheric corrosion test programme, 50, 548*A*.
- Firestone, F. A., Durbin, F. M., and Abbott, E. J. Test for smoothness of machined surfaces, 50, 367*A*.
- Fischbeck, Kurt. Formation of sulphide films on Ag and Ag alloys, 50, 26*A*.
- Fischer, Fr. P. Recommendations for detg. permissible stresses in machine construction, 50, 626*A*.
- Fischer, H., and Masing, G. Be and its alloys, 50, 529*A*.
- Fischer, R. Casting of motor pistons, 50, 771*A*.
- Fisher, M. S. See Carpenter, (Sir) H. C. H.
- Fisher, Thomas F. See Serduke, James T.
- Fitterer, G. R., and Royer, M. B. Use of micropyrometer for high-temp. m. p. investigations, 50, 756*A*.
- Fitzgerald, A. E. New developments in unburned magnesite brick for metallurgical industry, 50, 397*A*.
- Flack, Eric Gordon. Elected student member, 48, 18.
- Fleischmann, Ernst. Book: "Lagerweissmetalle und ihre Prüfung," 50, 588*A*; white bearing metals, 50, 774*A*.
- Fletcher, C. Norman. Tests on thin sheet metal, 50, 559*A*.
- Fleury, R. de. Unknown factors of safety in quantity and processes of transformation of light alloys, 50, 224*A*; see also Hardouin, —.
- Fleury, R. de, and Benmakrouh, —. Use of alloys of Mg (maximum qualities for manuf. and minimum tolerances from normal), 50, 710*A*.
- Flocke, F. G., Schoener, J. G., and McKay, R. J. Gas-welded and brazed joints for high Ni alloys, 50, 188*A*, 698*A*.
- Flood, Arne. See Schmidt-Nielsen, S.
- Flood, Håkon. H₂ overvoltage of Cd, 50, 452*A*; overvoltage of H₂ on alloys, 50, 495*A*.
- Flowers, L. C., and Warner, J. C. Properties of low p_H Ni-plating baths. I.—Throwing power, cathode current efficiency, and conductivity, 50, 759*A*.
- Flugge, J. Metaphot, 50, 170*A*.
- Flusin, G. Rôle of Moissan in development of industries based on elect. furnace, 50, 642*A*.
- Focke, A. B. See Goetz, Alexander.
- Focke, A. B., and Goetz, A. Metamagnetism in Bi single crystals, 50, 722*A*.
- Foerster, M. Quant. detn. of Hg, Cu, and As in presence of one another and in presence of Fe salts, 50, 90*A*.

- Foëx, G. See Collet, Paule.
- Fogle, M. E. Discussion on Ridgway's paper on "Temperature Measurements in Commercial Silicon Carbide Furnaces," 50, 757A.
- Fomin, —. See Kotcharovsky, —.
- Fonda, Gorton R. Cathode-ray tube in X-ray spectroscopic analysis of Cb and Ta, 50, 240A.
- Footo, Frank. See Jette, Eric R.
- Foppl, O. Material testing, 50, 368A.
- Forrer, R. Method of discussing magnetic moments of alloys and common measure of atomic moments, 50, 665A.
- v. Forster, H. Heddornheim Copper Works, Frankfurt, 50, 780A.
- Forsythe, W. E. Intercomparison of high-temp. scale, 50, 44A.
- Fortunatov, M. S. See Plotnikov, W. O.
- Foster, L. V. Optical hints for metallographer, 50, 439A; II., 50, 486A.
- Foster, P. Field. Avery torsion testing machine, 50, 627A; testing machines and their appns., 50, 490A, 679A; Tinius Olson multi-lever testing machine, 50, 627A.
- Fournel, P., and Quevroun, L. Book: "Cours de chimie industrielle. III.—La Chimie des Métaux," 50, 60A.
- Fournier, —. Influence of small quantities of Al on Sn-rich antifriction alloys contg. Sn, Pb, Cu and Sb, 50, 476A; Sn-rich antifriction alloys of Sn, Pb, Cu and Sb, 50, 476A.
- Fournier, Henri. Results furnished by stamping tests and their relation to tensile tests, 50, 626A.
- Fowler, (Sir) Henry. Elected President, 48, 17; discussion on "Note on the Interaction of Aluminium and Water Vapour," 48, 194; discussion on "The Properties of Copper in Relation to Low Stresses. The Effect of Cold-Work, Heat-Treatment and Composition," 48, 96; discussion on "The Relative Corrosibilities of Ferrous and Non-Ferrous Alloys. III.—The Results of Three Years' Exposure at Southampton Docks," 48, 117; discussion on "The Testing of Castings," 48, 295; discussion on "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 44; Presidential Address, 48, 27; remarks at Annual Autumn Meeting, 49, 14; remarks on occupying Presidential Chair, 48, 20; remarks on vote of thanks to Past-President, 48, 23.
- Fowler, E. H. Analysis of photoelect. sensitivity curves for clean metals at various temps., 50, 219A.
- Fowler, R. M. See Hidnert, Peter.
- Fowler, W. H. Book edited by: "Fowler's Electrical Engineer's Pocket Book, 1932," 50, 404A; book edited by: "Fowler's Mechanical Engineer's Pocket Book, 1932," 50, 404A; book edited by: "Fowler's Mechanics' and Machinists' Pocket Book, 1932," 50, 404A.
- Fox, C. S. Book: "Bauxite and Aluminous Laterite," 50, 782A.
- Fox, Gerald W. Oscillator for crystal of X-ray spectrograph, 50, 678A.
- Fox, J. J., and Ellis, B. A. Analytical chemistry, 50, 238A.
- Fraenkel, W. Influence of small admixtures in metals, 50, 4A, 420A; influence of stretching after quenching on age-hardening process, 50, 10A, 728A.
- Fraine, Walter. Platers' classes, 50, 250A.
- France, R. D. See Swanger, W. H.
- Francis, Edgar Llewellyn. Elected member, 48, 18; see also Thompson, F. C.
- Francis, J. L. Foundry sands, 50, 775A.
- Frangipane, G. See Gallo, G.
- Frank, N. H. See Young, J. A.
- Frankel, E. See Feigl, F.
- Franz, H. See Meissner, W.
- Franzini, T. Occlusion of H₂ in metals, 50, 343A.
- Frary, F. C. Discussion on Re's paper on "Plant Practice for Nickel-Plating Aluminium," 50, 759A.
- Fraser, O. B. J. Discussion on Canning's paper on "High-Speed Nickel Plating as Practised in England," 50, 97A.
- Frazier, Richard H. Precision method for detg. thermal diffusivity of solids, 50, 292A, 595A.
- Frear, D. E. Simple method of calibrating lab. thermocouples, 50, 175A.
- Freche, H. E. See Fink, William L.
- Freeman, John R., Jr. Correspondence on "The Open-Air Corrosion of Copper. III.—Artificial Production of Green Patina," 49, 164.
- Freeman, John R., Jr., and Kirby, P. H. Rapid development of patina on Cu, 50, 666A.
- Freitag, —. Indust. poisoning in use of Cr compds., 50, 400A.
- French, H. J., and Mochel, N. L. Report of joint research ettee. of A.S.T.M. and A.S.M.E. on effect of temp. on properties of metals, 50, 531A; report of joint research ettee. on effect of temp. on properties of metals. Progress report, 50, 290A.
- French, H. J., Rosenberg, S. J., Harbough, W. Lo C., and Cross, H. C. Wear and mech. properties of railroad bearing bronzes at different temps., 50, 225A.
- French, R. C. Polish on metals, 50, 421A.
- Frenkel, J. Theory of photoelect. effect, 50, 220A.
- Frenkel, J., and Joffé, A. Elect. and photoelect. properties of contacts between metal and semiconductor, 50, 293A.
- Fresenius, L., and Frommes, M. Detn. of Be, 50, 441A.
- Freude, F. Prod'n. of bright soft Cu wires, 50, 386A; special bronzes for telephone and telegraph wires, 50, 376A.
- Freund, Hugo. Book: "Colorimetry," 50, 716A.
- Freitag, H. Book: "Die Werkstoffe der chemischen Apparate," 50, 716A.
- Frick, C. Bismuthiferous Cu, 50, 289A.

- Frick, C., and Dausch, H. Book edited by: "Taschenbuch für metallurgische Probierkunde, Bewertung und Verkäufe von Erzen für Geologen, Berg-, Hütteningenieure und Prospektoren," 50, 716A.
- Fricke, W. See Dietsch, G.
- Friederich, Ernst. Ferromagnetic Pt-Cr and Pt-Ir alloys, 50, 542A.
- Friedli, J. Internal corrosion of Zn-coated water pipes, 50, 667A.
- Friedrich, H. Theory of wear, 50, 751A; see also Rimarski, W.
- Friedrich, Wilhelm. Practical Ag casting, 50, 266A.
- Friemann, E., Sauerwald, F., and Wint- rich, A. Complex systems with Fe. IV.—Systems Cr-C and Fe-Cr-C, 50, 728A.
- Friend, J. Newton. *Correspondence on "The 'Fogging' of Nickel,"* 48, 140; *paper*: "The Relative Corrodibilities of Ferrous and Non-Ferrous Metals and Alloys. III.—Final Report. The Re- sults of Three Years' Exposure at South- ampton Docks," 48, 109.—*Discussion*: W. H. J. Vernon, 116; T. Turner, 116; Sir Henry Fowler, 117.—*Reply to Dis- cussion*, 117.—*Correspondence*: K. G. Lewis, 118; W. H. J. Vernon, 118.— *Reply to Correspondence*, 119.
- Fritsche, Carl B. Metalclad airships, 50, 764A.
- Fritz, H. E. Hard and soft rubber for pickling tanks, 50, 121A.
- Fröhlich, K. W. Formation of stains on electrolytic Ag plate, 50, 98A; gravi- metric detn. of H_2SO_4 in Cr plating baths, 50, 631A; spotting on electro- deposited Ag coatings, 50, 565A; ter- nary system Ag-Cu-O₂, 50, 606A; see also Leroux, J. A. A.; Moser, H.
- Fröhlich, Werner. Melting and pouring of Al alloys, 50, 124A; prodn. and treatment of white gold alloys, 50, 539A.
- Froidevaux, H. Al for roofs, 50, 688A.
- Fromherz, Hans. Activity coeff. of Pb halides and normal potential of Pb, 50, 452A.
- Frommes, M. See Fresenius, L.
- Fruth, H. F. Cathode sputtering; com- mercial appn., 50, 694A.
- Fry, John. Report as Honorary Treasurer, 48, 13.
- Fuggiani, D. See Guzzoni, G.
- Fujioka, Y. Dispersion theory applied to metallic conduction, 50, 599A.
- Fujiwara, Takeo. Arrangement of micro- crystals in film of Mo obtained by depn., 50, 616A; effects of direction of drawing on arrangement of micro-crystals in Al wire and on tensile strength and broken fracture, 50, 701A.
- Fukami, Yoshio. Arrangement of micro- crystals in compressed single-crystal plates of Al.—III., 50, 307A; IV., 50, 615A.
- Fukuta, Sin-Ichi. See Goto, Masaharu.
- Fuller, M. L. See Edmunds, Gerald.
- Fuller, T. S., and Tour, Sam. Report of cttee. B-3 of A.S.T.M. on corrosion of non-ferrous metals and alloys, 50, 304A, 548A.
- Fuller, T. S., Mumma, P. F., and Moore, H. F. Summary of present-day know- ledge of fatigue phenomena in metals. Corrosion-fatigue of metals, 50, 469A.
- Fulweiler, W. H., and Hess, R. E. Report of cttee. E-1 of A.S.T.M. on methods of testing, 50, 312A, 557A.
- Funabiki, Reiji. See Hodge, Harold C.
- Funk, H., and v. Zur-Mühlen, O. Quant. sepn. of Pb from Fe, 50, 167A.
- Furman, N. Howell. See Kolthoff, I. M.
- Furman, N. Howell, Caley, Earle R., and Schoonover, Irl C. Indirect vol. detn. of Na based on reduction and titration of U in Mg-Na uranyl acetate, 50, 444A.
- Fuseya, G., and Sasaki, K. Electrodepn. of Cr-Fe alloy, 50, 96A.
- Fuss, V. Constitution of Al-rich Al-Fe-Si alloys, 50, 11A, 223A.
- Gabler, Fritz. New method for detn. of heat conductivity of metals, 50, 293A.
- Gale, B. Oil-sand practice, 50, 392A.
- Galibourg, J. Elastic constants of metals, 50, 762A; mech. properties of metals at high temps., 50, 41A.
- Gall, D. C. Testing Ni-Fe alloy by means of a.c. potentiometer, 50, 605A.
- Gall, H., and Heinig, K. H. Oxidimetric detn. of Na, 50, 90A.
- Gallassini, Alfredo. Book: "Elementi di tecnologia moccanica," I-III, 50, 716A.
- Gallo, G., and Frangipano, G. Al-Cr alloys, 50, 666A.
- Galzin, L. Appns. of electricity in metal- lurgy, 50, 767A.
- Gambiola, M. Protection of Al and Duralumin by Zn and Cd electrolytic coatings, 50, 660A.
- Gamble, W. R. Colorimetric estn. of Si in Al, 50, 555A; estn. of Si in Al and its alloys, 50, 443A.
- Gann, John A. Discussion on Templin and Paul's paper on "The Mechanical Properties of Aluminium and Mag- nesium Alloys at Elevated Tempera- tures," 50, 534A; Mg: technology of prodn. and uses, 50, 380A, 419A, 604A, 691A; use of light-weight Mg alloys, 50, 605A; see also Johnson, J. B.
- Gans, Richard. Theory of magnetization curves of isotropic ferromagnetic ma- terials in medium and strong fields, 50, 346A.
- Gans, Richard, and Czorlinsky, Ernst. Pamphlet: "Über das magnetische Verhalten ferromagnetischer Einkris- talle," 50, 782A.
- Gaponov, V. I. Influence of mech. de- formation on Curie point of Ni, and on relation between its magnetization and temp., 50, 340A.
- Garcia, Manuel. Detn. of factor for con- verting weight of electrodeposited PbO₂ into Pb, 50, 442A.
- Gardner, F. W. Erosion of steam turbine blades, 50, 230A.

- Gardner, H. B., and Saeger, C. M., Jr. Factors affecting physical properties of cast red brass, 50, 427A, 731A.
- Gardner, I. C., and Case, F. A. Lateral chromatic aberration of apochromatic microscope systems, 50, 556A.
- Garmasch, E. P. Fractional reaction for Sr, 50, 366A.
- Garner, F. H., and Evans, E. B. Corrosive effect of gasolines and motor benzoles on Cu, 50, 544A.
- Garner, Walter. Book: "Industrial Microscopy," 50, 716A.
- Garre, Bernward. Book: "Einführung in die Praktische Metallographie," 50, 782A; corrosion of Pb cables, 50, 25A.
- Garre, Bernward, and Müller, A. Age-hardenable Pb-Ni-Cd alloys, 50, 296A; recrystn. of Pb, 50, 2A.
- Gartland, S. P. Platers' classes, 50, 250A.
- Gasnier, M. Ni plating of Al, 50, 759A.
- Gáspár, Margit. Book compiled by: "Bibliography of the Hungarian Scientific Works, 1901-1925. Part X, 1.—Chemistry" (in Hungarian), 50, 281A.
- Gasquard, L. Moulding sands, 50, 509A.
- Gavrilov, F. M. Influence of Pt group metals on Au assays, 50, 488A.
- Gayler, (Miss) Marie L. V. Discussion on "The Constitution of the Lead-Tin Alloys," 49, 284.
- Gayler, (Miss) Marie L. V., and Preston, G. D. Paper: "The Age-Hardening of Some Aluminium Alloys of High Purity," 48, 197.—Discussion: Georg Sachs, 208; A. G. C. Gwyer, 208; C. H. M. Jenkins, 209; C. H. Desch, 210.—Reply to Discussion, 210.—Correspondence: Edward G. Herbert, 211; L. W. Kempf and W. A. Dean, 213; Hugh O'Neill, 218.—Reply to Correspondence, 218.
- Gebhard, K. See Foussnor, O.
- Gebhardt, H. T., and Sommor, H. H. Soly. of metals in milk. I.—Soly. of Cu under various conditions, 50, 25A. II.—Submerged corrosion tests of various metals in milk, 50, 302A.
- Geel, W. Ch. van. See Ornstein, L. S.
- Gehling, George. Platers' classes, 50, 250A.
- Gehrts, A. Course of activation of thoriated W and thoriated Mo, 50, 23A.
- Geiger, Joseph. Utility of elongation measurements in practice, 50, 150A.
- Geldbach, Wilhelm. Influence on welding of Cu of small addns. in welding rods, 50, 187A.
- Genders, R. Discussion on "Liquation or 'Inverse Segregation' in the Silver-Copper Alloys," 49, 361; discussion on "The Extrusion of Metals," 50, 387A; discussion on "The Testing of Castings," 48, 293; extrusion of metals, 50, 327A, 387A.
- Gensamer, Maxwell. See Krivobok, Vsevolod N.; Walters, Francis M., Jr.
- Gensamer, Maxwell, Eckel, John F., and Walters, F. M., Jr. Alloys of Fe, Mn, and C. III.—X-ray study of binary Fe-Mn alloys, 50, 79A, 297A, 732A.
- Getzcke, F. Light metal omnibuses, 50, 371A.
- Genvarsy, A. P. See Vaniukov, W. A.
- Gerlach, John J. New dark field microscope illuminator for opaque objects producing annular, cross fire, and indirect illumination, 50, 556A.
- Gerlach, Walther. Ferromagnetism and elect. properties. II.—Interpretation of increase of magnetic resistance of ferromagnetic electronic conductors, 50, 218A; rendering visible regions of different ferromagnetic conditions of a solid, 50, 219A.
- Gerlach, Walther, and Ruthardt, Konrad. Spectral-analytical investigations on Pt metals and alloys, 50, 167A.
- Gerlach, Walther, and Schweitzer, Eugen. Book: "Foundations and Methods of Chemical Analysis by the Emission Spectrum," 50, 206A.
- Germer, L. H. See Davisson, C. J.
- Gernet, H. H., in electrolytic deposits of Cr, 50, 629A.
- Gerry, C. N. Pamphlet: "Gold, Silver, Copper, Lead, and Zinc in Utah in 1929," 50, 134A.
- Gerry, C. N., and Miller, T. H. Pamphlet: "Gold, Silver, Copper, Lead, and Zinc in Idaho and Washington in 1929," 50, 134A.
- Geruso, R. L. See Allan, J. C.
- Gerzriken, S. D. See Lashkariyev, W. E.
- Geschelin, Joseph. Choice of cutting fluids, 50, 705A; Cr-plating cutting tools, 50, 704A; costly rust of metal supply can be prevented, 50, 28A; durable bright Cr finish, 50, 370A; spectrograph speeds identification of elements in metals, 50, 673A; variety of Citroën steels and heat-treatments limited by extensive standardization programme, 50, 695A.
- Getman, Frederick H. Znelectrode, 50, 50A.
- Geveling, N. W. Investigation of rapid thermal changes in metal alloys by thermal method, 50, 228A.
- Gezelius, Roy A. See Barrett, Charles S.
- Ghosh, J. C. Dotn. of Ti as phosphate, 50, 444A.
- Gianelli, Reginald. See Hodge, Harold C.
- Gibb, Henry. Corrosion of Al alloys, 50, 160A.
- Gibb, J. B. A.c. for arc welder, 50, 326A.
- Gibb, Maurice S. Elected Member of Council, 48, 17; seconds vote of thanks to President for his Address, 48, 25.
- Gibbins, R. Lloyd. Elected Member of Council, 48, 17.
- Gibboney, J. H., and Aston, James. Report of ettee. A-5 of A.S.T.M. on corrosion of Fe and steel, 50, 549A.
- Gibbons, P. G. Preheating arrangements in welding, 50, 114-1.
- Gibbs, G. Ambrose. Babbitting plant for bearings, 50, 373A.
- Gibson, Thos. W. Nickel, 50, 380A.
- Giebe, E., and Blechschmidt, E. Effect of magnetization on modulus of elasticity of ferromagnetic rods, 50, 147A, 419A.

- Gierdziejewski, C. Tentative suggestions for systematic classification of foundry defects, 50, 770A.
- Giern, J. B. Boring with tungsten carbide tools, 50, 577A, 768A.
- Gieseke, H. Discussion on Russ' paper on "New Electric Furnaces," 50, 777A.
- Giesen, F. See Dehlinger, U.
- Giesen, Ira D. Van. Corrosion in neutral waters, 50, 668A.
- Giessel, A. Book: "Betriebsbuchhaltung und Kostenrechnung in der Eisen- und Stahlgießerei," 50, 458A.
- Gifford, W. S. Elect. melting and heating of metals, 50, 776A.
- Gilard, P. Properties and tests of refractories used in metallurgy, 50, 514A.
- Gilbertson, H. Platers' classes, 50, 250A.
- Gilchrist, Raleigh. Sepn. of Rh from Ir and gravimetric detn. of these metals, 50, 749A.
- Gill, S. Alas corrosion-resistant, 50, 434A.
- Gillespie, Louis J., and Ambrose, Henry A. Heat of absorption of H₂ by Pd-black at 0°, 50, 68A.
- Gillespie, Louis J., and Perry, John H. Exceptional isotherm at 0° of system Pd-H₂, 50, 20A.
- Gillet, H. W. Light alloys in aircraft, 50, 453A; resistance of Cu and its alloys to repeated stresses. I.—Tough-pitch Cu, annealed and cold-worked, 50, 679A; value of research in non-ferrous metals, 50, 275A.
- Gillett, H. W., and Russell, H. W. Appn. of physics to metallurgy, 50, 202A.
- Gingrich, N. S. See Bennett, R. D.
- Ginzburg, A. A. See Liamin, P. E.
- Giordani, Francesco. Phys. chem. of phenomena of corrosion, 50, 304A.
- Girart, Joaquin. Autogenous soldering of metals with oxy-acetylene blowpipe, 50, 765A.
- Giraud, E. Light metals and their alloys, 50, 289A, 294A, 663A.
- Gire, G. Corrosion of tinplate used in manuf. of containers for canned foods, 50, 434A.
- Girod, P. Comparative study of use of graphite and cast-iron crucibles in furnaces for Al foundries, 50, 506A.
- Girola, L. Everdur, 50, 295A.
- Giroux, Fred. J. Elect. arc welding of Al, 50, 765A.
- v. Girsewald, (Frhr.). Lithium, 50, 418A.
- Glascie, G. Norris. Contact p.d. between Fe and Ni, and their photoelect. work functions, 50, 67A.
- Glasson, G. W. Sn plating cast-iron pistons, 50, 633A, 760A.
- Glassstone, Samuel. Book: "Recent Advances in Physical Chemistry," 50, 60A; limiting c.d. in electrodepn. of noble metals, 50, 99A.
- Glassstone, Samuel, and Sanigar, Edward B. Electrodepn. of Ag from argentocyanide solns., 50, 178A.
- Glassstone, Samuel, and Speakman, J. C. Electrodepn. of Co-Ni alloys.—I.—II., 50, 176A.
- Glauner, R., and Glocker, R. Detn. of velocity of dissoln. of different faces of Cu single-crystals, 50, 301A, 339A.
- Glazebrook, (Sir) R. T., and Hartshorn, L. B. A. standards of resistance, 1865-1932, 50, 659A.
- Glazunov, A. Electrographic analysis of alloys, 50, 618A; electrolysis under microscope, 50, 634A; quant. analysis of alloys without destroying samples, 50, 553A.
- Glazunov, A., and Kriegerstein, J. Influence of various factors on cathodic depn. of Ni from NiSO₄ solns., 50, 632A.
- Glazunov, A., and Roškot, A. Linear rate of crystn. of cathode Cu in electrolysis of CuSO₄, 50, 636A.
- Glazunov, A., Rada, O., and Balcar, L. Linear rate of crystn. of cathode Ag in electrolysis of AgNO₃, 50, 636A.
- Globig, W. See Sauerwald, F.
- Glocker, R. Existence of resistance limits in solid solns. with irregular atomic distribution, 50, 607A; see also Glauner, R.
- Glocker, R., and Graf, L. Dependence of Tammann's resistance limits on crystallographic orientation, 50, 607A.
- Gmelin. Book: "Handbuch der anorganischen Chemie," No. 29—"Strontium," 50, 411A (review); No. 58—"Kobalt" (Teil A, Lieferung 1); "Die Ammine des Kobalts" (Teil B), 50, 410A (review); No. 58—"Kobalt" (Teil A, Lieferung 2), 50, 525A; No. 59—"Eisen" (Teil A, Lieferung 4), 50, 716A; No. 59—"Eisen" (Teil B, Lieferung 5), 50, 526A.
- Gnesotto, Tullio. Changes in elect. resistance of magnetostriuctive metals in magnetic fields.—II., 50, 340A.
- Godsell, Alice T. Estn. of Sn in steel and on tinplate, 50, 90A.
- Goedecke, Wilhelm. Age-hardening of alloys of system Au-Pt by small addns. of third component, 50, 77A; thermocouples and reproducibility of their data. Criteria for their usefulness in measuring temps., 50, 94A, 628A.
- Goederitz, F. See Claus, Willi.
- Goeke, —. Apparatus for works' detn. of total Zn coating on steel, 50, 444A.
- Goens, E. Detn. of elastic modulus of rods by means of bending vibrations, 50, 174A, 447A; see also Schmid, E.
- Goens, E., and Grünisen, E. Conduction of heat and electricity in Zn and Cd crystals, 50, 596A.
- Goens, E., and Schmid, E. Detn. of some phys. properties of Mg crystals (prelim. communication), 50, 67A.
- Goerens, Paul. Book: "Einführung in die Metallographie," 50, 588A.
- Goetz, Alexander. See Focke, A. B.
- Goetz, Alexander, and Focke, A. B. Diamagnetism in metal crystals, 50, 218A; metamagnetism in Bi crystals, 50, 66A.
- Goetz, Alexander, and Hergenrother, Rudolf C. Macroscopic and lattice expansion of Bi single crystals, 50, 209A;

- X-ray studies of thermal expansion of Bi single crystals, 50, 593A; X-ray studies on Bi single crystals, 50, 417A.
- Goldmann, Felix.** Resistance welding of non-ferrous metals from metallographic point of view, 50, 115A; stamping technique and resistance welding, 50, 54A.
- Goldwoski, N.** See Prot, Marcel.
- v. Göler (Frhr.), and Sachs, G.** Kinetics of crystn. processes, 50, 671A.
- Golla, H., and Laube, H.** Measurements of heat conductivity of refractories, 50, 274A.
- Gollnow, G.** Corrosion testing with Tödt's corrosimeter, 50, 233A.
- Golse, J.** Appn. of Spacu's reaction to micro-detn. of Cu, 50, 675A.
- Golse, J., and Jean, M.** Very delicate method for detection and nephelometric detn. of very small quantities of Hg, 50, 443A.
- Goltz, L. N.** See Ilyinsky, W. P.
- Goriatchev, A. P., and Syromiatnikov, R. R.** Elect. welding of Al by means of C electrodes, 50, 326A, 500A.
- Goriatchev, A. P., Syromiatnikov, R. R., and Zechovitzer, E. W.** Soldering of Al with "Allulot" solders, 50, 257A.
- Gorshkov, I. E.** *Correspondence on "Mould Materials for Non-Ferrous Strip Casting,"* 49, 232.
- Gorshkov, I. E., and Hagen-Torn, W. O.** Rigidity of Cu, 50, 339A.
- Gossieaux, M.** Casting of bronze to resist pressure, 50, 390A.
- Goto, Masaharu; Fukuta, Shin-Ichi; Horiguchi, Sadao; and Nagai, Tenji.** Propn. and mech. properties of Al-Cu-Si alloys, 50, 222A.
- Gottschalk, V. H.** See Dean, R. S.
- Gottschalk, V. H., and Dean, R. S.** Soly. of gases in metals, 50, 470A.
- Goubeau, J.** See Zintl, E.
- Gough, H. J.** *Autumn Lecture: "Corrosion-Fatigue of Metals,"* 49, 17; report of Eng. Dept. of N.P.L. for 1931, 50, 522A.
- Gough, H. J., and Cox, H. L.** *Paper: "The Behaviour of Single Crystals of Bismuth Subjected to Alternating Torsional Stresses,"* 48, 227.—*Discussion:* Hugh O'Neill, 247; C. H. Douch, 248; N. T. Belaiew, 248; C. F. Elam, 248; C. H. M. Jenkins, 248.—*Reply to Discussion,* 249.—*Correspondence:* E. N. da C. Andrade, 250; C. F. Elam, 251; Adolf Smekal, 251.—*Reply to Correspondence,* 252; tests on stability of thin strip material under shearing forces in plane of strip, 50, 559A.
- Gough, H. J., and Sowith, D. G.** Behaviour of single-crystal of Al under alternating torsional stresses while immersed in slow stream of tap-water, 50, 300A; *paper: "Atmospheric Action as a Factor in Fatigue of Metals,"* 49, 93. *Discussion:* W. H. J. Vernon, 112; G. I. Taylor, 113; C. H. Desch, 113; N. P. Inglis, 114; J. C. Chaston, 114; H. W. Brownson, 114; H. Moore, 115.—*Reply to Discussion,* 115.—*Correspondence:* U. R. Evans, 116; G. D. Bengough, 120.—*Reply to Correspondence,* 121.
- Goujon, L.** Book: "Précis de Fonderie," 50, 404A.
- Gould, George Herbert.** Elected student member, 48, 18.
- Gould, H. W.** Quicksilver, 50, 380A.
- Gouveia, A. J. de Andrade.** Spectroscopic identification of traces of Ni and Cr, 50, 620A.
- Govier, W. L.** Experiences with some elect. furnaces for melting Cu and Cu alloys, 50, 131A.
- Graber, Hans.** See Moser, Ludwig.
- Graf, L.** Corrosion structure, mechanism of corrosion, and Tamman's resistance limits. X-ray investigation on Au-Cu single crystals, 50, 355A; see also Glockor, R.
- Graf, S. H.** Method for recording effectiveness of pipe coatings, 50, 86A.
- Grah, Fritz.** Elected member, 48, 18.
- Graham, A. K.** Low pn Ni plating solus., 50, 178A, 371A; see also Hogaboom, George B.
- Graham, C. F.** Element 87, 50, 214A.
- Granjon, R.** Autogenous welding of Al, 50, 53A.
- Granjon, R., and Rosemberg, P.** Autogenous welding, 50, 699A.
- Grant, Leland E.** White bearing metals, 50, 685A.
- Grard, C.** Book: "Aluminium and its Alloys," 50, 526A.
- Grard, C., and Cournot, J.** Book: "Métaux et Alliages," 50, 720A (*review*).
- Gratias, O., and Collie, C. H.** Half-value period of uranium- γ , 50, 290A.
- Gratzianskii, N. N.** See Plotnikov, V. A.
- Gray, Daniel.** Discussion on Egeberg and Promisel's paper on "A Study of Silver-Plating Solutions," 50, 98A.
- Gray, Kenneth.** Discussion on "A Modified Impingement Corrosion Apparatus," 49, 130; recent appns. of B.N.F.M.R.A. ternary alloys of Pb, 50, 731A.
- Gray, Otis H.** See Fink, Colin G.
- Gray, William R.** See Eppley, Marion.
- Graziansky, M. M.** See Plotnikov, W. O.
- Greatbatch, A. R.** Discussion on "The Testing of Castings," 48, 295.
- Grebel, A.** Constant ratio between thermal and elect. conductivities of metals, 50, 217A.
- Green, A. T.** Research in technology of refractories, 50, 517A; see also Clews, F. H.; Hugill, W.
- Green, A. T., Wheeler, F., and Booth, H.** Refractory jointing cements, 50, 199A, 640A.
- Greenall, C. H.** See Townsend, J. R.
- Greenwald, W. F.** See Weisberg, L.
- Greenwood, Gilbert.** Cold-working of Pt wires and fibrous texture produced, 50, 147A; effect of cold-work on phys. properties of Al with special reference to its sp. elect. resistance, 50, 337A.

- Greenwood, Harry Delbert. Elected member, 49, 15.
- Greenwood, Hubert. See O'Neill, Hugh.
- Greenwood, Hubert, and Thompson, F. C. Wires drawn through rotating dies, 50, 116A.
- Gregory, Edwin. Book: "Metallurgy," 50, 652A (review).
- Greig, Henry H. Recapping winding rope, 50, 691A.
- Greiner, W. Manuf. of flexible Cu tubes, 50, 191A, 327A.
- Grek, W. A. See Pamfilov, A. W.
- Greulich, E. Strengthening of some working materials on cold-rolling, 50, 6A.
- Grew, K. E. Variation with temp. of thermoelect. power of Ni and some Cu-Ni alloys, 50, 664A.
- Grieb, C. M. W., and Jones, R. H. Influence of S compds. on extraction of Ni by carbonyl process, 50, 277A.
- Griengl, Franz, and Baum, Robert. Galvanic potentials of Pb-Au alloys, 50, 350A.
- Griesbach, A. See Oehlerking, W.
- Griffiths, Ezer, and Hatfield, W. H. Thermal apparatus, 50, 757A.
- Griffiths, W. T. American and Continental practice in Ni deph., 50, 315A; Ni and its uses in engineering, 50, 498A.
- Grigorow, K. W. See Dorfman, J. G.
- Grime, G. X-ray apparatus for powder analysis, 50, 41A.
- Grimm, W., and Wulff, F. Simplification of X-ray technique for large-scale investigations by practical expedients, 50, 447A.
- Grinberg, G. A. Problem of evolution of gas from metals during heating, 50, 343A.
- Grocholl, Karl. Risers and lost heads, 50, 506A.
- Groesbeck, Edward C. See Walkup, H. H.
- Groesbeck, Edward C., and Waldron, Leo J. O., as factor in submerged corrosion, 50, 304A.
- Grogan, J. D., and Schofield, T. H. Paper: "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 301.—*Discussion*: A. G. C. Gwyer, 309; H. W. G. Hignett, 310; E. L. Rhead, 310; W. Rosenhain, 311; D. Hanson, 312.—*Reply to Discussion*, 313.—*Correspondence*: H. W. Brownson, 314; R. S. Dean and V. H. Gottschalk, 314; D. Stockdale, 314; D. R. Tullis, 315.—*Reply to Correspondence*, 315.
- Gross, Reinhold. Elect. furnaces for melting metals and prepn. of ferro-alloys, 50, 642A.
- Grosse-Eggebrecht, Bruno. See Pietsch, Erich.
- Grossman, W. E. Book: "Technology of Metals" (in Russian), 50, 716A.
- Groves, R., and Russell, A. S. Prepn. and some properties of amalgams of Ti, U, and V, 50, 297A.
- Grubb, A. A. Foundry sand control, 50, 510A.
- Grube, —. Surface ennobling of metals by diffusion, 50, 780A.
- Grube, G., and Vaupel, F. Elect. conductivity of Au-Ni alloys, 50, 16A.
- Grube, G., Oetolt, F., and Reinhardt, H. Electrolytic transfer of Pt in HCl soln., 50, 68A.
- Grube, G., Schönmann, G., Vaupel, F., and Weber, W. Equilib. diagram of Cu-Au alloys, 50, 729A.
- Grubitsch, H. Mechanism of galvanizing process, 50, 611A.
- Grumell, E. S., and Dunningham, A. C. Sampling of small coal, 50, 272A.
- Grumell, E. S., and King, J. G. Sampling of coal and coke, 50, 394A.
- Grüneisen, E. See Goens, E.
- Grünewald, M. Casting fever and its prevention, 50, 648A.
- Grünewald, M., and Kalisch, E. Brass fever and its prevention, 50, 648A.
- Grünfeld, E. Cu and brass pipe systems for carrying hot and cold water, 50, 568A.
- Grüss, H., and Haase, G. Crossed filament pyrometer—new radiation pyrometer, 50, 175A.
- Grützner, A. Book: "Eisen- und Stahlliegierungen Patentsammlung," 50, 782A.
- Gudmundsen, Austin. See Smith, David F.
- Guertler, W. Affinity and cutting capacity, 50, 769A; see also Anastasiadis, L.
- Guertler, W., and Blumenthal, B. Rate of dissoln. of metals in acids. Contribution to theory of local elements, 50, 358A.
- Guertler, W., and Rosenthal, W. Constitution of Ag-Sb-Zn, Ag-Cd-Sb, and Ag-Cu-Sb. Contribution to basis for new Ag alloys, 50, 430A.
- Guertler, W., and Savelsberg, W. Constitution and method of treatment of Ni matte and Ni speiss, 50, 298A.
- Gueterbock, Paul G. J. Indust. alloys of Sn, 50, 184A.
- Guichard, —, Clausmann, —, and Billon, —. Hardness of electrolytic metals, 50, 725A; influence of initial condition of certain metals and alloys on variations in hardening by hammering, 50, 737A; variations in hardness of certain metals and alloys with hammering, 50, 737A.
- Guillery, R. Difficulties of wear testing, 50, 751A; torsion testing machine, 50, 627A.
- Guillet, Léon. Al-brasses, 50, 538A; brass contg. Cd, 50, 538A; Cu alloys in industry, 50, 568A; discussion by French Association for Testing Materials, on subjects dealt with at Zürich congress, 50, 625A; heat-treatment of brass, 50, 499A; improvements in properties and treatment of metallic alloys, 50, 348A; Pb-brasses and their identification, 50, 538A; misleading compn., 50, 537A; ordinary and special bronzes, 50, 426A; principal types of special brasses—principal coeffs. of equivalence,

- 50, 538A; special brasses, 50, 349A, 537A; special brasses—brasses contg. Si, 50, 538A; special brasses—Sn-brasses, 50, 539A.
- Guillet, Léon, and Ballay, M. Be and aeronautical construction, 50, 255A; effect of heat-treatment on elect. resistance and mech. strength of Al-Si alloys contg. up to 2.5% Si, 50, 347A.
- Guillet, Léon, and Portevin, Albert. Book: "Précis de Métallographie microscopique et Macrographie," 50, 650A.
- Guillet, Léon, and Roux, A. Dissolved gas in metals and alloys, 50, 736A.
- Guillet, Léon, and Weill, Léopold. Ni: deposits, metallurgy, and futuro prospects, 50, 521A.
- Guillet, Léon, Ballay, Marcel, and Le Thomas, A. Influence of Si on Cu-Ni alloys of low Sn content, 50, 661A.
- Guillet, Léon, Le Thomas, Augusto, and Ballay, Marcel. Properties of Cu-Ni alloys contg. Sn and Si used for steam valves, 50, 541A.
- Guillet, Léon, Petit, Alfred, and Cournot, Jean. Study of alloys of Ag, 50, 476A, 606A.
- Guillet, Léon, Roux, Albert, and Cournot, Jean. Fresh data on influence of occluded gases on mech. properties of metallurgical products, 50, 725A.
- Guillissen, Joseph, and Rysselberghe, Pierre J. Van. Zn and Ba ferrites, 50, 81A.
- Güldner, W. A. Notch strength of some Al alloys, especially at low temps., 50, 348A.
- Gulin, W. S. Disgraceful results of financial and indust. plan in non-ferrous metal industry of Ural during first half-year of 1931, 50, 399A.
- Günther, Heinrich. Treatment of Alpaca ware, 50, 120A.
- Günther-Schulze, A. Theory of electrolytic valve action, 50, 453A.
- Günther-Schulze, A., and Betz, Hans. New investigations relating to electrolytic valve action. III.—Dielect. constant of Al_2O_3 , valve deposit. IV.—Current mechanism in valve deposits, 50, 216A.
- Günther-Schulze, A., and Koller, F. Intensifying interference colours of thin oxide films, 50, 357A.
- Gupta, Pabitra Nath Das-. See Das-Gupta, Pabitra Nath.
- Guthrie, E. S., Roadhouse, C. L., and Richardson, G. A. Corrosion of metals by milk and its relation to oxidized flavours of milk, 50, 302A.
- Guthrie, R. G., and Comstock, J. A. Automatic polishing of metal specimens, 50, 86A.
- Guzzoni, Gastone. Book: "Gli acciai comuni e speciali," 50, 458A; micrographic characteristics of light alloys, 50, 485A; some mech. properties of light metals and criteria for their appn., 50, 348A; spectrographic analysis of alloys, 50, 487A; uses of Al and Mg alloys in modern construction, 50, 496A; see also Parravano, N.
- Guzzoni, Gastone, and Fuggiani, D. Magneto-elastic phenomena in relation to elastic limit, 50, 350A.
- Guzzoni, Gastone, and Nardi, E. Corrosion of metals and alloys used in aircraft, 50, 355A.
- Gvozdoz, S. P. Use of metallic (electronic) rectifiers in electroanalysis and electrodepn. of metals, 50, 250A.
- Gwiazdowski, Alexander P., and Lord, C. B. Book: "Economics of Tool Engineering," 50, 782A.
- Gwyer, A. G. C. Discussion on "Note on the Interaction of Aluminium and Water Vapour," 48, 192; discussion on "On the Influence of Temperature on the Elastic Behaviour of Various Wrought Light Metal Alloys," 48, 269; discussion on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 309; discussion on "The Age-Hardening of Some Aluminium Alloys of High Purity," 48, 208.
- Haag, Walter. See Brill, Rudolf.
- Haas, Max. Corrosion of brass, 50, 738A.
- Haas, Max, and Hecker, H. Dilatometric investigations of thermal effect during annealing of Duralumin and its constituents, 50, 727A.
- Haas, Max, and Uno, Donzo. Improvement of standard Ag, 50, 734A.
- Haas, W. J. de. See Krupkowaki, A.
- Haas, W. J. de, and Alphen, P. M. van. Dependence of susceptibility of Bi single-crystals on field, 50, 657A.
- Haas, W. J. de, and Boer, J. de. Supra-conductivity of Hg-Cd alloys, 50, 475A.
- Haas, W. J. de, and Bremmer, H. Conduction of heat of Pb-Tl at low temps., 50, 474A; thermal conductivity of In at low temps., 50, 466A.
- Haas, W. J. de, and Jurriaanse, F. Superconductivity of Au-Bi alloys, 50, 16A.
- Haase, C. Volume changes by diffusion in connection with inverse segregation on rapid solidification, 50, 730A.
- Haase, G. See Grüss, H.
- Haase, L. W. Artificial and natural formation of protective coatings in water pipes, 50, 361A; corrosion of Cu, 50, 434A; new method of accelerated corrosion testing, 50, 438A; oxidation processes of Cu and its alloys in liquids and their electrochem. behaviour, 50, 738A.
- Hackofer, Heinz. See Moser, Ludwig.
- Hadfield, (Sir) Robert. Book: "Farraday and his Metallurgical Researches," 50, 408A (review).
- Hadfield, (Sir) Robert, and Sarjant, R. J. Heat insulation and refractories for high-temp. work, 50, 585A; ironless induction furnaces, 50, 270A.
- Haehnel, Otto. Chem. problems of German post office, 50, 356A.

