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The Wisconsin Engineer

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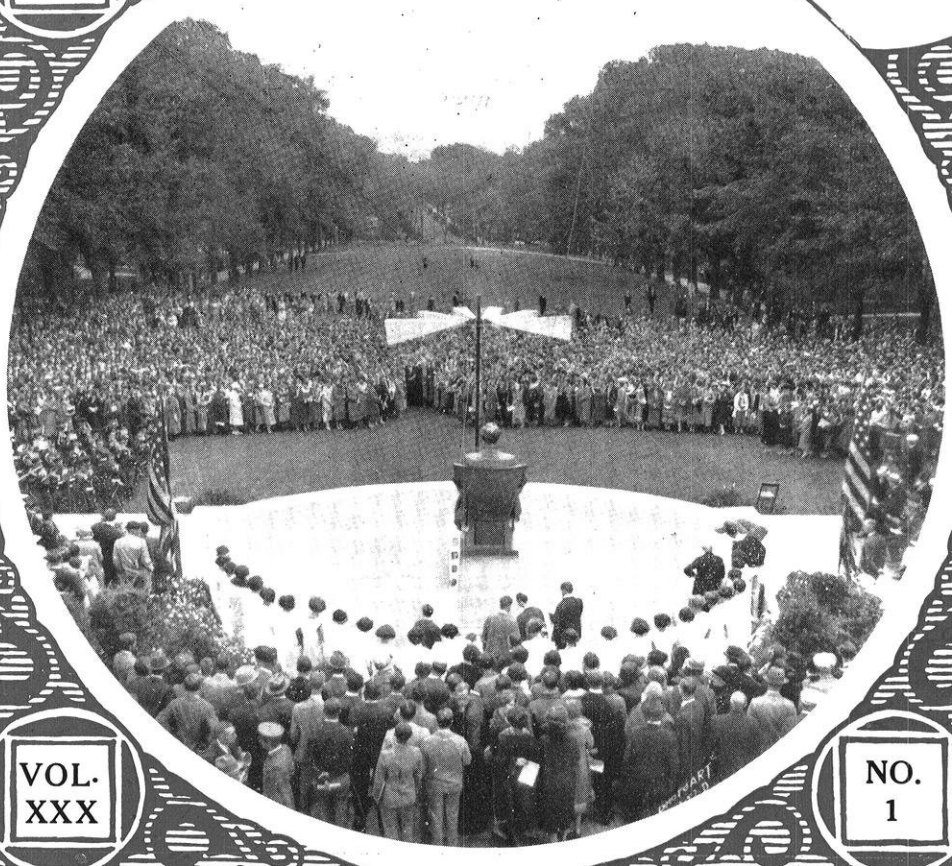

VOL. XXX

NO. 1

COLLEGE---
What Does it Mean to You?

By

Professor C. I. Corp

The Wisconsin Engineer

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VOLUME 30 — OCTOBER, 1925 — NO. 1

The Wisconsin Engineer
UNIVERSITY OF WISCONSIN

VOL. XXX, No. 1 MADISON, WIS. OCTOBER, 1925

COLLEGE--WHAT DOES IT MEAN TO YOU?

By CHARLES I. CORP

Professor of Hydraulic and Sanitary Engineering

SO you are back again! I can see by the healthy tan and clear eyes you have had a rejuvenating summer. Last spring you looked jaded and your face was drawn. Looking at you then I was reminded of an incident of my boyhood days. On our Kansas farm we were shelling corn out of a crib one spring when we located a host of mice. I hastened to bring all the cats on the place. One old gray cat rushed excitedly in and succeeded in getting two mice in her mouth and one under each outstretched forepaw. Then she watched with wild eyes the many mice as they scampered by. Finally unable to resist longer she made an attempt to add another mouse to her collection and ended by losing all but one.

CHARLES I. CORP

College students are often like that. Their heads fairly swim with all the opportunities for work and play that are rushing by and tempting them. Is it any wonder that at the end of the school year they are jaded by the hectic pursuit of first one and then another objective? They are indeed fortunate if in the scramble they have not lost the thing for which they have come.

Are your four years as an engineering student at Wisconsin going to be like that? I do not believe you want them so and I believe we can get straight on how to tackle the day to day problems by a little study of the situation.

To begin, some motive impelled you to come to college. It may have been a rather vague idea of becoming that indefinite thing known as a 'well educated person', or to lift yourself higher in the social scale, or to increase your earning power, or to fit yourself for some definite profession or, perhaps, a combination of several aims. Let us hope there was some aim and some vision of how the University was to serve you, and that you were not merely *sent* to school by your parents. You may have heard of the fellow who went to his father and said, "I want to go to college" — and Dad said, "Good! I was afraid you wanted to be sent."

You had, no doubt, a rather definite picture of just what you were going to do here and just how the University was going to help you attain these ends. It is also likely that you found things very different from your expectations. As you progress along your college course your ideas of what you want will change so that if you were to compare your present ambitions with those of one, two, or three years ago, when you entered here, you might or might not find your main objectives still remaining but your viewpoint would be found changed, readjusted and enlarged.

Leave yourself out of the picture for a moment. The University is the agent of the state. Have you considered just what was the purpose of the state in offering to you the training it does? Briefly its main objectives are:

(1) the dissemination of information and knowledge;

(2) the pursuing of investigations in order to add to the store of knowledge; and

(3) the training of men and women for leadership.

Leadership in the sense that through effort, study, and right thinking, persons become constructive in the things they do or say and true builders for the common good. Such an individual soon is recognized for his real worth and exerts a wider and wider influence in shaping the ideals and acts of the people of his community.

When you accept training here you assume an obligation to develop the best that is within you and to give of that best in upholding and developing the general good.

To attain to your best you will need to consider all angles of your development. You have a physical side, a mental side, a moral side, a spiritual side.

Your physical side is important to you for no matter to what heights you may attain, if you have not physical well being your efforts will be dwarfed or altogether defeated. To support a clear active mind your body must be in good shape. In this you are in a sense analogous to a machine. Properly cared for the machine will continue to function well; neglected, overworked or abused, it soon goes to pieces. Just so with your own body. With the resilence of youth there seems no demand, *now,* to which your body is not equal, but inevitably each over exertion takes its toll and the account will have to be settled later in life. See to it then that you build for the future by the avoidance of over indulgence of your normal appetites, over play or over work. Keep your mental keenness by properly exercising and caring for your physical body. Good health which is reflected by an upright, alert bearing and personal appearance as indicated by clothing and the way it is worn are potent factors of success.

There is no excuse for a man who calls himself an engineer, unless in work clothes, to be other than neatly and appropriately dressed. Slovenly mental traits are reflected by slovenly attire. Regardless of the old adage that a man must not be judged by his clothes, a man's outward appearance indicates to a great measure his mental characteristics and qualifications.

The primary object of a college course is intellectual development. See to it then that nothing else defeats this main end. It is the thing that will remain with you when your college career is closed. It is a fine thing to be a college athlete, to be at ease in any social situation, to be active in fraternity affairs or to do any thing which is a part of the life and activity of your college campus. All these are but contributing factors to the main end. While each in itself is a worthy and desirable thing, it may become destructive if allowed to defeat your main purpose.

Don't scatter the best you have to the point where you do nothing well. Above all, do not — as I fear all too many of your classmates do — simply drift along from day to day aimlessly frittering away your time and energy on petty details or some thing which does not lead to your main objectives. It is your duty to see that the small things of life do not absorb you.

Now for your moral development and your human-relations side. Any course of action which is not founded on sincerity of purpose cannot permanently succeed. The practice of deceit leads to its own downfall. A man's character is indelibly stamped upon him and this letter of recommendation, or otherwise, is "known and read by all men".

A person can be a ruthless pursuer of his own selfish interests. Its effect upon others appears of no consequence to him. Sooner or later, however, regret and remorse must come. It seems to me, if for only purely selfish reasons, a man who has wronged another should hasten to correct it. Self deceit can silence conscience only for a time. I cannot conceive of greater punishment than to live with a conscience which does not approve of one's acts. Sincerity, sympathy and simplicity are three good guide words in dealing with others.

Your forefathers had certain religious convictions. In your early youth your parents were your guides in religious matters. They were the final source of appeal in all things. To your mind their word was conclusive. As you have gradually taken over the helm and become the pilot of your own destiny you have tended to search further for final decisions. Sometimes in the restless vigor of the new found powers of youth all anchors are cast overboard and you drift. Cling to the faith of your fathers and ponder well. You can afford to go slowly and take time to find your way.

Closely allied to your religious nature is what I am going to term your spiritual self—the mainspring of your life. Before one can act, one must dream — build air castles. Behind every accomplishment is a vision and if you are to be more than a mere automatic machine for carrying out another man's conceptions you must cultivate this side of yourself. "Without vision, the people perish." The men we call "big men" are only men of vision. The fire and enthusiasm created by that vision radiates from them and stimulates others. Your four college years give unusual opportunities for you to touch and sense such men from every field. Do not fail to seize such chances when offered, thus stimulating and developing your own power.

Finally, behind all true success and accomplishment lies that force within one's self which keeps you dissatisfied with imperfect work and faithful to the task which is to be done.

Have we not in general been confusing leaders with executives? Often they are one, but most generally the executives are not the leaders; and it is this fact that produces confusions and vagueness of ideas. There is a real distinction between the words "leader" and "executiv". Louis Pastuer is an instance of leadership through thought and investigation; he probably had a wider influence on the future of the human race than any other man of his day; but I doubt if he had any of the qualities of an executive. In General Gorgas we had a great executive. —President Ira N. Hollis, Worcester Polytechnic Institute.

The engineer in an enterprise may be likened to the pitcher, for example, in a ball game. The pitcher is distinguished from the other players by his special skill in pitching. But pitching, however skilful, will not of itself win the game. The pitcher must know team work also, and the better he knows it, the greater his value to the team. To be good at team work, he must know the fundamental principles which control the work of each of the other positions on the team and the methods by which the principles are usually applied.

—Prof. J. C. Fish in Engineering Economics.

THE 1925 MINING AND METALLURGICAL INSPECTION TRIP

By E. R. SHOREY

Professor of Mining and Metallurgy

IN planning the route for the 1925 trip, the practice of former years was abandoned and a trip to the great camps of Northern Ontario, and the Lake Superior copper and iron districts was outlined. Since our route lay so close to Niagara Falls, we detoured and paid a short visit to this region of wonderful scenic beauty and great engineering achievement. The great hydro-electric plants of the American power company were visited. In them the successive steps in the development of the present types of appartus was exemplified, as the three plants represent several stages in this work. The importance of cheap power to industry in shown by the growth of Niagara Falls, N. Y., and the large and varied industries which have been located there because of the power available.

A demonstration of the effect of the present water diversion, and the steps proposed by the Hydro-electric Commission's engineers to provide for diversion of greater amounts of water was of great interest. The proposed remedial works include the construction of submerged dams or a series of artificial islands by which the water remaining would be so distributed as to maintain a more uniform flow over both cataracts and to minimize the continuous erosion at the brink of the Horse Shoe falls. Certainly it would seem that the proposals are reasonable, and the remedies offered feasible.

We also had our last opportunity to bootleg cigarettes into Canada at Cigarette prices, and as American citizens to import American Shoe Leather into a foreign land without paying duty upon it

The first real mining we saw was at Cobalt, Ontario. This great camp no longer resembles the Cobalt of the busy law-office days. The boom has passed, but large tonnages of milling-grade ores remain to be worked. The Colonial and the McKinley-Darragh-Savage Mines, and the mills of the Mining Corporation of Canada, Nippissing O'Brien, and McKinley-Darragh-Savage Companies were the operations visited here. In them we saw mining from the prospecting and developing to the final extraction of pillar stages, and the complete milling practice of the district Cresshing, tabling cyaniding and the final refining of the silver bullion afforded opportunity for study.

As the party was leaving Cobalt we met the Miners from Notre Dame (the Four Horsemen were not in the group), later we met the Case miners at Kirkland Lake where they were making their mine survey, and we followed the boys from Ohio State at Timmius.

Kirkland Lake is a camp of considerable interest. The discoveries there are of rather recent date, consequently the camp has the air of the typical boom camp. Most of the camp's business establishments are housed in the traditional board and tarred paper shacks, every one is optimistic and accomodations were hard to secure. Due to the rigors of the northern winter, the buildings at the mines visited were substantial and well-insulated against cold.

The Lake-Shore and the Wright-Hargreaves Mines were inspected here. The mines are gaining considerable depth, development is being pushed to increase ore-reserves. The mining method most used is straight shrinkage stoping, a feature of the work being the great length of stopes. Vertical shafts with efficient hoisting plants are the rule. Due to the camp's isolation in the forest, efficient fire-fighting stations, equipped with oil-engines and turbine pumps are provided on the shores of the lake.

The mills are new, substantial and well arranged. The milling system is all-sliming, counter-current decantation cyaniding of gold; there is little silver. Each mine has its own refinery and the gold bullion is shipped to the Canadian banks or to the Philadelphia mint.

We liked Kirkland Lake; — especially since in one mine, the superintendent finally led us into one high-grade stope and refused to show us further interesting features of his mine until we had all secured "good samples" which he later questioned, and pieced out with speciments from his private stock in the office.

