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THE BADGER QUARTERLY

State University
of Wisconsin
News for—

If you want to be a Badger,

just come along with me—



Alumni, Parents,
and Citizens
of the State

September, 1945

Issued Quarterly by the University of Wisconsin. Entered as second-class matter at the post office at Madison, Wis., under the Act of August 12, 1912. Madison, Wis., June, 1945.

Vol. 8, No. 1

Navy Officers Training Starts at U. W. Nov. 1

Beginning Nov. 1, the University of Wisconsin, in cooperation with the Navy of the United States, will institute a Department of Naval Science on its campus and offer a four-year program in naval science subjects and regular University courses, all leading to appropriate degree and to commissions in the Naval Reserve.

A general agreement on the multiple problems involved in integrating the new unit into the State University's curriculum, facilities and personnel, and on contract revenues, was reached last week when a group of naval officials headed by Capt. A. S. Adams, of the Bureau of Naval Personnel, and Capt. Gordon M. Jones, of the 9th Naval district, met in Madison with officials of the Naval Reserve Officers' Training course resident on the campus, headed by Capt. L. K. Pollard, and with regents and ad-

(See NAVY P. 5, Col. 2)

Two Scholarship Funds of Alumni Approach Goals

Two scholarships funds which were begun last year and which are being handled by the Wisconsin Alumni Association are rapidly nearing their goals of \$10,000 each.

The Julius Olson Scholarship-Loan Fund which was begun as a living memorial to the late Prof. Julius Olson, has now passed the \$7,000 mark. Prof. Olson was one of the earliest advocates of student loans and scholarship funds designed to help needy students get through school.

The Allen Shafer Memorial Fund which memorializes the young Badger football star who died as a result of an injury sustained on the football field last October now totals \$5,600.

Contributions to either fund may be sent to the Wisconsin Alumni Association, Memorial Union, Madison 6, Wis.

Half Century Club Has 550 Members Throughout Nation

From Long Beach, California, to Lowell, Massachusetts, and from Pensacola to St. Paul, the 550 scattered members of the Half Century club of the University of Wisconsin help to keep alive the traditions of their alma mater. Their occupations are a cross-section of our national professional life. Among them are physicians and teachers, bankers and judges, nurses and clubwomen.

Membership in this exclusive club is limited to those who have

(See HALF CENTURY P. 4, C. 5)

UW Proceeding on Plans for 12 Building Projects

University administrative officials have proceeded with plans and specifications for 12 buildings and additions to buildings on the campus on authorization of the Board of Regents.

The Regents approved recommendations of the University Planning Commission in determining the 12 buildings, building additions, and repairs which should be provided for first from building funds supplied by the state legislature of 1941, 1943, and 1945. The funds voted by the 1945 legislature totaled \$8,000,000.

In approving the building schedule of the Planning Commission and authorizing application for release of funds for plans and specifications, the Regents indicated their intention of being prepared, as war restrictions are removed, to move forward immediately with the construction program to relieve the most urgent campus building needs.

Regent John D. Jones, Jr., Racine, in presenting the Planning Commission's recommendations, said that it had been determined in all construction planning, that "the element of quality should not be sacrificed, that anything built under the program should be well-built."

The Planning Commission's 12

(See BUILDING Page 3, Col. 5)

Wisconsin Alumni, Students Achieve Heroic War Record

Over 400 Win Medals for Service

University of Wisconsin alumni and former students distinguished themselves on the fighting fronts all over the world during World War II.

According to the latest records of the State University Alumni Records office, more than 400 "Fighting Badgers" have received awards and medals for the service they have rendered their country in World War II. Among the awards held by former Wisconsinites are the Legion of Merit, the Bronze Star, the Silver Star, the Distinguished Service Cross, the Navy Cross, the Distinguished Flying Cross, and the Air Medal with one or more oak leaf clusters. Two former students have had cruisers named for them; and one, Lt. Thomas L. Truax, PhB '39, has his name perpetuated in the Truax radio school and airport at Madison.

First Lieut. Edward E. Agner, '42, is the holder of the DFC and the Air Medal with 12 oak leaf clusters. Lieut. Col. Warren E.

(See MEDALS Page 6, Column 1)

'Bennie' Snow Estate Aids U. W. Students

The influence of the late Prof. Benjamin Warner "Bennie" Snow, for more than 30 years beloved professor of physics at the University of Wisconsin, has now returned to the State University campus in the form of a "Living Memorial," to carry on forever in the allied fields of general education and science research work.

Four-fifths of the estate of Prof. Snow, who died in 1928, now comes to the campus in the form of two funds totaling almost \$41,000 to aid needy and worthy students, or to aid research in the physics department which Prof. Snow headed during his entire teaching period on the campus.

The entire estate of Prof. Snow, under the terms of his will, has been held in trust since 1928 with its income going to two relatives during their lifetimes. Upon their

(See SNOW Page 6, Column 5)

Wisconsin Schools Confer Degrees Upon Pres. Fred

In recognition of his years of outstanding service, honorary degrees were conferred during the past few months upon Dr. Edwin B. Fred, 12th president of the University of Wisconsin, by two educational institutions in the state.

Pres. Fred received the honorary degree of doctor of laws from Lawrence College at Appleton, and the honorary degree of doctor of science from Marquette university at Milwaukee. The honorary degrees were conferred at commencement exercises at the two schools.

In conferring the honorary de-

(See DEGREES Page 3, Col. 5)



PRES. E. B. FRED

We Shall Never Forget Our Pledge—

"The war is over! Our hearts beat fast as we think of the millions of our boys and girls who are now returning to us. The rejoicing which cannot, and should not, be repressed during these days is a reward which our bodies and our spirits have won by the greatest effort for our common welfare that the peoples of the free nations have ever made. Our elation in victory springs from the consciousness of having played our parts patriotically and well. We have come this far with glory.

"But our satisfaction in having served as true Americans is overmatched in the eyes of the world by the service of those for whom the struggle has meant the sacrifice of life itself.

"We are as nothing—

(See OUR PLEDGE P. 4, Col. 1)

110,000 Wisconsin Alumni Set Marks All Over World

More than 110,000 alumni of the University of Wisconsin have gone from the ivy-covered halls of the rolling campus and the beaches of Lake Mendota to take their places in the larger world. A variety of professions and careers, from architecture and biochemistry to the practice of medicine and law, has absorbed this army of men and women. Some of them, as ambassadors, correspondents, engineers and military officers, are as familiar with world capitals as they once were with Capitol Square and Langdon street in Madison.

Although the majority of graduates have settled down as solid respected citizens in small communities to rear intelligent families and take a progressive part in local civic affairs, over 600 have attained national, and in many instances, international prominence, and the State University takes great pride in the records of solid service and achievement they have built up over the years.

In military service, ten alumni have forged ahead to high rank.

403 Make Supreme Sacrifice

Since the United States entered the war in December 1941, 403 University of Wisconsin alumni and former students have given their lives for the cause of freedom on European, African, and Asiatic fronts. At the end of the war, there were more than 12,000 former Badgers in the army, navy, and marines in all parts of the world.

According to the latest records obtained from the armed forces by the University, the 403 former Wisconsinites who have made the supreme sacrifice of giving their lives are:

T/Sgt. Leslie H. Rockwell, x'43, Atkinson, N. H.; Pvt. Alvin C. Peroutky, x'45, Gleason; 2nd Lieut. Joseph L. Johnson, x'45, Delta; Lieut. (Andrew) John Bachhuber, x'44, Mayville; Lieut. Gerald R. Andersen, x'44, Neenah; Pvt. Roy H. Allen, x'47, Wauwatosa; Lieut. Delbert R. Backhaus, x'39, Campbellsport; A/C Bernard G. Baebler, x'43, Madison; S/Sgt. Theodore G. Albee, PhM '41, Shell Lake;

Gordon G. Behrens, BA '41, Jackson Hts., New York, N. Y.; Pvt. Byron R. Bennett, x'41, Monroe; Pvt. Benjamin M. Anderson, x'42, Madison; Lieut. Robert I. Bjork, x'43, Madison; Ens. Pierre J. Blewett, x'42, Fond du Lac; A/C Paul S. Bohlman, x'44, Eland; Lieut. William A. Bryant, x'43, Burbank, Calif.; A/C Durward F. Bund, x'45, Brooklyn; Pfc. Douglas F. Brady, '46, Lake Geneva;

Pvt. Frank W. Briggs, x'43, Madison; Lieut. John O. Busla, x'45, Park Ridge, Ill.; Lieut. Kenneth J. Calligaro, x'44, Milwaukee; Lieut. Charles G. Bong, BA '41, Green Bay; 2nd Lieut. James F. Caldwell, BS '40, Madison; 2nd Lieut. James E. Brothers, x'43, Milwaukee; Cpl. Roy D. Brindley, x'41, Madison; Lieut. Walter C. Boyle, x'40, LaCrosse; Lieut. Cletus P. Bedore, x'43, Brillion;

(See SACRIFICE, Page 3, Col. 1)

U. Seal, Words 'Numen Lumen,' Divine Light, Us ed Since '54

Since those far-away days nearly a century ago when the University of Wisconsin began its work with a score of students and five professors, the eye in the great seal of the State University has presided over its phenomenal growth. The upturned eye, however, is no more enigmatic than the motto "Numen Lumen," which has fascinated generation of scholars. Since no records exist which explain the meaning intended by the designer, the University's first chancellor, John H. Lathrop, it has been variously interpreted as "God My Light," "The Light of the World," and "Divinity in the Universe, My Light."

Until the first Regents requested Chancellor Lathrop to design a seal with a suitable device, "to be adopted, if approved by the board, for permanent corporate use," the eagle side of a silver dollar was used as the seal.

On February 11, 1854, the Regents accepted the chancellor design; an upturned eye surmounted by converging rays and the words



"Numen Lumen," surrounded by "Universitatis Wisconsinensis Sigillum." This seal must have been affixed to the diplomas of the University's first graduates, Levi Booth of Whitewater, and Charles T. Wakeley, of Madison.

Chancellor Lathrop was a man of keen and delicate taste, a Greek

(See SEAL Page 8, Column 5)

U. W. Scientist Won't Retire, Seeks to Beat Rust, Corrosion

To help mankind forestall its annual three and a half million dollar loss through rust and corrosion, Oliver U. Watts, emeritus professor of chemical engineering, has devoted the past ten years, which could have been spent in retirement, working in a one-room laboratory located in a gray brick building at the University of Wisconsin.

"I have been trying to deposit chromium and some of the other alloys which are resistant to corrosion on all of the widely used metals," white-haired Watts declared. "I have an idea that I can plate with the alloys and make metal resistant to corrosion under average conditions."

If this idea works out, and the research conducted in Watts' cluttered laboratory during the past two years has given considerable indication that it may, it will mean that mankind will have gone a long way toward eliminating one of the great sources of industrial loss—for, as one company has estimated, the annual loss to the petroleum corporations alone amounts to two hundred million dollars.

To carry out his electrochemical experiments the department of chemical engineering gave a laboratory to Watts when he passed the retirement age in 1936.

"I passed the age limit in 1936," Watts grinned, "but they gave me a laboratory to work in, so I stayed on to continue my research."

"Today is my 80th birthday," he added, glancing affectionately about his laboratory, filled with the batteries, galvanic cells, wires, and innumerable electrical gauges. "It was 10 years ago today that I began this work."

"As a rule I work here six days a week on corrosion and plating experiments. If I wanted to, of course, I could take a day or a week off," he added, "but I usually work even through the Christmas vacations."

"I am trying to find something of permanent value," Watts continued, leaning back in his chair, though still keeping an eye on the galvanic cell in which a plate of iron was slowly being covered with a thin film of silver and chromium alloy.

"Some students of corrosion contend that all corrosion is due to short-circuited voltaic cells formed by the metal and impurities in the metal," he said. "Others hold that the existence of a voltaic couple is not a necessary prerequisite to corrosion—that an absolutely pure metal, if ever obtained, will corrode."

"I subscribe to the second view," Watts declared, "for it has been confirmed to a considerable degree by my experiments."

Watts' research for the past two years has been devoted to an attempt to plate with chromium alloys in the hope that such an electroplate would remain untarnished under ordinary use, like stainless steel.

Watts came to the University of Wisconsin in 1902, after teaching chemistry and physics for a number of years in his native state, Maine, and other seacoast states.

"I was teaching in Massachusetts when I decided that I wanted to study what was then the new science of electrochemistry. There were places in Massachusetts, where I could have studied," he said, "one of the schools, MIT, was right under my nose."

"But at Wisconsin there were such men as Burgess and Kahlenberg, so I got a year's leave of absence from my teaching job—and never went back," he smiled.

In two years Watts had obtained his doctor's degree and was then appointed to do research work. In 1906, he "got the chance," as he terms it, to be laboratory instructor in applied electrochemistry as Prof. Burgess' assistant.

"My father was a master builder in one of the three shipyards located at Thomaston, Maine," Watts declared. "They were building wooden ships in those days, usually about three each summer."

"Then, when the steel and iron vessels came into use, the shipyards went out of business as far as the larger vessels were concerned, though they still built schooners and fishing sloops," he said.

Watts' interest in sailing, however, has been more than casual, for he frequently spent summers cruising along the Maine coast in

a yacht which he owned until a few years ago, and more recently toured the western United States and Canada with a tent and automobile.

"It would be hard to find a place of interest in the country that I haven't seen," he recalled, "and as soon as gasoline is available I would like to drive East to see the few old friends that remain, and the places that I knew and loved as a boy."

But the fascination Watts evidences when he talks about his laboratory and relates the stories of his experiments show that this "new science" of electrochemistry is the thing that now really holds his heart—and it might be that his work will some day provide the "something of permanent value" that the little scientist is searching for in that one-room laboratory in the gray brick building on the campus of the University of Wisconsin.

Annual Kick-Off Luncheon Opens Badger Grid Season

Ten years ago when Coach Harry Stuhldreher first came to the university, the Wisconsin Alumni Association arranged for the first Kick-Off luncheon, to open the gridiron season and to enable alumni and Madisonians to hear the new coach.

Each year since then the Kick-Off Luncheon has marked the beginning of the football season, and radio stations all over the state have carried transcribed broadcasts of the affair.

This year the tenth annual kick-off luncheon and broadcast was held on Sept. 4 in Madison. Coach Harry Stuhldreher was the speaker and discussed Badger football prospects for the coming season. His talk included a brief analysis of Wisconsin's nine opponents of 1945.

Ray Dvorak, University of Wisconsin bank conductor, led the singing at the affair, and Ray Pinther, president of the Madison Gyro Club, presided at the luncheon program. The luncheon was held in connection with the regular meeting of the Gyro club, but the Madison Kiwanis and Lions Clubs met with them to hear Coach Stuhldreher.

John Berge, executive secretary of the Wisconsin Alumni Association, arranged to have radio stations both in Madison and throughout the state carry broadcasts of Coach Stuhldreher's talk.

DO YOU KNOW THAT —
The McArdle Memorial Institute at the University of Wisconsin is ranked among the first three cancer institutes in the nation.

Alumni Records File Now Has 110,000 Names

With a basic file of 110,000 names of graduates and former students, the University of Wisconsin Alumni Records Office now has over half a million cards, plates, folders, and forms containing information of alumni of the State University.

Prior to 1924 the only alumni records maintained by the University were cards containing the names and addresses of those who had received degrees from the University. In that year, however, a serious attempt was made to expand the 25,000 list into one more complete and more useful. An intensive search of all past records was made by the office with the result that a nearly 100 per cent complete list of former students was prepared.

To make the office still more useful, tracer cards were mailed to the last known addresses of former students, and as replies came in new cards were prepared, together with addressograph plates for each new name.

The Records Office files have a surprisingly constant use. University departments, newspapers, individual alumni, alumni groups, other universities, and other interested parties present a steady flow of requests for information available only in these files.

By way of making it easier to obtain specific information desired by these people, the basic alphabetical file is broken down into several specific divisions and cross files. The graduate year file, for instance, contains about 50,000 graduate cards arranged according to the year of graduation and the degree. A similar method is used in tabulating former students who did not receive degrees at the State University, although they attended classes at least one year. In this case names are listed according to the year in which they would have graduated.

Correlated with the basic file is a folder file containing additional valuable information concerning the former students. Another section is devoted to winners of the "W" athletic emblem from Wisconsin. This file, containing over 2,500 names to date, is a two-fold arrangement. One file is arranged according to the various sports, while the other is a master file listing all the names alphabetically, and containing such information as address, degree, awards, and the year of graduation.

Similarly, there are the obitu-

67 Badger Gridders Train for Topnotch Schedule of '45

Sixty-seven candidates, with a sprinkling of veterans among them, greeted Coach Harry Stuhldreher as the University of Wisconsin football coach opened drills for his 10th season as head man of the Badger gridiron destinies. Stuhldreher and his staff, Coaches Russ Rippe of the centers and guards, George Fox of the tackles and ends and Guy Sundt, backfield aide, face a tremendous task whipping together over a three-week period a truly representative University of Wisconsin eleven.

