

Die Bedeutung des Handbuches des Bergbauingenieurs Robert Peele (1858 - 1942)

The Significance of Robert Peele's
(1858 - 1942) Mining Engineers'
Handbook

Важность справочных пособий
по горному делу, изданных
Робертом Пилем (1858 - 1942)
для горных инженеров

Von / by

Joanne V. LERUD³⁹

Schlüsselworte/keywords

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Biographie
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PEELE, Robert <1858- 1942>
USA

Robert PEELE was born on July 15, 1858, in New York City to Robert and Anne (WESTERVELT) PEELE. He was better known to his friends (and later to his students, behind his back) as „Bobby“ PEELE. In the fall of 1879 he entered the Columbia School of Mines and graduated in 1883 with an E. M. (Engineer of Mines) degree.

After graduation he began his fieldwork as assayer of the Designolle Reduction Works, near Charlotte, North Carolina. The next year he was appointed foreman of the new dry-crushing, roasting, and amalgamation mill of the Silver King Mining Company, located at Pinal, now in the vicinity of Supe-

rior, Arizona. After two years of successful management, he resigned and went to England in 1886 and somewhat later returned to Arizona for mine examination work. He also traveled to the interior of Columbia to examine placer and gold and silver quartz ore deposits in that country. In 1889, PEELE made a difficult expedition prospecting for gold into the bush of Dutch Guiana. For two years (1890-92) he worked in South America, examining gold, silver, and tin mines for the Peruvian Exploration Syndicate Ltd. (London). Concurrently, at the Columbia School of Mines, Henry S. MUNROE was made head of a separate department of mining engineering in 1891 and the first one of his former students whom he chose to assist him in building up the department was Robert PEELE. In 1892, while still in South America, PEELE was offered and accepted the adjunct-professorship of mining in the School of Mines at Columbia. In 1896, as a secondary occupation, he became a member of the firm of OLCOTT, FEARN and PEELE, consulting mining engineers. In 1901, the firm's name changed to Olcott, Corning and PEELE. In 1904 he was made a full professor in mining where he remained until he retired as professor emeritus in 1925. The courses he taught dealt with the application of machinery in mining operations and the design of the mine plant. No other United States institution used a system of summer study where underground experience and supervised instruction in the development of observation and analysis were emphasized, as did PEELE's summer courses. PEELE pioneered this approach for practical experience for mining engineers based on the methods of European mining schools. Other travels included a journey visiting countries in Asia and Europe in 1903-1904, while on a leave of absence from the University. In 1910 he visited Africa and South America.

PEELE wrote extensively on mining subjects. He translated from German the work of J. REIMER, entitled „*Shaft-Sinking under Difficult Conditions*“ in 1907 and wrote a series of contributions on mining subjects for the Encyclopedia Britannica. Compressed Air Plant was published in 1908 with the fifth edition appearing in 1930. His monumental achievement was the Mining

³⁹ Anschrift der Verfasserin:
Joanne V. LERUD
Director of Library
Arthur Lakes Library
Colorado School of Mines, Golden
Colorado 80401 USA

Engineers' Handbook, which he edited. He began work on this handbook in 1913 with the first edition appearing in 1918. The demand was so great that a second edition was published in 1927. The third edition appeared in 1941. The third edition is in two volumes with 2,442 pages by 46 contributors. John A. CHURCH, a noted metallurgist, assisted with the third edition as PEELE's eyes were failing.

PEELE was elected as an honorary member of the Institution of Mining and Metallurgy, of England, in 1921 and of the A. I. M. E. in 1937. PEELE was a member of Tau Beta Pi and the Century Club of Columbia. He received the gold medal from the Mining and Metallurgical Society of America for his contributions to the literature of mining engineering in 1923, and in 1939 he received the Egleston Medal from the Columbia Engineering Schools' Alumni Association for „*distinguished engineering achievement.*“

He died on December 8, 1942 after taking sick five day earlier. He was survived by a sister and had never married. The above biographical information is from Who Was Who in American History-Science and Technology (1976) and from appreciations by Arthur L. WALKER (1943) and Thomas T. READ (1943).