Here also some of the boys asquired a noticeable cockney twang from enthusiastic attendance at soccer football and one of our number learned that the writers of "America" and "God Save the King" had learned the tune in the same school.

Since accomodations at Porcupine are inadequate we made Timmius our headquarters while we visited the Porcupine Gold Area. The magnitude of operations here was a revelation to some of us who had thought that our western states were the scenes of the largest scale operations on the continent. Here Hallinger mines and mills 6,000 tons of ore daily, drives fifty-odd miles of development annually and is planning more extensive operations. High-speed hoisting, rapid trainning with automatic dumping devices at shaft stations, underground crushing by mammoth Blake breakers are the high lights in the mining practice which makes such a large tonnage possible. McIntyre-Porcupine also plans large increases in capacity. Here a new hoisting shaft 17′ x 24′ in cross-section, heavily timbered, is being sunk 4,000 feet at the rate of 200 ft. per month.

Milling in the Porcupine camp parallels that at Kirkland Lake but is on a much more elaborate scale. In Porcupine we also saw two instances of relocation of

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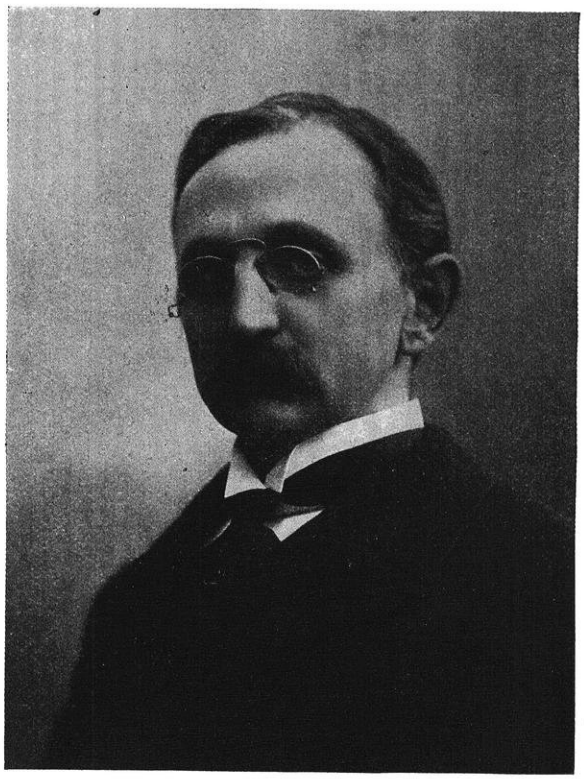
A BIOGRAPHY OF JOHN BUTLER JOHNSON

By Norman F. Koch, m'24

PROFESSOR JOHNSON, the first dean of the College of Mechanics and Engineering, was born on a farm near Marlborough, Stark County, Ohio, on June 11, 1850. His parents were of Quaker faith. His first schooling was obtained in a country schoolhouse.

At the age of 16 he entered Howard College at Kokomo, Indiana, and shortly after went to the Holbrook Normal School. The years 1868 to 1872 were spent teaching in Arkansas and in Indiana. In 1872 he went to Indianapolis to teach in the high school and to act as secretary of the Indianapolis school board.

Later he enrolled in civil engineering at the University of Michigan where he graduated in 1878. He was forced to work during his vacations to the extent of entering late and leaving early each year. Despite the fact that this loss in time kept him very busy catching up with his work, he attended lectures in other departments as he later advised his students to do. His mature age and experience undoubtedly assisted him in getting more than usual profit from his college course.



JOHN BUTLER JOHNSON

After graduating from the University of Michigan, Professor Johnson spent three years on a survey of the Great Lakes. Following this he was assistant engineer of the Mississippi River Commission for two years, 1881 to 1883. In this capacity he did much work of importance. As a result of his study on the commission, he made some recommendations for the control of the river, which were looked upon as very radical at the time but later proved peculiarly foresighted. In 1883 Professor Johnson was made Professor of Civil Engineering at Washington University, St. Louis. While there he did much work on tests of structural materials. He made a very extensive investigation of timber for the Forestry Division of the Department of Agriculture, the results of which are quoted in many textbooks. He also contributed much valuable literature to engineering and scientific publications. In 1899 he accepted the deanship of the College of Mechanics and Engineering at Wisconsin. In this capacity he practically developed the College of Engineering to what it is now, one of the leading engineering schools in the country. Through his efforts a new engineering building was built which was designed by him with the help of some of the other professors. He doubled the enrollment of the college in the very limited time before his accidental death in June, 1902, at Pier Cove, near South Haven, Michigan, where he was accustomed to spend his summer vacations. His death came as a severe shock to his many friends and associates in the engineering field.

Professor Johnson was a real teacher. He was a man for whom the students worked with pleasure. He was always ready with friendly advice and encouragement for the young men who worked under him. One of the ideas which he advocated was the broadening of the spirit of the engineering profession. He taught that great benefit could be derived from attending lectures in other colleges of the University. He considered young men capable of carrying a large measure of responsibility and the logical persons upon whom it should be placed.

Professor C. M. Woodward, a colleague of Professor Johnson for many years, says of him: "As a teacher, Professor Johnson was sympathetic, painstaking, progressive ,and very thorough. He was never content with what he did last year. He never found it possible to repeat an old lecture. Study and experience added largely to his value, and his students are most emphatic in their praises of his influence upon their lives both morally and technically. The 'Professor' had a wholesome disrespect for mere authority. His mind was pre-eminently free from prejudice, and always rational. He was a hard worker and his students learned to work hard with him. Whether in the class-room or in the field, he was indefatigabl.e"

Professor Johnson was a prominent member of many societies in the United States, and even a few foreign societies claimed him as a member. He was very much interested in welfare work. He was an active member of the Unitarian Church, and was always ready to lend a helping hand to any worthy activity.

Some of Professor Johnson's writings are of international renown, and his books are used as reliable references everywhere. He contributed valuable papers to the engineering societies to which he belonged.

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SUMMER COURSE IN CHEMICAL MANUFACTURE

By BEN A. WIEDRING, *Senior Chemical*

JUST as the Civils are required to put in six weeks at Devils Lake, likewise the Chemicals are required to put in five weeks in a Chemical Manufacture Course given during the summer following the junior year. The course deals with problems of manufacturing those products commonly classed under chemical engineering.

On the bright sunny morning of June 13, Professor Kowalke called all the men together and laid out the prospectus for the next five weeks. Mr. Ragatz was introduced to the men and was unanimously elected Field Marshall of the Basement and First Floor of the building.

Actual work did not get under way until the early part of the following week. The first achievement was by Griffey and Hansen, who had been given the assignment to analyze and synthesize "Boycite". (It might be said here that Klein bought a car with the high hopes of using some of the non-carbonizing, power producing liquid).

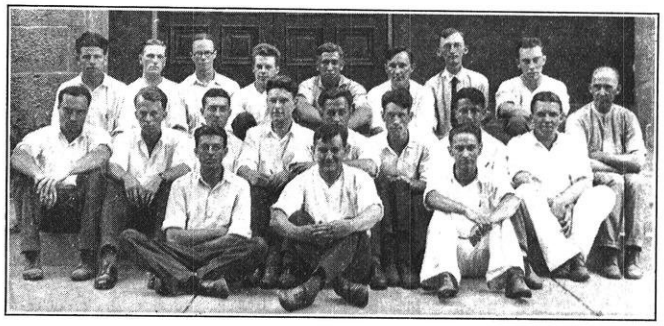
Just as the "Boycite" was being completed, fumes resembling a brewery were coming up from the cellar stairway, and after the stampede had subsided, all that could be seen was an alcohol refining still run by Walker and Wiedring. Ethyl alcohol was being made from common denatured alcohol merely by removing the pyridine and methyl alcohol. "Wes" said he *knew* we had 180 proof product so it was necessary to recheck the yield in order to relieve him of any suspicion.

The next event of importance was when Kubista and Guettler's oil refining still caught on fire and Damon was instrumental in putting it out. Old crank case oil was being rejuvenated for further use by removing carbon and metallic flakes by distillation. These oils can be used over again with the same results as new oil.

Kenmitz and Koch were the water softeners of the course and spent most of their time sampling and titrating. Their report of the necessary amount of materials needed to soften Madison water would be of interest to the housewife and manufacturer who have to use any amount of Madison water. The problem of softening water in a town where well water is used is a large one.

Professor Kowalke decided some white pigment was needed around the cellar, or rather it needed a new coat of paint, so Damon and Klein were set to work making lithopone out of raw materials. After using all of our apparatus and available room the basement was done in a new white. Painters were there later on, but didn't stay long as Damon and Klein beat them to it. The job was so well done that their next task was to make some soap, whether to clean up the place or to furnish Frank with a new supply we haven't found out as yet. By the appearance of Frank's overalls, the soap was a huge success.

The worst room to visit was in the far corner of the basement where Hiemke and Colburn were extracting toluene and benzene from straw oil used in an absorption tower by gas companies to remove toluene and benzene from the illuminating gas. After removal of these soluble oils, the straw oil is again used in the tower to remove more toluene and benzene. Hugo and Allen withstood the gas attack well and were shouting for more when the process was completed. Andrus and Carlson came to the front with a fresh supply of palm



THE CHEMICAL COURSE STUDENTS

oil soap, scented with benzaldehyde, so between the light oils and latter, the odor was something new and unusual. Not content with soap alone, they later made acetone from pyroligneous acid condensed from wood smoke. In future wars, Hiemke, Colburn, Andrus, and Carlson will receive honorary commissions in the gas warfare division.

Poor Harr and Greenidge were so busy with their ammonia experiment upstairs that they missed all the excitement and novelty of basement rooms. They spent the time determining rate of reaction and amount of liberation of ammonia. They certainly had difficulty in securing standard conditions and worked hard all during the course and from what I have learned, they finally succeeded in getting some valuable data.

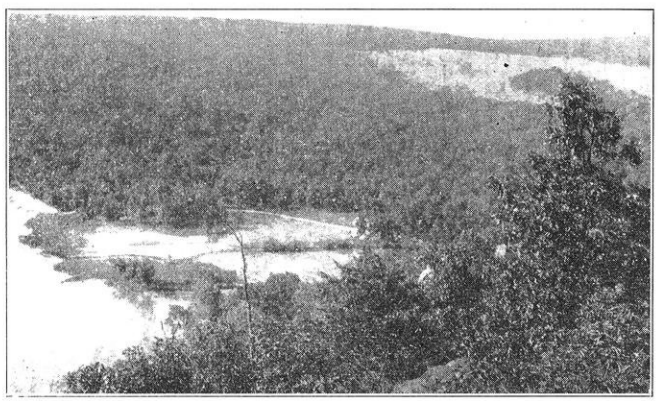
The dull white in the basement was soon wearing out, and so to add new life to the surroundings, Martin and Klema made Prussian Blue from spent Iron Oxide. White walls, doors, and fixtures with blue trimmings certainly took away any monotony of our cellar. Even members of the class attained a blue color later on, reporting that the dye was both a success and nuisance.

The closing episode of the course was a general cleaning up and arranging and hiding of the equipment so next year's class will have the same difficulty as we encountered in finding anything of importance. Pots and pans were scoured and scrubbed, the floors washed, all iron pieces oiled and greased, and wooden tubs filled with water. The purpose of the course was to make the men strike out for themselves on their own initiative to attain confidence and actual experience as much as possible before entering into a manufacturing plant of any sort. Everybody agreed that Professor Kowalke's prophecy that "Your mistakes here are the cheapest mistakes you will ever make", was a true one.

THE 1925 CIVIL CAMP

By JACOB LEVIN, *Junior Civil*

A long drawn out "choooooo!" announced the belated arrival of the North-bound "8:40" from Madison with the rear guard of engineers and the equipment. No sooner had the train drawn alongside of the depot than three score hands, assisted by a like number of legs, flew back and forth with tripod legs, tents, instrument cases, and baggage. The most efficient gang of longshoremen couldn't have cleared that car in better time than did those husky engineers. Old Father Time certainly received the jolt of his otherwise monotonous life when after sixty seconds the brakeman called out "All Aboard" and the train was off once more. Yes, miracles will happen!