The Badgers have a veteran end in Jack Mead, two experienced tackles in Clarence Esser and Martin Meyer, guards with some playing time last fall in Henry Fricke and Bob Wellhoefer and center Jack Haese among the line-men. For the backfield, little Jerry Thompson will help at either fullback or halfback and is certain to turn in another fine year of football. The remainder of the experienced ball-totin' material is made up of Bob Engle, a quarterback, and Larry Scott, a reserve halfback from the 1944 season.

Del Hanke, another tackle with a limited amount of playing time, is also on hand while several other service discharges, Charles Windle, a fullback; Ed Spang, a tackle, and Dick Nines, a guard, round out what now looks like the cream of the crop.

A handful of experienced players are also available from the rest of the squad in Ray Mals, an end, who played with the North Carolina Pre-Flight eleven last fall; George Fuchs, who performed at center for Miami and Great Lakes last season; and Hugh Reynolds, a guard from Lodi, Wis., who played with the River Falls Teachers college eleven last fall. William Destiche, a halfback, was with the St. Norbert's team last fall also.

The Badgers main task at this writing appears to be the burning need for an all-around performer in the left halfback spot and a player of last season's Earl "Jug" Girard type would be just the tonic to bring the Badgers into a place in the gridiron sun.

DO YOU KNOW THAT —
The use of certain techniques in anesthetics has brought international fame to the medical school at the University of Wisconsin.

ary files, faculty files, military service files, current registration files, and one containing a list of students who have withdrawn from the University. A special listing is made of approximately 600 prominent alumni, together with the degree, year of graduation, and references for sources of information about the individual.



COACH STUHLBREHER

Badgers Play Navy Nov. 17 at Baltimore

A home-and-home football series with the U. S. Naval Academy eleven was announced by Coach Harry Stuhldreher for his University of Wisconsin football team. The first game of the series, to be played this fall at Baltimore, Md., on Nov. 17, will take the place of the game the Badger grid-ders had scheduled on that date in Camp Randall stadium here with the Iowa Seahawks who have canceled their 1945 schedule.

The game with the Annapolis Naval academy this year, first in Wisconsin's athletic history with the Navy, maintains the fighting Badgers' football schedule for 1945 at nine games, but decreases their home appearances in historic Camp Randall stadium here for this fall to four contests, increasing their games on the road to five.

Decrease of the Badgers' home schedule by the one Seahawk game is expected to have little effect on Wisconsin's total home attendance for this season, since practically all of the early season demand for tickets has so far been for the traditional collegiate games on the Badgers' home schedule, the home opener with Marquette on Sept. 29; the "W" Club Day game with Purdue on Oct. 6; the Dads' Day contest with Illinois on Oct. 20; and the annual Homecoming battle with Northwestern on Nov. 10.

Besides the Navy game at Baltimore, Wisconsin will meet on the road this fall the Great Lakes eleven at the naval training station on Sept. 22; Ohio State at Columbus Oct. 13; Iowa at Iowa City Nov. 3; and Minnesota at Minneapolis on Nov. 24.

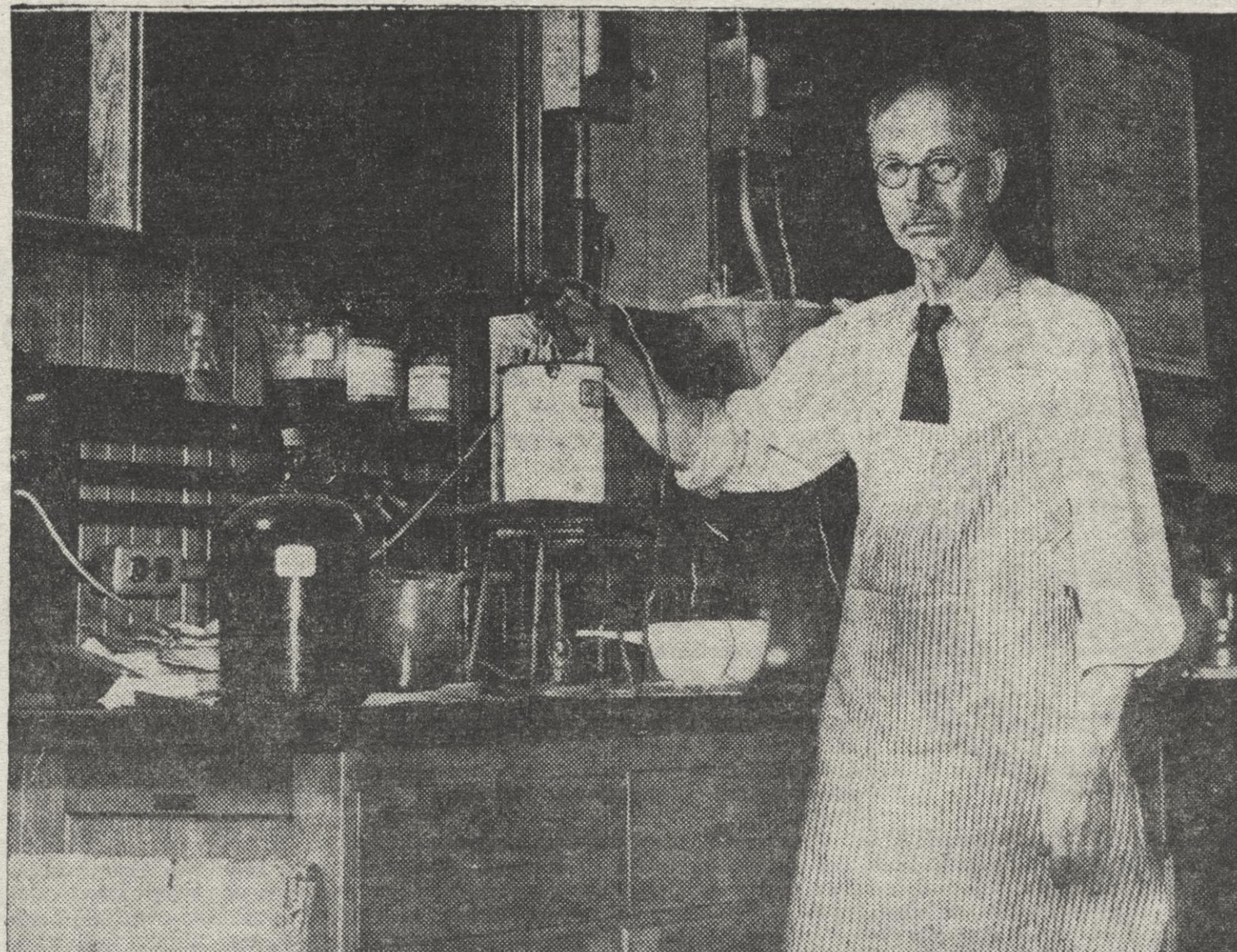
U. W. to Have Resort Owners Short Course

A short course for resort owners, designed to acquaint the men and women in the northern part of Wisconsin who participate in the state's resort business with some of the broader problems of management, will be started at the University of Wisconsin in October.

The course is being offered to help resort owners meet the economic difficulties expected in the future, indications being that they will have to rely more on good management to maintain pre-war economic levels. The University is giving the course in cooperation with the resort section of the Wisconsin State Hotel Association, R. J. Froehlig, Eagle River, president.

"The University is sincerely interested in the problems of the northern part of the state," said Fayette Elwell, dean of the School of Commerce, "and we want to assist in every way possible."

Carries on Fight Against Rust, Corrosion



Oliver P. Watts, emeritus professor of electrochemistry at the University of Wisconsin, has spent the last decade working in a small, one-room laboratory in an attempt to find a chromium alloy

which can be used to make any metal as rustless as stainless steel. Although Watts could have retired 10 years ago, the importance of his work and his love for this laboratory has led him to continue the research.

Sacrifice--

(Continued from Page 1)

Capt. John P. Bowman, x'36, Madison;

Lieut. Col. Milo D. Burgess, x'19, Indianapolis, Ind.; Capt. Robert W. Cannon, BA '38, Waukesha; 2nd Lieut. Willis A. Carpenter, BS '41, Milwaukee; Maj. John F. Cunningham, x'41, Washington Courthouse, Ohio; A/C C. Robert Christeanson, x'40, Bloomer; Lieut. Kenneth V. Carlsen, BSA '40, Bloomer; Capt. Charles T. Coronsky, PhB '40, Antigo; 2nd Lieut. John M. Cate, BA '39, Ashland; 2nd Lieut. Sherman J. Covet, BS '37, Superior;

Lieut. (j.g.) O. William Bersenbrugge, x'42, Mt. Carmel, Ill.; Lieut. Robert L. Cranston, x'46, Green Bay; Pvt. Ora L. Cox, x'46, Madison; Pvt. Jack H. Cox, x'43, Ojibwa; Lieut. Barry C. Conway, x'44, Spring Valley; Lieut. Charles F. Conner, x'41, Peoria, Ill.; Lieut. Milton E. Connelly, Jr., x'42, Chicago, Ill.; Pfc. Myron R. Christensen, x'46, Madison;

Pvt. Saul M. Berkeley, PhB '38, Lawrence, L. I., N. Y.; T/Sgt. Robert A. Beltz, x'44, Wausau; Lieut. (j.g.) Marvin E. Bierman, BA '40, Green Lake; Maj. Wayne W. Brown, x'41, Neillsville; Lieut. John F. Bendyk, PhB '41, White Fish Bay; Lieut. Paul G. Benson, x'43, Viola; Lieut. Henry L. Adams, x'43, Portland, Oregon; Lieut. (Harold) Gilbert Andersen, x'41, Whitewater; Pvt. Paul H. Barnes, x'46, LaGrange, Ill.; 2nd Lieut. James A. Beuman, x'44, Chicago, Ill.;

Pfc. Donald A. Danaher, PhB '41, Milwaukee; Pvt. Olney A. Danks, x'39, Milwaukee; Lieut. Franklin C. Davies, BS '22, Madison; Capt. Burnill C. Davis, x'40, Orfordville; Ens. Frederick C. Davis, BA '39, Orfordville; 2nd Lieut. R. Dawe, x'43, Madison; 2nd Lieut. John I. Day, x'42, Cambridge; Lieut. Robert C. Dean, x'44, Madison; Pfc. Jack DeLellis, x'43, Waukesha; 2nd Lieut. Jerome H. DeLisle, x'41, Schofield;

S/Sgt. Hollister G. DeMotts, x'44, Sheboygan; A/C Philip F. Deno, x'43, Santa Paula, Calif.; S/Sgt. Ben Derman, x'43, Wingate, N. M.; Lieut. Harold H. Dettmann, BS '40, Neshkora; 2nd Lieut. Charles W. Dickerson, x'44, New Rochelle, N. Y.; Maj. James A. Dickerson, BA '39, Viroqua; Capt. Alan N. Dickson, BS '39, Beloit; 2nd Lieut. Mearl M. Diedrich, x'43, Waukesha; Lieut. Eugene N. Dille, BS '38, Evansville;

Pfc. Robert J. Dixon, x'46, Madison; S/Sgt. Francis X. Dorgan, x'42, Lone Rock; Lieut. Merlin C. Douglass, x'40, Coloma; Lieut. John S. Dreher, x'40, Madison; 2nd Lieut. Roy L. Drew, x'42, Rothschild; Lieut. (j.g.) Thomas W. DuBose, BA '39, Burlington, Vt.; S/Sgt. Heif J. Duboski, x'41, Beloit; Ens. Jay J. Dudley, x'40, Wausau; Lieut. Richard N. Duer, x'46, Marinette; Lieut. Wilburt J. Dunn, x'38, Fond du Lac;

Maj. Adolph T. Eberhardt, BA '30, Verona; 2nd Lieut. John R. Eberhardt, x'43, Hanover, Ill.; 'ARM 3/C Edward R. Engsberg, BA '42, Madison; Sgt. Fred W. Erickson, x'43, Madison; Lieut. Frederick W. Fiedler, x'42, Memphis, Tenn.; Capt. Frank J. Fischer, Jr., BA '31, Ft. Lauderdale, Fla.; Pvt. James H. Flad, x'47, Madison; T/Sgt. Thomas H. Flanigan, PhM '42, Hillsboro, Ind.;

Sgt. Louis C. Fleury, Jr., BA '43, Madison; Lieut. Comdr. George W. Fox, BA '27, Milwaukee; Pfc. Harold R. Frauenheim, BA '38, Sheboygan; A/C David B. Frederick, x'44, Sparta; Lieut. Frank J. Frisch, x'43, Deerbrook; James R. Garver, BSA '40, Madison; T/5 Irvin W. Gates, x'41, Superior; Lieut. (j.g.) Robert C. Gavin, MD '43, Fond du Lac; Lieut. Paul A. Gevelinger, x'43, Mineral Point; Lieut. Bill J. Gifford, BSA '42, Racine; Lieut. Samuel D. Gillett, BA '38, New York, N. Y.; Lieut. (j.g.) Robert W. Ginther, x'45, Fox Lake;

Robert A. Gittes, BA '43, New York, N. Y.; Pvt. Daniel G. Galand, x'42, Milwaukee; Lieut. Kenneth J. Goltz, x'35, Brooklyn; Pvt. Harry F. Goodloe, MS '41, Dallas, Texas; Ens. Bradley Goodyear, Jr., x'34, Buffalo, N. Y.; Ens. William H. Graebner, x'43, Evanston, Ill.; Lieut. William F. Gross, x'40, Chicago, Ill.; Lieut. Ralph V. Guinsburg, PhB '38, New York, N. Y.;

S/Sgt. Kermit G. Gunderson, BA '42, Antigo; S 2/C Edwin O. Gunwald, BSA '36, Cashton; Lieut. Morris R. Guten, x'43, Milwaukee; Lieut. Leroy Halverson, x'45, Milwaukee; 2nd Lieut. Armand L. Hankin, x'44, Milwaukee; Comdr. Raymond A. Hansen,

x'21, Madison; Lieut. Alfred Hanson, Jr., x'42, Racine; Comdr. Malcolm P. Hanson, x'24; Chevy Chase, Md.; Lieut. James H. Hare, BS '41, Kearny, N. J.; Lieut. Harry H. Harter, Jr., x'43, Milwaukee; 2nd Lieut. Thorniel O. Haugen, x'44, Madison; S/Sgt. Louis N. Haugh, x'42, Detroit, Mich.;

T/Sgt. Glen R. Hays, x'44, Portage; Lieut. Louis J. Heck, x'46, Fond du Lac; Capt. Arnold T. Heggstad, BSA '39, Stoughton; Robert W. Heller, BS '41, Hilbert; Lieut. W. Henning, BA '41, Hartford; Ens. Kenneth E. Higley, BS '41, Marinette; Pfc. Donald L. Hill, x'43, Madison; Lieut. James R. Hillebrandt, x'44, LaCrosse; Lieut. Harry M. Hobbins, BA '41, Oak Park, Ill.;

A/C (John) Kendall Hobkirk, x'43, Fox Lake; S/Sgt. Richard E. Hoffman, '41, Des Moines, Iowa; Capt. Sylvester A. Hoffman, x'44, Madison; 2nd Lieut. Albert W. Holmes, x'45, Milwaukee; S/Sgt. William R. Horn, x'42, Muskego; Jacob J. Horwitz, BS '16, Milwaukee; Pfc. Charles L. Hoskins, x'47, Lancaster; Pvt. Norman J. Hostak, x'46, Algoma; Capt. Charles R. Howell, BSA '41, Sandersville, Ga.;

Pfc. Richard W. Hunsinger, x'46, Grantsburg; Lieut. T. Dwight Hunt, BA '31, Madison; Lieut. (j.g.) Everett F. Ista, x'32, Marinette; Lieut. Harold H. Jensen, x'41, Wauwatosa; Capt. James P. Jolivet, BSA '37, Madison; Lieut. Benjamin E. Jones, BA '43, Bismarck, N. D.; Lieut. Enos D. L. Jones, x'43, Mason City, Iowa; Capt. Hugh D. Jones, BSA '41, Chicago, Ill.; A/C Karl W. Kasowitz, x'44, Wauwatosa;

Ens. Everett G. Kelso, x'42, Waukesha; Capt. Harry J. Kenyon, x'42, Fond du Lac; 2nd Lieut. Stanley F. Kirschman, x'39, St. Louis, Mo.; Lieut. Harley E. Kleist, x'42, Milwaukee; Lieut. James L. Knapp, x'41, Milwaukee; Lieut. Marilyn E. Kobiske, x'44, Waupaca; Lieut. John J. Kosuszek, x'42, Peshtigo; Ens. George K. Kraus, x'44, Wauwatosa; Robert F. Kuchenberg, PhB '39, Madison;

Lieut. (j.g.) Edwin Lachmund, BA '41, Sauk City; Sgt. Merwin R. Laddusire, x'43, Rhinelander; 2nd Lieut. William H. Lambert, Jr., BS '43, Shorewood; 2nd Lieut. Richard I. Larson, x'42, Stevens Point; Cpl. Vernon A. Learman, x'41, Baraboo; Cadet Ralph C. Lee, x'44, Reeseville; 2nd Lieut. Elver R. Leistikow, x'46, Wauwatosa;