PEELE's preface of the 1918 edition of Mining Engineers' Handbook states:

„A valid reason for bringing out a new Mining Engineers' Handbook may be found in the fact that the two already in existence either omit, or treat too briefly, many subjects which constitute important parts of the professional equipment of the present day mining engineer. It will be apparent, even on a cursory examination of the following pages, that a handbook of mining must include a greater variety of subject matter than books on other branches of engineering, and that the field to be covered is too wide to be dealt with satisfactorily by a single writer within any reasonable period of time.“ (p. iii)

First edition

In February and March 1913, PEELE outlined the table of contents, and invited a number of Associate Editors to contribute sections, many of which were PEELE's former students. Besides the expected sections on mineralogy, ore deposits, methods of prospecting, exploration and mining, and mining plants of all kinds, other sections were included in the civil, electrical, and mechanical engineering subject areas but applicable to mining. PEELE states that he has „endeavored to meet the demands of engineers not only concerned with the development and management of mines, but also of the large number of those who have more to do with, and greater interest in, the construction details involved in the installation of plant.“ (PEELE, 1918, p. iii) PEELE has, therefore, included data on machinery, power plant, electric transmission and structural design, that the mining engineer could use when in the field and away from notes and the technical library. For office use, a bibliography is included at the end of each section.

PEELE's preface indicates a need for a companion handbook on metallurgy but does provide condensed summaries of the process treatments that are frequently done by mining companies. The sections on ore dressing; ore-testing; gold amalgamation; the cyanide process; the preparation of anthracite, bituminous coal, and coke; and pertinent facts regarding the selling, purchasing, and metallurgical treatment of ores were included because they were of „*immediate interest*“ to the engineer in control of mining operations. A relatively small space is allotted to coal mining because Coal-Mining Pocketbook was already available, coal mining methods are not as varied, and the operations in common to all mining are already handled elsewhere in PEELE's Handbook.

Cost data for mining, exploitation of mineral deposits, boring, and selected other subjects is provided. The cost of machinery and apparatus is only given sparingly because of frequent price changes and the great diversity of mechanical plant.

PEELE tried to assure the style and arrangement of the book was uniform but acknowledges the difficulty in managing the contributions of a large number of associate editors. PEELE states in the preface that it was planned to publish the book in 1916 but the outbreak of the Great War was responsible for the delay.

The first edition of PEELE's Mining Engineers' Handbook has the following contents