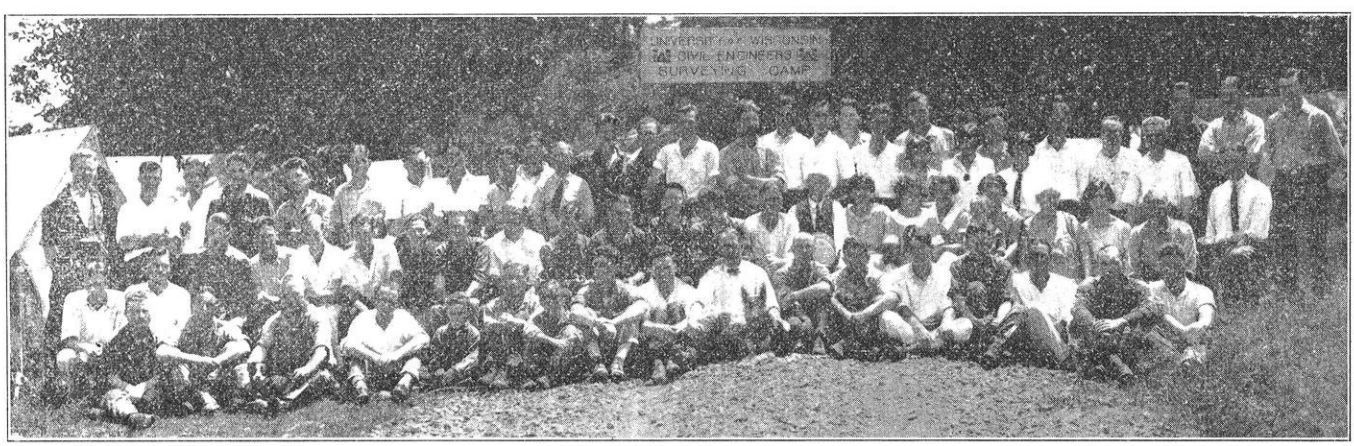
THE CAMP SITE

Although the railway department, in charge of Professor Van Hagan and his lieutenant, Mr. Stivers, organized and sent into the field three railway parties to investigate the possibility of running a spur track from the depot to the premises of the Bularena Mining Syndicate, the menu for the opening day of the camp, June 15, was construction work. "Construction work" was the cover-all term which included anything and everything that had to be done around camp . It meant the stringing up of camp lights, the setting up of tents and cots, the brushing up of the kitchen utensils and mess hall, the building of a pier for swimming, and other work incidental to the opening of the camp.

With the arrival of Professor Owen, during the second week of the camp, from Poughkeepsie, where he had gone with the Crew as faculty examiner, construction work may be said to have acquired some resemblance to construction in the real sense of the word. For many years the barn which housed the topographical engineering and railway departments stood a shack due to the lack of funds to improve it. This year, however, Professor Owen received an appropriation of $1500 from the University to remodel the faculty headquarters and to improve camp conditions in general. Aided by the engineers who were drafted in groups of a half dozen or so to wreck the old barn floor and later to build a new upper and lower floor, Charley, the university carpenter, transformed the old ramshackle barn into a really useful and substantial building. For a couple of weeks Professor Owen was, as he himself aptly put it, "busy filling the position of head carpenter". The ground floor was so remodeled that it serves both as the storehouse for equipment and the headquarters of the faculty. The upper floor, which has been provided with built-in tables and electric lights, serves the double aim of drafting room and a place where the entire camp may be assembled for instructional purposes. With an interior that has been entirely renovated, the old barn will answer the needs of future camps for many years to come.

Aroused to a spirit of action by the accomplishments of the student engineers, the members of the faculty got busy and without any assistance from the students, built a faculty lavatory and quarters for the Koehler electric lighting plant combined.

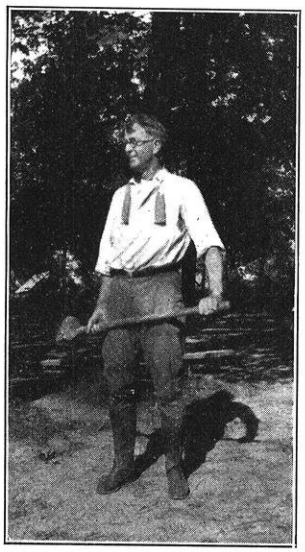
The opening day of the camp this year saw the inauguration of a new schedule for the course in Railways 22. Heretofore the men who had enrolled both for the two weeks of railway practice and for the four weeks of topographical engineering were obliged to have one



THE CIVIL CAMP GROUP

course diluted with another; that is, for three days the fellows wrestled with problems in topographic work and hydrography, and for the following three days they were metamorphosed into romantic railway engineers.

On account of the handicaps in the old system, it was decided that the railway men be divided into two groups, one of them taking railways for the first two weeks while the others did topographical work during the same period of time; and after the two weeks men had finished their railways work, they entered upon their four weeks of topographical engineering without interruption from the railway department. Meanwhile, those men who had worked on topography while the "location engineers" had laid the famous spur from Devils Lake to Bularena dropped all other work and entered upon the duties of reconnaissance. According to Professor Van Hagan and Mr. Stivers, the railway work done under the new schedule was of a high calibre, and the location studies in general were more thorough than those of previous years.



THE "HEAD CARPENTER"

If the number of fellows that turned out is an indication at all of success, the annual snipe hunt held on the night before the Fourth of July deserves to be set down as one of the most auspicious snipe searches ever perpetrated. The weather contributed in great measure to the success of the hunt, for on just such a cool, moist night did the snipes lose all sense of direction and flock into the bags. The presence of Messers. Stivers and Wesle lent an air of authenticity to the whole affair. Especially deserving of mention is Bill Fisher, arch-conspirator and snipe hunter par excellence.

The farewell banquet which was given in honor of Mr. Stivers, the evening of July 10, will long be remembered by the engineers who were there as one of the most delightful times they have ever had. Mr. Stivers had accepted a professorship in railway and topographical engineering at Roberts College, Constantinople, Turkey. The next day the Van Hagans and Mr. Stivers were slated to leave camp for parts unknown. In view of his long period of helpful service and good-fellopship at camp and at the University, it was but natural that Mr. Stivers be accorded this testimony of good-will on the part of the students and the faculty. Vic Lathers, as toastmaster, called on Professor Van Hagan for a short farewell speech. The next one on the program was Mr. Wesle who presented Mr. Stivers with a huge black key which, according to the donor, enabled its possessor to gain access to any and all places in Constantinople. Very graciously Mr. Stivers accepted the token, and then presented it for safekeeping to the railway department on condition that the A. B. & C. Railway be henceforth known as the Key Line. These preliminaries were but an introduction to the surprise that was coming. As in the days of the Shakespearean theatre, a sign was brought forth announcing the drama "An American Prof. in Turkey"; the scene was the "Restaurant Sultana", Constantinople. The substance of the "drama" was to portray the trials and tribulations besetting an American professor in Turkey. Mr. Beebe, who, incidentally, is the author of the playlet, carried out the part of the American professor to perfection; while Bob Morris in the role of Fatima and "Spike" Carlson as Abdullah ben Ali Hassan succeeded in drawing a maximum of laughter from the audience; and Horace Ballam in the guise of a graceful and sinuous Oriental dancer elicited only the heartiest approval. Sally, Merle and Betsey Owen, and Jean Van Hagan as harem beauties couldn't have been better.

"SHORTY" STIVERS

THE SNIPE HUNT

The annual Engineers' prom was ushered into being July 11, the day after the railway department's evacuation. Bishop's first act as chairman of the social committee was to announce that all the fellows who were "importing" for the prom should communicate with him regarding accommodations for the girls. Ekholm was the official date-getter, and aided by Mrs. Owen, he managed to supply all who desired partners for the dance. For himself he had the rare good taste to select the pretty little postmistress from Kirkland. The mess hall was beautifully decorated with green boughs, crepe paper, and Japanese lanterns, thanks to the efforts of the Owen girls and their helpers. A snappy four-

(Continued on page 18)

FACULTY CHANGES

By A. W. Wood, *Sophomore Electrical*

Chemical Engineering

E. D. Colliman, who received his degree with the class of '23, has left the department to accept a position with The W. F. Hall Printing Company, Chicago. Mr. Colliman is working with Rolland Drake who was with this department several years ago.

K. M. Watson, who received his master's degree in chemical engineering in '23, is taking Mr. Colliman's position. Mr. Watson has been in the electric research development work at Western Electric Company, Chicago.

Assistant Professor Olaf R. Hougen of this department received his Ph. D. degree last June. This is a rare occurence for an engineer and we heartily congratulate Mr. Hougen.

Drawing Department

C. M. Kurtz has left the department to attend Harvard Medical School. He was a student here for two years.

K. G. Shiels has been promoted from the rank of instructor to assistant professor of drawing. Mr. Shiels, an alumnus of the college, has been an instructor in the drawing department for the past six years.

Electrical Engineering Department

J. S. Strong has left to take charge of instructional work at the Chicago Central Station Institute.

George D. Clark is with Westinghouse Company at Sharon, Pa., working on transformer design.

R. E. Johnson is an inspector for the Wisconsin Railroad Commission.

Those, who are to fill the vacancies, are C. A. Andree, H. P. Evans, H. J. Kubiak, and G. F. Tracy.

C. A. Andree, who received a B. S. degree in '22 and an E. E. degree in '23 at Wisconsin, was with Western Electric Company, New York Research Department, working on improvements relating to telephone apparatus until February '25. Since, however, he has been working with Max Mason on the location of ore deposits by radio measurements.

H. P. Evans, who received his B. S. degree in '23, has been with Western Electric Company, working on the development of telephone circuits and equipment.

Mr. Kubiak was graduated from Drexel Institute in '23. Until February he was with Westinghouse Electric working on problems of relay development.

Mr. Tracy held a fellowship at Toronto University for three years. He was working on problems of speed control. Last year he received his master's degree at M. I. T.

Hydraulic's Department

Professor C. N. Ward, who came to the department as an instructor in 1916, resigned last spring to take a position with Mead and Seastone, Consulting Engineers. Professor Ward is a graduate of the University of Michigan.

Mr. L. H. Kessler, who has been an instructor in the department for some time, is taking Prfoessor Ward's place.

Mr. Thomas M. Niles, a former instructor, has accepted a position with Pearce, Greely, and Hansen, Consulting Sanitary Engineers of Chicago. His present address is 670 Park Boulevard, Glen Ellyn, Ill.

The new instructors in the department are H. J. Hartwell, m '24, and C. P. Lindner, c '25. Mr. Hartwell was employed during the past year at the Hawthorne Works of the Western Electric Company in Chicago. Mr. Lindner was an assistant in Hydraulics during the second semester of last year.

Highway Department

Louis C. Alk is a junior engineer in the Sanitary District of Chicago. His position is filled by R. E. McMullen who is a senior this year.

Machine Design Department

R. E. Puerner, instructor in machine design, has been promoted to the rank of assistant professor. Mr. Puerner has been on the instructional staff five years.

The position of assistant instructor left vacant by Leo Kincannon has been filled by R. P. Rassmussen.

Machine Shops

C. C. Clare has left the department to go to the newly reorganized Lakeside Manufacturing Company, Madison. The company is to make The Lakeside Dish Washing Machine.

Mr. Martin Payton, and Mr. Sullivan have resigned.

The new instructors of the department are R. R. Bell, L. W. Tice, and G. F. Young.

Mr. Bell was formerly with the Four Lakes Ordinance Co., Madison.

Mr. Tice is a graduate of Oshkosh Normal and has been an instructor in The Milwaukee Vocational School.

Mr. Young has been with the Evinrude Company, Milwaukee, Wis.

Railway Engineering

E. R. Stivers has left the department to accept a three year contract as an associate professor to teach railway engineering at Roberts College, Constantinople, Turkey.

G. H. Abendroth, who fills the vacancy, was an honor student of the class of '25.

Steam and Gas

Benjamin Speith, assistant professor in steam and gas, has left the department to go into professional work. Mr. Speith has taught in the College of Engineering for the past five and one-half years. He was promoted to rank of assistant professor two years ago. Mr. Speith is a graduate of Nebraska University. He taught engineering one year in Oklahoma A. and M. before he came to the university.

W. D. Senger has left the department also; the vacancies are being filled by R. A. Trotter and W. M. Richtman.

(Concluded on page 16)

WHAT THE CLASS OF 1925 IS DOING

By R. T. HOMEWOOD, *Junior Civil*

AFTER COLLEGE, WHAT?

They gave me my degree last June
And started me in life,
My motto was "excelsior"
To lead me in the strife.
And while I buckled on the sword
With which to make things hot
The question which confronted me
Was, "After college, what?"

I started out to get a job,
"Oh, this is soft," said I,
"My little old B. S. Degree
Will surely get their eye.
And when it comes to picking jobs
It sure will help a lot,
In answering that little quiz
Of "After college, what?"

I filled out application blanks
I filled 'em by the score,
And then, just for variety
I filled a dozen more.
They gave me much publicity
But cash they brought me not,
I still was groping in the dark
For "After college, what?"

"Excelsior" was slipping fast,
My sword was on the ground,
In fact, the battle was a bum,
When, lo, I got a job.
The working hours were long and hard
The shop was awful hot,
This could not be the answer true,
To "After college, what?"

But better things loomed up ahead
Which always is the rule,
And now I rate a tilting chair
And not a big high stool.
The working hours are very good
And quit, I sure will not.
I guess I've settled chapter one
Of "After college, what?"

—*"Bill" Mantonya, m '19*

CIVILS

Abendroth, George H., is instructing in Railway Engineering at the university. He is living at 140 W. Gilman St., Madison.

Alk, Louis C., is Junior Engineer, Sanitary District of Chicago. His address is 4032 W. Van Buren St.

Ballam, V. Horace, home address 453 W. Washington Ave., Madison, Wis. We have no information about his work.

Bartelson, Glenn S., is with Consoer, Older & Quinlan, Inc., Consulting engineers. His present address is 430 4th Ave. N., Wisconsin Rapids, Wis. Home address, Endeavor, Wisconsin.

