THE CYCLE



1921



The Cycle

THE STUDENT ANNUAL OF

Armour Institute of Technology

CHICAGO ILLINOIS

Published by the Cycle Board
for the Junior Class
of the College of Engineering

Volume Nine: Nineteen Hundred and Twenty-One


GREETINGS

FOREWORD

THE members of the Class of 1921 will be the first students to leave the Armour Institute of Technology on commencement day without those stirring words of farewell ringing in their ears that our deceased President Gunsaulus was want to speak. His lips are sealed but his spirit will still carry on. In order that his great spirit might be more easily accessible we have given to the world and to the members of the Class of 1921 in particular this volume of The Cycle which has been most respectfully dedicated to his memory.

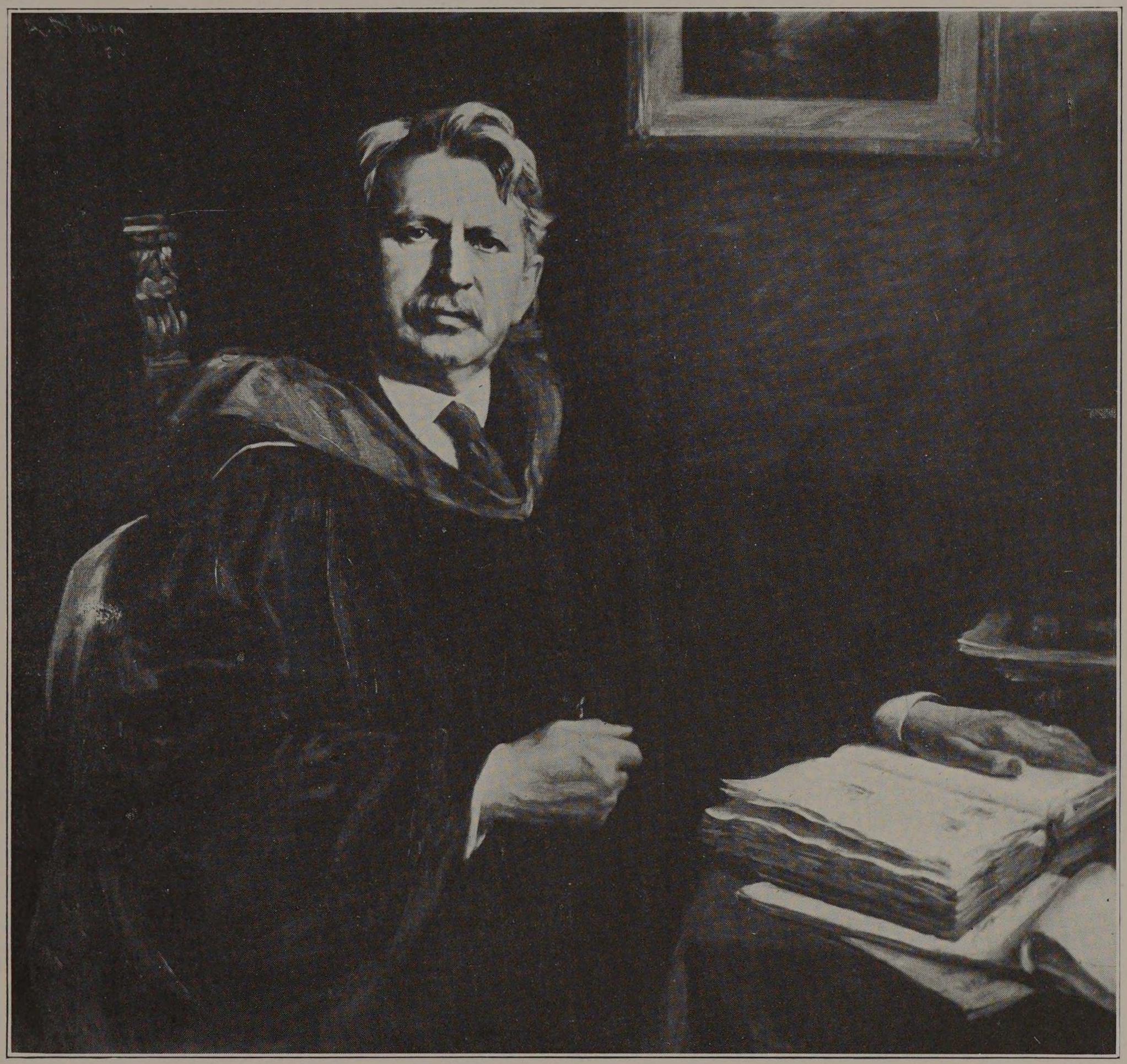
May they accept this Book and, if it helps in the least measure to keep aloft the memory of him who has passed from amongst us, we shall have accomplished one of our greatest purposes.