- Mineralogy by Alfred J. MOSES, Professor of Mineralogy, Columbia University
- Geology and Mineral Deposits by James FURMAN Kemp, Professor of Geology, Columbia University
- Earth Excavation by Halbert P. GILLETTE, Consulting Civil Engineer
- Explosives by H. G. HASKELL, Fletcher B. HOLMES, Arthur LAMOTTE and F. J. LEMAISTRE
- Rock Excavation by Halbert P. GILLETTE, Consulting Civil Engineer
- Tunneling by David W. BRUNTON and John A. DAVIS, Consulting Mining Engineers
- Shaft-sinking in Rock by Homer L. CARR, Mining Engineer
- Shaft-sinking in Soft, Water-bearing Soils by Francis DONALDSON, Mechanical Engineer
- Boring by Arthur F. TAGGERT, Assistant Professor of Mining, Sheffield Scientific School, Yale University
- Prospecting, Development and Exploitation of Mineral Deposits by James F. McCLELLAND, Professor of Mining, Sheffield Scientific School, Yale University
- Underground Transport by Edwin C. HOLDEN, Mining Engineer
- Hoisting Plant, Shaft Pockets and Ore Bins by William N. WEIGEL, Associate Professor of Mining, Pennsylvania State College
- Drainage of Mines by Robert Van ARSDALE NORRIS, Consulting Mining Engineer
- Mine Ventilation by F. Earnest BRACKETT, Mining Engineer
- Compressed-air Plant by Richard T. DANA, Consulting Engineer
- Electric Power for Mine Service by George R. WOOD, Electrical Engineer, Berwind-White Coal Mining Company
- Surveying by Charles B. BREED, Professor of Railroad Engineering, Massachusetts Institute of Technology
- Underground Surveying by Edward K. JUDD, Assistant Professor of Mining, Columbia School of Mines
- Mine Geologic Maps and Models by Reno H. SALES, Geologist, Anaconda Copper Mining Company
- Mine Organization and Accounts by J. R. FINLAY, Consulting Mining Engineer
- Cost of Mining by J. R. FINLAY, Consulting Mining Engineer
- Wages and Welfare by Edward K. JUDD, Assistant Professor of Mining, Columbia School of Mines
- Mine Air, Hygiene, Explosions and Accidents by George S. RICE, Chief Mining Engineer, U. S. Bureau of Mines
- Mining Laws by Horace V. WINCHELL, Mining Geologist
- Mine Examinations, Valuations and Reports by William Young WESTERVELT, Consulting Mining Engineer
- Aerial Tramways and Cableways by Edward B. DURHAM, Late Associate Professor of Mining, University of California
- Mechanical Conveyors by Lincoln DEG. MOSS, Assistant Professor Mechanical Engineering, Columbia University
- Ore Dressing by Robert H. RICHARDS, Late Professor of Mining Engineering and Metallurgy, Massachusetts Institute of Technology
- Ore Sampling by T. R. WOODBRIDGE, Consulting Metallurgical Chemist, U. S. Bureau of Mines
- Assaying by E. J. HALL, Professor of Assaying, Columbia School of Mines
- Testing of Ores by J. E. CLENNELL, Metallurgical Engineer and Edward K. JUDD, Assistant Professor of Mining, Columbia School of Mines
- Notes of Selling, Purchasing, and Treatment of Ores by Arthur L. WALKER, Professor of Metallurgy, Columbia School of Mines
- Gold Amalgamation and Cyanidation by Edward L. DUFOURCO, Consulting Engineer
- Preparation and Storage of Anthracite Coal by Paul STERLING, Mechanical Engineer, Lehigh Valley Coal Company
- Preparation and Coking of Bituminous Coal by H. MCKEAN CONNER, Mining Engineer
- Mathematics and Mechanics by C. H. BURNSIDE, Associate Professor of Mechanics, Columbia University
- Chemical Notes and Tables
- Elements of Hydraulics by J. K. FINCH, Associate Professor of Civil Engineering, Columbia University

Engineering Thermodynamics by Edward D. THURSTON, Jr., Assistant Professor of Mechanical Engineering, Columbia University

Steam Engines, Boilers, Pumps, Turbines, Gas Engines by H. L. PARR, E. D. THURSTON, Jr. and A. L. HERRICK, Department of Mechanical Engineering, Columbia University

Electrical Engineering by Walter I. SLICHTER, Professor of Electrical Engineering, Columbia University

Elements of Structural Design by J. K. FINCH, Associate Professor of Civil Engineering, Columbia University

Engineers' Tables

Second Edition

PEELE (1927, p. iii) states in the preface to the second edition that important changes have taken place in the mining industry since the publication of the first edition. He indicates that many of the changes are due to rapid development of engineering practice; others are economic results of the Great War. He indicates that costs, which rose in response to the stress of the war period, fluctuated greatly for several years and seemingly have leveled off at 65 to 100% higher than prewar figures. He predicts a probability that high costs will persist, with some variations, for a number of years to come, but with a gradual downhill trend; unless influenced violently by a period of „hard times“, or a financial panic.

PEELE further states that wages have approximately doubled and thereby stimulated the wider use of laborsaving methods and machines. The mechanical loading of coal and ores underground, is now employed wherever the local conditions permit. The wider use of electric transmission and distribution of power for mine service, both on the surface and underground is also evident. Electric drive has generally replaced steam for hoisting engines. Hammer drills have almost entirely supplanted the piston or reciprocating drilling machines. These and numerous other developments and improvements have made necessary a radical revision of a large portion of the Mining Engineers' Handbook.

