

# Engineering World

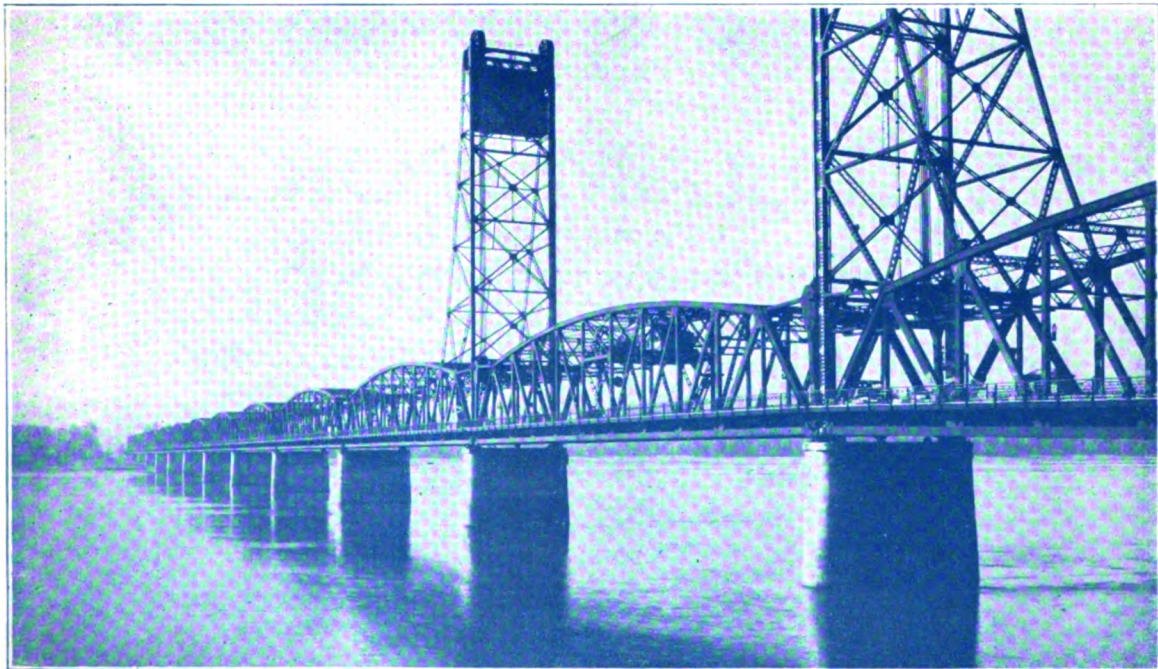
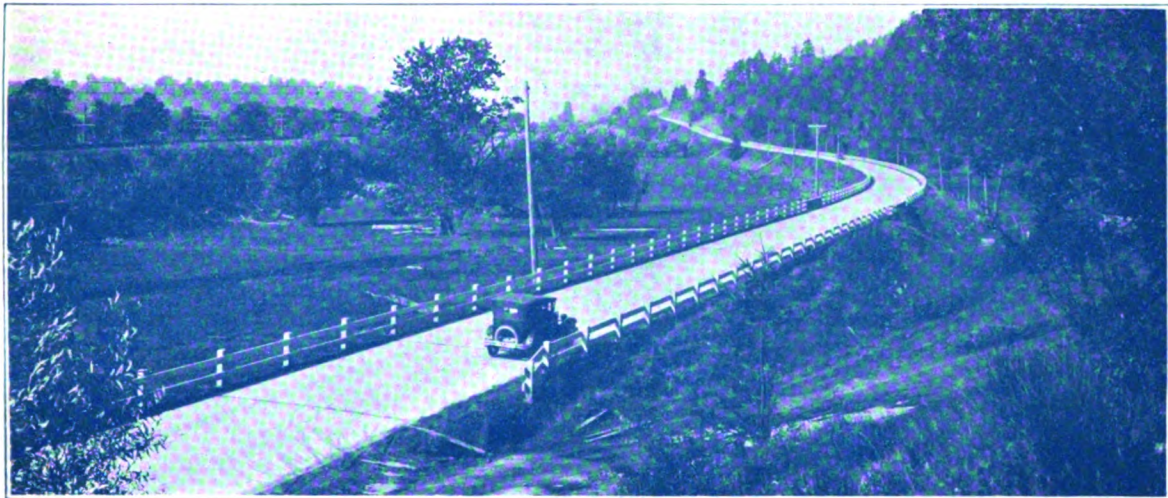
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Two Dollars a Year.