Breimeister, Harry, is working with the city engineer of Milwaukee. His address is 829 16th St., Milwaukee, Wis.

Brumm, Roman H., is engineer with Perry Fess, c '12, a Madison Contractor, on road construction in Illinois. His home address is 1136 Drake St., Madison.

Busby, Lynn J., is transitman with the Wisconsin Highway Commission. He is at present at 1205 E. Main St., Arcadia, Wis. His home address is 1907 Rowley Ave., Madison.

Cartwright, W. H., is assistant engineer with the Wisconsin Power & Light Co., 900 Gay Bldg., Madison. Home address: 1235 S. Fawell St., Eau Claire, Wis.

Cooley, Donald N., home address: 370 First Ave., Wauwatosa, Wis. We have no information about his work.

Cottingham, Willard S., is instructing in Structural Engineering at the university.

Crew, Louis C., home address: Arcola, Miss. We have no information about his work.

Dhis, Rup Chand, home address: In care of Maharaj Dass Diwan, Sultan pur, Kapurthala, State in India.

Ekholm, Cecil R., home address: 1212 E. 2nd St., Superior, Wisconsin.

Field, George H., is engineer on construction with Robert L. Reisinger, General Contractor at Milwaukee. His present address is Room 528 Y. M. C. A., Milwaukee. Home address: 1840 Park Ave., Racine, Wis.

Flueck, Walter J., is sales manager in the insulation department of Armstrong Cork & Insulation Co. He is located at 331 Melwood St., Pittsburgh, Pa. Home address is 1243 Park Ave., La Crosse, Wis.

Harms, Layton R., is doing drafting and designing with Warden Allen Co., at Milwaukee. His address is 1082 18th Street.

Janzer, Lorin H., is assistant Field Engineer, Grounds Improvement, Riverside Puming Station, Milwaukee, Wis. His address is 1029 Second St., Milwaukee.

Jardine, Zac, is with the Wisconsin Highway Commission with headquarters at Eau Claire, Wis. His home address is 207 N. Randall Ave., Madison.

Jensen, Harold Wm., home address: 100 Nebraska St., Woodstock, Ill.

Ketelhohn, Alfred H., is inspector for the City of Columbus. His address is 39 Waterloo St., Columbus, Wis.

Kneer, Vernon Ralph, has varied duties — drafting, computing, surveying, and inspection — with Alvord, Burdick & Howson, 1417-18 Hartford Bldg., 8 S. Dearborn St., Chicago. Home address is 514 Cochrane, Eau Claire, Wis.

Krieger, Elmer C., is with the Public Land Commission of Milwaukee. He is living at 846 Wall St., Milwaukee, Wis.

Landwehr, Waldemar J., is engineer with Mead & Seastone, Consulting Engineers at Madison. His present address is 207 W. Washington Ave. Home address: 2038 N. 10th St., Sheboygan, Wis.

Lindner, Clement P., is instructing in the Hydraulics department at the university. He is living at 512 W. Mifflin St., Madison.

McCoy, Julius M., home address: Waitsburg, Wash.

McLeish, Kenneth C., is instructing in Agricultural Engineering at the university.

Nethercut, Robert C., is in the experimental department of Barber-Colman Co., at Rockford, Ill. His present address is 847 N. Church St. Home address: 110 Warren Ave., Wauwatosa, Wis.

Plautz, Edgar G., is "shoving a gun" on a survey party for the Wisconsin Highway Commission. Business address is Stephenson Bldg., Milwaukee, and his home address is 787 Mitchell St.

Poppy, Cecil C., home address: New London, Wis.

Rick, Norman A., is assistant engineer with Wisconsin Valley Electric Co. His home address is 903 7th St., Wausau, Wis.

Rundell, Edw. B., is instrument man for the Wisconsin Highway Commission. His home address is 1049 Rutledge St., Madison.

Saks, John S., is junior tunnel engineer with the City of Milwaukee department of sewers. His address is 690 33rd St., Milwaukee, Wis.

Schmidt, George J., is with the Wisconsin Highway Commission. His home address is 1084 3rd St., Milwaukee, Wis.

Sherburne, Henry C., is with the Bridge Department of the Wisconsin Highway Commission, Capital Annex, Madison. Home address: Fremont, Wis.

Shore, Franklin, is doing drafting work with Post & McCord of New York City.

Smallshaw, James, is engineer in charge of stream gaging for the Alabama Power Co. Address: 811 South 20th St., Birmingham, Ala.

Smith, M. B., is doing drafting and building supervision, 4716 North Ave., Milwaukee, Wis. His home address is 366 Wauwatosa Ave., Wauwatosa, Wis.

Smith, Ralph A., is with Consoer, Older & Quinlan. His present address is 625 Clinton Place, Evanston, Ill. His home address is 366 First Ave., Wauwatosa, Wis.

Stillman, James I., is with the Dallas Branch of Concrete Engr. Co., with headquarters at Omaha, Neb. His business address is Inter-Urban Bldg., Dallas, Tex. Home address: Milton, Wis.

Thwaites, Edmond H., has a scholarship in Civil Engineering at the university. Mail will reach him in care of Hydraulics Department. His home address is 178 14th St., Milwaukee, Wis.

Trier, Robert J., is instrument man with the Wisconsin Highway Commission, at Wisconsin Rapids, Wis. His home address is 325 Doty St., Fond du Lac, Wis.

Tuttle, Ben, is inspector with the Wisconsin Highway Commission. He is at present located at 406 Dahl St., Rhinelander, Wis. Home address: Balsam Lake, Wis.

Webb, R. B., is inspector, Chief of Party, with the Wisconsin Highway Commission, located at 213 S. Barstow St., Eau Claire, Wis. Home address: 289 5th St., Milwaukee, Wisconsin. ,

White, Omar W., is instructor in Civil and Structural Engineering with the University Extension Division. He is living at 212 N. Lake St., Madison. White was married on February 3, 1925 to Florence Palmer, Dickenson, N. D., a 1925 graduate in History.

Wienke, Arthur R., after spending most of the summer in the state hospital at Madison where he underwent a mastoid operation, is with the Armstrong Cork and Insulation Co., in the sales department. He is rooming with W. J. Flueck, a class-mate, at 331 Melwood Ave., Pittsburgh, Penn.

CHEMICALS

Eyer, C. W., is in Florida engaged in building construction. His home address is 204 S. Sargent Ave., Glendive, Mont.

Giles, W. R., is with the French Battery & Carbon Company, Madison.

Hall, J. L., is with Procter & Gamble Co., Cincinnati, Ohio.

Kuhe, H., is in the Pulp & Paper Technical School, Darmstadt, Germany.

Sindt, E., home address: 1130 Washington St., Davenport, Iowa.

Brabender, G. J., is assistant Chemist with Northwest Paper Co., 518 Carlton Ave., Cloquet, Minn. His home address is Peshtigo, Wis.

Ehler, G. M., is with the Marinette & Menominee Paper Co., Marinette, Wis.

Peterson, E. S., is in training with the Flintkote Co. He is located at 102 W. 19th St., Chicago Heights, Ill. His home address is 403 N. Washington St., Park Ridge, Ill.

Ridgeway, G. L., home address: 1624 Johnson St., La Crosse, Wis.

Gerhardt, W. A. is with Pittsburgh Plate Glass Co., Milwaukee, Wis.

Dickson, L. R., home address: 2329 Elm St., Milwaukee, Wisconsin.

Donkle, M. C., is with the French Battery & Carbon Co., Madison, Wis.

Elfers, P. A., home address: 425 Menlo Ave., Milwaukee, Wisconsin.

Esterline, M. B., home address: 5120 N. Pennsylvania St., Indianapolis, Ind.

Guettler, R. O., home address: 777 Sixteenth St., Milwaukee, Wis.

Haase, H. F., home address: 2915 Chestnut St., Milwaukee, Wis.

ELECTRICALS

Andrae, Stephen C., is in the Engineering Department of the Madison Gas & Electric Co. His present address is 223 Clifford Ct., Madison, Wis.

Barenscher, Paul, is student engineer with the T. M. E. R. & L. Co., at Milwaukee, Wis.

Benedict, R. R., has a fellowship from the C. A. Coffin Foundation, and is studying at the university.

Bergholz, Eugene A., is a switchboard design engineer for the Westinghouse Electric & Mfg. Co. His present address is 5240 Indiana Ave., Chicago, Ill. Home address: 1128 Avon St., La Crosse, Wis.

Bodoh, J. E., is superintendent of railways with The Wisconsin Public Service Corp., Manitowoc, Wis.

Carlson, M. S., is a student radio engineer at The General Electric Co. at Schenectady. His present address is 706 South Ave., Schenectady, N. Y.

Corey, Donald H., is with the West Penn Power Company of Pittsburgh. He writes, "I spent the first month in the Substation Department in the Connellsville district: two weeks of operation, one week of inspection, and one week of construction. I am now on my three month's period in the Commercial Department. Besides working with the line crew and setting meters, I've had a little of the office routine and done some estimating."

Dupuis, H. P., is with the General Electric Co., Ft. Wayne, Ind. His home address is Sigourney, Ia.

Erickson, Einar A., is doing transmission testing in the state for the Wisconsin Telephone Co. His present address is 129 Thirteenth St., Milwaukee, Wis. Home address: 225 Lafayette Ave., Racine, Wis.

Fairman, F. I., home address: Brodhead, Wis.

Fisher, R. R., is with the Wisconsin Telephone Company at Milwaukee, Wis. His home address is Oregon, Wis.

Gettlemen, A. F., is with General Electric at Schenectady.

Gramm, Tony, is in the load dispatcher's office of the Consumer's Power Company. He writes, "Last summer I wore a straw hat to work, and every morning about six I went down and opened the gate." His present address is Royal Apts., No. N, Jackson, Mich. Permanent address: Mt. Horeb, Wis.

Grimstad, J. M., is student engineer with Illinois Bell Telephone Co. at Chicago. His home address is Mt. Horeb, Wisconsin.

Hoebel, Harold F., is a junior engineer in the Doherty Training School. He is employed by the Public Service

Company of Colorado. His present address is 624 E. Twelfth Ave., Denver, Colo. Permanent address: 1026 Sherman Ave., Madison.

Holmes, Hubert G., our former business manager, is junior engineer with the Consumers Power Company. At present he is working on combustion at Saginaw River Steam Plant, Zilwaukee, Mich. He writes, "Being an electrical I

am now working as a combustion engineer and have progressed far enough along this line of work to know whether or not the boilers are dead, banked, or fired. P. S. I hope to learn more pretty soon. Once every three weeks I work nights; so that you can say I work one week out of three. After working eight hours and spending one hour combing ashes out of my hair and grinding the clinkers out of my ears, I have the rest of the time to eat, sleep, and write darn fool letters to what friends I have left. Now that I know you guys are still on earth, I will probably soon lose you as friends too with the endless stream of bunk that can be induced to flow out of this old mill." Hub's present address is R. F. D. No. 6, Saginaw, Mich.

Holub, Edward, is a railway superintendent on the Manitowoc and Two Rivers division of the Wisconsin Public Service Corp. His present address is 423 N. 6th St., Manitowoc, Wis. Home address R. No. 1, Box 216, Boyd, Wisconsin.

Hudson, Alfred, is with General Electric at Schenectady. Home address: San Nicolas, Argentine Republic, 242 Belrrano St.

Jopp, James, is employed by the Manitoba Power Commission. On June 27th he married Miss Edith Lucille Lass of Milwaukee, Wis. His present address is Kaleida, Manitoba, Canada.

Kwasigroch, Paul J., is student engineer with T. M. E. R. & L., Milwaukee. He can be reached at the Public Service Bldg., c/o Educational Dept.

Kavanaugh, Paul E., is student engineer at the General Electric Co. His present address is 733 State St., Schenectady, N. Y. Permanent address is Bourbon, Ind.

Laube, L. F., is with General Electric at Schenectady. Home address: Brodhead, Wis.

Lee, Tsin, is student engineer with the Canadian National Railways. His present address is 19 Mansfield St., Montreal, Canada. Permanent address is c/o Nanyang University, Shanghai, China.

Leisch, Fred K., is with General Electric at Schenectady. His home address is 235 W. Pleasant St., Portage, Wis.

Ludden, Chas. F., is student engineer in the Electrical Department of the Chicago Rapid Transit Co. At present the work is reconstruction of overhead on the South Shore Line. His present address is 6137 Kimbark Ave., Chicago, Ill. Home address: San Benito, Texas.

MacDonald, W. H., is manager of the MacDonald Electric Co., of Green Bay, Wis. His address is 121 N. Clay St., Green Bay, Wis.

Martin, Clarence F., is student engineer with the elevated line of Chicago Rapid Transit Co. His address is 8432 S. Marshfield Ave., Chicago, Ill. Home address: 323½ Jefferson Ave., Oshkosh, Wis.

Martin, W. R., is in the engineering department of Wisconsin Telephone Co., Milwaukee, Wis. His home address is Dodgeville, Wis.

Mayer, H. C., is with the Wisconsin Telephone Co., Milwaukee; his address is 806 Hadley St.

Megow, George F., is doing development work at the Allen-Bradley Company of Milwaukee. His address is 1232 Rawson Ave., South Milwaukee, Wis.