2nd Lieut. Gilbert W. Leverance, x'44, Wausau; Lieut. Arnold P. Libman, x'43, Waukesha; Lieut. John W. Lighty, x'42, Waterloo; A/C Norman S. Lindahl, x'45, Chicago, Ill.; Lieut. M. Link, BA '40, Madison; 2nd Lieut. Richard C. Lintelman, BA '36, Elkhart, Ind.; Lieut. Aloysius J. Lochowitz, x'43, Racine; Lieut. John E. Loehrke, BS '40, Mayville; Lieut. (j.g.) Otto E. Loven, BA '30, Springfield, Ohio;

Lieut. Orville E. Luedke, BA '30, Prairie du Sac; Lieut. Russell K. Luse, MS '41, Hudson; Pvt. Gilbert F. MacLean, x'37, Madison; Lieut. Col. Gerald C. Maloney, x'20, Madison; Sgt. George A. Marks, x'45, Madison; S/Sgt. (Marshall) Thomas Marks, x'41, Madison; Lieut. Stanley H. Marsack, x'43, Atlanta, Ga.; Maj. George C. Martindale, x'13; Cpl. Kenneth L. Martinson, x'44, Hayward;

Lieut. Richard P. Marx, x'42, Mt. Carmel, Ill.; Lieut. Robert A. Mason, BA '37, Eau Claire; Ens. George L. Mather, BS '41, Lake Nebagamon; Capt. Paul L. Mathison, x'42, Cincinnati, Ohio; Lieut. Benjamin C. McCartney, x'42, Washington, D. C.; Ens. James McCormick, BA '43, Madison; Pfc. Jerome F. McCue, PhB '41, Janesville; Pvt. William L. McFetridge, x'47, Medford; Sgt. Thomas P. McGuire, x'44, Stevens Point;

Capt. Lewis S. Mentlik, BA '36, Brooklyn, N. Y.; 2nd Lieut. Raymond S. Metz, BA '34, Mineral Point; Pvt. Herbert I. Meyer, BA '38, Milwaukee; Cpl. Kurt D. Meyer, x'40, Milwaukee; Lieut. Joseph B. Mica, x'34, Tucson, Ariz.; Raymond W. Mieske, x'40, Milwaukee; Pfc. James E. Miller, x'45, Appleton; T/Sgt. Earl T. Mitchell, BSA '41, Madison; Fl. O. Gustave Montemayor, x'38, Janesville;

Sgt. William A. Moore, x'45, Wauwatosa; Pfc. Norman W. Mortensen, x'42, Camp Douglas; Sgt. Donald J. Morton, x'42, Dodgeville; Lieut. Lynn R. Moths, BS '41, West Bend; Lieut. (j.g.) William F. Musbach, x'37, Alexandria, Va.; Lieut. Elvin C. Nehmer, x'45, Glen Ellyn, Ill.;

Lieut. Maurice E. Nelson, x'45, Madison; Maj. Albert D. Neubert, MD '28, Redlands, Calif.; Lieut. James M. Newton, x'42, Wauwa-

tosa; Capt. Leo G. Oberndorf, BA '33, Minneapolis, Minn.; SK 2/C Seymour S. Offenber, BA '38, Brooklyn, N. Y.; Lieut. Joseph T. O'Neill, x'41, Dodgeville; Lieut. George R. Palfreyman, x'39; Lieut. Edward D. Palmer, x'44, Milwaukee; Lieut. Harlan R. Palmer, BS '39, Reedsburg;

S/Sgt. Charles F. Pasch, x'38, Milwaukee; Ens. Peter P. Patterson, x'43, Madison; Lieut. Richard H. Pease, x'39, Boise, Idaho; 2nd Lieut. Robert J. Pentler, PhB '35, Milwaukee; Lieut. (j.g.) Robert D. Perkins, PhM '41, Dowagiac, Mich.; Ens. Donald D. Perry, BA '31, Evanston, Ill.; Pfc. Eugene C. Peters, '35, Antigo; Pvt. Duane H. Phaneuf, x'44, Madison; Pfc. Edward G. Pinneke, x'46, Madison;

Pvt. Gordon M. Pizer, x'39, Richland Center; Lieut. Gerald A. Plautz, BS '40, Milwaukee; Col. Douglas B. Pongratz, x'23, Black River Falls; Maj. Arthur L. Post, BS '39, Milwaukee; Brig. Gen. Don F. Pratt, x'16, Linneus, Mo.; 2nd Lieut. Robert H. Pratt, x'40, Oconomowoc; Lieut. John F. Pritzlaff, BA '38, Milwaukee;

2nd Lieut. Warren C. Raese, x'43, Wausau; T/5 Harold C. Richards, x'42, Shullsburg; 2nd Lieut. Edward J. Riordan, x'43, Rhinelander; T/5 Edwin J. Ripp, x'46, Waukegan; Lieut. Joseph Risovich, x'43, Milwaukee; 2nd Lieut. Richard L. Rist, x'45, Eau Claire; Pfc. William A. Ritchie, x'45, Sauk City; Ens. Arthur J. Roberts, '42, Belleville; Lieut. Donald F. Roberts, x'39, Lake Mills; Lewis H. Roberts, x'42, Dodgeville;

Lieut. Frank T. Roglitz, PhB '40, Lake Mills; Pvt. David A. Rosenblum, BA '41, Yonkers, N. Y.; Cpl. Robert A. Roth, x'43, Beloit; Lieut. Arnold S. Rufsvold, BS '23, Chicago, Ill.; S/Sgt. John P. Rundell, BA '40, Madison; Lieut. Harry O. Rusch, x'36, Fond du Lac; 2nd Lieut. S. Leo Ruslander, Jr., PhB '41, Pittsburgh, Pa.;

A/C Stenati Savas, x'45, Milwaukee; Capt. Walter J. Sawitzky, BA '40, Milwaukee; Ens. William J. Sayers, PhB '42, Horseheads, N. Y.; 2nd Lieut. Robert L. Schanen, BA '39, Port Washington; Pvt. Seymour B. Schinas, x'45, New York, N. Y.; Ens. Thomas J. Schmidt, x'43, Eagle; A/C Fred H. Schmitz, x'45, Madison; Lieut. Melvin W. Schoephoeter, PhB '36, Baraboo; Lieut. Arthur R. Schroeder, x'46, Portage;

W. O. Gilbert J. Schultz, Ad Sp '23, Ft. Lauderdale, Fla.; Cpl. Armand H. Scoll, PhB '37, Madison; Lieut. Harry J. Senecal, x'43, Milwaukee; Lieut. Milton I. Shakow, BA '38, New York, N. Y.; Lieut. Sampson Sharff, BA '37, Los Angeles, Calif.; Lieut. Michael J. Shatrwa, x'44, Kenosha; Robert R. Shattuck, x'42, Blue River;

Lieut. George I. Sheldon, x'43, Madison; Col. Joe R. Sherr, BA '21, Milwaukee; Sgt. Norman Siegel, x'42, Milwaukee; 2nd Lieut. Eric F. Siemens, Jr., x'44, Milwaukee; Pvt. Henry Silver, BS '34, Brooklyn, N. Y.; Lieut. Gerald T. Silverthorn, x'37, Janesville; Lieut. Arnold E. Simon, x'46, Madison; Capt. Herman C. Skogmo, x'40, Milwaukee; Cpl. Harold Y. Skottestad, x'31, Hiles; Capt. Paul E. Skow, BA '39, Racine;

Ens. Andrew F. Smith, x'39, Edgerton; Lieut. Robert S. Smith, x'43, Stoughton; Ens. Wallace K. Smythe, x'45, Madison; 2nd Lieut. William C. Solfisburg, x'41, Aurora, Ill.; S/Sgt. Francis M. Spencer, BSA '41, Madison; Lieut. Frank W. Stafford, x'43, Great Falls, Mont.; Cpl. Franklin Stancel, x'46, Kenosha; 2nd Lieut. Ernest J. Stauffacher, x'44, Monroe; Maj. Harlan E. Stewart, BSA '38, Poynette;

Pfc. W. Paul Stoddart, x'36, Edwardsburg; Capt. Richard W. Stone, BS '42, Baraboo; Lieut. Col. Austin A. Straubel, PhB '27, Green Bay; Pfc. Sanford M. Struckmeyer, x'44, Cottage Grove; Lieut. Raymond T. Sullivan, x'42, Madison; 2nd Lieut. Gilman L. Sund, x'43, Westby; Lieut. Aubrey G. Sundet, BA '38, Chicago, Ill.;

T/Sgt. Gerald P. Suszcyski, x'40, Mauston; Capt. Kenneth P. Swafford, BA '39, Madison; 2nd Lieut. Ernest W. Swanson, PhB '40, Madison; Lieut. (j.g.) Harry A. Sweitzer, Jr., x'37, Madison; Maj. Orrin E. Swenson, BS '36, Stoughton; Lieut. Lyman S. Sylvester, x'32, Madison; Lieut. William A. Sylvester, x'42, New Holstein; Lieut. John M. Taylor, x'42, Wausau; 2nd Lieut. Wilbur A. Tews, x'45, Sheboygan;

Lieut. Howard D. Thomas, x'44, Madison; Lieut. Stephen A. Thomas, x'41, Middleton; Pfc. George E. Thompson, x'47, Water-

town; Sgt. Willard E. Thorson, PhM '41, Milwaukee; Ens. Walde-mar A. Thuro, MA '42, Madison; Lieut. William J. Toltzman, x'40, Green Bay; S/Sgt. Frank H. Trilling, PhB '39, Waupun; Pfc. Joseph C. Trinka, x'46, Eagle River; Lieut. Thomas L. Truax, Madison; Cpl. Harry M. Turgasen, x'42, Mauston;

2nd Lieut. Glenn H. Twitchell, x'44, Fairview Village, Ohio; Pvt. Glenn W. Uehling, x'47, Madison; Capt. Don Roy Urquhart, x'43, Medford; Lieut. Comdr. Thomas Utegard, BS '17, Wisconsin Rapids; A/C Milton J. Vakos, '43, Racine; Lieut. Col. Preston T. Vance, x'14, Louisville, Ky.; Lieut. William L. Van Cleaf, BSA '42, Madison; T/5 Arthur A. Van Kleeck, x'45, Madison;

Cadet Martin W. Van Liere, PhM '39, Delavan; Pvt. David S. Velle, BS '34, Appleton; Pfc. Harold Victor, x'44, Mineral Wells, Texas; 2nd Lieut. Earl J. Viney, x'44, Evansville; Leonard D. Vogel, PhB '42, Milwaukee; Lieut. LaVerne L. Wade, BS '42, Milwaukee; Lieut. Felber J. Walch, BS '35, Richland Center; Lieut. Melvin F. Walker, x'39, Hancock; Lieut. Wesley N. Warvi, MS '37, Ironwood, Mich.;

2nd Lieut. Ezra J. Waterman, x'44, Granton; Lieut. John I. Weborg, x'43, Milwaukee; Ens. Robert P. Webster, x'43, Madison; Lieut. (j.g.) Edmund J. Wegner, BS '41, Cudahy; S/Sgt. Victor C. Wegner, x'46, Oconomowoc; Lieut. Ernest D. Wenberg, BA '38, Oneida; Lieut. Winto W. Wenzel, PhB '41, Ringle;

Lieut. Charles R. Werner, x'43, Sun Prairie; Lieut. John H. Werner, PhB '39, Fond du Lac; Raymond V. Wetzel, x'42, Gilman; Lieut. Frederic W. Wheary, x'40, Racine; Norman F. Wilke, x'42, Milwaukee; Capt. Henry S. Williams, x'37, Madison; Capt. Geoffrey Willoughby, x'24, Milwaukee; T/5 LaVerne C. Wilson, x'46, Lyndhurst; Capt. Robert S. Wilson, PhD '36, Sterling, Kan.;

Cpl. Henry R. Woodie, x'43, Park Falls; Lieut. Merlin T. Wright, BSA '43, Waukesha; S/Sgt. Harold M. Wulf, x'39, Egg Harbor; Lieut. Eugene M. Zender, x'41, Wausau;

Capt. Charles R. Berkley, x'36, Racine; Maj. Sanford J. Fencil, BA '40, Marshall; Cpl. Everett B. Olson, x'40, West Allis; Maj. Charles H. Tustison, x'36, Lone Rock; Lieut. Charles W. Bretland, x'42, Montclair, N. J.; Pfc. Everett W. Christensen, BSA '41, Somers; Pfc. Thomas J. Gabriel, x'47, Appleton; Lieut. Ira Goldberg, BS '43, Yonkers, N. Y.; Lieut. Robert A. Gray, x'46, Kimball, Minn.;

Lieut. Reginald L. Hammond, x'44, Cottage Grove; Lieut. James M. Hinkle, PhB '38, Milwaukee; Lieut. Donald F. Johnston, '41, Milwaukee; S/Sgt. Otto A. Trapp, x'45, Sun Prairie; Lieut. (j.g.) Ambrose G. Vanderheiden, BA '40, W. Wrightstown; Pfc. Harold L. Scherer, II, x'46, Rockford, Ill.; Pfc. Samuel M. Miur, x'45, Racine; Capt. Robert E. Petrie, PhB '39, Milwaukee; Lieut. Warren W. Wilke, BSA '40, Milwaukee; and Pvt. Saul M. Berkeley, PhB '38, Long Island, N. Y.;

Ens. Robert V. Bruce, BS '42, Milwaukee; 2nd Lieut. Kenneth R. Cady, x'34, Kenosha; 2nd Lieut. Douglas H. Cramer, BSA '40, Madison; Pfc. Julius O. Hertz, BA '35, Cleveland, Ohio; 2nd Lieut. Robert E. Ries, x'44, Cincinnati, Ohio; 2nd Lieut. Gordon C. Steindorf, x'46, Albany; Cpl. Richard G. White, PhB, '37, Madison; Lieut. Jack L. Abrams, x'42, Milwaukee; Lieut. Robert F. Baumann, x'43, Harvey, Ill.; Lieut. Sherburn N. Bear, BA '41, Milwaukee; T/Sgt. James J. Block, x'41, Pewaukee; Pfc. Robert E. Damon, x'42, Madison; Capt. Leslie B. Gilbert, x'33, Madison; Ens. Keith M. Heath, x'44, Ontario;

Lieut. Albert J. Larsen, PhM '40, West Salem; Lieut. Robert M. Lind, BA '42, Waupun; John R. Peirson, x'42, New Richmond; S/Sgt. Robert H. Pressentin, x'42, Madison; S/Sgt. Albert P. Schmidt, x'40, Bear Valley; 2nd Lieut. Roland W. Stephenson, BS '43, Chilton; Pvt. James E. Strauss, x'44, Madison;

Fl. Sgt. Francis C. Garnett, x'43, Madison; 2nd Lieut. David N. Schreiner, BA '43, Lancaster, Wis.; S/Sgt. Peter E. Rice, x'45, Madison; Lieut. Philips T. Bixby, BSA '39, Appleton; Lt. Frederick C. Jacob, BSA '38, Brule; Clark H. Judy, x'37, Peshtigo; Capt. Harry W. Lusk, BA '35, Harrisburg, Pa.; Capt. Vernald G. McIlhatten, PhB '38, Madison; Lieut. Robert J. Rosenheimer, PhB '39, White Plains, N. Y.; 2nd Lieut. Kenneth B. Skuldt, BA '41, Mt. Horeb; Lieut. Richard G. Anderson, x'44, Kenosha; Lieut. Robert H. Kaems, BA '40, Tulsa, Okla.;

Building--

(Continued from Page 1)

projects approved by the Regents and the order in which they would be constructed in the campus building program so far determined are:

1. An addition to the Wisconsin General hospital with \$460,000 appropriated by the 1943 legislature.

2. A short-course dormitory on the agricultural campus with \$200,000 appropriated by the 1941 legislature.

3. A radio power station for WHA with \$32,250 appropriated by the 1943 legislature.

4. A new dairy building near the stock pavilion with \$600,000 earmarked by the 1945 legislature.

5. An addition to the home economics building, at an estimated cost of \$257,200.

6. Fireproofing of Bascom hall, at an estimated cost of \$183,000. Regents said it is hoped that this will be undertaken during the summer of 1946.

7. A new library on the lower campus, at an estimated cost of \$1,820,300.

8. A new engineering building on the engineering campus on University Ave., at an estimated cost of \$1,601,790.

9. A new bacteriology building on the agricultural campus, at an estimated cost of \$321,510.

10. An addition to the biology building, at an estimated cost of \$400,000.

11. Additions and alterations to the agricultural branch experimental stations throughout the state, at a total estimated cost of \$100,000.

12. A new armory for the Naval ROTC on the engineering campus, at an estimated cost of \$60,000.

As indicated above, the first three projects were provided by the 1941 and 1943 legislatures and funds are now held for them, while the remaining nine projects would come from the \$8,000,000 building fund provided by the 1945 legislature for the University. Other projects will be allocated from this fund later.

The Regents also instructed A. W. Peterson, director of business and finance, to obtain bids for completion of the dormitories at the University stadium. Peterson said that with the large increase in men students in the post-war period the University will need additional dormitory facilities and that it is proposed that the top floor of the stadium dormitories be finished off into rooms and be furnished.