- Haehnni, P. M.** Alloy "43" in architecture, 50, 568A.
- Hagen-Torn, Vladimir Oscar.** Elected member, 48, 18; cracking of specimens of Cu for furnaces in hot-bonding tests, 50, 338A; on the paper by Genders on "The Macrostructure of Cast Alloys: Effect of Turbulence Duo to Gases," 50, 352A; *see also* Gorshkov, I. E.
- Hagiya, Masami.** *See* Imai, Hiroshi.
- Hahn, Friedrich L.** Technique of oxinate pptn. I.—Mg pptn.: titration of excess, 50, 241A.
- Hahn, T. M.** X-ray powder diffraction apparatus of new design, 50, 678A.
- Haigh, Bernard P.** Lab. testing in relation to design, 50, 446A.
- Haigh, Bernard P.,** and Robertson, T. S. 7-ton 50-cycle fatigue testing machine, 50, 244A.
- Hakomori, Shin' Ichirō.** Reactions of several metallic ions in presence of organic acids, 50, 239A.
- v. Halban, H.** Research labs. of Metallgesellschaft, 50, 518A.
- Hall, Edwin H.** Elect. conductivity and absorption in metals (supplementary), 50, 9A; elect. conductivity and optical absorption in metals, once more, 50, 8A.
- Hall, Herbert H.** Impact extrusion of Al, 50, 703A.
- Hall, Stanley G.** Pamphlet: "Determination of Stress Concentration in Screw Threads by the Photo-Elastic Method," 50, 716A.
- Hall, William T.** *See* Moore, F. J.; Treadwell, F. P.
- Halla, F.** *See* Abel, E.
- Hallett, Michael Mountjoy.** Elected student member, 48, 18.
- Halliwell, G. P.** *See* Austin, C. R.
- Hamann, G.** *See* Rupp, E.
- Hamblin, A. E.** Mass prodn. of Sn containers, 50, 780A.
- Hamburger, L.** Elect. conductivity and structure of thin metal films. II.—Functional relations between sp. resistance and film thickness (refractory metal sublimates and low temps.). III.—Sp. resistance and structure as functions of temp. IV.—Some appns., 50, 37A; *see also* Reinders, W.
- Hamburger, L.,** and Roinders, W. Sp. resistance of thin metallic films, especially of Ag and W, 50, 596A.
- Hamburger, Max.** Elected student member, 48, 19.
- Hamill, T. E.** Pamphlet: "Aqueous solutions of Ethylene Glycol, Glycerin, and Sodium Silicate as Quenching Media for Steels," 50, 60A.
- Hammel, V. F.,** and Trewin, C. S. Subctec. X of cttec. A-5 of A.S.T.M. on embrittlement investigation, 50, 550A.
- Hammerschmid, H.,** and Lange, E. Electrolytic soln. tension and consideration necessary therewith of galvanic potential metal/metal in galvanic circuit, 50, 101A.
- Hammond, R. A. F.** *See* Macnaughtan, D. J.
- Hamor, William A.** *See* Weidlein, Edward R.
- Hanawalt, J. D.** *See* Morell, L. G.
- Hand, H. J.** *See* Krivobok, Vsevolod N.
- Handasyde, G. H.** Duralumin and steel construction, 50, 568A.
- Hanemann, H.** Diffusion and decompn. in solid solns., 50, 745A.
- Hanemann, H.,** and Schröder, O. Formation and external forms of segregations in metallic solid solns., 50, 307A.
- Hankins, G. A.** Non-destructive methods of testing welds, 50, 751A.
- Hanley, H. R.,** Clayton, C. Y., and Walsh, D. F. Anodes for prodn. of electrolytic Zn.—II., 50, 251A.
- Hansen, M.** *Correspondence* on "The Effect of Different Elements on the Annealing and Grain-Growth Characteristics of Alpha Brass," 49, 263; *see also* Agecw, N.; Bauer, O.
- Hansen, M.,** and Blumenthal, B. Binary systems of Al with Cd, Pb, and Bi, 50, 151A.
- Hansen, William W.** 200,000-v. X-ray tube, 50, 750A.
- Hanson, D.** *Discussion* on "Note on the Interaction of Aluminium and Water Vapour," 48, 191; *discussion* on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 312; *discussion* on "The Effect of Copper in Relation to Low Stresses. The Effect of Cold-Work, Heat-Treatment, and Composition," 48, 69; heat-treatment of non-ferrous metals, 50, 185A.
- Hanson, D.,** and Rodgers, C. E. *Paper*: "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 37.—*Discussion*: W. Rosenbain, 42; N. T. Belaiew, 43; Richard Seligman, 43; A. L. Norbury, 44; Sir Henry Fowler, 44.—*Reply to Discussion*, 44.—*Correspondence*: J. W. Donaldson, 44; C. S. Smith, 45.
- Hanstock, R. F.** Effect of mech. working on state of solid surface, 50, 71A.
- Haraldsen, Haakon,** and Biltz, Wilhelm. Systematic study of affinities. LIII.—Affinity of P for Au and Ag, 50, 16A.
- Harbaugh, W. Le C.** *See* French, H. J.
- Harbough, Ross L.** Easily constructed electrolytic apparatus, 50, 40A.
- Härden, J.** *See* Bonedicks, C.
- Harder, A.** *See* Zintl, E.
- Harder, O. E.** *See* Davis, C. H.
- Hardouin, —,** Cochet, —, and de Fleury, —. Viscosities of fluxes and slags for melting Mg, 50, 710A.
- Hardy, Charles H.** Ba and Sr, 50, 375A; powder metallurgy, 50, 518A; *see also* Mantell, C. L.
- Harle, T. F.** *See* Carpenter, L. G.
- Harley, A.** Prod'n. of Al alloy casting, 50, 771A.
- Harloff, C. S.** *Discussion* on the paper by De Wald on "Some Important Factors Controlling the Crystal Macrostructure of Copper Wire-Bars," 50, 552A.

- Harper, Charles Douglas. Elected member, 48, 19.
- Harris, W., and v. Hippel, A. New glass or quartz mercury lamp for lab. and tech. use, 50, 312A.
- Harriman, Charles E. Applying Stellite to trimming dies, 50, 705A.
- Harrington, R. H. Rockwell hardness unchanged by magnetic treatment, 50, 597A.
- Harris, F. Survey of light castings manuf., 50, 771A.
- Harrison, John Sidney. Elected student member, 48, 315.
- Harrison, Thomas R. New Brown potentiometer recorder, 50, 621A; new potentiometer pyromotor, 50, 246A; recording pyrometer errors caused by humidity, 50, 492A.
- Harry, Ralph G. Appn. of piperidinium piperidylthioformate to colorimetric detn. of Cu, 50, 442A; detn. of Mn, 50, 168A; detn. of Mn. Investigation of Knorre's method in presence of certain other metals, 50, 168A; new method for colorimetric detn. of Mn, 50, 89A.
- Harsch, J. W., and Muller, J. Nitriding containers, 50, 108A.
- Hartman, F. V. Methods of bending Al tubing, 50, 703A; strength of modern alloys is selection factor, 50, 762A.
- Hartman, F. V., and Craighead, C. M. Forming of Al.—I., 50, 503A; II.—III., 50, 574A.
- Hartmann, E. C. Travelling cranes built of Al alloy, 50, 181A; see also Templin, R. L.
- Hartmann, Friedrich. Book: "Das Verzinnen, Verzinken, Vernickeln, Verstählen, Verbleien und das Überziehen von Metallen mit anderen Metallen überhaupt," 50, 60A; see also Schulz, E.
- Hartmann, Hellmuth, Ebert, Fritz, and Bretschneider, Otto. Electrolyses in melts of phosphates. I.—Electrolytic prodn. of α - and β -tungsten, 50, 761A.
- Hartshorn, L. See Glazebrook, (Sir) R. T.
- Harvey, Dean, and Bash, F. E. Report of cttee. B-4 of A.S.T.M. on elect.-heating, elect.-resistance and elect.-furnace alloys, 50, 323A, 693A.
- Harvey, W. G. Alloys of Mg in aviation, 50, 763A.
- Harvey, Wilber E. Cd plating vs. corrosion-fatigue. Pickling vs. corrosion-fatigue, 50, 314A.
- Hashimoto, Uichi. Equilib. diagr. of some alloys rich in Co, 50, 224A.
- Haskell, O. S. Bright-annealing of Cu and its alloys, 50, 570A; fundamentals of Cu wire annealing, 50, 53A.
- Hatfield, W. H. Discussion on "Modern Works Plant and Equipment for the Hot-Working of Nickel and Nickel Alloys," 49, 409; metals and alloys of the futuro, 50, 518A; see also Griffiths, Ezer.
- Hatfield, W. H., Stanfield, G., Woolman, J., and McGregor, N. B. Apparatus for long-period temp.-stress tests on metals, 50, 446A.
- Hatmaker, Paul, and Davis, A. E. Pamphlet: "Abrasive Materials in 1930," 50, 404A.
- Haughton, John L. See Payne, Ronald J. M.
- Hauser, F. Busch univertor, 50, 170A.
- Hauttmann, —. See Schulz, E. H.
- Hawkes, Arthur John. Elected member, 48, 19.
- Hay, R. Ageing and tempering of Duralumin, 50, 347A.
- Hayami, N. See Kato, Y.
- Hayasi, Takesi. Theory of magnetostriction, 50, 73A.
- Haydock, J. Tools for working new alloys, 50, 119A.
- Hayward, Carle R. Metallurgy of Cu in 1930, 50, 519A.
- Heaps, C. W. Thermocouples of longitudinally and transversely magnetized wires, 50, 73A.
- Heaps, C. W., and Banta, H. E. Effect of internal stress on magnetic susceptibility, 50, 75A.
- Heath, (Sir) H. Frank. Book edited by: "The Year-Book of the Universities of the Empire, 1932," 50, 458A.
- Heaton, Ralph. Elected member, 49, 15.
- Hebberling, Hans. Tri-chloroethylene degreasing of metal parts, 50, 804A, 708A.
- Hecker, H. See Haas, M.
- Hedges, Ernest S. Book: "Chapters in Modern Inorganic and Theoretical Chemistry," 50, 717A; book: "Protective Films on Metals," 50, 890A (review); electrochem. periodicities, 50, 684A; Faraday's views on passivity in light of recent research, 50, 83A; periodic physico-chem. phenomena, 50, 83A; protection of metals by metallic films, 50, 85A, 304A.
- Hehemann, F. H. See Bolton, J. W.
- Heikes, V. C. Pamphlet: "Arsenic, Bismuth, Selenium and Tellurium in 1930," 50, 404A; pamphlet: "Gold, Silver, Copper, Lead, and Zinc in California and Oregon in 1929," 50, 134A; pamphlet: "Gold, Silver, Copper, Lead, and Zinc in Nevada in 1929," 50, 134A; pamphlet: "Gold, Silver, Copper, Lead, and Zinc in Nevada in 1930," 50, 588A.
- Heilman, R. H. See Barnitt, J. Bryte.
- Heim, Ludwig, and Skell, Fritz. Book: "Anleitung zur Mikrophotographie," 50, 60A.
- Heimrod, A. A. See Clark, C. W.
- Heinig, K. H. See Gall, H.
- Heldt, P. M. Renewable valve seats cut maintenance costs by eliminating necessity for periodic re-grinding, 50, 106A.
- Heller, Edward. Permanent moulds for Zn-alloy castings, 50, 581A.
- Hempel, E. Pamphlet: "Über die Passivität des Chroms," 50, 732A.
- Hencky, H. Law of elasticity for isotropic and quasi-isotropic substances by finite deformations, 50, 291A; simple model explaining hardening effect in polycrystalline metals, 50, 291A.

- Henderson, P. L. Herbert pendulum hardness tester, 50, 447A.
- Hengstenberg, J., and Mark, H. X-ray investigation of lattice disturbances in light metals, 50, 33A.
- Hengstenberg, J., and Wassermann, G. X-ray investigations of age-hardening process of Duralumin at room temp., 50, 362A.
- Henriquet, M. Soldering of Cu tubes, 50, 490A.
- Henry, Pierre. See Ranque, Georges.
- Hensel, F. R., and Larsen, E. I. Cu-Ti alloys, 50, 77A.
- Hensel, F. R., and Scott, J. A. Metallurgical characteristics of induction furnaces as determined by absorption of O₂ by molten Ni, 50, 511A.
- Hensel, Robert. See Claus, Willi.
- Hentschel, P. Fissure- and pore-free Cr deposits prepared in "Kr" Cr plating bath, 50, 449A; prodn. of electrolytic Cr deposits of sufficient thickness and free from fissures and pores, 50, 176A, 371A.
- Herb, Charles O. Cutting compds. used by Ford, 50, 577A; design of automatic die-casting dies, 50, 508A, 775A; 85000 Cr-plated gauges used in one plant, 50, 681A; electrolytic process for making metal patterns, 50, 712A; machining aeroplane engine cylinder heads, 50, 704A what goes out in your waste cans, 50, 780A.
- Herbert, Edward G. Correspondence on "The Age-Hardening of Some Aluminium Alloys of High Purity," 48, 211; hardening of metals by rotating magnetic fields, 50, 216A, 470A; stabilizing metals by magnetism, 50, 6A.
- Herbert, Thomas Martin. Elected member, 48, 315.
- Hérenghuel, J., and Chaudron, G. Propn. of pure Mg by sublimation, 50, 67A, 530A.
- Hergenrother, Rudolf C. Precision method of measuring small changes of lattice spacings of metal single crystals, 50, 364A; X-ray spectrometer with stationary ion chamber, 50, 624A; see also Goetz, Alexander.
- Herington, C. F. Canadian Ni smelter boasts world's largest pulverized-coal plant, 50, 272A.
- Hernance, H. W. See Clarke, Beverly L.
- Heron, S. D. Discussion on Boegehold and Johnson's paper on "Engineering Requirements in the Automotive Industry for Metals Operating at High Temperatures," 50, 532A.
- Herr, A. See Kantner, C.
- Herrmann, Wilhelm. Heat-resistant Ni-Cr alloys, 50, 475A; prodn. of dense Al castings, 50, 507A; zircon bricks for metallurgical furnaces, 50, 199A.
- Herschman, Harry K. Resistance of Cr-plated plug gauges to wear, 50, 96A.
- Herschman, Harry K., and Basil, J. L. Discussion on Darby's paper on "Properties of Bearing Metals at Normal and Elevated Temperatures," 50, 540A; mech. properties of white metal bearing alloys at different temps., 50, 429A.
- Hertel, Heinrich. Dynamic testing on structural members for aircraft, 50, 753A.
- Herty, C. H., Jr. Pamphlet: "A Practical Method of Solving the Emergency Manganese Problem," 50, 134A.
- Herzfeld, F. General points of view for patentability of alloys, 50, 277A.
- Herzig, A. J. See Upthegrove, C.
- Herzog, E. Generalization of electrochem. theory of oxidation of metals in wet medium, 50, 668A.
- Herzog, E., and Chaudron, G. Alteration in mech. properties of Duralumin sheet after corrosion by sea-water, 50, 738A; methods of testing corrosion of metals, 50, 233A.
- Hess, E. See Fulweiler, W. H.
- Hess, Frank L. Pamphlet: "Vanadium, Uranium and Radium," 50, 404A; vanadium, 50, 569A.
- Hess, R. E. See Chapman, Cloyd M.; Fulweiler, W. H.
- Hesse, E., and Wiester, H. J. Simplification of Marten's mirror apparatus, 50, 750A.
- Hessegie, —. Coal and metallurgical industry of western Europe, 50, 394A.
- Heurtault, René. Elected member, 48, 18.
- v. Hevesy, Georg. Book: "Chemical Analysis by X-Rays and its Applications," 50, 717A.
- v. Hevesy, Georg, and Seith, W. Diffusion in metals, 50, 5A.
- Hey, Harry. Prodn. of Zn by electrolysis. —II., 50, 452A.
- v. Heydekampf, G. S. Damping capacity of materials, 50, 216A.
- Heyer, R. H. See Hodgo, J. M.
- Heymann, T., and Jellinek, K. Equilib. Ni + Co = Ni' + Co on Co potential, 50, 684A.
- Hibbard, W. R. Brass, bronze, and Cu alloys, 50, 428A; Cu welding, 50, 501A.
- Hickson, L. R. See Attfield, G. C.
- Hidnert, Peter. Thermal expansion of Cu alloys, 50, 729A; thermal expansion of heat-resisting alloys: Ni-Cr, Fe-Cr, and Ni-Cr-Fe alloys, 50, 155A.
- Hidnert, Peter, and Sweeney, W. T. Thermal expansion of Pb, 50, 290A.
- Hidnert, Peter, with Renfro, G. E., Fowler, R. M., Vaucher, H. C., and Peffer, E. L. Thermal expansion of electrolytic Cr, 50, 146A.
- Hiers, G. O. Soft solders and their appn., 50, 111A.
- Higgins, Harold. Elected member, 48, 15.
- Highducheck, J. M. Tungsten carbide in Westinghouse plant, 50, 768A.
- Hignett, H. W. G. Discussion on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 310; discussion on "The Testing of Castings," 48, 294.

- Hikosaka, Tadayosi.** See Hirone, Tokutarō.
- Hild, K.** Total radiation of some oxides and oxide mixtures, 50, 616A.
- Hill, Erle Gladstone.** Elected member, 48, 18; Ni-clad steel plate for equipment, 50, 551A.
- Hiller, R. E.** See Norton, John T.
- Hills, G. B.** Detn. of Cd in Cd(CN)₂ baths, 50, 675A.
- Hipert, A.** New symbols for welded joints according to DIN 1912, 50, 700A.
- Himus, Godfrey W.** Book: "Fuel Testing," 50, 526A.
- Hincke, W. B.** See Maier, C. G.
- Hind, S. R.** Research work in refractories industry, 50, 517A.
- Hind, W.** Advantage of gas in motor-cycle industry, 50, 512A.
- Hinden, Fritz.** Removal of boiler scale deposits from hot-water apparatus, 50, 303A.
- v. Hippel, A.** See Harries, W.
- v. Hippel, A., Stierstadt, O., and v. Auwers, O.** Elect. and magnetic effects produced in metallic wires associated with structural changes produced thermally, magnetically, or acoustically, 50, 74A.
- Hippensteel, C. L.** Report of sub-cttee. VIII of cttee. B-3 of A.S.T.M. on galvanic and electrolytic corrosion, 50, 548A.
- Hirata, Hideki, and Tanaka, Yoshio.** Arrangements of micro-crystals in Cu and Au deposited by electrolysis, 50, 616A.
- Hirata, Moriso.** Form and growth of cracks in glass plate, 50, 71A.
- Hird, John.** Sand tests in foundry, 50, 776A.
- Hirone, Tokutarō.** See Honda, Kōtarō.
- Hirone, Tokutarō, and Hikosaka, Tadayosi.** Theory of ferromagnetism, 50, 75A.
- Hirsch, Albert.** Platers' classes, 50, 250A.
- v. Hirsch, Th.** See Trillat, J. J.
- Hirsch, William C.** Extruded metal, 50, 573A; Mg and Be, 50, 640A; phosphor-bronze—its elect. properties and appns., 50, 763A; tungsten, 50, 569A.
- Hirschberg, Fr. Riesenfeld.** See Riesenfeld-Hirschberg, Fr.
- Hirst, J. E.** Effect of centrifugal casting on grain-size of metals, 50, 391A.
- Hitchen, C. Stansfield.** See Twyman, F.
- Hoar, T. P.** See Evans, U. R.
- Hobbs, Douglas B.** Al-Mn-Mg alloy, 50, 536A; designing Al die-castings, 50, 774A.
- Hoblyn, J. B.** Discussion on "The Testing of Castings," 48, 286.
- Hobson, R. B.** Cold-sawing of metals, 50, 387A.
- Hodde, A., Jackson, Alex, Lucas, A. G. C., Milne, C. S., and Stephenson, A.** Report of special cttee. of British Acetylene Assoc. on use of higher pressure in acetylene apparatus, 50, 572A.
- Hodge, Harold C., with Bloamer, Ronald; Crowell, Charles; Dunn, Robin; Funabiki, Reiji; Gianoli, Reginald; and Woo, Theresa.** Prepn. and some phys. properties of Sr-Cd alloys, 50, 157A.
- Hodge, J. M., and Hoyer, R. H.** Pb-Zn eutectic, 50, 78A.
- Hodgen, Joseph Dupuy.** Book: "Practical Dental Metallurgy," 50, 654A (review).
- Hodgman, Charles D., and Lange, Norbert A.** Book edited by: "Handbook of Chemistry and Physics," 50, 656A (review).
- Hodgson, C. C.** P in red brass, 50, 773A.
- Hoehn, E.** Strength of frontal and lateral welds, 50, 114A.
- Hoff, C. M.** Pickling metals for electroplating, 50, 99A; rust protection of wire products with Cd, 50, 85A.
- Hoffman, James Irvin.** Use of ZnO in detn. of Co and Mn, 50, 88A; see also Lundell, G. E. F.
- Hoffman, J. S.** Cd plating before forming, 50, 563A.
- Hoffman, N. B., and McKnight, Charles.** Report of cttee. A-9 of A.S.T.M. on ferro alloys, 50, 497A.
- Hoffmann, Rudolf.** Obituary notice, 49, 411.
- Hofmann, U.** See Fink, M.
- Hogaboom, George B.** Platers' classes, 50, 250A.
- Hogaboom, George B., and Graham, A. K.** Anodes for Zn plating, 50, 760A.
- Hoglund, G. O.** Al alloys in U.S.S. Akron, 50, 686A.
- Hogness, T. R., and Comroe, R. Ruth.** Search for evidence of radioactive decompn. of Ba, 50, 657A.
- Hohenemser, K.** New experimental results on plastic behaviour of metals, 50, 150A.
- Hohenemser, K., and Prager, W.** Fundamental equations and definitions concerning mechanics of isotropic continua, 50, 420A.
- Höhn, Ernst.** Book: "Über den Spannungszustand und die Festigkeit von Kohnähten. Über die Wirkung von Blasen und Kerben von autogen und elektrisch geschweissten Nähten," 50, 60A.
- l'Hoir, G.** Al in brewery, 50, 566A.
- Hoke, C. M.** Testing precious metals with touchstone, I.-II.—Pt and its alloys, 50, 553A, 673A.
- Holbrook, George E.** See Baker, Edwin M.
- Hollabaugh, Cleveland B., and Davey, Wheeler P.** Preferred orientation in Ag foil produced by cold-rolling, 50, 290A; preferred orientation produced by cold-rolling in surface of sheets of Al, Ni, Cu, and Ag, 50, 164A.
- Hollmann, K. O.** Recording of non-periodic phenomena with cathode-ray oscillograph, 50, 172A.
- Holm, R.** Prelim. communication on metal contacts with very thin film of impurity, 50, 625A.
- Holm, R., and Meissner, W.** Measurements employing liquid He. XIII.—

- Contact resistance between super- and non-super-conductors, 50, 344A; measurements of pressure-flow of metals at low temps., 50, 291A.
- Holm, T. O. A. See Krivobok, Vsovoled N.
- Holman, Bernard. Uses for Pt metals, 50, 692A.
- Holmes, G. A. Prodn. spray booths, 50, 670A.
- Holmes, J. Permanent mould and die-casting, 50, 267A.
- Holthaus, —. See Schulz, E. H.
- Holzauer, W. Al alloys in transportation, 50, 374A.
- Holzer, H. Appn. of *p*-dimethylamino-benzylidenerhodamine in spot analysis, 50, 366A.
- Holzmann, Hermann. Course of atomic heat of Ru, Rh and Pd and on coeffs. of expansion of Rh and Pd at high temps., 50, 69A; relation between rolling texture, deep-drawing properties, and hardness of Ag, Cu, and Al, and Ag-Cu alloy, 50, 69A.
- Homfray, S. G., Logan, A., and Dowson, R. Defects in non-ferrous castings, 50, 194A.
- Honda, Kôtarô. Cause of high permeability in air-quenched Permalloy, 50, 227A; see also Horioka, M.
- Honda, Kôtarô, and Hirone, Tokutarô. Theory of change of elect. resistance in metals caused by cold-working, 50, 726A.
- Honda, Kôtarô, and Masumoto, Hakar. Magnetization of single crystals of Co at high temps., 50, 1A, 146A; nature of latent heat of fusion, 50, 5A.
- Honda, Kôtarô, and Shimizu, Yosomatsu. Effect of cold-working on magnetic susceptibility of metals, 50, 116A, 150A.
- Honda, Kôtarô; Matuyama, Yoshiharu; and Isobé, Tadatugu. Solidification shrinkage of C alloys of Mn, Ni, and Co, 50, 226A; volume change during solidification of Mn and some alloys, 50, 475A.
- Honda, Kôtarô; Nishina, Tamotu; and Hirone, Tokutarô. Theory of change of elect. resistance of metals produced by hydrostatic pressure, 50, 422A.
- Honegger, E. Mech. properties of free transmission wires of electrolytic Cu, bronze, Al and Aldrey, 50, 657A.
- Honeyman, A. J. K. See Barr, William.
- Hönisch, W. Pamphlet: "Die Anwendung umhüllter Elektroden in der Schweisstechnik," 50, 782A.
- Hook, Ira T. Welding of extruded bronze, 50, 697A; see also Powell, M.
- Hopfield, J. J. Supercooling liquid Cu, 50, 146A.
- Hopkins, D. G. Modern development in paint and varnish industry, 50, 439A.
- Horiguchi, Sadao. See Goto, Masaharu.
- Horioka, M., Yamamoto, K., and Honda, Kôtarô. Life of resistance wires for elect. heaters, 50, 298A.
- Horn, Hans A. Welding bimetal, 50, 698A; welding cast Elektron crank-cases, 50, 698A.
- Horn, Hans A., and Tewes, K. Pinholes and blowholes in metals and welds, 50, 700A.
- Hornauer, Hans. Practical hints on electroplating with Pb, 50, 96A; practice in electroplating apparatus, 50, 451A.
- Horner, F. Accurate machining, 50, 387A; elect. furnace improvements, 50, 643A.
- Hort, W. See Auerbach, F.
- Hosterman, R. C. Adapting gas welding in chem. industry, 50, 258A, 699A; chem. industry uses gas welding, 50, 698A.
- Hostettler, L. W. Corrosive influences as affecting dairy equipment, 50, 357A.
- Hothersall, A. W. See Macnoughtan, D. J.
- Hottel, H. C. Appn. of optical pyrometry to measurement of luminous flame radiation and temp., 50, 628A.
- Hottenrott, Ernst. Book: "Die Korrosionsschwingungsfestigkeit von Stählen und ihre Erhöhung durch Oberflächendrücken und elektrolytischen Schutz," 50, 588A.
- Houben, H. Book edited by: "Festschrift zum fünfzigjährigen Bestehen der Platinschmelze G. Siebert G.m.b.H., Hanau," 50, 410A (review).
- Houchins, H. R., and McMullen, C. Si carbide and its appns. in metallurgy, 50, 397A.
- Houdek, Vladimir. Elected student member, 48, 19.
- Hougardy, H. System Fe-C-V, 50, 735A.
- Houghton, Bert. Detg. causes of condenser tube corrosion, 50, 160A.
- Houllevigne, L. Pre-eminence of Au, 50, 763A.
- Hounsfeld, L. H. New method for measuring mech. properties of metals, 50, 754A.
- Hovgaard, W. Stress distribution in welds, 50, 384A.
- Howard, Herbert Seymour. Elected member, 49, 15.
- Howe, C. A. Indian State railway foundry, 50, 769A.
- Howland, R. C. J. Vibrations of revolving shafts, 50, 279A.
- Hoyem, A. G. Elect. properties of spectroscopically-pure Zn crystals, 50, 3A.
- v. Hoyer, Egbert, and Kreuter, Franz. Book: "Technologisches Wörterbuch Gewerbe, Industrie, Technik, und ihre wissenschaftliche Grundlage," 50, 282A.
- Hoyt, James S. Metals and their alloys, 50, 182A.
- Hrenov, K. K. See Nazarov, S. T.
- Hruska, John H. Practical appn. of electrochem. to modern macrography, 50, 744A.
- Hrustchov, M. M. Elektron, 50, 732A.
- Hubert, E. H. Book edited by: "Manual of Electric Arc Welding," 50, 458A.
- Hubert, N. Al as elect. material, 50, 638A.
- Hudgins, L. C., and Cameron, H. A. Black oxidized finishing, 50, 705A.
- Hudson, Frank. Elected member, 49, 15.

- Hudson, J. C. Correspondence on "The 'Fogging' of Nickel," 48, 141; Correspondence on "Two Years' Corrosion Test with Duralplat in the North Sea," 49, 148; discussion on "A Modified Impingement Corrosion Apparatus," 49, 132; discussion on "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 231; discussion on "The Open-Air Corrosion of Copper. III.—Artificial Production of Green Patina," 49, 163; discussion on Vernon's paper on "A Laboratory Study of the Atmospheric Corrosion of Metals," 50, 28A.
- Hudson, O. F. Proposes re-election of Auditors, 48, 19.
- Hudson, O. F., and McKeown, J. Paper: "The Properties of Copper in Relation to Low Stresses. The Effect of Cold-Work, Heat-Treatment, and Composition. Part I.—Tensile and Compression Tests under Short-Time Loading," 48, 69.—Discussion: W. Rosenhain, 95; N. T. Belaiew, 95; Sir Henry Fowler, 96.—Reply to Discussion, 96.
- Huey, William R. See Chilton, Thomas H.
- Hug, Ad.-M. Al and its alloys in construction of railway and tramway rolling stock and omnibuses, 50, 496A; elect. locos. of Viège-Zermatt railway, 50, 104A; increase of capacity in transportation by use of light metals, 50, 686A; light metal alloys and their influence in increasing capacity of transport apparatus, 50, 567A.
- Huggins, M. L. Principles detg. arrangement of atoms and ions in crystals, 50, 38A.
- Hughes, David Wynne. Elected member, 49, 15.
- Hugill, W., Ellerton, H., and Green, A. T. Action of CO on refractories, I.—II., 50, 275A.
- Hull, A. W. Electronic devices as aids to research, 50, 678A.
- Hull, Callie. See West, Clarence J.
- Hull, F. A. Report of sub-cttee. VIII of cttee. A-5 of A.S.T.M. on corrosion of iron and steel on field tests of metallic coatings, 50, 304A.
- Hulme, H. R. Faraday effect in ferromagnetics, 50, 218A.
- Hult, Gunnar. Modern view-points on heat-resistant brick and its appn., 50, 515A.
- Hume, J. See Coppock, J. B. M.
- Hume-Rothery, W. Electronic energy levels of elements with special reference to their connection with sizes and electronic states of atoms in metallic crystals, 50, 421A.
- Hunker, M. L. Skimmer for galvanizing vessel, 50, 438A, 743A.
- Hunn, Sidney Charles. Elected member, 48, 19.
- Hunt, Leslie Bernard. Elected member, 48, 315; electrodepn. of alloys.—I., II., 50, 451A, 493A; structure of electrodeposited metals, 50, 317A, 671A.
- Hunt, R. P. See Morris, J. T. MacGregor.
- Hurd, Loren C. See Batchelder, George W.
- Hurley, Thomas Frederick. Pulverized fuel in 1930, 50, 394A; see also Shaw, J. Fraser.
- Hurst, J. E. Centrifugal casting process as applied to non-ferrous metals and alloys, 50, 267A; centrifugally cast Monel metal, 50, 19A.
- Husband, F. C. Process for prodn. of Cu amalgam from ingredients in aqueous solns., 50, 663A.
- Huss, Gillis Em. Modern structural materials. V.—Eutectic, hypoeutectic, and hypereutectic Al-Si alloys. VI.—Heat-treatable Al alloys, 50, 600A.
- Hutchins, O. Discussion on Ridgway's paper on "Temperature Measurements in Commercial Silicon Carbide Furnaces," 50, 757A.
- Hutchinson, A. C. W., and Thompson, F. C. Cast and swaged dental plates, 50, 662A.
- Hutton, R. S. Discussion on "Magnesium Alloy Protection by Selenium and Other Coating Processes," 48, 160; discussion on "Mechanical Properties of Nickel Wires," 49, 299; discussion on "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 227; discussion on "Some Reactions Occurring in 'Hot-Dipping' Processes," 49, 183; discussion on "The 'Fogging' of Nickel," 48, 138; discussion on Vernon's paper on "A Laboratory study of the Atmospheric Corrosion of Metals," 50, 28A; rise and early development of electrodepn., 50, 316A.
- Huxford, W. S. Effect of elect. fields on emission of photo-electrons from oxide cathodes, 50, 220A.
- Huyse, A. C. Book: "Atlas zum Gebrauche bei der mikrochemischen Analyse für Chemiker, Pharmaceuten, Berg- und Hüttenmänner, Laboratorien an Universitäten und technischen Hochschulen," 50, 588A.
- Hyatt, J. M. See Wold, P. I.
- Hyde, J. H. See Batson, R. G.
- Hypher, N. C. X-rays in Al industry, 50, 627A.
- Hyslop, J. F. Metallurgical refractories, 50, 644A.
- Iachino, Angelo. Elected member, 48, 18.
- Iball, John. See Owen, E. A.
- Ide, John M. Measurements on magnetostriiction vibrators, 50, 156A.
- Ideltchik, B. M. Detn. of small quantities of Cd in Cu, 50, 488A.
- Idoux, —. Action of beer on Cu, 50, 229A.
- Itaka, Ichirô. Chlumin, a new light Al alloy, 50, 11A, 221A, 425A, 661A.
- Itaka, Ichirô, and Aoki, Yasuzo. Quant. sepn. of WC and W₂C from W, and conditions of formation of two carbides, 50, 676A.
- Ikeda, Jiro. See Aoki, Nobutosi.
- Ilyinsky, W. P., Lapin, N. P., and Goltz, L. N. Electrolytic Cr plating, 50, 176A.
- Imai, Hiroshi. Elected member, 48, 18.

- Imai, Hiroshi**, and **Hagiya, Masami**. Mechanism of eutectoid change in Cu-Sn alloys, 50, 224A.
- Imhoff, Wallace G.** NH_4Cl and flux conditions in metal-ware galvanizing, 50, 670A; buildings for metal-ware pickling and hot-galvanizing, 50, 483A; corrosion between pickling and galvanizing, 50, 483A; effect of water soaking steel on weight of Zn deposited, 50, 611A; keeping white rust from Zn-coated products, 50, 235A; mech. aids to hot-galvanizing, 50, 482A; muriatic acid dip for metalware galvanizing, 50, 482A; scum caused by Al in hot-dipped Zn coatings, 50, 31A; size and capacities of metal-ware pickling tanks, 50, 483A; H_2SO_4 pickle for metal-ware galvanizing, 50, 483A; use of Sn in galvanizing bath, 50, 31A; Zn used in metal-ware galvanizing, 50, 743A.
- Ingall, D. H.** Discussion on "The Testing of Castings," 48, 292.
- Ingalls, W. R.** Metallurgy of Zn in 1930, 50, 521A.
- Ingham, Edward.** Colliery boiler plant: fusible plugs, 50, 692A; seizures of elect. motor shafts, 50, 685A.
- Inglis, N. P.** Discussion on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 114; see also **Bailey, R. W.**
- Iolson, L.** Use of elect. furnace for detn. of coke and volatile matter in coal, 50, 273A.
- Ionesco-Matiu, Al.**, and **Popesco, C.** Analysis of amalgams, 50, 554A.
- Irodov, S. I.** See **Bochvar, A. M.**
- Isbell, H. G.** Rapid detn. of Zn and other impurities in Cd, 50, 677A.
- Isemer, Herbert.** Book: "Die Steigerung der Schwingungsfestigkeit von Gewinden durch Oberflächendrücken," 50, 463A (review).
- Isenburger, Herbert R.** Step further in X-ray, 50, 756A.
- Isgarischev, N. A.** Modern theory of corrosion, and methods of testing metals for their resistance to chemicals, 50, 231A; protection of Fe against corrosion by galvanizing, 50, 235A.
- Isgarischev, N. A.**, and **Egorova, N. P.** Standardization of methods of investigation of quality of metallic coatings. I.—Chem. methods of testing galvanized Fe, 50, 611A.
- Isgarischev, N. A.**, and **Kuznezowa, A. A.** Electrolytic coating of metals with PbO_2 and its anticorrosive properties, 50, 162A.
- Ishikawa, Tokiji.** Researches on non-ferrous alloys for marine engineering purposes, 50, 77A.
- Isihara, Tomimatu**; **Mihara, Kingo**; and **Umetu, Katuo.** Polarization potential in cathodic depn. of Zn from aqueous soln. of ZnSO_4 , 50, 633A.
- Isobé, Tadatugu.** See **Honda, Kōtarō.**
- Ito, Kokichi.** Influence of melting conditions on occlusion of gas by Al alloys, 50, 771A.
- Ito, S.** Automatic control of elect. arc furnaces, 50, 332A.
- Ivano-Skobliekov, Nicolay Nicolayevich.** Elected member, 48, 19.
- Ivanow, Georges.** Study of local deformation and practical methods of carrying it out, 50, 625A.
- Ives, Herbert E.** Some aspects of research in applied physics, 50, 280A; vectorial photoelect. effect in thin films of alkali metals, 50, 214A.
- Ives, Herbert E.**, and **Briggs, H. B.** Photoelect. effect from thin films of alkali metal on Ag, 50, 214A.
- Iwasa, Mosaku.** Effect of drainage and insulating joint method for prevention of electrolytic corrosion of underground metallic structures, 50, 305A.
- Iwasé, Keizō**; **Aoki Nobutosi**; and **Ōsawa, Atomi.** Equilib. diagr. of Sn-Sb system and crystal structure of β -solid soln., 50, 22A.
- Jaanus, R. I.** See **Dorfman, J. G.**
- Jablezynski, K.**, and **Kulesza, J.** Poisoning and activation of Zn, 50, 597A.
- Jackson, Alex.** See **Hodde, A.**
- Jackson, Clarence E.** Grain distribution index for sand grading, 50, 128A.
- Jackson, R.** Pulverized fuel: its appn. to metallurgical industries, 50, 271A.
- Jackson, W. Clark.** Experiments with town gas in modern tinplate works, 50, 512A.
- Jacobs, C. B., Jr.** Everdur, 50, 321A.
- Jacquet, P.** See **Figour, H.**
- Jaeger, F. M.** Dependence of sp. heat on temp. for elements of eighth group of periodic system, 50, 726A.
- Jaeger, F. M.**, and **Bottema, J. A.** Exact measurement of sp. heats of solid substances between 0° and 1625° C. VI.—Law of Neumann-Joule-Kopp-Regnault concerning molecular heat of chem. compds. in function of atomic heats, 50, 478A.
- Jaeger, F. M.**, and **Rosenbohm, E.** Exact measurement of sp. heats of Ir and Ru between 0° and 1604° C., 50, 418A.
- Jaeger, F. M.**, **Rosenbohm, E.**, and **Bottema, J. A.** Exact measurement of sp. heats of solid substances at high temps. V.—On cooling correction of metal colorimeter in exact high-temp. calorimetry, 50, 470A.
- Jahn, Kurt.** Fourdrinier wires and cloths, 50, 455A.
- Jakeman, C.**, and **Barr, Guy.** Tests on Sn-base and Pb-base bearing metals, 50, 734A.
- James, L. H.** Colorimetric detn. of Mo, 50, 310A; vol. detn. of Cr and Ni in same soln., 50, 168A.
- James, R. F.**, and **Coloy, Glenn.** Heating element deterioration reduced in cyanide furnaces, 50, 777A.
- Jamieson, R. W.** See **Nelson, H. A.**
- Janecke, Ernst.** Melting under pressure and contribution to value of interpolation formulae, 50, 313A.