The changes include present-day cost figures where possible. Several sections

have been rewritten such as the sections entitled Earth Excavation; Rock Excavation; Boring; Hoisting Plant, Shaft Pockets, and Ore Bins; Drainage of Mines; Compressed-air Plant; Electric Power for Mine Service; Breaking, Crushing and Sorting of Ores; Testing of Ores; Gold Amalgamation and Cyanidation; Preparation and Storage of Anthracite Coal; and Preparation and Coking of Bituminous Coal. The sections that were significantly altered are Explosives; Tunneling; Shaft-sinking in Rock; Prospecting, Development and Exploitation of Mineral Deposits; Underground Transport; Mine Ventilation; Underground Surveying; Cost of Mining; Mine Air, Hygiene, Explosions, and Accidents; Mining Laws; Aerial Tramways and Cableways; Notes on Selling, Purchasing, and Treatment of Ores; and Chemical Notes and Tables. Other sections were revised as necessary. The book is similar in size as nearly all of Ore Dressing was eliminated, because of the publication of TAGGERT's Handbook of Ore Dressing, and the Cost of Mining section was shortened. PEELE believes the section entitled Prospecting, Development and Exploitation of Mineral Deposits to be the most important section of the handbook.

At the end of the preface, PEELE indicates that five of the original Associate Editors have died. They were: Alfred J. MOSES, James F. KEMP, Horace V. WINCHELL, Edward L. DUFOURCOQ, and H. MCKEAN CONNOR. Some of the other members of the original staff were not able to undertake the revision of their sections. Sixteen new Associate Editors were added.

The second edition of PEELE's Mining Engineers' Handbook has the following contents:

Mineralogy by Alfred J. MOSES, Late Professor of Mineralogy, Columbia University. Revised by Paul F. KERR, Department of Mineralogy, Columbia University

Geology of Mineral Deposits by James FURMAN Kemp, Late Professor of Geology, Columbia University

Earth Excavation by Halbert P. GILLETTE. Revised by Richard T. DANA, Consulting Civil Engineer

Explosives by H. G. HASKELL, Fletcher B. HOLMES, Arthur LAMOTTE and F. J. LEMAISTRE. Revised by

