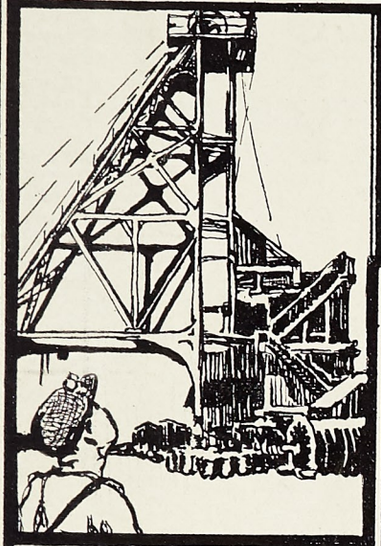
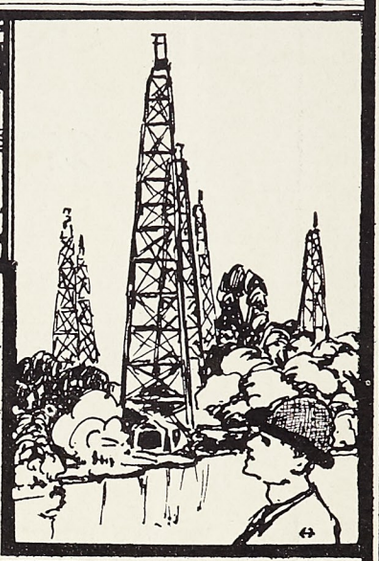
Missouri S&T Magazine, March 15, 1929

Miner Alumni Association

MSM ALUMNUS





MISS ELIZABETH LONG
16th Queen of St. Patrick

Volume Three

March 15, 1929

Number Three

SCHOOL *of* MINES *and* METALLURGY

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ALUMNI ASSOCIATION, SCHOOL OF MINES AND METALLURGY, ROLLA, MISSOURI

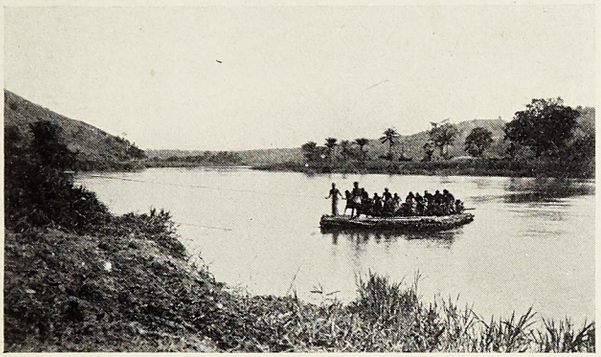
Volume Three | MARCH 15, 1929 | Number Three

Outfitting for the Tropics

What to Take Along when Equipping for a Trip

By A. V. Eulich
Tshikapa, Kasai, Belgian Congo

Members of the engineering fraternity are found in more odd corners of the globe than those of any other profession. Perhaps they are more adventurous or perhaps they have more opportunity to travel. At any rate, they are very much in evidence in the tropics. Medical science has made such rapid strides in recent years in the control of "fevers," that even the most timid spirit may now venture to the tropics without a qualm. Although life is less precarious than formerly, conditions are so entirely different that it is



A Native Ferry in Portuguese West Africa

imperative for the prospective traveler to seek advice in the selection of his personal outfit. It is not an easy matter even for the initiated to equip themselves for a sojourn of a year or more in the tropics. They usually arrive only to discover that they have overlooked some essential article. For the uninitiated, a still greater problem is present, and unless they are conversant with tropical life and outfit accordingly, they will subject themselves unnecessarily to hardships and privation.

Unfortunately, friends who have had tropical experience are rare. If available, however, their suggestions are invaluable. Books of travel are sometimes a source of information, but as a rule they deal largely with more general topics and not with means employed to cover one's nakedness and protection used against insect pests. Large companies operating in the tropics frequently send to their new employees a list of clothing and toilet articles, which they recommend for purchase, but there is usually too small a margin of time between receiving the list and the date of departure for it to be of much value.

Four important considerations influence the selection of an outfit: climate, nature of employment, manner and means of transportation and the civilized population. It must be remembered that altitude as well as latitude affects temperature. Temperatures which prevail on the coast are at great variance with those in the interior on higher ground, even on the equator. The seasons are classified as rainy and dry and are of nearly equal duration. The rainy season is also one of intense heat. Tropical nights are usually cool and sometimes actually cold. A person engaged for field work

(Continued on Page 9)

An Engineer As President

Engineers Will Be Interested In Herbert Hoover's Administration

The public in general, and members of the engineering profession, specifically, will watch with keen interest the work of Herbert Hoover, internationally known mining engineer, as president of the United States during his term of office. There is a growing feeling that the work of administering the affairs of the nation, the state, the city, and the county is becoming more and more a problem of engineering. In practically every department of the federal government engineering work forms an important part of its function. The reclamation service, the bureau of mines, the Indian service, the geological survey, the valuation work of the treasury department, the bureau of public roads, agricultural engineering, the bureau of standards, the work in the war and the navy departments, the interstate commerce commission, and many other departments of the federal government deal with engineering problems, some of great magnitude.

What is true of the nation is equally true of the state, the city, and to a lesser extent it is true of the county. R. E. McDonald, of Burns and McDonald, a firm of consulting engineers in Kansas City, has long been an advocate of the engineer taking a more active part in govermental affairs. In an address before the students at M.S.M. some two or three years ago he pointed to the great amount of engineering work all branches of government now demand, and urged the young engineer to take more interest in affairs of state. He pointed to the streets and sewers of our great cities, the public utilities, city planning, our great and rapidly growing systems of good roads, our county roads, all demanding a knowledge of engineering for their intelligent administration. Mr. McDonald is an advocate of the city manager plan of government, with the idea that the city manager, or the county manager, might and ought to be selected because of a knowledge of engineering, rather than because of political proficiency.

The engineering profession is a strenuous profession, and those who would keep abreast of the tremendous strides the profession is now making, must devote a considerable portion of their time to the reading and studying of problems related to it, and dealing with its progress. This does not leave a great amount of time for interest in other subjects, which possibly accounts for the general lack of interest the engineer usually displays in things related to government.

Hoover's training in exact thinking and his lifetime spent in dealing with facts such as the engineer must deal with, undoubtedly has developed a type of mind that will prove an interesting contrast to the lawyer type of mind such as usually predominates in governmental offices, a type of mind that delights in half-truths and distorted statements to justify a point. His world-wide experience, such as so many mining engineers especially engage in, should give him a grasp of foreign affairs that will be unusual in this high office. Every indication points to an interesting administration of our national affairs during the next four, and in all probability eight, years. It is an administration that will be watched with world-wide interest.

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Black Hawk Consolidated Mines Company

By Ira L. Wright, '07, Manager

THE MINE

The property of the Black Hawk Consolidated Mines Company consists of three major groups of claims in Grant County, New Mexico. The original, or Black Hawk Group, is situated in the Bullard's Peak district and was at one time a notable producer of high grade silver ore. The company was primarily incorporated to develop this ground. After considerable pumping and cleaning out of the old workings, with very little new development work, the activities of the company were transferred to the Central District, where the Lucky Bill and Combination groups had been acquired. The former had been a producer of lead and copper ore for twenty years and has continued to produce smelting ore under the company's ownership. The property is now producing in a small way and development is being carried on with good prospects of opening more direct smelting ore, or complex ore, such as the very high grade lead-zinc-copper ore recently developed in the Ground Hog claim adjoining the Lucky Bill on the north.

Recently the greater part of the work of the company has been the development of the Combination Group which extends from one to two miles south of Hanover. On the Combination claim of this group, a shaft has been sunk 625 feet and levels run at depths of 120, 200, 300 and 525 feet. The total of all development, lateral and vertical, is approximately 6500 feet. The above work includes the partial development of about 700 feet along an ore zone which extends through the property for 6000 feet. Before building the mill it was estimated that 80,000 tons of ore, averaging 2 oz. silver, 1.6% lead, 0.5% copper and 15% zinc, were in sight. Stoping of the various ore bodies indicates this tonnage will be exceeded without further development, which, however, is being carried on as ore is mined.

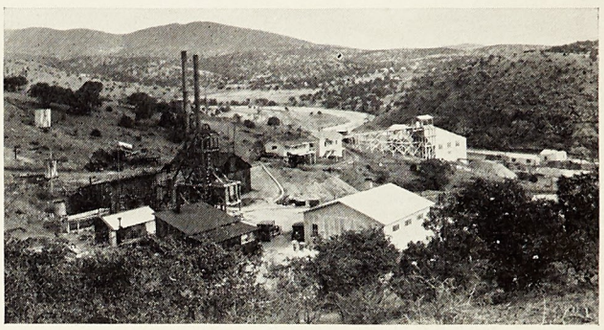
The limestone ores in this district occur mostly in the Pennsylvania and Mississippi beds. Of these two, the latter, locally called Lake Valley, and about 400 feet thick, has been the more productive. The former is divided into two beds known locally as the upper and lower Magdalena, each about 400 feet thick. The surface of the Combination group exposes upper Magdalena only, but all three beds have been penetrated by the 625 foot shaft. The 525 foot level penetrates only the upper 50 or 60 feet of the Lake Valley, except where faulting has brought a portion of this level an undetermined distance further down in the bed. Ore has been found and is being mined from all four levels and it is expected that the fifth, or 625 foot level, will be the most productive since it will penetrate approximately the center of the Lake Valley. This, as stated, above, is the most productive of the three. Porphyry dikes, parallel to fractures which seem to influence ore deposition, are found. The ore occurs, principally in a metamorphosed limestone, the predominating gangue mineral being Hedenbergite, but Garnet is common. Considerable iron pyrite accompanies the ore and large bodies of this mineral of no value occur, but usually near the zinc-lead ore bodies. Mr. J. H. Bell is superintendent of the mine operations.