### *Two Notable Scenes on the Pacific Highway*

*These illustrations show, first, the beautiful scene on the newly paved section of the Pacific Highway, between Kalama and Toledo, Wash. The concrete pavement was made in the autumn of 1923. The second view shows the steel bridge between Portland and Vancouver over which highway traffic and electric cars pass.*

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## The Conveyor System in Modern Packing and Storage Plant

By W. A. SCOTT

The Hood River Apple Growers' Association, comprising 800 members, produces and markets 60% of the fruit grown in Hood river valley in the northern part of Oregon. The orchard holdings range from 5 acres to 500, with an average of about 20. The association owns and operates a packing plant at Parkdale, in the upper part of the district, where from 50,000 to 75,000 boxes of fruit are graded and packed each season.

The crop of yellow Newtown, Spitzenburg and a few other varieties of apples are wrapped in oiled paper. Mechanical graders are utilized at all the packing plants that handle association fruit.

The association has four storage warehouses,

three of which are well equipped with cold storage facilities. Two of these are located at Hood River, the other two being at Van Horne and O'Dell stations in the central part of the valley. The association crops, which for 1923 amounted to 1,750,000 boxes of apples and 200,000 boxes of pears, were all shipped from those warehouses. Excepting for early autumn marketing, the boxed fruit is practically all shipped out of cold storage compartments. The culls, which are not brought to the association warehouses, are disposed of by the individual growers.

The association's principal storage and shipping warehouse, which is at Hood River, has some



Conveyor System on First Floor of Warehouse

Portland Cement Co., where his father, J. C. Smallshaw, well known in the cement industry, was general manager. Ralph Bird is manager of the cement mill sales for the Chain Belt Co.

**GEORGE A. HENDERSON**, consulting engineer with the Ordnance Department, U. S. Army, has resigned to go into private practice in New York City, in an office at 51 West 66th street, and will specialize in safety methods as applied to construction, industrial plants and celluloid, chemical and explosives manufacture.

**JOEL D. JUSTIN**, hydraulic engineer of the Power Corp. of New York, Watertown, N. Y., has been engaged as consulting engineer by the Japanese government to go to Formosa and make an investigation and report on the feasibility of a project involving a large hydraulic-fill dam. The proposed dam will be about 165 ft. high and will contain about 5,000,000 cu. yds. of material. Mr. Justin will leave San Francisco Dec. 5 on the *Korea* and expects to return to this country next March.

**MARTIN G. SPERZEL** has been made vice-president of the Royersford Foundry & Machine Co., Royersford, Pa. Mr. Sperzel's rise to his present position is most interesting. Nine years ago he went with the company as an engineer and salesman, leaving the engineering and sales department of the Standard Roller Bearing Co. Within a few years he was the principal salesman. On the retirement of John D. Sells, sales manager, Mr. Sperzel succeeded him. Recently, when H. R. Willi retired from the Royersford company, the directors agreed upon Mr. Sperzel as vice-president.

**JOHN F. CHRISTOPHEL**, secretary of the Department of Public Safety, St. Louis, has been promoted to the position of Director of Public Safety at St. Louis, following the resignation of **JAMES N. MCKELVEY** who has assumed the presidency of the Clayton Quarry Co., St. Louis. Mr. Christophel was in the building department at St. Louis for 13 years, serving as inspector, permit clerk, chief clerk and secretary. Upon his assuming the place as director of public safety, he appointed **WILLIAM E. C. BECKER**, who has been chief engineer of the building department, as building commissioner for the city.