- Jansson, A. H. Shipbuilding industry closely linked to foundry, 50, 52A.
- Jaquerod, A., and Zuber, O. Experimental investigation of elasticity at small stresses, 50, 245A.
- Jardine, Frank. Light alloys in motor vehicle construction, 50, 686A.
- Javet, E. Book: "Agenda Dunod. Chimie," 50, 206A.
- Jay, A. H. See Bradley, A. J.
- Jean, M. Method for detn. of small quantities of Hg, 50, 443A; see also Gelse, J.
- Jeffery, F. H. Constitution of Cu-Ag series of alloys examined thermodynamically, 50, 730A; constitution of liquid and solid alloys of Cu-Au system examined thermodynamically, 50, 730A.
- Jeffries, Z. Discussion on Wyman and Kelley's paper on "Cemented Tungsten Carbide: A Study of the Action of the Cementing Material," 50, 23A.
- Jellinek, K. See Hoymann, T.
- Jellinghaus, W. See Wover, F.
- Jelly, E. E. Colorimetric detn. of small amts. of Ag, 50, 621A.
- Jenkins, C. H. M. Correspondence on "The 'Fogging' of Nickel," 48, 141; discussion on "The Age-Hardening of Some Aluminium Alloys of High Purity," 48, 209; discussion on "The Behaviour of Single Crystals of Bismuth Subjected to Alternating Torsional Stresses," 48, 248; flow of solid metal aggregates, 40, 659A.
- Jenkins, Ivor. Elected student member, 48, 315.
- Jenks, G. F. Inspection of welding made by Watertown arsenal, 50, 756A.
- Jennings, Charles H. Discussion on paper by Thornton, entitled "Giving the Weld a Chance," 50, 766A; fatigue strength and strain relief of welds, 50, 384A; see also Peterson, R. E.
- Jennings, Judson T. Elected member, 48, 315.
- Jensen, K. Kaat-. See Kaat-Jensen, K.
- Jensen, W. Theory and practice of Harris process, 50, 520A.
- Jess, E. See Kroll, W.
- Jette, Eric R., and Foote, Frank. Solid solns. of Pb and Sn in Bi, 50, 425A.
- Jeufray, A. See Verotte, P.
- Jewett, F. B. Pamphlet: "The Place of Research in Industry," 50, 526A.
- Jilek, A., and Kota, J. Detn. of Ti as dioxide by guanidine carbonate in tartrate solns., 50, 311A; gravimetric detn. of Be and its sepn. from Al by means of guanidine carbonate, 50, 88A, 441A; gravimetric detn. of Be by means of guanidine carbonate and its sepn. from Fe⁺⁺⁺, UO₂⁺⁺⁺, Th⁺⁺⁺, Zr⁺⁺⁺, Ti⁺⁺⁺, WO₄⁺⁺⁺, MoO₄⁺⁺⁺, VO₄⁺⁺⁺, CrO₄⁺⁺⁺, AsO₄⁺⁺⁺, SbO₃⁺⁺⁺, and Cu⁺⁺, 50, 309A, 619A.
- Jilek, A., and Vicovsky, V. Use of 8-hydroxyquinoline, strychnine, and brucine for gravimetric detn. of V, and of quinoline for sepn. of V from Cr, 50, 311A; use of 8-hydroxyquinoline, strychnine, brucine, and quinoline in sepn. of V from As, 50, 677A.
- Joffé, A. See Frenkel, J.
- Johag, W. Repair of Al-lined pressure vessel, 50, 500A.
- Johansson, C. H. See Boroliuss, G.; Keesom, W. H.
- Johnson, A. E. See Tapsell, H. J.
- Johnson, B. K. See Martin, L. C.
- Johnson, C. Hardness of Pd, 50, 3A.
- Johnson, F. Correspondence on "The Effect of Different Elements on the Annealing and Grain-Growth Characteristics of Alpha Brass," 49, 264; correspondence on "The Properties of Commercial Varieties of Copper at High Temperatures," 49, 245.
- Johnson, J. B. See Boegehold, A. L.
- Johnson, J. B., and Gann, J. A. Report of etche. B-7 of A.S.T.M. on light metals and alloys, cast and wrought, 50, 321A, 495A.
- Johnson, J. W. See Beasley, A. F.
- Johnson, W. S. Corrosion prevention by protective coatings, 50, 162A.
- Johnston, D. A. Cold-roll forming of rust-resistant metals, 50, 117A.
- Johnston, Reginald G. Indust. alloys of Cu, 50, 152A.
- Johnston, William Drumm, Jr. Chromium, 50, 376A.
- Joliot, F. Cathodic projection of elements and some appns., 50, 71A; elect. properties of metals in thin films prepared by thermal and cathodic projection, 50, 72A.
- Jolivet, H. See Portevin, A.
- Jolley, A. C. Meter and instrument design, 50, 311A.
- Jones, E. O. See Clark, B.
- Jones, Frank. Finishing Al bodies, 50, 329A.
- Jones, Frank L. See Fink, Colin G.
- Jones, H. E. Some aspects of boiler-water chemistry, 50, 29A.
- Jones, J. C. Mottled tinplates, 50, 360A, 743A.
- Jones, J. E. Lennard-. See Lennard-Jones, J. E.
- Jones, J. R. See Allcock, H. J.
- Jones, Phyllis. See Bradley, A. J.
- Jones, R. H. See Grieb, C. M. W.
- Jones, T. M. Training gas welders for job, 50, 259A, 766A.
- Jones, W. D. See Bannister, C. O.
- Jones, W. Morris-. See Morris-Jones, W.
- Jones, W. R. See Cissarz, A.
- Jong, W. F. de. Crystal structure of regular Na-W bronzes, 50, 746A.
- Jooss, Helmut. Temp. of oxy-acetylene flame, effect of water vapour in acetylene, and consequent effect on welding, 50, 501A.
- Jordan, J. See David, W. T.
- Jordan, L. A. See Vernon, W. H. J.
- Jordan, W. H. See Roller, Duano.
- Josephy, Edith. See Pletsch, Erich.
- Joshi, R. M. See Paranjpe, G. R.
- Jost, W. Rate of diffusion of Cu in Au, 50, 339A.

- Joyce, Edwin. Anodic treatment of Al, 50, 234A, 305A; welding of Duralumin in aircraft, 50, 186A.
- Jsemmer, H. Increasing endurance limits of threads by surface pressures, 50, 14A.
- Jubitz, Werner. Appn. of Protos-vacuum-switch for temp. regulation, 50, 171A.
- Judge, Arthur W. Book: "Engineering Materials. Vol. II.—Non-Ferrous Metals and Organic Materials," 50, 462A (review).
- Julihn, C. E. Pamphlet: "Bauxite and Aluminium in 1929," 50, 135A.
- Julihn, C. E., and Meyer, H. M. Pamphlet: "Copper in 1929 (General Report)," 50, 135A.
- Junker, Otto. Continuous strip annealing process and fundamentals of heat transfer in continuous strip furnaces, 50, 765A; correspondence on "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 233; heat-treatment of metal strip in continuous annealing furnaces.—I., 50, 694A.
- Jürgens, Hans. See Coehn, Alfred.
- Juriew, Konstantin. Elected member, 48, 315; stages in development of apparatus for tension testing elongation of metals, 50, 245A.
- Jurriaanse, F. See Haas, W. J. de.
- Justh, Richard. Anodes and auxiliary anodes in Cr plating, 50, 448A; degreasing in Cr plating technique, 50, 192A, 768A; easily removable electrodeposits, 50, 760A.
- Justh, Richard, and Markhoff, Fritz. Cr plating in patent literature, 50, 46A.
- Juza, Robert, and Biltz, Wilhelm. Systematic study of affinities. LI.—Affinity of S for Re, 50, 20A.
- Kaat-Jensen, K. Use of gas- or oil-fired furnaces for die-casting, 50, 776A.
- Kagan, G. A. See Pogodin, S. A.
- Kahlenberg, Louis. Discussion on Egoberg and Promisel's paper on "A Study of Silver-Plating Solutions," 50, 98A; discussion on Pan's paper on "Bright Silver Plating from the Cyanide Bath," 50, 98A; metals in electrochemistry, 50, 100A, 452A; see also Royce, Harvey D.
- Kaiser, H. F. See Barrett, C. S.
- Kalisch, E. See Grünwald, M.
- Kalling, Bo Michael Sture. Elected member, 48, 19.
- Kaltenbach, Joseph. See Salmang, Hermann.
- Kambara, Shuu, and Matsui, Mototaro. Thermostat studies. III.—Time-lag of various thermometers, 50, 628A.
- Kameyama, Naoto. See Makishima, Shoji.
- Kamio, Keiichi. See Tanaka, Kenzo.
- Kane, N. L. Ross. See Brønsted, J. N.
- Kaneko, Seiji. Theory of addition agents, 50, 760A.
- Kanevsky, J. I. Detn. of hardness by scratching standard plates, 50, 491A.
- Kanter, J. J. Discussion on Bailey, Dickenson, Inglis, and Pearson's paper on "The Trend of Progress in Great Britain on the Engineering Use of Metals at Elevated Temperatures," 50, 532A; discussion on Price's paper on "Properties of Copper and Some of its Important Industrial Alloys at Elevated Temperatures," 50, 529A.
- Kantner, C., and Herr, A. X-ray tests in workshop practice.—II., 50, 43A.
- Kantorowicz, O. Conductivity of pressed metal powders, 50, 217A; see also Skaupy, F.
- Kanz, Anton. Reversible thermal expansion of refractories, 50, 646A; see also Schulz, E.
- Kapitza, P., and Webster, W. L. Method of measuring magnetic susceptibilities, 50, 40A.
- Kapostuin, M. P. See Pershke, V. K.
- Kapulitzas, H. J. See Feigl, F.
- Kapustinsky, A. F. See Britzke, E. V.
- Karpachev, S. V. See Shchervakov, I. G.
- Karpow, A. F. Book: "Metallurgy" (in Russian), 50, 782A.
- Karsten, A. Aluminized Fe, 50, 306A; improvements in Schoop spraying process, 50, 577A.
- Kasey, John B. Bessemerization of bell bronze. Recovery of Cu and Sn, 50, 519A, 780A; Au and Ag recovery from Sn slime, 50, 520A.
- Kasparow, A. M. Book: "Hard and Super-Hard Alloys of the U.S.S.R. and Experiences with their Application" (in Russian), 50, 651A.
- Kastchenko, George A. Elected member, 48, 315.
- Kästner, W. See Schüppel, F.
- Kasz, Frank. Elected student member, 48, 18.
- Katakonsinos, D. Detn. of Ca and its sepn. from Mg by Na_2WO_4 , 50, 442A.
- Kato, Shotaro. Equilib. diagr. of Al-rich Al-Sn-Ni system, 50, 347A.
- Kato, Y., and Hayami, N. New method of obtaining strain figures on surface of Cu, 50, 147A.
- Katz, F. J. Pamphlet: "Mineral Resources of the United States. I.—Metals," 50, 135A.
- Kaufmann, Waldemar, and Siedler, Philipp. Sublimation of Mg in vacuum, 50, 2A.
- Kaupp, E. See Eisenhut, O.
- Kawaguti, Usaburô. Some experiments with TiN, 50, 341A.
- Kawai, Tadashi. Change of modulus of rigidity in different metals caused by cold-working, 50, 216A.
- Kawashima, Namio. Silumin contg. Cu, 50, 347A.
- Kaya, Seiji, and Kussmann, A. Ferromagnetism and phase configuration in binary system Ni-Mn, 50, 20A, 430A.
- Kaye, Albert L. See Thompson, M. de Kay.
- Kaye, G. W. C. Report on Physics Dept. of N.P.L. for 1931, 50, 523A.

- Kaye, G. W. C., and Laby, T. H. Book: "Tables of Physical and Chemical Constants and Some Mathematical Functions," 50, 404A.
- Kayser, J. Ferdinand. Heat-resisting alloys, 50, 227A.
- Keeble, H. W. Some practical notes in oil-sand practice, 50, 392A.
- Keefe, W. H., and Newell, I. L. Simple method for sofn. of Cd and Bi in fusible alloys, 50, 674A.
- Keel, C. F. New Keel multi-flame blow-pipe, 50, 699A; welding in Switzerland, 50, 700A.
- Keene, Harry Arthur Ruck-. See Ruck-Keene, Harry Arthur.
- Keesom, W. H. Atomic heat of Zn and Sn near absolute zero, 50, 530A; thermo-electric forces of Pb and Sn at liquid He temps., 50, 339A; see also Borelius, G.
- Keesom, W. H., and Ende, J. N. van den. Sp. heats of solids at temps. obtainable with liquid He. IV.—Measurements of atomic heats of Sn and Pb, 50, 467A.
- Keesom, W. H., and Kok, J. A. Measurements of sp. heats of Ag from 1.35 to 20.3° K., 50, 466A.
- Keesom, W. H., Johansson, C. H., and Linde, J. O. Measurements of thermo-elect. forces of Pb and Sn down to temp. of liquid He, 50, 418A.
- Keinert, M. Ag-Cu-Zn system, 50, 664A; system Ag-Cu-Mn, 50, 21A.
- Keip, Frank V. Wire forming dies, 50, 766A.
- Keitel, W., and Zschiegner, H. E. Electrodepos. of Pt, Pd, and Rh, 50, 98A.
- Keler, E. Deformation of refractories under heavy loads at high temps., 50, 515A.
- Keller, F. Al alloys, 50, 294A; see also Dix, E. H.; Günther-Schulze, A.
- Kelley, Floyd C. Cemented tantalum carbide, 50, 81A; see also Wyman, L. L.
- Kelley, K. K. Pamphlet: "Contributions to the Data on Theoretical Metallurgy. I.—The Entropies of Inorganic Substances," 50, 588A.
- Kelso, L. E. A. See Maurer, Edward R.
- Kempf, L. W., and W. A. Dean. Correspondence on "The Age-Hardening of Some Aluminium Alloys of High Purity," 48, 213.
- Kemsies, W. Practical hints for welder, 50, 700A.
- Kenneford, Arthur Spencer. Elected student member, 48, 316.
- Kent, Robert T. Fundamentals of machine polishing, 50, 769A.
- Kenty, Carl. Photoelect. efficiencies in extreme ultra-violet, 50, 221A.
- Kenyon, Reid L., and Burns, Robert S. Autographic stress-strain curves of deep-drawing sheets, 50, 626A.
- Kernaghan, Marie. Measurement of height of large drop of Hg, 50, 594A.
- Kerr, H. J. Trends in engineering requirements for metals for power-plant industry, 50, 531A.
- Kerr, W. Raymond. Types, uses, and testing of refractory cements, 50, 645A.
- Kershner, K., and Duff, R. D. Now qual. test for Al, 50, 618A.
- Kersten, H. Crystal structure of Cu electrodeposited in presence of gelatine, 50, 86A; electrodeposited metal foils, 50, 565A; gas X-ray tube for crystal structure analysis, 50, 678A; influence of H-ion concentration on crystal structure of electrodeposited Co, 50, 631A; influence of temp. on crystal structure of electrodeposited Sb, 50, 562A; X-ray reflection spectrograph, 50, 678A.
- Kersten, H., and Lange, William. Improved Laue camera, 50, 678A.
- Kersten, H., and Maas, Joseph. Electrodeposited ϵ -brass, 50, 671A.
- Kersten, H., and Schaffert, Roland. Construction of thermo-elements by electrodeposn., 50, 561A.
- Kersten, M. Influence of elastic state of stress on magnitude of initial permeability, 50, 660A; magnetic analysis of internal stresses, 50, 597A; magnetostriction of ferromagnetic materials, 50, 73A.
- Kešán, A. Action of HNO₃ on metals in presence of hydrazine, 50, 149A.
- Keshian, H. G. Fe and steel used in brass and Cu mills, 50, 331A.
- Kessner, —. Modern materials and material problems in construction of chem. apparatus, 50, 764A.
- Kiefer, Karl. Detn. of Sn in ferrotungsten and in W ore, 50, 676A.
- Kiessling, O. E., and Clark, M. B. Book: "Mineral Resources of the United States, 1930," 50, 404A.
- Kihlgren, T. E. See Pilling, N. B.
- Kikoin, I. See Fakidow, Ibrahim.
- Kikoin, I., and Fakidow, Ibrahim. Hall effect in liquid metals, 50, 9A.
- Kikuchi, Rimpei. Thermal and elect. conductivity and behaviour of a number of Mg alloys with regard to Wiedemann-Franz law, 50, 732A.
- Kikuchi, Suetaro. See Briscoe, Henry Vincent Aird.
- Kikuta, Tario. Investigation of chilled roll, 50, 259A.
- Kilger, —. See Beissner, —.
- Kilthau, Karl. Hot-tinning and tinning with Sn paint, 50, 235A.
- Kimata, Y. Electrolytic refining of Au, 50, 49A; studies in electrolysis of Au.—I., 50, 49A.
- Kimura, Zenhichi. Electrolytic refining of Sn, 50, 318A.
- King, Cecil V., and Braverman, M. M. Ratio of soln. of Zn in acids, 50, 480A.
- King, Henry George. Elected member, 48, 18.
- King, J. G. Fuel, 50, 394A; see also Grummell, E. S.
- King, R. M. See Watts, A. S.
- Kingzett, C. T. Book: "Chemical Encyclopedia," 50, 458A.
- Kinhead, Robert E. Weldcry, 50, 385A.
- Kinnear, H. B. See Dierker, A. H.

- Kinzel, A. B. See Dawson, J. R.
 Kirby, P. H. See Freeman, John R., Jr.
 Kirchner, F. Polish on metals, 50, 421A; structure of thin crystal films, 50, 552A, 617A.
 Kirchner, F., and Raether, H. Scattering of cathode rays by crystal surfaces, 50, 673A.
 Kirchrath, —. Modern elect. heated Al melting furnace, 50, 197A.
 Kirkbridge, C. E. Aircraft finishing, 50, 742A.
 Kirkwood, David, Jr. Elected member, 48, 19.
 Kissock, Alan. Molybdenum, 50, 380A.
 Klein, —. See Kotcharovsky, —.
 Klingenstein, Th. Testing and evaluation of core sands and core-binding materials, 50, 641A.
 Klopfert, Ad. Elect. resistance welding, 50, 385A.
 Knaggs, I. E., and Barlik, B., with Elam, C. F. Book: "Tables of Cubic Crystal Structures of Elements and Compounds," 50, 588A.
 Knapp, E. J. Effect of transverse magnetic fields on thermal conductivity of Bi at low temps., 50, 721A.
 Knapp, Oscar. Eye-protection glasses with metal coatings, 50, 694A.
 Knight, Harold. Elected student member, 48, 315.
 Knight, H. de B. Elect. discharges in Hg vapour and their control, 50, 763A.
 Knight, L. B. Propn. and use of synthetic sand, 50, 268A.
 Knoch, W. Testing of blowpipes for low-pressure acetylene, 50, 572A.
 Knoll, W. See Tafel, W.
 Knoyle, W. L. Estn. of Cu and Ni in steel, 50, 39A.
 Kobayashi, Torao. Influence of temp. on notch toughness of Al alloys, 50, 424A.
 Koblenz, L. G. Book: "Extraction of Aluminium Oxide and Metallic Aluminium from Clays of the Bobrikow Beds of the Moscow Coal Mines" (in Russian), 50, 651A.
 Kobzareno, W. S. See Tananaev, N. A.
 Koch, L. See Masing, G.
 Koch, W. Refining of Al and its alloys by treatment with Cl₂ and N₂, 50, 771A.
 Kochs, J. Nutrition and culinary science. Experiments on Cr-plated cooking utensils, 50, 376A.
 Koehler, N. A. Discussion on Ridgway's paper on "Temperature Measurements in Commercial Silicon Carbide Furnaces," 50, 757A.
 Koenig, A. Electrolytic Cr plating of light metals, 50, 45A.
 Kofler, F., and Schefels, G. Temp. regulators for metallurgical furnaces, 50, 94A.
 Koga, T. Corrosion of condenser tube and its protection, 50, 300A.
 Kogel, G. Material testing and X-ray cinematography, 50, 680A.
 Kohlhaas, R. See Tammann, G.
 Kohlmeyer, E. J., and Westermann, I. W. Action of oxides on Pt at high temps., 50, 68A.
 Kohlschütter, H. W. Mechanism of formation of capillary Ag from silver sulphide, 50, 466A.
 Kohman, E. F. Some causes of failure in canned foodstuffs, 50, 302A.
 Koiransky, B. B., and Benediktova, E. J. Extensor weakness in those working with Hg, 50, 649A.
 Kok, J. A. See Keesom, W. H.
 Kokubo, Sadajirō. Change in hardness of plate caused by bending, 50, 659A.
 Kolke, Fr. See Leib, Th.
 Koller, Lewis R. High-temp. control. Photoelect. tube pyrometry, 50, 370A.
 Kolthoff, I. M. Formation and properties of ppts. Theory of co-pptn., II.-VII., 50, 619A.
 Kolthoff, I. M., and Furman, N. Howell. Book: "Potentiometric Titrations," 50, 135A.
 Kolthoff, I. M., and Menzel, H. Book: "Die Massanalyse. Teil 2.—Die Praxis der Massanalyse," 50, 206A.
 Kolthoff, I. M., and Pearson, E. A. Titration of Zn with K₄Fe(CN)₆, 50, 311A.
 Komaretzkyj, S. Vol. detn. of Pb with Na₂CO₃, 50, 168A.
 Kommers, J. B. Discussion on fatigue of non-ferrous metals, 50, 291A; static and fatigue properties of brass, 50, 225A.
 König, W. Chem. analysis of refractories, 50, 587A.
 Konobievsky, S. T. X-ray analysis in foundry practice, 50, 43A.
 Kookanow, Lucas. Elected member, 48, 315.
 Koone, B. Cu foil as test for Sb, 50, 673A.
 Koppejan, C. A. See Burg, B. van der.
 Koppel, J. Book edited by: "Chemiker-Kalender, 1932," 50, 404A.
 Koppen, Fritz. Glow discharge in pure Hg vapour, 50, 419A.
 Koravsky, N. I. Possible lines of appn. of bimetal, 50, 502A.
 Korber, F. *May Lecture*: "The Plastic Deformation of Metals," 48, 317.
 Kordes, E. Phase equilibria in binary systems with continuous ranges of mixed crystals, 50, 353A; thermodynamics of concentrated solns. I.—Communication: eutectic systems, 50, 353A.
 Korepanov, V. See Trofimov, I.
 Kornfeld, M. O. Mech. and heat-treatment of Al for cable manuf., 50, 503A.
 Korolkov, A. M. Properties of Ni-Cr alloys and their manuf., 50, 155A.
 Korpium, Joachim. Possibility of use of Cr anodes in Cr plating, 50, 681A; see also Schlotter, Max.
 Kortum, H. See Esau, A.
 Koshkin, Simeon J. Book: "Modern Materials Handling," 50, 717A.
 Kostacz, S. See Broniewski, W.
 Kosting, Peter R. Accelerated weathering tests of soldered and tinned sheet Cu, 50, 355A, 666A.
 Kostylev, G. A. See Kroenig, W. O.

- Kofa, J.** See Jilek, A.
- Kotcharovsky, —**, Klein, —, Rubinstein, —, Fomin, —, Chanojian, —, and Tzenter. Material and heat balance of Ajax-Wyatt Furnace No. 2 for melting Muntz metal, 50, 511A.
- Kowarski, M.** Book: "Duralumin (Koltchugalumin)" (in Russian), 50, 651A.
- Kowarsky, I.** See Stout, Lawrence E.
- Kozhuchova, M. A.** See Plaksin, I. N.
- Kraemer, M. H.** Crucible induction furnace and its metallurgy, 50, 776A.
- Kraner, Hobart M.** Elect. resistivity of refractories at elevated temps., 50, 306A.
- Krans, Edward W.**, and Ficklen, J. B. Colorimetric method for detn. and detection of small quants. of Pb, 50, 553A.
- Krasnikov, A. I.** Method of ensuring maximum accuracy in Debye-Scherrer analysis, 50, 487A.
- Krasovitzkii, V.** Defects of tinplate and overcoming them, 50, 611A.
- Kraus, Charles A.** Solns. of metals in non-metallic solvents; some phys. and chem. products, 50, 725A.
- Kraus, C. E.** See Boston, O. W.
- Kraus, R.** Welding inspection, 50, 114A.
- Krause, Hugo.** Chem. colouring of Cd deposits, 50, 504A; Cr plating of Ag articles, 50, 629A; colouring of Cd deposits, 50, 192A, 706A; degreasing of metal articles, 50, 683A; gold-plating baths, 50, 450A; Ni stripping baths, 50, 682A; pickling solns. for Ni and Ni alloys, 50, 706A; $KMnO_4$ - $CuSO_4$ pickle, 50, 706A.
- Krauss, H.** See Oehlerking, W.
- Krebs, E.** Book: "Technisches Wörterbuch," 50, 135A.
- Krebs, Gustav.** Cu-Sn bronzes and effect of P on them, 50, 603A; density and hardness of Cu-rich alloys, 50, 426A; how is Monel metal melted? 50, 391A; manuf. of Al alloy centrifugal blower casings, 50, 125A.
- Křeček, A.** Internal stresses in brass tubes, 50, 14A.
- Kreielsheimer, K.** Measurement of resistance of wires for H.-F., 50, 14A.
- Krekeler, K.** Machinability of brass and bronze with respect to lubrication and cooling of turnings, 50, 767A.
- Kremann, Robert.** Does a mean horizontal portion exist between 2 eutectic points of constitutional diagrs. of binary systems? 50, 543A; electrolysis of molten and solid alloys, 50, 665A.
- Kremann, Robert,** and Scheibel, Harald. Electrolysis of ternary alloys, 50, 80A.
- Kremann, Robert,** Vogrin, Alfred, and Scheibel, Harald. Electrolysis of Na amalgams and calculation of transport numbers for Na, K, Li, Ba, and Bi in their amalgams, 50, 80A.
- Kremer, D.** Unusual case of arsine poisoning, 50, 400A.
- Kretschmann, Erich.** Theory of elect. resistance and superconductivity of metals, 50, 599A.
- Kreuchen, Karl Heinz.** Electrolytic investigation of Zn single crystals, 50, 452A.
- Kreuter, Franz.** See v. Hoyer, Egbert.
- Kriegelstein, J.** See Glazunov, A.
- Krivobok, Vsevolod N.,** and Gensamer, Maxwell. Dilatometric study of Cr-Ni-Fe alloys, 50, 13A, 349A.
- Krivobok, Vsevolod N.,** with Beardman, E. L., Hand, H. J., Holm, T. O. A., Reggiori, A., and Rose, R. S. Further studies on Cr-Ni-Fe and related alloys, 50, 77A, 295A.
- Kroenert, Jos.** Measurement of heat value of solid fuels, 50, 771A.
- Kroenig, W. O.** Book: "Corrosion of Magnesium Alloys. Part I" (in Russian), 50, 651A; corrosion of Duralumin in relation to its chem. compn., 50, 160A, 229A; influence of Fe on properties of Duralumin, 50, 60A, 221A, 471A; methods of investigating corrosion and elaboration of standardized system of mass testing, 50, 233A; see also Akimov, G.
- Kroenig, W. O.,** and Kostylew, G. A. Book: "Corrosion of Magnesium Alloys. Part I: Protection of Magnesium Alloys by Means of Oxide Films" (in Russian), 50, 717A; protection of Mg alloys against corrosion by pickling processes, 50, 742A.
- Kröhnke, —.** Corrosion problems in central heating and boiler plants, 50, 161A.
- Kroll, W.** Alloys of Be with Fe, 50, 295A; discussion on Cohn's paper on "Debi-muthizing Lead with Calcium," 50, 277A; hardenable Ni, 50, 351A; H.-F. furnaces in labs., 50, 170A; highest permissible Bi content in commercial Pb, 50, 289A; volatility of Sb in converter, 50, 520A.
- Kroll, W.,** and Jess, E. Alloying of Be with Ca and Mg, 50, 295A.
- Krömer, Carl.** Gittermetall, 50, 731A.
- Kronman, E. S.** Book: "Rhenium" (in Russian), 50, 588A.
- Krouse, G. N.** See Moore, H. F.
- Krüger, A.** Use of Cr steel vessels in analysis, 50, 87A.
- Kruithof, A. A.** See Ornstein, I. S.
- Krupkowski, A.** Mech. properties of Cu, 50, 210A, 465A.
- Krupkowski, A.,** and Haas, W. J. de. Ni-Cu alloys at low temps., 50, 19A.
- Kruyff, Herman de.** Elected member, 48, 18.
- Krylov, I. A.** Effect of corrosion on useful life of articles and methods of counter-acting it, based on works practice, 50, 231A.
- Krynitsky, A. I.** See Saeger, C. M., Jr.
- Ksanda, C. J.** Pantograph for enlarging X-ray photographs, 50, 624A.
- Kuczynski, Tadeusz,** and Smialowski, Michal. Corrosion of metals, 50, 161A, 438A.
- Kudrjawzewa, W.** See Tartakowsky, P.

- Kueck, P. D., and Brewer, A. K. Cathode sputtering of Be and Al in He, 50, 657A.
- Kühlewein, Heinrich. Magnetic properties of Fe, Ni, Co and some alloys at high temps., 50, 595A; magnetic properties of Perminvar, 50, 18A; "Nachwirkung" phenomena in hysteresis loops at high temps., 50, 74A; relation between virginal and remanent magnetizations, 50, 350A.
- Kühn, E. Detn. of sp. gr. of refractories, 50, 516A.
- Kuhnel, R. Stayrods and firebox plates—English and German experience of Cu, 50, 67A.
- Kulbush, G. P. Basic principles of operation of thermo-elect. pyrometers, 50, 757A.
- Kulenkampff, H. Book: "Röntgenstrahlen und Struktur der Materie," 50, 528A (review).
- Kulesza, J. See Jablezynski, K.
- Kulwarskaja, Rosa M. Titration of Sn⁺⁺ with KClO₃, 50, 676A.
- Kumanin, I. B. See Dering, K. B.
- Kumano, S. Cable failures on underground lines of Tokyo municipal railway, 50, 322A.
- Kuno, Rokuo. Lateral contraction of test-piece in tension tests, 50, 245A.
- Kuntze, W. Method for tech. detn. of cohesion, 50, 754A; plasticity and tenacity in notched specimens, 50, 174A; practice of notched tensile test with reference to tech. detn. of cohesion, 50, 368A; problem of fatigue in metals, 50, 149A, 421A, 597A; structure, strength, stability, 50, 342A; see also Sachs, G.
- Kuntze, W., and Sachs, G. Mechanism of impression in metals, 50, 58A, 189A.
- Kunz, George Frederick. Pt group metals, 50, 381A.
- Kunze, —. Bearing metals and their behaviour in practice, 50, 179A.
- Kurnakow, N. S., and Ageow, N. W. Reply to Discussion on "Physico-Chemical Study of the Gold-Copper Solid Solutions," 48, 312.
- Kuroda, Masawo. Effects of C and Fe in blue powder on sherardizing, 50, 305A; effects of Fe on elect. conductivity and tensile strength of Al, 50, 66A.
- Kurrein, Herbert. Coating, protection from oxidation, and colouring Al, 50, 360A; modern Ni plating, 50, 450A; simplified methods for detn. of metals in electroplating baths, 50, 99A; vessels for electrolyte tanks and cleaning tanks in electroplating, 50, 48A; what is Cr-plated in America? 50, 95A.
- Kurtz, F. See Lang, R.
- Kurzen, F. Pamphlet: "Gleichgewichtsuntersuchungen mit Metallkarbide," 50, 782A.
- Kurzyniec, Edmund. System Ca-Bi, 50, 12A.
- Kushlan, Max. Book: "Handbook of Industrial Electricity," 50, 135A.
- Küss, E., and Ritter, G. Apparatus for producing vacuum used in indust. labs., 50, 367A.
- Kussmann, A. See Kaya, Seiji; Messkin, W. S.
- Kussmann, A., and Seomann, H. J. Effect of plastic deformation on susceptibility of dia- and para-magnetic metals, 50, 660A.
- Küssner, Hans Georg. Optico-photographic measurement of deformation in aircraft, 50, 753A.
- Kusunose, Shiro. Friction and abrasion of bearing metals, 50, 253A.
- Kutzelnigg, Artur. Metal plating without external current, 50, 317A; non-metallic films, which remain as residue on dissoln. of Sn, 50, 70A; see also Boutel, Ernst.
- Kuzell, C. R. Reduction and refining of Cu during 1931, 50, 519A.
- Kuznetsov, —. See Zhigulev, —.
- Kuznetsov, A. N., and Baranov, S. A. Examination of electrolytic Ni, 50, 266A, 581A.
- Kuznetsov, B. A. Book: "Electrolytic Chromium Plating of Metals" (in Russian), 50, 526A.
- Kuznetsov, W. D., and Vorobiev, A. A. Change in mech. properties under test for repeated bending during rotation, 50, 468A.
- Kuznetzova, W. W. See Lainer, W. I.
- Kuznezova, A. A. See Igarischev, N. A.
- Laban, N. R. Problems in high c.d. Ni and Cr plating, 50, 177A, 314A, 682A.
- Laby, T. H. See Eddy, C. E.; Kayo, G. W. C.
- Lacoste, Lucien J. B. Reciprocal lattice projecting ruler and chart, 50, 624A.
- Laffin, H. T. Rolling grooves in Al pistons for airplane engines, 50, 269A, 704A.
- Lahtin, B. M. Appn. of Al alloys on high-voltage transmission lines, 50, 638A.
- Lainer, W. I., Pletenev, S. A., Kuznetzova, W. W., and Rozov, B. I. Electrolytic depn. of Ni by means of insoluble anodes, 50, 251A.
- Laird, F. G. See Seith, W.
- Lajner, W. I. Book: "The Chromium Plating of Metals" (in Russian), 50, 717A.
- Lake, E. F. Constructing fuselages for airplanes, 50, 687A.
- Lambert, Wesley. "Al-bronze" in foundry, 50, 708A; bronze in foundry: compounding and founding of bronzo, 50, 195A; large non-ferrous castings, 50, 15A; some non-ferrous engineering alloys, 50, 737A.
- Lammert, Olive M. See Morgan, J. Livingston R.
- Lamson, Horatio W. Thermocouples, 50, 175A.
- Land, S. Lewis. To-day's opportunities for welding-trained men in metal working trades and industries, 50, 259A.
- Lander, C. H. Fuel problem, 50, 271A.
- Landolt, P. E. Discussion on Schumacher and Ellis' paper on "The Deoxidation of Copper with the Metallic Deoxidizers

- Calcium, Zinc, Beryllium, Barium, Strontium and Lithium," 50, 771A.
- Lancan, René. Beers and metals, 50, 609A.
- Lang, R., and Kurtz, F. Modification of silver salt-persulphate method for detn. of large quantities of Mn, 50, 89A.
- Lange, (Frin.) Almuth. Supercooling and formation of nuclei in homogeneous metal melts, 50, 148A.
- Lange, E. See Hammerschmid, H.
- Lange, Norbert, A. See Hodgman, Charles D.
- Lange, William. See Korsten, H.
- Langer, B. F. Instrument for measuring small displacements, 50, 623A.
- Langley, M. Book: "Metal Aircraft Construction," 50, 405A.
- Langmuir, Irving, and Sixtus, K. J. Regions of reversed magnetization in strained wires, 50, 217A.
- Langton, John. Producing external curls on seamless boxes, 50, 575A; round blank formulæ, 50, 260A, 575A.
- Lapin, N. P. Corrosion of Fe and Al in Dufek's apparatus, 50, 220A; see also Ilyinsky, W. P.
- Lapinsky, P. G. Modern theories of elect. conductivity of metals, 50, 217A.
- LaQue, F. L. See Trebler, H. A.; Wesley, W. A.
- LaQue, F. L., and Scarlo, H. E. Resistance of pure Ni and Inco Cr-Ni to corrosion by milk, 50, 608A.
- Larionov, A. W. Fractional reaction for Ba, 50, 365A.
- Larke, E. C. Thickness of plating films, 50, 493A.
- Larsen, E. I. See Hensel, F. R.
- Lashkariev, W. E. See Linnik, W. P.
- Lashkariev, W. E., and Gerzriken, S. D. Chamber of Debye-Scherrer X-ray diagram for specimens of all shapes, 50, 238A.
- Lassieur, A. Sepn. by H₂S, 50, 674A.
- Laszlo, H. de. Photoelect. properties of films of Be, Al, Mg, and Tl, 50, 454A.
- Latre, G. de. Technique of high and very high resistance wire-drawing of steels. VII.—Metallization of steel wire, 50, 613A.
- Laube, H. See Golla, H.
- Laubenheimer, K. Book: "Lehrbuch der Mikrophotographie und Mikroprojektion," 50, 61A.
- Lauté, K. See Memmler, K.
- Lautié, Raymond. See Carrière, E.
- Laves, F. Crystal structure of Ga, 50, 616A.
- Law, Robert. Annealing in Au bullion assay. Effect on surcharge, 50, 238A.
- Lawrie, H. N. Au and Ag, 50, 379A.
- Lawson, T. R., and Warwick, C. L. Report of cttee. E-10 of A.S.T.M. on standards, 50, 402A.
- Lea, F. C., and Dick, J. Torsional fatigue tests of cold-drawn wires, 50, 174A.
- Lea, F. C., and Parker, C. F. Effect of temp. on some phys. properties of metals, 50, 751A.
- Leach, R. H. Ag solders and their uses, 50, 186A.
- Le Blanc. See Blanc.
- Lee, A. R. Discussion on Vernon's paper on "A Laboratory Study of the Atmospheric Corrosion of Metals," 50, 28A; discussion on Vernon's paper on "An Air Thermostat for Quantitative Laboratory Work," 50, 28A; see also Bengough, G. D.
- Lee, H. V. See Ries, H.
- Lee, M. F. See Bridges, R. W.
- Leeb, Stefan. Chem. and metallurgical bases of metal melting methods and their practical value in foundry technique, 50, 506A.
- Leemann, W. G. Use of MnSO₄ in detn. of Sb by Low's method, 50, 619A.
- Leeper, G. W. See Long, M. E.
- Legg, V. H. Fundamentals of open-hearth design, 50, 643A.
- Le Grix, —. Autogenous welding of Cu. Influence of oxide on different conditions during thermal treatment and fusion of Cu, 50, 697A.
- Lehr, Ernst. Material testing, 50, 174A; measuring apparatus for detn. of elongation, 50, 171A; ways to obtain true idea of strength, 50, 150A, 421A.
- Leib, Th., and Kolke, Fr. Surface protection of light metals, 50, 20A, 360A.
- Leiser, Heinrich. Cr plating as surface hardener, 50, 449A; corrosion protection by Cr plate and methods of testing it, 50, 85A; protective covering layer in practical Cr plating, 50, 449A.
- Leitzgebel, W. Boiling temps. of some metals and alloys at atm. pressure, 50, 736A.
- Leitz, E. Metallographic polishing machine, 50, 40A.
- Lekarenko, E. M. See Pogodin, S. A.
- Lely, U. Ph. Simple method of demonstrating and investigating Peltier effect, 50, 41A.
- Lemarchands, —, and Sirot, —. Estn. of Ba as chromate, 50, 488A.
- Lemay, —. See Austerweil, —.
- Lennard-Jones, J. E. Cohesion, 50, 467A.
- Lenton, Kenneth William. Elected student member, 48, 316.
- Lenzen, Victor F. Book: "The Nature of Physical Theory," 50, 135A.
- Leonardon, E. G. See Schlumberger, C.
- Lépingle, Marcel. Examination of refractory products.—II., 50, 646A; VI.—VIII., 50, 200A.
- Lepsoe, Robert. Discussion on Walter's paper on "Electrothermic Zinc," 50, 100A.
- Lernerman, G. V. Vol. detn. of Pb in Babbitt, 50, 168A.
- Le Rolland. See Rolland.
- Leroux, J. A. A., and Fröhlich, K. W. Quasi-binary section Ag-Cu₂O in system Ag-Cu-O₂, 50, 20A.
- LeRoux, J. C. See Mrak, E. M.
- Lessells, J. M. Further resumé of notched-bar impact test in light of present knowledge, 50, 312A.