Metallurgical tests made before building a mill indicated the ore is well suited to selective flotation and this has been proved by operation of the 100-ton mill, which was designed, built and placed in operation by the Southwestern Engineering Corporation.

THE MILL

The mill of the company is located on a natural slope below the mine shaft and above a spur of the Santa Fe Railway. The crushing plant and mill building were designed to handle 200 tons daily. The concentrating equipment installed will treat 100 tons daily.

The ore from the mine, a complex lead, zinc and iron sulphide is trammed over platform scales to a crude ore bin of 150 tons capacity. From this bin the ore is fed by means of a 24-in. steel apron feeder to a 15-in. Traylor jaw crusher and thence, by a 16-in. belt conveyor equipped with a mag-



Black Hawk Consolidated Mine and Mill

netic head-pulley to a short sorting belt where waste is rejected. From the sorting belt the ore goes to a 2 foot Symons cone crusher which delivers a ½-in. product to the mill bin of 150 tons capacity. A Southwestern ore sampler takes a cut from this feed for moisture and as a check on the head sample. From the storage bin the ore is fed by means of a Southwestern belt feeder to a No. 66 open discharge Marcy ball mill. The ball mill operates in closed circuit with a Duplex Dorr Classifier. The classifier overflow containing 32 to 34% of solids goes to a conditioning tank and thence to the lead section of the Flotation Plant.

The lead flotation section consists of one 12-foot Southwestern Air Flotation Machine as a rougher followed by an 8-foot cleaner and a 6-foot recleaner of the same type. The cleaner and recleaner tailings are returned to the lead conditioner through a 2-in. Wilfley Sand Pump and the rougher tailings are pumped by a similar companion pump to the first of two zinc conditioners. Series conditioners are used in the zinc flotation unit in order to give sufficient time to conditioning, obviating excessively large units.

From the zinc conditioners, the pulp enters the zinc flotation section consisting of two 12-foot Southwestern Air Flotation machines in series as roughers, followed by one 12-foot cleaner and an 8-foot recleaner of the same type. Concentrates from the first rougher and the upper third of the second rougher go to the cleaner. The balance of the second rougher concentrates with the cleaner and recleaner tailings are returned to the zinc conditioner. Tailings from the second zinc rougher are laundered to a tailings pond from which clear water is recovered and returned to the mill water supply tank.

Automatic pulp samples of millheads, lead concentrates, zinc concentrates, and mill tailings are obtained with the Southwestern automatic pulp samplers. In addition to these automatic samples, three laboratory size Wilfley tables cut in on the lead tailings, zinc concentrates and mill tailings giving a continuous visual sample of the mill operation.

The lead and zinc concentrates are laundered to Dorr thickeners located at the filter plant. Here a three-section American Filter discharges zinc concentrate from two of the sections and lead concentrate from the third section, direct to bins and thence to railroad cars.

Air for the flotation machines is supplied by a 24 cu. ft. Connersville blower operating at 350 R. P. M.

All mill units are driven by electric motors operated through remote control switches from a central operating platform. A 440-volt, 125 H. P. synchronous motor drives the ball mill. This enables the mill to maintain an operating power factor well above 90%. The ball mill is directly connected to this motor by means of a magnetic clutch. The other units are belt driven.

Flotation reagents used and the point of addition are as follows:

For the lead—soda ash, zinc sulphate, sodium cyanide and thiocarbanalid added at the ball mill.

Lead Conditioners—aerofloat and pine oil added at the lead conditioner.

The soda ash is regulated to maintain an alkalinity of Ph. 7.6 to 7.8 in the lead heads.

For the Zinc—copper sulphate, xanthate and aerofloat are added at the conditioners with a little sodium cyanide and lime direct to the recleaner. Sufficient lime is added here to maintain an alkalinity of Ph. 7.8 in the zinc heads. Adding the lime at the recleaner gives a Ph. in the recleaner circuit of 9.9 to 9.6. The zinc concentrates are thus separated from practically all of the free pyrite that may be floated ahead of this unit.

The soda ash, tho-carbanalid and lime are fed by means of Southwestern dry reagent feeders while the oils and other reagents are fed from Southwestern solution and oil feeders. All solution and oil feeders are located at the central operating platform, giving the mill operator control of his entire plant from this point. The operating force consists of one mill man and one helper per shift with a crusher man on the day shift and a filter operator for two shifts.

Excellent recoveries are being made on both lead and zinc with a high grade concentrate and an exceptionally high grade zinc concentrate for this type of ore. Mr. I. H. Stanley is Mill Superintendent.

Characteristic results from the mill operation are as follows:

Average tonnage per day 98.99.

ASSAYS

	Oz. Ag.	% Pb.	% Cu.	% Zn.
Heads	2.37	2.04	0.44	12.04
Pb. Conc.	50.99	47.87	4.66	18.24
Zn. Conc.	1.85	0.95	.....	56.85
Tailings	0.18	5.17	0.06	1.28

RECOVERIES

% Ag.	% Pb.	% Zn.
79.76	84.24	86.14

Director Fulton Talks on What the College Expects of Operating Companies In Receiving and Training Its Graduates

Abstract of Address Before February Meeting A.I.M.M.E.

In Director Fulton's talk before the A. I. M. M. E., at its February meeting, he pointed out that some ten or fifteen years ago there was little or no contact between technical schools and the industry, and that the schools made no effort to place their graduates in the industry, the graduate's first position usually being obtained by himself or through his friends, the friend often being a professor. He pointed to the present condition in many fields of industry as being entirely different from the old way, and stated that industry now takes a keen interest in the manner of training the men it later absorbs as technical workers. He cited the work of the electric manufacturing company and the communications companies in training their cadet engineers for their business. He also spoke of the study the Bell System has made of the records of college men in its organization, and the active participation of the Westinghouse Company with the Carnegie Institute of Technology in the training school for teachers of electrical engineering under the auspices of the Society for the Promotion of Engineering Education at Pittsburgh during 1928, and the coming meeting for teachers of mechanical engineering to be conducted by the Western Electric Company at Purdue University.

He also spoke of the rather intimate relations that exist between the ceramic industry and the technical schools.

The mining and metallurgical industry, according to Dr. Fulton, both in this country and in South America, is at present interested only through their technical personnel departments. The companies operating in foreign fields indicate more interest than those at home, for obvious reasons. He spoke of the present methods in use in most of the engineering schools whereby information on the personality and characteristics of the individual student is collected for the use of personnel departments of the industry in selecting the college graduates for their concerns, and suggested that the operating companies might help the personnel departments of technical schools by sending to the schools information regarding the success or failure of such men in industry.

Dr. Fulton thought there was a tendency on the part of the operating companies to obtain technical graduates for too little money, as technical graduates just out of school were not infrequently in debt for money borrowed to see them through part of their school course. Those attending technical schools are not as a common thing recruited from the affluent members of society and sometimes experience difficulties during their first years out by reason of the low initial wages paid by some companies. Average compensation in the United States, from data based on 425 requests for technical men to the personnel department of M.S.M. is $150 per month, though some companies offer $125 and a few $100. Dr. Fulton expressed it as his opinion that less than $150 is too little. For foreign service $175 to $200 per month, plus transportation, is usually offered.

It is recognized, according to Dr. Fulton, that the technical graduate just out of school is of little or only nominal service to his company for the first nine months or a year, but once he has demonstrated his capacity he should receive proper compensation, and there is some tendency he said to hold technical men for too little money. There can be little question that the technical man in industry has a highly important service to perform and the field should be attractive enough for the best men to enter it.

St. Patrick Comes Again

Elizabeth Long, Queen

St. Patrick's annual visit to the School of Mines which started with house parties on Thursday night, March 14th, was accompanied by the usual spell of bad weather that always hits Rolla on such an occasion. Rain started about two o'clock Friday morning and continued until Saturday noon. The weather was so bad on Friday, the 15th, that the parade to which the students and the merchants of the town had given considerable thought and work was postponed until Saturday at 1 o'clock.

St. Pat made his first appearance in the auditorium of Parker Hall, Friday morning. There he dubbed the seniors present Knights of St. Patrick. There was the usual line of jokes—some good, some indifferent, and some bad.

Friday night, the night of the big dance, saw the rain unabated, but in spite of this fact the crowd was up to normal and found ample entertainment to keep themselves busy until five o'clock Saturday morning. The music was furnished by Odell's Varsity Orchestra from St. Louis.

At 11 o'clock the crowning of the queen took place. The 1929 queen was preceded to the throne by four former queens, Mrs. H. G. S. Anderson, who was Miss Mary McCrae, the 1916 queen; Mrs. A. V. Eulich, who was Miss Margaret Sally, the 1924 queen; Miss Dorothy Kiesler, the 1926 queen, and Miss Lucy Kiesler, the 1928 queen. The maids of honor were Misses Betty Harlin, Daysie Long and Emily McCaw, all of Rolla.