Contents

INSTITUTE
FACULTY
CLASSES
PUBLICATIONS
ATHLETICS
SOCIETY
FUNCTIONS
ORGANIZATIONS
ENG. SOCIETIES
LITERATURE
SUMMER CAMP
ALUMNI
FRATERNITIES
NUT CRACKER
ADVERTISING

Dedication

To the memory of Frank Wakeley Gunsaulus, D. D., LL. D.,
the first President of the Armour Institute of Technology,
the great soul and spiritual leader, the poet and
preacher, the educator, the writer, the lover of
art, the administrator, and above all the
friend and counselor of the students,
this book is dedicated by the
class of 1922.



FRANK WAKELEY GUNSAULUS, DD., LL.D.

JANUARY 1, 1856 — MARCH 17, 1921.



Mr. Secretary:

To you and through you, as Secretary to the board of Trustees, I wish to say that in accepting this position of high honor, I am cognizant of, and believe that I have a conception of, the heavy responsibilities which attach to an office of this kind. I accept with considerable hesitancy and great humility. I am well aware of the fact and fully realize that it is no easy task to follow in the footsteps of a great and wonderful and inspiring leader, such as was our late President, Dr. Gunsaulus.

Gentlemen of the Faculty and Students:

I ask for your forbearance, your patience, and above all, your co-operation. It is my intention to carry out the wishes and the plans of our late and beloved President to the best of my ability, and I pledge and promise to do my utmost to conserve the traditions of the Institute, to advance its interests, and to promote its general welfare in every way. If I am blessed with health and strength and your loyal support, we will "carry on" together until a permanent President is chosen.