Degrees - -

(Continued from Page 1)

gree at Lawrence College, its Pres. Nathan M. Pusey cited President Fred as follows:

"It has been well said that it is the tragedy of the world that those who are imaginative have but slight experience and those who are experienced have feeble imaginations. Throughout an illustrious career as teacher, as an investigator and scientist, and as an administrative officer, you have demonstrated that you have both qualities in preeminent degree. And since it is an essential task of a university to bring them together in a truly creative relationship, it is now the confident trust of the citizens of Wisconsin that our University will achieve, under your leadership, a new and abundant excellence."

Non-Legal Articles Included in Law Review of State U.

Accepting the principle of including non-legal material in the Wisconsin Law Review, the editors and advisors of the publication are seeking articles from other University of Wisconsin departments outside of law. In one recent issue of the Law Review are two articles written by members of the political science department at the State University.

It is felt that social studies are of valuable interest to lawyers and that, in addition, other fields may have information that lawyers ought to have as a basis for new or correcting legislation, for the interpretation and application of legislation, or for a more accurate determination of factual questions in litigation.

Our Pledge - -

(Continued from Page 1)

our pride is false—if we do not recognize with bowed heads and humble hearts what we owe to our heroic dead—those who sleep beneath the white crosses in the Philippines, in North Africa, in Europe, and on the myriad islands made sacred forever by their valor and their blood. Even at this time of joy our hearts are heavy for those near and dear to them.

"Above all else this is a solemn occasion—one in which to take stock of ourselves and to question ourselves about the America to which our soldiers and our sailors return, the America in which their children and their grandchildren will be born, and about the world in which they will have to live."

"We must not forget that we still have the peace to win. Shall it be that these veterans of countless campaigns against a ruthless and a cruel foe shall return to us bringing the priceless gift of victory only to find that they have fought in vain? We have pledged ourselves to go "all out" for peace as they have gone "all out" for war. If need be, we must spend the rest of our lives in redeeming that pledge. We must labor unceasingly to rebuild the world and to guarantee that it shall go forward in justice and in peace.

"The courage of war and the courage of peace must be welded into one great courage to do, whatever the cost to each, what should be done for the good of all. America cannot have peace and security unless the rest of the world has peace and security. We are facing a fundamental reorganization of mankind which may require the surrender of much which we have held dear but we must face that fact with courage also.

"We are drawn forward into the future not only by a vision of the vast benefits which will come to us from an era of peace among the nations but by the awful fact that another war will almost certainly ring down the curtain on the whole human enterprise.

"Among the many letters which have come to me from the parents of former students who have given their lives in defense of our country is one in which a mother says of her son: "Before he entered the service of his country, he said that although he hated war he had to join the fight against the forces of evil and to help free the world from tyranny; to help make it a clean world for little children to grow up in." Then the mother concludes with this statement: "The responsibility of the educational system is a tremendous one."

"We must accept this mother's challenge. We must inculcate into our students a love for those ideals upon which alone can be based the kind of human relations necessary for harmony among the peoples of the earth; we must stimulate their desire not merely for knowledge but for wisdom which may enable them to solve national and international problems in their new world; we must develop their sense of values so that they may accept their full responsibilities as citizens of the world. To this high enterprise your university dedicates itself."

DR. E. B. FRED, President, University of Wisconsin.

Dr. Middleton Returns to U W Duty from War

From the experience of medical corps men in the European theater of operations has come one great medical contribution, declared Col. William S. Middleton, dean of the University of Wisconsin Medical School recently returned from army service, and that contribution has been the knowledge of how to control disease.

Col. Middleton has been on leave to the army since 1942, serving as head of the internal medical division for the Allied armies in the European theater, and for his outstanding service receiving the Legion of Merit award. He returned to his duties at the Medical school Sept. 1.

"Out of millions of people in the occupied territories we had only 40 cases of typhoid fever, and two deaths," he reported. "That is unusual, for typhoid usually runs rampant through an area such as that."

Other diseases were correspondingly much lower than in the last war. Middleton attributed the low incidence of disease to vaccines used among the American troops, to the wonder-working insecticide, DDT, used to delouse the civilian populations of occupied areas, and to sulfa compounds and penicillin. In addition, plasma, essential for the treatment of wound shock, saved many lives.

"However, a commentary on the standard of medical service would be idle if it didn't take into account the work of the first-line medical service," Middleton stated. "These men went in with the first line troops.

"The medical education and training of the past 85 years has done more, however, than any other single factor, for instead of having a few outstanding men

State U. to Publish Student, Alumni Service Directory

One of the larger projects which the University of Wisconsin and the Wisconsin Alumni association intend to undertake shortly is the publication of a complete directory of all University alumni and former students who have served their country in the armed forces during World War II.

This directory will be a roster of one phase of the University's contribution to the war. It will be an historical record.

As this issue goes to press the list of alumni and former students who have had or are having military careers resulting from this war totals approximately 12,700, and new names of Badger service men and women are coming in daily.

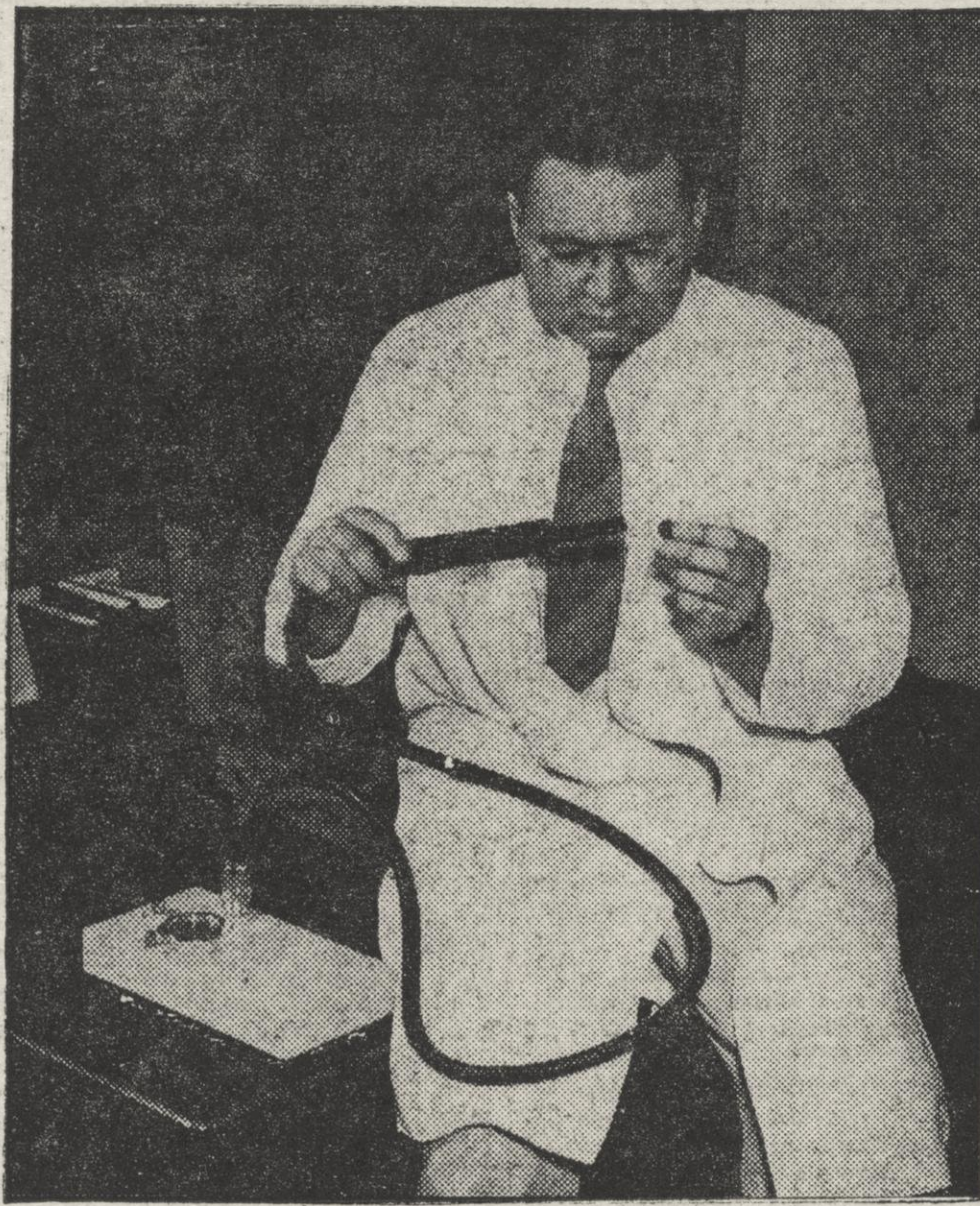
This list is obviously incomplete. There are probably several thousand Fighting Badgers whose names are not listed in the Alumni Records office military file.

If you know of a Fighting Badger whose name is not on this list, please inform the Alumni Records office, Memorial Union, Madison 6, Wis. You will be doing a service to the University by helping them compile their directory of all alumni in service and also by recognizing that each individual's military record is a contribution his alma mater takes pride in.

Each Fighting Badger whose name appears in this list is sent free of charge, at his request, all the publications of the Wisconsin Alumni Association. By adding a name to the list you will also be enabling one more Badger to get more mail from Madison.

we had thousands of qualified doctors—to this training and to these men we owe the enormous lessening of fatalities and disabilities that we have seen in this war," he said.

U Man Develops 'Bullet-Finder'



Dr. W. E. Gilson, University of Wisconsin medical research worker, is shown here with the "bullet-finder" which he developed for use by Allied medical men on the battlefield. The bullet-finder is one of the most practical yet developed, for it is not only portable but can detect a metal fragment within a wound without the use of a time-consuming X-ray machine.

UW Scientist's 'Bullet-Finder' Proves Worth on Battle Front

A metal locator, or "bullet-finder," as it is more widely known, of sufficient portability to make its use practical by surgeons caring for wounded men on the advance areas of a battlefield, has been developed recently at the University of Wisconsin by Dr. W. E. Gilson, a specialist in electrophysiology and medical electronics.

Dr. Gilson's bullet-finder is the result of a request made last year by the National Defense Research Committee of the Office of Scientific Research and Development. It was an answer to the problem faced by surgeons in front-line areas—that of locating quickly and surely the metal fragments in the bodies of wounded men.

In advance first-aid areas, where the life of a badly wounded man frequently hangs in the balance, surgeons had long felt the need of efficient bullet locating equipment. The usual X-ray machine cannot fulfill this need because of its cumbersome size and dependence upon an electric current of considerable voltage. Other metal-finders are inadequate for they operate on a magnetic principle, and are ineffective in locating the frequently found aluminum, lead, and other non-magnetic fragments.

Dr. Gilson's device, which is now being tested on a number of the fighting fronts, consists of two radio oscillators, one of which is housed in a small metal container about the size of a ream of stationery, and the other in the end of a six-foot cable tipped with a probe.

In addition to the radio oscillator the container houses a small loudspeaker, an attachment to which the cable can be plugged, a battery, and two dials, one a volume control, the other an oscillator control.

In operating the bullet-finder emits a sound very similar to that created by the family radio when it has been tuned into two stations at once—and that, in fact, is exactly what has occurred, for the two oscillators have been tuned to nearly the same frequency, resulting in a steady sound of high pitch. When the probe is placed in the vicinity of a piece of metal the sound rises in both volume and pitch; the frequency of the radio waves having been altered by the proximity of the metal object.

"To achieve maximum efficiency," Dr. Gilson said, "the lo-

cator should be used in conjunction with an X-ray machine, for with the X-ray the approximate position of the object to be removed can be determined. After incision the surgeon can use the locator to find the exact position, in this way eliminating the time-consuming and often dangerous search through the damaged tissue for the bullet or other object."

The Gilson locator, however, can be used with great effectiveness without the X-ray, and, in addition, has an advantage over other locators through its light weight, slightly more than nine pounds, and its capacity to operate independently of an electric current, functioning as it does on a battery within the case.

One disadvantage is that the locator is incapable of discerning steel needles since they are of rather small mass.

However, it will indicate the presence of a copper penny at one and three-quarter inches, or a .45 caliber bullet imbedded an inch and a half in bone or tissue—a factor of considerable importance to surgeons.

In addition to its use on battlefronts the locator has been utilized by surgeons at the Wisconsin General hospital, and has presented considerable evidence that although it is a war-born invention it will be of great value to surgeons throughout the country following the war.

Films for Parents Are Service of U. W.

Films giving information about the behavior habits, care and handling of the pre-school child are among the educational films available to parent-teacher groups in Wisconsin through the bureau of visual instruction, University Extension division, at Madison. These films, used with 16-millimeter projectors, begin with a detailed study of the child during the first year of life, and are followed by a second series covering the child's care and development from the age of one to two. They were produced under the direction of Dr. Arnold Gesell, of the Yale clinic of child development, a graduate of the University of Wisconsin. There are additional films in the same sphere of interest, covering health, safety, recreation, home nursing, and home economics, and comprising as many as 18 subject areas in which young people and adults have to make their common adjustments.

First School of Banking Meets at University

The new School of Banking, sponsored jointly by the University and the Wisconsin Bankers' association, held its two week session on the campus in August with 50 students attending.

The school, designed to provide educational opportunities for bankers who have not had the chance to study advance subjects in their professional field, furnished an opportunity for study and research in banking, economic, and monetary problems.

Limited housing facilities this year set the enrollment at 50 students, although in future years attendance is expected to reach 300. Writing of a thesis and enrollment in three summer sessions are the requirements for graduation.

"The school has drawn students from the entire Middle West," declared Fayette Elwell, dean of the School of Commerce. "The banks in cities throughout the area have given us tremendous support."

The new school was under the direction of Herbert V. Prochnow, a Wisconsin graduate and assistant vice-president of the First National bank of Chicago.

Officers of the first School of Banking association of the University were announced at the banquet which brought the University's first annual School of Banking to a close Aug. 31.

Elected president of the Banking School association by the school's first student body, comprised of 50 bankers and bank officials from various Wisconsin and midwest towns and cities, is Arthur J. Quinn, member of the state banking commission and president and cashier of the Northwestern State Bank at Cumberland, Wis.

Other officers elected are: Victor G. von Meding, banks and bankers division of the First National Bank of Chicago, and Carl F. Wieseckak, assistant cashier of the Northwestern National Bank of Minneapolis, vice presidents; Harlan C. Nichols, cashier of the First National Bank of Madison, secretary and treasurer; George S. Cormack, assistant cashier of the First National Bank and Trust Company of Racine, historian; and Robert L. Wilcos, assistant bank examiner of the Federal Reserve Bank of Minneapolis, public relations.

Half Century--

(Continued from Page 1)

been graduated from the State University for 50 years or more. Sponsored by the Wisconsin Alumni association, the club was organized nine years ago.

Each year new members become eligible for membership. Each member is given a Golden Jubilee certificate handsomely printed in black with a red border design when he is inducted. On the face appears this inscription: "Wisconsin Alumni Association Golden Jubilee Certificate Awarded to (name), in recognition of fifty years of loyalty to the University of Wisconsin as a member of the Class of ----."

The class of 1895 is this year celebrating the 50th anniversary of its graduation. At a luncheon in the Memorial Union last spring, certificates were awarded to the 89 surviving members of the class. The Half Century club luncheon was one of the highlights of the State University's 92nd commencement weekend.

Badger Quarterly

Published quarterly by the University of Wisconsin as an informal report of its activities to the Alumni, Parents of its Students, and to other Citizens of the State.

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EXECUTIVE EDITOR—

ROBERT FOSS

ALUMNI EDITORS—

JOHN BERGE

POLLY COLES HAIGHT

Publication office: 711 Langdon Street, Madison, Wisconsin

Finding 'Lost Alumni' Is Never-Ending Job!

You probably have been reading these "Lost Alumni" lists in every Badger Quarterly to date, and you've probably wondered, "Haven't they found those lost alumni yet?"

The truth of the matter is, we find some and lose some others. It's a never-ending job to try to keep track of the 110,000 Badgers. Won't you look over this list and send us any information you might have on these Lost Alumni? We can be addressed at the Alumni Records Office, Memorial Union, Madison 6, Wis.