J. K. Richardson, of Carlsbad, New Mexico, a junior in mine engineering, took the part of St. Patrick.

The St. Pat play, "Fifty-Fifty," was given Friday afternoon. The play was under the direction of Miss Betty Harlin, of Rolla, and was very well presented.

Scholastic Averages

First Semester 1928-29

The Bonanza Club won the Tau Beta Pi cup as the social organization having the highest scholastic average during the past semester. The average of these nineteen students was 1.056, or on a numerical basis 80.56. The next nearest competitor for the cup was the Independents with an average grade of 1.045.

Below are given the averages of all the organizations in the campus. The names of the local and national fraternities, and the Independents, and the whole school, are capitalized and offset, to render them quickly and easily distinguished among the organizations. The figures shown in the general report INCLUDE PLEDGES, as has been the custom in this school.

Group	Average Grade
Tau Beta Pi Honor Fraternity	1.855
Unclassified Students	1.800
Graduate Students	1.630
Senior Class	1.220
Rollamo Board (Publication)	1.220
Senior Council	1.100
Women Students	1.070
Junior Class	1.060
BONANZA (LOCAL)	1.056
INDEPENDENTS	1.045
Quo Vadis (Honorary)	1.040
TRIANGLE (NATIONAL)	1.032
Glee Club	1.020
M. S. M. Band	1.006
Special Students	1.000
Theta Tau (Honorary)	0.988
Missouri Miner Board (Publication)	0.976
ENTIRE SCHOOL	0.961
Men Students	0.958
MERCIER CLUB (LOCAL)	0.923
Sophomore Class	0.900
LAMBDA CHI ALPHA (NATIONAL)	0.898
PI KAPPA ALPHA (NATIONAL)	0.878
Fraternity Average	0.862
KAPPA SIGMA (NATIONAL)	0.788
KAPPA ALPHA (NATIONAL)	0.788
Satyrs (Honorary)	0.768
M. S. M. Players (Dramatic)	0.760
Basketball Squad	0.753
Freshman Class	0.750
PROSPECTORS (LOCAL)	0.735
Football Squad	0.650
SIGMA NU (NATIONAL)	0.633

Phi Kappa Phi Pledges

The Man With High Grades Wins, says General Manager Southwestern Bell

That the man with high grades in college has a greater chance to achieve success in business than does the man with poor grades was pointed out by Percy E. Redmond, General Manager of the Southwestern Bell Telephone Co., St. Louis, in an address, under the auspices of Phi Kappa Phi, before students of the School of Mines and Metallurgy here.

Mr. Redmond pointed to the fact that the business world is becoming more and more made up of college graduates, of which the Bell system is no exception. He gave figures compiled by the Bell system, covering a study of all the college men in their organization, to show that of 3,806 men studied the salaries of 498, who ranked among the first ten in their class, was sixty per cent higher than the median salaries of the entire group, while on the other hand those who ranked among the last third in their class received a median salary twenty per cent lower than the entire group. He also presented statistics to show that those who participated in student activities on the campus, as a whole, achieved greater success in business than did those who failed to take part in such activities.

Following Mr. Redmond's talk eight students at M. S. M. were announced as pledges to Phi Kappa Phi. Those pledged were R. A. Bryant, Rolla; B. R. Coil, St. Louis; B. N. Daniloff, Chita, Russia; P. H. Delano, Bonne Terre; A. T. Gardner, St. Louis; J. H. Hahn, Muscatine, Iowa; E. T. Harvey, Goldfield, Iowa, and J. M. Willson, Houston, Mo.

Tau Beta Pi Pledges

Three new pledges to Tau Beta Pi were announced at the mass meeting on March 1. Those pledged were R. S. Martin, Clarks, Nebraska; M. A. Dillingham, and E. F. Cirkal, both of St. Louis.

Before the pledges were announced, Director Fulton spoke to the student body on the value of scholarship, such as stressed by Tau Beta Pi, pointing out that scholarship did not necessarily mean mere book learning, but real scholarship carried with it the ability to apply in a practical way what one learned at school.

Rolla Now Has a New Depot

N. A. Kinney Still Agent Here

Alumni returning for homecoming or just for a friendly visit will miss the old landmark in the form of the old Frisco depot built here 1882. This depot has been the first glimpse most of the alumni of the School of Mines have had of the town of Rolla, and the last glimpse they had of it on leaving. The old building had long ceased to be adequate for its purpose, however, and the Frisco on January 26 dedicated a new station, of the Spanish type of architecture, and costing approximately fifty thousand dollars. It was said by railroad officials to be among the best depots on the system.

Alumni, also, will be interested in knowing that N. A. Kinney, "always Frisco agent at Rolla," is still on the job, after forty-seven years of service here. He, too, will be remembered by most of the alumni of MSM, because he was on hand when they arrived in town, sold them their tickets when they left, or else attempted to chase them off the freight cars upon which they were trying to leave in case cash happened to be a little scarce after a year's schooling. Kinney takes pride in the fact that he worked the first trick in the old depot when it was built in 1882, and the last trick in it before it was torn down this past January. Kinney is still hale and hearty, and likes to talk reminiscently of the School of Mines boys, all except one fraternity group that used to be on the campus that according to him required their initiates to bum a certain mileage on the railroad before their initiation was complete.

Another Record Enrollment

Freshman Class Totals 212 Members

The enrollment of MSM has reached a total of 529 for the present school year. This is an increase of approximately five per cent over the enrollment for the school year 1927-28. There was an increase of thirteen per cent in both the freshman and the sophomore classes, a four per cent increase in the junior class, a two per cent increase in the seniors, and an increase of twenty-eight per cent in the graduate class. The only group of students to show a decrease was

the specials and unclassified, or students not candidates for degrees. This group showed a decrease of sixty-five per cent over last year, this decrease being caused by the fact that last year a number of Rolla school teachers organized classes to meet out of school hours for which they registered.

Considering only those candidates for degrees in the various groups there is an increase of ten per cent over the registration for last year.

This steady increase in attendance is making it more and more difficult for the school authorities to find adequate class room facilities for the students. An overcrowded condition exists in practically all of the freshman and sophomore departments, and many of the junior and senior departments are taxed to the limit to provide space. The enrollment at the school has more than doubled during the last ten years, but during this same period there has been an increase of only approximately ten per cent in the available floor space on the campus. This increased floor space was provided at the time the Mississippi Valley Station of the United States Bureau of Mines was established on the campus, and practically all of the building provided at that time is taken up by this station and the experiment station of the School of Mines which works in co-operation with it, leaving only two small class rooms and one large one as additional space for instructional purposes.

R. G. Knickerbocker, '20, on Foreign Conditions

A Talk before the St. Louis Section Meeting, Feb. 1

(Reported by B. Nudelman, Secretary of St. Louis Section)

Some of us were surprised to learn that the Japanese eat their fish raw, and that it would seem just as strange to them to eat cooked fish as it would for us to eat it their fashion. In many of the mines women work underground just the same as men, and all of them refuse to accept money as wages, for money means nothing to them, but they all insist on two naps a day on the company's time, and three meals, each consisting of a portion of boiled rice. The Japanese rank next to the Belgians, in Knickerbocker's opinion, as the world's greatest horticulturists, as he knows of actual cases where families have subsisted through several generations on a plot of ground no larger than a good sized living room through intensive cultivation and fertilization. He gave it as his opinion that the United States need never fear a big war with Japan, this observation being based on his actual experience with the Japanese.

Russia was described as a most pitiful country, at least during the time of his stay in 1917 when things were very much disturbed by Bolshevist regime. With 190,000,000 peasants of Siberia and Russia living chiefly on black bread and tea, with a taste of meat not oftener than once a week, and with no opportunity for education, it did not seem strange that things were very much topsy turvey when the peasant class got the upper hand. Conditions there seem to be improving remarkably and the future of the peasant class seems to be brighter.

Some of the high spots of Knickerbocker's experience in Russia consisted of a five-day trip from Ekaterinberg to Petrograd jammed in a train with many other passengers packed like sardines, with no opportunity to even sit down during that time. One's food was carried in a little bundle and munched standing up, and one slept by leaning against his neighbor.

Another pleasant experience was in attempting to leave Russia by way of the Baltic Sea on a transport which had to be towed by an ice breaker by a Bolshevik crew, as the inland waters of the Baltic were frozen. Twenty-four hours out of sight of land, the crew struck for higher wages, and when this was denied, promptly turned around and went home, leaving the transport frozen in. With a food supply of forty-eight hours available for the five hundred passengers, it was a real problem to ward off starvation. The men passengers marched over land for assistance and food to keep the passengers alive until a new ice breaker could be brought to rescue them.

Spain was described as a very interesting country—interesting chiefly for its past. It is remarkable how much Spain has declined since the day of Columbus. Their material comforts in the best cities would not even remotely compare with the ordinary standards in our small country towns. Knickerbocker found the Spaniards are a people who have learned to drink temperately and for that reason will probably never be faced with a prohibition question.

Knickerbocker gave as his opinion that England will some day be forced into prohibition for the same reason that America was, namely, that we have not learned to moderate our desires.