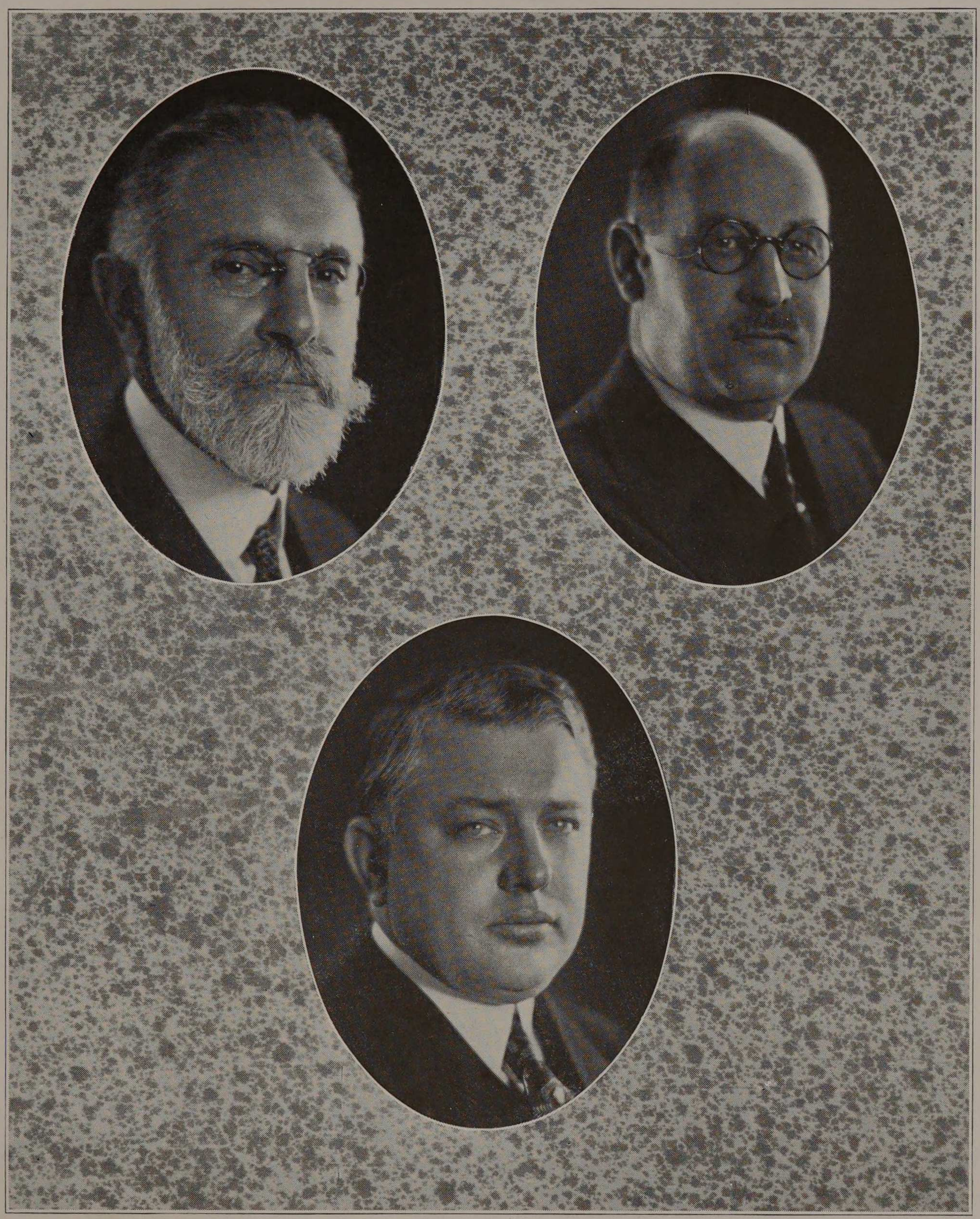
Trustees.

J. Ogden Armour, Chairman

Mrs. Philip D. Armour
Mrs. J. Ogden Armour
Philip D. Armour, III
Lolita O. Armour
Lester Armour
Charles J. Faulkner, Jr.

The Executive Council

The President
The Comptroller
The Dean of Cultural Studies
The Dean of Engineering Studies



L. C. MONIN

G. S. ALLISON

H.M.RAYMOND

Officers of Administration

Acting President,
Howard Monroe Raymond.

Vice-President,
Philip D. Armour, III.

Comptroller and Secretary,
George Sinclair Allison.

Treasurer,
Frederick W. Croll.

Dean of Cultural Studies, and Director of the Library,
Louis Celestin Monin.

Dean of Engineering Studies, and Director of Evening Classes,
Howard Monroe Raymond.

Examiner and Assistant to the Deans,
John Cornelius Penn.

Cashier,
William Edward Trost.



ALTHOUGH Armour Institute has been in existence only a short time it has a very remarkable and interesting history.

When Mr. Joseph Armour died he left a bequest of one hundred thousand dollars for the purpose of building a Mission in Chicago for church, school, and educational purposes. To this his brother, Philip Danforth Armour, added a large sum to complete and outfit the building. The building was opened in 1886. Ever ready to help those who wished to help themselves, Mr. Armour built at various times, several large flat buildings in the neighborhood of the Mission, the revenue from which served to make it as far as possible self-sustaining. To the religious work, a free dispensary and library were added, the latter in charge of Mrs. Julia A. Beveridge.

