FILE NAME: Metropolitan Life (ML)

DATE: 1932c

DOC#: ML007

DOCUMENT DESCRIPTION: Excerpt - Autobiography of Surgeon R.R. Sayers

AUTOBIOGRAPHY OF SURGEON R. R. SAYERS

[n.d., circa 1932]

Dr. R. R. Sayers, Surgeon of the United States Public Health Service, was born at Crothersville, Indiana, October 25, 1885. He graduated from the University of Indiana in 1907 with the degrees A. B. and A. M., having majored in chemistry and electro-chemistry. From 1907 to 1910 he was chief chemist for the Gould Storage Battery Company; from 1911 to 1913 he was professor of electro-chemistry at the University of Buffalo, and in 1914 graduated from that University with the degree of M. D.

On June 16, 1913, Dr. Sayers became an interne in the Public Health Service Hospital at Buffalo, N. Y., and on July 1, 1914, he was transferred to Ellis Island. On October 19, 1914, he took the examination for appointment as Assistant Surgeon from Indiana. His nomination was confirmed by the Senate in December, 1914, and his commission as Assistant Surgeon issued on January 6, 1915. On January 9, 1915, he was relieved from his internship and ordered to Ellis Island Hospital for duty. Early in February, 1915, he was detailed to the Coast Guard Cutter Seneca. After one year he was transferred to the Marine Hospital at Stapleton, N. Y., where he served for about two months when he was ordered to Greenville, S. C., for rural sanitation work. On July 5, 1916, he was relieved from duty at Greenville and directed to proceed to Liberty, Mo., by way of Jefferson City, Mo., for similar duties. On

October 23, 1916, he was directed to proceed to Washington, D. C., for temporary duty at the Hygienic Laboratory. On February 24, 1917, he was directed by the Surgeon General to proceed to Okmulgee, Okla., where he was engaged in rural sanitation investigations until April 4, 1917, when, on account of military necessity, he was ordered to proceed immediately to Galveston, Texas, to report to the Coast Guard Cutter Comanche for duty, where he served until early in June, 1917, when he was transferred to the Plague Laboratory at New Orleans, La., and in July, 1917, he was directed to report to the U. S. Bureau of Mines for duty. He was assigned to one of the mine-rescue cars to conduct investigations on the conditions affecting the health of the miners and their families.

On September 16, 1918, while with the Bureau of Mines, Dr. Sayers, at the request of the Director of that Bureau reported to the American University Experimental Station, Washington, D. C., to study the physiological effects of poisonous gases and the use of gas masks and breathing apparatus.

On November 1, 1918, Dr. Sayers received orders for duty in Massachusetts and was assigned to Connecticut in charge of the Service work in connection with the influenza epidemic. On November 25, 1918, he was directed to proceed to Joplin, Mo., and such other places as necessary in that vicinity for the purpose of assuming charge of a tri-state sanitary district to be composed of Ottawa County, Okla., Jasper County, Mo., and Cherokee and Crawford Counties, Kans. On September 5,

1919, he was relieved of duty in the tri-state district and informed that his application for four months' leave had been granted. On December 11, 1919, he was directed to report to the Public Health Service at Washington, D. C., for examination to determine his fitness for promotion to the grade of Passed Assistant Surgeon. His commission as Passed Assistant Surgeon was issued effective January 1, 1920.

On February 4, 1920, Dr. Sayers was relieved from further duty with the Section of Industrial Hygiene and directed to report to the Director of the Bureau of Mines, Washington, D. C., for duty. On February 9, 1920, the Director of the Bureau of Mines assigned him as Chief Surgeon of that Bureau with headquarters in Washington, D. C.

Dr. Sayers has continued to date with the Bureau of Mines in charge of its investigations into the conditions affecting the health and safety of miners. On January 6, 1923, he received his commission as Surgeon in the Public Health Service. On April 12, 1923, he was authorized and directed to proceed to Melbourne, Australia, to attend the meeting of the Pan-Pacific Scientific Congress and from thence to proceed to Johannesburg, South Africa, to study the problem of mine ventilation, prevention of dust in mining, and miners' diseases, including silicosis on the Rand in South Africa, and then to proceed back to his station via England for the purpose of studying British methods of conducting mine-rescue stations and investigations of miners' diseases. The expenses of this trip were borne by the Bureau of Mines.

At the request of the Bureau of Mines, Dr. Sayers was redetailed to that Bureau on February 4, 1924, and again on February 4, 1928.

On July 15, 1926, a new branch, to include the Health Division and the Safety Division, was created in the Bureau of Mines. This was designated as the Health and Safety Branch with Dr. Sayers appointed as chief. He also retained his title of Chief Surgeon. On December 10, 1930, a new division, the Demographical Division was created in the Health and Safety Branch and the Accident Statistics Section of the Mineral Statistics Division of the Economics Branch transferred to the new Demographical Division. The work of this division includes statistical studies regarding accidents, health and safety in the mineral and allied industries. This division is under the direct control of the Chief Statistician.