- Lester, H. H. X-ray test of welds, 50, 93A.
- Lester, William M. Improved equipment widens field for die-castings, 50, 712A.
- Le Thomas, Auguste. Corrosion problems, 50, 160A; discussion by French Association for Testing Materials on subjects dealt with at Zürich congress, 50, 625A; simplified method of manufg. special brasses, 50, 15A, 77A; *see also* Guillet, Léon.
- Leuven, E. Perry van. Book: "Cold Metal Working," 50, 413A (review).
- Levi, R. Calculations of elect. resistance furnaces, 50, 511A; *see also* Coker, E. G.
- Levitch, M. E. *See* Voronov, S. M.
- Levy, A. Hoyt. Predicting behaviour of Babbitt, 50, 157A.
- Lewi, S. *See* Centnerszwer, M.
- Lewis, E. W. Electricity in Sn industry, 50, 636A.
- Lewis, Kenneth Glyn. Elected member, 48, 315; *correspondence on* "The Effect of Different Elements on the Annealing and Grain-Growth Characteristics of Alpha Brass," 49, 265; *correspondence on* "The Relative Corrodibilities of Ferrous and Non-Ferrous Metals and Alloys. III.—Final Report. The Results of Three Years' Exposure at Southampton Docks," 48, 118; *see also* Sidery, A. J.
- Lewis, R. E. *See* Moore, H. F.
- Lewis, W. Manuf. of Al inks and paints, 50, 689A.
- l'Hoir. *See* Hoir.
- Li, K. C. Sb, 50, 375A.
- Liamin, P. E. Melting bronze in cupola furnace, 50, 264A.
- Liamin, P. E., and Ginzburg, A. A. Materials for moulds in bronze casting. I.—Raw materials, 50, 268A.
- Libman, E. P. Pamphlet: "Aluminium and Bauxite" (*in Russian*), 50, 783A.
- Lich, Otto. Modern die-casting technique, 50, 775A.
- Lichtenberger, F. Remanence and hysteresis associated with magnetostriction of Ni, 50, 658A.
- Lidbury, F. A. Discussion on Skowronski and Mosher's paper on "Selenium and Tellurium," 50, 761A.
- Liddell, Donald M. *See* Riddell, G. S.
- Liddiard, Edwin Andrew Guthrie. Elected member, 48, 315.
- Liddle, R. Moulding and casting of bronze plates, 50, 772A.
- Liebreich, E. Cathodic passivity, 50, 668A.
- Liempt, J. A. M. van. Influence of cold-working on sp. heat, 50, 8A; manuf. of seamless tubes of metals with high m.p., 50, 573A.
- Liepus, T. *See* Osterburg, —.
- Liesche, Otto. Book: "Rechenverfahren und Rechenhilfsmittel mit Anwendungen auf die analytische Chemie," 50, 136A.
- Lifschitz, I., and Reggiani, M. Behaviour of some insol. electrodes, 50, 364A.
- Lilienfeld, J. E., Appleton, L. W., Smith, W. M., and Nich, J. K. Studies of fully organized anodic layers on Al, 50, 100A, 684A.
- Limmer, G. *See* Scheibe, G.
- Linde, J. O. Elect. properties of dilute solid solns. I.—Au alloys, 50, 15A; *see also* Borelius, G.; Keesom, W. H.
- Linicus, W. Properties of drawn wires and power consumption in wire-drawing, 50, 191A; *see also* Burkhardt, A.; Sachs, G.
- Linicus, W., and Sachs, G. Properties of drawn wires and power consumption in wire-drawing, 50, 57A, 189A.
- Linnik, W. P., and Lashkariov, W. E. Methods of focussing X-rays, 50, 238A.
- Lipke, —. Cutting speeds for sawing with metal band saws, 50, 118A.
- List, J. H. Intricate core work, 50, 713A; venting dry-sand moulds, 50, 713A.
- Litinsky, L. Refractory coatings and cements, 50, 273A.
- Littley, Howard. Elected member, 48, 315.
- Littreal, W. B. *See* Roetheli, B. E.
- Livermore, F. A. W. Al alloy pistons, 50, 453A; brass casting, 50, 709A; "Mn-bronze," 50, 708A; propn. of buffing wheel, 50, 388A.
- Livingston, Robert. Kinetics of dissoln. of dilute Na amalgam, 50, 542A.
- Lloyd, D. S. Al piping for chem. plant, 50, 383A.
- Lloyd, J. Dwight. Devices for Babbitting bearings, 50, 508A.
- Lobley, A. Glynne. Large elect. furnace installations. I.—Annealing, 50, 270A.
- Lochmann, G. Detection of Bi, 50, 87A.
- Loewengart, Stefan. Choice for binder for "Al-bronze," 50, 182A.
- Logan, A. *See* Homfray, S. G.
- Lohse, V. Non-wearing sand-blast jet, 50, 52A.
- Loiseau, R. Different bronzes used by railway companies, 50, 52A, 378A; present situation in use of "Al-bronzes" in marine work, 50, 182A; principal Cu alloys used in marine construction, 50, 182A.
- Lombardo, D. Vol. detn. of Sn in white bearing metal alloys, 50, 90A, 444A, 555A.
- Lones, John Arthur. Elected member, 48, 18.
- Long, J. S., and Anderson, H. V. Book: "Chemical Calculations," 50, 526A.
- Long, M. E., and Leeper, G. W. Micro-analytical methods, 50, 309A.
- Longchambon, L. Some properties of SiO₂ brick, 50, 586A.
- Longden, E. Developments in modern foundry practice, 50, 122A.
- Longfield, Claude M. Electrolytic corrosion of underground metallic structures by stray currents, 50, 609A.
- Longnecker, Kenneth R. Recent developments in metal lacquers, 50, 743A.
- Lorcery, M. Development of cold-cutting, punching and stamping of metal foil, 50, 191A.

- Lord, C. B. See Gwiazdowski, Alexander P.
- Lord, James Osborn. Photomicrographs at low magnification, 50, 744A.
- Losana, L. Ternary equil. system Al-Mg-Si, 50, 472A.
- Losana, L., and Stratta, R. Solid soly. of Si in Al, 50, 471A.
- Loskiewicz, L. Some results obtained by method of cementation on pairs of metals: Cu-Be, Cu-Si, Ag-Be, Ag-Si, Au-Si, 50, 729A.
- Loskiewicz, W., and Perchorowicz, E. Casting of some Al alloys and trial of their modification, 50, 330A.
- Lottmann, H. Impressions in field of welding technology from U.S.A., 50, 54A.
- Lowance, F. E. See Constant, F. W.
- Lowance, F. E., and Constant, F. W. Structure sensitiveness of magnetism in metals, 50, 75A.
- Lowery, H., and Moore, R. L. Certain variations in optical constants of Cu, 50, 417A.
- Lowther, R. A. 132,000-v. transmission line of St. John River Power Company. Grand Falls to Dalhousie, N.B., 50, 181A.
- Lucas, A. G. C. See Hoddle, A.
- Lucas, Francis F. Art of metallography, 50, 237A.
- Luciani, C. See Pietrafesa, F.
- Lüder, E. See Rostosky, L.
- Ludwik, P. Material testing, 50, 368A; notched and corrosion endurance strength, 50, 42A; see also Föppl, O.
- Ludwik, P., and Schou, R. Variability of damping of metals, 50, 626A.
- Ludwig, W. Glue vehicles for bronze powders, 50, 690A.
- Lund, Reidar. Ni and Monel metal, 50, 691A.
- Lunde, Gulbrand. Al as packing material for canned goods, 50, 685A.
- Lundell, G. E. F., Hoffman, James Irvin, and Bright, H. A. Book: "Chemical Analysis of Iron and Steel," 50, 656A (review).
- Lundquist, Eugene E. Compressive strength of Duralumin columns of equal angle section, 50, 405A, 660A; pamphlet: "Strength Tests on Thin-Walled Duralumin Cylinders in Torsion," 50, 783A.
- Lunev, F. A. See Botchvar, A. M.
- Lunge, Georg. See Berl, Ernst.
- Lutus, E. de. New Italian machine for detn. of brittleness of metals, 50, 752A.
- Lux, L. Al for construction of strong current condensers, 50, 102A.
- Lyall, J. Practical hints on elect. welding, 50, 385A.
- Lyhne, William S. Manuf. of thin-wall tubing, 50, 387A, 702A.
- Lynch, M. A. Important points on power press die design, 50, 767A.
- Lyon, A. J. Al alloys for aircraft-engine pistons and cylinder heads, 50, 374A.
- Lyon, Dorsey A., and Cox, Edwin R. Elect. furnace lining, 50, 585A.
- Lyon, Edwin. Elect. cap lamps, 50, 686A.
- L Lyons, (Sir) Henry. Vote of thanks to, 49, 16.
- Lyons, Thomas. Metals used in aeroplane construction, 50, 51A.
- Lysaght, W. R. Discussion on "Some Reactions Occurring in 'Hot-Dipping' Processes," 49, 184.
- Lytle, A. R. Welding of bronze and brass alloys, 50, 501A.
- Maas, E., and Wiederholt, W. Corrosion of Al alloys, 50, 229A.
- Maas, Joseph. See Korsten, H.
- Maese, E. Calculation of wall losses of indust. furnaces, 50, 331A; structure and thermal conductivity of refractory brick, 50, 647A.
- Mabb, P. Cold-heading materials, 50, 259A; heat-treatment of non-ferrous metals, 50, 499A.
- McAdam, D. J., Jr. Influence of water compn. on stress corrosion, 50, 231A.
- McArdle, W. S. Electroplating Al as production basis practicable with process control, 50, 451A.
- McBain, James William. Book: "The Sorption of Gases and Vapours by Solids," 50, 206A.
- Maccchia, Osvaldo. Book: "La Cromatura Elettrolitica," 50, 654A (review).
- Macciotta, E. Differentiation of Li and Sr by flame coloration, 50, 673A.
- McCloud, J. L. Evaluating protective coatings for light metals, 50, 304A; lab. investigations are secondary to service tests, 50, 625A.
- McCollough, E. E. Thermal expansion of some Al alloys, 50, 76A.
- McCombs, Lois F. Supplementary bibliography on effect of temp. on properties of metals, 50, 534A.
- McDonald, Donald. Platinum, 50, 148A.
- McGregor, N. B. See Hatfield, W. H.
- Machin, W. P.M.G. alloy, 50, 295A.
- Machovetz, V. P. See Plotnikov, V. A.
- Machu, W. See Müller, Wolf Johannes.
- MacKay, H. M., and Bain, A. M. Distribution of stress in parallel welding fillets, 50, 698A.
- McKay, N. H. Cr plating applied to steel-mill rolls, 50, 563A; Cr plating in glass industry, 50, 629A.
- McKay, R. J. See Flocke, F. G.
- McKay, R. J., and Searle, H. E. Report of sub-cttee. VII of cttee. B-3 of A.S.T.M. on liquid corrosion, 50, 548A.
- McKee, S. A. Present practice in use of cutting fluids; progress report No. 2 of sub-cttee. on cutting fluids of A.S.M.E. special research cttee. on cutting metals, 50, 704A.
- McKeenan, L. W. Magneto-strain and magneto-resistance, 50, 345A.
- McKeown, John. Elected member, 48, 315; discussion on "On the Influence of Temperature on the Elastic Behaviour of Various Wrought Light Metal Alloys," 48, 268; see also Hudson, O. F.

- McKinney, Paul V. See Taylor, Hugh S.
 McKnight, Charles. See Hoffman, N. B.
 McKnight, C. H. Factory waste losses, 50, 401A.
 McLean, D. A. See Peek, R. L., Jr.
 McLean, D. A., Peek, R. L., Jr., and Schumacher, E. E. Some physical properties of wiping solders, 50, 282A, 296A.
 McLelland, E. H. Pamphlet: "Review of Iron and Steel Literature for 1931," 50, 282A.
 McLennan, J. C. Resistance of Pb and Sn to H.-F. currents at superconducting temps., 50, 418A; superconductivity and polarization phenomenon, 50, 772A.
 McLennan, J. C., Allen, J. F., and Wilhelm, J. O. Dilatation of superconductors, 50, 423A; elect. conductivity of Ru, Ru carbide, and W carbide, 50, 419A; strength of persistent currents in superconductive circuits, 50, 470A; superconductivity of alloys contg. Au and Ag, 50, 428A.
 McLennan, J. C., Burton, A. C., Pitt, A., and Wilhelm, J. O. Phenomena of superconductivity with a.c. of high frequency, 50, 423A; superconductivity at high frequencies, 50, 217A, 599A.
 McMullen, Charles. Some newer uses for SiC, 50, 279A; see also Houchins, H. R.
 McNair, D. G. Condenser-tube corrosion, 50, 738A; modern methods of combating corrosive action, 50, 739A.
 Macnaughtan, D. J. Detn. of porosity of electrodeposits, 50, 250A.
 Macnaughtan, D. J., and Hammond, R. A. F. Influence of acidity of electrolyte on structure and hardness of electrodeposited Ni, 50, 178A; influence of small amts. of chromic acid and of chromium sulphate on electrodepn. of Ni, 50, 178A.
 Macnaughtan, D. J., and Hothersall, A. W. "Stopping off" materials for use in electrodepn. of Ni, 50, 315A.
 Macnaughtan, D. J., Clarke, S. G., and Prytherch, J. C. Detn. of porosity of Sn coatings on steel, 50, 356A, 551A.
 McNeil, J. Ni and its non-ferrous alloys, with special reference to welding, 50, 384A; Ni and Ni alloys in marine engineering, 50, 380A; properties and appns. of Ni-bronzes, 50, 602A.
 McQuaid, H. N. Discussion on Boegehold and Johnson's paper on "Engineering Requirements in the Automotive Industry for Metals Operating at High Temperatures," 50, 532A.
 Maeder, R. E. Electro Sn plating, 50, 760A.
 Magee, W. H. Basic principles of education and training in industry as they may be applied to welding instruction in trade and vocational schools, 50, 259A.
 Magnani, U., and Panseri, C. Machining and cutting of pure Al and Al alloys, 50, 575A; welding of Al and its alloys, 50, 500A.
 Magnitzkii, G. Metal electrodes for arc welding, 50, 325A.
 Mahin, Edward G. Book: "Quantitative Analysis," 50, 526A.
 Mahle, Ernst. Service function of pistons is used as basis for testing and inspecting, 50, 369A.
 Maier, C. G., and Hincke, W. B. System PbO-Sb₂O₃ and its relation to Pb softening, 50, 211A.
 Main, S. A. Resistance to abrasion in relation to hardness, 50, 559A.
 Makishima, Shoji. Estn. of small quantity of Sb in presence of considerable Cu, 50, 167A.
 Makishima, Shoji, and Kameyama, Naoto. Electrolytic refining of Cu with complex salts of cuprous chloride. VII.—Behaviour of Sb, 50, 250A.
 Makushenko, M. I. Factors affecting corrosion of Al, 50, 513A.
 Malin, Ogden B. Variations in microstructure inherent in processes of manuf. of extruded and forged brass, 50, 503A, 703A.
 Malmberg, C. G. See Nicholas, Warren W.
 Malmstrom, H. E. See Tyndall, E. P. T.
 Malov, N. N. Permeability of ferromagnetic materials in H.-F. electromagnetic fields, 50, 2A.
 Malyschew, W. K. Book: "Technology of Metals" (in Russian), 50, 405A.
 Mamykin, —, and Permiakov, —. Talc as refractory, 50, 274A.
 Mandran, G. Example of internal corrosion of brass, 50, 25A.
 Mann, C. A. See Ernst, R. C.
 Mannchen, W. Thermal conductivity, elect. conductivity, and Lorenz number of some light alloys, 50, 10A, 425A.
 Mantel, S. See Wasilowski, L.
 Mantell, C. L. Alkali solns. as metal cleaners, 50, 505A; Al and bauxite, 50, 373A; Book: "Industrial Electrochemistry," 50, 285A (review); buffer action of cleaning solns., 50, 707A; compn. and uses of heavy-duty metal cleaners, 50, 707A; corrosion of Sn and its alloys, 50, 740A; electrolytic cleaning and pickling, 50, 328A; testing of electrocleaners, 50, 328A; tests for cleanliness, 50, 706A; unusual appns. of electrolytic cleaning, 50, 328A.
 Mantell, C. L., and Hardy, Charles. Ca improves Fe and Pb, 50, 349A, 497A.
 Mapes, John G. Modern blacksmithing, 50, 109A; stainless steel versus chromium plate, 50, 361A.
 Marchies, M. Protection of high-strength light alloys against corrosion, 50, 669A.
 Marden, J. W. See Driggs, F. H.
 Margenau, Henry. Shift of transmission band of Ag by cold-working, 50, 595A.
 Marie, C., and Thon, N. Tensions of electrolytic deposits of metals, 50, 451A.
 Marius, Henri. Permanent mould foundry practice for bronze castings, 50, 123A, 712A.
 Marjorana, Q. New photoelectric phenomenon, 50, 598A.

- Mark, H. Corrosion as physico-chem. problem, 50, 610A; *see also* Hongstonberg, J.
- Markhoff, Fritz. *See* Justh, Richard.
- Marks, S. *See* Atfield, G. C.
- Marples, Norman C. Monel metal, 50, 255A, 430A.
- Marsh, M. C. Improvement to tensile testing machines, 50, 42A.
- Marshall, A. L. *See* Norton, F. J.
- Martens, L. K., Bach, A. N., Bucharin, N. I., and Wiljams, W. R. Book: "Technical Encyclopædia. Volume XII" (in Russian), 50, 458A.
- Marteret, J. Temp. measurement, 50, 370A, 680A.
- Martin, A. R. Correspondence on "The 'Fogging' of Nickel," 48, 142; discussion on Vernon's paper on "A Laboratory Study of the Atmospheric Corrosion of Metals," 50, 28A.
- Martin, Erich. *See* Vogel, Rudolf.
- Martin, F. W. Metallurgical requirements for high-temp. steam piping, 50, 631A.
- Martin, L. C., and Johnson, B. K. Book: "Practical Microscopy," 50, 412A (review).
- Martin, Samuel, Jr. Progress in atomic H welding, 50, 326A, 699A.
- Martin, William Miles. Elected member, 48, 18.
- Masing, G. Importance for technology of Kaiser-Wilhelm-Institut für Metallforschung, 50, 398A; improvement of alloys, with especial reference to researches on light metals and on alloys of Be, 50, 12A; *see also* Fischer, H.
- Masing, G., and Koch, L. Al alloys containing Be, 50, 294A.
- Masiyama, Yosio. Magnetostriction of Fe-Ni alloys, 50, 156A.
- Maslakovetz, J. Elect. properties of thin metal layers obtained by method of cathode dispersion, 50, 343A.
- Mass, O., and Steacio, E. W. R. Book: "An Introduction to the Principles of Physical Chemistry," 50, 61A.
- Masseile, H. Methods for protecting and maintaining marine turbines, 50, 640A, 763A.
- Masson, Irvine. Pamphlet: "Problems in the National Teaching of Science," 50, 61A.
- Masterman, C. A. Utilization of gas as fuel, 50, 271A.
- Masukowitz, H. Economy and thermal efficiency of modern elect. furnaces for annealing of metals, 50, 332A.
- Masumoto, Hakar. *See* Honda, Kōtarō.
- Matagrín, Am. Resistance of Cu and its alloys to corrosion, 50, 25A, 83A.
- Matano, Chujiro. Influence of temp. on diffusion coeff. of solid metals, 50, 291A; influence of temp. on diffusion velocity of solid metals (Zn-Cu System), 50, 662A.
- Mathews, John A. World of metallurgy, 50, 778A.
- Mathewson, C. H., and Crampton, D. K. Report of Cttee. B-5 of A.S.T.M. on Cu and Cu alloys, cast and wrought, 50, 321A, 497A.
- Mathewson, C. H., and Smith, D. W. Theory of formation of segregate structures in alloys, 50, 478A.
- Mathewson, C. H., Spire, E., and Samans, C. H. Division of Fe-V-O₂ system into some of its constituent binary and ternary systems, 50, 735A.
- Mathiesen, E. Orienting investigations on quality of tinplate used in canneries, 50, 302A.
- Mathur, R. N., and Varma, Mulkh Raj. Anomalous diamagnetism of Bi, 50, 209A.
- Matignon, Camille. Study of certain light alloys of Al and "Al-bronze," 50, 534A.
- Matiu, Al. Ionesco-. *See* Ionesco-Matiu, Al.
- Matschoss, Conrad. Book edited by: "Beiträge zur Geschichte der Technik und Industrie," 50, 416A (review).
- Matsui, Mototaro. *See* Kambara, Shuu.
- Matsunaga, Yōnosuke. Equilib. diagr. of Co-Cr system, 50, 151A.
- Matter, Jean. Annealing and tempering of Duralumin, 50, 764A.
- Matthæus, K. Dynamic strength properties of some light alloys, 50, 600A; X-ray examination of aero materials by D.V.L., 50, 755A.
- Mathewson, Albert William. Elected student member, 48, 18.
- Matting, —. *See* Bardtko, —.
- Matuyama, Yoshiharu. Allotropy of white Sn and equilib. diagr. of system Cd-Sn, 50, 213A; effect of magnetic treatment on age-hardening of quenched steels and alloys, 50, 660A; *see also* Honda, Kōtarō.
- Mauland, T. Cupola melting of brass, 50, 127A, 709A.
- Maurach, A. A. Suction apparatus for removing noxious gases in casting Elektron, 50, 508A.
- Maurer, Edward R., and Kelso, L. A. E. Friction of some Babbitt, roller, and ball bearings, 50, 762A.
- Maurer, F. A. Depositing Cr on elect. appliances, 50, 564A.
- Mauri, M.-J. Zn in marine construction, 50, 184A.
- Maximov, M. S. Rôle played by self-induction in elect. arc furnaces, 50, 393A.
- May, R. Discussion on "A Modified Impingement Corrosion Apparatus," 49, 131.
- Mayer, A. W. Book edited by: "Chemisches Fachwörterbuch. Deutsch-Englisch-Französisch," 50, 415A (review).
- Mayham, A. H₂S generator, 50, 173A.
- Meara, Francis L. Magnetic susceptibility of some binary alloys, 50, 354A.
- Medicus, L. Book: "Kurze Anleitung zur qualitative Analyse," 50, 136A; book: "Kurze Anleitung zur technisch-chemischen Analyse," 50, 136A.
- Mees, Eric Henry. Elected student member, 48, 316.

- Megaw, Helen Dick. Lattice dimensions in Cu-Ag alloys, 50, 486A.
- Meggers, William F. Rhenium, 50, 341A.
- Mehl, Robert F. Non-destructive testing by γ -rays from Ra, 50, 93A; use of γ -rays in testing pieces, 50, 93A; see also Barrett, Charles S.
- Mehi, Robert F., Barrett, Charles S., and Rhines, Frederick N. Studies upon Widmanstätten structure. III.—Al-rich alloys of Al with Cu, and of Al with Mg and Si, 50, 485A.
- Mehl, Robert F., Doan, Gilbert E., and Barrett, Charles S. Radiography by use of γ -rays, 50, 755A.
- Mehta, Fareedoon Pirojsha. Elected student member, 48, 19.
- Meier, F. W. See Bucherer, H. Th.
- Meier, O. Manuf. and properties of carbide and nitride crucibles, 50, 584A.
- Meigh, G. H. Appns. of aluminium—"bronze" and its resistance to wear, 50, 602A.
- Meissner, A. Detn. of structure by sound-vibrations, 50, 745A.
- Meissner, K. L. Correspondence on "Inter-crystalline Corrosion of Duralumin," 48, 185; influence of cold-rolling on age-hardening of Duralumin, 50, 424A; paper: "Two Years' Corrosion Tests with Duralumin in the North Sea," 49, 135.—Correspondence: E. H. Dix, Jr., 145; J. C. Hudson, 148.—Reply to Correspondence, 149.
- Meissner, W. Researches with aid of liquid He. XVII.—Resistance of Pb in magnetic field at temps. below superconducting point, 50, 594A; see also Holm, R.
- Meissner, W., and Steiner, K. Measurements employing liquid He. XVIII.—Behaviour of superconducting Sn under incidence of slow-moving electrons, 50, 467A.
- Meissner, W., Franz, H., and Westerhoff, H. Measurements with aid of liquid He. XIV.—Systematic researches on superconductivity of some alloy systems, 50, 607A; XV.—Resistance of Ba, In, Tl, Graphite, and Ti at low temps., 50, 593A; XVI.—Investigations relating to superconduction in case of carbides, nitrides, borides, and silicides, 50, 352A; XIX.—Researches on alloys of Pb-Tl and Pb-Bi series with respect to superconductivity, 50, 604A.
- Melchior, Paul. Mechanics of tensile testing—tensile strength, a phenomenon of instability, 50, 368A.
- Meldrum, Wm. B., and Palmer, Arthur E. Analysis of materials of Middle Bronze Age, 50, 202A.
- Mellana, —. See Belasio, —.
- Meller, Karl. Book: "Elektrische Lichtbogenschweißung," 50, 651A.
- Mellor, J. W. Book: "A Comprehensive Treatise on Inorganic and Theoretical Chemistry. Volume XII," 50, 783A.
- Melton, E. R. See Brombacher, W. G.
- Memmler, K., and Lauto, K. Investigation of endurance of metallic constructional materials with H.-F. tensile-compression machine of Schenk, 50, 558A.
- Mend, F. See Dehlinger, U.
- Menschutkin, Boris Nikolaiewitsch. Book: "Text-Book of General (Inorganic) Chemistry" (in Russian), 50, 61A.
- Menzel, H. See Kolthoff, I. M.
- Meredith, B. L., and Christiansen, W. G. Corrosion of metals by liquid I and by moist I₂ vapour, 50, 303A.
- Merica, Paul D. Hardening of non-ferrous alloys, 50, 323A.
- Merigold, J. L. Au solns. for prodn. work, 50, 504A, 564A.
- Merkun'ev, N. E. See Botchvar, A. A.
- Merkus, P. J. See Baker, E. M.
- Merlub-Sobel, Menahem. Discussion of Stock's paper on "Beryllium," 50, 721A; see also Booth, Harold Simmons.
- Merrill, Charles White. Pamphlet: "Consumption of Silver in the Arts and Industries of the United States," 50, 588A.
- Merritt, H. E. Efficiency and appn. of worm gearing, 50, 690A.
- Merseau, Samuel Foster. Book: "Materials of Industry, their Distribution and Production," 50, 282A.
- Meslier, R. Oxy-welding with auxiliary reducing flame, 50, 114A; safe welds, 50, 385A; welding speeds, 50, 700A.
- Messkin, W. S. Book: "Technical Magnetic Alloys" (in Russian), 50, 651A.
- Messkin, W. S., and Kussmann, A. Book: "Die Ferromagnetischen Legierungen und ihrer Gewerbliche Verwendung," 50, 526A.
- Menche, Hans Eugen. Elected member, 48, 18.
- Meurice, Ch. Tests on refractories, 50, 200A.
- Meyer, A. D. Discussion on Rhoads and Morken's paper on "The Applications of the Rocking Indirect Arc Electric Furnace," 50, 777A.
- Meyer, Herbert. Age-hardening investigations on Zn-Al alloy with compn. Al₂Zn₃, 50, 727A, 728A; investigations relating to improvement (Vergütung) of Zn-Al alloy of compn. Al₂Zn₃, 50, 472A.
- Meyer, Hermann. Book: "Lehrbuch der allgemeinen mechanischen Technologie der Metalle," 50, 463A (review).
- Meyer, H. M. See Juhlín, C. E.
- Meyer, J. H. Al inks, 50, 454A.
- Meyer, Lester. P'ptn. by means of H₂S, 50, 39A.
- v. Meyer, Wilhelm. Simple method of measuring small vapour pressures, 50, 678A.
- Miall, Stephen. Book: "A History of the British Chemical Industry," 50, 287A (review).
- Michel, A. J. See Rimbach, Richard.
- Michel, H. Present position of arc welding, 50, 385A.
- Michel, Jacques. Book: "Coloration des Métaux," 50, 409A (review); book: "Métallisation," 50, 409A (review).

- Mieg, André. Use of elect. furnaces for heat-treatment and fusion of metals, 50, 642A.
- Mihailow, M. M. Elect. resistance furnace with metallic heating elements, 50, 643A.
- Mihara, Kingo. See Ishihara, Tomimatu.
- Milburn, Lessiter C. Corrosion prevention, 50, 29A, 359A.
- Miley, H. Artis. See Pietenpol, W. B.
- Millar, J. D. "Premag" welding of Cu in Australia, 50, 697A; resumé of Cu welding, 50, 112A.
- Millar, W. B. Welding of stainless and corrosion-resistant alloys, 50, 113A.
- Miller, Benjamin. Discussion on Becker's paper on "Electrolytic Phenomena in Oxide-Coated Filaments," 50, 70A.
- Miller, C. F. Detn. of Mn with potassium periodate, 50, 169A; detn. of small quantities of K, 50, 169A.
- Miller, E. See Allcut, E. A.
- Miller, Herbert J. See Cook, Maurice.
- Miller, John Hughes, and Eisner, Abner. Germanic sulphide: quant. conversion of sulphide to oxide by hydrolysis, 50, 309A.
- Miller, R. W. Grünwald method of bright-annealing, 50, 765A.
- Miller, T. H. See Gerry, C. N.
- Mills, Adelbert P. Book: "Materials of Construction," 50, 142A (review).
- Mills, C. P. Kathner normalizing furnaces, 50, 511A.
- Mills, E. O. See Clows, F. H.
- Mills, J. C. See Petrie, G.
- Mills, (Sir) William. Obituary notice, 48, 313.
- Milne, C. S. See Hoddlo, A.
- Minaur, N. Alfolysystem of heat insulation, 50, 688A; Al in architecture and building construction, 50, 639A; Al in construction of furniture, 50, 104A, 688A; commercial vehicle bodywork in Al, 50, 686A.
- Minelli, C. Aircraft wings and their structures, 50, 687A.
- Mitchell, A. D., and Ward, A. M. Book: "Modern Methods in Quantitative Analysis," 50, 526A.
- Mitchell, C. Ainsworth. Book edited by: "Recent Advances in Analytical Chemistry. Volume II.—Inorganic," 50, 143A (review).
- Mitchell, L. G., and Stewardson, H. Extrusion press in working of non-ferrous metals, 50, 327A.
- Mitchell, Robert W. Equipment for cleaning metal.—VIII., 50, 192A; IX.—XII., 50, 707A; maintenance and life of cleaning solns., 50, 121A; metal-cleaning tank, 50, 121A.
- Möbius, Willy. Modulus of torsion of Ni at high temps. and under simultaneous magnetization, 50, 419A.
- Mochel, Norman L. Thermal expansion of metals, 50, 533A; see also French, H. J.
- Mohle, —, and Biosterfeld, —. Waste waters from metal goods factories and their purifications, 50, 279A.
- Mohr, C. B. O. Reflection of long X-rays, 50, 76A.
- Moir, Douglas Morton. Elected member, 48, 19.
- Molineux, A. L. Cold-rolled metals: "1931" standard, 50, 189A.
- Molkow, L., and Sarubin, N. Book: "Tungsten and Tungsten Wire Manufacture" (in Russian), 50, 588A.
- Möller, F. Soly. of Ag in Cu, 50, 734A.
- Monastyrski, D. N. Book: "Examples of Technical Analysis in the Metallurgical Industry. Part I" (in Russian), 50, 651A.
- de Mongeot, L. Bautier. Analysis of solid fuels, especially their distillation under vacuum at increasing temps., 50, 395A.
- Montessus de Ballore, R. de. Book edited by: "Index Generalis," 50, 405A.
- Montoro, Vincenzo. Pamphlet: "Distorsioni reticolari e tensioni interne nei metalli," 50, 717A; see also Parravano, N.
- Monypenny, J. H. G. Book: "Stainless Iron and Steel," 50, 528A (review).
- Moore, E. S. Ni resources, prodn. and utilization, 50, 569A.
- Moore, F. J., and Hall, William T. Book: "A History of Chemistry," 50, 61A.
- Moore, H. Elected Vice-President, 48, 17; discussion on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 115; discussion on "Inter-crystalline Corrosion of Duralumin," 48, 183; seconds vote of thanks to Past-President, 48, 22.
- Moore, Herbert F. Crackless plasticity, 50, 71; fatigue of metals. A backward glance, 50, 658A; report of research ettec. of A.S.T.M. on fatigue of metals, 50, 290A, 469A; test results and service values of materials, 50, 557A; see also Fuller, T. S.; Peterson, R. E.
- Moore, Herbert F., and Alleman, Norville J. Creep of Pb and Pb alloys used for cable sheathing, 50, 723A.
- Moore, Herbert F., and Lewis, R. E. Fatigue tests in shear of 3 non-ferrous metals, 50, 211A.
- Moore, Herbert F., and Vör, Tibor. Study of slip lines, strain lines, and cracks in metals under repeated stresses, 50, 753A.
- Moore, Herbert F., and Warwick, C. L. Report of ettec. E-9 of A.S.T.M. on correlation of research, 50, 402A.
- Moore, Herbert F., Othus, J. C., and Krouse, G. N. Full-load calibration of 600,000-lb. testing machine, 50, 447A.
- Moore, Herbert F., Roy, Noreus, H., and Betty, Bernard B. Pamphlet: "A Study of Stresses in Car Axles Under Service Conditions," 50, 718A.
- Moore, Norman Clement. Elected member, 49, 15.
- Moore, R. L. See Lowery, H.
- Moore, R. R. Alloys in aircraft engines discussed at conference, 50, 693A.
- Moore, W. C. Discussion on Egeberg and Promisel's paper on "A Study of Silver-

- Plating Solutions," 50, 98A; discussion on Pan's paper on "Bright Silver Plating from the Cyanide Bath," 50, 98A.
- Moorshead, W. A.** Heat balances of industrial furnaces and their practical appn., 50, 582A.
- Morcom, E. L.** Elected Member of Council, 48, 17.
- Mordaunt, R.** Li: its prodn. and use in Germany, 50, 498A.
- Morell, L. G., and Hanawalt, J. D.** X-ray study of plastic working of Mg alloys, 50, 746A.
- Morell, Werner.** Obituary notice, 48, 344.
- Morgan, Frank Ewen.** Elected member, 49, 15.
- Morgan, H.** Indust. appn. of pulverized fuel, 50, 272A.
- Morgan, J. Livingston R., Lammert, Olive M., and Campbell, Margaret A.** Prepn. and reproducibility of quinhydrone electrode, 50, 239A.
- Morioka, Susumu.** See Endô, Hokozi.
- Morke, Carl H.** See Rhoads, A. E.
- Morozov, J. N.** Apparatus for fatigue tests, 50, 244A; instrument for cutting notches in Charpy specimens, 50, 245A; size of specimens for Charpy impact test, 50, 244A.
- Morris, Alan.** Machinability of free-cutting brass rod, 50, 260A; seasonal variation in rate of impingement corrosion, 50, 28A.
- Morris, Ernest.** England's wonder bells, 50, 709A.
- Morris, J. T. MacGregor, and Hunt, R. P.** "Matthiessen's constant," or relation between elect. resistivity and temp. coeffs. of metals, 50, 598A.
- Morris, T. N.** Corrosion of tinplate, 50, 161A; inhibitors and accelerators, 50, 545A; relative positions of Sn and Fe couple, 50, 544A.
- Morris-Jones, W.** See Bowen, E. G.
- Morrissey, R. B.** See Thompson, M. de Kay.
- Mortimer, George.** Alloys of Al: some practical effects of research, 50, 224A; discussion on "The Testing of Castings," 48, 292.
- Mortimer, George, and Paige, J. F.** Al alloy pistons for Diesel motors, 50, 320A, 638A.
- Moseley, Norman Hurlstone.** Elected student member, 48, 316.
- Moser, H.** Retrospect. Development of Precious Metal Research Institute of Schwäbische-Gmünd, 50, 647A; Ag rolling bars, 50, 710A.
- Moser, H., and Fröhlich, K. W.** Behaviour on melting and solidifying of Ag-Cu alloys containing O₂, 50, 21A.
- Moser, H., and Raub, E.** Surface improvement of Ag articles, 50, 328A.
- Moser, H., Fröhlich, K. W., and Raub, E.** Ternary system Ag-Cu-P, 50, 734A.
- Moser, Ludwig, and Graber, Hans.** Detn. and sepn. of rarer metals from other metals. XXI.—Detn. of Rh and sepn. from Pt and other metals, 50, 310A.
- Moser, Ludwig, and Haackofer, Heinz.** Detn. and sepn. of rarer metals from other metals. XX.—Detn. of Ir and sepn. from Pt and other metals, 50, 309A.
- Moser, M.** Standardization of notched-bar impact test, 50, 369A.
- Mosher, M. A.** See Skowronski, S.
- Mossman, Dorothea R.** See Beans, Hal Trueman.
- Mossman, Ralph W., and Robinson, Russell G.** Bending tests of metal monocoque fuselage construction, 50, 254A.
- Mostowitsch, W. J.** Book: "Metallurgy of Copper" (in Russian), 50, 61A.
- Mould, Albert Parton.** Elected member, 48, 18.
- Moulton, R. S.** Discussion on Mochel's paper on "Thermal Expansion of Metals," 50, 533A.
- Mountfort, J. A.** Evolution of the sword, 50, 204A.
- Moynahan, G. B.** Methods of testing welds, 50, 91A.
- Mrak, E. M., and LeRoux, J. C.** Corrosion of bronzes by vinegar, 50, 667A.
- Mrak, E. M., and Richert, P. H.** Swelling of canned prunes, 50, 608A.
- Mühlen, O. von Zur-.** See Zur-Mühlön, O. von.
- Muldowney, W. M.** Sn in Sn drosses, 50, 170A.
- Müller, A.** See Garre, B.
- Müller, Carl.** New apparatus for measuring heat emission (thermo-elements) of increased sensitivity and rapid adjustability, 50, 94A.
- Müller, Erich.** Book: "Die Elektrometrische (Potentiometrische) Massanalyse," 50, 718A; passivity of Cr.—III., 50, 495A; theory of depn. of Cr from aqueous chromic acid solns.—V., 50, 370A.
- Müller, Erich, and Schwabe, Kurt.** Adherence and nature of H₂ absorbed by metals of Pt group, 50, 530A; current limits in anodic polarization of metals in aqueous solns., 50, 610A.
- Müller, Erich, and Tänzler, K. H.** Potentiometric detn. of Pt and Au with Cu₂Cl₂ soln., 50, 620A.
- Müller, Hans.** What is fatigue? 50, 469A.
- Müller, J.** See Harsch, J. W.
- Müller, John Hughes.** See Abrahams, Harold J.
- Müller, Robert.** Book: "Allgemeine und technische Elektrometallurgie," 50, 458A.
- Müller, Rudolf.** Autogenous welding of Monel metal in construction of chem. apparatus, 50, 257A; welding of Monel metal in construction of chem. apparatus, 50, 54A.
- Müller, W.** Pamphlet: "Zur Passivität des Chroms," 50, 783A.
- Müller, Wolf Johannes.** Passivity of metals, 50, 637A; theory of electrolytic valve action, 50, 101A.