Mrs. Beveridge, believing that the usefulness of the Mission might be increased by taking up manual training, organized classes in wood-carving, clay-modeling, tile-making, and drawing for boys, and classes in domestic arts for girls. The success of her endeavors so pleased Mr. Armour that he decided to take up the educational work on a still larger scale than the size of the Mission would permit. Accompanied by Dr. Gunsaulus and Mr. John C. Black, Mr. Armour visited eastern institutions and, on his return to Chicago, decided to organize a school similar to Pratt or Drexel Institute.

A board of Trustees was organized, consisting of the following: Mr. Philip D. Armour, Mr. J. Ogden Armour, Mr. William J. Campbell, Mr. Philip D. Armour, Jr., and Mr. John C. Black. A charter was obtained from the state government and in 1892 the present "main building" was erected. The first classes were organized in 1893.

Dr. Gunsaulus, President, was assisted by a small, very efficient faculty, of which Prof. L. C. Monin, Mr. John E. Snow, and Mr. Edward D. Agle are still associated with the Institute. At the time of its foundation the Institute comprised the Armour Scientific Academy and the Technical College, as at present, and also the Departments of Domestic Arts, Commerce, Music, and Kindergarten Normal Training.

The courses included in the Technical College were: Mechanical and Electrical Engineering, Chemistry, Architecture, and Library Science. Between 1896 and 1901, the courses in Domestic Arts, Commerce and Music

were dropped one by one to meet the increasing demand for young men trained in applied science. In 1901 co-education in the Academy was given up, so that the instruction is limited to young men. All the engineering courses have strengthened from year to year. Departments of Chemical Engineering and Fire Protection Engineering have been added to the other engineering departments.

Since 1902, Evening Classes and Summer Courses have been offered and much good has been derived from these.

An additional building known as Machinery Hall was erected in 1902, Mrs. P. D. Armour having donated the building, while Mr. J. Ogden Armour bore the expense of providing equipment. Mr. J. Ogden Armour also presented the Institute the ground known as Ogden Field, the opening of which greatly stimulated the interest in Athletics at Armour. The latest addition to the buildings of the Institute is Chapin Hall.

During the summer of 1909, a fire occurred on the third floor of the "main building" in the store-room of the Chemical Department. Quite a loss was suffered, but was fully covered by insurance. The store-room was immediately rebuilt and is now very much better than ever.



THE GREATER A. I. T.

THE Armour Institute of Technology, after twenty-five years of adjustment and re-adjustment to opportunities and conditions, has adopted its matured plans for the future and has received a substantial gift of land and money from Mr. J. Ogden Armour, so that it will inaugurate and develop its complete plans.

The difficulty of obtaining a proper location has been great. It has cost one million dollars to find and obtain title to a contiguous parcel of land upon which the institution may stand and develop for all time. It will occupy the entire eighty acres near the lake south of the South Shore Country Club. This tract has been formerly known as the Windsor Park Golf Club. The land has been purchased, and is now turned over to the Armour Institute of Technology.

The Institute has sought the advantage of a situation easily approached by the city and suburban service of the Illinois Central and the Baltimore & Ohio Railways. Near the north portion of the land obtained is the Windsor Park station of the Illinois Central which will be reached in a few minutes from down town, when the railway and the Institute have completed their arrangements. The cross town electric lines at the north of the campus on 75th street are satisfactory. On the south end of the campus at 79th street are electric lines connecting the west and southwest sides with our location satisfactorily. The Baltimore & Ohio almost touches the southwest corner of the eighty acres. The lake is within a few blocks and will furnish opportunity not only for water athletics, but hydraulic engineering and marine engineering, which must be undertaken in time. On the south are the great steel and cement plants of the Calumet district. These are not surpassed in the world for the use of an institution whose students must visualize engineering processes in manufacture. Modern methods with us require visits to operative industries with which high grade engineering concerns itself.