As chief of the Health and Safety Branch, Dr. Sayers is responsible to the Director of the Bureau of Mines for the selection of plans for the work of the branch in making surveys and statistical studies of conditions in the mining, metallurgical, and allied industries as to health and safety, and in giving instruction in the use of mine-rescue and recovery apparatus, in first-aid and accident prevention, and in mine-rescue and recovery operations after mine disasters. He makes final selection of problems to be carried out, determines the scope of the investigations and criticizes the results. He has veto power, subject to appeal to the Director, over the choice of personnel and assignment to their duties. The 11 mine-rescue stations and 10 mine-rescue cars operated by the Bureau are under his administrative supervision, direct control being under the chief engineer of the Safety Division. As b branch chief, Dr. Sayers is a member of the Personnel Board of the Bureau of Mines. This board reviews and revises efficiency ratings of all employees, considers and recommends to the Director all questions that arise in connection with the Classification Act, and all requests for creation of new positions

and suggestions for promotions in the Bureau. He is also a member of the Publications Committee of the Bureau of Mines which considers the usefulness or public need of papers submitted for publication, whether or not they should be for free distribution, approval of mailing lists, budgeting of funds, determination of causes of delay in publication of results after completion of investigations, methods of keeping track of progress of manuscripts with the object of speeding publication, preparation of general outlines for preparation of manuscripts, etc., all with the object of securing better publications and more of them, with the limited funds available.

The Health Division, under Dr. Sayers' direct control as Chief Surgeon, has about 25 employees, including five Acting Assistant Surgeons detailed from the Public Health Service, who carry out the following duties:

1. Field investigations, which include a clinic for the examination of miners to determine the effects on health of conditions under which they are actually working; and sanitary surveys of mining camps, study of medical organizations and industrial hygiene and causes of death of miners, and dust and ventilation in mines.

2. Laboratory investigations, which include

   a. Gas laboratory for analyzing gases and dusts collected in mines and tunnels; experimental studies on effects on men and animals of various gases, as carbon monoxide, hydrogen sulphide, sulphur dioxide, oxygen, etc.

   b. Physiological laboratory for examining animal tissues exposed to various toxic substances to determine their pathological effects on men and animals.

   c. Dust laboratory for experimental studies on animals to determine effects of various dusts.

   d. Gas-mask laboratory for developing masks for protection against various vapors and dusts and approval of manufactured gas masks.

   e. Compressed-air laboratories for experiments on the use of synthetic atmospheres in the prevention and treatment of caisson disease.

f. Air-conditioning laboratories for studies on physiological effects of atmospheric conditions, such as abnormal temperatures and humidities.

g. Stream pollution laboratory for investigation of methods of disposal of waste waters from mines and prevention of stream pollution from acid mine drainage.

The Safety Division, which employs about 100 persons, is engaged in the following work:

1. Instruction Section engaged in

a. Training employees in the mining and allied industries in methods of first aid to the injured and in the use of mine-rescue apparatus.

b. Instruction in mine safety involving the making of mine examinations and recommendations for improvement of unsafe conditions observed.

c. Giving instruction to mine officials in the proper handling of mine disasters.

d. Establishing and keeping in active working condition local safety organizations in the form of Holmes Safety Chapters.

e. Assisting at various State and company first-aid and mine-rescue contests and having charge of the International First-Aid and Mine-Rescue Contest.

2. Emergency Section engaged in

a. Assisting at mine disasters involving mine explosions, fires, floods, and cave-ins.

b. Investigating and preparing reports on causes of disasters and making recommendations for prevention of recurrence.

The Demographical Division, which employs 15 people, is engaged in the following work:

1. Statistical inquiry into the causes, number, and frequency of accidents of different type to men employed in the mineral industries.

   a. In connection with the study of accidents, printed schedules are mailed at the close of each calendar year to all mines and quarries in the United States and to all coke ovens, mills, and smelters (exclusive of blast furnaces). The figures furnished on the schedules are tabulated and statistical tables prepared therefrom to show the occurrence of accidents within the industries and the progress being made in the prevention of accidents.

   b. Publications containing the above information are issued annually and are furnished without charge to all companies requesting them. In addition monthly reports are issued showing the number and causes of fatal accidents in coal mines, and the relation between the occurrence of accidents and the quantity of coal produced. These reports are prepared from information furnished by the State mining officials of the various coal-producing States.

2. Statistical inquiries regarding the health hazards surrounding the miners in their daily work, which to the workers are of equal importance with those regarding accidents. Studies already made show that approximately one-third of all deaths among miners is due to accidents and two-thirds to disease.