- Anderson, Mrs. Leslie R., Minocqua, Wisconsin, 23. (Formerly: Greene, Bernice H.);
- Anderson, Viola Myree, Pulaski, Wisconsin, 26;
- Beeb, Hubert C., Hinsdale, Ill., '25;
- Barton, Louis A., Cleveland, Ohio, Grad. '11;
- Beier, Mrs. Lynn, Chicago 15, Ill., M. A. '35. (Formerly: Hatch, Coralie A.);
- Bemis, Lloyd Edward, Chicago, Ill., '19;
- Benedict, Russell Edison, Bristol, Wis., '24;
- Berntsen, Mrs. Peter Chicago 49, Ill., B. A. '41. (Formerly: Beardslee, Mary-Ann); Blanchard, William Bernard, Elk Rapids, Mich., '18;
- Blanchard, William Oscar, Urbana, Ill., Ph.B. '10;
- Blomstrom, Carl August, Oak Park, Ill., '22;
- Boardman, Beda Spence, Calumet, Minn., M. S. '26;
- Bridgman, Mrs. Harry, Flint, Mich-igan, '05. (Formerly: Wright, Annie C.);
- Bullwinkel, Sara Jane, Jefferson, Wis., '27;
- Burkhart, Ruth Sands, Pembine, Wisconsin, '37;
- Christian, Arthur William, Stoughton, Wis., '23;
- Clawson, Donald Garret, Walworth, Wis., '26;
- Clawson, Paul G., Minocqua, Wis., '25;
- Cohoe, Awrey Wilmot, Hibbing, Minn., '18;
- Cole, Charles Melville, Jr., Los An-geles, Calif., B. S. '02;
- Cooper, Frederick M., Forest Park, Ill., B. A. '15;
- Dawson, Wesley John, La Crosse, Wis., '94;
- DeLong, Fayette Oran, Edgar, Wis., '21;
- De Smith, Walter William, Sheboy-gan, Wis., '25;
- Dresbach, Glenn Ward, Lanark, Ill., '12;
- Lootboro, Paul Mudge, Milwaukee, Wis., M. A. '40;
- Manly, John Matthews, Chicago, Ill., Litt. D. '23;
- Martin, Louie Eugene, Blue Mounds, Wis., '15;
- Marvin, Arthur Donald, Pecatonica, Ill., B. A. '23;
- McArthur, Elizabeth B., Janesville, Wis., '23;
- McCollum, Everett E., Twin Bluff, Wis., '24;
- McFetridge, George W., Clam Falls, Wis., Law C. '21;
- McNair, Vera, Houghton, Mich., '11;
- Miller, William Taylor, St. Paul, Minn., '28;
- Moultrie, Elizabeth Leigh, Los An-gelis, Calif., '22;
- Myshka, Edwin Joseph, Wausau, Wis., '28;
- Nelson, Oscar M., Minneapolis, Minn., '99;
- Neuman, Fred M., Norwalk, Wis., '12;
- Newell, Lawrence P., Hinsdale, Ill., '16;
- Noyes, William B., Beaver Dam,

- Wis., B. S. A., '15;
- Olson, George A., Park Ridge, Ill., B. S. A., '02;
- Olsen, Edward, Strum, Wis., '03;
- O'Dwyer, Lucille C., Dane, Wis., '24;
- O'Connor, Mrs. E., Hancock, Wis., Sp. '92. (Formerly: McGregor, Ida K.);
- Porter, Doric C., Springfield, Ill., B. A. '13;
- Richmond, Daniel, Morrison, Ia., '08;
- Starks, Sanford Putnam, Wood, Wis., B. S. '02;
- Stanley, Forrester C., Indianola, Ia., M. A. '10;
- Thompson, Charle Lowry, Chicago, Ill., B. A. '01.

Navy--

(Continued from Page 1)

ministrative representatives of the University headed by Pres. Edwin B. Fred.

The Navy unit starting in No- vember will have an enrollment of 565 men. The University will provide the instructional staff, to be augmented by navy-assigned officer-teachers of the highest professional competence, and also suitable student housing and quarters for administration. For efficiency in administration the Board of Regents voted to con- struct a Naval Science building, on a site to be named by a re- gent committee, and to be ready if possible by the summer of 1946. Extra classrooms will be assigned for interim use in the Mechanical Engineering and nearby build- ings.

In addition to 36 hours of acade- mic credit for naval science to be permitted toward require- ments for appropriate degrees, the new program provides for offering a navy course, "Founda- tions of National Power," already being taught experimentally with great approval in a number of colleges and universities, accord- ing to Capt. Adams, and having the highest approval of Navy Sec- retary James Forrestal. Capt. Adams explained that this course, which will be open as an elective to civilian students as well and will be taught by civilian mem- bers of the faculty, provides a broad understanding of the cur- rent of life and thought in the world at large. Regular academic courses also are to be available

GAR Scholarship Fund at U. Grows

The Grand Army of the Repub- lic "Living Memorial" scholar- ship fund, given to the University of Wisconsin last spring to pro- vide undergraduate scholarships for worthy students at the State University, has already been swelled again by an additional grant of \$25 from the Wisconsin department of the Daughters of Union Veterans of the Civil War, M. E. McCaffrey, secretary of the University Board of Regents, has announced.

The original Grand Army of the Republic scholarship fund, total- ing \$2,000, was given to the Uni- versity by the Fort Crawford Camp of the Sons of Union Veter- ans of the Civil War, and its aux- iliary, located at Prairie du Chien. This fund was originally augmen- ted by a grant of \$500 from Wil- iam R. Graves of Prairie du Chien in memory of his father, Alanson Graves, who served as a sergeant in Co. K, 31st Regiment of the Wisconsin Volunteer infantry dur- ing the Civil War.

Provisions of the fund, which now totals \$2,525, provide that it may be increased by addition- al gifts and contributions from those interested. Provisions for the fund further provide that its income shall from time to time be paid to worthy students of the University who may be in need of financial assistance in meeting his or her expenses, preference to be given to residents of the state and lineal descendants of the members of the Grand Army of the Republic.

to the navy students.

The NROTC program is de- signed to prepare men for careers in the Naval Reserve and to sup- ply many new candidates for commissions in a long-range pro- gram for replacements. With the return to civil life of many officers of mature years, and because of other expected depletions, the de- mand for replacements is ex- pected to be large. The Navy's wartime officer complement is approximately 300,000.

With the conclusion in Septem- ber, 1945, of a notable wartime program of naval training, espe- cially in radio communications, pilot training, and V-12 (engi- neering), conducted on the cam- pus since the Spring of 1942, Wis- consin has made an outstanding record—one which Capt. Adams eulogized strongly in the course of an hour-long address. It was the University's distinguished record in this regard, he com- mented, that led the Navy to select Wisconsin as one of the 25 additional institutions where a four-year course in naval science is to be installed this fall.

Attention Alumni!

Wisconsin needs the interest and cooperation of every alumnus during the next few years. The prevailing spirit among a large percentage of all alumni is "let the other fellow do it." This spirit cannot prevail among Wisconsin alumni if the tasks before us are to be handled properly. Wisconsin needs some help from all her sons and daughters.

During the war Wisconsin men and women have gathered together in countries all over the world. Wisconsin reunions have taken place on Pacific atolls and islands unknown to any of us until they became important bases for military and naval operations. Memories of campus activities, athletic contests, etc., have meant a great deal to fighting Badgers. Wisconsin means a great deal to all alumni. World Wars I and II served to crystalize Wisconsin spirit among all Badgers in the fighting forces. Those who participated in these wars, those who have just been discharged, or who may be still in the armed forces, know how much fond memories of Wisconsin days can mean to a former Badger. These treasured memories are priceless and it is our duty to help Wisconsin hold strong and steadfast to the policies and traditions which place our University above all others.

We have a new president and you who have been in far off lands during recent years may rightfully look forward to your first meeting with President Fred. He was carefully selected from a large group of outstanding men by our Board of Re- gents and the wide popularity of this selection is very gratify- ing to all. President Fred has spent a great deal of time planning and developing a program that will cover all possible angles of the reconversion period. Many changes have already been made as well as additions which will assure Wisconsin's leadership in educational circles. Good examples are our new School of Commerce and the faculty expansion program, details of which are gradually coming to the surface. Several new courses have been inaugurated on the campus, namely those with majors in physiotherapy and social work, and the Naval Officers Training program which will begin on November first. Reorganization of phases of the curriculum, of prerequisites and of methods of earning credits, is being carried on in order that the University of Wisconsin may properly fulfill its post- war obligations.

There is an urgent need for more activity in alumni affairs by Wisconsin graduates. Your Alumni Association plays an important part in University affairs. It needs the interest and cooperation of thousands of Wisconsin alumni if it is to handle its task in a truly representative manner. Your Association has a planned program and in order to acquaint you with it, we are mentioning a few of the main factors of this program as it stands today. Additions will be made as the need arises.

1. Continue sending Association publications, free, to Wis- consin Alumni in the armed forces until all are returned to civilian life.
2. Cooperate with the Board of Regents in legislative ef- forts to secure adequate financial support for the University.
3. Increase our membership so that the Wisconsin Alumni Association may become increasingly effective as the strong right arm of the University.
4. Strengthen and expand the Association's public rela- tions activities which promote the welfare of the University of Wisconsin.
5. Cooperate with the University administration in plan- ning and developing the University's Centennial program of activities.
6. Expand Association services so that these services will be increasingly helpful to our members and Association mem- bership will become more and more valuable.

The Wisconsin Alumni Association depends upon member- ships for support. The following memberships are available so please select one today and send your check to John Berge, secretary, Wisconsin Alumni Association, Memorial Union Building, Madison 6, Wisconsin. Do this today and assure the officers of your Association that you are interested in their efforts. Don't sit back and let other alumni do it all.

SELECT YOUR MEMBERSHIP NOW

- Intermediate membership \$2.00
(Classes of '41 to '45 inclusive.)
- *Victory membership \$10.00
Regular membership 4.00
Life membership 75.00
- *(Victory members pay \$10 a year instead of \$4, but get the same services as other members. This extra \$6 is all used for sending Association publications, free, to Wisconsin Alumni in the armed forces.)

WILLIAM D. HOARD, JR., '21, President,
WISCONSIN ALUMNI ASSOCIATION.

Films from U. W. Used in Trade and Vocational Training

Not only in grade and high schools but in the schools of vo- cational and adult education throughout Wisconsin, training for life is being furthered by audio-visual methods now stan- dardized through facilities sup- plied by the University of Wis- consin. Hundreds of instructional films (sound) and filmstrips have been catalogued from the store- house of educational films owned by the bureau of visual instruc- tion, a department of the Univer- sity of Wisconsin.

The state board of vocational and adult education recently is- sued a fifth supplementary list of films selected from that Univer-

sity depository, with a view of supplying school needs in fields of trade training, social studies, agriculture, and others. Motion pictures, most of them with sound, are classified as to air- craft, business education, elec- trical, farm work, general adult, guidance, homemaking, machine shop and miscellaneous subjects. Film strips are in the same fields and also in first aid, safety, su- pervision, teacher training, and woodwork.

DO YOU KNOW THAT --

A training program designed to give war plant supervisors the essentials of employee relations and production efficiency has graduated its eighteenth class — demonstrating again how the University of Wisconsin has con- tributed to the nation's war effort in many ways.

Here's Your Football Ticket Information!

The 1945 football season is here, and the Badgers have an- other topnotch schedule. Ticket prices have been set for the various games as indicated on the application printed below, which is included herewith for your convenience. The Athletic Department urges those who may find it possible to attend all home

games to buy a season ticket which gives the holder the same seat for each game, a better lo- cated seat than when tickets are ordered individually, and in ad- dition saves the purchaser money. When ordering tickets be sure to include mailing fee which cov- ers registration to insure prompt delivery of tickets. Address all

applications and inquiries to the Business Manager of Athletics, 711 Langdon Street, Madison, 6, Wisconsin. The Athletic Depart- ment maintains branch ticket of- fices at the Boston Store, Mil- waukee, and at the R. W. Nelson Jewelry Store, 330 State Street, Madison, 3, Wisconsin.

NAME	REGISTRY NO.					
ADDRESS	CITY					
Game	Price	No.	Amount	Sec.	Row	Seat
SEASON TICKET	Price 10.83					
Including 5 Home Games	Fed Tax 2.17					
	Total 13.00					
Sept. 22	SERVICE					
GREAT LAKES at GREAT LAKES	PERSONEL					
Sept. 29	Price 2.29					
MARQUETTE at MADISON	Fed Tax .46					
	Total 2.75					
Oct. 6 ("W" Club Day)	Price 2.50					
PURDUE at MADISON	Fed Tax .50					
	Total 3.00					
Oct. 13	Price 2.50					
OHIO STATE at COLUMBUS	Fed Tax .50					
	Total 3.00					
Oct. 20 (Dad's Day)	Price 2.50					
ILLINOIS at MADISON	Fed Tax .50					
	Total 3.00					
Nov. 3	Price 2.50					
IOWA at IOWA CITY	Fed Tax .50					
	Total 3.00					
Nov. 10 (Homecoming)	Price 2.50					
NORTHWESTERN at MADISON	Fed Tax .50					
	Total 3.00					
Nov. 17	Prices					
NAVY at BALTIMORE	4.82 3.62					
	1.81					
Nov. 24	Price 2.50					
MINNESOTA at MINNEAPOLIS	Fed Tax .50					
	Total 3.00					
Mailing charges per application						
AMOUNT OF CHECK						
Payable to U. of W. Athletic Dept.						

Medals--

(Continued from Page 1)

Alberts, '38, has the Bronze Star and the Air Medal with one cluster. Sgt. Jack R. Anderberg '45 has been awarded the DFC and the Air Medal with three clusters. Lieut. Burton J. Anderson, PhB '39 has the DFC, the Purple Heart, and the Air Medal with 11 clusters, and 2nd Lieut. Charles K. Anderson, B. A. '41, the Air Medal with four clusters and the DFC.

T/Sgt. Robert D. Anderson, '43, holds the soldiers medal and was cited for removing an injured pilot from the area of a burning plane.

Other former Wisconsin students who have received more than one citation or award in their country's fighting services are:

Lt. Paul G. Benson, '43, the Air Medal, and the Purple Heart, awarded posthumously; Maj. LeRoy Benzel, '36, the Air Medal with one cluster and the DFC; Lieut. V. Kenneth Boyum, '44, the Air Medal with four clusters and the DFC; Capt. Bernard A. Britts, BSA '41, the DFC, the Air Medal and oak leaf cluster, and a presidential citation; Maj. Stacy E. Brown, PhB '40, the DFC and the Air Medal with three clusters; Lieut. John I. Burns, '45, the Air Medal and the DFC; Capt. Robert W. Cannon, B. A. '38 (dead), the Purple Heart with one cluster, and the Combat Infantryman's badge; S/Sgt. Charles N. Christiansen, '45, the Air Medal with one cluster, the DFC, and a presidential citation; Lieut. Robert Thomas Colbert, '44, the Purple Heart and the Air Medal;

Sgt. Russel F. Dean, '44, the Southwest Pacific campaign ribbon with two stars and a presidential citation; Lieut. George R. DeVee, '44, the DFC and the Air Medal with three clusters; Capt. Earl M. DeWitt, '43, the DFC with one cluster and the Air Medal with two; Lieut. Col. Irvin H. Dregne, '40, the Air Medal with two clusters and the DFC with one; Lieut. Robert J. Endres, '41, the DFC and the Air Medal with five clusters; Lieut. Ernest D. Fahlgberg, Jr., '43, the Air Medal with four clusters, and the DFC;

Lieut. Warren K. Finn, '44, three oak leaf clusters to the Air Medal and the DFC; Lieut. Col. Brunow W. Feiling, '38, the Air Medal with three clusters and the DFC with one; Lieut. Arthur H. Frederikson, '43, the Bronze Star and the Combat Infantryman's badge; Lieut. Joseph A. Freid, '40, the Silver Star, the DFC, the Air Medal with three clusters, and the Purple Heart; Capt. Jean W. Gambrell, '42, the Air Medal and the DFC;

Lieut. Russel J. Gardiner, '42, the DFC, the Purple Heart, and the Air Medal; S. Sgt. Alfred Goldman, '44, the Silver Star and the Purple Heart; Lieut. William E. Goodrich, '40, the Purple Heart with one cluster and the Combat Infantryman's badge; Lieut. Robert Lynn Griffith, '45, the Air Medal with one cluster, and the DFC; T/Sgt. Harley E. Griffiths, '41, the Air Medal with nine clusters and the DFC with one; Lieut. Victor R. Guinburg, PhB '38 (dead), the Soldier's medal and three citations and the Purple Heart with one cluster; Lieut. John J. Heisel, '43, the DFC and the Air Medal with one cluster; Maj. Norbert J. Hennen, '35, the Bronze Star with two clusters and the Purple Heart; Lieut. Eldon L. Henningsen, '40, the Air Medal with three clusters and the DFC; Lieut. Russell Hodge, '41, the Air Medal with one cluster and the DFC; Capt. Sylvester A. Hoffman, '44, the Purple Heart and the Air Medal awarded posthumously; Lieut. William M. Homburg, '42, the Air Medal and the DFC with three clusters; Lieut. Joseph P. Houston, '41, the Air Medal with two clusters and the DFC;

Capt. John M. Howard, '41, Air Medal with one cluster and the DFC; Lieut. Donald J. Howe, BA '42, the Air Medal with four clusters and the DFC; Lieut. Harry F. Hunter, '45, the DFC and Air Medal with three clusters; Lieut. Otis C. Ingebritsen, '40, the DFC with one cluster and the Air Medal with three; Lieut. John R. Jefferson, '44, the Air Medal with four clusters and the DFC; Lieut. David C. Jelinek, '44, the Air Medal with three clusters and the DFC; Lieut. Edward D. Jones, '43, the DFC and the Air Medal with three clusters; Lieut. Ben Juskiewicz, '43, the Air Medal with seven clusters and a recommendation for the Silver Star;