The tentative plans for our buildings with the accompanying sketch of their arrangement, constitute only a provisional study. They have required a gift of $5,000,000.00 for their erection and extra equipment. The whole scheme which has been worked out after a quarter of a century of experience in the central west and in Chicago, means serviceableness in architecture as well as beauty and dignity. The buildings will constitute a piece of serious apparatus for the special work which any such institution must do at this time and in this region.

Commodious as the buildings are and large as the location seems to be, the Armour Institute of Technology will limit its number of students to one thousand. The prospects at university foundations for the highest and most necessary research work in pure science are so large and secure that the Armour Institute of Technology will have only its responsibility in the central west for the training of engineers. The high schools of this region, especially the technical high schools, have their large responsibility in the preparation of students who expect in four years to receive our degree of Bachelor of Science in this or that kind of engineering. Our present method so expanded requires large room for apparatus and for safety, as well as the rigid adherence of a program of study and experiment under experts always serving the student to at all reach the ideal in view or to meet the situation in American engineering. These problems are many and difficult. The world's coal problem must be solved by what is most necessary in America—the use of our mighty wasted

water power. The civil engineer must be ready to make Chicago, Duluth, Detroit, and perhaps other cities over into Atlantic ports, and he must be trained to do his part in the future with those who worked so excellently in the past and bring the lakes and the gulf together by the river system which nature has partially provided.

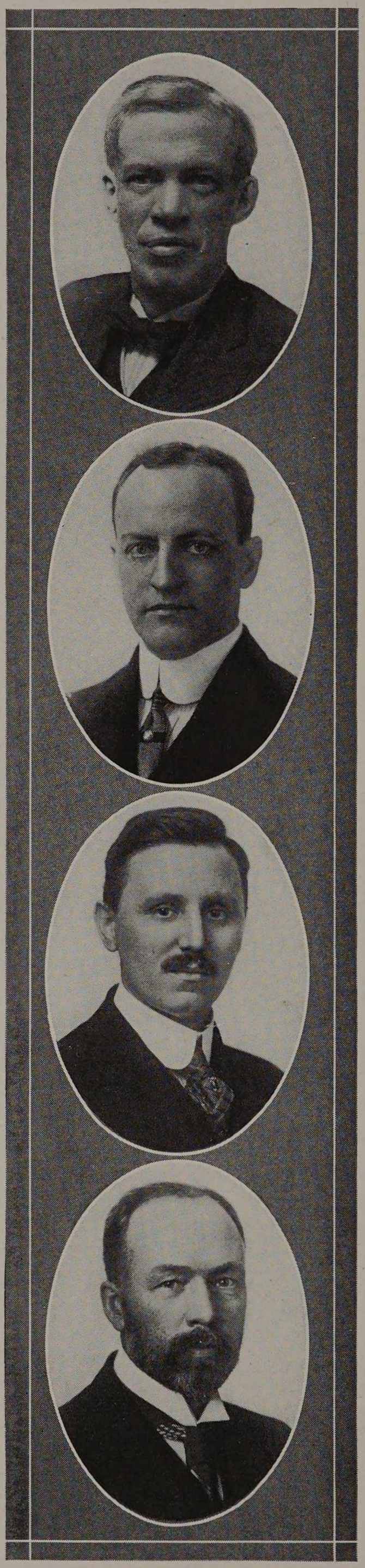
When the Armour Institute emerged from the enterprise of a coeducational school and based its operations twenty years ago on the expectation of such a war which has come, it had no clearer vision than it has now of the necessities for engineering education of the highest grade in order that the problems of peace may be met and solved. It was a war of engineers when the battle was on, and American engineering greatly figured in winning the war. It is now a war of engineering against primitive and ignorant wastefulness of the forces of nature and the blundering of untrained men in politics which creates the necessity for such education as we assume to offer. One thousand young men fitted for leadership in mind and skill will be our constant and contributory effort in the direction of a better-working civilization.