In various parts of continental Europe the impression is very strong that every American is a millionaire, and consequently he pays about four times as much for everything as the natives or Englishmen who know how to manage better. This is largely due to the American tourist who comes over on a holiday and spends money very lavishly thus creating the impression which the Spanish and French have particularly, that everyone in America is wealthy.

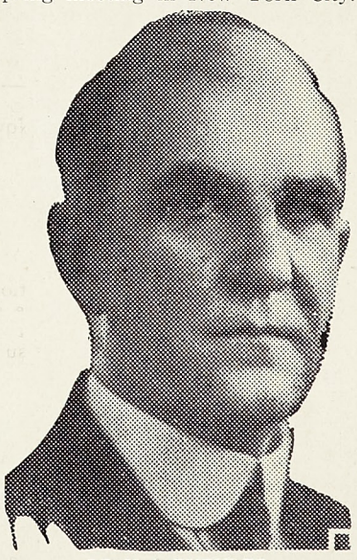
The South African Kaffirs were described as good, willing workers with the minds of children, who were loyal to their boss, but who quickly became spoiled when they learn some of the things of the white man's civilization. Knickerbocker quoted the saying that a Kaffir is "all right as long as he wears a breech-cloth, but as soon as he puts on a skirt or trousers, watch out for a rascal:."

While work in foreign service has its fascinating elements, including much adventure, it has its drawbacks, including the lack of material comforts and the opportunity to educate one's children properly. No place in the world is there anything to compare with America's material comforts and opportunities to every man.

Dr. H. A. (Chief) Buehler Elected Vice-President of A. I. M. M. E.

Dr. H. A. Buehler, for the past twenty-one years director of the Missouri Bureau of Geology and Mines, commonly known as the Missouri Geological Survey, was elected vice-president of the American Institute of Mining and Metallurgical Engineers at the spring meeting in New York City.

Dr. Buehler has long been a prominent figure in Missouri mining circles. His outstanding work as chief geologist of Missouri has had much to do with the development of Missouri's mineral resources. He has also served his state well in the capacity of ex-officio member of the Missouri State Highway Board, and has taken active part in the development of Missouri's state parks system, which is placing the state in the forefront in the matter of state playgrounds.

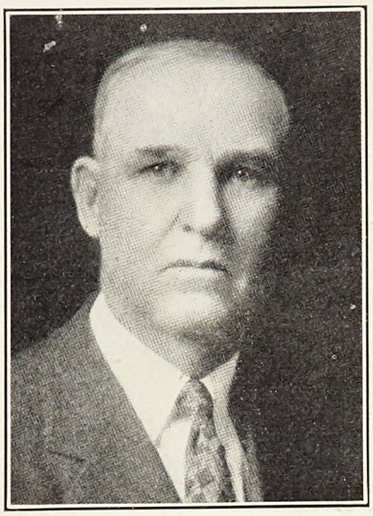


DR. H. A. BUEHLER

In recognition of his outstanding services to the mineral industry the School of Mines and Metallurgy granted Dr. Buehler the degree Doctor of Science (honoris causa) at the commencement in 1926.

The Chief was also further honored recently when he was given an honorary membership in the University Club at Joplin. The membership was presented at a luncheon given for him in the club room by C. T. Orr, president of the Athletic Mining and Smelting Co., of Joplin.

Dr. Eugene McAuliffe Is New Director of A. I. M. M. E.



DR. EUGENE McAULIFFE

At the February meeting of the Institute in New York City, Dr. Eugene McAuliffe of Omaha, Nebraska, was one of the five new directors elected. Dr. McAuliffe, it will be remembered, was granted the degree of Doctor of Engineering (honoris causa) at the spring commencement in 1927.

Dr. McAuliffe has played an important part in the coal mining industry in the central west since he came to this country from England, and has held many responsible position in the industry. He also served with distinction as manager of the Fuel Conservation Section of the Division of Operation, United States Railroad Administration, during the World War. Since 1923 he has been president of the Union Pacific Coal Corporation with headquarters in Omaha.

R. Dawson Hall Addresses Mining and Metallurgical Association

Mr. R. Dawson Hall lectured to the Missouri Mining and Metallurgical Association, on November 12, 1928, on the subject of "Earth Subsidence." Mr. Hall is Engineering Editor of the "Coal Age," a technical publication for the coal industry, and was in Rolla to fulfill an engagement on the General Lecture program for that evening.

Mr. Hall discussed the sinking of the surface due to mining out the coal measures underneath, and illustrated with cross section diagrams why the "choking theory" of twenty years back has proven incorrect. The space left after mining operations is filled by distortion of the measures above and the sinking continues to the surface. One interesting thing brought out by the speaker was that distortion would produce tension in the top measure over a pillar which in some cases had split houses in two.

The lecture was an interesting introduction to the new science of "Petrodynamics."

Eastern Alumni Meet at A. I. M. M. E.

The Alumni of the East held their annual get-together in the Palm Room of the Hotel Belmont, New York City, on Monday, February 18th. Dinner was served at six o'clock and it was a most enjoyable evening. Everyone present had the opportunity to address the gathering. During the evening a nice sum was added to the Alumni Loan Fund. Mervin Joe Kelly was elected secretary for the coming year.

Those present were: Dr. Chas. H. Fulton, H. R. Hanley, '01, H. A. Buehler, C. R. Forbes, Chas. Y. Clayton, 13, Rolla; E. R. Needles, '14, Jos. G. Wilson, ex'17, E. S. Tompkins, ex'16, H. A. Grine, '04; A. C. Rucker, '23; W. R. Cox, '11; E. F. Thatcher, '28, New York City; P. M. Fahrendorf, ex'14; C. L. Conway, 12; H. T. Mann, '08, Boston; J. C. Clark, 11, Philadelphia; M. T. Thomas, ex'14, Crown Point, N. Y.; Sidney K. Reid, '22, Cleveland; J. E. Pearman, ex'18, Sweetwater, Tenn.; E. E. Squier, ex'15, C. E. Schaeffer, ex'24, East Orange, N. J.; C. E. Muehlberg, '17, Montclair, N. J.; E. S. Wheeler, '22, Perth Amboy, N. J.; Harry Pence, '23, K. V. B. Rossman, ex'17, Trenton, N. J.; H. H. Vogel, North Creek, N. Y.; L. J. Boucher, '14, Catasaqua, Pa.; and H. J. Teas, '17, Malverne, Long Island.

The meeting of the American Institute of Mining and Metallurgical Engineers brought many alumni together. In addition to those at the banquet, the following were around headquarters: Allen Potts, '20, Lockport, N. Y.; I. N. Goff, '26, Indiana Harbor, Ind.; Leo Linzer, ex'23, Brooklyn; J. S. Brown, '17, Joplin; J. M. Wanemacher, '23, New York, and C. W. Bowers, ex'16, Chicago.

Burkhart Is New Chairman of the Missouri Association of Municipal Utilities

Edgar C. M. Burkhart, Superintendent of the Macon, Missouri, Water and Light Department, was selected chairman of the Missouri Association of Municipal Utilities at the meeting of the superintendents of Municipal Light and Water plants of North Missouri, held on January 17 and 18, 1929, at Macon, Missouri. Mr. Burkhart was instrumental in the forming of the association, and his selection as the first chairman is a merited honor.

Burkhart graduated from MSM in 1918 and is a lad who made good in his own home town, having registered from Macon. He was City Engineer for a number of years and later became superintendent of the water and light department there.

St. Louis Section

(Reported by B. Nudelman, Secretary of the Section)

In accordance with the motion made at the last semi-annual meeting of the St. Louis Section, a special meeting was held at the American Annex, Friday evening, February 1st. Those who could come early had dinner together in the Coffee Shop, after which they adjourned to the meeting room where they were joined by the others, who for one reason or another could not come early.

Dr. Fulton's letter, which had been mailed sometime ago to all alumni, with reference to the appropriation for the school was read by President Brazill. A motion was made, seconded and carried that the secretary write letters to each Senator and Representative from St. Louis, asking for their co-operation. Other steps were also taken to bring this important matter to the favorable attention of those who are in a position to assist the school.

Considerable discussion was given to the proposal of some members that the Homecoming be made a four-year affair instead of annually as at present and more importance would be attached to it and a much bigger turn-out result. It seemed the concensus of opinion, however, that four-year Homecomings would deprive many of the graduates of the opportunity to see their old classmates, particularly the men in foreign service who do not get home every year. It was agreed that we favor the continuation of the present plan of annual Homecomings, having at the same time special reunions of the classes whose fifth, tenth and fifteenth, twentieth and twenty-fifth anniversaries fall in that particular year. We believe that this will have a tendency to bring back many of the old grads for their particular reunion, and that we will also have the advantage of annual affairs. Perhaps some special recognition can be given on the Silver and Golden Anniversaries of a man's graduation.