**F. A. SMITH**, civil engineer, has severed his connection with the Bureau of Engineering of the Department of Public Works, Chicago, and has opened an office at 208 North Wells street, Room 411, Chicago, where he will devote his time to consultations on engineering matters. With the experience gained in 20 years of railway work and 27 years in municipal engineering, Mr. Smith feels qualified to give especially good service on consultations relating to hydraulics, municipal and railway construction problems. He is also prepared to give private lessons in technical arithmetic, mathematics and in the solution of engineering problems to anyone desiring such instruction. His residence number is 2410 Smalley court, Chicago.

**LEONARD PECKITT** has been appointed president of the Warren Foundry & Pipe Co., Phillipsburg, N. J., which has recently been acquired by the Republic Steel Co., 120 Broadway, New York City. W. H. Hulick, former president of the Warren company, will serve as

vice-president, and A. L. Reiley, also of the Warren organization, will continue as secretary. L. R. Dohn, of the Republic company, has been appointed treasurer. The duties of this position were formerly handled by Mr. Hulick, who was assisted by A. D. Chidsey, vice-president. The Warren company will retain its name and will be managed along strictly the same lines as heretofore. J. H. Morrison will remain as general sales manager. While it is planned to consolidate the two executive offices, which are in New York, the permanent address has not as yet been decided upon.

**E. E. SIEG** and **J. C. HAGGART**, general sales manager and chief engineer respectively of the Republic Motor Truck Co., Inc., Alma, Mich., are making a trip to the Pacific coast to investigate the truck situation in that territory. Republic trucks have always been popular sellers in the west coast states, partly, of course, because of the exceptional power which Republic trucks possess for negotiating the steep grades in that region, and partly because the Republic truck company has always made a special effort to provide Republic owners in the western part of the country with practically direct factory service. With a complete chain of distributors up and down the Pacific Coast, each carrying a complete stock of genuine Republic replacement parts, the factor of distance has been eliminated to a great extent. Starting with San Diego and Los Angeles, Mr. Sieg and Mr. Haggart will visit every distributor on the coast up to Seattle, Wash. On the return trip, stops will be made at Denver and several Texas distributing points.

**COL. WILLIAM D. WRIGHTSON**, sanitary engineer, U. S. Public Health Service, has succeeded a physician as health officer of Quincy, Ill. Colonel Wrightson has had a wide experience in sanitation and public health work with the Public Health Service, U. S. Army, International Health Board and foreign governments. Colonel Wrightson is a graduate of the University of Maryland. Until 1910, when he first entered sanitary engineering work (as an assistant to General Gorgas in the Panama Canal Zone) he engaged in both railroad and mining engineering work. After two and one-half years on the Panama Canal he was made chief engineer of the Texas Co. at Houston, Tex., and in 1913 became engineer for the Pasadena Petroleum Co., Shreveport, La. Colonel Wrightson then spent some months as sanitary engineer for the expeditionary forces of the U. S. Army in Vera Cruz, Mex. Early in the United States' participation in the World War he was placed in charge of the Sanitary Corps of the National Army.

**THEODORE PILGER** of Butte, Mont., has been appointed trade commissioner to Berlin, Germany, as announced by Dr. Julius Klein, director of the Bureau of Foreign & Domestic Commerce. As a graduate of the Montana School of Mines, Mr. Pilger has had an extensive and varied career as a mining and mechanical engineer, sales engineer and geologist. As a member of the Commercial Attaches staff in Berlin he will devote his attention particularly to the metallurgical situation and will follow closely the developments in the German machinery and agricultural implements, electrical apparatus industries and allied trades. During the last 10 years Mr. Pilger has served in various

capacities; as assistant city engineer of Butte, Mont.; mineral land surveyor in the state of Montana; geologist, mechanical and mining engineer for the Butte & Superior Mining Co.; general manager of gold properties in Alaska and sales engineer of the electrical, mining, cement and mechanical engineering department of the Allis-Chalmers Mfg. Co., of Milwaukee.