In the matter of athletics, we shall have soon plenty of room for such games and athletic developments as are not usually part of the physical training of American students. We hope to domesticate and enlarge the educational scope of many of the out-door sports which have been foreign to students or impossible, usually because there was not land enough, and secondly because of the time used upon inside gymnastic exercises. The buildings at present will occupy about eight acres. A large portion of the first forty acres will be left for future developments. The south forty acres of the tract will be devoted to such summer and winter out-door sports as will make out-door men supple and strong for their life work any where.

Mr. Armour's gift has not been unexpected. Mr. Armour and his associates have studied this problem with the valuable help of other educators, especially in more recent years, and has found that the only solution is an immediate and large gift that we may inaugurate here and now a foundation for technical training commensurate with the intention of the Armour friendship tor such education and what must be the largest opportunity and duty. Our city is soon to be the greatest enginering city in the world. This work will be commenced and prosecuted as rapidly as possible, in view of our responsibilities in the case.

THE FACVLTY





ALFRED EDWARD PHILLIPS

Professor of Civil Engineering.
Birthplace, Rouse's Point, N. Y.

A.B. and C.E., Union University, Schenectady, N. Y., 1887; A.M., 1890; Ph.D., 1894.

Phi Delta Theta; Sigma Xi; Tau Beta Pi; Member of American Society of Civil Engineers.

Residence, 307 Davis Street, Evanston.

GEORGE FREDERICK GEBHART

Professor of Mechanical Engineering.
Birthplace, Salt Lake City, Utah.

A.B., Knox College, 1895; M.E., Cornell University, 1886; Knox College, 1897.

Phi Delta Theta; Tau Beta Pi; Member of American Society of Mechanical Engineers; Western Society of Engineers; National Association of Stationary Engineers.

Residence, 1252 Columbia Avenue.

GEORGE LAWRENCE SCHERGER

Professor of History and Political Science.
Birthplace, Lawrenceberg, Indiana.

A.B., University of Indiana, 1894.
University of Leipzig, Berlin, (1895-98); Ph.D., Cornell University, 1899.

Member of American Historical Association; City Press Club.

Residence, 5228 Michigan Avenue.

GUY MAURICE WILCOX

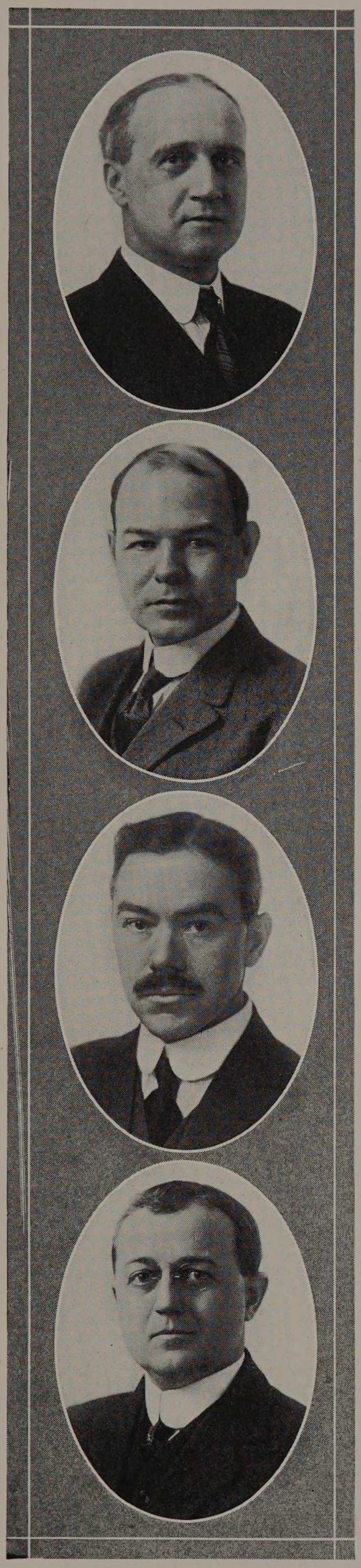
Professor of Physics.
Birthplace, Kansas City, Kansas.