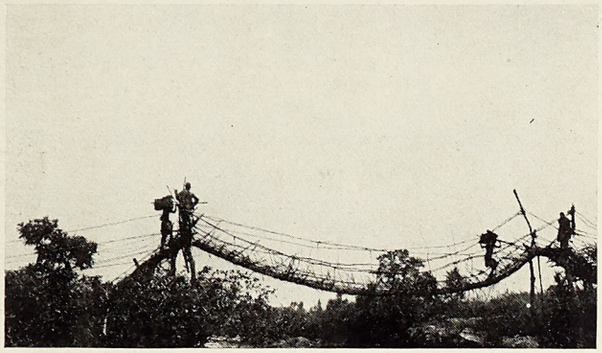
The business of the meeting having been discussed, all the members were very much entertained by Ray Gould Knickerbocker's observations of the places he had visited in his work as an engineer reported elsewhere. Everyone present enjoyed Knickerbocker's talk immensely and extended to him a rising vote of thanks for it.

Those present were Steve Burke, '23; L. E. Davidson, 21; Paul Berry, '28; W. F. Lottman, '19; M. P. Brazill, '20; Otto H. Eble, ex'24; M. P. Weigel, '23; D. W. Blaylock, '15; M. H. Detweiler, '11; R. G. Knickerbocker, '13; H. J. Schiermeyer, '23; D. R. Schooler, '26; E. Gammeter, '26; J. K. Walsh, '17; C. M. Hummel, ex'06; Ben Nichols, '19, and B. Nudelman, '21.

Outfitting for the Tropics

(Continued from page 3)

would obviously need more rough-and-ready clothing than an office man. In a rough and inaccessible country where transportation is difficult, equipment and supplies must be



A Vine Bridge in Angola

reduced to a minimum. The presence of cities would influence the selection of articles of sport.

Having participated in many a nocturnal battle with mosquitoes, bedbugs, and fleas in nondescript hotels and on board small coast and river steamers, I have solemnly vowed to carry with me always in the future a camp cot, completely equipped with a mattress, a pillow, blankets, linens, and a mosquito net and frame. Whether at home, on board ship or during a journey on land, it is unwise to be without a mosquito net around one's bed, for without it no one is safe from insect bites and the diseases they may convey. Mosquitos may carry malaria, filiariasis, yellow fever, dengue, and possibly other diseases; fleas may innoculate the system with plague; the bite of a tsetse fly may transmit sleeping sickness; and sand flies may cause "sand fly" fever, besides inflicting torment rivaled only by the tortures of the Spanish Inquisition. Boots should be worn to protect the ankles from bites. Without them it would be impossible to enjoy the evenings. But every other form of protection against "fever" is secondary to that afforded by a net.

In Africa, the sun is another menace to be reckoned with. Why the sun's rays should be more dangerous in Africa and India than in the American tropics cannot be easily explained. But it is a well-known fact that to go about in the African tropics without a sun helmet would mean for most people sudden death, while in the American tropics, panamas and straw hats are worn with immunity. Sun helmets are not uncomfortable to wear nor hideous, and are the best protection known against the actinic rays of the sun, so any prejudice against them is folly. They should be worn continuously between the hours of 8 a. m. and 4 p. m. In the early morning and late afternoon, a broad-brimmed Stetson might be substituted. Persons of advanced age or those inclined to fleshiness sometime wear, as a further protection against sunstroke, a spine pad lined with red flannel.

Clothing worn in the temperate zones during the summer months can also be worn in the tropics. Palm Beach and white duck are good suiting material. Khaki trousers or riding breeches and leather puttees are best suited for work in the bush or while on the trek. Shoes are an important item. The U. S. Army models are perhaps the best for most purposes. Some white shoes should also be taken for city wear. Cheap cotton socks are more practical than more expensive kinds, as they may be discarded when holes appear. White cotton or khaki-colored shirts with collars attached give good service. A first-class rain coat should be chosen, for during the rainy season it will be used every day. It must above all things be rainproof. A plentiful supply of athletic underwear and handkerchiefs must not be forgotten. If the departure is made or the return voyage contemplated during the winter, it will be necessary to provide oneself with winter clothing as well. There will be many an occasion when a needle and thread and extra buttons will come in handy.

Tooth paste has the disadvantage of drying out in a hot climate and therefore dentrifice in a powder form gives more satisfaction. The average person wears out about six tooth brushes a year. As barber shops are not always at hand, hair clippers and scissors as well as shaving articles and supplies are necessary for the preservation of a neat appearance. Talcum powder is a great help in the alleviation of prickly heat. A few bars of good soap, that can be used for hair shampooing, might also be taken. It is recommended that all steel articles, such as razors, scissors, and other like implements, should always be kept carefully greased, otherwise they will soon become unsightly with rust and unfit for use.

The work of an engineer often carries him far from a place where medical attention might be available. Especially in malarial districts of the tropics, where it is necessary to dope oneself daily with quinine, the purchase of a small medicine case or chest is most advisable. Above all other things, it should contain a liberal supply of quinine and hydrochloride in 5-gr. tablet form. It should also contain a purgative, tincture of iodine, asperin, a clinical thermometer, lancet, surgical needles and thread, bandages and dressings. Smallpox and typhoid fever are so prevalent in tropical countries that travelers should be protected by vaccination before starting on their journey.

A small technical library is almost indispensable. It would be impossible to suggest a list suitable for all, but those books which have been consulted most frequently in the past are clearly the ones to take. Nor would it be amiss to take along a few volumes of classical literature. This library should be packed in a zinc-lined wooden box or in an iron trunk. It might also be well before starting on the journey to subscribe for a few periodicals. A technical, a general, a fiction and a current event magazine should furnish sufficient reading matter and keep one in touch with outside happenings.

Most engineers learn early in their careers the advantages of a typewritten over the handwritten sheet. Typewritten reports command much more attention than those penned in longhand, no matter how neatly written. Typed correspondence has a business-like appearance. Men of affairs are too busy to decipher a handwritten letter. Even for personal correspondence, typewriting is becoming more and more popular. Whether in the tropics or in the arctics, a portable typewriter is one of the most essential features of an engineer's personal equipment. There are several well-known portable machines on the market, all equally satisfactory. Some good bond paper and envelopes, duplicate sheets, carbon paper, ribbons and machine oil complete the list of typewriting accessories.

A report illustrated with photographs gives an impression of completeness which might otherwise be lacking. A kodak enables one to record permanently impressions of strange scenes, places and people. Because of their proportions, those kodaks designated as 1A, 2C, and 3A recommend themselves. The 1A size is quite large enough and is slightly cheaper to operate than the larger sizes. To be more specific, a folding 1A kodak, having an anastigmat lens and a leather carrying case, is suggested. Developing with a film tank is extremely simple. The film cartridges are best preserved in soldered tin containers. The supply of chemicals and films can be replenished from time to time by prearrangement with a firm in the United States or near-by city.

Life without music would be a dull existence indeed. A portable phonograph is the best possible guarantee against homesickness and blues. A good one is less liable to give trouble than one of cheaper manufacture. Unless records are chosen with extreme care, it may serve to drive the hearer to distraction instead of acting as a sedative. Records of the latest popular or jazz music should be strictly avoided. Only those which have stood the test of time should be selected. They may be packed in a portable record case and both they and the phonograph should always be carried as hand baggage. A supply of tungsten needles too must not be forgotten.

If stationed in a city or a large mining camp, there may be an opportunity to play tennis or golf, and the accoutrements for playing these games would in such an event be necessary. It might also be possible to obtain smoking supplies if a city is near. On the other hand, if the country to be visited is wild, firearms will be equally useful. Most hunters agree that a 7.9-mm. sporting model Mauser is the best rifle for all-around purposes. It is not a heavy gun, but still large enough to kill the biggest game. A double-barrel 12-gauge shotgun will also help provide the camp with fresh meat. A revolver or automatic pistol, although it may be unnecessary, imparts a sense of security. An effort should be made to keep the ammunition in a dry place.

Fibre trunks do not stand up well under the ravages of white ants or the warping and cracking effect of dampness and intense heat. Everything should be packed in small sheet-iron moisture-proof trunks. There are manufactured also trunk bath tubs. These are nothing more than a small tub provided with a wicker basket, in which clothes may be packed and can therefore be easily removed when the bath is wanted, and covered with a lid. Trunks and a bath of this description are inexpensive and will prevent one's outfit from becoming mouldy or ruined by insects. Iron hat boxes are also made in which to carry sun helmets.

If the person about to leave for the tropics follows these suggestions and supplements them with his own judgment, he will find that comfort and pleasure are not entirely unknown in these regions, even though insect pests are numerous, weather conditions not always desirable, and companions sometime few.

Jack Nolen Has Big Basketball Squad

The job of teaching 400 or 500 East St. Louis grade school boys the fundamentals of basketball is the man-sized job which Jack Nolen, Coach of the East St. Louis Junior High School, has taken unto himself. This unusual training school will be open to all boys of the city from both public and parochial schools, and the boys will be afforded the opportunity to learn the game and to play it.

The training school is planned to reach all the boys of the city, and Coach Nolen is regarded as an expert in training young boys.

Nolen graduated from MSM in 1926 and made an outstanding record in athletics while here.

The Basketball Season

The basketball season, which closed with two games here with Central College on February 21 and 22, showed but two wins for the Miners, and thirteen games lost. The Miners dropped the first three games of the season, and then succeeded in trimming Missouri Valley with a score of 38 to 35. Their losing streak attacked them again, however, and they passed the next five games to their opponents. Then they tightened up and defeated the Westminster Blue Jays here with a score of 30 to 23. The remainder of the games on the schedule showed a defeat.

