

## MINING SCHOOL PROBLEMS

President William B. Phillips, of the Colorado School of Mines, in the November issue of the magazine published by that institution, calls attention to some Western mining school problems. Among other things, he says: "If we cannot link the actual practice in mine, mill and smelter, with the instruction in mining schools, something is wrong with the schools. I do not mean by this that any mining school should even pretend to graduate miners, millmen or furnace men. This is not the proper work of any such school." President Phillips considers that the great function is to train young men to think. "The training in such highly specialized matters as mining, ore dressing and metallurgy, is largely of a more or less prophetic nature. It is based upon the ability to forecast the future and to provide against its demands." Many will agree with President Phillips in his appeal for a thorough grounding in fundamentals. "There must be a thorough grounding and training in English, mathematics, chemistry, physics, mineralogy, the elements of geology, especially structural geology, metallurgy, commercial geography, social economy and history, and one or more foreign languages. I do not mention these things in the order of importance, but I do venture to say that English and mathematics are, by no means, the least important. And by English I do not mean the study of Milton, or Shakespeare, Ruskin or Emerson, but the acquirement of a good working knowledge of ordinary correct verbiage and phraseology, of correct spelling and correct grammar. By mathematics I do not mean calculus or the geometry of the Fourth Dimension, but I do mean arithmetic, algebra, plane and spherical trigonometry, and plane and solid geometry. Reliable statistics are lacking, but I believe that a large proportion of the scholastic troubles in mining schools are due to lack of thorough training in mathematics and English."

"A mining engineer should be of better and more thorough training than any other kind of an engineer, for he is called upon to know and to do more different sorts of things than any one of his ilk. He is, or rather should be, versed in civil, electrical, mechanical, hydraulic, mining and metallurgical engineering, have a working knowledge of one or more foreign languages, be able to speak and write the English language correctly, and to handle men."

In other words the mining engineer's training should include two or three years of general college work, followed by three or four years of more specialized study. The problem is how to condense it all into three or four years.

## THE OIL FLOTATION PROCESS

Owing to the successful adoption of the oil flotation process by several large mining companies, flotation methods are attracting the attention of mining men everywhere. Our readers will therefore be interested

in the paper by Mr. J. M. Callow, which is to be presented at the New York meeting of the American Institute of Mining Engineers, and which is published in this issue.

It has been found that minerals can be separated by treatment in machines with oil and acid. Certain minerals rise with the froth when the mixture is agitated, while others do not rise. By experimenting with various oils it has been found possible to make a very complete separation of the minerals in many ores. During the past few years metallurgists have made innumerable tests on hundreds of ores. The results in some cases have been excellent.

Concerning the discovery of the oil flotation process there are many stories. One story which has been given wide publicity is that the credit belongs largely to an observing Colorado woman, Carrie Jane Everson, who noted the selective action of suds while washing her brother's shirt. The Colorado Scientific Society has recently appointed a committee composed of George E. Collins, Philip Argall, and H. C. Parmalee, to investigate her claim to the honor.

It is said that over 165 patents have been granted to inventors covering various phases of the process. In the United States there are now scores of flotation plants in operation.

One of the greatest successes in the use of flotation process is the plant of the Britannia Copper Company at Britannia Beach, Howe Sound, British Columbia. In Ontario the process has been tried by the Mond Nickel Company for the treatment of nickel-copper ores, and is now being investigated by several of the companies operating at Cobalt. It is not unlikely that the accumulated tailings from the present concentration and cyanidation plants at Cobalt will eventually be treated by the flotation process.

According to a market letter issued by an enterprising New York firm of brokers, one of the largest silver interests in that city says in regard to the silver situation: "Mexico has produced practically no silver for months, and the Cobalt region has been unable to ship much silver, as its refining processes were dependent upon Germany, and that country naturally lent no aid to the Canadian region." Our New York friends will be disillusioned if the price of silver keeps climbing as it has during the past week.

By courtesy of the Ontario Bureau of Mines, we publish in this issue a report by Mr. Jas. Bartlett on the gold discovery made on the Rognon property south of Dryden, Ont. The Dryden district has been given a bad name by several failures there; but there is no good reason to conclude that none of the deposits can be profitably worked. Mr. Rognon's discovery seems to be a very important one.