A.B., Carleton College, 1891; A.M., University of Wisconsin, 1902; Fellow of American Physical Society and Fellow of the American Association for the Advancement of Science.

Author of "Physics Laboratory Manual."

Research Work on "Optical Rotary Power of Sugar in Non-Aqueous Solutions."

Residence, 5225 Ingleside Avenue.

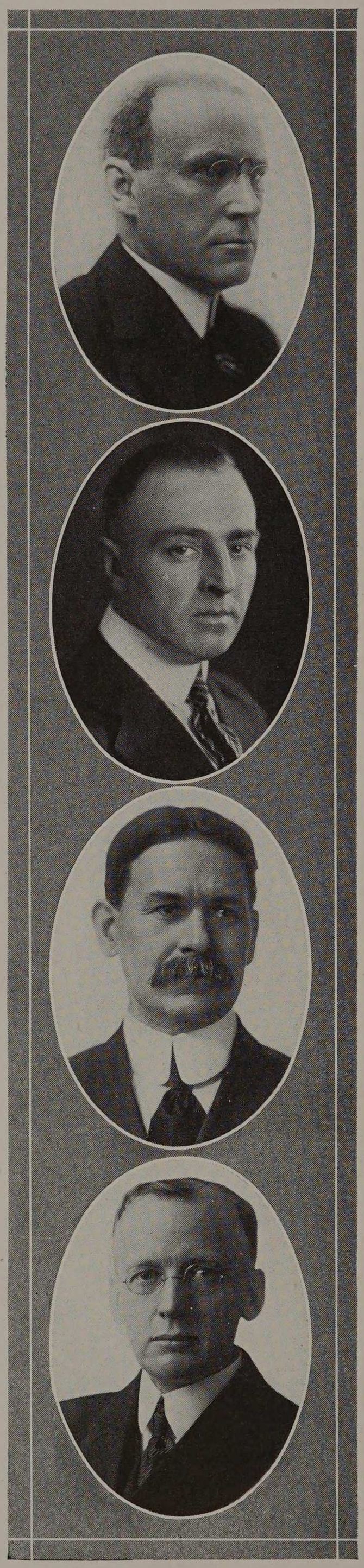


DONALD FRANCIS CAMPBELL
Professor of Mathematics.
Birthplace, Nova Scotia.
A. B., Dalhousie College, Halifax, Nova Scotia, 1890; A. B., Harvard University, 1893; A.M., 1895; Ph.D., 1898.
Author of "Elements of Differential and Integral Calculus," "A Short Course in Differential Equations."
Research Work in Differential Equations.
Residence, 1209 Hinman Avenue, Evanston, Illinois.

HARRY McCORMACK
Professor of Chemical Engineering.
Birthplace, Spencer, Iowa.
B. S., Drake University, 1896; M. S., University of Illinois, 1899; Member of American Chemical Society; American Institute of Chemical Engineers; American Electro-Chemical Society; American Society for Testing Materials.
Author of Journal Articles on Metallurgy and Industrial Chemistry.
Residence, 5545 University Avenue.

ERNEST HARRISON FREEMAN
Professor of Electrical Engineering.
Birthplace, Topeka, Kansas.
B. S., Kansas State Agricultural College, 1895; B. S., Armour Institute of Technology, 1902; E. E., 1905.
Tau Beta Pi; Honorary Member Eta Kappa Nu.
Member of American Institute of Electrical Engineers; Illuminating Engineering Society; Society for the Promotion of Engineering Education.
Residence, 601 Laurel Avenue, Wilmette, Ill.

CHARLES EDWARD PAUL
Professor of Mechanics.
Birthplace, Belfast, Maine.
B. S., Massachusetts Institute of Technology.
Theta Xi; Tau Beta Pi.
Member of American Society of Mechanical Engineers; American Society of Civil Engineers; American Society for Testing Materials; American Railway Engineering Association; American Railway Bridge and Building Association; American Wood Preservers Association; Western Society of Engineers; National Fire Protecting Association; Society for the Promotion of Engineering Education.
Author of numerous pamphlets and articles on engineering materials as applied to construction.
Residence, 1502 Pratt Boulevard.