Melcher, Harvey R., is student engineer at the Western Electric Company. His address is 7211 Jackson Blvd., Forest Park, Ill.

Merrill, R. A., is with the Northern States Power Company. His home address is Sparta, Wis.

Minshall, E. E., is with a transmission inspection crew of the Wisconsin Telephone Co. His present address is c/o District Wire Chief, Wisconsin Telephone Company, Eau Claire, Wis. Permanent address: Viroqua, Wis.

Morgan, Fay B., is in the Apprentice Engineering Course of the Duquesne Light Co., Pittsburgh, Pa.

Musselmann, M. M., home address: 217 N. Brooks St., Madison, Wis.

Nimmer, F. W., is assistant in charge of the engineering department of the Grand Rapids' district of Consumer's Power Company. He is located at 2140 Frances Ave., Grand Rapids, Mich.

Palen, Vernon W., is an engineering assistant employed by the New York and Queens Electric Light and Power Co. His present address is Central Service Station, Flushing, L. I., N. Y. His home address is 500 Pearl St., Sparta, Wis.

Plettner, E. M., is in the Traffice Division of the student course of T. M. E. R. & L., Milwaukee, Wis.

Sharratt, Willard, is doing general plant work at the Wisconsin Telephone Co. His present address is 327 Erie St., Sheboygan, Wis. Home address: Mazomanie, Wis.

Steel, Beaumont, is with Cutler-Hammer Co., P. O. Box 1564, Milwaukee, Wis. His home address is 298 Reed St., Milwaukee, Wis.

Sveen, E. A., is with the French Battery & Carbon Co., Madison.

Taylor, Harry C., is student engineer with General Electric at Schenectady. His home address is 212 S. Clark St., Chicago, Ill.

Thiemann, Vincent Aloysius, is employed by the Westinghouse Electric & Mfg. Co. He writes, "My status is undetermined. If I have a purpose in life, I haven't yet discovered it. My work is to carry bolts around once in a

while, or help the laborers sit down and rest." When asked if he was married, he wrote, "I can't give you my wife's maiden name, but if you insist I can give you some phone numbers of some torrid sketches around Madison — that I won't need for some time." His present address is Westinghouse Club, Wilkinsburg, Pennsylvania.

Thomas, Don T., is roadman with Allis-Chalmers Co., Milwaukee, Wis. His home address is 605 68th Ave., West Allis, Wis.

Thomas, Cleo W., is a substation operator for the Public Service Company of Illinois. His present address is 618 Park St., Crystal Lake, Ill. Home address: 452 Edwards St., Kenosha, Wis.

Waffle, N. L., is in the Central Station Institute at Chicago. His home address is Fon du Lac, Wis.

Wiese, Arno M., home address: 1607 Marquette St., Davenport, Ia.

Wooldridge, Kent E., won the Wisconsin Utilities Scholarship in Electric Railways. His Madison address is 822 Clymer Place. Home address 552 S. Main St., Fond du Lac, Wis.

Yehle, R. R., is a transmission engineer with the Wisconsin Telephone Co. He can be reached c/o Wisconsin Telephone Co., Eau Claire, Wis.

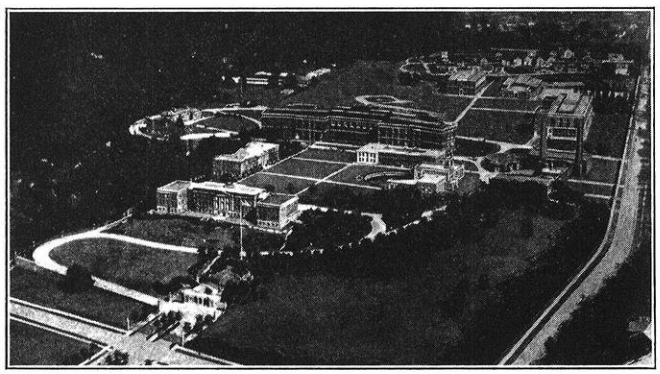
MECHANICALS

Bars, Carl, is with the Commonwealth Edison Co., 72 W. Adams St., Chicago, Ill. He is living at 5907 S. Parnell Ave., Chicago.

(Concluded on page 21)

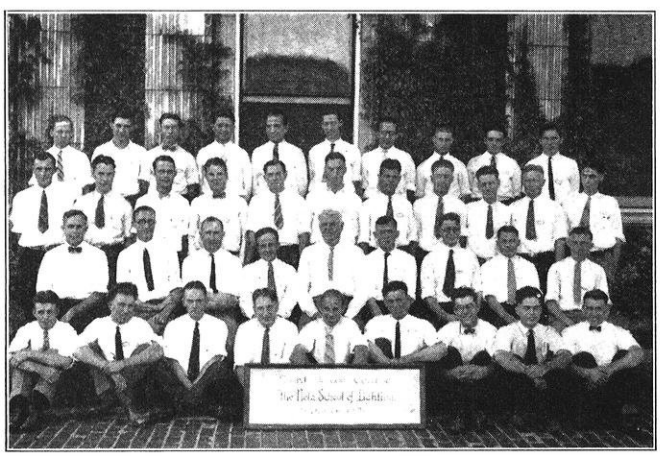
THE NATIONAL LAMP WORKS JUNIOR SCHOOL

The third annual junior school of The National Lamp Works of the General Electric Company was held at Nela Park, Cleveland, from August 31 to September 12 this year. The school is conducted for technical school men who have completed their Junior year, and a few faculty members are invited to attend. Thirty-two students and five faculty men attended the last school.



NELA PARK

The course is made up of lecures, inspection trips and problem work. The lectures are given by men who are well known in their respective fields — the research work, development, manufacture and sale of electric lamps. Various inspection trips to the Nela Park laboratories, the Cleveland lamp factories and different industrial plants enable the student to see how lamps are made and how they should be used. One interesting and unusual laboratory is the "half mile laboratory" — a street nearly half a mile in length on which has been installed many different street lamps for the purpose of studying street lighting. The problem work gives the student an insight on the design of lighting for factories, offices, homes and other uses.



THE JUNIOR SCHOOL GROUP

During the two weeks that the men are guests of the National Lamp Works they learn how a large organization functions, and they enjoy the priviliges and entertainment that accompany the course. Nela Park is a "University of Light", both in appearance and in reality.

CAUSES OF ELIMINATION OF ENGINEERING STUDENTS

Mr. H. P. Hammond, writing on the Preparation, Admission, and Elimination of Engineering Students in the Journal of Engineering Education, states that, based upon the records of approximately 7,000 students admitted during the past 22 years, it was found that for every 100 students admitted, 40 were graduated. Mr. Hammond says the general tendency of the elimination shows a gradual increase, though the increase is not especially large except during the abnormal conditions of the war period. At the present time, on the average, of every 100 students who enter regularly and pursue regular courses, 62 begin the sophomore year, 43 begin the junior year, 33 begin the senior year and 30 graduate regularly with their class. The difference between the two figures (40 and 30) given for the number of students graduating is due to those who require more than the normal period to complete their course and to men admitted in advanced standing from other institutions or from other courses in the same institution. These figures are based upon returns from various types of institutions in all sections of the country.

As might be expected there is considerable variation in the elimination ratio between various institutions. Some colleges which offer the customary four-year course have regularly elimated 85 per cent of students who entered. The lowest elimination ratio thus far received is approximately 40 per cent. With a few exceptions, the larger schools have elimination ratios quite close to the average experience. Twenty institutions of various types situated in different parts of the country have furnished detailed statements of the causes of eliminations. The principal causes and the number of cases attributed by the institutions to each are as follows:

Causes	No. of Cases	Pct. of Total
Scholastic failure	1,810	48.4
Health of student	172	4.6
Voluntary change of institution	541	14.4
Financial difficulty	215	5.7
Dismissal for cheating or other improper conduct	83	2.2
Change of status of student's family	51	1.4
Miscellaneous cases not above enumerated	50	1.4
Unknown causes	822	21.9
	3,744	100.0

It is to be noted that the number of cases definitely attributed to scholastic difficulty is nearly 50 per cent of the total. It is highly probable that a certain proportion of students who changed course or institution voluntarily were not in satisfactory scholastic standing, and it is no doubt true that among the 21.9 per cent of cases having unknown causes there are many who left because of scholastic failure or the liklihood of such failure in the future. On the whole it is probably not far from the truth to state that from 55 to 60 per cent of all cases of elimination of engineering students are due primarily to failure in scholastic work.

Editorials

THE DEAN'S WELCOME

To the old and new students and to the alumni we extend our greetings and best wishes for a prosperous year. To the new students especially we extend a cordial welcome to the University and particularly to the College of Engineering. The whole machinery of the College, — buildings, equipment, and teaching staff, — is furnished by the State primarily for the benefit of the students and it is all set and ready to go. But all the effort of the faculty, aided by the equipment of the laboratories, cannot be successful in its work of instruction unless the student is a worker. Teachers can work ever so hard, but little of value will be accomplished except by the effort of the student himself. His thinking can be directed along efficient lines, and he can be assisted here and there to get an understanding of the problems more quickly than through his own efforts alone. Teaching is a good deal like driving a team of horses: the driver can direct his team along the best roads and at the most effective speed, but he can't pull the load. Education comes from effective *thinking* by the student himself. Study and continuous pull at the load is the only way to bring the results in the way of a mind trained to solve problems and reach sound conclusions, — a fundamental requirement for an engineer. We urge the new student especially to get under the load promptly and vigorously, as a good start is most essential. The faculty is here to serve the students, and you are expected to call upon your adviser and instructors freely for advice and assistance. We hope the coming year will be a successful and profitable one, and if so it will certainly be an enjoyable one.

GLENN FRANK — PRESIDENT Like the hopeful pioneers of covered-wagon days hopping off from the embryonic Kansas City into the unknown but alluring West, the men and women of the University of Wisconsin are hopping off this fall into an unknown but alluring future under the leadership of Glenn Frank.

In two respects the conditions under which President Frank takes up his leadership are most auspicious: The University is a big and sound institution with the reputation of being progressive in its policies, and the faculty and students and alumni of the university have accepted their young president with a whole-hearted trust in his ability to show them the path to greater accomplishments. Under such circumstances, the future has a rosy aspect.

But the very hopefulness of our anticipations may be a hindrance to our new president. Undoubtedly, many people will look for spectacular demonstrations of genius from President Frank and will be disappointed and inclined to criticize if the demonstrations are not forthcoming; overlooking, or failing to appreciate, solid accomplishments that are unaccompanied by the blare of trumpets and the blaze of fireworks. The wonderful welcome that has been accorded President Frank by the University, the State, and, in fact, the whole country, inclines one to brace himself for the usual reaction. Let us hope that it does not come; but, if it does come, let it not be said that university men and women have joined in thoughtless criticism of their leaders.

GLENN FRANK

In the meantime, there is work to be done by faculty and students. The visions of our president must be materialized through the alert, intelligent, and willing co-operation of the men and women who constitute the university. During the year before us, we must lay the foundations for the new future, and those foundations must be laid broadly and solidly so that the edifice erected upon them may be a noble one.

"TAKE BACK YOUR GOLD" The Board of Regents has gone on record, by a vote of nine to six, as opposed to the acceptance of gifts to the University from such sources as the Rockefeller Foundation and similar organizations. The debate has simmered down to about this: Those in favor of the refusal to accept gifts take the stand that, first, the State is able and willing to supply all of the University's financial needs, and, second, behind the gifts is the motive of controlling education. Those opposed to the refusal take the stand that, first, the University can use to advantage more funds than the State, however generously inclined, will ever feel able to furnish, and, second, since the gifts are offered with no restrictions attached, there is no evidence of a desire to control the University. The argument seems to hinge upon the motive behind the gift. Do such organizations as the Carnegie and Rockefeller foundations constitute a blessing or a menace to society? Are they benevolent or malevolent? Is their money sound or tainted?

(Continued on page 18)

Alumni Notes

R. T. HOMEWOOD

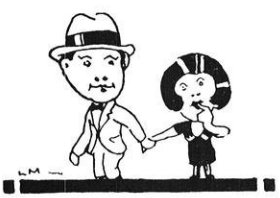
CHEMICAL ENGINEERING

William T. Ennor, ch '23, was married on September second to Miss Davina Henderson of Oakmont, Pa. They are living at 54 Bishop Ave., Massena, N. Y., where Ennor is employed by the Aluminum Company of America.

John A. Rutherford, ch '24, was married on August 21 to Miss Amelia Burwell of Miami, Florida. They are living at 242 Northeast Third St., Miami.

CIVIL ENGINEERING

Ellis P. Abbott, c '08, chief engineer of the Baytown Refinery, Humble Oil and Refinery Co., at Baytown, Texas, writes, "Our building program for this year calls for an expenditure of approximately $7,000,000. We have better than 2,000 men on our mechanical pay roll. If you know of any recent Wisconsin engineering graduates who would like to get into the petroleum industry, which is very much in need of competent engineers at this time, I wish you would put me in touch with them."



Emil S. Birkenwald, c '22, was married on September 29 to Edith Gretchen Fauerbach of Madison. They will reside at Charlotte, North Carolina, where Birkenwald is engaged in railway work.