The scores for the season follow:

Jan. 4. Springfield Teachers 45, Miners, 23, here.
10. Drury 50, Miners 19, here.
12. Concordia 30, Miners 20, St. Louis.
23. Missouri Valley 35, Miners 38, Marshall.
24. Wliliam Jewell 30, Miners 26, Liberty.
25. William Jewell 42, Miners 14, Liberty.
Feb. 1. McKendree 34, Miners 29, Lebanon, Ill.
5. St. Louis U. 47, Miners 17, St. Louis.
7. Central Wesleyan 32, Miners 23, here.
9. Westminster 23, Miners 30, here.
13. Missouri Valley 33, Miners 31, here.
15. Westminster 36, Miners 33, Fulton.
16. Central Wesleyan 39, Miners 21, Warrenton.
21. Central College 58, Miners 42, here.
22. Central College 66, Miners 33, here.

At the close of the season eight letters were awarded to members of the team: Those receiving their M were Frances Tucker, Rolla; Norvin Tamm, Captain, Washington; W. B. Hollow, Cuba; M. G. Tieman, Concordia; E. W. Heilig, Anna, Ill.; R. M. Carpenter, St. James; D. H. Miller, Cape Girardeau, and T. H. Green, Waverly, Ky.

Alumni In Print

Filling Stopes with Mill Tailings at Minas de Matahambre, In Pinar del Rio, Cuba, by George L. Richert, '22. Engineering and Mining Journal, March 2, 1929.

Black Hawk Consolidated Mines Company, by Ira L. Wright, '07, Manager, Manager Southewestern Bulletin.

Relation of Nitrogen to Blue-Heat Phenomena in Iron and Dispersion Hardening in the System Iron-nitrogen, by R. S. Dean, '15; R. O. Day, '25, and J. L. Gregg, 23. Paper before the A. I. M. and M. E. Meeting, February, 1929.

The Formation of Insoluble Zinc Compounds during Roasting, by H. R. Hanley, '01; Charles Y. Clayton, '13, and David Walsh, '23. Paper before the A. I. M. and M. E. Meeting, February, 1929.

The Barite Industry in Missouri, by W. M. Weigel, '00. Paper before the A. I. M. and M. E. Meeting, February, 1929.

Dispersion Hardening in Copper and Silver Base Alloys, by J. L. Gregg, '23. Paper before the A. I. M. and M. E. Meeting, February, 1929.

A Metallographic Study of Tungsten Carbide Alloys, by J. L. Gregg, 23, and C. W. Kuttner. Paper before the A. I. M. and M. E. Meeting, February, 1929.

Solubility of Paraffin Wax in Pure Hydrocarbons, by Paul Weber, '27, and Dr. H. L. Dunlap, associate professor of chemistry, MSM. Industrial and Engineering Chemistry, April, 1928.

High Carbon High Chromium Steels is the title of a paper by J. P. Gill, '18. Transactions of the American Society for Steel Treating, March, 1929.

General Alumni News

1929

George T. McCrorey has accepted a position with Foster S. Naething, Agent, at Farmington, Mo., doing exploration work in Southeast Missouri.

Lawrence K. Snyder is with the Big Four Railroad at Cincinnati, Ohio.

James O. Letts is in the general offices of the Missouri Pacific Railroad Company, St. Louis, Mo.

W. B. (Pete) Davis has accepted a position with a mining Company at Jerome, Ariz.

J. F. (Jimmie) Orr is with the LeFlore County Gas and Electric Company at Poteau, Okla.

1928

O. D. (Red) Niedermeyer has accepted a position in Mexico with the Compania Industrial "El Potosi," S. A., Unidad de Zacatecas. His address is Apartado Postal No. 18, Zacatecas, Mexico.

H. H. Newcombe is with the M. W. Kellogg Company, builders of cross cracking units, pipe stills, and other refinery and power plant installations, at present building a cracking unit for the Standard Oil Company at Whiting, Ind.

J. B. Clemmer, of the U. S. Bureau of Mines, who has been stationed at Flat River for some time, has returned to the Bureau at Rolla.

Robert W. Couch and wife were visiting in Rolla the latter part of December. Bob is with W. O. Ligon and Company, Tulsa, Okla. His address is 612 South Cincinnati, Tulsa.

C. D. Cordry has resigned as Instructor in Geology at MSM and has accepted a position as geologist for the Gulf Production Company, Ft. Worth, Texas.

G. C. Johnson is located at Berkeley, Calif., with the Great Western Power Company.

E. F. Thatcher is mechanical engineer with Ford, Bacon & Davis, 39 Broadway, New York City. He is living at the Fraternities Club Building, 32 East 38th St., New York City.

T. H. Thatcher, Jr., has resigned his position at the American Zinc Company of Illinois, on account of illness. "Hud" visited Rolla on March 7 and 8, and then went on to New York to visit his brother, Fusz.

1927

A. A. Peugnet's address is 25 Prospect Place, New York City.

C. F. Luckfield visited in Rolla, January 14. "Lucky" is engaged in the construction of a new pipe line from Oklahoma to Chicago, for the Sinclair Pipe Line Company. His home address is 1944 East 14th St., Tulsa, Okla.

Harry F. Bossert is with Consoer, Older & Quinlan, 205 West Wacker Drive, Chicago, Ill.

Ed. Sievers has accepted a position with the Mississippi River Commission. His address is 1224 Texas St., Woodward, Okla.

W. L. Rushmore was visiting in Rolla during the Christmas holidays. "Susie" is with the Gypsy Oil Company at Pearson, Okla.

Banner L. Chaney and family were visiting relatives in Rolla during the Christmas holidays. Banner is with the Illinois State Highway Department, Belvidere, Ill. Mrs. Chaney was before her marriage Miss Florence Wyant of Rolla.

Herman Blickensderfer was a Rolla visitor at Christmas time. "Blick" is instructor in Civil Engineering at Valpariso University, Valpariso, Ond.

Jim Smith, who is with Anaconda Copper Mines Company, Great Falls, Mont., spent the Christmas holidays in Rolla.

Clarence Lee Woods is mining engineer for the Inca Mining & Development Company, Santo Domingo, Peru, S. A.

Bob McCaw has accepted a position as electrical engineer with the Interstate Power Company, Dubuque, Iowa.

1926

C. A. Anderson is with the Oil Country Specialities Mfg. Company at Sweetwater, Texas, in the sales, service and warehouse department.

Fred C. Robinson is working in the Syndicate Mill of the Benquet Consolidated Mining Company, which is located at Antamok, Benquet, Philippine Islands. Robinson makes the fourth MSM man in the Philippines, the other three being "Doc" Elicano, '09, who is superintendent of mines and geological division of the Bureau of Science of Philippine Islands; Lewis R. Springer, '27, who is with the Benquet Consolidated, and T. C. Gerber, '28, who is in the Ordnance Department of the U. S. Army at Manila, P. I.

Elmer Gammeter is with the Western Electric Company at their Hawthorns Works, Chicago, Ill.

John B. Sinnett is living at 510 North State St., Howell, Mich.

Ray E. Kollar is with the Carter Oil Company, Seminole, Okla.

Mike Ledford is with the United Verde Copper Company at Jerome, Ariz.

L. Y. Lee visited in Rolla, March 4. His address is 523 Delaware Ave., Gary, Ind.

1925

R. F. (Skinny) Orr visited in Rolla between trains on January 16, en route to Pittsburgh, Pr., on business for his company, the Athletic Mining and Smelting Company of Fort Smith, Ark.

Bill Stack has sailed for his old time in Ireland, where he expects to attend school.

Otho M. Wilson and Mrs. Wilson spent a few days in Rolla during February. Otho is with the Union Electric Light & Power Company, Washington, Mo.

L. H. Sanderson spent several days in Rolla during February. Sandy is with the Illinois Highway Commission at Pittsfield, Ill.

1924

Mrs. Wilburn Crutcher spent the Christmas holidays with her parents, Mr. and Mrs. John Dent of Rolla. Wilburn is assistant city engineer at Fort Pierce, Fla.

James M. Wasmund is in the research department of the Sinclair Refining Company, Whiting, Ind.

Guy R. Scott was in Rolla, January 21 and 22, on business for his company, Black & Veatch, 700 Mutual Building, Kansas City, Mo. He had recently been transferred to Kansas City from St. Louis, where he was employed on sewer work for his company.

Mrs. S. M. Hayes and little daughter, Alice Marie, of Ada Okla., were visiting Mrs. Hayes' mother, Mrs. J. B. Harrison, during February.

A. W. (Spoof) Walker, who has been doing graduate work M. S. M., and teaching in the math department, has accepted a position in the research department of the Skelly Oil Company at Tulsa, Okla.

Newt Rountree is working out of Rolla on highway work.

1923

Rowland Tragitt, Desloge, Mo., was a Rolla visitor for a few days the first of March.

F. K. M. Hunter is with the Keith-Dunham Company, 110 South Dearborn St. Chicago, Ill.

Billy Mennie, who has been on vacation in the United States for some time, has returned to Bolivia. Billy is with the Caracoles Tin Company, La Paz, Bolivia.

Kenneth R. Teis, who was until recently Purchasing Agent for the City of Tulsa, has been appointed City Engineer of Tulsa.

Virgil L. Whitworth with his "wooden piano" is broadcasting from Radio Station KTAT, Westbrook Hotel, Ft. Worth, Texas.