- Müller, Wolf Johannes, Cameron, H. K., and Machu, W. Theory of passivity phenomena. XIV.—Passivity of Ni, 50, 637A.
- Mulliken, Robert S. Electronic structure of polyatomic molecules and valence. II.—General considerations, 50, 617A.
- Mumma, P. F. See Fuller, T. S.
- Munby, Alan E. Book: "Laboratories, their Planning and Fittings," 50, 415A (review).
- Munday, S. Grinding a vee tool, 50, 121A.
- Mundey, A. H. Discussion on "The Testing of Castings," 48, 288.
- Munster, Cl. Anomalies exhibited by cathode-sputtering, 50, 422A.
- Muratch, N. N. Appn. of Al coatings for protection of Fe against oxidation at high temp., 50, 651A; book: "Fundamental Chemistry of the Non-Ferrous Metals" (in Russian), 50, 651A; main lines of standardization of non-ferrous metals and alloys in U.S.S.R., 50, 203A; problems of standardization of Zvetmetzoloto and rôle of research institutes, 50, 779A; see also Vaniukov, W. A.
- Muratch, N. N., and Rezkov, M. Standardization in non-ferrous metallurgy (standardization plan for 1932), 50, 779A.
- Murayama, Kaneyasu. Studies on gravimetric analysis by means of thermobalance. VII.—Detn. of Ti, Sn, and Pb, 50, 241A.
- Murison, C. A., Stuart, N., and Thomson, G. P. Polish on metals, 50, 421A.
- Murphy, A. J. Discussion on "The Testing of Castings," 48, 290.
- Murray, William S. Indium available in commercial quantities, 50, 594A.
- Musatti, I. Dynamic properties of ultralight alloys, 50, 474A.
- Mutchler, W. H. Surface coatings for Al alloys, 50, 162A; see also Buzzard, R. W.
- Muzalevsky, J. G. Latest achievements in sphere of light alloys suitable for rolling, 50, 472A.
- Myers, Richard Harold. Elected member, 48, 19.
- Nádai, A. Phenomenon of slip in plastic materials, 50, 291A; plasticity as applied to steel products, 50, 625A.
- Nádai, A., and Wahl, A. M. Book: "Plasticity," 50, 284A (review).
- Nagai, Tenji. See Goto, Masaharu.
- Nardi, E. See Guzzoni, G.
- Nash, Alfred W., and Bowen, A. R. Mineral oils, 50, 713A.
- Nasilov, D. N., and Schumilov, P. P. Regulation of temp. in lab. and works practice, 50, 175A.
- Nauck, Alfred. Lacquering of metals, 50, 120A.
- Nazarov, S. T., and Hrenov, K. K. Examination of welded seams by means of X-rays, 50, 491A.
- Nealey, J. B. Boeing Airplane Co., 50, 694A; furnaces and hammers for forging Al, 50, 703A; gas-fired unit bright-anneals Cu wire in atmosphere of steam, 50, 582A, 776A; gas necessary in conversion of Al into kitchenware, 50, 776A; heat-treating Al by immersion process, 50, 382A, 499A; permanent mould casting of Al alloys, 50, 771A.
- Néel, L. Magnetic properties of Mn and Cr in solid solns., 50, 605A.
- Negreev, W. See Pravdiuk, N.
- Nehring, Eduard. Corrosion of tinplate, 50, 435A; see also Nehring, Paul.
- Nehring, Paul, and Nehring, Eduard. Corrosion of tinplate with preserves coloured green, 50, 26A.
- Nekrassow, B. P. Book: "Work of the Fourth Conference of the U.S.S.R. on Non-Ferrous Metals. Part II. Copper and Nickel" (in Russian), 50, 651A.
- Nelson, George A. Cu-Sn compd. in Babbitt, 50, 664A.
- Nelson, H. A. Developments in use of Zn pigments, 50, 439A.
- Nelson, H. A., and Jamieson, R. W. Painting of galvanized Fe and sheet Zn, 50, 743A.
- Nelson, H. W. See Audrieth, L. F.
- Nelson, T. Holland. Heat- and corrosion-resistant alloys, 50, 83A.
- Nemilow, Wladimir A. Elected member, 49, 15; alloys of Pt and Ir, 50, 299A; hardness, microstructure and coeff. of elect. resistance of alloys of Pt and Fe, 50, 299A.
- Nejadkevitch, K. A. Electro-colorimetric method of detg. small quants. of Mn, 50, 554A.
- Neubert, F. See Tammann, G.
- Neuburger, M. C. Lattice constants, 1931, 50, 308A; Pamphlet: "Gitterkonstanten," 50, 406A; precision detn. of lattice constants of Be, 50, 615A; precision measurement of lattice constant of Cb, 50, 165A.
- Neufeld, Martin W. See Niemann, Willy B.
- Neumann, G. Tech. heat consumption of furnace, 50, 582A.
- Neumayr, S. See Zintl, E.
- Newbery, Edgar. Electrolytic valve action and electrolytic rectifiers, 50, 684A.
- Newell, E. F., and Quine, W. E. Elect. arc welding, 50, 325A.
- Newell, H. D. See Strauss, Jerome.
- Newell, I. Laird. New method for H-ion control of electroplating solns., 50, 317A; see Keefe, W. H.
- Newitt, D. M. Book edited by: "Chemical Engineering and Chemical Catalogue," 50, 406A.
- Newman, F. H. Book: Recent Advances in Physics (Non-Atomic), 50, 406A.
- Newson, J. E. Use and manuf. of bars, sections, and tubes in brass and other alloys by extrusion process, 50, 504A.
- Nial, O., Almin, A., and Westgren, A. X-ray analysis of Au-Sb and Ag-Sn systems, 50, 35A.
- Nicholas, Warren W., and Malmberg, C. G. Registration of cathode rays by thin

- films of metals and metal compts., 50, 202A.
- Nichols, M. L. Anodic pptn. of PbO_2 , 50, 89A.
- Nickerson, Ralph F. Simple constant pressure H_2S generator, 50, 173A.
- Nicolau, P. Choosing samples for testing, 50, 750A; recent advances in methods of control of metallurgical products, 50, 750A.
- Nieh, J. K. See Lilienfeld, J. E.
- Nielsen, Harald. Solid and gaseous fuels in Fe and steel industry, 50, 513A.
- Nielsen, J. Rud. Theory of combined series and potentiometer rheostat, 50, 622A.
- Nielsen, S. Schmidt-. See Schmidt-Nielsen, S.
- Niemann, Hans. Metal insulation as protection against cold, 50, 454A.
- Niemann, Willy B., and Neufeld, Martin W. Book: "Verzeichnis der Dr.-Ing. Dissertationen der Technischen Hochschulen und Bergakademien des Deutschen Reiches in sachlicher Anordnung nebst Namon- und Schlagwort-Verzeichnis 1923 bis 1927," 50, 288A (review).
- Niessner, M. Microchemistry in metallurgy, 50, 365A.
- Niezoldi, Otto. Analysis of red brass and brass, 50, 487A, 618A.
- Nightingale, S. J. Book: "Tin Solders," 50, 591A (review).
- Nikolaev, W. I. Cementation of Fe and steel by Cr, 50, 614A.
- Nikolsky, P. A. Bimetal prodn. at Koltchugin works, 50, 502A.
- Nishimura, Hideo. Mechanism of removal of gases in metals and alloys, 50, 343A.
- Nishina, Tamotu. See Honda, Kōtarō.
- Nitchie, Charles C. Spectroscopic apparatus in industry, 50, 748A.
- Niven, C. D. Problem of elect. conductivity of metals, 50, 598A.
- Noble, James E. Tinning without heat, 50, 235A.
- Nock, J. A., Jr. Effect of heat-treatment on forming properties of Al alloys, 50, 382A; see also Bossert, T. W.
- Noddack, Walter. Advances in propn. and uses of some rare elements, 50, 290A.
- Nola, E. di. See Pertusi, C.
- Norbury, A. L. Correspondence on "The Testing of Castings," 48, 304; discussion on "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 44; use of cast-iron in non-ferrous industry, 50, 275A.
- Nordström, Gunnar. Resistance material for elect. furnaces for high temps., 50, 393A.
- Norris, J. G. Welding Cr-Ni alloys, 50, 54A.
- North, Sydney H. Book: "Pulverized Fuel Firing," 50, 783A.
- Northcott, L. Veining or sub-boundary structures, 50, 614A.
- Northrup, E. F. Coreless induction furnace larger; lining improved, 50, 645A; discussion on Ridgway's paper on "Temperature Measurements in Commercial Silicon Carbide Furnaces," 50, 757A.
- Norton, F. H. Book: "Refractories," 50, 207A; structural materials for modern heat technology, 50, 645A.
- Norton, F. H., and Romer, J. B. New creep testing apparatus at Massachusetts Institute of Technology, 50, 313A.
- Norton, F. J., and Marshall, A. L. De-gassing of metals, 50, 470A.
- Norton, John T., and Hiller, R. E. Structure of cold-drawn tubing, 50, 191A.
- Notman, Arthur. Future of Cu industry, 50, 780A.
- Nuka, P. Pptn. of Mn as $MnNH_4PO_4 \cdot H_2O$, 50, 89A, 443A.
- Nunzio, B. del. Thermal analogy of Barkhausen effect, 50, 9A.
- Nüvemann, Karl. Investigation of structures by means of X-rays in Fe and metal industries, 50, 487A.
- Nyrop, J. E. Surface electrons, 50, 440A.
- Ober, Ernst. Book: "Quantitative Analyse. Teil I: Mass-Analyse," 50, 527A.
- Obermüller, H. Welding of Ni, 50, 188A.
- O'Brien, Frank. Resistance welding, 50, 385A.
- Obst, Walter. Metal protection and alloys resistant to high temps., 50, 231A.
- Ochsenfeld, Robert. Appearance of ferromagnetism in system Mn-N₂, 50, 226A.
- O'Connor, R. J. Barrel rolling and plating, 50, 48A.
- Oding, I. A. Book: "Modern Methods of Investigating Metals" (in Russian), 50, 651A; book: "Stability of Metals" (in Russian), 50, 459A.
- Oehlerking, W., Krauss, H., and Griesbach, A. Proposal on detn. of absolute repeatability of elect. instruments, 50, 172A.
- Oettel, F. See Grubb, G.
- Offinger, H. Book: "Technologisches Taschenwörterbuch in 5 Sprachen. II. Abteilung, 2 Band.—Französisch-Deutsch-Italienisch," 50, 406A.
- Ogden, C. K. Book: "The Basic Dictionary," 50, 589A.
- Ogden, Daniel L. Melting fine Ag in H.-F. induction furnace, 50, 583A, 777A.
- Ohler, G. Autogenous welding of sheet: testing strength of welds, 50, 91A.
- Oiseau, R. "Al-bronzes": what specification should be required?, 50, 690A.
- Okáč, A. Gravimetric detn. of Al by the cyanato method (sepn. from Mn and Zn), 50, 88A; microelectrolytic detn. of Cu in ammoniacal soln., 50, 442A; microelectrolytic Ni and Co detn. in ammoniacal soln., 50, 443A.
- Oknoff, Michael G. Elected member, 48, 18; tempering and annealing of eutectoid alloys, 50, 256A; vol. and dilatometric investigations of alloys, 50, 542A.
- Ölander, Arne. Electrochem. investigation of solid Cd-Au, 50, 728A; electro-

- chem. investigation of solid Ag-Au alloys, 50, 21A.
- Oliverio, A. TiCl_3 in detn. of As, Sb, and Bi, 50, 88A.
- Ollard, E. A. Discussion on Sasaki and Sekito's paper on "Three Crystalline Modifications of Electrolytic Chromium," 50, 95A; practical plating. I.—II.—Theoretical considerations, 50, 634A; progress in electroplating industry (1931), 50, 250A.
- Omodei, Clifford Theodore. Elected member, 48, 315.
- O'Neill, George D. Use of "getters," 50, 780A.
- O'Neill, Hugh. *Correspondence on "The Age-Hardening of Some Aluminium Alloys of High Purity,"* 48, 218; cry of Sn, 50, 466A; *discussion on "The Behaviour of Single Crystals of Bismuth Subjected to Alternating Torsional Stresses,"* 48, 247; *discussion on "The Distortion of Wires on Passing Through a Draw Plate,"* 49, 201.
- O'Neill, Hugh, and Greenwood, Hubert. *Paper: "Observations on the Pressure of Fluidity of Annealed Metals,"* 48, 47.—*Discussion:* A. S. E. Ackermann, 67.—*Reply to Discussion,* 68.
- Oplinger, F. F. Efficient electro-tinning process, 50, 178A.
- Orban, J. See Winiwarter, Ed. de.
- Ornstein, L. S., and Geel, W. Ch. van. Hall effect and lattice constants of Au-Ag alloys, 50, 35A.
- Ornstein, L. S., and Kruithof, A. A. Experiment relating to recombination of H atoms on metallic and oxidized Ni, 50, 658A.
- O'Rourke, Charles Edward. Book edited by: "General Engineering Handbook," 50, 459A.
- Osana, K. See Aizawa, T.
- Osawa, Atomi. See Iwasé, Keizô.
- Osborne, Freleigh Fitz. Plane-polarized light in microscopic investigation of ores and metals, 50, 311A.
- Oschatz, H. See Thum, A.
- Osenberg, W. See Sachsenberg, E.
- Ost, Hermann. Book: "Text-Book of Chemical Technology" (*in Russian*), 50, 406A.
- Ostashevsky, J. Standard for chamotte bricks (OST 75), 50, 778A.
- Osterburg, —, and Lipus, T. Milk products and metals, 50, 666A.
- Ostermann, F. Season-cracking of brass, 50, 427A.
- Ostwald, Wilhelm, and Brauer, Eberhard. Pt as world historical factor, 50, 108A.
- O'Sullivan, J. B. Electrodeposn. of Ni. I.—Effect of p_H and of various buffering agents; presence of O_2 in deposits, 50, 178A.
- Othmer, D. F. Guarding against corrosion in CH_3COOH equipment, 50, 547A.
- Othus, J. C. See Moore, H. F.
- Otzen, Robert. Elected member, 48, 19.
- Owen, E. A., and Iball, John. Precision measurements of crystal parameters of some of the elements, 50, 363A.
- Owen, E. A., and Pickup, Llewelyn. Interdiffusion of metals, 50, 597A; X-ray studies of phase boundaries in thermal diagr. of alloy systems. Cu-Zn Systems, 50, 672A.
- Owen, E. A., and Williams, T. E. Effect of chem. combination on X-ray spectra of Cu, 50, 34A.
- Owen, S. Z. Elect. galvanizing furnace permits close temp. control, 50, 331A.
- Owens, J. S. *Discussion on "The 'Fogging' of Nickel,"* 48, 137.
- Pace, E. Variations in e.m.f. during formation of alloys by wet method, 50, 494A.
- Pack, Charles. Press-casting, 50, 331A.
- Padalka, E. N., and Popov, R. B. High-powered uni-phase furnaces, 50, 642A.
- Paggi, V. E. Delayre-. See Delayre, Paggi, V. E.
- Pagnani, Domenico. Al light alloys in manuf. of rolling stock on main-line railroads, 50, 567A.
- Paige, J. F. See Mortimer, G.
- Painton, E. T. Al in elect. engineering, 50, 181A.
- Palmaer, Eva. Fe-Hg system, and soly. of Ni in Hg, 50, 298A.
- Palmer, Wilh. Electrochem. industries of Sweden, 50, 100A.
- Palmer, Arthur E. See Meldrum, Wm. B.
- Pamfilov, A. W., Grekk, W. A., and Troitzkaia, A. A. Materials for electrolysis of Cr. II. Electrolysis of chloride, 50, 630A.
- Pan, L. C. Bright Ag plating from cyanide bath. Prelim. note, 50, 98A; chem. control of cyanide Cu-plating solns.—II., 50, 96A; chem. control of Ni-plating baths, 50, 315A, 371A; complex cyanides in brass plating solns., 50, 632A; control of acidity in low p_H Ni-plating baths, 50, 97A.
- Pannell, E. V. Al roofing tiles, 50, 688A.
- Panseri, C. Cast Al alloys in construction of aero. motors, 50, 104A, 567A; see also Magnani, U.
- Paoloni, A. Electrothermic prepn. of Al, 50, 781A.
- Pape, H.-M. Stresses set up in freely-swinging overhead wires, 50, 174A.
- Paranjpe, G. R. See Boohariwalla, D.
- Paranjpe, G. R., and Joshi, R. M. Problem of liquid Na amalgams (case for colloid view), 50, 663A.
- Parano, A. All-metal aeroplane "Breda 32," 50, 638A.
- Parent, Joseph D. Effect of cold-rolling and annealing on soly. of cartridge brass in chromic acid, 50, 434A.
- Park, Bartholow. Overlooked source of error in ferrocyanide titration of Zn, 50, 242A.
- Park, Bert. Estn. of small amts. of Fe in Cu, 50, 675A.

- Park, W. Gordon.** Continuous liquid heating solvent heat-treatment prodn. problem for large automobile wheel manuf., 50, 269*A*.
- Parker, C. F.** See Lea, F. C.
- Parks, L. R., and Beard, H. C.** Stick Sb electrode: prepn. and calibration, 50, 318*A*.
- Parks, R. E.** Al industry in Canada, 50, 276*A*.
- Parravano, Nicola.** Pamphlet: "L'Allumina Blanc," 50, 459*A*.
- Parravano, Nicola, and Caglioti, V.** Pamphlet: "Struttura e composizione chimica di alcune leghe metalliche," 50, 718*A*; Zn-Mn alloys, 50, 352*A*.
- Parravano, Nicola, and Guzzoni, G.** Plasticity of ultra-light (Mg) alloys under prolonged static loading, 50, 474*A*.
- Parravano, Nicola, and Montoro, V.** Alloys of Zn and Mn, 50, 431*A*, 459*A*.
- Parsons, Leonard Frederick.** Elected student member, 48, 316.
- Parsons, R. W.** Deep etching of brass applied to gating problems, 50, 265*A*, 709*A*; P in red brass, 50, 773*A*.
- Partington, E. B.** Autogenous welding of Pb and its alloys—ancient and modern, 50, 113*A*, 698*A*; book: "Chemical Plumbing, Leadburning and Oxy-Acetylene Welding," 50, 651*A*.
- Partington, J. R.** Supersaturation, 50, 478*A*.
- Paschkis, Victor.** Book: "Elektrische Industrieöfen für Weiterverarbeitung," 50, 783*A*; elect. annealing and hardening apparatus, 50, 583*A*.
- Passano, R. F.** Controlled data from an immersion test, 50, 480*A*; report of sub-cttee. VIII of Cttee. A-5 of A.S.T.M. on field tests of metallic coatings, 50, 550*A*.
- Patel, M.** Microscopes applied to metallurgy, 50, 749*A*.
- Paterson, C. C.** Vote of thanks to, 49, 16.
- Patrick, James.** Elected member, 48, 10.
- Patterson, W. S.** Discussion on Vernon's paper on "A Laboratory Study of the Atmospheric Corrosion of Metals," 50, 28*A*.
- Paul, D. A.** See Templin, R. I.
- Pauschardt, Herbert.** Metal spray process as protection against corrosion, 50, 306*A*.
- Pavlov, I. M.** Book: "Rolling of Non-Ferrous Metals and Alloys" (in Russian), 50, 459*A*.
- Pavlov, M. A.** Book: "Metallurgical Furnaces" (in Russian), 50, 207*A*.
- Payne, E. C.** See Cantelo, R. C.
- Payne, Ronald J. M., and Haughton, John L.** Paper: "Some Attempts at Making Beryllium-Magnesium Alloys," 49, 363. —Discussion: W. Rosenhain, 388.
- Pearce, J. G.** Correspondence on "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 234; correspondence on "The Testing of Castings," 48, 306.
- Pearson, E. A.** See Kolthoff, I. M.
- Pearson, F. J.** Testing hardness of metals by Vickers diamond pyramid machine, 50, 312*A*.
- Pearson, J. L.** See Bailey, R. W.
- Peek, R. L., Jr.** Parallel plate plastometry, 50, 678*A*; see also McLean, D. A.
- Peek, R. L., Jr., and McLean, D. A.** Phys. concepts in theories of plastic flow, 50, 420*A*.
- Peel, John Buttery.** See Briscoe, Henry Vincent Aird.
- Peel, P. W.** Cleaning castings, 50, 128*A*; foundry practice and equipment, 50, 122*A*; grinding machine practice and its use in manuf. and repair, 50, 103*A*.
- Peffer, E. L.** See Hidnort, Peter.
- Pehrson, Elmer W.** Pamphlet: "Lead in 1930 (General Report)," 50, 527*A*; pamphlet: "Zinc in 1929," 50, 136*A*; pamphlet: "Zinc in 1930 (General Report)," 50, 589*A*.
- Peierls, R.** Pamphlet: "Elektronentheorie der Metalle," 50, 651*A*.
- Peirce, W. H.** Discussion on paper by De Wald on "Some Important Factors Controlling the Crystal Macrostructure of Copper Wire-Bars," 50, 552*A*.
- Pelterie, R. Esnault-.** See Esnault-Pelterie, R.
- Pendrey, Arthur L.** Elected student member, 48, 316.
- Pepino, G.** See Bislich, G.
- Perchorowicz, E.** See Loskiewicz, W.
- Percival, L. C.** Al-Si alloys as piston materials, 50, 180*A*; welding of Cu with oxy-acetylene flame, 50, 501*A*.
- Peredelsky, K. W.** Alloys for pressure-casting, 50, 267*A*; die-casting practice, 50, 508*A*; prepn. of moulds for pressure-casting, 50, 268*A*; steel for moulds in pressure-casting, 50, 267*A*; test on operation of machine for pressure-casting, 50, 267*A*.
- Perignon, Jean.** Book: "Théorie et technologie des engronages," 50, 718*A*.
- Perkins, H. F.** Al foil used for tank roofing, 50, 373*A*.
- Permiakov, —.** See Mamykin, —.
- Perona, Louis.** Hard facing in tank shop, 50, 105*A*.
- Perrin, R., and Sorrel, V.** Induction furnace with ferro-magnetic muffle and automatic temp. regulator, 50, 270*A*, 393*A*.
- Perry, Everett Robbins.** Elected member, 49, 15.
- Perry, John H.** See Gillespie, Louis J.
- Pershke, V. K., Kapostuin, M. P., and Yushmanov, E. V.** Destructive action of H₂O₂ on metallic alloys, 50, 436*A*.
- Pertusi, C., and Nola, E. di.** Detn. of SiO₂ and Al₂O₃ in silicious and clay refractories, 50, 398*A*.
- Pessel, Leopold.** Accelerated corrosion test of sprayed molten metal coatings applied on steel in SO₂-CO₂-air atmosphere, 50, 230*A*.
- Pestelli, V.** Detn. of Ni and Cr in their alloys and in cast iron, 50, 554*A*.

- Pester, F. Tensile properties of rods and wires at low temps., 50, 431A.
- Petar, Alice V. Molybdenum, 50, 589A, 763A; pamphlet: "Gallium, Germanium, Indium, and Scandium," 50, 137A; pamphlet: "Thallium," 50, 137A; sillimanite, cyanite, andalusite, and dumortierite, 50, 586A; see also Tyler, Paul M.
- Petavel, (Sir) Joseph E. Vote of thanks to, 49, 16.
- Peterson, R. E., and Jennings, C. H. Fatigue tests of weld metal, 50, 313A.
- Peterson, R. E., and Moore, H. F. Significance and limitations of fatigue-test results, 50, 469A.
- Petit, Alfred. See Guillet, Léon.
- Petit, P. Metals and beer, 50, 546A.
- Petit, Ralph E. Alumilite process, 50, 551A.
- Petrey, A. W. Detn. of Na in Al. II.—Spectrographic analysis, 50, 676A.
- Petrie, G., and Mills, J. C. Book: "Sherardizing," 50, 718A.
- Petrie, J. M. See Sherwood, T. K.
- Petrovskii, A. Colorimetric detn. of minute quantities of W, 50, 242A.
- Pew, A. E. Minimizing corrosion in condensers, 50, 359A.
- Peype, W. F. Van. See Elenbaas, W.
- Pfaffenberger, J. See Dahl, O.
- Pfanhauser, Wilhelm. Book: "Verchromungs-Technik," 50, 406A.
- Pfanhauser, Wilhelm, and Ellsner, G. Cr plating practice and theory, 50, 176A.
- Peil, L. B. Discussion on "A Modified Impingement Corrosion Apparatus," 49, 133.
- Phelps, R. T., and Davoy, Wheeler P. X-ray study of nature of solid solns., 50, 164A, 238A.
- Philbrook, W. R. See Crook, Welton J.
- Phillip, O. Refractory mortars, 50, 585A.
- Phillips, Arthur, and Samans, Carl H. Directional properties in cold-rolled and annealed commercial bronze, 50, 661A.
- Phillips, C. B. Foundries turn to gas fuel for annealing, 50, 776A.
- Phillips, E. G. Indust. thermal efficiency, 50, 129A.
- Phillips, Francis C. Book: "Chemical German," 50, 288A (review).
- Phillips, H. See Balfe, M. P.
- Phillips, H. D. Metals resistant to corrosion and heat, 50, 741A.
- Phillips, W. M. Discussion on Canning's paper on "High-speed Nickel Plating as Practised in England," 50, 97A; discussion on Cuthbertson's paper on "The Electrodeposition of Chromium and the influence of the Cathode Metal," 50, 95A; further developments in low p_H Ni depn., 50, 97A; pitting in Ni solns., 50, 564A; tarnishing of Cr-plated brass, 50, 96A, 177A.
- v. Philippovich, Alexander. Present-day testing of fuels for aviation, 50, 737A.
- Picard, Jacques. Appns. of Monel metal in marine construction, 50, 184A.
- Pichler, A. A. Benedetti-. See Benedetti-Pichler, A. A.
- Pichon, G. Pamphlet: "Nouvelle méthode d'essais industriels des métaux," 50, 207A.
- Pickin, J. Machine tools, 50, 261A.
- Pickup, Llewelyn. Trend of X-ray analysis in metallurgy, 50, 237A; see also Owen, E. A.
- Pidgeon, L. M., and Egerton, A. C. Improved constant temp. device, 50, 242A.
- Pierce, W. C. See Bonnett, R. D.
- Pierce, W. M., and Stern, Marc. Zn die-castings. Al:Cu:Mg, 4:3:0.1%, 50, 774A.
- Piersol, R. J. Automatic Cr plating equipment, 50, 564A; bright plating ratio in Cr, 50, 314A, 371A; coeff. of metal distribution in Cr plating, 50, 314A; design of Cr-plating unit, 50, 564A; electrostatic distribution in Cr plating, 50, 371A; how to improve durability of Cr plate, 50, 45A; installation of Cr-plating unit, 50, 564A; properties which characterize Cr plating, 50, 564A; thick Cr plate through judicious operating control, 50, 46A.
- Pietenpol, W. B., and Miley, H. Artis. Supercooling of Sn and resistivity lag in solid-to-liquid transformation, 50, 530A.
- Pietrafesa, F., and Luciani, C. Electrolytic Cd plating, 50, 370A.
- Pietsch, Erich, and Josephy, Edith. Topochemistry of corrosion and passivity, 50, 83A.
- Pietsch, Erich; Grosso-Eggebrocht, Bruno; and Roman, Wadim. Topochemistry of corrosion and passivity. II.—Investigation of initial step of corrosion of soft Fe, 50, 610A.
- Pilling, N. B. Effect of cold-working on Izod notched-bar impact value of Monel metal, 50, 430A, 680A.
- Pilling, N. B., and Kihlgron, T. E. Casting properties of Ni-bronzes, 50, 772A; influence of Ni on cast bronze, 50, 709A; method for study of shrinkage and its distribution in castings, 50, 770A.
- Pilling, N. B., and Worthington, Robert. Effect of temp. on some properties of Fe-Cr-Ni alloys, 50, 540A.
- Pinczon, M. J. Use of arc-welding in naval construction; problem of welded joints, 50, 115A.
- Pinder, W. German metal plastics during 300 years, 50, 531A.
- Pinilla, J. See Thon, N.
- Pisart, Fernand. Elected member, 49, 15.
- Pitt, A. See McLennan, J. C.
- Piwowsky, E. Atomic physics and science of metals, 50, 38A; correspondence on "The Testing of Castings," 48, 303.
- Plaksin, I. N. System Au-Hg, 50, 428A.
- Plaksin, I. N., and Kozhuchova, M. A. Quant. method of estimating Au by means of hydrazine hydrochloride and its appn. to alloy analysis, 50, 168A.
- Planck, Max. Book: "The Mechanics of Deformable Bodies," 50, 783A.

- Plant, Wilfred. Elected student member, 48, 19.
- Pleins, W. Riveting practice in aero construction, 50, 765A.
- Pletenev, S. A. See Lainer, W. I.
- Plotnikov, V. A., and Grazianskii, M. M. Al coating of metallic surfaces in molten mixtures of $AlCl_3$ and $NaCl$, 50, 305A.
- Plotnikov, V. A., Grazianskii, M. M., and Fortunatov, M. S. Prodn. of pure Al and Al coatings by electrolysis, 50, 246A.
- Plotnikov, V. A., Machovetz, V. P., and Fortunatov, M. S. Electrolytic refining of Al and Al deph. in system $AlCl_3$ - $NaCl$, 50, 451A.
- Plummer, C. E., and Atkin, R. K. Corrosion- and heat-resistant alloys, 50, 29A.
- Podhorsky, R. Present status of corrosion theory, 50, 29A.
- Pogodin, S. A. See Urazov, G. G.
- Pogodin, S. A., and Kagan, G. A. Manuf. and properties of Cu-Cd wire, 50, 472A.
- Pogodin, S. A., and Lekarenko, E. M. Prodn. and properties of Constantan at "Sevkabel" Works, 50, 473A.
- Pogorelov, A. D. See Zapevalov, G. G.
- Poland, F. F. Discussion on Schumacher and Ellis' paper on "The Deoxidizers of Copper with the Metallic Deoxidizers Calcium, Zinc, Beryllium, Barium, Strontium and Lithium," 50, 771A; discussion on Skowronski and Mosher's paper on "Selenium and Tellurium," 50, 761A.
- Polanyi, M. See Beck, P.
- Pollard, W. Branch. Vol. assay of Au, 50, 365A.
- Pollitt, Alan A. Materials for chem. plant and equipment, 50, 323A.
- Poltoratzkaya, O. I. See Shehervakov, I. G.
- Pond, W. F. Estn. of Si in Cu-Si alloys, 50, 169A; gravimetric estimation of Sn in brasses and bronzes, 50, 241A.
- Poniosovsky, James. Elected member, 48, 19.
- Pontremoli, P. Casting strip in Al for rolling, 50, 195A.
- Pope, W. J. Charles Thomas Heycock, 50, 518A.
- Popescu, C. See Ionescu-Matiu, Al.
- Popov, R. B. See Padalka, E. N.
- Porst, E. G. Metal cleaning, 50, 578A.
- Porter, H. C. See Fieldner, A. C.
- Porter, J. D. Al busbars resist power arcs, 50, 496A.
- Portevin, Albert. Correspondence on "The Testing of Castings," 48, 296; discussion by French Association for Testing Materials, on subjects dealt with at Zurich Congress, 50, 625A; foundry factors and defects (metallography and foundry), 50, 770A; mech. tests of materials of low capacity for permanent deformation, 50, 752A; structure of metals and alloys, micrography and X-ray spectroscopy, 50, 237A; work of "Metals" Section, Zurich Congress, International Association for Testing Materials, 50, 779A; see also Guillet, I.
- Portevin, Albert, and Bastien, P. "Castability" of alloys, 50, 329A, 708A; character of soln. of metals by chem. reagents as determined by experiment, 50, 480A; principal factors in "castability" of pure metals, 50, 329A; ternary system Mg-Al-Cu, 50, 663A.
- Portevin, Albert, and Chevenard, Pierre. Dilatometric study into structural changes in light alloys duo to heat-treatment, 50, 348A.
- Portevin, Albert, and Sanfourche, A. Corrosion of commercial metals and alloys by H_2PO_4 solns., 50, 668A.
- Portevin, Albert, Prétet, E., and Jolivet, H. Hot structural hardening of Fe-Ni-W alloys, 50, 430A.
- Potter, H. H. Magneto-resistance and magneto-caloric effects in Fe and Housler alloys, 50, 152A.
- Pottgen, K. Testing of blowpipes for low-pressure acetylene, 50, 572A.
- Pounder, C. C. Some effects of impurities in feed-water, 50, 83A.
- Powell, A. R. Non-ferrous metals, 50, 518A.
- Powell, M., and Hook, J. T. Large welded Everdur vessels, 50, 112A, 572A.
- Power, Henry R. Adhesion of glue to fused Al_2O_3 abrasives.—II., III., 50, 705A.
- Pozin, S. E. Geographical distribution of non-ferrous metal industry of U.S.S.R. and its development in conjunction with basic chem. industry, 50, 202A.
- Praagh, Gordon van, and Rideal, Eric Knightloy. Attack of Pt and W by I_2 , 50, 68A.
- Prager, W. Plastic behaviour of metals, 50, 531A; see also Hohenemser, K.
- Pramaggiore, C. Conductors in Al alloys, 50, 687A.
- Prasad, Mata. See Boohariwalla, D.
- Prasnik, Leopold. Burning-out of filaments heated *in vacuo*, I., 50, 3A; II., 50, 342A; III., 50, 658A.
- Pratesi, P. See Scagliarini, G.
- Pravdiuk, N. F., and Negroev, W. Prodn. of hard alloys for drilling, 50, 735A; properties of certain alloys employed in drilling, 50, 735A.
- Pravdiuk, N. F., and Schistchenko, S. J. Investigation of hard alloys used in drilling, 50, 734A.
- Preece, A. See Edwards, C. A.
- Preger, Ernst. Precision measuring apparatus for workshop, 50, 623A.
- Prentiss, F. L. Makes die-castings at high pressure with low melting temp., 50, 712A.
- Presswood, Colin. Heat-resisting cement and concrete, 50, 515A; refractory materials, 50, 395A.
- Preston, G. D. X-ray examination of Fe-Cr alloys, 50, 164A; X-ray investigation of some Cu-Al alloys, 50, 34A; see also Adcock, Frank; Gaylor, (Miss) Mario L. V.

- Prézel, E. See Portevin, Albert M.
- Price, Frank Sidney. Elected member, 48, 315.
- Price, W. B. Discussion on Crawford and Worthington's paper on "Nickel and Nickel Alloys other than the Nickel-Chromium-Iron Group," 50, 541A; properties of Cu and some of its important indust. alloys at elevated temps., 50, 529A.
- Primrose, J. S. G. Metallography with polarized light, 50, 40A.
- Proctor, Charles H. Cr plating in automotive industry. Depn. of Cr on articles made from sheet Zn in automotive products industry, 50, 563A; looking backward and forward in electroplating industry, 50, 48A.
- Proctor, R. F. Temp. regulator for elect. resistance furnaces, 50, 621A.
- Prodan, Leon. Cd poisoning. I.—History of Cd poisoning and uses of Cd, 50, 648A.
- Prokofiev, I. P. Testing metals for hardness, 50, 490A.
- Promisel, N. See Egeberg, B.
- Proskauer, E. See Drucker, C.
- Prosser, Roger D. Cutting steel with new cemented carbide, 50, 576A.
- Prost, —. Book: "Métallurgie des métaux autres que le fer," 50, 137A.
- Prof, Marcel, and Goldwoski, N. Experimental studies of corrosion of metals, 50, 232A.
- Prytherch, J. C. See Macnaughtan, D. J.
- Prytherch, W. E. New form of dilatometer, 50, 445A.
- Ptitzyn, S. W., and Fink, L. M. Evolution of gas from Ni on heating (experimental part), 50, 340A.
- Pubellier, M. Protection of light alloys against corrosion, 50, 162A, 304A.
- Pugno, G. M. See Colonnetti, G.
- Pullin, V. E. X-rays in engineering practice, 50, 93A, 755A.
- Pullin, V. E., and Croxson, C. 400-kv. X-ray tube, 50, 93A.
- Pullin, V. E., and Wiltshire, W. J. Book: "X-Rays: Past and Present," 50, 589A.
- Püngel, —. See Schulz, E. H.
- Quam, G. N. Hypochlorite corrosion is cut by addition of salts and bases, 50, 668A.
- Quevron, L. See Fournel, P.
- Quimby, S. L. Some new experimental methods in ferromagnetism, 50, 312A.
- Quine, W. E. See Newell, E. F.
- Quinio, Paul. Considerations of surface condensers, 50, 690A.
- Quinney, Harry. Elected member, 49, 15; see also Taylor, G. I.
- Rabbitt, James A. Elected member, 48, 315.
- Rabinovitch, M. A., and Zhivotinsky, P. Hg as dispersing medium. Colloidal nature of Fe amalgam, 50, 227A.
- Rada, O. See Glazunov, A.
- Radecker, W., and Sauerwald, F. Viscosity of molten metals and alloys. IV. —Viscosity of Ag and Ag-Cu alloys, 50, 80A.
- Raether, H. See Kirchner, F.
- Raetsch, Werner. See Boehme, Wolfgang.
- Raffé, W. G. Possibilities of metal furnituro, 50, 323A.
- Rainer, R. Sterner-. See Sterner-Rainer, R.
- Rakoski, F. See Sauerwald, F.
- Ralston, John G. Manuf. and life of screen wire, 50, 382A.
- Rao, S. Ramachandra. Anomalous diamagnetism of Bi, 50, 417A; diamagnetism and colloidal state, 50, 217A.
- Ramsperger, Herman C. Greaseless and chemically inert valve for high vacua, 50, 878A.
- Randall, J. T., and Rooksby, H. P. Polish on metals, 50, 421A.
- Randolph, D. W. See Duffendack, O. S.
- Rankin, J. S. Further experiments on magnetostriction of cold-drawn wire, 50, 344A.
- Ranque, Georges, and Henry, Pierre. Detn. of character of viscous extension of metals at high temps., 50, 149A.
- Ransley, C., and Smithells, C. J. Paper: "Mechanical Properties of Nickel Wires," 49, 298.—Discussion: W. R. Barclay, 298; Maurice Cook, 298; R. S. Hutton, 299; W. J. P. Rohn, 299.—Reply to Discussion, 300.
- Rapoport, M. B. See Belaïow, A. I.
- Rappaport, J. New protection for metals, 50, 670A.
- Rassow, —. See Schöpf, —.
- Rassow, —, and Wolf, L. "High acid" Cr-plating process, 50, 681A.
- Ratcliffe, William James. Elected student member, 48, 315.
- Rathke, K. Universal testing machine for alternating endurance tests, 50, 43A.
- Raub, E. Faults in manuf. of Ag sheet. —II., 50, 701A; influence of O₂ on workability of technical Ag-Cu alloys, 50, 21A, 734A; surface improvement of Ag articles, 50, 706A; see also Moser, H.
- Raub, E., and Bihlmaier, K. Recovery of Ag from old Ag baths, 50, 633A.
- Raub, E., and Stein, W. Matt Ag-plating of brass, 50, 632A.
- Ravitz, Frederick. See Bonner, Walter D.
- Rawdon, Henry S. Cold-treating metallic alloys, 50, 353A; corrosion embrittlement of Duralumin. V.—Results of weather exposure tests, 50, 160A.
- Ray, Benoy Krishna Datta-. See Datta-Ray, Benoy Krishna.
- Ray, J. L. Investigation of materials to reduce steam turbine blade wear, 50, 185A.
- Ray, K. W. Properties of Sr-Sn alloys, 50, 21A.
- Ray, K. W., and Baker, W. N. Tarnish-resistant Ag alloys, 50, 667A.
- Rây, Priyadarajan, with Chattopadhyaya, Akshaya Kumar, and Bhaduri, Daya-

- nanda. Appn. of hexamethylenetetramine as an analytical reagent for detn. of metals of NH_4 group in presence of Mn, Ni, Co, and Mg, 50, 441A.
- Rayner, E. H. Report on electricity dept. of N.P.L. for 1931, 50, 523A.
- Re, Andrew V. Plant practice for Ni plating Al, 50, 248A, 759A; polishing Al, 50, 578A.
- Rechenberg, —. Colouring and oxidation of precious metals, 50, 504A.
- Rechenberg, H. Temp. regulator for melting furnaces, 50, 94A.
- Reddemann, Hermann. Heat conductivity, Wiedemann-Franz-Lorenz value, and thermoelect. power of Hg single crystals, 50, 595A.
- Redlich, O. See Abel, E.
- Rees, W. J. See Chesters, J. H.
- Rees, W. P. Discussion on "The Effect of Pressure on the Liberation of Gases from Metals (with Special Reference to Silver and Oxygen)," 49, 340, 343.
- Reeve, H. T. Vacuum casting of Pt, 50, 197A.
- Reggiani, M. See Lifschitz, I.
- Reggiori, A. See Krivobok, Vsevolod N.
- Regler, F. New method for complete X-ray investigation of fine structure of tech. materials, 50, 367A; new method for X-ray investigation of processes concerned in elastic and plastic strain of polycrystalline metals, 50, 445A; new standard method for precise detn. of lattice constants of polycrystalline materials, 50, 41A.
- Regmunt, Alex. Hot Ni solns. and low p_{H} , 50, 564A.
- Rehbinder, P. Decrease of sclerometric hardness due to adsorption of active substances at surface of contact. Sclerometry and physics of disperse systems, 50, 5A.
- Reich, A. Purification of wastes from metal working industries, 50, 278A.
- Reich-Rohrwig, Wilhelm. See Dworzak, Rudolph.
- Reichel, Erich. Electroanalytical detn. of Ga.—I., 50, 442A; practical electrolysis stand, 50, 624A.
- Reichel, Erich. With Beck, Werner. Prevention of anodic losses of Pt in electrolysis of alkaline solns. especially ammoniacal solns., 50, 674A.
- Reichert, C. Polarizing metallurgical microscope, 50, 91A.
- Reif, Wilhelm. Detn. of Cu in presence of Fe with salicylaloxime, 50, 442A.
- Reinders, W. Book: "Electrochemie," 50, 718A; see also Hamburger, L.
- Reinders, W., and Hamburger, L. Elect. conductivity and structure of thin metal films. I.—Present state of knowledge; general connection between elect. conductivity and structure, 50, 37A.
- Reinhard, C. E. See Anderson, E. A.
- Reinhardt, H. See Grubo, G.
- Reininger, H. Cost of working up Al brass, red brass, and bronze residues to new ingot metals, 50, 510A; modern welding and cutting requirements, 50, 54A; new methods of protecting metallic surfaces, 50, 84A.
- Reisch, Siegfried. New elect. apparatus for measurement of small displacements, 50, 40A.
- Renaud, M. F. 10th Foundry Congress, Paris, May 1931, 50, 708A.
- Renfro, G. E. See Hidnert, Peter.
- Rengade, E. Refractory hydraulic concrete and cement, 50, 398A.
- Repp, Otto. Lantal and Lantal riveting, 50, 695A.
- Resnikov, A. I. Book: "Technology of Manufacture of Hard Alloys and their Applications in Industry" (in Russian), 50, 527A.
- Reusch, J. See v. Wartenburg, —.
- Reysoner, L. H. Attempt to activate adsorbed Hg atoms by ultra-violet light, 50, 419A.
- Rezkov, M. See Muratch, N.
- Rhead, E. L. Discussion on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 310.
- Rheinboldt, H. Constitutional formulae of crystallized substances, 50, 37A.
- Rheinländer, P. Investigation and calculation of gas burners, 50, 582A.
- Rhines, Frederick N. See Mohl, Robert F.
- Rhoads, A. E., and Morken, Carl H. Appns. of rocking indirect arc elect. furnace, 50, 583A, 777A.
- Rhodes, F. H. Corrosion and other problems in use of metals at high temps., in chem. industries, 50, 531A.
- Rice, F. O., and Byck, H. T. Exchange of energy between organic molecules in molecular beam and metallic surfaces, 50, 71A.
- Richards, Edward S. Book: "Chromium Plating," 50, 464A (review); manuf. of phosphor-bronze strip and sheets, 50, 126A.
- Richards, E. T. Cu tubes for installation work, 50, 105A; melting of scrap brass in reverberatory furnaces, 50, 390A; modification of metallic surfaces, 50, 481A; plating of iron and steel castings with Cd, 50, 176A, 314A.
- Richards, P. J. Corrosion and conservation of buried metal structures, 50, 437A.
- Richards, W. Drawing and forming tools.—I., 50, 118A; small quantity prodn. methods in press work, 50, 260A.
- Richards, Wallace, and Evans, E. J. Hall effect and other phys. properties of Cu-Cd series of alloys, 50, 152A.
- Richards, William T. Resistance and development of crystal nuclei above melting temp., 50, 292A.
- Richardson, D. Welding facts and figures, LI, LII, 50, 114A; LIII, 50, 258A.
- Richardson, G. A. See Guthrie, E. S.
- Richardson, H. H. Aluminium, 50, 180A; development of Al as eng. material, 50, 180A.
- Richert, P. H. See Mrak, E. M.