C. E. Betzer, c '23, does cable research work for the Commonwealth Edison Co., Chicago.

Wm. A. Collins, c '24, announces the birth of a son, William Larry, on August 12, 1925. Bill is still in the City Engineering Department at Beloit. His present address is 1232 Harrison Ave., Beloit, Wis.

L. E. Chase, c '22, is resident engineer for Taylor and Voltman on a $160,000 improvement for the city of Anna, Ill. His address is 408 S. Main St., Anna, Ill.

Louis C. Crew, ex. c '25, is with the Morehouse Natural Gas Sompany, Bastrop, La.

Wm. H. Fowler, c '16, became the proud papa of seven and one-half pounds of William Henry Jr. on July 21. Fowler is assistant to the president of Dravo Contracting Company at Pittsburgh.

Herbert Glaettli, c '19, a former instructor in the Engineering College, was a visitor at the University during registration week. Mr. Glaettli is now employed by the Prairie Pipe Line Company at their office in Independence, Kansas. He was married to Miss Margaret Connelly on September 16, 1925. Mrs. Glaettli is a graduate of Baker University.

Ralph M. Greenman, c '23, was married on June 13 to Miss Edith Suppiger, '23, of Urbana, Ill. Greenman, who is engineer with the A. T. & T. Co., is stationed at Chesterton, Indiana at present. His business address is c/o A. T. & T. Co., 311 W. Washington St., Chicago, Ill., and his home address is 151 Porter Ave., Chesterton, Ind.

Donald W. Greenwood, c '14, is the proud father of a son, Robert Charles. Home address: 1818 Hastings Ave., Apt. 6, E. Cleveland, Ohio.

C. P. Lindner, c'25, a former member of the Engineer staff, is instructing in the Hydraulics department.

Edw. R. Maurer, c '90, and **Morton O. Withey,** professors in the mechanics department have written a new text, "Strength of Materials". The book is a very full treatise on the subject and will meet the needs of students as these needs have been made plain in the classes.

Isadore W. Mendelsohn, c '17, is Associate Sanitary Engineer with the United States Public Health Service.

Merville C. Neel, c '20, is efficiency engineer at the gas plants of the Metropolitan Utilities District, Omaha, Neb.

Tom Niles, c '23, is with Pearce, Greeley, & Hansen, consulting sanitary engineers at Chicago. He spent the summer at Spring Lake, Michigan and at Holland, Michigan, making surveys for sewerage systems. His present address is 670 Park Boulevard, Glen Ellyn, Ill.

Edward Otis, c '20, was married on September 13 to Miss Carol Hubbard at the bride's home in Columbia, Mo. Otis is connected with the Sanitary District Commission of Chicago. Mrs. Otis graduated from the University last June. They are living at 1228 Albion Ave., Chicago.

E. E. Olson, m '24, has changed his address to 379 Oklahoma Blvd., Milwaukee, Wis.

Olaf Rove, c '22, was married on Sept. 5 to Dorothy Hessler, '20. Rove is engaged in research work in geology at the university and is working for his doctor's degree.

N. A. Saigh, c '15, of the N. A. Saigh Company, engineers and contractors, of San Antonio, Texas, is building five and one-half miles of railroad near San Antonio.

ELECTRICAL ENGINEERING

J. S. Baker, e '22, is with Fairbanks Morse & Co., 2060 North Western Ave., Indianapolis, Ind.

Philip S. Biegler, e '05, EE '15, is professor of electrical and mechanical engineering at the University of Southern California at Los Angeles.

R. A. Clark Jr., e '23, has changed his address to 311 W. Washington St., Chicago.

R. W. Groot, e '23, is with the General Electrical Co., 230 S. Clark St., Chicago.

Willard Kates, e '21, former editor of the Engineer makes frequent trips to Wisconsin representing Day and Zimmerman, consulting engineers of Philadelphia.

Edwin Kurtz, e '17, who has been assistant professor of electrical engineering at Iowa State College at Ames for several years, is now on the faculty of the Oklahoma A. and M. College at Stillwater, Oklahoma. Prof. Kurtz has been actively interested in college journalism since the days when he was a staff member on the Wisconsin Engineer. At Ames, he was faculty adviser of the Iowa Engineer and served for two years as chairman of Engineering College Magazines Associated. There is a possibility that he will take steps to get a magazine started at Oklahoma.

Paul T. Norton Jr., e '17, has changed his address from 37 Linwood Ave. to 1575 Mulford Road, Columbus, Ohio.

J. Hugh Perkins, e '96, sends his new address as 2013 First Ave., Birmingham, Ala.

Ross Rogers, e '21, among other work for the Public Service Company of Northern Illinois, is studying available equipment for installation in the new section of the Waukegan power station.

MECHANICAL ENGINEERING

Walter Alexander, m '97, M. E. '98, has recently been appointed president of the Union Refrigerator Transit Company with headquarters in Milwaukee. Mr. Alexander was an instructor in the engineering school until 1900. After acting as a professor in Armour Institute and in the University of Missouri he became actively engaged in railway work. Since 1920 he has been vice-president of the Union Refrigerator Transit Company and was serving in that capacity at the time of his election to the presidency.

M. E. Fitze, m '24, is employed as test engineer at the Lakeside Station, Milwaukee.

H. J. Hartwell, m '24, has been in the student course in Western Electric's Hawthorne works at Chicago for the past year. He is now an assistant in the Hydraulics department at the university.

C. E. Hunziker, m '22, sends his present address as 147 Jay St., Schenectady, N. Y.

Clifford E. Ives, m '19, has changed his address to 28 E. Jackson Blvd., Chicago, Ill.

Friends and Classmates of **Lawrence J. Hunsader,** min. '25, will be greatly shocked to learn of his untimely death on August 15 last. After graduation, Hunsader entered the employ of the Federal Malleable Company at Milwaukee as apprentice in Metallurgy. While assisting in repairing a disabled crane in the foundry, he came into accidental contact with 220 volt current and lost his balance and fell. Although he fell only a short distance, he suffered a severe concussion from which he never recovered, and which caused his death fifty-six hours later.

This sad event is a distinct shock to those who had learned to know him as an earnest, able student, and a high type of young man. His death cut short a career of great promise.

George W. Brown, c'86, C. E. '00, was killed on April 1 when he was struck by a falling beam from a traveling crane at the LaPlaya Coaling Station, Point Loma Naval Fuel Station, California. Mr. Brown had been in the service of the government for more than thirty-five years.

Milan R. Bump, e '02, died on May 6 at Denver, Colorado. Mr. Bump had been chief engineer with Henry L. Doherty Co. for the past sixteen years.

Lloyd M. Johnson, m '23, is with the Sanitary District of Chicago. He is in the same division as Besserdich, but spends much of his time at the Thirty-ninth Street station.

Fred J. Mollerus, m '24, is still at Schenectady. He writes to Professor Larson, "Your letter of June 5 was received and appreciated by the '24 triumverate. The ship sailed from port about a year ago, and is still going — we dare not prophesy where. We are at the stage where we are about to leave the testing department, but wonder what in the world we will do next. — Zamzow leaves 12 M. & G. this week, and at present is invoking the pink-toed prophet for 16. Hope he gets it as that and Pittsfield will clean up his test. Quammen is still on the shop training course, at present on rate setting. Hayward left the company in April to work for his father in Milwaukee."

D. W. O'Connor, m '22, is in the employ of the Westinghouse Electric and Mfg. Co.

Walter Porth, m '23, has completed his journey around the world. He writes, "I've just dropped the hook in the home port after a little more of travel and experience than I had originally planned; and hence I've been delayed along the road considerably, but I'm finished now with travel as I am more than anxious to plunge into a real job."

H. M. Posz, m '21, is manager of the Milwaukee office of The American Well Works. He is located in the First Wisconsin National Bank Bldg.

Sargis, S. G., m '24, is working with a group of consulting engineers in Madison, Wisconsin. His address is 725 East Gorham Street, Madison.

Fred Stewart, m '23, is instructing in the Mechanical Engineering department of the University of Texas. His address is 2827 Rio Grande, Austin, Texas.

Jack Sullivan, m '24, is in the mechanical department of the Building and Mechanical Division of Commonwealth Edison Company at their Crawford Avenue Station. He has charge of inspection on fabricated steel, and assists on the boiler work. His address is 5635 University Ave., Chicago, Ill.

Albert L. Walker, m '23, has been with Western Electric since graduation. His address is 244 Forest Ave., Oak Park, Illinois.

William Wipperman, m '08, who was professor of mechanical engineering at A. and M. College of Texas, is with the Humble Oil and Refining Company at Baytown, Texas.

James P. Woods, m '22, was married on June 20 at La Fayette, Ind., to Mary Elizabeth Randolph. Jimmie was a member of the football team in his time and after graduation was an instructor in engineering for a while. Home address: 5210 Kenwood Ave., Indianapolis, Indiana.

Benjamin F. Wupper, m '23, can be reached at 1232 Rhode Island Ave., N. E., Washington, D. C.

MINING ENGINEERING

S. C. Lawson, min '17, has changed his address to 19 St. Lawrence Ave., Maplewood, N. J.

A. T. Newell, min '15, has changed his address to P. O. Box 40, Moundsville, W. Va.

FACULTY CHANGES

(Concluded from page 8)

O. C. Rabbit, who graduated with the class of '22, has become associated with the Bridge Department of the Southern Railway at Charlotte, N. C. In 1923 Mr. Rabbit was assistant engineer with the American Bridge Company at Gary, Ind.

W. S. Cottingham, graduate of the class of '25, who worked during the past summer for the Wisconsin Highway Commission in the Bridge Department has taken Mr. Rabbit's place.

Progress in engineering depends upon engineers who will give trained talents to research or who will carry the research spirit and the scientific methods of research into the field of practical application.

—Horace B. English.

Campus Notes

J. LEVIN

MR. FRENCH'S CIGARS

Mr. French, our faculty adviser, probably thought he was giving us a little surprise the other day when he passed the cigars at the department dinner, but the truth is that we had been expecting this ever since he started to spend most of his Sundays in Racine. Details are lacking, but it is well known that the cigars announced Mr. French's engagement to Miss Marjorie Svoboda, of Racine. Miss Svoboda is an accomplished pianist. The date of the wedding has not yet been announced.

OUR NEW COVER

Take another look at our new cover and, if you like it, send in your subscription for the next five years; if you don't like it, tell us what's the matter with it. This is our first attempt at color and we still feel a little shaky about it. We are proud of our attempt though, and if you do not approve we will try again. The cover and the headings were designed by Mr. Brockhausen of the Brock Engraving Company.

Earl Raimon Stivers, formerly instructor in railway engineering at the University, has accepted a professorship in railway and topographical engineering at Roberts College, Constantinople, Turkey. Mr. Stivers, always a staunch supporter of the Engineer, contributed to the magazine at various times, besides having 100% Engineer subscribers in all of his classes.

The enrollment in the College of Engineering for the present college year, 1925-26, is as follows:

COURSE	Freshmen New	Freshmen 2nd Sem.	Sophs.	Jrs.	Srs.	Grads.	Totals
Chemical	27	3	35	25	25	6	121
Civil	62	15	51	55	43	--	226
Electrical	93	27	98	97	60	14	389
Mechanical	56	8	43	36	41	2	186
Mining	3	0	7	5	9	9	33
TOTALS	241	53	234	218	178	31	955

The junior enrollment this year is somewhat larger than last year due to the transfer of students who have completed the first two years of their course at the University Extension Division in Milwaukee.

Pat Hyland, it is confidentially reported, would rather do the family wash than play golf.

Louis White, m'28, was married to Miss Janet Beveridge, September 14, at the bride's home in Milwaukee. The couple will live in Madison during Mr. White's sojourn at the University.

A PLAY

TITLE: *Know Your Profs.*

SCENE: Lower Hall of Engineering Building. 6:00 p. m. Dim lights.

Dramatis Personae:

FROSH — Trying to coil a 100-foot steel tape.

RAY OWEN — Professor of Topographic Engineering.

FROSH: "Say do you know how to throw one of these things?"

RAY OWEN: "I used to know how. I'll try it." (Successfully throws tape).

FROSH: "Gosh: How the hell do you do it?"

RAY OWEN: "It's a gift."

CURTAIN

NEW EQUIPMENT IN STEAM AND GAS LAB

The Steam and Gas Lab has purchased during the summer two new vacuum pumps to replace the old inefficient units. One is a Maish vacuum pump, driven by the usual steam cylinder; the other, a higher vacuum type called Rotrex, is driven by a small vertical throttle-governed engine. An apparatus for the investigation of air leakage thru windows, doors, and different types of walls, given to the department by the Monarch Metal Products Company, is now set up in the Randall Shops. Considerable research on the above problem is to be done this year. A Rotostat has been purchased for a study of the speeds of reciprocating parts; it consists primarily of a slotted shutter driven by a variable speed motor. When the proper speed has been reached, the object under investigation appears to be standing still; the speed of the shutter is then determined with a Jagabi counter. Finally, a new G. E. flow meter has been bought to be used for the measurement of steam flow.