**A. R. HIRST**, for 17 years chief engineer of the Wisconsin Highway Commission, and who resigned several months ago to enter the primary election for governor of that state, has been appointed chief engineer of the American Vibrolithic Corp. of Des Moines. Mr. Hirst severed his connection with the Wisconsin department to carry his fight for good roads to the people direct, feeling himself more capable of administering the broad aspects of highway work as the state's chief executive than as chief engineer of the State Highway Department. Though defeated in the primaries he polled a large vote. Hereafter Mr. Hirst will devote his entire time to the technical and engineering features of vibrolithic concrete pavements and bases and to the service of the corporation's clients. During his 22 years of professional service Mr. Hirst has served three states in highway engineering work, first in the highway division of the Maryland Geological Survey, then the Illinois Highway Commission and finally that of Wisconsin. Mr. Hirst is past president of the American Association of State Highway Officials, to which office he was elected in 1912, and has been a prominent figure in the deliberations of that association for years.

**SIR FREDERICK MILLS** in being elected president of the Iron & Steel Institute for the coming year, shows that the members of that organization have indicated their wish to work in close cooperation with the industry, since the president-elect is one of the prominent figures of the British iron and steel industry. Sir Frederick Mills was born at West Hartlepool in 1865, his father, Mr. Leighton Mills, being general manager of Pyle Spence & Co., ship-builders and engineers that town. Sir Frederick was educated privately and was an undergraduate of Durham University. He served his apprenticeship as an engineer at Palmer's in Jarrow and afterwards served in their steelworks. After being steelworks manager at West Hartlepool and Wishaw in Scotland he was appointed in 1899 as general manager of the Ebbe Vale Steel, Iron & Coal Co., Ltd. In 1910 he was made managing director, and chairman in 1919. During the war Sir Frederick was made an honorary colonel and a member of the Welsh army council. He was instrumental in recruiting many thousands of men to the fighting services, raised a special battalion known officially as the Tenth South Wales Borderers, or locally as "Mills' Army," and was appointed a deputy lieutenant of Monmouth and in 1921 created a baronet by the king. Sir Frederick joined the Iron and Steel Institute in 1896, was elected a member of council in July, 1914, vice-president last year and is now president-elect.

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## OBITUARY.

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**ROBERT M. DOWNIE**

Robert Magee Downie, secretary and general manager of the Keystone Driller

Co., Beaver Falls, Pa., since its organization, died on Oct. 23 in the Beaver Valley General Hospital. Mr. Downie was stricken by an acute attack of appendicitis on Oct. 17 and taken immediately to the hospital. He rallied for a time, but his condition made his recovery impossible. Mr. Downie, the eldest of five brothers, was born near Harmony, Downey county, and at the age of 6 his family moved to Downieville where he attended the public schools.

Later, he taught in the Butler county school, after which he matriculated at Geneva College, graduating in the first class to receive diplomas.

In 1881, following his graduation, he, with his brother, John G. Downie, invented and patented a portable drilling machine, the first of its kind ever made. Placing his invention before some of the



Robert M. Downie

most influential men he was given hearty support. Soon afterward the Keystone Driller Co. was formed, the original members being J. D. McAnlis, Rev. H. H. George, Robert Patterson, Dr. R. J. George and Mr. Downie. The first plant was located at Fallston, but it became too small, and it was moved to its present site in upper Eighth avenue, in 1882. Mr. Downie was elected secretary and general manager, at the organization of the company, and served in this capacity until his death. Only last January at the annual meeting Mr. Downie read his forty-second consecutive annual report.

Shortly after the formation of the company Robert Downie and his brother, J. G. Downie, invented the Downie pump, which for a time was manufactured at Downieville, but the stock was later bought by the Keystone company and for some years the pump has been manufactured in Beaver Falls.

During the past 10 years Mr. Downie had invented certain improvements in the Keystone excavating machine, development and manufacture of which begun by the Keystone Driller Co. in 1913.

He invented the vitrified paving brick and with George F. and the late T. Livingstone Kennedy of New Brighton, formed the Fallston Fire Clay Co. He also was connected with the Pittsburgh Wire Co. at Downieville.