- Richter, G. A. Slagging and fluxing of firebrick, 50, 516A.
- Rickard, T. A. Book: "Technical Writing," 50, 61A; *discussion on* "Some Bronze Specimens from the Royal Graves at Ur," 48, 105, 108.
- Riddell, G. S., and Liddell, Donald M. Rare metal developments in 1931, 50, 518A.
- Riddle, Frank H. Possibility of sillimanite minerals as refractories, 50, 200A (*discussion*), 273A.
- Rideal, Eric Keightley. *See* Praagh, Gordon van.
- Ridgway, Raymond R. Discussion on Canning's paper on "High-Speed Nickel Plating as Practised in England," 50, 97A; temp. measurements in commercial Si carbide furnaces, 50, 628A, 757A.
- Ridley, C. N. Scaling and corrosion of steam turbines, 50, 357A.
- Ridley, G. H. Use of Duralumin for mine skips and cages, 50, 687A.
- Ridpath, C. H. E. Al in wireless construction, 50, 687A.
- Rieckhoff, O. What works foreman should know about Widia, 50, 262A.
- Riehl, N. *See* Berthold, R.
- Riem, W. *See* Sachs, G.
- Ries, H. Report of A.F.A. cttee. on moulding sand research, 50, 509A.
- Ries, H., and Constant, G. D. Character of sand grains, 50, 128A.
- Ries, H., and Leo, H. V. Relation between shape and grain and strength of sand, 50, 268A, 509A.
- Riesenfeld-Hirschberg, Fr. Practical hints for recognition and judgment of Pb poisoning, 50, 521A.
- Rimarski, W. Book edited by: "Forschungsarbeiten auf dem Gebiete des Schweissens und Schneidens mittels Sauerstoff und Azetylen," 50, 718A.
- Rimarski, W., and Friedrich, H. Procedure for testing safety in working of acetylene equal-pressure plant, 50, 699A.
- Rimbach, Richard, and Michel, A. J. Book translated by: "Beryllium," 50, 462A (*review*).
- Rinck, E. Diagram of solidification of Cu-Na alloys, 50, 601A.
- Ripan, R. Sepn. of metals of third analytical group, 50, 444A.
- Rittenberg, David. *See* Roller, Paul S.
- Ritter, Friedrich. Melting of Ni-Cr alloys by use of H₂, 50, 508A.
- Ritter, G. *See* Küss, E.
- Roadhouse, C. L. *See* Guthrie, E. S.
- Robak, C. A. Al-Fe alloys, 50, 11A.
- Roberts, A. M. *See* Bailey, R. W.
- Robertson, A. A. Inspection of metals. Discussion of metallurgical testing.—I, II, 50, 679A.
- Robertson, T. Brailsford. Book: "The Spirit of Research," 50, 406A.
- Robertson, T. S. *See* Haigh, B. P.
- Robiette, A. G. Low-frequency induction furnace and its scope, 50, 131A.
- Robinson, A. H. A. Pamphlet: "Gold in Canada," 50, 652A.
- Robinson, R. A. *See* Britton, Hubert Thomas Stanley.
- Robinson, Russell G. *See* Mossman, Ralph W.
- Robson, C. R. "Carborundum" as refractory for melting standard Au alloys, 50, 199A.
- Rocaut, —. *See* Bassel, J.
- Rocha, H. J. *See* Tammann, G.
- Rockaert, F. *See* Dumas, A.
- Rodgers, C. E. *See* Hanson, D.
- Rodgers, J. H. Bottom-pouring hand ladle, 50, 127A.
- Rodgers, S. P. Annealing with gas in brass finishing plant, 50, 53A.
- Roebuck, J. R. Sensitive flexible thermostat, 50, 621A.
- Roehr, W. W. *See* Dubridge, Lee A.
- Roels, M. Cr-plating and its occupational risks, 50, 493A.
- Roeser, Wm. F., Caldwell, F. R., and Wensel, H. T. Freezing point of Pt, 50, 68A.
- Roetheli, B. E., and Cox, G. L. Prevention of corrosion of metals by Na₂Cr₂O₇ as affected by salt concns. and temp., 50, 358A.
- Roetheli, B. E., Cox, G. L., and Littreal, W. B. Effect of p_H on corrosion products and corrosion rate of Zn in oxygenated aqueous solns., 50, 302A.
- Rogers, B. A. *See* Seljesater, K. S.
- Rogers, W. E. Cr plating, 50, 629A.
- Rogers, W. W. Colouring of Sn, Sn-Pb, and Al foils, 50, 192A.
- v. Rohen, H. I. Chem. researches on refractories.—I-II, 50, 516A.
- Rohn, Wilhelm J. P. Corrosion-resistance of Cu, Sn-bronzes, and Sn in inorganic acids, 50, 608A; creep strength of metallic working materials at elevated temps. and arbitrary effect thereon of heat-treatment, 50, 558A; *discussion on* "Mechanical Properties of Nickel Wires," 49, 299; *discussion on* "Modern Works Plant and Equipment for the Hot-Working of Nickel and Nickel Alloys," 49, 409; *discussion on* "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 228; influence of gases on metals and influence of melting *in vacuo*, 50, 215A; reply to welcome to members from Overseas, 48, 1; some recent advances in rolling plant, 50, 117A.
- Rohrig, H. Electrolytic prodn. of protective oxide films on Al, 50, 29A; high quality light metal castings of secondary or virgin metal, 50, 506A; labs. of German aluminium industry, 50, 519A; pptn. hardening photomicrographs. Micrography of Al alloys, 50, 727A; *see also* Bohner, H.
- Rohrman, Frederick A. *See* Fink, Colin G.
- Rohrwig, Wilhelm Reich-. *See* Reich-Rohrwig, Wilhelm.
- Rojahn, Carl August. *See* Autenrieth, Wilhelm.

- Rolle, R. T. Book edited by: "Foundry-work and Metallurgy," 50, 141A, 591A; story of early metallurgy.—VIII., 50, 202A.
- Rolfs, E. M. Book: "Marlborough's German Technical Words and Phrases. English-German and German-English Dictionary," 50, 718A.
- Rolland, P. Le. Detn. of hardness, superficial and local, by means of pendulum, 50, 754A.
- Rollason, G. M., and Tour, Sam. Modern die-castings of Al, 50, 686A.
- Roller, Duane, Jordan, W. H., and Woodward, C. S. Some photoelect. properties of Hg films, 50, 212A.
- Roller, Paul S., and Rittenberg, David. Impervious crucibles of MgO, 50, 513A.
- Rolleston, Patrick William. Elected member, 48, 19.
- Rolschchikov, B. P. Mg and its alloys (Elektron), 50, 154A.
- Rolt, F. H., and Taylerson, C. O. Experimental machine for measuring fine wire, 50, 623A.
- Roman, Wadim. See Pietsch, Erich.
- Romanov, M. M. Rheostat materials from ternary alloys of Fe, Ni, and Mn, 50, 227A; see also Vehr, O. I.
- Romer, J. B. See Norton, F. H.
- Roncercy, E. Improvement of products and reduction of costs of manuf. in foundry, 50, 770A.
- Ronde, W. Manuf. of Al mining machines in chill moulds, 50, 330A.
- Roney, J. D., and Sumner, G. L. Use of cutting fluids, 50, 577A.
- Röntgen, P., and Braun, H. Behaviour of H₂ and N₂ towards Al, 50, 721A.
- Röntgen, P., and Buchkremer, R. Influence of Co on tech. Zn electrolysis, 50, 372A, 762A; principles of tech. Zn electrolysis, 50, 372A, 761A.
- Rooksby, H. P. See Randall, J. T.
- Ros, Mirko. Elected member, 48, 18; Pamphlet: "Ergebnisse der an der Eidg. Materialprüfungsanstalt in den Jahren 1930-31 durchgeführten Versuche mit autogen und elektrisch geschweissten Stäben," 50, 783A.
- Rose, G. M., Jr. Method for measuring very high values of resistance, 50, 677A.
- Rose, R. S. See Krivobok, Ysevolod N.
- Rosenberg, P. See Granjon, R.
- Rosenberg, Samuel J. Pamphlet: "The Resistance to Wear of Carbon Steels," 50, 61A; See French, H. J.
- Rosenbohm, E. See Jaeger, F. M.
- Rosenhain, Walter. Discussion on "Inter-crystalline Corrosion of Duralumin," 48, 181; discussion on "Magnesium Alloy Protection by Selenium and Other Coating Processes," 48, 160; discussion on "Mould Materials for Non-Ferrous Strip Ingot Casting," 49, 226, 230; discussion on "Note on the Interaction of Aluminium and Water Vapour," 48, 192; discussion on "On the Influence of Temperature on the Elastic Behaviour of Various Wrought Light Metal Alloys," 48, 209; discussion on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 311; discussion on "Some Attempts at Making Beryllium-Magnesium Alloys," and "Researches on Beryllium," 49, 388; discussion on "The Constitution of the Lead-Tin Alloys," 49, 283; discussion on "The Properties of Copper in Relation to Low Stresses. The Effect of Cold-Work, Heat-Treatment, and Composition," 48, 69; discussion on "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 42; ferrous and non-ferrous metals in foundry, 50, 769A; International Association for Testing Materials, 50, 778A; paper: "The Testing of Castings," 48, 273.—Discussion: J. B. Hoblyn, 286; G. Sachs and E. Scheuer, 286; A. H. Munday, 288; G. Shearer, 290; M. Rundle, 290; R. H. Stanger, 290; A. J. Murphy, 290; R. B. Deeley, 291; A. Wragg, 291; D. H. Ingall, 292; George Mortimer, 292; R. Genders, 293; H. W. G. Hignett, 294; A. R. Greatbatch, 295; Sir Henry Fowler, 295; Reply to Discussion, 295.—Correspondence: Albert Portevin, 296; E. Piwowarsky, 303; A. Crowther, 304; A. L. Norbury, 304; Vincent C. Faulkner, 305; H. A. Treadgold, 305; H. B. Weeks, 305; J. G. Pearce, 306.—Reply to Correspondence, 308; some principles of testing.—I., II., 50, 368A, 557A.
- Rosenthal, D. Increasing resistance to repeated impact of test-pieces assembled by welding, 50, 257A.
- Rosenthal, W. See Guertler, W.
- Roskill, O. W. Tunis plant of Coley process for Zn manuf., 50, 401A.
- Roskot, A. See Glazunov, A.
- Ross, N. L. See Brønsted, J. N.
- Ross, P. A. Double crystal X-ray spectrometer, 50, 624A.
- Rossi, C. Attempt to produce single-crystals of binary intermetallic compds., 50, 308A.
- Rossmann, Joseph. Book: "The Law of Patents for Chemists," 50, 283A; book: "The Psychology of the Inventor," 50, 137A; elect. furnace in Patent Office, 50, 198A, 777A; protection of Al by anodic treatment, 50, 305A.
- Rostosky, L. Granular Al hard solder, 50, 499A.
- Rostosky, L., and Lüder, E. Hard soldering of Al foil, 50, 324A; soldering of Al, 50, 257A.
- Rotery, G. Cadogan. X-ray crystal analysis, 50, 308A.
- Roth, Walther. Cooling of ingots in chill moulds, especially brass ingots in water-cooled moulds, 50, 772A.
- Rothery, W. Hume-. See Hume-Rothery, W.
- Rougeron, C. Construction combining steel and Al, 50, 320A.
- Rouse, E. W., Jr. Discussion on Schumacher and Ellis's Paper on "The De-

- oxidation of Copper with the Metallic Deoxidizers Calcium, Zinc, Beryllium, Barium, Strontium, and Lithium," 50, 771A; discussion on Skowronski and Mosher's paper on "Selenium and Tellurium," 50, 761A.
- Roux, Albert. See Guillet, Léon.
- Rowe, Francis W. Selection and treatment of gear materials, 50, 126A, 709A.
- Rowe, W. H. Cr plating, 50, 45A; some Cr-plating observations, 50, 95A.
- Rowland, Edward Geoffrey. Elected student member, 48, 315.
- Rowley, W. H. Oxide choice important in battery manuf., 50, 691A.
- Roy, Nereus H. See Moore, Herbert F.
- Royce, Harvey D., and Kahlenberg, Louis. Compn. of Mn-Ag alloys in relation to electrode potential of Mn, 50, 79A.
- Royer, M. B. See Fitterer, G. R.
- Rozorth, M. N. See Zechovitz, E. W.
- Rozov, B. I. See Lainer, W. I.
- Rubinstein, —. See Kotcharovsky, —.
- Rubor, V. Ni plating with supply current, 50, 759A.
- Rubtsov, N. N. Refractory materials in casting practice, 50, 273A.
- Ruck-Keene, Harry Arthur. Obituary notice, 49, 412.
- Rundle, M. Discussion on "The Testing of Castings," 48, 290.
- Runge, I. Detn. of cross-sections from diam. measurements, 50, 278A.
- Rupp, E. Deflection of electrons by adsorbed gaseous layers on metallic surfaces, 50, 747A; see also Boas, W.
- Rupp, E., and Hamann, G. Detn. of Bi as metal, 50, 442A.
- Rusinov, A. W. Work of rolling process, 50, 386A.
- Russ, E. Fr. Bright-annealing of Cu in elect. furnace, 50, 694A; elect. furnace installation in France, 50, 511A; elect. melting of Al, 50, 393A; new elect. furnaces, 50, 198A, 777A.
- Russell, A. S. See Groves, R.
- Russell, G. A. V. See Barclay, W. R.
- Russell, H. W. Effect of low temps. on metals and alloys, 50, 533A; see also Gillett, H. W.
- Russell, H. W., and Welcker, W. A., Jr. Apparatus for low-temp. endurance testing, 50, 313A; endurance and other properties at low temps., of some alloys for aircraft use, 50, 79A.
- Russell, Matthew. Pattern-making and its relations to design and foundry practice, 50, 775A.
- Russell, R. S. Manuf. of chem. sheet Pb, 50, 503A.
- Russina, —. Use of metals in textile industry, 50, 435A.
- Ruthardt, Konrad. See Gerlach, Walther.
- Rylands, Geoffrey K. Discussion on "Some Reactions Occurring in 'Hot-Dipping' Processes," 49, 183; discussion on "The Distortion of Wires on Passing Through a Draw Plate," 49, 201; wire galvanizing processes, 50, 31A, 235A, 306A.
- Ryschkewitsch, Eugen. Advancement of refractory oxides, 50, 584A; refractories for work at high temps., 50, 514A.
- Rysselberghe, Pierre J. van. Phase rule, 50, 478A; see also Guillissen, Joseph; Tesche, Elmer.
- Ryzhanov, S. G. Photoelect. properties of surface of K which has been exposed to action of atomic H, 50, 213A.
- Saccomani, L., and Verzillo, R. Oxy-acetylene welding of Cu fireboxes of locos., 50, 383A, 501A.
- Sachs, Georg. Discussion on "Inter-crystalline Corrosion of Duralumin," 48, 182; Discussion on "The Age-Hardening of Some Aluminium Alloys of High Purity," 48, 208; history of development and theory of age-hardenable rolling alloys of Al, 50, 727A; introduction to the technology of shaping without cutting, 50, 56A, 189A; mechanics of plastic deformation; rolling, extrusion, drawing, &c., 50, 189A; metallurgical problems in Al and Al alloys, 50, 1A; moves voto of thanks to Council, 48, 17; see also Ageew, N.; Burkhardt, A.; Caglioti, V.; Eisbein, W.; v. Göler (Frhr.); Kuntze, W.; Linicus, W.
- Sachs, G., with Riem, W. Researches on deep drawing, 50, 56A, 189A, 574A.
- Sachs, G., and Scheuer, E. Discussion on "The Testing of Castings," 48, 286.
- Sachs, G., and Weerts, J. Some X-ray measurements, 50, 364A.
- Sachs, G., with Eisbein, W., Kuntze, W., and Linicus, W. Book: "Spanlose Formung der Metalle," 50, 409A (review); shaping of metals without cutting, 50, 56A, 189A.
- Sachsenberg, E., and Osenberg, W. New methods of measurement for tool machines, 50, 367A.
- Sadler, Arthur Vernon. Elected member, 49, 15.
- Sadron, Ch. Ferromagnetic saturation of elements other than Fe, Ni, and Co, 50, 74A; ferromagnetism of alloys of Ni and Cr, 50, 733A.
- Saeger, C. M., Jr. See Gardner, H. B.
- Saeger, C. M., Jr., and Ash, E. J. Method for detg. vol. changes occurring in metals during casting, 50, 263A.
- Saeger, C. M., Jr., and Krynitsky, A. I. Practical method for studying running quality of metal cast in foundry moulds, 50, 124A, 329A.
- Sager, B. P. See Dix, E. H., Jr.
- Sager, G. F. See Dix, E. H., Jr.
- Saha, Haribola. See Das-Gupta, Pabitra Nath.
- St. John, H. M. Heat-treatment of brass, 50, 382A; influence of impurities in foundry brasses and bronzes, 50, 153A.
- Saitō, Kisuke. Internal stress in cold-rolled plates of various kinds of metals, 50, 729A.
- Saito, Seizo. Study of abrasion, 50, 243A.

- Saldau, P., and Zamotorin, M. Paper: "The Solubility of Aluminium in Magnesium in the Solid State at Different Temperatures," 48, 221.—*Correspondence*: E. Schmid, 226.—*Reply to Correspondence*: 226.
- v. Salis, —. Appn. of light metals in Swiss postal administration, 50, 179A.
- Salmang, Hermann, and Kaltonbach, Joseph. Researches on slagging of refractories. VI.—Researches on corrosive power and constitution of metallurgical slags, 50, 274A.
- Salmony, A. Advances in metal spraying processes, 50, 30A.
- Saltren-Willeit, C. G. Scientific control in steel and tinplate works, 50, 445A.
- Samans, Carl H. See Mathewson, C. H.; Phillips, Arthur.
- Samson, A. Lacquer and canning industry, 50, 439A.
- Sandell, Bert E. Effect of temp. on Charpy impact strength of die-casting alloys, 50, 477A.
- Sandelowsky, S. Arcatom welding process. Protective arc welding in dissociated H by Langmuir process, 50, 258A.
- Sanderman, L. A. See Utterback, C. L.
- Sanders, J. P. See Dobbins, J. T.
- Sandford, Ernest Jack. Elected student member, 48, 19.
- Sands, J. W. Invar, Elinvar, and related Fe-Ni alloys, 50, 664A.
- Sandstrom, C. O. Holding power and tightness of heat-exchanger tubes, 50, 603A.
- Sanfouche, A. See Portevin, A.
- Sanigar, Edward B. Electrodeposn. of Ag from sulphate, nitrate, fluoroborate, and fluoride solns., 50, 98A; see also Glasstone, Samuel.
- Santmyers, Reigart M. Lead, 50, 379A; pamphlet: "Barite and Barium Compounds. Part II.—Barium Products," 50, 137A; pamphlet: Cesium, Rubidium, and Lithium, 50, 137A; pamphlet: "Monazite, Thorium, and Cerium," 50, 137A; pamphlet: "Selenium and Tellurium," 50, 137A; see also Tyler, Paul M.
- Saran, Walther. Book: "Die Dauerfestigkeit der Leichtmetall-Sandguss-Legierungen," 50, 285A (review); light metal sand-castings; their static and vibration strength, 50, 726A.
- Sarjant, R. J. Refractory materials for induction furnace, (contd.), 50, 199A; see also Hadfield, (Sir) Robert.
- Sarkar, Pulin Bihari, and Datta-Ray, Benoy Krishna. New gravimetric method for estn. of Ni, Co, and Cd, 50, 554A.
- Sartori, E. See Carrasco, O.
- Sarnbin, N. See Molkow, L.
- Sarytchev, P. A. Theory of rate of cooling in pouring of non-ferrous metals and alloys, 50, 580A.
- Sasaki, Kumazo. See Fuseya, G.
- Sasaki, Kumazo, and Sokito, Sinkiti. Three crystalline modifications of electrolytic Cr, 50, 95A.
- Sauerwald, F. Metallurgy and general physico-chem. metallurgy at Technische Hochschule, Breslau, 50, 518A; strike of hammer in notched-bar impact test, 50, 244A; see also Friemann, E.; Radecker, W.
- Sauerwald, F., and Rakoski, F. Relation between effective flow tension and hardness, 50, 447A.
- Sauerwald, F., and Scholz, W. Time-law relating to annealing of worked (hammered) metals, 50, 110A.
- Sauerwald, F., with Scholz, W., and Globig, W. Time-law of softening of deformed metals, 50, 6A, 342A.
- Saunders, Walter M., Jr. See Saunders, Walter M.
- Saunders, Walter M., and Saunders, Walter M., Jr. Effect of heat on permeability of sea-coal facing sands and core sand mixtures, 50, 128A.
- Savelsberg, W. See Guertler, W.
- Saville, James Patrick. Elected student member, 48, 19.
- Sawjaginzev, O. I. Pamphlet: "Refining of Platinum and Related Metals" (in Russian), 50, 527A.
- Sawyer, C. B. Be—metal of future, 50, 657A; correspondence on "Researches on Beryllium," 49, 390.
- Sayles, B. J. Discussion on Pilling and Worthington's paper on "The Effect of Temperature on Some Properties of Iron-Chromium-Nickel Alloys," 50, 541A; heat enduring metals for furnace construction, 50, 763A.
- Sayre, M. F. Thermal effects in elastic and plastic deformation, 50, 468A, 658A.
- Scagliarini, G., and Pratosi, P. Vol. detn. of V and Cr (electrochem. notes on reduction activity of metallic Cu), 50, 444A.
- Scarpa, O. Existence of e.m.f.'s in closed metallic circuits of uniform temp., 50, 354A; pamphlet: "Pile Metalliche Isotermiche," 50, 459A; research on Italian Al, 50, 593A.
- Schaarwächter, C. Masked H₂ sickness of brittle Cu wires, 50, 722A.
- Schachenmeier, R. Prelim. wave-mechanics contribution to theory of superconduction, 50, 293A.
- Schachkeldian, A. Quant. analysis of Pb in its compds. and alloys by adsorption method, 50, 553A.
- Schachow, G. A. Book: "Metallurgy of Antimony" (in Russian), 50, 589A.
- Schacht, —. Cu pipes for water conduction, 50, 321A.
- Schaffert, Roland. Carborundum tool for cutting fine surfaces, 50, 575A; thermo-magnetic e.m.f.'s in transversely and longitudinally magnetized wires, 50, 423A; see also Kersten, H.
- Schafmeister, P., and Tofaute, W. Electrolytic corrosion of metals used in brewery, 50, 546A.

- Schalberov, N. A. Causes of change in certain properties of Manganin, 50, 473A.
- Schaposchnikov, N. A., and Syromiatnikov, R. R. Nikolaev's apparatus for detg. hardness of metals, 50, 245A.
- Schau, Alfred. Elect. annealing furnaces in metal working industries, 50, 271A, 512A.
- Schaumann, —. Al castings in elect. industry, 50, 102A.
- Scheel, Karl. See Berliner, Arnold.
- Scheermesser, —. Electrochem. detn. of small amts. of As, 50, 674A.
- Schefels, G. See Kofler, F.
- Scheibe, G. Special problems in spectrographic analysis of metals, 50, 39A.
- Scheibe, G., and Limmer, G. New spectral line photometer for visible region and its use in rapid analysis of alloys, 50, 364A.
- Scheibel, Harald. See Kremann, Robert.
- Scheil, Erich. Calculation of number and size distribution of spherical crystals in opaque bodies by means of circular sections on plane section, 50, 748A.
- Schenk, Dankwart. Measurements of damping in vibrating steel rods, 50, 92A.
- Scherber, P. Tech. development of Al in last 10 years, 50, 276A.
- Scherzer, H. Water-cooled ingot moulds — construction, uses, results, 50, 770A.
- Scheu, R. See Ludwik, P.
- Schench, W. A. Discussion on the paper by Do Wald on "Some Important Factors Controlling the Crystal Macrostructure of Copper Wire-Bars," 50, 552A.
- Scheuer, E. Coring, 50, 159A, 432A; formation of pipes and pores in castings, 50, 389A, 770A; see also Sachs, G.
- Schied, M. Melting of dense bronze to withstand high pressure, 50, 126A.
- Schikorr, G. Dissoln. of Al in alkaline soln., 50, 24A; see also Bauer, O.
- Schilov, E. A. Pneumatic apparatus for vol. analysis, 50, 488A.
- Schilow, N. A. Book: "Mass Analysis" (in Russian), 50, 62A.
- Schimpke, Paul. Book: "Die neueren Schweissverfahren," 50, 719A; Book: "Technologie der Maschinenbaustoffe," 50, 652A.
- Schindler, H. See Stoinko, E. G.
- Schischokin, W. P. Extrusion pressure of metals and alloys at different temps., 50, 573A.
- Schistchenko, S. J. See Pravdiuk, N. F.
- Schleede, A., and Wellmann, M. Structure of reaction products of alkali metals on graphite, 50, 616A.
- Schlesinger, Franz. Conveyor working in plating shop, 50, 250A.
- Schliwensky, O. American standards for foundry products, 50, 774A.
- Schlötter, Max. Throwing power of Cr baths, 50, 448A.
- Schlötter, Max., and Korpiun, Joachim. Throwing power of plating baths, 50, 634A.
- Schlumberger, C., Schlumberger, M., and Leonardon, E. G. Location and study of pipe line corrosion by surface elect. measurements, 50, 230A.
- Schlumberger, M. See Schlumberger, C.
- Schmauder, W. Insulation and embedding of Al fermentation vats, 50, 253A.
- Schmid, E. Correspondence on "The Solubility of Aluminium in Magnesium in the Solid State at Different Temperatures," 48, 226; dependence of plasticity of crystals on temp., 50, 531A; see also Boas, W.; Fahrhorst, W.; Goens, E.
- Schmid, E., and Seliger, H. Binary solid solns. of Mg. I.—Röntgenographic detn. of boundary of a solid soln. range of Al-Mg and Zn-Mg alloys. II.—Tensile tests on homogenized Al-Mg and Zn-Mg solid solns., 50, 732A.
- Schmid, E., and Siebel, G. Elongation of ternary Mg solid solns., 50, 732A; X-ray detn. of soly. of Mg in Al, 50, 12A, 553A; X-ray detn. of soly. of Mn in Mg, 50, 155A.
- Schmid, E., and Valouch, M. A. Fault-like translation of Zn crystals, 50, 342A.
- Schmid, E., and Wassermann, G. Influence of cold-stretching on plasticity at elevated temps., 50, 150A, 531A; is there a compd. Al₂Zn₃? 50, 615A; recrystn. of Al sheet, 50, 529A; rolling texture of Cd, 50, 35A, 553A.
- Schmid, E. with Goens, E., Siebel, G., Soliger, H. Contributions to physics and metallography of Mg. I.—Physical anisotropy of Mg crystals. II.—Plastic deformation of Mg crystals. III.—Mixed crystal formation in Mg, 50, 2A, 530A.
- Schmid, W. E. Meaning of texture of cold-deformed metals, 50, 617A.
- Schmidt, —. Prepn. and mech. properties of castings of bronze and brass, 50, 772A.
- Schmidt, E., and Tornow, E. Electrochem. detection of minute amts. of Hg, 50, 441A.
- Schmidt, Erich K. O. Corrosion by p.d. and its prevention, 50, 357A; detn. of adhesion of films to metal, 50, 359A; protection of Al and Al alloys against sea-water, 50, 304A; resistance to sea-water of electrodeposited coatings on Fe and light metals, 50, 742A; see also Schraivogel, K.
- Schmidt, J. Book: "Die Dämpfungsfähigkeit von Eisen und Nichtzeisone-metallen bei Dreh- und Biogeschwingungsbeanspruchung," 50, 464A (review).
- Schmidt, L., Devine, John M., and Wilhelm, C. J. Al for oil-lease tanks, 50, 686A; use of Al for oil lease tanks. II.—Lab. tests, 50, 300A.
- Schmidt, Walther. Technology and uses of Elektron, 50, 17A, 430A.
- Schmidt-Nielsen, S., and Flood, Arne. Generation of H₂ in tins, 50, 545A.
- Schmitt, —. Comparison of materials for overhead transmission cables according to present position of research, 50, 320A.
- Schmitt, F. O. See Schmitt, Otto H. A.

- Schmitt, H. Use of Al for switchgear, 50, 320A; use of Al in electrotechnics, 50, 102A, 496A.
- Schmitt, H., and Wulff, B. Appn. of Cupal for contact purposes, 50, 103A.
- Schmitt, Otto H. A., and Schmitt, F. O. Precision aperiodic thermostat, 50, 677A.
- Schmuckler, H. Testing of weld-seams, 50, 560A.
- Schneider, C. H. Discussion on the paper by De Wald on "Some Important Factors Controlling the Crystal Macrostructure of Copper Wire-Bars," 50, 552A.
- Schneider, Wm. G. Utilization of Cu and Cu alloys, 50, 376A.
- Schneiderhan, Kurt. Ferromagnetism and elect. properties. III.—Relation between increase of resistance and magnetization, 50, 218A.
- Schneidewind, Richard. Cr plating, 50, 630A; hardness of Cr as determined by Vickers-Brinell, Bierbaum, and Mohs' methods, 50, 67A, 338A, 722A; *see also* Urban, S. F.
- Schniedermann, Joseph. Photoelect. and thermolect. effects in hydrogenized Pd-Ag and Pd-Au alloys, 50, 542A.
- Schoeller, W. R., and Webb, H. W. Analytical chemistry of Ta, Cb, and their mineral associates. XX.—Sepn. of Sn from Ta and Cb, 50, 366A.
- Schoener, J. G. *See* Flocke, F. G.
- Schofield, T. H. *See* Grogan, J. D.
- Scholz, W. *See* Sauerwald, F.
- v. Schönebeck, —. Unfavourable position of manuf. article industry in non-ferrous metals and its cause, 50, 276A.
- Schönmann, G. *See* Grube, G.
- Schoonover, Irl C. *See* Furman, N. Howell.
- Schöpf, —. Beginnings of modern Cr plating, 50, 95A.
- Schöpf, —, and Rassow, —. Limits of rational current yield in electrodeposn. of Cr from chromic acid soln., 50, 448A.
- Schopper, W. Development of electrolytic methods of metal refining at Norddeutsche Affinerie in Hamburg, 50, 452A, 684A, 761A.
- Schoulgin, I. G. Elastic and plastic deformation of Duralumin sheets during bending, 50, 406A, 535A; investigation of Duralumin rivets, 50, 570A; investigation of Duralumin wire, 50, 208A, 702A.
- Schopagin, A. I. Book: "Special Brass (Manganese-Bronze)" (*in Russian*), 50, 459A.
- Schrader, E. Zn in element cell, 50, 435A.
- Schraivogel, K. Influence of shape of specimen on tensile strength and elongation of thin light metal sheets, 50, 679A.
- Schraivogel, K., and Schmidt, Erich K. O. Investigation of Duralplat sheets, 50, 424A, 728A.
- Schrempp, W. Measurement of elect. currents in, and insulation of, Al vats and storage tanks, 50, 228A.
- Schröder, O. *See* Hanemann, H.
- Schroeder, Alf. Precision working of metals, 50, 578A; tools for burnishing, 50, 769A.
- Schröter, K. Limiting domains of metallography, 50, 32A; *see also* Agte, C.; Fehsu, A.
- Schröter, W. Book: "Das Rhenium," 50, 411A (*review*).
- Schteinbok, D. I. Results of degree of fulfillment of non-ferrous indust. plan (U.S.S.R.) during first 9 months of 1931, 50, 647A.
- Schterbakov, I. G. Selection of electrolytic method of obtaining metallic Mg, 50, 251A.
- Schubert, Carl E. *See* Casberg, Carl H.
- Schuch, Karl. Black pickling of brass, 50, 262A; brown colouring of brass and Cu, 50, 262A; hygienic advantages of "Chromprotekt" coating layer for Cr-plating baths, 50, 681A; improvement of metal surfaces by plating with Ag or Au, 50, 249A; passive and dense Ni deposits "Panzer-Nickel," 50, 97A.
- Schuette, C. N. Quicksilver, 50, 640A.
- Schuettenhelm, H. B. *See* Bensley, A. F.
- Schulein, J. Discussion on Baker and Merkus' paper on "Lead and Lead-Antimony Anodes for Chromium Plating," 50, 758A; discussion on Stock's paper on "Beryllium," 50, 721A; discussion on Willink's paper on "Chromium Plating of Steel for Wear Resistance at High Temperatures and High Current Densities," 50, 759A.
- Schulek, E., and Dózsa, A. Iodometric detn. of Cr and its sepn. from Fe and Ni, 50, 167A.
- Schuler, —. Book: "Taschenbuch für wirtschaftliche Blechbearbeitung," 50, 783A.
- Schulgin. *See* Schoulgin.
- Schultin, A. I. *See* Solivanov, B. P.
- Schulz, E. H. "White rust" on galvanized material, 50, 609A.
- Schulz, E. H., Hartmann, F., and Kanz, A. Progress in field of refractories, 50, 646A.
- Schulz, E. H., with Creutzfeldt, —, Hauttmann, —, Holthaus, —, and Püngel, —. Chem. methods of testing Zn coatings on sheet metal and wires, 50, 30A.
- Schulze, A. Phenomena of transformation of so-called semi-conductors, 50, 8A; thermo-elect. behaviour of W, Mo and Ta, 50, 724A.
- Schulze, A. Günther-. *See* Günther-Schulze, A.
- Schumacher, Earle E. Nature of metals in relation to their properties, 50, 607A; *see also* McLean, D. A.
- Schumacher, Earle E., and Ellis, W. C. Decoxidation of Cu with metallic deoxidizers Ca, Zn, Be, Ba, Sr, and Li, 50, 580A, 771A; pamphlet: "Age-Hardening Copper-Titanium Alloys," 50, 208A.
- Schumilov, P. P. *See* Nasilov, D. N.
- Schummel, A. Prodn. of Cu tubes, 50, 55A.

- Schüppel, F., and Kästner, W. Autogenous and elect. welding of Monel metal, 50, 188A.
- Schurygin, M. Prodn. of malleable Ni, 50, 390A.
- Schuth, H. J. Practical tests on bearing metals made of various alloys, 50, 490A.
- Schütz, E. Book: "Praktische Berechnungen des Giessereimannes," 50, 406A.
- Schvetzov, V. M. Influence of C on transformation of Si in Dinas bricks, 50, 274A.
- Schwabe, Kurt. See Müller, Erich.
- Schwaibold, J. See Bleyer, B.
- Schwartz, N. See Dahl, O.
- Schwartz, O. Relation between tensile strength and hardness of metals, 50, 754A.
- Schwarz, Karl. Transport and transport potentials in metallic solns., 50, 353A, 354A.
- v. Schwarz, M. Appn. of polarization microscope in investigation of Cu alloys, 50, 439A; comparative experiments on light piston metals, 50, 472A; contribution to paper by Smekal "Diffusion in, and decomposition of, solid solns.," 50, 744A.
- v. Schwarz, M., and Summa, O. Is there a compd. Al_2Zn_3 ? 50, 615A.
- Schwarz, Otto. Book: "Die technischen Werkstoffe; ihre Eigenschaften, Fehler, und Prüfung," 50, 719A (review); Durosokop, 50, 369A.
- Schweitzer, A. Variations of dimensions produced by annealing cold-worked Cu, 50, 323A.
- Schweitzer, Eugen. See Gerlach, Walther.
- Schweitzow, W. N. Book: "Refractory Materials in Metallurgy" (in Russian), 50, 719A.
- Schwinning, W. Endurance strength of free-transmission wires, 50, 280A, 657A.
- Schwinning, W., and Dorgerloh, E. New testing machines for detn. of alternate bending strength for rotating bending, 50, 43A.
- Schwinning, W., and Strobel, E. Investigations of hot strength of light metals by static and alternating deformation, 50, 600A.
- Scott, E. Baliol. Tin, 50, 381A.
- Scott, Howard. High temp. characteristics of metals revealed by bending, 50, 243A; transformational characteristics of Fe-Mn alloys, 50, 226A.
- Scott, J. A. See Hensol, F. R.
- Scott, Murray Duncan. Elected member, 48, 18.
- Scott, R. B. See Silsbee, F. B.
- Scott, R. B., and Brickwedde, F. G. Automatic constant-level device for liquid air, 50, 622A.
- Scott, Wirt S. Al in elect. furnace, 50, 124A; temp. distribution in indust. furnaces, 50, 331A.
- Searle, Alfred B. Refractories for air-heating furnaces, 50, 645A; refractories for elect. furnaces, 50, 198A.
- Searle, H. E. See LaQue, F. L.; McKay, R. J.
- Sears, J. E., Jr. Report on metrology dept. of N.P.L. for 1931, 50, 524A.
- Sears, R. W. See Becker, J. A.
- Seass, Stewart. Thermocouples whose elements are longitudinally and transversely magnetized ferromagnetic substances, 50, 73A.
- Sebelien, John. Chem. compn. of prehistoric bronzes, 50, 349A.
- Sedo, Shoji. Electrolytic oxidation of Al and its appns., 50, 481A.
- Seely, Fred B. Book: "Advanced Mechanics of Materials," 50, 283A.
- Seemann, H. J. See Kussmann, A.
- Seewald, F. Measurements with glass-scratch elongation marker of German Research Institute for Aeronautics, 50, 171A.
- Séférian, D. Oxy-acetylene flame, 50, 114A, 699A.
- Seidl, F. Piezo-elect. detn. of tenacity of thin metal-, glass-, and quartz-fibres, 50, 446A.
- Seigle, J. Internal stresses existing in solids in absence of external forces, 50, 737A; machine-tools of heavy metallurgy, 50, 707A.
- Seigle, M. Dilatometric diagrams, 50, 489A.
- Seillan, M. New methods of improving refractories and of protecting them from soot, 50, 396A.
- Seith, W. See v. Hovesy, G.
- Seith, W., and Laird, F. G. Diffusion of metals in solid Pb.—I, 50, 723A.
- Sekito, Sinkiti. See Sasaki, Kumazo.
- Selander, K. George. Data for designing sheet Al parts, 50, 703A.
- Seliger, H. See Schmid, E.
- Seligman, Richard. Discussion on "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 43; induction of Sir Henry Fowler as new President, 48, 19; moves adoption of Report of Council, 48, 11; reply to vote of thanks to Council, 48, 17; reply to vote of thanks to Past-President, 48, 23; welcome to members from overseas, 48, 1.
- Seligman, Richard, and Williams, Percy. Paper: "Note on the Interaction of Aluminium and Water Vapour," 48, 187.—Discussion: D. Hanson, 191; T. Henry Turner, 192, 193; A. G. C. Gwyer, 192; W. Rosenhain, 192; I. D. Taverner, 193; Sir Henry Fowler, 194.—Reply to Discussion, 194.
- Selivanov, B. P. Chamotte refractories, 50, 274A.
- Selivanov, B. P., and Berg, P. P. Co-ordination of methods of testing moulding materials, 50, 269A.
- Selivanov, B. P., and Schultin, A. I. Sn in alloys of gun-metal type, 50, 225A.
- Seljakow, N. Mechanism of plasticity, 50, 597A.
- Seljesater, K. S., and Rogers, B. A. Magnetic and mech. hardness of dispersion-hardened Fe alloys, 50, 731A.
- Selvig, W. A. See Fieldner, A. C.