Emilie Hahn, min '27, is the first woman mining student to have taken the intensive one week's course in mine rescue work, according to the men who were here the week of September 28 with the training car from the U. S. Bureau of Mines.

The following fellows and scholars in the College of Engineering have been apointed for 1925-26:

E. E. Larson, fellow in chemical enginering; Roland Parks, fellow in mining engineering; Edmond Thwaites, scholar in hydraulic engineering; K. E. Woolridge, scholar, Public Utilities Association; R. E. Purucker, fellow in electrical engineering; and Arthur Carlson, fellow, Wisconsin Gas Association.

1925 CIVIL CAMP

(Continued from page 7)

piece orchestra from Madison supplied the rythm to which the couples gaily "tripped the light fantastic". When the dance finally broke up during the wee sma' hours of dawn, it could truthfully be said by all that they had had a really enjoyable time.

CLEMENT P. LINDNER,
Instructor

Camp histories of former years have always been neglected — whether deliberately or unconsciously — to give camp celebrities their due. We believe, however, that they were of sufficient importance to the 1925 Engineers' Camp in keeping up its spirit that they merit some mention. The very reincarnation of Old Nick himself was Bill Fisher, umpire, snipe hunter, fisherman — a veritable jack-of-all-trades. With a scraggly goatee, and a voice that could bellow all over creation: "Hello, Min!" to an answering "Hello, Andy!" from McCoy, Bill Fisher gets the merry raspberry. "Spike" Carlson served at least one useful purpose at camp. He organized the midnight choir which kept the "hootowls" company. To his daily announcement, "Somebody's going to get a ducking", Carlson stuck as religiously as Coué to his credo; and the funny part of it all was that nobody so much needed that ducking as "Spike" himself. Lindner, the corn-cob philospher, was either arguing with the ladies about the elusive subject

(Continued on page 21)

EDITORIALS

(Concluded from page 14)

Since the nine regents in favor of refusal of gifts failed to convince six of their colleagues that the gifts involved a danger to educational freedom, it is plain that the evidence indicating ulterior motives on the part of the foundations is not conclusive. The Carnegie Foundation has interested itself chiefly in educational affairs. Among other things, it has provided for pensioning some of the college professors. So far as is known, it has not interested itself in the economic and sociological opinions of the men who receive the pensions. The Rockefeller Foundation has interested itself chiefly in medical research and the eradication of disease. Its activities, undoubtedly, have been of immense benefit to great numbers of people. The doubt cast upon these organizations by the action of the Regents comes as a surprise to people who have looked upon them as models which men of great wealth might well follow.

It is difficult to see how private gifts can constitute a real danger to a state university whose *chief* dependence, is and must be, upon the State. Any attempt by donors to bridle academic thought and teaching would surely come to the attention of the Regents, and it is inconceivable that the Regents, who can be in no way dependent upon such donors, would ever tolerate such an attempt. Would it not be the part of wisdom to accept such gifts as may be offered until such times as an ulterior motive appears?

THE MINING TRIP

(Concluded from page 3)

highways to allow the mining of rich lodes which apexed in the old road way.

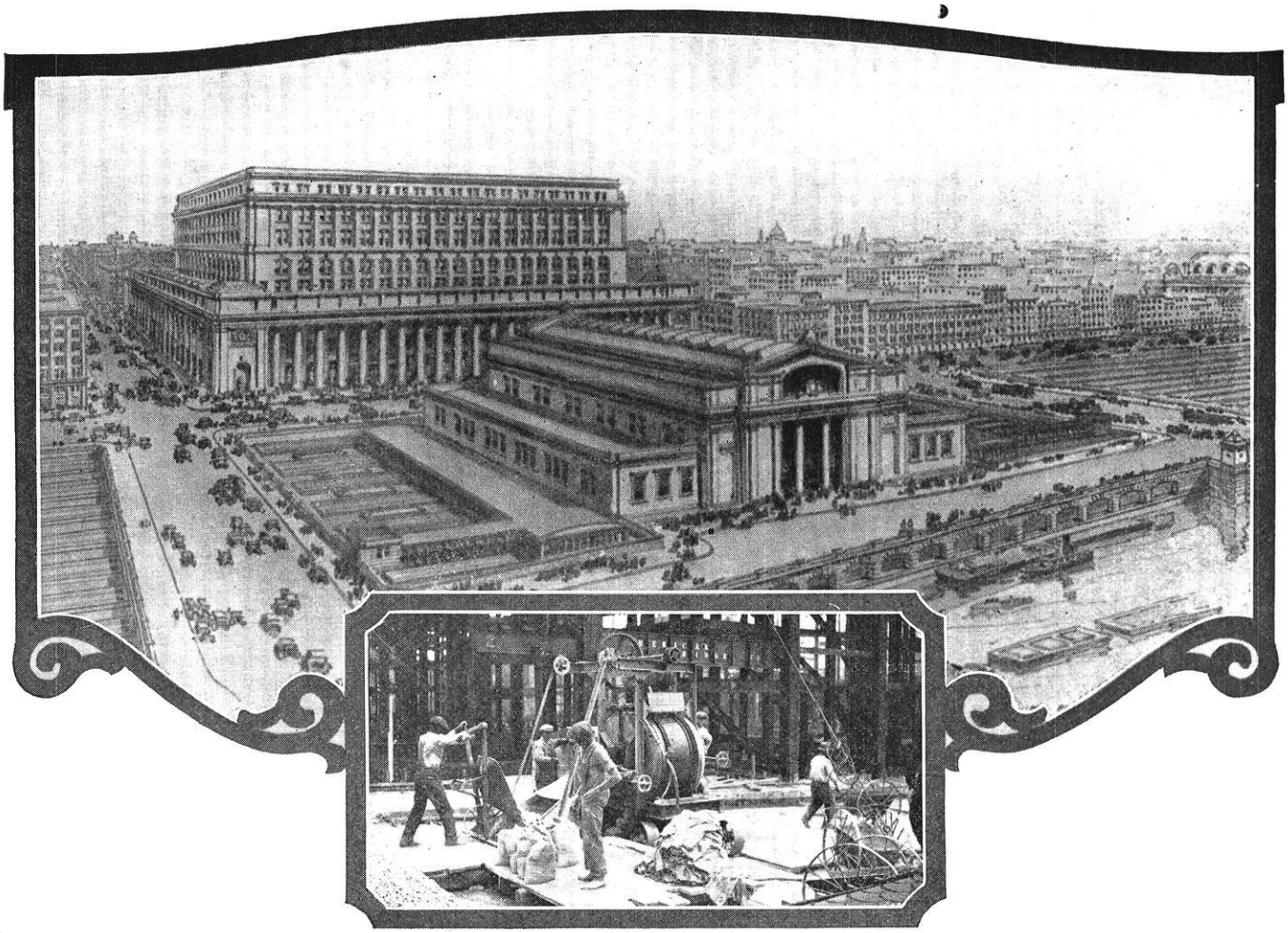
At Sudbury we saw the world's largest nickel camp. The Garson and Creighton Mines, the latter a world famous property were visited. Here the high lights in the practice are the large scale work at Creighton and the particularly efficient sorting program carried out. The concentrator of the Mond Company, and the Mond and International Nickel Companies' smelters gave us a good insight into the mettallurgy of nickel and the equipment used.

Stopping at the Soo only long enough to see several carriers pass through the locks we entered the U. S. A. again. We had found Canada even wetter than we had anticipated — it rained every day but one of our stay there, with snow thrown in for good measure at Sudbury. Naturally we welcomed the sunshine at Houghton and Rolly Park's smile. The boys at M. C. M. gave us a hearty welcome including a dinner at Sigma Rho lodge.

In the copper country we visited Quincy, Calumet and Hecla, and Copper Range Companies' properties and saw the elaborate surface equipment and interesting mining operations. Quincy smelter and Calumet and Hecla smelters and mills furnished information on the recovery of the native copper mined here. Our feeling on leaving Houghton was that it had been distinctly worth while, and as some expressed it, a land of inexpensive recreation.

The trip closed at Ironwood on the Gogebic Range. Here under the guidance of Knoll '12 and Scofield '21 we visited several mines of the Pickands Mather Company. These, together with the Oglebay-Norton's underground and open-pit operations gave us considerable knowledge of up-to-date iron mining practice. We saw Siren min. '25 hard at work as engineer for Oglebay-Norton, and missed Hawkins '25 who is employed by M. A. Hanna Co.

The trip was made by Dean Ekstrum, Dean Millmann, Don Gotham, Hal Youngberg, Percy Whittingham, Hal McKay and Prof. E. R. Shorey.



New Union Station, Chicago, and Koehring

THE new terminal of the Chicago, Milwaukee and St. Paul, Chicago, Burlington and Quincy, Chicago and Alton and Pennsylvania railroads now being completed, will be the finest railway station in the world. Covering two entire blocks, the value of the buildings alone is $15,000,000.

Caisson work, retaining walls, substructures; concrete arches, superstructure—the concrete work throughout on this Union Station is another product of Koehring Concrete Mixers.

Over 22,000 cubic yards of concrete were used in the 163 caissons, retaining walls and substructures; and approximately 25,000 cubic yards additional were required for the arches and superstructural work.

Koehring Mixers and Pavers are identified with the noteworthy building and road construction projects in all parts of the country.

"Concrete—Its Manufacture and Use", now in its fourth edition, is a 207 page treatise on the uses of concrete, including 26 pages of tables of quantities of materials required in concrete paving work. To engineering students, faculty members and others interested we shall gladly send a copy on request.

KOEHRING COMPANY
MILWAUKEE WISCONSIN

Manufacturers of Pavers, Mixers—Gasoline Cranes, Draglines, Shovels

Kindly mention The Wisconsin Engineer when you write.

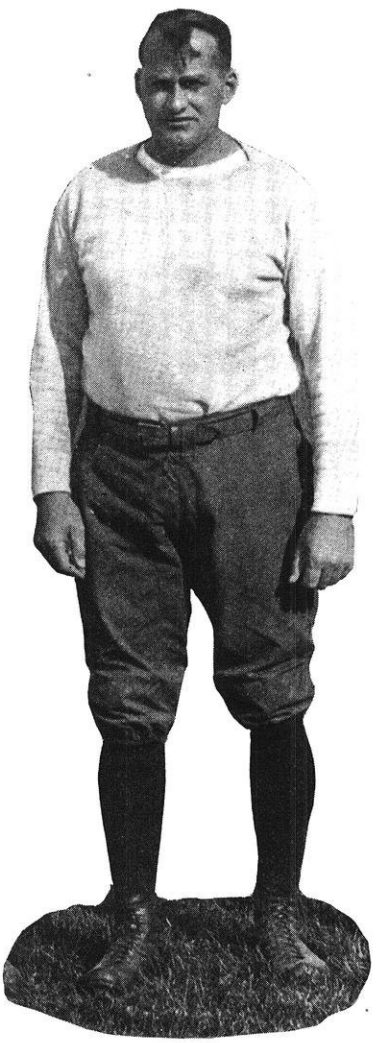
Athletics

B. R. Teare

FOOTBALL

The season opened brightly for Wisconsin with a victory from Iowa State, the count being 30-0. The score does not tell all about the game, which was not a walk-away, for Ames was as strong as ever, but it showed the fighting Wisconsin grid team with a certain sureness in action that it has not possessed for a few years.

Of course the playing was a trifle green at times, but considering that this game was the season's opener, that was to be expected. Held scoreless in the first quarter by the Iowans, the Badgers returned in the second to open up a brilliant attack of running and passing, and netted two touchdowns in this period. In the third quarter no scores were made. The first points were made in the last period when the Cardinal earned a safety and seemingly encouraged, added two more touchdowns with a variety of plays. The Badger's aerial attack netted large gains, and after the touchdowns they collected every point. The passes were accurate and had it not been for the speedy Iowa backs the Cardinal would have turned in more yardage. The line worked as a unit, charging hard and fast, and often breaking through to throw the Ames men for a loss.



Coach Little

This first victory was not unearned. It came as a result of long hours of concentrated coaching on the part of George Little and his efficient staff, who have been earnestly and enthusiastically striving ever since school started, to build up a fighting, winning, Wisconsin machine. It has been no easy task. At first practice was ragged, which could be expected. However, the squad at present looks like a real football machine in the making, a team that will represent Wisconsin as it should be represented. This is due in a large part to the manner in which every man threw himself into the game and to the way Coach Little and his staff worked to perfect the team. Every play was closely watched and if there were errors, the squad heard about it, and in no uncertain way.

On the two Saturdays before the Ames game there were practice games between two picked teams. The games were run in the regular way with officials, cheerleaders, etc. These served the double purpose of putting the team in shape for the real encounter and increasing the spirit of the student body. It was evident from the second scrimmage that hard and effective work had been done on the squad during the preceding week. It brought out the passing game that the coaches had been working to perfect.

Undoubtedly, Wisconsin is facing a new era in football. The new spirit that has been shown by the team and the student body should gladden the hearts of the alumni and the older students.