Ambrose C. Rucker's address is 19 East 49th St., New York City.

Steve Burke was visiting friends on the campus February 2. Steve is sales engineer with the Brown Company, Arcade Building, St. Louis.

Leo Linzer is located at 1702 West 6th St., Brooklyn, N. Y.

1922

B. E. Hammer, who has for several years been with the Braden Copper Company at Rancagua, Chile, is with the Anglo-Chilean Nitrate Company at Tocopilla, Chile.

Wilson V. Keyes is a consulting geologist with offices in the San Angelo National Bank Building, San Angelo, Texas.

J. F. (Emily) Hosterman is with the American Petroleum Corp., San Angelo, Texas.

Harold (Red) Shore is with the Geophysical Research Corp. at Fort Worth, Texas.

W. R. Gettler is living at 5904 Enright Ave., St. Louis, Mo.

Charles Smith and wife spent a few days in Rolla during December.

Walker Case and family spent the Christmas holiday season in Rolla, the guest of relatives.

Col. Frank C. Bolles, Commander of the 30th Infantry, U. S. A., San Francisco, Calif., has been ordered to the Philippine Islands and expects to sail May 1st. Lt. George A. Zeller, '23, Picatinny Arsenal, Dover, N. J., has also been ordered to the Philippines.

1921

Robert L. Mook, who has offices in the Mills Building, San Francisco, Calif., was a visitor to Rolla about Christmas time.

W. R. Luckfield is with the Marland Refining Company at Ponca City, Okla.

W. C. Powell and family have moved from Rolla to Valley Park, Mo., which will now be Bill's headquarters for buying walnut timber.

1920

E. A. Williams is with the Illinois State Highway Department, Bureau of Materials, Springfield, Ill.

C. L. Dorris is doing valuation work for the Roxana Petroleum Corp. and is living in Davenport, Iowa.

L. M. McCarthy has just completed a beautiful building which will house the Missouri State Highway Commission at Jefferson City, Mo.

A. V. Eulich is with the Public Service Quarry Company, 908 West 25th St., Kansas City, Mo.

1919

J. Walter Scott, wife and little daughter spent the Christmas holidays in Rolla, the guests of relatives.

1918

R. E. Rutherford is doing civil engineering and general contracting work. His address is 1114 Maple St., Mt. Vernon, Ill.

1917

Lyle. M. Barker is located at Clarkdale, Ariz.

J. K. Walsh is the representative of the Hercules Powder Company, 1775 Railway Exchange Building. St. Louis, with territory extending over Eastern Missouri.

Hugh Rice was a visitor to Rolla the latter part of December. Rice is with the State Savings Trust Company at Springfield, Mo.

P. B. Dolman is located in San Francisco, Calif. His address is 4740 Balboa St.

C. E. Muelberg is with the Consolidated Gas Company, New York City. His home is at 17 Yale Terrace, Montclair, N. J.

1916

E. V. Damotte visited in Rolla, February 21. Ed is with the Illinois State Highway Department at Winchester, Ill.

1915

Reginald Dean and wife were visitors to Rolla during January.

A. L. Trent stopped over in Rolla on his way home from Brownsville, Texas, where he expects to locate. "Pete" for the past seven years has been at the Cambria Plant of the Bethlehem Steel Company at Johnstown, Pa.

1914

C. C. (Pitts) Bland is a member of the firm of Bland & Company, General Insurance Agents, with offices at 116 North 4th St., St. Louis, Mo.

1913

Dexter E. Andrus is mill superintendent for the Montana Mines Company at Nogales, Ariz.

1912

Bob Dye is with the Vipond Consolidated Gold Mining Company, Timmons, Ontario, Canada.

1910

L. J. Porri is district sales manager for the St. Louis Fire Brick and Clay Company, Huntington Park, Calif. His street address is 3050 East Slauson Ave.

Elmer E. List is director of the department of Biology and Geology at Shurtleff College, Alton, Ill.

Harvey E. Smith is general superintendent of the Union Fuel Company, 907 South 6th St., Sprinfield, Ill.

George A. Easley is back in New York after spending the winter months in Redlands, Calif.

1906

M. B. Burgher, '06, has been awarded the contract for building two dormitory buildings at the Hannibal-La Grange College at Hannibal, Mo.

1907

Paul R. Cook's address is Y. M. C. A., Balboa, Panama Canal Zone, where he is doing general consulting engineering work, specializing in tropical engineering problems.

W. I. Phillips is now living at the Hotel Travelers, Sacramento, Calif.

1905

E. E. Squier is with Fred F. French and Company, New York City. His home address is 254 North Grove St., East Orange, N. J.

1904

H. A. Grine is with the Sherman Corporation, Engineers, with offices at 292 Madison Ave., New York City. His home is at 1123 Race St., Connellsville, Pa.

1900

Isaac P. Frazier, of the Nogales Engineering Company, Nogales, Ariz., has been appointed Secretary of State, by the Governor of Arizona, to fill out the unexpired term of the preceding secretary, who died recently.

1899

Francis J. Tayman is doing consulting work with offices in Joplin, Mo.; 916 Jackson Ave.

1879

Dr. A. N. Ravold was a visitor to Rolla during February. Dr. Ravold has offices in the University Club Building, St. Louis.

1877

James A. Pack is now living at Seattle, Wash., R. F. D. Box 763.

R. W. Cavanaugh spent January and February at his home in Pawtucket, Rhode Island, owing to the river work on which he has been engaged having been suspended during these months. He is now back on the job at Gasconade, Mo.

Athletes Must Satisfactorily Complete Semester To Earn Letters In Future

The Athletic Board of Control has adopted an amendment to the by-laws that provides that letters will not be awarded in any sport in the future until the recipient of the award has satisfactorily completed the work of the semester in which he was a participant. This will mean that those who participate the required amount of time must yet maintain a satisfactory scholastic record until the end of the semester in order to claim their award.

Some of the Christmas Holiday Visitors at Rolla

Kurt Moll, ex'24.
Bob Illidge, '21.
Jim Smith, '27.
Hugh Rice, '17.
Wm. Ehlers, '13.
John Brown, ex'20.
R. W. Couch, '28.
W. L. Rushmore, '27.
J. Walter, Scott, '19.
R. W. Hunt, '21.
A. E. Barnard, '27.
Walker Case, '22.
W. A. Coffman, U. S. V. B., '25.
Ham Moore, ex'23.
C. F. (Chuck) Herbert, '28.
D. L. Moodie, '24.
Fred White, '22.
B. L. Chaney, '27.
Herman Blickensderfer, '27.
Joe Reid, '26.
John Hanley, ex'28.
F. S. Elfred, '17.
A. D. Terrell, '98.
M. R. (Monk) Mann, ex,20.
Chas. Smith, '28.
Warren Smith, '28.

James Heber Martin and Miss Martha Duffy, of Greenfield, Mo., were married on January 20, 1929, at the home of the bride's father, Mr. D. P. Duffy. The marriage was kept a secret until recently.

Heber was a junior in mining at the School of Mines, withdrawing at the end of the first semester. He is a member of Sigma Nu fraternity. Mrs. Martin is a teacher in Rolla Public Schools.

Paul McClelland Berry and Miss Wanda Yung of Bloomfield, Mo., were married December 24, 1928, at the home of the groom's parents, the Rev. H. C. Hoy, patstor of Centenary Methodist Church, officiating.

Mrs. Berry is a graduate of the Bloomfield High School and of The Southeast State Teachers' College at Cape Girardeau, having received a degree of Bachelor of Science in Home Economics at the latter institution. She is a member of Kappa Omicron Pi, national honorary home economics sorority.

Berry graduated from the Cape Girardeau High School in 1922 and later attended the teachers' college there. He came to the School of Mines in 1925 and graduated in electrical engineering in 1928 with the degree of Bachelor of Science. He was a member of the senior council and treasurer of the E. E. Society.

Berry is now engaged in electrical engineering work with the W. N. Matthews Corporation, 3722 Forest Park Blvd., St. Louis. The young couple are at home to their friends at 1801 Princeton Place, Richmond Heights, Mo.

John F. Helmerichs and Miss Bertha Adele Michel were married on February 16, 1929, at Carondelet Presbyterian Church, St. Louis.

Freddie graduated in Metallurgy at MSM in 1922 ,and is now metallurgist for Hauser-Miller, Inc., Smelters and Refiners, 113 North 11th St., St. Louis. He is a member of Kappa Alpha fraternity.

Mr. and Mrs. Helmerichs will make their home at 3971 Wilmington Ave., St. Louis.

Horace W. Hodges and Miss Helen Nelson of Pueblo, Colo., were married on August 16, 1928. Mrs. Hodges is a graduate of the Colorado Teachers' College at Greeley.

"Shorty" Hodges graduated from MSM in 1926 with the degree of B.S. in Metallurgy, and is a member of the Lambda Chi Alpha fraternity and Theta Tau. He is with the Colorado Fuel and Iron Company at Pueblo, where he has been since graduation.

The young couple are making their home at 1709 Berkeley Ave., Pueblo.

A very pretty wedding was solemnized at the Episcopal Church in Rolla on the evening of December 27, 1928, when Miss Dixie Harris became the wife of Mr. Clarence Burrage, Rev. H. N. Tragitt performing the ceremony.