Lieut. Charles J. Kaniss, PhB '40, the Purple Heart, Silver Star, and Combat Infantryman's badge; Lieut. Anthony M. Klaskinski, '44, the Air Medal with four clusters, the DFC, and two presidential citations; Lieut. James E. Kleinheinz, '45, the Air Medal with four clusters, a presidential citation, and the DFC; Maj. Richard A. Knobloch, '40, two Distinguished Service Crosses, the Air Medal, and a decoration from Mme. Chiang Kai-shek; Lieut. Clifford P. Kolberg, '44, the Air Medal with three clusters, the DFC; Leonard Lee Korf, '40, the Air Medal with three clusters, the DFC with two, and a presidential citation; Lieut. John Charles Kraemer, '44, the Air Medal with three clusters and the DFC; Lieut. Lloyd O. Krueger, '45, the Air Medal with four clusters and the DFC;

Ens. Robert J. Lampman, '42, the Purple Heart and Air Medal; Capt. Harrison R. Langley, '35, the Bronze Star and the Combat Infantryman's badge; Capt. Aleron H. Larson, '40 (discharged), the Silver Star, Purple Heart, and DFC; Capt. Ralph E. Lee, '39, the Air Medal with four clusters and the DFC; Major George V. Lefler, '42, the Air Medal with two clusters and the DFC with one; T/Sgt. George Lynch, '44, the Silver Star, the DFC, and the Air Medal with one cluster;

Lieut. Robert Macauley, '43, DFC and Air Medal with four clusters; Lieut. Douglas G. McAusland, '41, the DFC and Air Medal with four clusters; T/Sgt. Daniel A. McKinley, LLB '39, the Silver Star and the Purple Heart; Lieut. Robert E. Moore, '44, the DFC and the Air Medal with three clusters; Lieut. (j.g.) Alden P. Morner, the Air Medal, the Purple Heart, and the DFC; M/Sgt. George L. Nelson, '42, the Bronze Star and the Combat Infantryman's badge; Pfc. Sherman E. Nelson, '46, the Purple Heart, the Bronze Star, and the Combat Infantryman's badge;

Capt. George H. Nesselrode, '44, the Air Medal with four clusters and the DFC; Lieut. Donald D. Paynter, '44, the Air Medal with three clusters and the DFC; Lieut. Horace E. Perry, PhB '37, the DFC with oak leaf cluster and the Silver Star; Lieut. Col. Harry M. Pike, '35 (prisoner), the DFC and the Air Medal with one cluster; Maj. Arthur L. Post, B. S. '39 (dead), the Distinguished Service Cross, the DFC, and the Air Medal; Lieut. John E. Powell, '41, the Silver Star and the Purple Heart; Lieut. Robert B. Radcliffe, '42, the DFC and the Air Medal; Capt. Victor K. Riggs, B. A. '40, the DFC and the Air Medal;

T/Sgt. James A. Reilly, '46, the DFC and the Air Medal with one cluster; Capt. Lester F. Rentmeester, '42, and DFC and the Air Medal with four clusters; Capt. Lee Robertson, '42, the Purple Heart and the Air Medal with nine clusters; T/Sgt. Leslie H. Rockwell, BSA '22 (missing) the Purple Heart and the Air Medal; Capt. Walter Schindler, '20, the Navy Cross and the Silver Star; Capt. John W. Spiegelberg, '42, the DFC and the Air Medal; Lieut. Robert M. Spika, '44, the DFC and the Air Medal with three clusters; Lieut. Arthur L. Sell, '42, the Purple Heart, the Silver Star, and the Distinguished Service Cross;

Capt. Edwin R. Shorey, BS '35, the Silver Star and the Combat Infantryman's badge; Col. Albert J. Shower, '33, the DFC with one cluster and the Air Medal; 2nd Lieut. Eric F. Siemens, '44 (dead), the DFC and the Air Medal with one cluster; Lieut. Richard L. Sleight, '44, the Air Medal with two clusters and the DFC; Maj. Darwin E. Swanson, '40, the Air Medal with three clusters and the DFC; Lieut. John O. Towle, '43, the Air Medal with three clusters and the DFC;

Lieut. William H. Upham, PhB '38, the Bronze Star and the Purple Heart; Lieut. Eugene E. Welch, BA '39, the Air Medal with three clusters and the DFC; Capt. Walter R. Wenger, '41 (prisoner), the Air Medal and the DFC; Lieut. Robert B. Winkler, '39, the Silver Star and the Purple Heart; Lieut. James H. Whiting, '43, the Air Medal and the DFC; Lieut. William Zahrt, '40, the DFC, the Air Medal with 13 clusters, and the Purple Heart; and Erwin Charles Zastrow, PhB '40, the Air Medal and the DFC with two clusters.

The USS Roberts has been named in honor of Ens. Arthur J. Roberts, '42, who was also awarded the Purple Heart posthumously. Einsing Davis Curtice, BA '39 (dead) who was awarded the Navy Cross for gallant conduct has been honored by the

naming of the USS Frederic C. Davis. A new camp in Australia has been named in honor of Lieut. Col. Austin A. Straubel, PhB '27, Col. Straubel was awarded the FC posthumously.

Many of the former Wisconsin students have been honored by foreign governments for their outstanding service as well as by the United States. Those who have been given foreign awards are:

Philip T. Dakin, '33, with the American Field Service, who was awarded the Africa Star and the British Eighth Army Clasp, granted by the British King to AFS men who served with the British middle East forces; Pfc. Prescott Evans, '45, who has a French citation, allowing him to wear the Croix de Guerre with the gold star, given to him as an expression of gratitude of the French Army for American aid during the Italian campaign;

Col. Richard E. Fellows, '35, who wears the Yugoslav pilot wings, an honorary award for his work in helping King Peter's Yugoslav government; Lieut. Col. William A. Hartman, BSA '23, recommended for the Legion of Merit, who has been decorated by the Crown of Italy with Italy's highest military award for his "driving force" in restoring agriculture; Brig. Gen. Ralph M. Immell, Law C'21, holder of the Legion of Merit, who was awarded the highest Italian decoration when he was made grand officer in the Order of the Crown of Italy; made cavalier magistrate in the Order of the Knights of Malta; and decorated by the sultan of Morocco;

Lieut. Col. Albert G. Schmedeman, '25, the Order of the Southern Cross by the Brazilian government for service in fostering closer military cooperation between Brazil and the United States; Capt. Robert Harry Smith, '42, holder of the Air Medal, who has been decorated twice by the Chinese government; T/Sgt. George A. Hackett, '41, holder of the Legion of Merit and the Purple Heart as well as the French Croix de Guerre; Capt. Paul A. H. Jensen, B. A. '38, holder of the Silver Star and recommended for the Legion of Merit, who has the Croix de Guerre and who was awarded the Order of the Garter by Great Britain; and Lieut. Col. Howard J. Lowry, '21, the French Croix de Guerre.

Other Wisconsin students and alumni who have received the Legion of Merit award are: Capt. Ivan A. Bickelhaupt, '43; Brig. Gen. Edgar B. Colladay, BS '09; T/5 Sammy Cooper, BA '38; Col. Lloyd M. Garner, '18; Maj. William H. Haight, BA '36; Maj. Clifford E. Johnson, '34; Chaplain William W. Lumpkin, BA '31; Col. Harry G. Montgomery, BA '07; Lieut. Robert B. Mueller, '39; Lieut. Col. Karl Ockerhauser, Jr., '36; Col. Christian J. Otjen, BA; Maj. George S. Parish, PhB '38; Col. Helmer Swenholt, BS '09; and Lieut. Felber J. Walch, BS '35, (posthumous).

The Distinguished Service award has been given to Capt. William N. Donovan; Lieut. (j.g.) H. Clay Hogan, '41; Maj. Gen. Charles P. Stivers, BS '13; and Capt. Forrest E. Zantow, BS '39.

Those who have been awarded the Silver Star are: Lieut. Arthur James Boucher, '36; Corp. James J. Boorman, '43; Capt. Lawrence T. Burdick, BA '32; Richard H. Buss, BA '41; Col. Lucius P. Chase, BA '23; Lieut. Frank K. Dean, BS '32; Lieut. Jack R. DeWitt, BA '40; Lieut. Leo H. Eberhardt, BA '31; Col. Walter A. Elliott, '19; Comdr. Victor S. Falk, BA '36; Lieut. Robert J. Haase, '41; Capt. Robert L. Hughes, '43; Capt. Max G. Hensel, BA '40; Capt. James P. Jolivet, BSA '37; Lieut. Enos D. Lloyd Jones, '43 (dead); Lieut. (j.g.) Rudolph H. Kroetz, Law C '39; Capt. Everett B. Keck; Maj. John L. Lehigh, '36; Lieut. Darel P. McCrory, '43; Lieut. (j.g.) Thomas J. Morrissey, PhB '40; Col. Orville W. Martin, '20; Lieut. Oliver R. Schultz, '40 (missing); and Capt. Eugene J. Ziegeweid, BSA '43.

Rear Admiral Ingolf N. Kiland, '16, is another of the former Wisconsin students who is entitled to wear the Navy Cross.

The Bronze Star has been awarded to Maj. Carmelo Vincent Alba, BS '40; Lieut. Katherine Lillian Baltzer, '40; Lieut. Gerhard Becker, PhB '33; Capt. Myron J. Close, BS '39; Lieut. Col. G. Kenneth Crowell, BA '29; Lieut. John C. DeMaster, '42; Maj. Edward S. Dodge, PhB '24; Cpl. Robert F. Fauerbach, '45; Maj. Lawrence C. Cram, Law C '37; Capt. Neal Arleigh Hess, '43; Lieut. Robert L. Howard, BA '40;

Lieut. Norton M. Krohn, BA '39; Lieut. Raymond Kulzick, BA '43; Lieut. Col. Laurence F. Motl, BS '28; Capt. Ouis R. Orkin, BA '37; Lieut. Comdr. A. Atley Peterson, '38; Maj. Maxwell S. Pullen, BA '39; Lieut. Col. Burr H. Randolph, BS '35; George C. Roeming, BS '30; Capt. John Schuele Jr., BA '38; Roger G. Sherman, BA '36; Lieut. Eugene F. Stuessy, '41; Lieut. Allen W. Walz, '34; and Maj. Raymond R. Wernig, '41.

Former students who have been awarded the Purple Heart for wounds received in action are: Lieut. Edward J. Belkind, '43; Lieut. Rueben R. Brunka, BSA '42; Lyle E. Bull, '42; Lieut. Kenneth J. Calligaro, '44 (posthumously); Ens. Robert W. Carlin, BS '40; Sgt. Jack H. Crabb, '45; Lieut. Clifford W. Dorman, BS '42; Lieut. John W. Flatley, '42; Pvt. James H. Flad, '47; Pfc. Robert P. Goodlad, BA '37; Capt. Fredolph A. Hendrickson, '42; Lieut. Richard W. Johnson, '41; Lieut. Albert W. Holmes, '45 (posthumously); Lieut. Paul A. Hirschbrunner, BS '43; Lieut. Col. Karl A. Kraege, '28; Sgt. Lloyd J. Keleny, '45; T/5 Raymond A. Kubista, BA '43; Lieut. Gilbert W. Leverage, '43 (posthumously); Lieut. William M. Lovell, BA '40 with two clusters; Lieut. Stanley H. Marsack, '43 (posthumously); S/Sgt. William G. Ogden, Jr., '36; Lieut. Ray E. Parkhurst, '42; Lieut. Elery G. Poppe, '42; Lieut. Thomas J. Ross, '44; Lieut. Arnold C. Rufsvold, BS '23 (posthumously); Ens. William J. Sayers, PhB '38; Ens. Lewis L. Sheerar, BS '38; Capt. Martin Siegrist, '41; Pfc. Harry P. Stoll, '43; T/5 George D. Sutherland, '41; Sgt. Willard E. Thorson, PhB '41; and St. Warren R. Wiedland, '44.

The Distinguished Flying Cross has been awarded to Lieut. John Alley, BA '40; Lieut. Arne U. Arneson, '44; S/Sgt. Peter A. Beck, '41; Lieut. (j.g.) George F. Bowers, BS '40; Lieut. Col. Wm. R. Bradford, '18; Lieut. A. Roger Conant, '41; Lieut. Robert A. Ducharme, '41; Lieut. (j.g.) Harry E. Fryatt, '43; Capt. Fred E. Gutt, '41; Sgt. Daniel N. Haight, '44; Lieut. John F. Kevanda, BA '37; Maj. Allen Laubrich, '42; Lieut. G. Lewis, BA '42; Lieut. William R. Maxwell, '42; Capt. Jack R. Miller, '42; Harlan Roy Palmer, BS '39 (posthumously); Lieut. John J. Polich, '40; Lieut. (j.g.) Gerald A. Robbins, '43; and Lieut. Col. Gordon Thomas, '40; Lieut. Carl C. Baranek, x'42; and Lieut. Mark Baldwin, x'42.

The following former students have received the Air Medal with a various number of oak leaf clusters: Flight Officer Keith F. Ace, '45, (one); Lieut. Joseph R. Barnett, PhB '41; Lieut. Ross W. Bauer, '43 (four); Lieut. Cletus P. Bedore, '43 (dead); S/Sgt. James A. Benike, '45 (three); Jack H. Berger, '45; Lieut. Roger L. Bernard, '46; Lieut. Jule F. Berndt, '46 (two); S/Sgt. Daniel E. Beyler, '45, (three); Lieut. Robert I. Bjerk, '43 (dead); Sgt. Rodney M. Blochwitz, '43; Lieut. Carlos L. Bowar, '38; Capt. John P. Bowman, '36 (missing).

Lieut. Ernest M. Boyce, PhB '41 (two); Lieut. Lawrence R. Bradee, '42 (one); Lieut. Charles R. Brown, '45; Lieut. Kenneth G. Buglass, '42; Lieut. Keith Buell, '43; Capt. John C. Butler, BA '39; Lieut. Jerome J. Chart, '45; Lieut. Raymond K. Cooke, '44 (10); Lieut. Rupert G. Cornelius, '44 (three); S/Sgt. Raymond J. Randall, '44 (three); Lieut. Philip J. Creak, '43; Lieut. George M. Daley, '46 (one); Lieut. Robert G. Davies, '41; S/Sgt. Ben Derman, '43 (two) (dead); Lieut. John S. Dreher, '40 (dead); Lieut. Francis C. Doring, '31; Lieut. Robert C. Ducklow, '44; Lieut. John R. Duckwitz, '46; S/Sgt. Warren G. Faber, '44 (one);

Lieut. Donald H. Friedman, '42 (five); T/Sgt. Lloyd A. Gilbertson, '42 (one); Lieut. Charles W. Wilmore, '38; Lieut. Daniel H. Greenberg, BA '41 (three); Lieut. Harold F. Grinde, '41; Lieut. Nolan A. Groshong, '41; Lieut. Ole P. Gunderson, '44 (three); Lieut. James E. Geurtz, '43 (three); Lieut. Henry G. Haag, '43 (three); Lieut. Robert C. Harmon, BA '39 (three); James D. Hawssly, '42 (four); Capt. Lucien S. Hanks, '33; Capt. Francis T. Hanson, '40; Lieut. Taylor W. Harris, '43; Lieut. Warren Lois Hasse, '45;

Lieut. Frank T. Hayes, '38 (one); Lieut. Kenneth G. Helfrecht, '46 (two); Lieut. John F. Henry, '45; Lieut. Leonard L. Hilsenhoff, '43; Lieut. Mark H. Hoskins, '43; S/Sgt. Burton C. Holtzmann, '38; Lieut. John R. Jamieson, '45; Lieut. Philip I. Johnson, '43 (nine); Lieut. Willis R. Johnson, '44 (one); Lieut. William O. Jones, '41; Lieut. Orlo H.

Snow--

(Continued from Page 1)

deaths, the estate is now divided, two-fifths coming to the University Board of Regents, two fifths to the Wisconsin Alumni Research foundation, and one-fifth to an eastern girl's school at which his sister taught.

The two-fifths of the estate coming to the State University, amounting to \$20,437.10, is to constitute a "Living Memorial" to be known as the Agnes Butler Snow fund in memory of Prof. Snow's wife who had died before him. This amount is to be used as a revolving loan fund for needful and worthy students of the University.

The second two-fifths of the estate, a similar total, comes to the Wisconsin Alumni Research foundation but is to be used for the encouragement of research work in the physics department of the University.

Prof. Snow, who came to be known affectionately as "Bennie" among his colleagues and many of his students on the campus, joined the Wisconsin faculty in 1893 after study at American and several German universities. His unique contribution on the Wisconsin campus was in the development of his course of lectures in elementary physics, which he made one of the most widely known and most popular courses in the University, not only among his students, but also among friends of the University outside its halls. His lectures and pictures on snowflakes were welcomed by thousands over the years.