- Arthur LaMotte
- Rock Excavation by Halbert P. GILLETTE. Revised by Richard R. DANA, Consulting Civil Engineer
- Tunneling by David W. BRUNTON and John A. DAVIS, Consulting Mining Engineers
- Shaft-sinking in Rock by Horner L. CARR. Revised by John A. CHURCH, Jr., Mining Engineer
- Shaft-sinking in Soft, Water-bearing Soils by Francis DONALDSON. Revised by Edwin S. JARRETT, Civil Engineer
- Boring by Arthur F. TAGGERT, School of Mines, Columbia University. Revised by Robert S. LEWIS, Professor of Mining, University of Utah
- Prospecting, Development and Exploitation of Mineral Deposits by James F. MCCLELLAND, Assistant Vice President, New York Trust Company
- Underground Transport by Edwin C. HOLDEN, Mining Engineer
- Hoisting Plant, Shaft Pockets and Ore Bins by William M. WEIGEL, Mining Engineer
- Drainage of Mines by Robert Van ARSDALE NORRIS, Consulting Mining Engineer. Revised by Robert E. HOBART, Mechanical Superintendent, Lehigh Coal and Navigation Company
- Mine Ventilation by F. Ernest BRACKETT, Mining Engineer
- Compressed-air Plant by Richard T. DANA, Consulting Engineer
- Electric Power of Mine Service by George R. WOOD, Electrical Engineer. Revised by Charles M. MEANS, Consulting Engineer
- Surveying by Charles B. BREED, Professor of Railway and Highway Engineering, Massachusetts Institute of Technology
- Underground Surveying by Edward K. JUDD, formerly Assistant Professor of Mining, Columbia School of Mines
- Mine Geologic Maps and Models by Reno H. SALES, Geologist, Anaconda Copper Mining Company
- Mine Organization and Accounts by J. R. FINLAY. Revised by Arthur NOTMAN, Consulting Engineer
- Cost of Mining by J. R. FINLAY. Revised by Arthur NOTMAN, Consulting Engineer
- Wages and Welfare by Edward K. JUDD, Formerly Assistant Professor Mining, Columbia School of Mines
- Mine Air, Hygiene, Explosions and Accidents by George S. RICE, Chief Mining Engineer, U. S. Bureau of Mines
- Mining Laws by the late Horace V. WINCHELL. Revised by Archibald Douglas, Counselor at Law
- Mine Examinations, Valuations and Reports by William Young WESTERVELT, Consulting Mining Engineer
- Aerial Tramways and Cableways by Edward B. DURHAM, Mining Engineer
- Mechanical Conveyers by Lincoln DEG. MOSS, Assistant Professor of Mechanical Engineering, Columbia University
- Breaking, Crushing and Sorting of Ores by Robert H. RICHARDS. Rewritten by Arthur F. TAGGERT, Professor Of Ore Dressing, Columbia School of Mines
- Ore Sampling by T. R. WOODBRIDGE, formerly Consulting Metallurgical Chemist, U. S. Bureau of Mines
- Assaying by E. J. HALL, Professor of Assaying, Columbia School of Mines
- Testing of Ores by Arthur F. TAGGERT, Professor Ore Dressing, Columbia School of Mines
- Notes of Selling, Purchasing, and Treatment of Ores by Arthur L. WALKER, Professor of Metallurgy, Columbia School of Mines
- Gold Amalgamation and Cyanidation by the late Edward L. DUFORCO. Revised by John V. N. DORR, The Dorr Company, Engineers, New York City
- Preparation and Storage of Anthracite Coal by Paul STERLING, Mechanical Engineer, Lehigh Valley Coal Company
- Preparation and Coking of Bituminous Coal by the late H. MCKEAN CONNER. Rewritten by Noel CUNNINGHAM and Howard N. EAVENSON, Consulting Engineers
- Mathematics and Mechanics by C. H. BURNSIDE, Associate Professor of Mechanics, Columbia University
- Chemical Notes and Tables by Edward K. JUDD and Robert PEELE
- Elements of Hydraulics by J. K. FINCH, Associate Professor of Civil Engineering, Columbia University
- Engineering Thermodynamics by Edward D. THURSTON, Jr., Associate Professor of Mechanical Engineering, Columbia University
- Steam Engines, Boilers, Pumps, Turbines, Gas Engines by H. L. PARR, E. D. THURSTON, Jr., and A. L. HERRICK, Professors in the Department of Mechanical Engineering, Columbia University
- Mechanical Engineering Miscellany by C. W. Thomas and H. L. PARR, Professors in the Department of Mechanical Engineering, Columbia University
- Electrical Engineering by Walter I. SLICHTER, Professor of Electrical Engineering, Columbia University
- Elements of Structural Design by J. K. FINCH, Associ-

ate Professor of Civil Engineering, Columbia University

Engineers' Tables compiled by C. H. BURNSIDE and Robert PEELE

Third Edition

PEELE (1941, p. vii) states in the preface to the third edition that radical revision of text and illustrations of the sections entitled Earth Excavation; Explosives; Rock Excavation; Shaft Sinking in Unstable and Waterbearing Ground; Prospecting, Development, and Exploitation of Mineral Deposits; Geophysical Prospecting; Hoisting Plant, Shaft Pockets, and Ore Bins; Mine Service; Wages and Welfare; Mining Laws; Aerial Tramways and Cableways; Underground Mechanical Loading, Conveying, and Handling; Selling, Purchasing, and Treatment of Ores; Gold Amalgamation and Cyanidation; Preparation and Coking of Bituminous Coal; and Power and Power Machinery was necessary. Minor changes were made in many other parts of the handbook. PEELE calls special attention to the new matter in Prospecting, Development, and Exploitation of Mineral Deposits and the new sections on Petroleum Production and Geophysical Prospecting. Mine Ventilation was almost entirely rewritten as was Hoisting Plant, Shaft Pockets and Ore Bins; Compressed Air Practice; and the new section entitled Underground Mechanical Loading, Conveying, and Handling.