- Sem, M. O. Discussion on Walter's paper on "Electrothermic Zinc," 50, 100*A*; Söderberg electrode, oblong electrodes, and other new developments, 50, 332*A*.
- Serduke, James T., and Fisher, Thomas F. Hall effect in solid Hg, 50, 212*A*, 419*A*.
- Serebrovsky, A. P. Objectives of non-ferrous metal industry of U.S.S.R. and means of obtaining them, 50, 202*A*.
- Serger, H. Corrosion by fruit preserves, 50, 435*A*.
- Serres, A. Magnetic moment of tetra-valent Co, 50, 146*A*.
- Seton, Antony. Common uses of Ni, 50, 691*A*.
- Sévault, Armel. Special Al bronzes contg. Zn, Si, and Sb, 50, 350*A*.
- Seyler, Clarence A. Is classification or nomenclature of coal possible or desirable? 50, 644*A*.
- Shailor, F. E. Designing dies for difficult cup forming, 50, 767*A*.
- Sharpstone, D. C. Method of illustrating magnification of photomicrographs, 50, 362*A*.
- Shaw, Harry. Spinning a Monel metal piston, 50, 328*A*; W- and Ta-carbide cutting tools, 50, 575*A*.
- Shaw, J. Fraser, and Hurley, T. F. Smoke indicators for commercial use, 50, 643*A*.
- Shaw, P. E. On paper by Seth, Gulati, and Singh on e.m.f. between metals, 50, 72*A*.
- Shcherbakov, I. G., Karpachov, S. V., and Poltoratzkaya, O. I. Electrolytic extraction of Mg from carnallite, 50, 318*A*.
- Shed, A. C. See Smith, G. Frederick.
- Shearer, G. Discussion on "The Testing of Castings," 48, 290.
- Shelton, Stephen M. Fatigue testing of wire, 50, 313*A*.
- Sherman, Waldo L. Prodn. of Pb-encased cable, 50, 573*A*.
- Sherwood, T. K. Heat transmission to liquids flowing in pipes, 50, 690*A*.
- Shewan, A. J. S., and Atchison, R. Sand slinging practice in foundry, 50, 392*A*.
- Shih, J. W. Magnetic properties of Au-Fe alloys, 50, 153*A*.
- Shimizu, Yosomatsu. See Honda, Kōtarō.
- Shinohara, U. See Toriyama, Y.
- Shmanenkov, I. V. See Britzko, E. V.
- Shmelev, L. A. Method of detg. free Al₂O₃ in silicate mixtures and some of its appns. to study of clays, 50, 516*A*.
- Shochanov, G. K. Problems of priority for scientific and research work of "Zvetmetzoloto," 50, 203*A*.
- Shoemaker, R. J. Discussion on Darby's paper on "Properties of Bearing Metals at Normal and Elevated Temperatures," 50, 540*A*.
- Shorts, R. Perry. Pamphlet: "The Value of Research to Industry," 50, 283*A*.
- Shostrom, O. E. See Clough, Ray W.
- Shougin. See Shoulgin.
- Shubrocks, G. E. Elinvar hairsprings for watches, 50, 381*A*.
- Shultin, A. I. See Skortchelletti, W. W.
- Shumovskii, E. G. High-resistance bronzes and brasses, 50, 537*A*.
- Shutt, William James, and Stirrup, Vincent Jackson. Time factor in anodic passivation of metals, 50, 252*A*.
- Shvetzov, W. N. Brief characteristics of American refractories, 50, 778*A*.
- Sibilev, A. W. Appns. of Al and its alloys, 50, 566*A*; elect. furnaces, 50, 197*A*.
- Sidery, A. J., Lewis, K. G., and Sutton, H. Paper: "Intercrystalline Corrosion of Duralumin," 48, 165.—Discussion: W. Rosenhain, 181; Georg Sachs, 182; C. H. Desch, 183; H. Moore, 183.—Reply to Discussion, 184.—Correspondence: K. L. Meissner, 185.—Reply to Correspondence, 186.
- Siebe, P. See Elasnser, G.
- Siebel, Erich. Plastic shaping in calculation and experiment, 50, 703*A*.
- Siebel, Erich, and Fangmeier, Erich. Power consumption in extrusion and punching of metals, 50, 56*A*, 189*A*.
- Siebel, Erich, and Ulrich, M. Detn. of time-extension limit in endurance tests, 50, 626*A*.
- Siebel, G. See Schmid, E.
- Siebeneicher, H. Prodn. of Al₂O₃ films on Al and its alloys by anodic oxidation, 50, 359*A*.
- Siedler, Philipp. See Kaufmann, Waldemar.
- Siegbahn, Manne. Book: "Spektroskopie der Röntgenstrahlen," 50, 528*A* (review).
- Sieglers Schmidt, H. Detn. of Poisson's number μ of rolled Zn sheets, 50, 420*A*; thermal expansion of Zn, 50, 725*A*.
- Siegmund, Erwin. Appn. of light alloys in mining, 50, 566*A*.
- Siehttam, L. Is installation of pressure casting in casting of armatures advisable? 50, 123*A*.
- Sieverts, A., and Brünig, H. Adsorption of H₂ by Pt-black, 50, 69*A*; pptn. of Pt-black, 50, 69*A*.
- Silberstein, James. Babbitting large bearings, 50, 581*A*.
- Silsbee, F. B., Scott, R. B., Cook, J. W., and Brickwedde, F. G. Superconductivity with respect to a.c., 50, 293*A*.
- Simonov, P. F. Thoughts and wishes of editor for U.S.S.R. non-ferrous metal industry in 1932, 50, 779*A*.
- Simons, E. N. Cutting speeds and feeds, 50, 118*A*.
- Simons, J. H. Soln. of O₂ in Ag, 50, 290*A*.
- Sinclair, W. P. See Solberg, T. A.
- Singleton, W. See Attfield, G. C.
- Sirof, —. See Lemarchands, —.
- Sixtus, K. J. See Langmuir, Irving; Tonks, Lewi.
- Sixtus, K. J., and Tonks, L. Further experiments on propagation of large Barkhausen discontinuities, 50, 345*A*.
- Skaupy, F., and Kantorowicz, O. Behaviour of metal powders under pressure, 50, 5*A*.
- Skell, Fritz. See Heim, Ludwig.

- Skerl, J. G. A. Sands and sand testing, 50, 713*A*, 775*A*.
- Skerry, E. Proof stress, 50, 42*A*.
- Skinner, Charles K. Some causes of staining of strip brass in process, 50, 427*A*.
- Skobliekov, Nicolay Nicolayevich Ivano-. See Ivano-Skobliekov, Nicolay Nicolayevich.
- Skortchelletti, W. W., and Shultin, A. I. Apparatus for automatic registration of corrosion of metals with time, 50, 233*A*.
- Skowronski, S., and Mosher, M. A. Se and Te, 50, 636*A*, 761*A*.
- Slater, Harry Oliver. Elected member, 48, 316.
- Slater, John C. Molecular structure, 50, 617*A*.
- Sliowski, L. Macrography of bearing metals, 50, 237*A*.
- Slovan, H. A. Paper: "Researches on Beryllium," 49, 365.—*Discussion*: W. Rosenhain, 388; *Reply to Discussion*, 390.—*Correspondence*: C. B. Sawyer, 390.—*Reply to Correspondence*, 390.
- Slunder, Charles J. See Work, Harold K.
- Smart, C. F. Discussion on Boegehold and Johnson's paper on "Engineering Requirements in the Automotive Industry for Metals Operating at High Temperatures," 50, 532*A*.
- Smeeton, John A. Modern core making, 50, 391*A*.
- Smekal, Adolf. *Correspondence on* "The Behaviour of Single Crystals of Bismuth Subjected to Alternating Torsional Stresses," 48, 251; diffusion in, and decomposition of, solid solns., 50, 744*A*, 745*A*; importance for science of work of Kaiser-Wilhelm-Institut für Metallforschung, 50, 398*A*; importance of researches on non-metallic materials for understanding of tensile properties of metals, 50, 648*A*.
- Smethurst, H. H.-F. induction heating, 50, 393*A*.
- Smialowski, Michal. See Kuczynski, Tadeusz.
- Smiriagin, A. P. Investigation of bell-metal, 50, 264*A*; see also Dering, K. B.
- Smirnov, G. I. Analysis of Ni by method of Parr-Lindgren, 50, 365*A*.
- Smirnow, I. D. Book: "Analytical Chemistry. Qualitative Analysis" (in Russian), 50, 62*A*.
- Smirnow, I. D., and Stepanow, A. Book: "Analytical Chemistry. Qualitative Analysis" (in Russian), 50, 407*A*.
- Smit, Jacob H. Material for die-casting dies, 50, 712*A*; piercing holes in brass part, 50, 704*A*.
- Smith, Cyril Stanley. *Correspondence on* "The Thermal Conductivity of Some Non-Ferrous Alloys," 48, 45; X-ray study of Cu end of Cu-Ag system, 50, 35*A*.
- Smith, D. M. See Twyman, F.
- Smith, D. W. See Mathewson, C. H.
- Smith, David F., and Gudmundsen, Austin. Mechanism of combustion of individual particles of solid fuels, 50, 394*A*.
- Smith, E., and Velarde, C. A. Plating of cast Al and composite assemblies, 50, 633*A*.
- Smith, Ernest A. Discussion on "Liquation or 'Inverse Segregation' in the Silver-Copper Alloys," 49, 360; 14-carat standard legalized for Au wares, 50, 662*A*; Pt-Ir alloys.—I-II, 50, 20*A*; Ag solders in engineering construction, 50, 111*A*.
- Smith, F. A. See Weaver, E. R.
- Smith, (Sir) Frank E. Pamphlet: "Chemistry and the Community," 50, 208*A*; pamphlet: "Industrial Research and the Nation's Balance Sheet," 50, 783*A*.
- Smith, G. Frederick, and Bliss, H. H. Use of bromate in vol. analysis. V.—Internal indicators suitable for use in direct titrations, 50, 87*A*; VI.—Detn. of Fe using basic mercuric bromate, 50, 240*A*.
- Smith, G. Frederick, and Shoad, A. C. Sepn. and detn. of alkali metals using HClO₄. IV.—Perchlorate-chloroplatinate method for detn. of K in presence of Na, 50, 554*A*.
- Smith, G. Frederick, and Sullivan, U. R. New and simplified colorimeter especially designed for colorimetric estn. of Mn by periodate method, 50, 620*A*.
- Smith, G. M., and Southers, J. A. Depn. of Cu and brass from cyanide solns., 50, 631*A*; strength in shear of thin curved sheets of Alclad, 50, 728*A*.
- Smith, J. Kent. Cu-Be bronzes, 50, 224*A*, 426*A*.
- Smith, Karl F. Experiences with tungsten carbide tools, 50, 576*A*.
- Smith, Lewis A. Cr. General information, 50, 690*A*; pamphlet: "Manganese and Manganiferous Ores in 1929," 50, 138*A*.
- Smith, Lloyd P. Device for obtaining very small elect. currents of known magnitude, 50, 750*A*.
- Smith, Miles C. Use of Cu forms in shape welding, 50, 54*A*.
- Smith, S. W. Analytical procedure, 50, 166*A*; correct sampling of coinage alloys of Au and Ag for assay, 50, 239*A*; discussion on "Liquation or 'Inverse Segregation' in the Silver-Copper Alloys," 49, 360; silver coinage, 50, 156*A*; some factors of solidification in relation to metallurgical and geological problems, 50, 299*A*; supplementary plate of fine Au, 50, 204*A*.
- Smith, Walter. Calorizing and its appns., 50, 360*A*.
- Smith, Walter C. Bi, essential to fusible alloys, has additional possibilities, 50, 640*A*; use of Bi in metal forming, 50, 182*A*.
- Smith, Watson. Indust. appns. of pulverized fuel, 50, 272*A*.
- Smith, W. M. See Lilienfeld, J. E.
- Smithells, C. J. See Ransley, C. E.
- Smolnikov, B. Recovery of Sn from tin-plate scrap, 50, 521*A*.

- Smout, A. J. G. *Discussion on "Mould Materials for Non-Ferrous Strip Ingot Casting,"* 49, 228.
- Snelling, Ralph J. *Compn. of Ag solders,* 50, 695A.
- Snelling, R. W. *See* Thows, K. B.
- Snyder, C. J. *Brazing with self-fluxing alloy,* 50, 572A; *see also* Bassett, W. H., Jr.
- Sobel, Menahem Merlub-. *See* Merlub-Sobel, Menahem.
- Soddy, Frederick. *Relation between U and Ra,* 50, 70A.
- Soderholm, W. *Method for survey of industry,* 50, 280A.
- Solberg, T. A., and Sinclair, W. P. *Al foil heat insulation,* 50, 639A.
- Soller, Walter. *Graphical detn. of all crystal lattices from X-ray powder method data,* 50, 165A.
- Sommer, H. H. *See* Gobhardt, H. T.
- Sommer, Paul. *Testing of light metals for construction of cylinders,* 50, 527A, 726A.
- Sonnino, Carlo. *Elected member,* 48, 315.
- Sopwith, D. G. *See* Gough, H. J.
- Sorcos, Adolf. *Thermoelect. power of single-crystal Bi near m.p.,* 50, 657A.
- Sorrel, V. *See* Porrin, R.
- Sosnovsky, B. S. *Nomogram for detg. hardness of metals by means of Poldi-Hütto's apparatus,* 50, 491A.
- Soto, Mario. *Cannon cartridge manuf.,* 50, 707A.
- Souèges, René. *Book: "Analyse micro-graphique,"* 50, 138A.
- Soulier, Alfred. *Book: "Traité de galvanoplastie,"* 50, 783A.
- Southern, J. A. *See* Smith, G. M.
- Spacu, G., and Spacu, P. *New rapid method for detn. of Hg,* 50, 620A.
- Spacu, P. *See* Spacu, G.
- Späth, W. *Measurement and recognition of internal work absorption of materials,* 50, 753A.
- Speakman, J. C. *See* Glasstone, S.
- Speakman, J. D. *Hot-pressing of brass,* 50, 260A.
- Speller, F. N. *Discussion on Britton and Evans's paper on "The Distribution of Corrosion,"* 50, 741A.
- Speller, F. N., and Beatty, John D. *Pamphlet: "Third Progress Report of the Metallurgical Advisory Board to Carnegie Institute of Technology and United States Bureau of Mines, October 1928 to October 1931,"* 50, 407A.
- Spence, Robert J. *Grinding lubricant, cooling soln. grinding compd.,* 50, 579A.
- Spencer, William H. *See* Casberg, Carl H.
- Spengler, O., and Wigand, J. *Ability of Silumin to withstand corrosion in acid and alkaline soln.,* 50, 24A.
- Sperk, Charles. *Elected member,* 48, 18.
- Spiers, H. M. *Book edited by: "Technical Data on Fuel,"* 50, 783A.
- Spiller, E. *Departures from Lambert's cosine law in case of incandescent W,* 50, 3A.
- Spire, E. *See* Mathewson, C. H.
- Spowers, W. H., Jr. *Galvanizing,* 50, 31A; *new heat appn. for galvanizing,* 50, 612A; *wire galvanizing processes,* 50, 743A.
- Sprague, E. *Discussion on Ridgway's paper on "Temperature Measurements in Commercial Silicon Carbide Furnaces,"* 50, 757A.
- Spring, La Verne Ward. *Obituary notice,* 49, 412; *considerations and tests for cast materials for high-temp. high-pressure service,* 50, 81A, 737A; *report of etcec. III of A.S.T.M. on projects of work,* 50, 290A.
- Springer, J. F. *Modern Monel devices for textile uses,* 50, 569A.
- Springkämper, H. *Book: "Herstellung von Stahlformguss in der Martingesserei und Kleinbessemerei,"* 50, 459A.
- Spurr, Edward. *Elected member,* 49, 15.
- Srikantan, B. S. *Reactions at surface of hot metallic filaments. I.—Reaction $CO_2 + H_2 \rightleftharpoons H_2O + CO$ on Pt. II.—Reaction $H_2 + CO_2 \rightarrow CO + H_2O$ on Pt-Ir alloys, 50, 340A; III.—Reaction $CO_2 + H_2 \rightarrow H_2O + CO$ on Pt coated with barium oxida. IV.—Reaction $CO_2 + H_2 \rightarrow H_2O + CO$ on W and thoriated W,* 50, 341A.
- Ssacharow, G. L. *Book: "Fundamentals of Metallurgy" (in Russian),* 50, 334A.
- Sseliwanow, B. P. *Book: "Laboratory Investigation of Moulding Sands" (in Russian),* 50, 784A.
- v. Stackelberg, M. *Crystal structure of some carbides and borides,* 50, 33A.
- Staffehl, H. *Progress in construction of tank cars,* 50, 254A.
- Stahl, C. J. *Cr-plated glass moulds,* 50, 563A.
- Stanfield, G. *See* Hatfield, W. H.
- Stanger, R. H. *Discussion on "The Testing of Castings,"* 48, 290.
- Stanley, Frank A. *See* Colvin, Fred H.
- Stanley, G. H. *Findings of metallurgical interest in Zimbabwe ruins,* 50, 620A.
- Stanley, Robert C. *Despite low tonnage, Ni alloys and rating processes gained momentum in 1931,* 50, 381A.
- Stansfield, Alfred. *Corrosion of metals,* 50, 28A.
- Stanton, Thomas Ernest. *Adhesion and fatigue of thin coatings of white metal deposited on mild steel surfaces,* 50, 558A; *engineering research,* 50, 779A.
- Stark, B. W. *Book: "Theory of Metallurgical Processes," Part I (in Russian),* 50, 719A.
- Stark, W. E. *Theory of heat transfer,* 50, 129A.
- Starman, George H. *Effect of temp. on phys. and casting properties of No. 12 Al alloy,* 50, 424A.
- Stchepine, L. H. *Utilization of heat in metallurgical works,* 50, 401A.
- Stecie, E. W. R. *See* Mass, O.
- Stedman, C. K. *Mounting of thin metallic membranes under tension,* 50, 624A.

- Stefanovsky, W. F. Potentiometric estn. of Zn in non-ferrous alloys, 50, 566A.
- Steger, W. Advances in refractory field in England during 1931, 50, 585A; advances in refractory field in U.S.A. in 1931, 50, 513A.
- Stein, W. See Raub, E.
- Steinberg, S. S. Book: "Ferro-Alloys" (in Russian), 50, 784A.
- Steinbock, D. I. Outline of prodn. programme for non-ferrous metallurgy in 1932, 50, 400A.
- Steiner, K. See Meissner, W.
- Steinke, E. G., and Schindler, H. Destruction of Pb by ultra-radiation, 50, 289A.
- v. Steinwehr, H. Definition of sp. elect. resistance and its temp. coeff., 50, 217A.
- Stenbeck, Sten, and Westgren, A. X-ray analysis of Au-Sn alloys, 50, 36A.
- Stenzel, W., and Weerts, J. Lattice constants of Ag-Pd and Au-Pd alloys, 50, 86A, 553A; X-ray investigation of Au-Pt system, 50, 86A, 553A.
- Stepanow, A. See Smirnow, I. D.
- Stephen, R. A. New self-contained apparatus for crystal analysis, 50, 242A; testing of welds by X-rays, 50, 500A.
- Stephenson, A. See Hoddle, A.
- Stern, Marc. See Pierce, W. M.
- Sternberg, Wolfgang. Eloxal, new method of protecting surface of Al, 50, 30A; importance of Eloxal process for fire-brigade apparatus, 50, 567A.
- Sterner-Rainer, R. Appearance of small amounts of gases and oxides in Al and Al alloys, their detection and removal, 50, 209A, 417A, 657A.
- Steven, James. Elected Member of Council, 48, 17.
- Stevens, Harry. Elected student member, 49, 15.
- Stewardson, D. M. Corrosion in brewery plant, 50, 27A.
- Stewardson, H. See Mitchell, L. G.
- Stiers, C. J. Importance of water separator in sand-blasting, 50, 193A.
- Stierstadt, O. Changes in elect. conductivity of ferromagnetic materials in magnetic fields, 50, 534A; changes in resistance of ferromagnetic materials in magnetic fields, 50, 72A; new methods and results of plasticity and velocity of sound measurements in solid and liquid metals, 50, 368A; see also v. Hippel, A.
- Stillwell, C. W., and Audrieth, L. F. Glacial CH_3COOH as solvent for electrodepn. of metals. X-ray diffraction study of structure of deposits of As, Sb, and Bi, 50, 314A.
- Stirrat, A. Y. Carbon arc welding, 50, 385A, 459A.
- Stirrup, Vincent Jackson. See Shutt, William James.
- Stock, Alfred. Beryllium, 50, 337A, 529A, 721A.
- Stock, Alvin M. Temp. control of gas-fired furnaces as related to prodn. costs, 50, 130A.
- Stockdale, D. Correspondence on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 314; correspondence on "The Effect of Pressure on the Liberation of Gases from Metals (with Special Reference to Silver and Oxygen)," 49, 344; paper: "The Constitution of the Lead-Tin Alloys," 49, 267. Discussion: J. Carlund, 282; W. Rosenhain, 283; Miss M. L. V. Gayler, 284.—Reply to Discussion, 285.
- Stoewer, H. J. Small diam. drills for light alloys and other materials, 50, 260A.
- Stolzenberg, Otto. Book: "Technology of Metals. Part I" (in Russian), 50, 02A.
- Stoner, Edmund C. Temp. variations of intrinsic magnetization and associated properties of ferromagnetics, 50, 10A.
- Stott, Vaughan H. Voltage regulator for furnace control, 50, 171A.
- Stoughton, B. Discussion on Rhoads and Morcken's paper on "The Application of the Rocking Indirect Arc Electric Furnace," 50, 777A.
- Stout, Lawrence E. Significance of a quant. analysis of a plating soln., 50, 635A.
- Stout, Lawrence E., and Faust, Charles L. Electrodepn. of Fe, Cu, and Ni alloys from cyanide solns. I., 50, 248A; II.—Discussion of results obtained from cyanide solns., 50, 96A, 682A.
- Stout, Lawrence E., and Kowarsky, I. Barrel plating with Zn-Cd alloys, 50, 47A.
- Stout, Lawrence E., and Thummel, William G. Change in reflecting power caused by tarnishing electrodeposited Ag-Cd alloys, 50, 99A.
- Strain, A. J. Are cemented tungsten carbide tools economical? 50, 119A.
- Stranahan, R. P. Metal foil appns., 50, 185A.
- Stratta, R. See Losana, L.
- Straumanis, M. Growth of metal crystals in metal vapour, 50, 38A; II., 744A; theory of metal dissolution.—II., 50, 358A; III., 50, 437A; universal object table, 50, 623A; see also Centnerszwer, M.
- Straumanis, M., and Weerts, J. Transformations in Cu-Zn and Ag-Zn β alloys, I., 50, 158A.
- Strauss, Jerome, and Newell, H. D. Report of etces. A-10 of A.S.T.M. on Fe-Cr, Fe-Cr-Ni, and related alloys, 50, 295A.
- Streibinger, R. Appn. of microanalysis to examination of precious metal alloys, 50, 365A.
- Strelkov, Petr. G. Elect. method of thermal regulation for tubular furnaces, 50, 489A; see also Walter, Andrei K.
- Strobel, E. See Schwinning, W.
- Strong, John. Evaporation of Pt in vacuum from W filament, 50, 420A; radiation thermopiles, 50, 561A; see also Cartwright, C. Hawley.

- Strutt, M. J. O. H.-F. permeability of Fe and Ni, 50, 3A.
- Stuart, J. A. G. Heat-treatment of metals with special reference to steel, 50, 53A.
- Stuart, N. See Murison, C. A.; Randall, J. T.
- Stubbings, G. W. Arc welding with a.c., 50, 699A.
- Sturm, R. G., and others. Discussion on von Hoydekamp's paper on "Damping Capacity of Materials," 50, 299A.
- Styrie, O. G. Polishing, 50, 505A.
- Suhr, J. Foundry alloy A.P. 33, 50, 425A; heat-treatment of Al and Al alloys, 50, 382A.
- Suhr, M. F. Action of Cu in glass tanks, 50, 183A.
- Sullivan, U. R. See Smith, G. Fredrick.
- Summa, Oskar. X-ray contributions to problem of age-hardening, 50, 727A; see also Schwarz, M. von.
- Sumner, G. L. See Roney, J. D.
- Sutton, H. Discussion on "Magnesium Alloy Protection by Selenium and Other Coating Processes," 48, 159; discussion on "On the Influence of Temperature on the Elastic Behaviour of Various Wrought Light Metal Alloys," 48, 268; protection of metal parts of aircraft against corrosion, 50, 234A, 439A, 742A.; seconds adoption of Report of Council, 48, 12; see also Sidory, A. J.
- Swanger, W. H. Discussion on Van Dusen's paper on "Note on Applications of Data on the Thermal Conductivity of Metals," 50, 533A; properties of rare metals for high-temp. service, 50, 533A.
- Swanger, W. H., and Caldwell, Frank R. Special refractories for use at high temps., 50, 199A.
- Swanger, W. H., and France, R. D. Effect of Zn coatings on endurance properties of steel, 50, 482A, 670A.
- Swartz, Carl E. Failures of cast-iron kettles in Pb refining, 50, 401A.
- Swartz, Torrence Albert. Elected member, 48, 18.
- Sweeney, W. T. See Hidnert, P.
- Swickard, Andrew E. Metal-truss wing spars, 50, 566A.
- Swietoslowski, Wojciech. Book: "Chemija fizyczna. Tom IV.—Elektrochemija," 50, 283A.
- Sykes, W. P. Co-W system, 50, 601A; compn. limits of α - γ loop in Fe-W system, 50, 227A; discussion on Wyman and Kelley's paper on "Cemented Tungsten Carbide: A Study of the Action of the Cementing Material," 50, 23A.
- Syromiatnikov, R. R. See Goriatchev, A. P.; Schaposchnikov, N. A.
- Szmukler, Constantin. Development of uses of Al and its alloys in tawing and glove leather dyeing industries, 50, 373A, 685A.
- Tafel, Wilhelm. Book: "Laminage et trace des Cannelures des Cylindres de Laminoirs," 50, 63A.
- Tafel, Wilhelm, and Knoll, W. Broadening during rolling by aid of hypothesis of stress surfaces, 50, 189A.
- Taft, Robert, and Bingham, Oren R. Depn. of Cu in presence of gum arabic, 50, 682A; photographic study of growth of electrolytic striations, 50, 682A.
- Taiana, Luis. Elected member, 48, 18.
- Taillandier, C. Study of Al-Fe-Cr alloys, 50, 600A.
- Tainton, U. C. Discussion on Skowronski and Mosher's paper on "Selenium and Tellurium," 50, 701A.
- Takeda, Shuzō. Metallographic investigation of ternary alloys of Fe-C-W system. III.—Equilib. diagr. of Fe-W-C system, 50, 23A.
- Takei, Takesi. Equilib. diagr. of Fe-Mo-C system, 50, 297A.
- Talbot, Henry P. Book: "An Introductory Course of Quantitative Chemical Analysis," 50, 138A.
- Tamchyna, J. See Ettisch, G.
- Tamm, Ig. Theory of photoelect. effect in metals, 50, 220A.
- Tamman, Gustav. Book: "Lehrbuch der Metallkunde," 50, 589A (review); development of science of metals, 50, 778A; recovery from cold-work, 50, 725A; recrystn., 50, 33A; transformation of white tin into grey tin ("tinpest"), 50, 596A.
- Tammann, Gustav, and Boehme, W. Surface tension of Au lamellae, 50, 339A.
- Tammann, Gustav, and Brauns, E. Behaviour of Au and its alloys with Ag and Cu towards HNO₃ and H₂SO₄, 50, 739A.
- Tammann, Gustav, and Dreyer, K. L. Shape of growth of metal crystals, 50, 420A, 725A.
- Tammann, Gustav, and Kohlhaas, R. Method for detection of transformation of crystallized substances at high pressures, 50, 467A.
- Tammann, Gustav, and Noubert, F. Influence of foreign metals on rate of dissoln. of base metals, 50, 740A; recovery from cold-work, estimated according to change in hardness and rate of dissoln., 50, 597A.
- Tammann, Gustav, and Rocha, H. J. Alloys of Pd with Pt and Rh, 50, 80A; diffusion of 2 metals into one another with formation of an intermetallic compd., 50, 470A.
- Tanaka, Kenzo, and Kamio, Keiichi. Mech. twins in white Sn and Zn, 50, 290A.
- Tanaka, Yoshio. See Hirata, Hidoki.
- Tananaev, I. New method of vol. estn. of Zn in Zn white pigment and in tech. ZnCl₂, 50, 550A.
- Tananaev, N. A. Detection of Mg by coloured drop reactions, 50, 441A.
- Tananaev, N. A., and Kobzarenko, W. S. Vol. detn. of Pb ion by oxalate method

- by analysis of precipitate or of soln., 50, 488A.
- Tani, Yasumasa. Pamphlet: "On the Distribution of Crystal Lattice in a Stretched Aluminium Metal," 50, 784A.
- Tanis, H. E. See Coolidge, W. D.
- Tänzler, K. H. See Müller, Erich.
- T'ao, Shih-Chen, and Band, William. Some thermomagnetic effects in Ni and Fe, 50, 340A.
- Tapsell, H. J. Book: "Creep of Metals," 50, 335A (review); creep properties of metals, 50, 149A; seconds re-election of Auditors, 48, 19.
- Tapsell, H. J., and Johnson, A. E. Paper: "The Properties of Copper in Relation to Low Stresses. The Effect of Cold-Work, Heat-Treatment, and Composition. Part II.—Creep Tests at 300° C. and 350° C. of Arsenical Copper and Silver-Arsenical Copper," 48, 89.—Discussion: D. Hanson, 94; W. Rosenhain, 95; Sir Henry Fowler, 96.—Reply to Discussion, 96.
- Tapsell, H. J., Johnson, A. E., and Clenshaw, W. J. Properties of materials at high temps. VI.—Strength at high temps. of 6 steels and 3 non-ferrous metals, 50, 477A.
- Tartakowsky, P., and Kudrjawzewa, W. Secondary electronic emission from Ni and ferromagnetism, 50, 346A.
- Tartar, H. V., and Turinsky, Otto. Adsorption of AgNO₃ by finely divided Ag, 50, 290A.
- Taussig, K. Formation of "hard Zn" and Fe salts, 50, 611A; rapid corrosion testing, 50, 438A.
- Taverner, I. D. Discussion on "Note on the Interaction of Aluminium and Water Vapour," 48, 193.
- Taylorson, C. O. See Rolt, F. H.
- Taylor, A. S. Making die-castings for many purposes, 50, 123A; old miner shows foundry way to cut costs, 50, 129A.
- Taylor, F. Johnstone. Indust. furnace, 50, 510A.
- Taylor, Floyd T. Bullard-Dunn process of cleaning, 50, 121A.
- Taylor, G. I. Discussion on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 113.
- Taylor, G. I., and Quinney, H. Paper: "The Distortion of Wires on Passing Through a Draw Plate," 49, 187. Discussion: F. C. Thompson, 199; W. E. Alkins, 201; H. O'Neill, 201; G. K. Rylands, 201.—Reply to Discussion, 202; plastic distortion of metals, 50, 215A.
- Taylor, Hugh S., and McKinney, Paul V. Adsorption and activation of CO at Pd surfaces, 50, 3d.
- Taylor, Nelson W. Interatomic forces in binary alloys. Quant. detn. from thermodynamic data, 50, 737A; X-ray camera for powder diagrams at any temp., 50, 624A.
- Taylor, P. F. Pamphlet: "Welding Applied to Aircraft Construction," 50, 459A.
- Taylor, Robert. Elected student member, 48, 19.
- Tchelyshev, L. I. Removal of Sb, As, Ni, and Co from blister copper, 50, 204A.
- Tchernyshev, I. A. Properties of clay-bearing sands, 50, 274A.
- Tchlenov, A. G. Standardization of pulverized fuel installations for non-ferrous metallurgical plants, 50, 269A.
- Teeter, Charles Edwin. Free energies of formation and heats of formation of Tl amalgams, 50, 21A; heats of formation, and free energies of formation of Cd amalgams, 50, 12A.
- Temple, Samuel Geoffrey. Elected student member, 49, 15.
- Templin, R. L. Automatic autographic extensometer for use in tension tests of materials, 50, 490A; fittings control life of metallic tubing subjected to vibration, 50, 278A; new developments in machining Al, 50, 575A.
- Templin, R. L., and Hartmann, E. C. Pioneer tests of Al beams, 50, 313A.
- Templin, R. L., and Paul, D. A. Mech. properties of Al and Mg alloys at elevated temps., 50, 534A.
- Terada, Torahiko. Cracks and fissures—their phys. natures and significances, 50, 71A.
- Tesche, Elmer, and Rysselberghe, Pierre J. Van. New abnormality in properties of aqueous solns. of Cd salts, 50, 95A.
- Tesh, K. S., and Woodward, H. E. Detailed study of Na amalgam formation from NaCl solns., 50, 252A.
- Tewes, K. See Horn, H. A.
- Thain, W. A. Drop forgings and stampings, 50, 574A.
- Thalau, Karl. Problems of aerostatics, 50, 780A.
- Thaneiser, Gustav. See Dickens, Peter.
- Thénard, L. J. Book: "Lehrbuch der theoretischen und praktischen Chemie," 50, 407A.
- Thews, —. Pt-Ir alloys, 50, 351A.
- Thews, Edmund Richard. Al solders, 50, 695A; Be-Cu alloys, 50, 14A; fluxes in melting and remelting Al, 50, 263A; German silver alloys, 50, 15A; melting Al scrap and waste metal, 50, 264A; melting and casting of "Al-bronzes," 50, 125A; melting and casting of Mg alloys, 50, 507A, 709A; melting and casting Ni-Ag alloys, 50, 265A; melting secondary brass in reverberatory furnace, 50, 265A, 330A; P in red brass, 50, 773A; prodn. of Pb-Sn alloys from Sn slags, 50, 265A; thin-walled Ni-brass castings, 50, 330A; treatment of graphite crucibles in melting practice, 50, 331A; treatment of white metal ashes and residues contg. metal pills, 50, 521A.
- Thews, K. B., and Snelling, R. W. Study of melting plugs for boilers, 50, 426A.
- Thiel, A. Theory of metal dissoln.—II, 50, 358A.

- Thilo, Erich. Book: "Die Valenz der Metalle Fe, Co, Ni, Cu, und ihre Verbindungen mit Dioximen," 50, 652A.
- Thom, E. Use of Cu in construction work in Germany, 50, 497A.
- Thomas, Charles O. A. Dip-sampling cyanide gold bullion at Sons of Gwalia gold mine, Gwalia, Western Australia, 50, 87A.
- Thomas, F., and Westlinning, A. Riveting of veneered light metal sheets, 50, 571A.
- Thomas, Felix. Appn. of Al alloys in construction of railway wagons and tram cars, 50, 180A.
- Thomas, W. J. Al in welding electrodes for steel, 50, 326A.
- Thompson, F. C. Discussion on "The Distortion of Wires on Passing Through a Draw Plate," 49, 199; metals for engineer—"Al-bronze," 50, 426A; uses of Sn in modern industry, 50, 108A; white metal anti-friction alloys, 50, 179A; see also Greenwood, H.; Hutchinson, A. C. W.
- Thompson, F. C., and Dyson, H. G. Measurement of surface temp. of metals during drawing of wire, 50, 766A.
- Thompson, F. C., and Francis, E. L. Studies of wire-drawing process. II.—Factors involved in power requirements, 50, 386A.
- Thompson, G. W. Lead, 50, 520A.
- Thompson, J. J. See Willard, Hobart H.
- Thompson, Maurice Bernard. Elected member, 49, 15.
- Thompson, M. de Kay. Recent developments in Ni plating, 50, 315A; relations between H₂ overvoltage and compn. of brass, 50, 100A.
- Thompson, M. de Kay, and Charles, W. E. Effect of Hg in Zn(CN)₂ plating solns., 50, 99A, 249A.
- Thompson, M. de Kay, and Kaye, Albert L. Electrochem. oxidation of Mo in KOH solns., 50, 637A; H₂ and O₂ overvoltages on Ni-Fe alloys, 50, 252A.
- Thompson, M. de Kay, and Morrissey, R. B. Potentials of ferro-manganese and of ferro-chromium anodes at different c.d. and hydrate concentrations, 50, 637A.
- Thompson, M. R. Cyanides in metallurgy, 50, 249A.
- Thompson, P. F. Refractories and their uses, 50, 395A.
- Thomson, G. P. Diffraction of electrons by single crystals, 50, 38A; some recent experiments on electron diffraction, 50, 747A; see also Murison, C. A.
- Thomson, Henry N. Co detn. by fluoride-iodide method, 50, 442A.
- Thon, N. See Marie, C.
- Thon, N., and Pinilla, J. Depn. of brass from thiocyanate solns., 50, 248A.
- Thorn, James. Heat-resisting paint, 50, 643A.
- Thornton, A. G. Al in canning and allied industries, 50, 320A.
- Thornton, G. E. Giving weld a chance, 50, 500A.
- Thum, A. Life of metals, 50, 648A.
- Thum, A., and Buchmann, W. Book: "Dauerfestigkeit und Konstruktion," 50, 719A.
- Thum, A., and Oschatz, H. Regularities in fatigue fracture, 50, 342A, 725A.
- Thum, E. E. See Campbell, William.
- Thummel, William G. See Stout, Lawrence E.
- Thurow, Willy H. Book: "Englisch-Deutsches und Deutsch-Englisches Wörterbuch der Chemie. Teil II.—Deutsch-Englisch," 50, 334A.
- Thyssen, Henry. Organization, equipment, and operation of foundry lab., 50, 649A.
- Thyssen, Henry, and Dessent, J. Ternary diagr., 50, 665A.
- Tichonov, E. S. Investigation of mineral paints and lacquers for metal aircraft structure, 50, 484A.
- Tiemann, Hugh Philip. Obituary notice, 48, 344.
- Timm, Carl. Effective fighting of acetylene fires, 50, 699A.
- Timoshenko, S. Book: "Schwingungsprobleme der Technik," 50, 784A.
- Tindall, R. Grinding vee tool, 50, 262A.
- Tobias, Fred J. Pb-base and Sn-base alloys for die-castings, 50, 323A.
- Tocher, J. F. What is probable error? 50, 208A, 280A.
- Tödt, F. Pb poisoning from use of tap-water, 50, 379A.
- Tofaute, W. See Schafmeister, P.
- Tollert, Hans. Detn. of K by HReO₄, 50, 310A.
- Tomkins, J. A. Geometrical design of sci. instruments, 50, 445A.
- Tomsicek, E. C. Discussion on Cuthbertson's paper on "The Electrodeposition of Chromium and the Influence of the Cathodic Metal," 50, 95A.
- Tomula, E. S. New method for colorimetric detn. of Co alone and in presence of Ni, 50, 88A.
- Tonks, Lewi. Increase in surface area due to crystal faces developed by etching, 50, 7A; see also Sixtus, K. J.
- Tonks, Lewi, and Sixtus, K. J. Strain and magnetic orientation, 50, 664A.
- Tonn, W. See Vogel, R.
- Toriyama, Y., and Shinohara, U. Time lag of spark gaps.—VI.—VII., 50, 255A.
- Torn, Vladimir Oscar Hagen.—See Hagen-Torn, Vladimir Oscar.
- Tornow, E. See Schmidt, E.
- Torrey, Gilberta G. See Booth, Harold Simmons.
- Tour, Sam. Non-ferrous metallurgy in 1931, 50, 518A; see also Fuller, T. S.; Rollason, G. M.
- Townsend, Agnes. Temp. changes accompanying magnetization in Ni, 50, 723A.
- Townsend, J. R., and Greenall, C. H. Fatigue studies of telephone cable sheath alloys.—II., 50, 539A.