Koenig, '43 (one) (missing); Lieut. Arthur J. Kaems, BA '42, (five); Lieut. Owen Allen Kampen, '44; Lieut. Robert P. Keno, '45; Lieut. Murray Kerchman, '34 (five); Lieut. Keith B. Ketter, '43 (seven); Lieut. Richard G. Kienitz, '42;

Lieut. Edsen F. Kingsley, '42 (three); Lieut. Clarence R. Knutsen, '45; Lieut. Alex M. Kosarek, '39; Lieut. Howard W. Latton, BA '38; (one); Lieut. Charles M. Lee, '43; Lieut. Hugh Lewis, '40 (one); S/Sgt. Michael Litvinoff, '45 (six); Lieut. Paul L. Mathison, '42 (missing); Lieut. Duane C. Maybay, '44 (two); Benjamin C. McCartney, '42 (dead); Lieut. Neil J. Miller, '44; T/Sgt. Raymond L. Muskavitch '34, (four); Lieut. Richard C. Mautner, '41 (seven); Lieut. Robert W. Morse, BA '40 (missing); Lieut. E. Nelson, '45 (two); Lieut. (j.g.) Robert E. Ohm, BS '39 (with gold star); Lieut. Kenneth P. Palmer, BA '39 (three);

William P. Phillippi, '42 (one); S/Sgt. William T. Plumb, '44 (one); Lieut. David Pries, BS '41 (two) (missing); Lieut. Arnold M. Rusten, BA '39 (two); T/Sgt. Richard J. Rappaport, '45; Lieut. Benoni (Bud) Reynolds, PhB '42; S/Sgt. John F. Reynolds, '40; Lieut. Robert J. Risley, '45 (five); Lieut. James W. Ruland, '44; Lieut. John W. Sachten, '44 (two); S/Sgt. John L. Sanders, '42; Lieut. Malcolm S. Sanders, '39; Lieut. Leonard J. Schaitel, '41 (five); T/Sgt. Arthur L. Schaub, BSA '40 (three); S/Sgt. Albert P. Schmitz, '40;

T/Sgt. Kenneth J. Schuck, '44; Lieut. Daniel Wade Shea, '45; Lieut. John R. Sorensen, '42 (five); Lieut. Harwood H. Staats, BA '42 (one); Lieut. Sidney G. Stitzer, '46 (one); Lieut. Owen S. Strond, '43; Lieut. David W. Tack, (six '40; Lieut. Paul L. Thompson, '44 (three); Maj. Royal S. Thompson, '40; Lieut. Harward G. Titner, '44 (one); S/Sgt. Frank H. Trilling, PhB '39 (two) (dead); Capt. David A. Van Epps, BA '38 (three); Lieut. Clarence L. Vinge, PhM '40; Capt. William P. Walsh, PhB '40; Capt. Robert L. Willding, BA '42 (two); and Lieut. Thomas G. Wright, '46 (one).

Ivan Hugh ("Cy") Peterman, BA '22, a correspondent, has been awarded the second Purple Heart to come to him as a result of his distinguished news coverage during the storm of battle. Decorated for outstanding aerial action in the North African theater is Lieut. Felber J. Walch, BS '35. Capt. Kendal B. Bragg, C. E. '15, has a citation from Adm. C. W. Nimitz commending him for his part in establishing bases in the Solomons. Capt. Irvin R. Goldman, BS '37, has received the soldier's medal of bravery.

Many of the former Wisconsin students and the alumni who have received awards, as well as many others, are members of groups which have received presidential unit citations.

U. W. Research Seeks Better Fuel for Car, Plane Engines

Better high-explosive fuels for the more powerful post-war automobile and airplane engines may result from research now being conducted at the University of Wisconsin by four men—two chemical engineers and two mechanical engineers.

Phillip Myers and Otto Uyebara, graduate students in mechanical and chemical engineering; L. A. Wilson, professor of mechanical engineering, and K. M. Watson, professor of chemical engineering, are working under a \$53,000 research grant from the Wisconsin Alumni Research Foundation. The project is expected to provide an opportunity for a number of additional students who want to work for higher degrees.

"We are studying the performance of different fuels in internal combustion engines—both the diesel engine and the spark ignition engines," Myers said. "We are making a study of fuels, particularly in regard to their molecular structure and the combustion process—the temperature and pressure of the exploding gasses within the cylinder."

Experimenters working with combustion engines have always encountered difficulty obtaining exact temperature and pressure measurements, for an engine running at 3,000 revolutions per minute, not an unusually high rate, will have 1,500 explosions per minute—and during each of these explosions the temperature within the cylinder may rise from 100 to 5,000 degrees, and the pressure to 1,200 pounds per square inch.

"We've been developing instruments to make exact recordings of these fluctuations—for you can't just stick a thermometer into the cylinder and take its temperature," Myers grinned.

"The instrument we've worked out is the only one of its kind in existence, we believe," Myers added. "It will take a continuous temperature recording from the time the fuel within the cylinder starts to burn until it stops."

"In addition, we want to relate the temperature-pressure readings to the position of the piston," he said.

The scientists have apparatus which will also point out on a moving graph the instant at which the fuel ignites, an important phase of the piston cycle in the diesel engine, and in addition show for how long a period fuel was injected into the cylinder and when the process stopped.

The temperature device consists of a quartz window imbedded in the cylinder wall, revealing the combustion chamber. "We've got it now so it doesn't become covered with a carbon film after running the engine for a short time—a thing other researchers have not been able to do," Myers said.

The flash of the explosion is carried through a system of lenses and prisms which break the light down into a spectrum—a rainbow—of different wave lengths. Light beams of two wave lengths are directed into two photoelectric cells.

The photoelectric cell responds instantaneously to variations in the light intensity, and as this intensity corresponds to the heat of the combustion process, the researchers can record the temperature by measuring the electric impulses aroused in the cell by the light.

The pressure indicator consists of a diaphragm of a particularly strong and heat-resistant metal, Inconel, which retains a high polish at extreme temperatures. This diaphragm is inserted in the cylinder wall, replacing a portion of the thicker cylinder metal, and a beam of light is directed upon it. Another system of lenses and mirrors amplify the variations in the reflection caused by the bulging of the diaphragm under the explosions within the cylinder.

"What we do hope," Myers said, "is design a fuel that will give diesel engines greatly increased performance."

Although simpler in operation and maintaining lower fuel consumption, the diesel engine has shown one fault which makes its use less practical for many purposes than the spark ignition engine. That fault is inefficient combustion at high speeds.

"It is caused by the time-lag, as engineers would call it, between the moment the fuel is injected

and the moment the explosion begins—which means that at high speeds the piston may be on the return cycle, causing a low of power and speed," Myers explained.

This means that speed is a limitation of the diesel engine, for its capacity in this phase of operation is much lower than ordinary gasoline engines.

In a diesel automobile, for example, speed would be obtainable only by sacrificing good pick-up. Weight is also a factor, for the diesel engine must be built heavier to withstand higher compression, and thus for a given horsepower the diesel's weight is high compared to spark ignition engines, prohibiting its present use in aircraft.

We are concerned with increasing the horsepower-weight ratio," Myers said, "to enable the diesel to compare favorably with the spark ignition engines. What we hope to do is design a fuel which will give better performance in diesels—and now we're even expanding our work to include the spark ignition engines and their fuels, so perhaps we'll be improving the performance of both types."

The researchers have experimented with fuels under different loads and speeds—different operating conditions, and have completed their work with one type of fuel. A technical report on the instruments they have developed and some of the results of their research is to be published in a technical journal soon, and is available in reprint form from the mechanical engineering department of the University of Wisconsin.

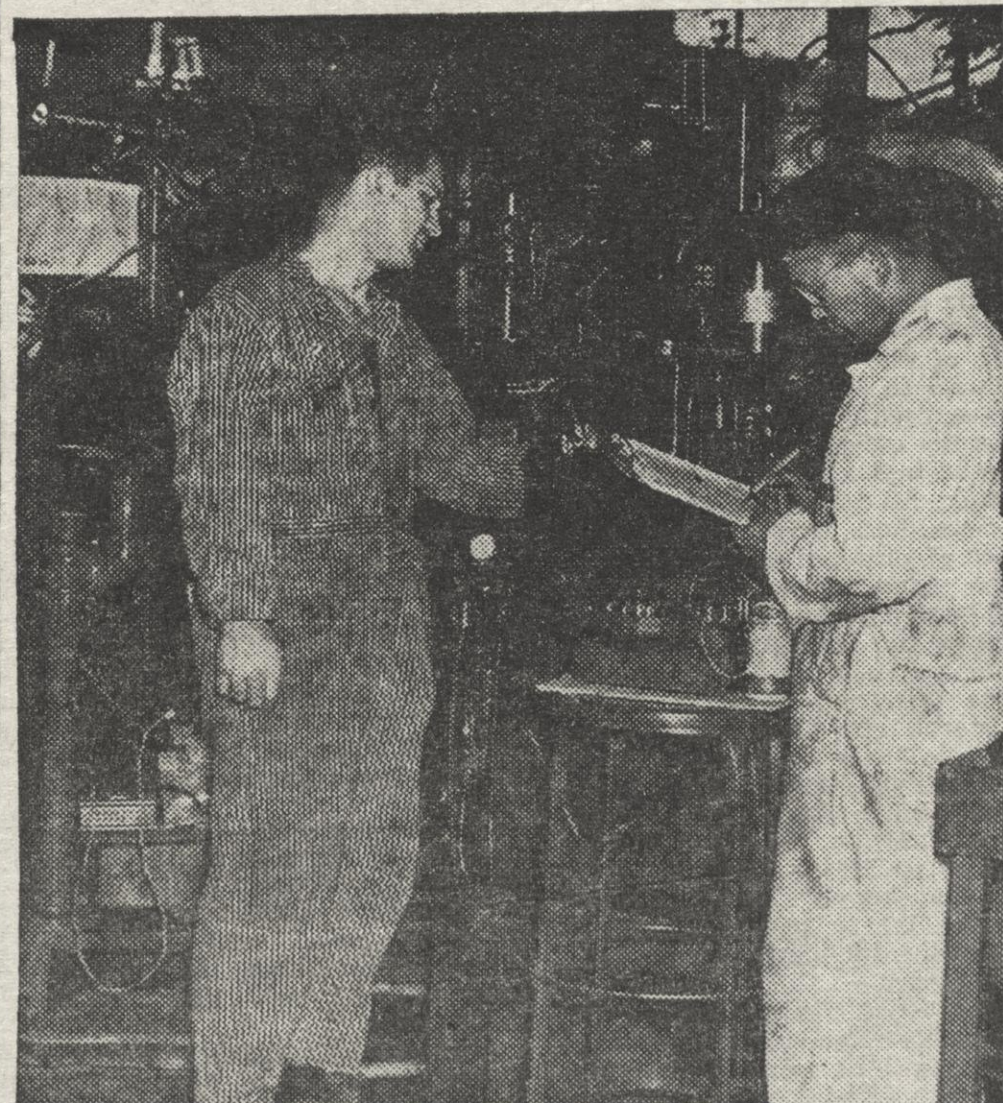
"We already have obtained a number of special fuels—Sinclair has made them for us—and expect to do work with several more," Myers said. "The research should give engine manufacturers some efficient, powerful fuels around which to build new engines."

So it isn't inconceivable that many of the automobiles and airplanes of the future will be using diesel engines built to utilize the high-explosive fuels developed at the University of Wisconsin.

DO YOU KNOW THAT —

The value of education proves itself for every generation of students, the standards of living among the people are raised. The University of Wisconsin, the instrument of this ascending spiral, can adequately serve the people of the state only if sufficient funds are appropriated each year to enable it to meet its responsibility to a great state.

Conduct Motor Fuels Research



Research in new types of high-explosive gasoline is being conducted at the University of Wisconsin. Here Phillip Myers (left) and Otto Uyebara (center) check combustion figures of one of the new fuels in the experimental diesel engine. The work may easily lead to the development of a new fuel which will enormously increase the efficiency of the diesel engine, and enable it to be used in automobiles and airplanes with greater advantage than older type engines.

Stuhldreher Football Letter to Come Soon

The fall football season of 1945 marks the tenth anniversary of the ever-popular Stuhldreher Football Letters which are sent to members of the Wisconsin Alumni Association and to alumni in service as soon as possible after each Saturday's game.

Ten years ago these informal letters by Coach Harry Stuhldreher were begun, and every year since then alumni have watched their mail for the inside story of the whys and hows of the previous Saturday's football game.

When the Wisconsin Alumni Association began sending its publications free of charges to all Fighting Badgers, servicemen the world over began following the Badger gridders by reading their free copies of the four-page football letters. But sometimes Badgers in Australia couldn't read about an October game until well past Christmas, or alumni in China received their letters along with the spring's rainy season.

Last year for the first time an adequate solution to the problem of slow delivery was discovered, and the Alumni Association began publication of a special edition for servicemen. This 5x6½ inch duplicate of the regular letters fits into a small envelope and, traveling by air mail, reached servicemen in a few weeks rather than a few months. Special pony editions of the football letters will be sent to overseas servicemen for the second consecutive football season this fall.

To welcome alumni into the fall program of University activities, the first football letter of the season is an eight page booklet, just twice the size of the usual letters. In it there is a special message from the president of the University and an editorial by the president of the Wisconsin Alumni Association, outlining the year's alumni activities which are being planned.

Several times within the last decade questionnaires have been sent out to recipients of the Foot-

DO YOU KNOW THAT —

Professional education in social work at the University of Wisconsin will be available on an expanded scale in 1945-46, when for the first time a graduate professional curriculum, designed in accordance with the requirements of the national standard-setting bodies in this field, will be offered. Graduates of accredited four-year colleges who have had eight semester courses in the social sciences and meet the admission requirements of the Graduate School are eligible for graduate training in social work.

ball Letters asking if they might not prefer a new form of publication over the letter as it was initiated in the fall of 1935. But each time the answers to the questionnaire indicated overwhelmingly that alumni want the Stuhldreher Football Letters continued exactly as they are.

L. K. Garrison Resigns Post as Law Dean

Lloyd K. Garrison, 48, dean of the University law school, since 1932, has resigned his post and his resignation has been accepted. Garrison has been on leave from his University post since 1942, engaged in government work.

Garrison, a member of the War Labor Board, in a letter to Pres. E. B. Fred said:

"I have finally decided, after long and anxious thought, to remain in the East when my present tasks with the government have ended. Accordingly, I am resigning now as dean of the law school. I do so with the most poignant regrets and with all the pains that come from parting with warm friends and from a place that I have loved."

"To those friends and to the university I owe a debt of gratitude which I can never repay. Only family and personal considerations of a compelling nature would have led me to say this final word of farewell."

In his reply, Pres. Fred stated:

"We, at Wisconsin, deeply regret that the ties which have bound you to us have not proved strong enough to hold you. That those ties were strong we have reason to know, and we know too that only considerations of a compelling nature would induce you to leave. We must therefore acquiesce in a decision we would gladly change if we could."

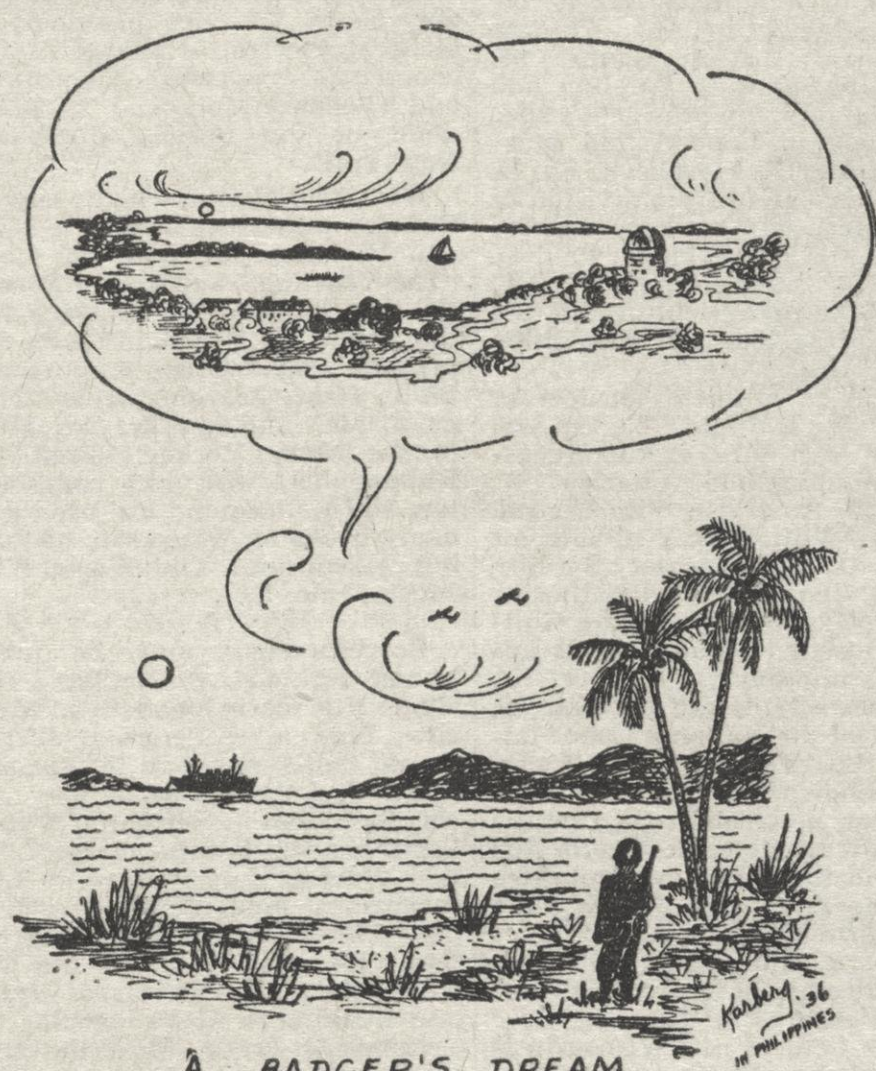
"You have given to our law school a most distinguished leadership, a leadership which has enabled it to maintain a position in the front rank of the law schools of the country. You have been, among your colleagues, a leader of imagination and a source of contagious enthusiasm. To your students you have been a beloved friend and guide."