The preparation of the third edition required resetting the entire book. The two volumes of Mining Engineers' Handbook are Number VI and VII of the Wiley Engineering Handbook Series.

The following original Associate Editors' deaths were acknowledged: Edwin S. JARRETT, F. Earnest BRACKETT, Richard T. DANA, T. R. WOODBRIDGE, E. J. HALL, and Charles H. BURNSIDE. PEELE acknowledges the collaboration of John A. CHURCH in revising manuscripts and the preparation of illustrations for the engraver. CHURCH also was the Associate Editor of the section Shaft Sinking in Rock.

The contents of the Third Edition are

Mineralogy by Alfred J. MOSES, late Professor of Mineralogy, Columbia University. Revised by Paul F. KERR, Professor of Mineralogy, Columbia University

Geology and Mineral Deposits by James FURMAN KEMP, late Professor of Geology, Columbia University. Revised by Paul Kerr, professor of Mineralogy, Columbia University

Earth Excavation, first edition by Halbert P. GILLETTE, C. E. Second edition by Richard T. Dana, C. E. Third edition largely rewritten by Clinton L. BOGERT, Consulting Engineer

Explosives by H. G. Haskell, E. M., Fletcher B. Holmes, A. B., Arthur LaMotte, and F. J. LeMaitre, Ph.G., B.Sc.

Rock Excavation by Halbert P. GILLETTE. Revised and largely rewritten for the second edition by Richard T. DANA and Arthur P. ACKERMAN. Revised for the third edition by the late Samuel R. Russell, Explosives Dept., E. I. DuPont DeNemours & Company

Tunneling by Charles F. Jackson, Mining Engineer

Shaft Sinking in Rock by Homer L. CARR, Mining Engineer. Revised for the second and third editions by John A. Church, Mining Engineer

Shaft Sinking in Unstable and Waterbearing Ground by Francis DONALDSON, M. E. Revised for the second edition by Edwin S. JARRETT, C. E. and largely rewritten for the third edition by Ralph H. CHAMBERS, E. E., D. Eng.

Boring by Arthur F. TAGGERT, School of Mines, Columbia University. Largely rewritten for the third edition by Robert S. LEWIS, Professor of Mining, University of Utah

Prospecting, Development and Exploitation of Mineral Deposits by James F. MCCLELLAND, E. M., Vice President, Phelps Dodge Corporation. Assisted W. W. LYNCH, E. M. and Edward K. JUDD, E. M.

Geophysical Prospecting by Frederick W. LEE, Chief, Section of Geophysics, U. S. Geological Survey

Underground Transport by Edwin C. HOLDEN, Consulting Mining Engineer

Hoisting Plant, Shaft Pockets and Ore Bins by William M. WEIGEL. Revised for the third edition by Philip B. BUCKY, E. M., Associate Professor of Mining, School of Mines, Columbia University

Drainage of Mines by the late Robert Van ARSDALE NORRIS, Consulting Mining Engineer. Revised by Robert E. Hobart, Mechanical Superintendent, Lehigh Navigation Coal Company

Mine Ventilation written for first and second editions by the late F. Ernest BRACKETT, Mining Engineer. Rewritten for the third edition by George E.