The bride is the daughter of Prof. and Mrs. E. G. Harris, head of the Civil Engineering Department of the School of Mines. After graduating from Rolla High School she attended the School of Mines for a short time and later graduated in Home Economics at the University of Missouri at Columbia with a B. S. degree, and still later received a master's degree from Columbia University, New York City. She is a member of the Pi Beta sorority. During the past three years she has been doing extension work for the University of Kentucky.

Mr. Burrage is a graduate of the University of Georgia. He is State Forester of Kentucky and is located at Quicksand, Ky., where the young couple will make their home.

Aaron J. Miles and Miss Anna Belle John, of Rolla, were married March 1, 1929, at 5:30 o'clock. The wedding took place at the Baptist Church in Rolla, Rev. B. V. Bolton officiating.

This is another MSM romance which began several years ago when Miles first entered the School of Mines. Miss John has been for several years associated with her sister in the Lorraine Beauty Parlor. Miles is a senior in mining engineering and has made a splendid scholastic record. He was recently elected to Tau Beta Pi. The young couple will make their home at the residence of Mrs. E. M. Schuman, in Rolla, for the present.

Walter L. Andrews and Miss Margaret Kauffman were married at the home of the bride's parents, Mr. and Mrs. Frank L. Kauffman, on February 13, 1929. The ceremony was performed by Rev. S. D. Harlan of the Christian Church.

Andrews is the son of Mrs. William M. Andrews, of Rolla, and attended the School of Mines the years 25-26 and 26-27.

Jobs For Seniors

The alumni are urged to bear in mind the graduating class for this June and pass along to the Alumni Recorder information concerning any jobs that might be of interest to these boys. The indications are now that the same condition that prevailed last year will exist this year and that there will be ample opportunities for employment for all. However, a wide variety of choice in work is desirable from the standpoint of the boys and they are more likely to find positions into which they can more readily fit if they have a larger choice. Therefore any almnus knowing of openings is urged to correspond with the alumni officers in Rolla about the matter and give the MSM graduates of this spring a chance to apply.

The alumni are also urged to bear in mind the necessity of juniors doing summer work to fulfill their requirement for the work in practice required in all branches taught here. Those knowing of openings for summer work are urged to correspond with the Alumni Recorder.

A son was born to Mr. and Mrs. E. H. Griswold, '26, on December 9, 1928. The young man is named George Bullard Griswold. Eddie graduated in 1926 with the degree of B. S. in Mining. He is with the Marland Oil Company, Ponca City, Okla.

Mr. and Mrs. H. M. Allshouse, ex'29, are rejoicing over the arrival of a daughter born on February 5, 1929. Mrs. Allshouse was before her marriage Miss Vivian Barfeld of Rolla.

Prof. and Mrs. A. J. Paul are entertaining a little daughter, Julia Mary, born January 14, 1929. Prof. Paul is ceramic engineer in the department of ceramics.

A son, Charles Mitchener, Jr., was born to Prof and Mrs. C. M. Dodd on February 19, 1929, at New Philadelphia, Ohio. Prof. Dodd is assistant professor of ceramic engineering.

H. D. Scruby, Jr., arrived at the home of Mr. and Mrs. Scruby in January. Scruby graduated in mining in 1922. He was with the Bureau of Mines at Rolla for several years, but is now Mill Superintendent for the Yukon-Treadwell Company, Bradley, Ontario, Canada.

Mr. and Mrs. Huston Taylor are the proud parents of a daughter born December 8, 1928. Huston is with the National Lead Company at Keokuk, Iowa, and graduated in chemistry in 1921.

Mr. and Mrs. Kenneth Gray are celebrating the arrival of a son born February 21, 1929. Kenneth attended the School of Mines a short time in 1927, but will best be remembered as proprietor of the Lyric Theatre.

A daughter, Janet Louise, was born to Mr. and Mrs. C. D. Craig, '26, January 23, 1929. Dewey is with the United Verde Copper Company at Jerome, Ariz.

Leroy VanSciver and wife are the proud parents of a daughter born February 28, 1929. She will answer to the name of Audrey Anne. Mrs. Van Sciver was formerly Miss Dorothy Smith of Rolla. VanSciver is from Hightstown, N. J., and is now a senior in electrical engineering.

A son, Raymond Leroy, Jr., was born to Mr. and Mrs. R. L. Hallows on March 1, 1929. Mrs. Hallows was before her marriage Miss Nelle Kitchen of Rolla. Ray graduated in '27 in Metallurgy and is a member of the Lambda Chi Alpha fraternity. He is employed in the research department of the Eagle-Picher Lead Company, Joplin, Mo.

Word has been received in Rolla that Mr. and Mrs. Freddie Schneeberger, '25, are the proud parents of a little son.

Carlos Enrique Elmore, '11, was accidentally killed in Lima, Peru, where he had charge of the city water departments of Lima and Callao. While supervising some construction work last October a heavy beam that was being brought into place fell, striking him on the head and killing him almost instantly.

Elmore was the son of an influential Peruvian family of British ancestry. He was married in 1914 to Miss Julia King of Rolla. Following graduation he went into various parts of the world in the capacity of mining engineer, and for the past three years had been in charge of the water supply for Lima and Callao in his native country.

Mrs. Elmore expects to continue to make her home in Peru where her husband had extensive land interests, and from which country she will receive a liberal pension because of her husband's connection with public work.

Robert Otis Salyers, a sophomore in civil engineering at the School of Mines, died at the M. S. M. hospital early in the morning of February 13, 1929.

Mr. Salyers was born October 2, 1901, at Lyons, Neb., and graduated from the Arapahoe High School, Arapahoe, Neb., in 1920. After teaching school and doing contract work for the Union Pacific Coal Company to earn funds for a college education, he entered MSM in September, 1927, for a course in civil engineering. He was one of the most outstanding students scholastically in school.

On January 25, Mr. Salyers was taken to the M. S. M. hospital where he was under constant treatment, with the best possible care, but he gradually grew worse until the end came Wednesday morning.

With him at the time of his death were his sister, Mrs. Ed. McHenry, of Gregory, S. D., and Miss Irene Johnson, of Hanna, Wyo., to whom Mr. Salyers was engaged to be married. His body was shipped from the McCaw Undertaking Parlors to his old home in Arapahoe, Neb., where he was buried.

Francis E. Taylor, for the past thirty-one years editor and publisher of the New Era, a Rolla weekly paper, died at his home here March 5th, of bronchial pneumonia, after an illness of only five days.

Mr. Taylor was born at London, Ontario, September 28, 1856. In early boyhood he came to Chillicothe, Mo., where at fourteen years of age he began his first newspaper work. In early manhood he went to Cleveland, Ohio, where he was employed by the Cleveland Plain Dealer, and later he worked on the Buffalo Express. Returning to Chillicothe he was associated for some time with the Chillicothe Tribune, and later was editor and publisher of the Chillicothe Daily Mail and Star. In 1898 Mr. Taylor purchased the Rolla New Era, which he published up to the time of his death. He has always been active in Republican politics, and has held various offices in the party.

Mr. Taylor is survived by his wife, Mrs. Byrda E. Taylor, whom he married at Hamilton, Mo., in 1893. Mrs. Taylor has long been active in club work in Missouri and has held numerous offices in the women's federated club work, now being president of the sixth district of the Federated Women's Clubs of Missouri. He is also survided by one son, Huston Taylor, MSM '21, who is a chemist with the National Lead Co., Keokuk, Iowa. Funeral services were held from the Episcopal Church in Rolla on March 7th.

New Alumni Directory To Be Issued This Spring

The work of compiling the new alumni directory, which under the constitution of the Alumni Association must be issued at least once in three years, will be started early in April. In this issue of the Alumnus is a questionnaire designed to give the alumni officials complete information regarding alumni of the school. You are urged to fill it out at once and return it to the Alumni Recorder at Rolla. Please do not wait to furnish this information. The success of the new directory will depend upon the co-operation given by the alumni and everyone receiving this issue of the Alumnus is urged to tear out the questionnaire, fill in the information desired, and mail it at once.

Every former student at the School of Mines, whether a graduate or not, or whether a vocational student, is urged to return this blank by *return mail* to Noel Hubbard, Alumni Recorder, Rolla, Mo.

Date.....

Name in full (Print).....Nickname.....

Date and place of birth.....

Years of attendance..... If you did not graduate, of which class do you consider yourself a member.....

Date of graduation and degrees.....

Business or profession.....

Business address now .....

Home address now .....

Home address (city or town) when a student.....

Married { Yes / No

If married
- When .....
- To whom..... (Name and residence before marriage)
- How many children..... { Girls / Boys
- (Give name and dates of birth of children)

Was your father, grandfather, brother, or any other relative a former student at MSM?

.....Give names with years of attendance of each

.....

Have you ever had any children or granchildren in MSM? { No / If yes, gives names

.....

What scholastic honors did you win?.....

.....

Of what fraternity, clubs, organizations and student activities were you a member while in school?.....

If you won an M, give branch of sport, year, position played, record, and if captain

.....

Give your War Record..... (Dates, organizations, ranks, etc.)

Send notices of births, deaths, marriages and all news to this office for publication in the ALUMNUS. The ALUMNUS is your magazine. Your co-operation is essential.