DO YOU KNOW THAT —

The department of sociology and anthropology of the University of Wisconsin disclosed that inmates of the Wisconsin State prison who take at least nine months of school work succeed to a greater degree upon their release than those who take no schooling, or less than nine months' work. The University is continuing to do work of a practical nature of value to the state of Wisconsin, in addition to training young citizens to take a productive place in society.

DO YOU KNOW THAT —

University of Wisconsin debating teams, coached by Prof. H. L. Ewbank, made a clean sweep of Western Conference Debates at Evanston, Illinois, in 1945, winning six victories out of six debates.



A BADGER'S DREAM

Stick with them till their dreams come true!

The war is over, but thousands of Fighting Badgers are still in the armed forces—and will be for months to come. Many are with the occupation forces in Europe; many more on remote Pacific islands. They're homesick; hungry for friends, families and loved ones. Mail still means a lot to these Fighting Badgers and it's our job to supply it until all of them are home again—for keeps. Your membership check will help to supply this mail, so send it today—please. Let's finish our job as effectively as these Fighting Badgers completed theirs.

..... 1945

Wisconsin Alumni Association,
770 Langdon St., Madison.

Sure, I'll stick with them, so here is my
check for the membership indicated below.

☐ Intermediate membership\$2 ☐ Victory membership\$10
(Classes of '40 to '44 incl.)

☐ Regular membership\$4 ☐ Life membership\$75

Name Class

Address

City State

Membership is open to anyone who has attended
the University one semester or more.

110,000--

(Continued from Page 1)

California; Herman B. Wells, Grad. '27-28, Indiana University; W. D. Hotchkiss '03, Rensselaer Polytechnic Institute, Troy, New York; and N. C. Ruediger '99, provost of George Washington University. Guy S. Ford '95, retired after many years as president of the University of Minnesota to become managing editor of the American Historical Association, Washington, D. C.

Enough famous professors to stock a super college are on the rolls. Some of the most outstanding are Herbert E. Bolton '95, internationally known authority on Spanish and Western American history, who is head of the history department of the University of California. Professor of economics at the same university is Ira B. Cross '95, well known economist and author of many books on banking and related subjects.

There are Dr. Arnold Casell '03, famous child psychologist, head of the Yale Clinic of Child Development, Dr. Herbert S. Gasser '10, director of the Rockefeller Institute for Medical Research, and Dr. Arthur Hale Curtis '02, renowned gynecologist, head of the department of gynecology at Northwestern university.

There are statesmen in the ranks: Philip F. LaFollette '19, three times governor of Wisconsin, just released from three years military service in the Philippines; Robert La Follette '19, U. S. senator from Wisconsin; Alexander Wiley, '07, U. S. senator from Wisconsin; Wayne L. Morse '23, U. S. senator from Oregon.

There is John Earl Baker, '06, former adviser to the Chinese government; Joseph Davies '98, once ambassador to Belgium and to Russia, now the president's special envoy to London and Moscow; Stanley K. Hornbeck, Ph. D. '11, former chief of the division of Far Eastern affairs, now ambassador to the Netherlands; Paul O. Nyhus '23, representing the U. S. department of agriculture in the bureau of agricultural economics, Buenos Aires.

Also in government service are Eugene S. Duffield '29, special assistant secretary of the Treasury, Washington; Charles W. Adair '35, American Vice-Consul, Bombay; William L. Williams '40, in the U. S. Consular Service, Caracas, Venezuela, and Katherine Lenroot '12, Director of the Children's bureau, Department of Labor, Washington.

There are William Leiserson '08, member of the National Labor Relations Board, and C. K. Leith, world renowned geologist and authority on minerals from a political point of view, now with the NRPB on the Planning committee for Mineral Policy; Julius Krug '29, Chairman of the War Production Board, and Arthur Altmeyer '14, chairman of the Social Security Board.

In the field of law Wisconsin is represented on the Supreme Court of the United States by Associate Justice Wiley B. Rutledge '14. On the Circuit Court of Appeals in Chicago, is Judge Evan A. Evans '97. F. Ryan Duffy '10, is federal judge for the eastern Wisconsin District, Milwaukee. George I. Haight '99 is a well-known patent attorney in Chicago.

The names of Wisconsin alumni who are business executives would fill several pages. Some of the most prominent are David A. Crawford '05, president of the Pullman Company, Chicago; William S. Kies '99, president of W. S. Kies & Co., New York; Roy E. Tomlinson '01, president of the National Biscuit Co., New York; Michael J. Cleary '01, president of the Northwestern Mutual Life Insurance Co., Milwaukee; Harry A. Bullis '17, president of General Mills, Inc., Minneapolis; Walter Alexander '97, Chairman of the Board, Union Refrigerator Transit Co., Milwaukee; Austin S. Ingleheart '12, president of General Foods Corporation, New York;

Harold W. Story, vice president of Allis Chalmers Manufacturing company, Milwaukee; Roy C. Muir '05, first vice president of the General Electric company, New York; Thomas G. Nee, '99, president of the Acme Wire Company, New Haven, Conn.; Stanley C. Allyn '14, president of the National Cash Register company; Milo B. Hopkins '23; vice president of the Central Hanover Bank and Trust Company, New York; Max E. Friedmann '12, President of the Schuster Stores, Milwaukee.

Robert B. Stewart '23, comptroller of Purdue University; LeRoy

U. W. Forestry, Conservation Outdoor Lab



One of the most beautiful areas in Madison or its environs is the University of Wisconsin's 1,000 acre arboretum, west and south of Lake Wingra. It is reserved not only as a wildlife refuge and forestry preserve, but as a place where people can learn to love and appreciate the beauty of outdoor life. An aerial view of the arboretum, with Madison on the isthmus in the background between Lakes Mendota, Monona, and Wingra, is shown above.

Although the project was started only a dozen years ago, considerable portions of the area have been developed and plans have been made for developing the remainder.

The arboretum is being developed from the ecological standpoint. The associations of various types of trees are placed on soils most adapted to them, and in such position that they blend into the adjacent associations. Each of these associations must be large enough to be representative, so a considerable area is needed for the entire arboretum.

A considerable portion is devoted to an oak-hickory woodland, the type most common to southern Wisconsin. Other types of associations are also being developed. These include an area of jackpine, a tamarack bog, a hard maple woodland, a juniper hillside, a ravine of hemlock, marsh areas; an area of Southern hardwoods, prairie areas, and associations of red and white pine, white spruce, black spruce and balsam, and many others.

A Wisconsin prairie area is being developed as a unifying open mat between several of the other associations. Progress on this 80-acre area has necessarily been slow, because little was known about prairie restoration, but after several planting methods have been tried, a satisfactory technique will be developed.

The University Board of Regents holds the title to the arboretum property. The administration of the program has been vested in a committee composed of faculty members from the various departments interested in land use and the accompanying scientific studies.

A. F. Gallistel, superintendent of buildings and grounds, is the chairman of the committee. G. William Longenecker, professor of horticulture, is the executive director of the arboretum. John T. Curtis, professor of botany, is director of plant research, and Aldo Leopold, professor of game management, is in charge of animal research. The animal research includes checking the ages and life span of game birds by banding them. Studies are also made on fish population and habits. The work of the arboretum is financed by an appropriation from the university funds.

duction of Othello; Inge Jollos, '43, who toured with Helen Hayes in "Harriet"; Barbara Anderson '42, whose career began in "Othello" with Uta Hagen, all got their early training with the Wisconsin Players.

Among radio personalities are Victor Perrin '40, on NBC in Hollywood; Mary Jo Peterson '42, radio actress; Bernadine Flynn '29 formerly Sade on the radio show "Vic and Sade", and now on her own news program from Chicago; Don Sutter '35, and Wilfred Roberts, radio producers, Roberts is manager of the Production Division for NBC in New York.

A. Peterson '17, president of Otis Elevator Company, the largest in the world; Lemuel R. Boulware '16, consultant to the president, General Electric Company; Dr. C. Guy Suits, '27, vice president of General Electric in charge of the company's research laboratory, and Theodore Montague '21, president of the Borden Company, New York.

Wisconsin alumni who have won Pulitzer prizes are Marjorie Kinnan Rawlings '18, with her book "The Yearling," and Esther Forbes '18, whose book "Paul Revere and the World He Lived In" won the prize in 1942. Other authors are Emily Hahn '26, who wrote "China to Me" and appears regularly in the New Yorker; Fred L. Holmes '06, who has combined law and writing and has produced many books on Wisconsin, "Alluring Wisconsin," "Old World Wisconsin," etc.

Correspondents may be mentioned here too: Robert Magidoff '32, is NBC correspondent in Moscow; Ivan (Cy) Peterman '22, is a war correspondent in Europe; Louis P. Lochner '09, is now AP correspondent in Germany; Walter Graebner '32, is head of the London Bureau for Time and Life magazines; John Scott, ex '33, is now Time correspondent in Sweden. He wrote "Behind the Urals" after several years of living and working in Magnitogorsk.

Robert J. Doyle '38, is the Milwaukee Journal's correspondent assigned to Admiral Nimitz and the Pacific fleet; Robert M. Shaples '37, is correspondent for Newsweek in the Pacific; Bill Walton '31, is in Paris for Time magazine, and James Fleming '37, is with NBC.

Publishers include James S. Thompson '10, president of the McGraw Hill Book Company, New York; Merlyn Aylesworth '07, publisher of the New York World-Telegram; Gilbert T. Hodges '96, member of the executive board of the New York Sun and former president of the Advertising Association of America, and Earl M. Mann '11, president of the Cass-Shepherd-Mann Publishing corporation, New York.

Occupying editor's easy chairs are Otis L. Wiese '26, editor of McCall's Magazine; John McCaffrey '36, associate editor of the American Magazine, and Caroline Iverson '39, aviation editor of Life Magazine.

Among Wisconsin's famous engineers are John L. Savage '03, who has been designing engineer on all the projects which the Bureau of Reclamations has undertaken since 1924. In 1944 he was awarded the highest honor in the engineering profession, the John Fritz medal, in recognition of his "superlative public service in conceiving and administering the engineering of mammoth dams, both in America and beyond the seven seas." Clifford E. Betts '13, was office engineer on the Moffat Tunnel, the longest in this country, and on the Owyhee Dam, the highest in the world. Nationally famous for his research on penicillin is George E. Brown

'30, research engineer with RCA in Camden, New Jersey.

The roll of distinguished scientists is a long one. Heading the list is Dr. Harry E. Steenbock '08, discoverer of the process of irradiation. The 1944 edition of American Man of Science mentions the following scientists for their outstanding work in Botany research: George S. Avery, Jr., Ph. D. '27; Charles Drechsler, B. S. A. '13, M. S. '14; G. W. Keitt, M. S. '11, Ph. D. '14; A. J. Riker, Ph. D. '22.

For their work in Chemistry these men are outstanding: Ralph Connor, Ph. D. '32; Arthur C. Cope, Ph. D. '32; Karl Folkers, Ph. D. '31; J. L. Onsley, Ph. D. '33; C. K. Rollefson, B. A. '20; MA '21; J. H. Mathews, M. A. '05; Ph. D. '08.

Listed as outstanding in Geology is Wm O. Hotchkiss, B. S. '03, C. E. '08, Ph. D. '16, L. D. '37; in Physics, R. G. Herb, B. A. '31, Ph. D. '35; D. N. Kerst, B. A. '34, Ph. D. '37. In Physiology C. A. Elvehjem, B. S. A. '23, M. S. '24, Ph. D. '27, and in Zoology H. W. Beans, Ph. D. '29, Alan Boyden, B. A. '21, Ph. D. '25, and C. L. Turner, Ph. D. '18 are prominent.

Wisconsin numbers among her alumni the world famous architect Frank Lloyd Wright, ex '19, and the well-known sculptor Alice Littig Siems, ex '19.

Genevieve Hendricks '15, is a well known Washington decorator. Marjory Hendricks '18, is owner of the world famous restaurant, Normandy Farm, at Rockville, Maryland. She has been in New Guinea with the Red Cross and plans to return there soon. Also with the Red Cross is Katherine Whitney Curtis '17, who is in Italy. Ruth Kentzler '17, is with the USO in Hawaii.

One of the foremost women physicians in the country is Major Margaret Craighill '20. She was the first woman physician to be commissioned into the medical corps of the Army, and is now stationed in the Division of Preventive medicine in the Surgeon General's office, Washington.

A national authority on natural dancing, Margaret H'Doubler '20, is connected with Wisconsin's school of physical education.

The stage, screen and radio have been enriched by former students of the University, many of whom got their start as members of the Wisconsin Players. Fredric March and Don Ameche are known to every movie-goer. Freddie (Bickel) March, who graduated in 1920, was active in many campus affairs. He is currently starring as Major Joppolo in "A Bell for Adano" on Broadway. Ameche '31 is still remembered in Madison for his fine work with the Players.

Playwright Victor Wolfson '31, who wrote "Excursion" and other Broadway hits, came back a few years ago to visit when his play was presented by the campus group he had formerly worked with.

Don Brotherson '33, who as Eric Brotherson, starred with Gertrude Lawrence in "Lady in the Dark"; Uta Hagen ex '40, last seen in the Theater Guild's pro-

Seal--

(Continued from Page 1)

and Latin scholar. He may have originated the "numen lumen," never before found standing alone in a separate phrase. Scholars agreed that it is more likely that he came across the words as the closing clause in the motto of the Earls of Balcarras, "Astra castra, numan lumen": "The Stars my canopy, God my light."

Doctor James D. Butler, who died in 1905 after almost half a century of service to the University, attributes the adoption of this particular motto partly to the religious temper pervading all universities at that time. For example, on the Princeton seal is an open Bible. On that of Harvard are three books bearing the word "Veritas" and encircled by the motto "Christe et Ecclesiae": for Christ and the Church. On the seal of Oxford university is an open book bearing words of similar meaning "Dominus illuminato mea": The Lord my Light.

Dr. Butler also attributes the choice of the Wisconsin motto to the firm sense of national honor displayed by the Earls of Balcarras, one of whom, on being presented to Benedict Arnold at the court of George III said: "What! The traitor," and turned his back. Challenged by Arnold, he met him in a duel and received his fire. Unhurt, when Arnold shouted "Why don't you shoot," he answered, "I leave your slaughter to the hangman."

In the Wisconsin Alumni magazine for April 1912, Prof. H. B. Lathrop explains the meaning of the Latin words. "Lumen" is used by ecclesiastical writers, following the Vulgate, most often in the figurative sense, to mean the intellect, the grace of God, and also Christ himself, who is called "lumen par excellence." The Latin word lumen corresponds to the English word light when used in a figurative sense.

In classical Latin, the only opposite meaning of "numen" is the peculiar power of a deity, the quality of divinity in a deity. The word Deus is used for the one Supreme Being; generally, then, numen is the divine power manifested in any existence; infernal, earthly, or Supernal. In ecclesiastical and later Latin, numen is commonly a god, perhaps never quite God himself, but often Providence, i. e., the manifestation of divinity apart from its essence.

The convergence of the rays around the eye in the seal express the conception that the mind and soul of man are not only enlightened by a single revelation but are irradiated by a light which shines from all parts of the universe.

Prof. Lathrop sums up his explanation in these words: "The real meaning of numen is made perfectly clear by the eye and the rays. If in classical Latin numen means a divine power manifested in any way, and if intellectual light comes from every direction to man provided he looks up, then to the believer in one God the numen which is light should mean the power of God manifest throughout the universe. Numen Lumen then can be translated: "The divine within the Universe, however manifested, is my light."

Magazine Praises Foreign Language Teaching at U. W.

"At the University of Wisconsin, which gives one of the best army German courses, it was found that men trained to speak soon surpassed the United States reading norms of men who had spent comparable time solely on learning to read."

The preceding quotation is taken from an issue of Fortune magazine praising the role of the University of Wisconsin in teaching the German language to students in the Army Specialized Training Program (ASTP) studying on campus.

Describing the new method of teaching as used at universities throughout the United States in language training for the army, as a "miraculous" new tool in teaching foreign languages quickly to the thousands of United States soldiers, the Fortune writer maintained that it may have an important role in promoting international neighborliness after the war.