- Townshend, B., and Williams, E. R. Heat insulation developed for every purpose, 50, 639A.
- Trapp, Hans. Recent advances in field of refractories, 50, 395A.
- Travers, A. Coating of Fe with Ti, 50, 551A.
- Treadgold, H. A. Correspondence on "The Testing of Castings," 48, 305.
- Treadwell, F. P., and Hall, William T. Book: "Analytical Chemistry. Vol. I. Qualitative Analysis," 50, 460A; book: "Manuel de chimie analytique. Tome I. Analyse qualitative," 50, 283A.
- Treadwell, W. D. Book: "Tabellen zur qualitativen Analyse," 50, 460A; see also Treadwell, F. P.
- Treat, Burnett F. Efficiency effect of erosion of blades on radial flow turbine, 50, 739A.
- Trebler, H. A. See Wesley, W. A.
- Trebler, H. A., Wesley, W. A., and LaQuo, F. L. Corrosion of metals by milk. Effects of operating conditions on corrosion in various parts of pasteurizing equipment, 50, 435A, 668A.
- Trelease, Sam F., and Yule, Emma Sarepta. Book: "Preparation of Scientific and Technical Papers," 50, 208A.
- Tremlett, Henry Frederick. Elected student member, 48, 19.
- Trevis, B. Removal of dust from used moulding sands, 50, 641A.
- Trewin, C. S. Steel embrittlement given thorough investigation, 50, 743A; see also Hammel, V. F.
- Trillat, Jean J. Method of studying aircraft materials by X-rays, 50, 755A; new radiometallographic laboratory, 50, 39A.
- Trillat, Jean J., and v. Hirsch, Th. Diffraction of electrons in single crystals, 50, 440A, 660A.
- Trinks, W. Book: "Les fours industriels," 50, 460A; recent developments in gas burners, 50, 512A.
- Trofimov, I., and Korepanov, V. Welding and cutting metals with gasoline gas and O₂, 50, 325A.
- Troitzkaia, A. A. See Pamfilov, A. W.
- Troitzky, M. W. Argentometric detn. of Tl, 50, 555A; estn. of Tl by hypoidite method, 50, 555A; see also Bogorodsky, A. J.
- Tromel, Gerhard, and Wever, Franz. Use of Rh apparatus in investigation of oxide systems, 50, 622A.
- Tronstad, Leif. Film reactions. Study of corrosion of metals, 50, 741A.
- Trostel, L. J. See Bolo, G. A.
- Tschernomorski, M. L. See Urasow, G. G.
- Tullis, D. R. Correspondence on "On the Removal of Gases from Aluminium Alloys by Mixtures of Nitrogen and Volatile Chlorides," 49, 315.
- Tupholme, C. H. S. Corrosion-resisting metals for collieries, 50, 669A.
- Turinsky, Otto. See Tartar, H. V.
- Turnbull, A. D. Process of Zn coating steel wires, 50, 235A.
- Turner, Harry. Commercial heat-treating plant has 16 furnaces, 50, 53A.
- Turner, T. Discussion on "Liquation or 'Inverse Segregation' in the Silver-Copper Alloys," 49, 359; discussion on "The 'Fogging' of Nickel," 48, 139; discussion on "The Relative Corrosibilities of Ferrous and Non-Ferrous Metals and Alloys. Part III.—Final Report. The Results of Three Years' Exposure at Southampton Docks," 48, 116; moves adoption of Report of Honorary Treasurer, 48, 14; proposes vote of thanks to President for his address, 48, 24.
- Turner, T. Henry. Discussion on "Note on the Interaction of Aluminium and Water Vapour," 48, 192, 193.
- Turner, W. G. Elected Member of Council, 48, 17.
- Tuyn, W. Measurements on elect. resistance of some metals below boiling point of O₂, 50, 726A.
- Tuzi, Ziro. Stress distribution of angle plate, 50, 92A.
- Tweedside, Robert. Babbitt for machine repair work, 50, 373A.
- Twyman, F. Book compiled by: "The Practice of Spectrum Analysis with Hilger Instruments," 50, 63A.
- Twyman, F., and Hitchen, C. Stansfield. Estimation of metals in soln. by means of their spark spectra, 50, 39A.
- Twyman, F., and Smith, D. M. Book: "Wave-Length Tables for Spectrum Analysis," 50, 63A.
- Tyler, Paul M. Arsenic, 50, 375A; cobalt, 50, 640A; magnesite, 50, 138A, 379A; pamphlet: "Antimony in 1929," 50, 138A; pamphlet: "Bismuth," 50, 138A; pamphlet: "Hafnium," 50, 138A; pamphlet: "Mercury in 1929," 50, 138A; pamphlet: "Rhenium (and Masurium)," 50, 138A; Na and K metals, 50, 596A.
- Tyler, Paul M., and Petar, Alice V. Arsenic, 50, 375A, 689A.
- Tyler, Paul M., and Santmeyers, R. M. Pamphlet: "Platinum," 50, 138A.
- Tyndall, E. P. T., and Malmstrom, H. E. Magnetization of electrolytic Ni films, 50, 595A.
- Tyndall, E. P. T., and Wertzbaugher, W. W. Magnetic properties of thin Co films, electrolytically deposited, 50, 594A.
- Tyson, W. Al in motor-cycle industry, 50, 374A, 763A.
- Tyle, L. C. Elastic extension of metal wires under longitudinal stress, 50, 70A.
- Tzenter, —. See Kotcharovsky, —.
- Udy, Marvin, J. Chem. and phys. actions in Cr plating bath, 50, 629A; metallic coatings for steel, 50, 361A.
- Uéda, Tarô. Effect of torsion on density, dimensions, and elect. resistance of metals, 50, 659A.
- Ueki, Katsumi. Obituary notice, 48, 345.
- Uhl, P. W. Bronze analysis, 50, 673A.

- Ulrich, Carolyn F. Book edited by: "Periodicals Directory," 50, 784A.
- Ulrich, M. See Siebel, E.
- Umetu, Katsu. See Ishihara, Tomimatu.
- Umbau, John B. Pamphlet: "Consumption of Primary Tin in the United States During 1930," 50, 719A.
- Ungar, R. M. Al and chloride of S, 50, 354A.
- Uno, Denzo. Artificial corrosion of Japanese special alloys, 50, 768A; investigations of hardening of non-ferrous metal alloys, 50, 736A; see also Haas, Max.
- Uphergrove, Clair. Bearing properties affected by variations in compn., 50, 734A.
- Uphergrove, Clair, and Herzig, A. J. Effects of products of combustion on shrinkage of metal in brass industry, 50, 196A.
- Urasow, G. G. Book: "Materials for the Metallurgy of the Non-Ferrous Metals" (in Russian), 50, 527A.
- Urasow, G. G., and Tschernomorski, M. L. Book: "Metallurgy of Nickel" (in Russian), 50, 63A.
- Urasow, G. G., Pogodin, S. A., and Zomoruev, G. M. Physico-chem. investigation of ternary alloys of Al, Si, and Cu, 50, 661A.
- Urban, S. F., and Schneidewind, Richard. Dry polishing will retain graphite and inclusions, 50, 671A.
- Urhart, J. W. Elect. spot welder, 50, 115A.
- Uspensky, S. P. Corrosion of metals caused by inflammable liquids under storage conditions, 50, 231A.
- Utterback, C. L., and Sanderman, L. A. Thermal properties of Ta, 50, 420A.
- Vacher, H. C. See Hidnert, Peter.
- Vaders, E. Tombasil, 50, 639A.
- Valentine, A. L. Machine tapping speeds, 50, 260A.
- Valouch, M. A. Rolling texture of Zn, 50, 363A; see also Schmid, E.
- van Alphen. See Alphen.
- van Aubel. See Aubel.
- van den Ende. See Ende.
- van der Burg. See Burg.
- Van Dusen. See Dusen.
- van Geel. See Geel.
- Van Giesen. See Giesen.
- Van Horn, Kent R. See Fink, William L.
- Vanick, J. S. Discussion on Rhoads and Morken's paper on "The Application of the Rocking Indirect Arc Electric Furnace," 50, 777A.
- Vaniukov, W. A., Muratch, N. N., and Genvarsy, A. P. Attempt to systematize method of melting fine precipitated Sn powders, 50, 277A.
- van Leuven. See Leuven.
- van Liempt. See Liempt.
- van Peype. See Peype.
- van Praagh. See Praagh.
- van Rysselberghe. See Rysselberghe.
- Van Vleck. See Vleck.
- Varma, Mulkh Raj. See Mathur, R. N.
- Vassilieva, E. W. Fractional reaction for Mg, 50, 366A.
- Vaughan, A. H. Heat-treating and annealing non-ferrous metals, 50, 612A.
- Vaupel, F. See Grube, G.
- Vehr, O. I., and Romanov, M. M. Effect of phosphoric acid on alloys (prelim. communication), 50, 231A.
- Velarde, C. A. See Smith, E.
- Velculesco, A. J. See Atanasiu, J. A.
- Vella-Ferrand, A. Light metal works, 50, 116A.
- Vér, Tibor. See Moore, Herbert F.
- Verleger, H. Hall effect in Bi single crystals, 50, 593A.
- Vernon, W. H. J. Artificial patina on Cu, 50, 388A; correspondence on "The Relative Corrosibilities of Ferrous and Non-Ferrous Metals and Alloys. Part III.—Final Report. The Results of Three Years' Exposure at Southampton Docks," 48, 118; discussion on "Atmospheric Action as a Factor in Fatigue of Metals," 49, 112; discussion on his paper on "A Laboratory Study of the Atmospheric Corrosion of Metals," 50, 28A; discussion on his paper on "An Air Thermostat for Quantitative Laboratory Work," 50, 28A; discussion on "The Relative Corrosibilities of Ferrous and Non-Ferrous Metals and Alloys. Part III.—Final Report. The Results of Three Years' Exposure at Southampton Docks," 48, 116; paper: "The 'Fogging' of Nickel," 48, 121.—Discussion: U. R. Evans, 136; J. S. Owens, 137; W. R. Barclay, 138; R. S. Hutton, 138; T. Turner, 139.—Reply to Discussion, 139.—Correspondence: J. Newton Friend, 140; J. C. Hudson, 141; C. H. M. Jenkins, 141; A. R. Martin, 142.—Reply to Correspondence, 143; paper: "The Open-Air Corrosion of Copper. Part III.—Artificial Production of Green Patina," 49, 153.—Discussion: A. N. Cathcart, 161; J. C. Hudson, 163.—Reply to Discussion, 163.—Correspondence: John R. Freeman, Jr., 164.—Reply to Correspondence, 166.
- Vernon, W. H. J., and Jordan, L. A. Apparatus for measuring thermal conductivity of metals in form of wire or ribbons, 50, 557A; elastic limit of metals, 50, 558A; phenomenon of fatigue in metals; special methods of detg. fatigue limit, 50, 43A; relation between corrosion and paint, 50, 236A.
- Vernotte, Pierre, and Jeutroy, A. Simple method of measuring sp. heat of solid body at ordinary temp. Appn. to Be, 50, 721A.
- Veron, —. Subsidiary heat transference origin of serious errors in pyrometry, 50, 561A.
- Versell, Herman. Elected member, 48, 18.
- Verzillo, R. See Saccomani, L.
- Veszelka, J. Al-Sb alloys, 50, 424A.
- Viall, S. H. Comparative values of heat in coal, oil, and gas, 50, 642A.

- Vicovský, V. See Jilok, A.
- Vieböck, F., and Brecher, C. Vol. detn. of Al, 50, 240A.
- Viez, H. Permeability of foundry sands, 50, 641A.
- Vincent, James. Designer has wide choice of materials, 50, 693A.
- Vinogradov, A. P. Colorimetric method for detn. of V with phosphotungstic acid, 50, 556A.
- Vishtynsky, I. See Barbanel, R.
- Vladimirov, I. S. Rapid method for detn. of K, 50, 169A.
- Vleck, J. H. Van. Book: "The Theory of Electric and Magnetic Susceptibilities," 50, 719A.
- Vogel, F. Working-up Pb refining liquors, 50, 648A.
- Vogel, O. See Bauer, O.
- Vogel, Rudolf, and Martin, Erich. Tornary system Fe-C-V, 50, 606A.
- Vogel, Rudolf, and Tonn, W. Transformation point of Zr, 50, 70A.
- Vogrin, Alfred. See Kremann, Robert.
- Vogt, E. Atomic state in metal lattices from magnetic measurements, 50, 37A; dia- and para-magnetism in metallic solid solns., 50, 665A; pamphlet: "Magnotismus der metallischen Elemente," 50, 652A.
- Voieikov, D. D. Use of magnesite in furnaces fusing Cu in Krassny Vyborjets works, 50, 199A.
- Volkova, K. Magnetic permeability of thin Fe wires and of Fe compds. in H.-F. weak fields, 50, 344A.
- Vollenbruck, O. See Bauer, O.
- von Auwers. See Auwers.
- von Conrady. See Conrady.
- von Eberhard. See Eberhard.
- von Ende. See Endo.
- von Forster. See Forster.
- von Girssewald. See Girssewald.
- von Hagen. See Hagen.
- von Halban. See Halban.
- von Hevesy. See Hevesy.
- von Heydekampf. See Heydekampf.
- von Hippel. See Hippel.
- von Hirsch. See Hirsch.
- von Hoyer. See Hoyer.
- von Meyer. See Meyer.
- von Philippovich. See Philippovich.
- von Rohen. See Rohen.
- von Salis. See Salis.
- von Schönebeck. See Schönebeck.
- von Schwarz. See Schwarz.
- von Stackelberg. See Stackelberg.
- von Steinwehr. See Steinwehr.
- von Terzaghi. See Terzaghi.
- von Wartenburg. See Wartenburg.
- von Zeerleder. See Zeerleder.
- von Zur-Mühlen. See Zur-Mühlen.
- Vorobiev, A. A. See Kuznetsov, W. D.
- Voronin, A. Al and its welding, 50, 324A.
- Voronov, S. M., Belov, A. F., and Levitch, M. E. Prod'n. of Elektron, 50, 507A.
- Voskresensky, W. Organization and development of prod'n. of galvanometers for thermo-elect. pyrometers at Kulakov Works in Leningrad, 50, 757A.
- Vowles, Hugh P., and Vowles, Margaret W. Book: "The Quest for Power from Pre-historic Times to the Present Day," 50, 413A (review).
- Vowles, Margaret W. See Vowles, Hugh P.
- Waché, —. Book: "Contribution à l'étude de la dissolution de l'aluminium et de ses alliages dans les acides," 50, 283A.
- Wagener, G. Heat-transfer to non-ferrous metals in annealing furnace, 50, 456A.
- Wagner, C. Light metal in construction of railway wagons for traffic in city of Berlin, 50, 179A.
- Wagner, Carl. Theory of arranged mixed phases. II.—Mechanism of diffusion, 50, 38A.
- Wagner, Carl, and Engelhardt, Guntor. Thermodynamic activities of binary alloys, 50, 543A.
- Wagstaff, W. R. Ag in Pb bullion. Detn. by vol. method, 50, 310A.
- Wahl, —. Valve wear and its prevention, 50, 739A.
- Wahi, A. M. See Nádai, A.
- Wahlin, H. B. Emission of positive ions from Cu and Ag, 50, 76A; omission of positive ions from metals, 50, 219A.
- Wake, R. Power and hand press prodn. Method of appn., tool design, and construction, 50, 574A.
- Waki, Shojiro. See Aoki, Nobutosi.
- Wald, L. H. de. Discussion on his paper on "Some Important Factors Controlling the Crystal Macrostructure of Copper Wire-Bars," 50, 552A.
- Waldron, Leo J. See Groesbeck, Edward C.
- Walkup, H. H., and Groesbeck, E. C. Some factors affecting Preece test for Zn coatings, 50, 481A, 670A.
- Wallace, E. V. D. Degreasing metals by vapour process, 50, 193A, 328A.
- Wallace, W. M. Water solubles for cutting or drawing, 50, 116A.
- Walsh, D. F. See Hanley, H. R.
- Walter, A. Electrothermic Zn, 50, 100A.
- Walter, Andrei K., and Strelok, Petr. Potentiometric thermoregulator, 50, 489A.
- Walter, C. M. Indust. uses of town's gas, 50, 271A; town's gas as fuel, 50, 271A; use of gas as fuel in industry, 50, 642A.
- Walters, Francis M., Jr. Alloys of Fe, Mn, and C. I.—Prepn. of alloys, 50, 78A, 296A, 732A; see also Gensamer, M.
- Walters, Francis M., Jr., and Gensamer, M. Alloys of Fe, Mn, and C. IV.—Dilatometric study of Fe-Mn binary alloys, 50, 79A, 297A, 733A.
- Walters, Francis M., Jr., and Wells, Cyril. Alloys of Fe, Mn, and C. II.—Thermal analysis of binary alloys, 50, 78A, 297A, 732A.
- Ward, A. F. H. Sorption of H₂ on Cu. I.—Adsorption and heat of adsorption. II.—Rate of soln., 50, 1A.

- Ward, A. M. *See* Mitchell, A. D.
- Warden, A. A. Aerated water plant for use on shipboard, 50, 738.1.
- Ware, John C. Book: "Analytical Chemistry," 50, 139A.
- Waring, W. S. N. *See* Bain, E. C.
- Warner, A. H. Detn. of photoelect. threshold for W by Fowler's method, 50, 214A.
- Warner, J. C. *See* Flowers, L. C.; Wells, Cyril.
- Warner, W. E. Annealing Monel metal, 50, 570A; Cr-plating brass, 50, 361A; cleaning bearing shells preparatory to re-lining, 50, 581A; failure of boiler fusible plugs, 50, 229A; good welding on Monel metal, 50, 113A; grinding Al alloys, 50, 121A; joints in heavy elect. conductors, 50, 110A; machining Monel metal, 50, 118A; pickling soln. for Monel metal, 50, 708A; preparing Al alloy die-castings for plating, 50, 48A; preparing work for polished Cr plating, 50, 95A; reconditioning die-casting machine, 50, 712A; silver soldering, 50, 111A; spot-welding sheet metal, 50, 115A; tapping Al, 50, 118A, 704A; uniting Babbitt lining and shell, 50, 085A.
- v. Wartenburg, —, Werth, —, and Rousch, J. Melting point of Ir, 50, 289A.
- Warwick, C. L. *See* Lawson, T. R.; Moore, H. F.
- Wasilewski, L., and Mantel, S. Appn. of chiolite to electrolysis of Al_2O_3 . I.—Fusion temp. of system alumina-cryolite-chiolite, 50, 317A.
- Wassermann, G. Breaking strength and cleavability of Bi and Sb crystals, 50, 520A; heating device for X-ray specimens, 50, 246A; transformation of Co, 50, 338A; *see also* Hengstenberg, J.; Schmid, E.
- Waterman, A. T. Equilib. distribution of potential and of electrons outside surface of conductor, 50, 72A.
- Watson, J. H. Paper: "Liquation or 'Inverse Segregation' in the Silver-Copper Alloys," 49, 347.—*Discussion*: T. Turner, 359; S. W. Smith, 360; E. A. Smith, 360; R. Genders, 361.—*Reply to Discussion*, 361.
- Watson, William Edward. Obituary notice, 48, 345.
- Watts, A. S., and King, R. M. Relative heat transfer through refractories, 50, 395A.
- Watts, Oliver P. Discussion on Cuthbertson's paper on "The Electrodeposition of Chromium and the Influence of the Cathodic Metal," 50, 95A; discussion on Fink and Jones' paper on "The Electrodeposition of Tungsten from Aqueous Solutions," 50, 99A; discussion on Stout and Thummel's paper on "The Change in Reflecting Power Caused by Tarnishing Electrodeposited Silver-Cadmium Alloys," 50, 99A; discussion on Thompson and Charles's paper on "The Effect of Mercury in Zinc Cyanide Plating Solutions," 50, 249A; progress of the hot Ni soln., 50, 97A.
- Watts, W. Marshall. Pamphlet: "Index of Spectra. Appendix A.A.: Krypton, Lanthanum, Lead, Lithium, Magnesium, and Compounds," 50, 63A.
- Wawrzyniok, —. New method for detg. corrosion of metal sheets by motor fuels, 50, 303A.
- Wean, R. J. Elect. induction roll heaters, 50, 327A.
- Weaver, E. R., Eiseman, J. H., and Smith, F. A. Gas-burner design, 50, 130A.
- Weaver, Frances D. Cr plating, 50, 371A.
- Webb, C. E. *See* Adcock, Frank.
- Webb, H. W. *See* Schoeller, W. R.
- Webber, H. M. Atmosphere of elect. furnaces is controlled by Electrolene producer, 50, 131A; Cu brazing in controlled atmosphere furnaces, 50, 186A, 499A.
- Weber, W. *See* Grube, G.
- Weber, W. F. Book: "Metallurgy of Copper" (*in Russian*), 50, 589A.
- Webster, W. L. *See* Kapitza, P.
- Wedekind, E. Magnesia apparatus for qual. chem. reactions, 50, 364A.
- Weeks, H. B. Elected Member of Council, 48, 17; *correspondence on* "The Testing of Castings," 48, 305; seconds adoption of Report of Honorary Treasurer, 48, 14.
- Weerts, J. Precision X-ray method in alloy research, 50, 486A; *see also* Sachs, G.; Stenzel, W.; Straumanis, M.
- Weese, E. Practice of Cu welding, 50, 257A, 697A.
- Wegner, K. H. As in ternary Pb-base bearing alloys, 50, 429A.
- Wegner, G. *See* Blanc, M. Le.
- Wehrle, Geo. Gas-pressure regulation, 50, 130A.
- Weidenfeld, L. *See* Feigl, F.
- Weidlein, Edward R., and Hamor, William A. Book: "Science in Action," 50, 413A (*review*).
- Weigle, Otis Melvin. *See* Barton, Edward.
- Weil, Léopold. *See* Guillot, Léon.
- Weiner, Robert. Direct prodn. of Mg-Al alloys by electrolysis of molten material, 50, 372A.
- Weisberg, L., and Greenwald, W. F. Discussion on Baker and Merkus' paper on "Lead and Lead-Antimony Anodes for Chromium Plating," 50, 758A.
- Weiss, L. Developments in non-ferrous metal rolling mills, 50, 259A; rates of change of shape during plastic deformation and their relative magnitudes, 50, 502A.
- Wejnarth, Axel. Book: "Beiträge zur Kenntnis der Elektrothermischen Zinkgewinnungsmethode," 50, 139A.
- Welch, George B. Additional experimental verifications of Fowler's photoelect. theory, 50, 422A.
- Welch, K. N. *See* Davies, W.
- Welcker, W. A. *See* Russell, H. W.
- Welcker, W. A., Jr. *See* Russell, H. W.
- Wellmann, M. *See* Schleede, A.

- Wells, Cyril. See Walters, Francis M., Jr.
 Wells, Cyril, and Warner, J. C. Electrode potentials of Fe-Mn alloys, 50, 605A.
 Wells, D. A. See Balinkin, Isny.
 Welter, G. Crystn. of metals and alloys under pressures up to 20,000 atm., 50, 292A.
 Welty, G. D. Mg alloys in aircraft engine construction, 50, 184A, 691A.
 Wensel, H. T. See Roosor, Wm. F.
 Werner, Eugen. Colouring of Al, 50, 262A; control of cyanide Cu baths, 50, 247A; plating glass and clay, 50, 565A; surface treatment of Zn for use as printing plates, 50, 255A.
 Werner, M. Grain-size, eutectic, and corrosion, 50, 437A.
 Werner, Max. Influence of paint on efficiency of heating bodies, 50, 319A, 496A.
 Werner, W. S. X-raying prevents foundry losses, 50, 755A.
 Wernick, B. Modern methods of removing grease from metals, 50, 120A.
 Wernick, S. Cd and Zn plating as corrosion preventives.—I., II., 50, 32A; electrodeposn. of Cd from CdSO₄ solns. I.—Effect of p_{H_2} , c.d., and temp. on crystal size of deposit, current efficiency, and electrode efficiency ratios, 50, 562A; factors which influence efficiency of Cd plating as rust preventer, 50, 85A, 235A; stability of Cd(CN)₂ plating solns., 50, 247A, 314A.
 Werth, —. See v. Wartenburg, —.
 Wertzaugher, W. W. See Tyndall, E. P. T.
 Wesley, W. A. See Trebler, H. A.
 Wesley, W. A., Trebler, H. A., and LaQue, F. L. Galvanic corrosion. Possible galvanic effects in corrosion of metals in milk, 50, 545A.
 Wesolowski, K. See Broniowski, W.
 West, Clarence J., and Berolzheimer, D. D. Book compiled by: "Bibliography of Bibliographies on Chemistry and Chemical Technology," 50, 407A.
 West, Clarence J., and Hull, Callie. Book compiled by: "Industrial Research Laboratories of the United States, including Consulting Research Laboratories," 50, 334A.
 West, F. Value of scientific research on refractory materials, 50, 517A.
 Westbrook, Francis A. Non-ferrous metals in automotive industry, 50, 764A; oxy-acetylene welding of Cu and Al and some of their alloys, 50, 187A.
 Westbrook, L. R. Discussion on Blum's paper on "The Definition and Determination of 'Free Cyanide' in Electroplating Solutions," 50, 249A; discussion on Wernick's paper on "The Stability of Cadmium Cyanide Plating Solutions," 50, 247A.
 Westcott, Oliver Brentwood. See Britton, Hubert Thomas Stanley.
 Westerhoff, H. See Meissner, W.
 Westermann, Ija. Rh wire for lab. furnaces, 50, 489A.
 Westermann, I. W. See Kohlmeier, E. J.
 Westgren, Arne F. Chemistry of alloys, 50, 352A, 552A, 736A; crystal structure and atomic properties of alloys contg. transition elements, 50, 745A; X-ray detn. of alloy equilib. diagr., 50, 36A; see also Nial, O.; Stenbeck, Sten.
 Westgren, A., and Ekman, W. Structure analogies of intermetallic phases, 50, 477A.
 Westling, A. Closing of hollow rivets with cross-stay clinch-hammer (snap-head), 50, 695A; see also Thomas, F.
 Westwood, J. H. Die-casting, 50, 775A.
 Wever, Franz. Texture of metals after cold deformation, 50, 37A; see also Trömel, Gerhard.
 Wever, Franz, and Jellinghaus, W. Binary system Fe-Cr, 50, 536A; Cr-Fe equilib. diagr., 50, 13A.
 Weyl, W., and Bichowsky, M. Elect. lab. furnace for high temps., 50, 367A.
 Wheeler, F. See Groen, A. T.
 Wheeler, Mary A. Magnetic susceptibilities of α - and β -Mn, 50, 658A.
 Wheeler, Richard Vernon. Gaseous combustion in industry, 50, 271A; rational analysis of coals, 50, 394A.
 Wheeler, T. S. Electrostatic potential of some cubic crystal lattices, 50, 486A.
 Whiley, Manning Hedges. Elected student member, 48, 18.
 Whibly, L. Method for measurement of dissoln. of metals in salt solns., 50, 741A; see also Bengough, G. D.
 Whitcomb, Arthur J. Methods used for electrically preheating sheet mill rolls, 50, 327A.
 White, A. E. See Clark, C. L.
 White, A. E., and Clark, C. L. Creep characteristics of metals at elevated temps., 50, 658A; discussion on Price's paper on "Properties of Copper and Some of its Important Industrial Alloys at Elevated Temperatures," 50, 529A.
 White, C. E. Pptn. of Ni and Co as sulphides in qual. analysis, 50, 39A.
 White, H. E. Development of some special refractories, 50, 395A.
 White, P. H. Forming and blanking die for radiator fins, 50, 574A, 787A.
 White, Richard Frederick. Elected member, 48, 315.
 White, T. A. See Benton, Arthur F.
 Whitehead, L. D. Electro-galvanizing, 50, 31A, 612A; pure Zn galvanizing process, 50, 30A, 163A, 612A.
 Whitfield, R. Furnaces for heat-treatment of wire, 50, 583A.
 Whitney, W. R. Research in theory and practice, 50, 402A.
 Whittemore, H. L. Growing importance of tests—what they mean to welder and to welding industry, 50, 259A.
 Wick, R. M. Analysis of cyanide Ag plating solns., 50, 46A; chem. control of cyanide Ag-plating solns., 50, 760A.
 Wickenden, Thomas H. Ni alloys in automotive manuf., 50, 107A.

- Widemann, Max.** Permeability of Cu, Al, and Pb for filtered heterogeneous X-rays determined by photographic indication, 50, 680A; X-rays and their useful employment in foundry, 50, 492A.
- Wiebe, E., and Brevoort, M. J.** Cu-Constantan thermocouple calibration below 0° C., 50, 561A.
- Wiederholt, W.** Behaviour of Al and Al alloys in H₂O₂ solns., 50, 433A; *see also* Maas, E.
- Wien, Max.** Dependence of permeability of Fe wires on field at H.-F., 50, 344A.
- Wiese, Kurt.** Elected student member, 48, 316.
- Wiest, P.** X-ray investigation of soly. of Ag in Cu, 50, 308A.
- Wiester, H. J.** *See* Feusaner, O.; Hesse, E.
- Wigand, J.** *See* Spengler, O.
- Wikoff, A. G.** How to weld galvanized iron, 50, 765A.
- Wilhelm, A.** Throwing power of Cu, Ni, Zn, and Cr plating baths, 50, 682A; throwing power of electrolytic baths, 50, 48A.
- Wilhelm, C. J.** *See* Schmidt, Ludwig.
- Wilhelm, Donald G.** Book: "The Book of Metals," 50, 527A.
- Wilhelm, E. J.** *See* Anderson, E. A.
- Wilhelm, J. O.** *See* McLennan, J. C.
- Williams, W. R.** *See* Martens, L. K.
- Willard, Hobart H., and Thompson, J. J.** Vol. and gravimetric detn. of Hg as periodate, 50, 90A; vol. detn. of Mn after oxidation by periodate, 50, 89A.
- Willett, C. G. Saltren.** *See* Saltren-Willett, C. G.
- Willey, L. A.** *See* Dix, E. H.
- Williams, Clyde E.** Use of metals at elevated temps. in ceramic industry, 50, 532A.
- Williams, C. S.** Elect. resistivity of certain Cu alloys in molten state, 50, 152A.
- Williams, E. H.** Magnetic properties of Cu-Ni alloys, 50, 18A.
- Williams, E. R.** *See* Townshend, B.
- Williams, Gordon T.** Furnaces placed in prodn. lines, 50, 456A.
- Williams, Howell.** Elected member, 48, 19.
- Williams, Idris.** Experiments on Sn coating, 50, 438A.
- Williams, Percy.** *See* Seligman, Richard.
- Williams, Robert R.** Pamphlet: "Functions of a Laboratory Organization," 50, 407A.
- Williams, S. R.** Does Ni show a positive elongation in Joule magnetostrictive effect? 50, 595A; Joule magnetostrictive effect in series Co-Fe rods, 50, 729A; magnetization and thermal e.m.f.'s, 50, 345A; thermoelectromotive forces produced by magnetic field, 50, 72A.
- Williams, T. E.** *See* Owen, E. A.
- Williamson, H.** *See* Barclay, W. R.
- Willink, A.** Cr-plating on steel for wear-resistance at high temps. and high c.d., 50, 96A, 449A, 563A, 758A; discussion on Re's paper on "Plant Practice for Nickel-Plating Aluminium," 50, 759A; discussion on Skowronski and Mosher's paper on "Selenium and Tellurium," 50, 761A.
- Willis, A. S.** Examination and adjustment of large crankshaft bearings, 50, 638A.
- Willmer, Martin.** Measurement of H-ion concn. in electroplating baths with special reference to Ni baths, 50, 248A; now electroplated metal alloys, 50, 249A.
- Wills, H. J.** Lapping of tungsten carbide tools, 50, 576A, 705A.
- Wilmot, V. L. Eardley.** *See* Eardley-Wilmot, V. L.
- Wilson, E. F.** Experiences in sand control, 50, 510A.
- Wilson, Mabel.** *See* Ewing, Dwight T.
- Wilson, William H.** Corrosion plays minor part in radiator solder-seam failure, 50, 27A.
- Wiltshire, W. J.** *See* Pullin, V. E.
- Winch, Ralph P.** Photoelect. properties of thin unbacked Au films, 50, 147A.
- Windiate, G. E.** Some aspects of indust. gas problem, 50, 394A.
- Winiwarter, Ed. de.** Methods of preservation of alloys and steels against deterioration by atmospheric agencies, 50, 234A.
- Winiwarter, Ed. de, and Orban, J.** Detn. of some characteristics of hard Cr plating bath, 50, 177A.
- Winkler, J. Homer.** Moulding in metal, 50, 317A.
- Wintrich, A.** *See* Friemann, E.
- Wirsing, Floyd H.** *See* Yoe, John H.
- Wise, E. M.** Discussion on Stout and Thummel's paper on "The Change in Reflecting Power Caused by Tarnishing Electrodeposited Silver-Cadmium Alloys," 50, 99A; discussion on Swanger's paper on "Properties of the Rare Metals for High-Temperature Service," 50, 533A; is change in solid soly. a liability or an asset? 50, 543A.
- Wise, E. M., Crowell, Walter S., and Eash, J. T.** Role of Pt metals in dental alloys, 50, 476A.
- Wittig, R.** Appn. of Al in construction of radio apparatus, 50, 567A.
- Wogninz, Alfred.** Detn. of Ni by Moore's method, 50, 98A; detn. of Ag in solns. of potassium argentocyanide, 50, 675A; detn. of small amts. of Zn in Ni, 50, 677A; detn. of H₂SO₄ in Cr plating baths, 50, 46A; operation and care of Ag-plating baths, 50, 682A; testing of Zn salts for plating baths and detn. of Zn content of sulphate baths, 50, 565A; works control of Cr baths, 50, 630A.
- Wöhler, Lothar, and Ewald, K. F. A.** Arsenides of Pt metals, 50, 20A.
- Wohlmann, Erika.** Quant. detn. of Mn as MnO₂, 50, 619A.
- Wohlwill, H.** Electrolysis in tech. and economic competition with other processes of metal recovery and refining, 50, 317A.

- Wohr, F. Effect of short circuit currents on tensile strength of transmission cables of Al and Cu, 50, 65A.
- Wold, P. I. Reversals of Hall effect in Te, 50, 724A.
- Wold, P. I., and Hyatt, J. M. Hall effect of Te amalgams, 50, 227A.
- Wolf, Fred L. Sherardizing, 50, 163A.
- Wolf, Gerhard. Al as impurity in indust. brass alloys, 50, 538A; Sb, Fe, and As in bearing bronzes, 50, 321A.
- Wolf, Hans. Corrosion-resistant Al alloy, 50, 346A.
- Woll, L. See Rassow, —.
- Wolfe, R. A. Discussion on Becker's paper on "Electrolytic Phenomena in Oxide-Coated Filaments," 50, 70A; see also Duffendaek, O. S.
- Wolters, C., and Brandt, A. Skin diseases caused by use of protective films on Cr-plating baths, 50, 681A.
- Woo, Theresa. See Hodge, Harold C.
- Wood, Lawrence A. Hall effect with audio-frequency currents, 50, 596A.
- Wood, W. A. Crystal lattice distortion in stretched wire, 50, 617A; incidence of lattice distortion and orientation in cold-rolled metals, 50, 672A; lattice distortion and hardness of heat-treated tungsten magnet steel, 50, 165A; lattice distortion of cold-drawn Constantan wire, 50, 191A.
- Wood, W. W. Al-brass, 50, 538A.
- Woodson, J. C. Elect. heated annealing furnaces for steel and other industries, 50, 777A; engineering requirements and trends for metals in ferrous metal industries, 50, 531A; heat-resisting metals, 50, 70A.
- Woodward, C. S. See Roller, Duane.
- Woodward, E. S. Al as roofing material, 50, 688A.
- Woodward, H. E. See Tesh, K. S.
- Woolen, A. H. Al alloys in transportation industry, 50, 763A.
- Woolf, J. A. Discussion on Blum's paper on "The Definition and Determination of 'Free Cyanide' in Electroplating Solutions," 50, 249A.
- Woolman, J. See Hatfield, W. H.
- Wooster, W. A. See Bernal, J. D.
- Work, Harold K. Discussion on Cuthbertson's paper on "The Electrodeposition of Chromium and the Influence of the Cathode Metal," 50, 95A; electroplating on Al from cyanide solns., 50, 249A, 451A.
- Work, Harold K., and Slunder, Charles J. Cr deposits directly on Al, 50, 96A.
- Wormwell, F. See Bengough, G. D.
- Worthington, Robert. Ni tubing resists fatigue, 50, 380A; see also Crawford, C. A.; Pilling, N. B.
- Woxén, Ragnar. Book: "A Theory and an Equation for the Life of Lathe Tools," 50, 784A.
- Woyonoff, K. Behaviour of 1-phenol-2:3-dimethylpyrazolone towards Co solns., 50, 365A.
- Wragg, A. Discussion on "The Testing of Castings," 48, 291.
- Wrede, B. Infra-red radiation of refractories, 50, 646A.
- Wright, (Sir) Charles. Remarks at Annual Autumn Meeting, 49, 13.
- Wright, L. K. Hardness of electrodeposited coatings, 50, 760A; Zn and Cd for preventing corrosion, 50, 439A.
- Wulff, B. See Schmitt, H.
- Wulff, F. See Grimm, W.
- Wyckoff, Ralph W. G. Book: "The Structure of Crystals," 50, 655A (review).
- Wyman, L. L. Cu embrittlement, 50, 722A.
- Wyman, L. L., and Kelley, F. C. Cemented tungsten carbide: action of cementing material, 50, 23A.
- Yagoda, Herman. Extension of isoamyl alcohol soln. of alkali and alkaline earth metals to less common alkalis, Li, Rb, and Cs, 50, 309A; Hume-Rothery relationship between ionization potentials of elements and their atomic number, 50, 421A.
- Yamamoto, K. See Horioka, M.
- Yamasaki, T. Durability of rubber-insulated wires, 50, 319A.
- Yarrow, (Sir) Alfred. Obituary notice, 48, 345.
- Yensen, T. D. Hipernik and other magnetic alloys; great improvements due to heat-treatment, 50, 605A, 733A; magnetic materials in year 1931, 50, 605A; magnetism and magnetic materials, 50, 763A; permeability of Hipernik reaches 167,000, 50, 733A.
- Yoe, John H. Reactions between certain metallic ions and NH_4 salt of aurintricarboxylic acid, 50, 309A.
- Yoe, John H., and Wirsing, Floyd H. Potassium-dithio-oxalate colorimetric method for detn. of Ni, 50, 554A.
- Young, George MacDonald. Elected member, 48, 19.
- Young, H. R. H. Welding in process industry, 50, 114A.
- Young, L. A., and Frank, N. H. Temp. dependence of photoelect. effect in metals, 50, 219A.
- Young, W. W. Adopting modern heat in brass foundry, 50, 764A.
- Youngman, E. P. Pamphlets: "Zirconium, Part I.—General Information. Part II.—Domestic and Foreign Deposits," 50, 140A.
- Yuasa, Kameity. Process of failure of metals under stress, 50, 244A.
- Yule, Emma Sarepta. See Trelease, Sam F.
- Yuriev, K. M., and Zhukov, A. M. Detn. of hardness of metals by method of rebound, 50, 491A.
- Yushmanov, E. V. See Pershke, V. K.
- Yuster, Samuel. Catalyst chamber, 50, 312A.

- Zack, Michael. Elect. arc welding of Al, 50, 500A.
- Zahradníček, J. Measurement of activity of radioactive substances by means of torsion balance, 50, 41A.
- Zak, Theo. J. Use of compensating colorimeter in electroplating industry, 50, 48A.
- Zalesiński, E. See Bartuska, R. E.
- Zamotorin, M. See Saldau, P.
- Zapevalov, G. G., and Pogorelov, A. D. Removal of Sb in pyrogenic refining of blister copper, 50, 204A.
- Zechnovitzer, E. W. Corrosion of Al and some of its alloys, 50, 470A; methods of investigation of corrosion of metals, 50, 233A; see also Goriatchev, A. P.
- Zechnovitzer, E. W., and Rozov, M. N. Testing resistance to corrosion of Cu-Cd wire, 50, 479A.
- v. Zeerleder, A. Corrosion of Al and light metals, 50, 354A; elect. melting and annealing furnace for Al, 50, 392A; influence of corona phenomena on free transmission cables, 50, 102A.
- Zegzhda, W. Rate of rise in temp. during tests on deformation under load at high temps., 50, 515A.
- Zeidenfeld, S. Hilger X-ray crystallograph and cubic-crystal analyzer, 50, 41A; now X-ray spectrograph for wavelength detns. in air, 50, 624A; X-ray micrograph for examination of metallic specimens, 50, 623A.
- Zeise, H. Book: "Repertorium der physikalischen Chemie," 50, 140A.
- Zernike, J. See Burgers, W. G.
- Zernov, A. Standardization of methods of testing materials, 50, 750A.
- Zhigulev, —, and Kuznetsov, —. Cr. plating (chem. part), 50, 402A.
- Zhivotinsky, P. See Rabinovitch, M. A.
- Zhukov, A. M. See Yuriov, K. M.
- Zickrick, Lyall. Effect of small % of certain metals on compressibility of Pb at elevated temp., 50, 466A.
- Ziegler, N. A. Improved method for analysis of gaseous elements in metals, 50, 674A; resistance of Fe-Al alloys to oxidation at high temps., 50, 222A.
- Zimmer, George Frederick. Book: "The Mechanical Handling and Storing of Material," 50, 407A.
- Zinberg, S. L. Book: "Text-Book of Chemical Analysis in Metallurgy" (in Russian), 50, 140A.
- Zintl, E., and Dullenkopf, W. Lattice structure of Na'l and its relation to structures of β -brass type, 50, 363A; polyantimonides, polybismuthides, and their transitions in alloys, 50, 363A.
- Zintl, E., and Harder, A. Lattice structure of KBi_2 , 50, 363A; polyplumbides, polystannides, and their transition to metallic phases, 50, 431A.
- Zintl, E., Goubeau, J., and Dullenkopf, W. Salt-like comds. and intermetallic phases of Na in liquid NH_3 , 50, 431A.
- Zintl, E., Harder, A., and Neumayr, S. Prepn. of Debye-Scherrer diagrams of alloys sensitive to air, 50, 432A.
- Zirbel, N. N. Effects of heat-treatment on fine metallic suspensions, 50, 342A.
- Zirbel, N. N., and Bryan, A. B. Heat-treatment of fine metallic suspensions, 50, 724A.
- Zisman, W. A. New method of measuring contact p.d. in metals, 50, 598A.
- Zitzewitz, Elmer. Preventing anti-friction bearing troubles, 50, 276A.
- Zomoruev, G. M. See Urazov, G. G.
- Zschiegner, H. E. See Keitel, W.
- Zuber, O. See Jaquerod, A.
- Zucchi, Adalberto. Book: "Manuale di chimica analitica pura ed applicata. I.—Analisi qualitative," 50, 140A.
- Zunker, P. See Bauer, O.
- Zurbrügg, —. See Bosshard, M.
- Zur Linde, Fr. Coatings in food industries, 50, 234A.
- v. Zur-Mühlen, O. See Funk, H.
- Zviagintzev, O. E. Analysis of Pt metals. III.—Colorimetric estn. of Ru, 50, 554A.
- Zwicky, F. Permanent elect. and magnetic moments of crystals, 50, 75A; secondary structure and mosaic structure of crystals, 50, 440A.
- Zworykin, V. K. Improvements in cathode-ray tube design, 50, 173A.



PRINTED IN GREAT BRITAIN BY
RICHARD CLAY & SONS, LIMITED,
BUNGAY, SUFFOLK.

BIBLIOTEKA GŁÓWNA
Politechniki Śląskiej

P 99 / 32 / III

GZPT 13 - 586 - 14, 4, 56 - 5000 a 10 str.