- McELROY**, Senior Mining Engineer, U. S. Bureau of Mines
- Compressed Air Practice first and second editions by **Richard T. DANA**, Consulting Engineer. Largely rewritten for third edition by **A. W. LOOMIS**, Mechanical Engineer, Ingersoll-Rand Company
- Electric Power for Mine Service by **George R. WOOD**, Electrical Engineer. Revised and largely rewritten by **Charles M. Means**, Consulting Engineer, Pittsburgh, Pennsylvania
- Surveying by **Charles B. BREED**, Professor of Railway and Highway Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts
- Underground Surveying by **Edward K. JUDD**, formerly Assistant Professor of Mining, Columbia School of Mines
- Mine Geologic Maps and Models by **Reno H. SALES**, Geologist to the Anaconda Copper Mining Company, Butte, Montana
- Mine Organization and Accounts by **J. R. FINLAY**, Consulting Mining Engineer. Revised for the second and third editions by **Arthur NOTMAN**, Consulting Engineer
- Cost of Mining by **J. R. FINLAY**, Consulting Mining Engineer. Revised for the second and third editions by **Arthur NOTMAN**, Consulting Engineer
- Wages and Welfare by **Edward K. JUDD**, formerly Assistant Professor of Mining, Columbia School of Mines
- Mine Air, Gases, Dusts, Hygiene, Explosions, and Accidents by **George S. RICE**, formerly Chief Mining Engineer, U. S. Bureau of Mines
- Mining Laws written for the first edition by the late **Horace V. WINCHELL** of the California Bar. Revised for the second and largely rewritten for the third editions by **Archibald DOUGLAS** of Douglas & Armitage, Counselors at Law, New York
- Mine Examinations, Valuations and Reports by **William YOUNG WESTERVELT**, Consulting Mining Engineer
- Aerial Tramways and Cableways by **Edward B. DURHAM**, Mining Engineer
- Underground Mechanical Loading, Conveying and Handling by **Walter M. DRAKE**, Research Manager, Mining Publications, McGraw-Hill Publishing Company, New York
- Breaking, Crushing, and Sorting of Ores by **Arthur F. TAGGERT**, Professor of Mineral Dressing, School of Mines, Columbia University
- Ore Sampling by the late **T. R. WOODBRIDGE**, formerly Consulting Metallurgical Chemist, U. S. Bureau of Mines
- Assaying by **E. J. HALL**, late Professor of Assaying, Columbia School of Mines, New York
- Testing of Ores by **Arthur F. TAGGERT**, Professor of Mineral Dressing, School of Mines, Columbia University
- Selling, Purchasing, and Treatment of Ores by **Arthur L. WALKER**, formerly Professor of Metallurgy, Columbia School of Mines
- Gold Amalgamation and Cyanidation by **Edward L. DUFORCQ**, Consulting Engineer. Revised and largely rewritten for the second and third editions by **John V. N. DORR**, Metallurgical Engineer, New York City
- Preparation and Storage of Anthracite Coal by **Paul STERLING**, Mechanical Engineer, Lehigh Valley Coal Company
- Preparation and Coking of Bituminous Coal Preparation first edition by the late **H. McKean Conner**, second edition by **Noel CUNNINGHAM**, Consulting Engineer. Rewritten for third edition by **S. M. PARMLEY** and **V. D. HANSON**, Preparation Engineers, and **D. H. DAVID**, Chief Chemist, Pittsburgh Coal Company. Coke by **Howard N. EAVENSON**, Mining Engineer
- Mathematics and Mechanics by **C. H. BURNSIDE**, formerly Associate Professor of Mechanics, Columbia University
- Chemical and Physical Notes and Tables compiled by **Edward K. JUDD** and **Robert PEELE**
- Elements of Hydraulics by **J. K. FINCH**, **RENWICK** Professor of Civil Engineering, Columbia University
- Engineering Thermodynamics by **Edward D. THURSTON, Jr.**, formerly Associate Professor of Mechanical Engineering, Columbia University
- Power and Power Machinery by **Theodore BAUMEISTER, Jr.**, Professor and Executive Officer, Department of Mechanical Engineering, Columbia University; Consulting Engineer
- Mechanical Engineering Miscellany by **H. L. PARR**, Professor of Mechanical Engineering, Columbia University
- Electrical Engineering by **Walter I. SLICHTER**, Professor Electrical Engineering, Columbia University
- Elements of Structural Design by **J. K. FINCH**, **RENWICK** Professor of Civil Engineering, Columbia University
- Petroleum Production Methods by **S. F. SHAW**, Consulting Engineer, Westgate Oil Company, Anglo-Canadian Oil Company, Ltd., etc.
- Engineers' Tables compiled by **C. H. BURNSIDE**, **James F. McCLELLAND** and **Robert PEELE**
- Significance of mining engineers handbook**
- Compared with the media events of today, **PEELE's Mining Engineers' Handbook**

quietly entered the public domain, being published by John Wiley and Sons of New York City. The July 27, 1918, issue of „Engineering and Mining Journal“ prints a review of the Mining Engineers' Handbook under the New Publications section. It reads:

„Much credit is due to the author for the service rendered the mining profession in the production of his new handbook, which fills what has been a noticeable gap in the list of technical works of reference, such as Trautwine and Kent. Written by a staff of specialists, whose names for the most part of guarantees of the work performed, the book is a valuable addition to the library of every mining man. Among those who have contributed the 44 sections of the books are: J. R. Finlay, W. Y. Westervelt, Robert H. Richards, James F. Kemp, H. V. Winchell, George S. Rice, Reno H. Sales, D. W. Brunton and H. P. Gillette. A valuable feature of the book is the bibliography that accompanies each section, which feature itself makes the volume worth having. If any fault may be found with a work of this work on brief acquaintance, it is that it covers a field that some may consider too wide. It may be thought that the sections on metallurgy might better have been omitted and that various other parts duplicate to greater or less extent the work of existing handbooks. These, however, are minor points compared with the excellence of the work as a whole. The value of handbooks in general depends largely on the skill and care with which they are indexed, and it is apparent that the same thoroughness that is evidenced in the planning of the „Mining Engineers' Handbook“ was also exercised in the preparation of the index.“ (p. 192)

That review was in retrospect, an understatement of the importance the Handbook would come to represent for the mining profession. By September of 1918, advertisements were being seen in mining journals. One such advertisement from „The Mining American“, September 16, 1918, touts the Mining Engineer's (sic) Handbook thusly:

„This is the first volume that has been written for the Mining Engineer to carry with him in the field and to keep at his elbow in

the office, the same as the Civil Engineer keeps his Merriman, the Mechanical Engineer his Kent, and the Electrical Engineer his Pender, etc. This handbook treats all subjects with which a Mining Engineer has to do, besides the subjects of Mineralogy, Ore-Deposits, Prospecting, Methods of Mining, Mine Plant etc., it deal with the branches of Civil, Mechanical, and Electrical Engineering which are related to the field of work of the Mining Engineer. It should be in the hands of every Mining Engineer. 2,385 pages, 4 ½ x 7 Illustrated with upwards of 2000 cuts Flexible „Fabrikoid“, \$5,00 The Mining American Publishing Co., P. O. Box 384, Denver, Colo“ (p. 14)

In a few short months, PEELE's Handbook had become a professional necessity.

James Finch (1957) tried to explain the uniqueness of the mining engineering field in The First One Hundred and Fifty Years, A History of John Wiley and Sons, Incorporated 1807-1957. He indicates other branches of engineering have been characterized by the replacement of older, empirical, qualitative techniques by more fully rationalized, quantitative procedures. Mining seems not to follow this established path. Although the rise of geologic knowledge and understanding have influenced prospecting and discovery and chemistry has influenced assaying and metallurgical operations, mining has long remained an applied art taking its form from practical operations. The development of steam and later, other power machinery, of explosives and power drills, the challenge of deep mining, the pressures of increased demand and no demand, and the need to handle low-grade ores economically have influenced the practice of the mining engineer. James Finch (1957, p. 108) states:

„...the wide scope of interests and understanding that the modern mining engineer was being called upon to possess and apply is better grasped by a review of the contents of a famous handbook that Wiley first published in 1918 than through any story of the ever-widening horizons of American mining. Robert PEELE's Mining Engineers' Handbook has been carried by mining engineers to the four corners of the

earth. From mathematics and chemistry to assaying and metallurgy, from geology and prospecting to mechanics and mine structures and plant, from physics to electrical and mechanical power tools and equipment, from operating costs to the marketing of mineral products, from mining law to mineral economics—all these are covered in PEELE's vast compendium, exemplifying the wide scope and the variety of information that the modern sons of Agricola are required to have at their command."

References cited

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Autor(en)/Author(s): Lerud Joanne V.

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