CROSS COUNTRY

Although Captain Kubly was the only veteran left from last year's Conference championship team — Link, Piper, Perry, Bergstresser and Petaga were lost by graduation — , there are promising prospects for a successful cross country season. About forty men have reported as candidates for the squad, and since the middle of September they have been taking work-outs daily. Many of the new men have had experience on the varsity or frosh squads, and the team is showing good co-operation. The opening meet of the year is to be held on October 17 before the Michigan football game. The trials will be held a short time before that. The following week the Chicago harriers come to Madison, and the next week, October 31, the Cardinals go to Minneapolis. Although the Wisconsin team cannot be sure of duplicating the championship of last year, prospects are not gloomy by any means. Every work-out shows improvement.

THE FOOTBALL COACH

Fully as important as material and enthusiasm in building up a winning team is the coach. Wisconsin is exceptionally fortunate in having as head football coach and director of athletics, George Little, formerly

assistant to Yost at Michigan. Little is thirty-five years old, and is a graduate of Ohio Wesleyan where he played for three years on the football team. Later he took graduate work at Ohio State where he was assistant coach under John Wilce. From Ohio State he went to Michigan. Little accepted his present position in January, 1925. Since his arrival in Madison he has been unusually active. Aside from holding spring practice, Little was instrumental in bringing more and better material to Wisconsin, and in developing real spirit, not only in the squad, but also about the whole school. His aims are to bring about a fighting, cheering and clean spirit to back his team; and his response to this has been encouraging, as was his call for squad candidates.

Assisting Coach Little are "Jimmy" Brader of Wisconsin, Slaughter, all-American end from Michigan, Connell, three year football man from Notre Dame, Carney, all-American end from Illinois, Uteritz, also from Michigan, E. Whitaker from Dartmouth, and Bieberstein of our last years' team.

"STEVE" POLASKI, m '26

THE NEW TICKET SYSTEM

A system, new to Wisconsin but used by many other schools, has been inaugurated in connection with the ticket sales to eliminate the tiresome waiting in lines before each game and the possibility of not securing a ticket at all. The athletic department is selling coupon books for athletic events which contain tickets for all Wisconsin games at home. There are 37 in all — five football games, three basketball games and all swimming, ice hockey, baseball, wrestling, gymnastic and track events. The books sell for $7.50, making the average cost for each ticket about 20 cents.

The new system appears to be much better than the old and it is expected that the interest and attendance at minor sports will be increased. 5,000 coupon books were placed on sale, but not all of them were sold.

CREW

Since the opening of school Dad Vail has had a shell or two out on Lake Mendota daily, giving the crew material their first workouts after the Poughkeepsie Regatta. You will remember that last June the Wisconsin crew, in competition with the best in the country, came out third — defeated only by the Navy and Washington crews. There is quite a bit of material back from last year's varsity and frosh crews, and we may expect big things next spring again. Until it becomes too cold there will be short pulls on Mendota for practice and then the work will be carried on inside with the machines until the lake opens up in the spring.

THE FIELD HOUSE

The new field house at Camp Randall, which was authorized by the Legislature last year, will probably be finished for the 1926-27 season. The field house will provide better facilities for such sports as basketball, gymnastics, wrestling and indoor track. It is expected that the athletic department will be able to put these sports on a paying basis. That part of the football receipts, which has been used to make up the deficit in the above activities, will then be used to help pay for the field house. The project is being sponsored by Senator Harry Sauthoff, a graduate of Wisconsin, whose home is in Madison.

THE FRANKLIN GAME

The Badgers defeated Franklin on October 10 to the tune of 35 to 0. The game was well played from beginning to end and the Franklin team put up a good fight. The forward pass was used by Wisconsin to a great advantage, and it is expected that the pass will be used more frequently in the coming Conference games.

JOHN BUTLER JOHNSON

(Concluded from page 4)

"Engineering Contracts and Specifications" was written as a text-book and as a book to be used for practical purposes. His "Materials of Construction" is a very valuable reference book which contains nearly all the data on the characteristics of building materials. "Modern Frame Structures" was written after his many tests on timber which he performed while at Washington University. This is one of the most widely known of his works. "Theory and Practice of Surveying" is a text-book and also a book to be used in the field. "The Index of Current Engineering Literature" was started by Professor Johnson because he found the need of such an index while doing research work. It originated in an outline of a few of his own engineering journals. This suggested a more complete index which was then put out as part of the "Journal of the Association of Engineering Societies." The work became too great to be handled by the editor of this journal, and the "Index of Current Engineering Literature" was developed as a separate publication.

The death of Professor Johnson cut short a life of service to his chosen profession.

CLASS OF '25

(Concluded from page 11)

Bentson, H. J., is industrial engineer with Dwight P. Robinson Co., 125 E. 46th St., N. Y. His home address is 185 Harrison Ave., Muskegon, Mich.

Besserdich, Arnold C., is junior engineer with the Sanitary District of Chicago. He is at present in the mechanical division working on indirect heating of the new North Side Pump and Blower Station. He writes, "If you know of any others of that class of ours whose addresses may be in Chicago, or vicinity I would like to have you send them to me." Besserdich's address is 3345 Union Ave.

Bruhnke, Leslie T., is with the Allis-Chalmers Co., Milwaukee, Wis. His home adlress is 2923 Clybourn St., Milwaukee, Wis.

Cassoday, John B., is with the Indiana Steel Company at Gary. His home address is 10 E. Gorham St., Madison.

Chadima, Willard, is with Hubbard Ice Company, Cedar Rapids, Ia. His address is 2205 Meadowbrook Drive.

Colbert, Thomas P., is engineman on the U. S. S. C. No. 412. He can be reached in care of Central Y. M. C. A., Milwaukee, Wis.

Edwards, Arthur, W., is student engineer with the Trane Company, La Crosse, Wis. He is living at the La Crosse Y. M. C. A. Home address: Highland, Wis.

Graham, Geo. W., is sales engineer with the American Blower Company of Detroit, Mich. He is located at 620 W. 115th St., App. 3B, New York City.

Grosjean, Harry W., is in the heating and ventilating business with his father at Milwaukee. His address is 494 Menlo Blvd.

Hansen, Harold E., home address 1310 Saint Claire St., Green Bay, Wis.

Johnson, Howard E., has started the central station institute course and is working for the Public Service of Illinois at the Oak Park District. His address is 1706 Glenlake Ave., Chicago, Ill.

Jones, Edson G., is working on Power House Construction at the Madison Gas & Electric Co., He is living at 416 W. Washington Ave., Madison, Wis.

Kincannon, Leo T., is superintendent's assistant for Fairbanks & Morse Company of Beloit. He is located at R. 25, Beloit, Wis. Before entering the university he was married to Miss Camilla Maude Dingman, of Blue River, Wis. Mrs. Kincannon was a pre-medic at the university for the past year and a half.

Klockau, W. F., is connected with the Dooley & Braden Co., of Rock Island, Ill. The company manufactures automatic oil burners for home heating, and have given Klockau charge of the development of the line for commercial use. He is living at 839 17th St., Rock Island, Ill.

Miller, Merl W., is student engineer with the Trane Company, La Crosse, Wis. His home address is 715 5th St., Baraboo, Wis.

Muehlenbruch, Alfred T., is mechanical engineer, assistant on boiler plant design for Standard Oil Co., of Whiting, Ind. He is located at 6440 Woodlawn Ave., Apt. 405, Chicago. He was married on June 20 to Miss Clara M. Ahrens, Manitowoc, Wis.

Reinhart, Bruce F., is "cub" engineer for White Motor Co. He is located at 8109 Hough Ave., Cleveland, Ohio.

Richtman, W. M., is instructor in Steam and Gas at the University. His address is 1709 Adams St., Madison.

Schmidt, Herbert W., is draftsman for Dravo Contracting Co., at Neville Island, Pa. He is located at 920 State Ave., Corapolis, Pa. Home address: 44 Vine St., Wauwatosa, Wis.

Tews, Roland, is draftsman for American Sheet and Tin Plate Co., Gary Tin Mill, Gary, Ind. His address is 425 W. 4th Ave. Home address: 957 34th St., Milwaukee, Wis.

Weideman, Bernard, is designing engineer, concrete mixer department of Leach Company, Oshkosh, Wis. He is located at 50 Elmwood Ave. Home address: 394 S. Park Ave., Fond du Lac, Wis. He says the questions on the lower part of the questionaire can be answered better next spring.

Rhode, Richard V., is Junior Aeronautical Engineer at Langley Field, Hampton, Va. Rhode was the only one out of many who took the examination who was accepted for the position. Rhode was on the crew for four years and rowed with the Varsity at Poughkeepsie last June.

Wolff, Harvey A., is engineer inspector with the Sewerage Commission of Milwaukee. His address is 333 Howell Ave., Milwaukee, Wisconsin.

MINERS

Gotham, Don E., is Construction Engineer with Meyer Construction Co., Park Falls, Wis. His home address is Ladysmith, Wis.

Hawkins, M. H., is engineer with M. A. Hanna Co., Wakefield, Mich.

Hering, O. H., is salesman with International Correspondence Schools. His headquarters is at Green Bay, Wis.

McKay, N. H., is metallurgist with Anaconda Copper Mine Co., at Salt Lake City, Utah.

Mangold, J. V., is at home at Marshfield, Wis.

Servatius, J. P., is engineer with the Bartlett-Hayward Co., Engineers and Founders, New York City.

Siren, E. R., is engineer with Oglebay-Norton Co., Montreal Mine, Montreal, Wis.

THE CIVIL CAMP

(Continued from page 18)

of Love, or resting. Upon arrival of Professor Owen from Poughkeepsie, poor Lindner spent most of his time on Picnic Point with a trusty plane-table at his side. Oh boy, didn't he enjoy those two-foot contours about which he used to tease the fellows as instructor in triangulation! "Ted" Mickle was at camp this year in the capacity of instructor in hydrography. Before the coming of Dr. Corbin and his fair daughter, Maxine, who opened a cottage a half mile from camp, Mickle was as unromantic and industrious as the rest of the engineers in camp. With the advent of Maxine, however, "Ted" was always getting minor injuries which required the services of Dr. Corbin — and Maxine was invariably there to nurse the patient. Before long, it began to be noticed by the wise men that in this case at least the old maxim held: Two is company, and three is a crowd. 'Nuf said.

The faculty at camp this year included Prof. R. S. Owen, Prof. L. F. Van Hagan, C. T. Mickle '26, C. P. Lindner '25, Mr. E. R. Stivers, Mr. John Staack, of the U. S. Geological Survey, Mr. H. D. Blake, of the Wisconsin Highway Commission, Mr. G. A. Beebe, and Mr. Wesle, of the Milwaukee Extension Division.

Thru the wise and able management of Mrs. Owen the camp was supplied with plenty of "good eats". Mrs. Wall, our camp cook, certainly had the knack

of making things which would simply dissolve in one's mouth before he had time to say "Jack Robinson". And those lemon pies — why the fellows thought so much about her art that they went and told her so! In addition to her other duties, Mrs. Owen had charge of the commissary, where the fellows could buy practically anything that was purchasable — stationery, drawing supplies, tobacco, canteens, candy, etc. If any of the engineers desired something which the commissary did not handle, Mrs. Owen was only too glad to order it or get it herself in Baraboo. During the whole six weeks of camp life, the three Owen girls: Sally, Merle, and Betsy, served the camp as waitresses — and no more obliging ones could be found anywhere.

Finally the happy day arrived. Many of the engineers had taken advantage of the all-night lights to finish their reports, and although there were a few who had not finished, the camp was quiet and peaceful. At the banquet the night before, smokes had been passed around, while our chief engineer, "Vic" Lathers, acting as toastmaster, managed to elicit from the faculty the fact that we might have been worse. We agreed with Will Shakespeare, however, that *"All's well that ends well"*.

The question is sometimes asked: Where do young men get when they enter a large industrial organization? Have they opportunity to exercise creative talents? Or are they forced into narrow grooves?

This series of advertisements throws light on these questions. Each advertisement takes up the record of a college man who came with the Westinghouse Company within the past ten years, immediately after graduation from his university.

This Graduating Thesis Bore Fruit

G. E. LUKE

BACK in 1917, G. E. LUKE, a Princeton student, wrote a thesis on heat flow in electrical apparatus. The world was not fired upon receipt of this opus; it went on, in fact, very much as it had gone before. But LUKE came to Westinghouse, where his interest was encouraged. Today, although less than ten years off the steps of Old Nassau, he has completed researches that have improved the motor- and generator-building arts.

An interesting problem that came to him here was the development of an analytical or mathematical method of predetermining the temperature of a motor or a generator under a given power cycle. Nothing so comprehensive had been undertaken before. When developed, however, the method would permit a more scientific application of motors and generators to practical requirements. Safety factors could be cut down. Smaller apparatus could be used, with resulting economies.

The work was exacting and the researches not spectacular. In the end, however, there emerged a formula that is now the property of the industry and that stands as an important addition to the field of engineering information.

This incident shows the opportunities which the electrical industry affords the research engineer of genuine endowments. Today this young man has charge of the insulation section of the research department, with an organization of three physicists and five assistant physicists.

His work calls for the broadest kind of experience, for it relates to every kind of electrical apparatus in which heat flow occurs. Half the problems of his section are referred to it by other departments of the Westinghouse business—they are in the nature of emergency calls. The other half are of the department's own initiating. From these come many of the most revolutionary developments in the electrical art.

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