Pre-eminently a business man, Mr. Downie was also an author and deeply interested in religious and educational affairs. His death will be mourned by a large circle of friends.

He was a charter member of the College Hill Reformed Presbyterian church and with J. D. McAnlis had served as an elder since the formation of the congregation. He also was a member of the board of directors of Geneva College and devoted much time to its affairs. He was a member of the board of directors of the National Reform Association and numbered among its largest contributors.

Robert M. Downie was an author of note. Among his works was "The Kingdom of Christ," which received many favorable comments. A book of poems entitled "The Marriage of the Dawn" was much read. His latest work, "The Resurrection and Its Implications," is just off the press but is already highly praised.

On November 23, 1883, Mr. Downie married Martha Margaret Vale of Van Buren county, Iowa, daughter of Jacob G. Vale. Mrs. Downie died April 13, 1908.

Mr. Downie married Margaret Greer Dick, of Greensburg, in 1909.

Surviving are the widow, two sons, James Vale and Robert Rex. A third son, John Lincoln, lost his life during the World War. Three daughters, Dr. Regina Martha, Mrs. Mary Lydia White of Hickory and Elizabeth Jane, also survive, as do one brother, J. L. Downie of Downieville, and two sisters, Mrs. E. T. Hays and Mrs. W. R. Cook of College Hill.

COLEMAN MERIWETHER, well known throughout the world as an inventor of concrete pipe joints and as a designer and manufacturer of reinforced concrete pipe, died in New York, Oct. 8, 1924, and was buried in Cave Hill cemetery, Louisville, Ky., in the Meriwether family plot. Mr. Meriwether was born at Louisville July 14, 1875. After receiving his school education in the Louisville public schools and the Lawrenceville school, Lawrenceville, N. J., Mr. Meriwether worked in the engineering departments of Snead & Co., architectural iron works, and of various southern railroads. Later becoming interested in protecting timber piles by using lock-joint pipe, he developed the sewer pipe

joint known as the Meriwether system of lock-joint pipe and became president of the Lock Joint Pipe Co. of New York, and later was vice-president of the Canadian Lock Joint Pipe Co., Limited, of Regina, Saskatchewan, Canada. In 1917 Mr. Meriwether was appointed manager of the Cement Products Bureau, Portland Cement Association, Chicago, which position he resigned to form the Meriwether Pressure Pipe Co., of which he was vice-president and engineer. In promoting the use of reinforced concrete pipe Mr. Meriwether traveled throughout the civilized world and covered nearly every state in the United



Coleman Meriwether, Born July 14, 1875, Died Oct. 8, 1924

States, every province of Canada and foreign lands including Cuba, the Continent, Great Britain and South America. Wherever Coleman Meriwether went he made a host of friends and was affectionately known as "Merrie." He was well known in the American Society of Civil Engineers, American Society for Testing Materials, Engineering Institute of Canada, American Concrete Institute and the Engineers' Club of New York City, in which organizations Mr. Meriwether held memberships. On June 21, 1919, Mr. Meriwether married Miss Jessie Burks Scott of Lynchburg, Va., who survives him. A fitting epitaph for Coleman Meriwether may well include these thoughts: "He achieved success in that he lived well, laughed often, was loved by many. He left the world better in that his work for civilization endures and has been an inspiration to others. His memory is revered by many friends."

## Book Reviews

*Contract Cost Keeping and Cost Codes for Distribution of Costs*; 37 pp., 5¼ by 7 ins.; illustrated. Published by Contractors' Association of Northern California, 625 Market street, San Francisco.

The primary object of the book is to

furnish the contractor with a simplified and practical treatise on contract cost keeping together with a well-arranged code of class and operating numbers, with examples to explain their application. No attempt is made to outline a general bookkeeping or accounting sys-

tem since they are not cost keeping. Some of the common problems with which the book deals are: Attempting to make cost segregations on pay roll forms, prorating costs of replacements and heavy maintenance, charging minor maintenance, and charging out materials