3. Collection of statistics relating to the use of explosives for mining and other work. The United States uses in its various industries approximately half a billion pounds of explosives each year. Three-fourths of this amount is used in blasting operations in mines and quarries; the coal-mining industry uses about a million pounds a day for each of the 200 days which is about the average number of working days in a year. The object is to learn the extent to which permissible explosives are replacing more dangerous kinds of explosives in coal-mining operations.

4. National Safety Competition is conducted for the promotion of safety in the mineral industry and the development of friendly rivalry among the competing companies, about 300 mines and quarries representing 30 of the 48 states participating yearly. The immediate object of the contest is the winning of a trophy known as the Sentinels of Safety, which portrays in bronze a mother and child greeting the father upon his safe return from work. The name of the mine or quarry which wins the right to hold the trophy for a year is engraved on the front of the pedestal. There are five of these trophies, presented by the Explosives Engineer magazine. Companies that enroll in the contest are divided into five groups according to the commodities produced, that is, they are classified under anthracite coal mines, bituminous coal mines, metal mines, nonmetallic mineral mines, quarries and open-cut mines. Each contestant furnishes the Demographical Division with a report of each individual accident that disables an employee beyond the day of the accident and also monthly reports of the number of man hours worked. This last item is used as a basis for calculating the accident rates which determine the relative standing of the various companies. The trophies are awarded to the companies having the smallest loss of time from accidents in proportion to the total number of man-hours worked by all employees at their mine or quarry. Honorable mention is awarded to each mine or quarry that ranks second, third, fourth, or fifth in its own group.

Dr. Sayers belongs to the American Medical Association, American Public Health Association, Association of Military Surgeons, Association of Medical Veterans of the World War, American Institute of Mining and Metallurgical Engineers, and the Cosmos Club. He is a member of the following committees:

Chairman, Committee on Industrial Hygiene of the International Union of Chemistry.

Chairman, Hero Awards Committee, Joseph A. Holmes Safety Association.

Chairman, Committee on Pneumoconiosis, American Public Health Association.

Chairman, Subcommittee on Physiological Factors in Ventilation, American Institute of Mining and Metallurgical Engineers.

Committee on Safety Goggles, Helmets, etc., Federal Specifications Board.

Committee on Research, American Society of Heating and Ventilating Engineers.

General Requirements Committee, General Specifications Committee, and Approval Requirements Committee, of the American Gas Association (representative for Public Health Service).

Committee on Ventilation, National Safety Council.

National Committee for the United States of the Fifth International Medical Congress on Industrial Accidents and Diseases.

Representative for the Bureau of Mines on Personnel Research Federation.

Committee on Mining Methods, American Institute of Mining and Metallurgical Engineers.

Committee on Housing and the Community of The President's Conference on Home Building and Home Ownership.

Subcommittee on First Aid and Water Safety of the National Committee on Health and Safety of the Boy Scouts of America.

Committee on Standard Practices in the Problem of Compensation of Occupational Disease, American Public Health Association.

Subcommittee on Excavating, Foundation Work, Blasting, and Compressed Air Work of the Committee on Construction Safety Code of the American Standards Association.

New York State Department of Labor Advisory Committee to Draft Rules on Regulation of Rock Drilling, Sand Blasting, and Rock Crushing.

The following list of publications prepared by Dr. Sayers and others under his supervision indicates the character and scope of the investigative work with which he has been identified:

PUBLICATIONS BY THE BUREAU OF MINES

Bulletins

BULLETIN 222. Mercury poisoning. Chapter in Metallurgy of Quicksilver, 1925. R. R. Sayers.

BULLETIN 231. Investigation of toxic gases from Mexican and other high-sulphur petroleums and products, 1925. R. R. Sayers, W. A. C. Smith, A. C. Fieldner, C. W. Mitchell, et al.

BULLETIN 257. Review of safety and health conditions in the mines of Butte, Montana, 1925. G. S. Rice and R. R. Sayers.

BULLETIN 287. Gases from blasting in tunnels and metal-mine drifts, 1927. E. D. Gardner, S. P. Howell, and G. W. Jones.

BULLETIN 326. Explosives accidents in the anthracite mines of Pennsylvania, 1923-1927. S. P. Howell.

BULLETIN 331. Permissible methane detectors. A. B. Hooker, W. J. Rene, and H. D. Currie.

BULLETIN 336. Quarry accidents in the United States during the calendar year 1929, 1931. W. W. Adams.

BULLETIN 342. Metal-mine accidents in the United States during the calendar year 1929, 1931. W. W. Adams.

BULLETIN 341. Coal-mine fatalities in the United States, 1929, 1931. W. W. Adams.

(+20 pages of publications)