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MINING EDUCATION IN THE OHIO STATE UNIVERSITY.

BY ANDREW ROY.

The State University at Columbus is one of the best, if not the best educational institutions in Ohio. There are twenty departments in the school with a faculty of nineteen professors of acknowledged ability. The number of students in attendance is increasing yearly, and last year exceeded three hundred.

There is a department of Mining and Metallurgy in charge of Prof. N. W. Lord, an honored member of this institute and a gentleman of fine attainments and great ability. In this department the following subjects are taught: Metallurgy, Assaying, Mining, Engineering, Blowpipe Analysis, Ore Dressing, and Mineralogy. This department compares favorably with any of the technical courses in the

University and it has turned out a number of young men as engineers of mines, who are now usefully and profitably employed in their chosen sphere of action in the world's broad field of battle.

The Department of Mining Engineering in the University, because the professor in charge is a member of the Institute of Mining Engineering, and because the Institute has for one of its chief objects the welfare of the mining and metallurgical industries of the State, is one in which every member takes special interest.

The four years' course in this department is very complete in the laboratory work of Chemistry, as well as all the other branches taught. But considering the great and growing industry of mining,

the course in Mining Engineering should be enlarged so as to include the study of the methods and machinery employed in working coal and other minerals, the drainage and ventilation of mines, the causes of the vitiation of air underground and kindred subjects. Such a course was contemplated by the act creating the mining department in the University. The following is the law creating the Department:

SEC. 8435. That the trustees of the Ohio Agricultural and Mechanical College be and they are hereby required to establish in said college, a school of mines and mine engineering, in which shall be provided the means for studying scientifically and experimentally the survey, opening, ventilation, care and working of mines, and said school shall be provided with complete mining laboratories for the analysis of ores, coals, and other minerals, with all the necessary apparatus for testing the various ores and coals and also with the models of the most improved machinery for ventilating and operating all the various kinds of mines with safety to the lives and health of those engaged.

(8436) SEC. 2. Said trustees may require one of the professors now authorized to be employed in said institution, to give instruction in the most improved and successful methods of opening and operating and surveying and inspecting mines and in the methods of testing and analyzing coals and other minerals, especially those found in the state of Ohio. It shall also be the duty of such professor to register all experiments made in testing the properties of coal and other minerals, and such results shall be published in the annual reports of

said trustees. It shall also be the duty of said professor to preserve in a cabinet, suitably arranged for ready reference and examination, suitably connected with this school of mines, samples from the specimens of the various mines of the state, which may be sent for analysis, with the names of the mines and their localities in the counties from which they were sent, and the analysis and a statement of the properties attached. It shall also be his duty to furnish analysis of all minerals found in the state and sent to him for that purpose by residents of this state.

(8437) SEC. 3. There is hereby appropriated out of the general revenue fund, the sum of four thousand five hundred dollars, to be expended in providing apparatus, equipments, cabinets, etc., as mentioned in the first and second sections of this act.

SEC. 4. This act to take effect and be in force from and after its passage.

The Department of Mines in the State University has neither received the necessary appropriations from the General Assembly, nor the proper countenance and support from those who should be most interested in the success of the department which its merits require. The salary of Prof. Lord is only \$1,000 a year and the larger portion of this is paid by the fees received for chemical work from the State Board of Agriculture and from the Geological Survey. The necessary expenses of the laboratory, in which the experimental work is done, is made up in the same manner.

The Ohio Institute of Mining Engineers has not taken the sufficient interest in this department. The mining and metallurgical in-

dustries of the State, next to agriculture, are the basis of the wealth and prosperity of our people, and the Department of Mines in the State University, ought to rank first among the technical courses of that institution. and the sphere of education should be broadened and made as practical as possible.

The following subjects which are taught in the School of Mines in New York, show how far we are behind in this matter:

General principles relating to subterranean transportation; methods and machinery employed for extracting minerals from the pits, and for facilitating ascent and descent of workmen; drainage of mines, theory of infiltrations of water, methods and machinery for draining or freeing mines from water; ventilation of mines, causes of vitiation of the air of the mines, quantities of fresh air required under various circumstances, natural ventilation, mechanical ventilation by fires and by ventilating machinery, distribution of air through galleries and workings; graphical illustrations of exploratory workings, methods of exploit-

ation. machinery for hoisting, pumping, ventilation and transportation, including the use of steam-engines and pumps, air compressors, air engines, pumping engines, winding engines, centrifugal and other ventilating machines.

The introduction of similar branches in the Department of Mines of the Ohio State University would be attended with highly beneficial results. No mining education can be considered complete which does not include a study of the branches which I have quoted.

We have the law upon the statute books of Ohio providing for the means for studying scientifically and experimentally the survey, opening, care, ventilation and working of mines, and also models of the most improved machinery for ventilating and opening all the various kinds of mines with safety to the lives and health of those engaged, and also providing means for imparting instruction in the most improved and successful methods of opening, operating, surveying and inspecting mines, but the law is a dead letter.