JOSEPH BERNARD FINNEGAN

Professor of Fire Protection Engineering.

Birthplace, Stoneham, Massachusetts.

B. S., Massachusetts Institute of Technology, 1904.

Member of National Fire Protection Association.

Residence, 5433 Ellis Avenue.

JOHN EDWARD KELLY.

Medical Adviser and Examining Physician.

Birthplace, Fox Lake, Wis.

M. D., University of Northwestern Medical School, 1905; Attending Surgeon at Mercy Hospital; Member Chicago Medical Society; Member of American and Illinois State Medical Associations.

Residence, 4600 Drexel Blvd.

JOHN EDWIN SNOW

Associate Professor of Electrical Engineering.

Birthplace, Athens, Ohio.

M. S., Ohio University, 1896; E. E., Armour Institute of Technology, 1901; A. M., Ohio University, 1904.

Member of American Institute of Electrical Engineers; Member of Western Society of Engineers.

Residence, 7001 Vernon Avenue.

MELVILLE BAKER WELLS

Associate Professor of Bridge and Structural Engineering.

Birthplace, Commiskey, Indiana.

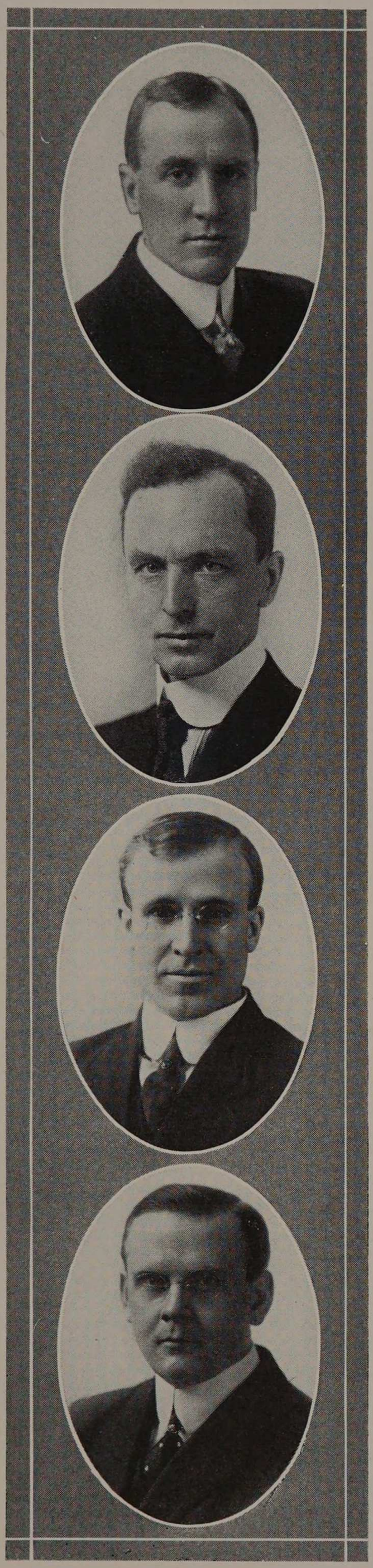
B.C.E., Purdue University, 1894; C.E., 1895.

Phi Delta Theta; Tau Beta Pi.

Member Western Society of Engineers.

Author of "Steel Bridge Engineering."

Residence, 11252 South Oakley Avenue.



ROBERT VALLETTE PERRY
Associate Professor of Machine Design.
Birthplace, Hartford, Connecticutt.
B. S., Armour Institute of Technology, 1897; M. E., 1902.
Tau Beta Pi; Omega Lambda.
Residence, 6340 Normal Blvd.

THOMAS EATON DOUBT
Associate Professor of Physics.
Birthplace, Louisville, Kentucky.
B. S., Nebraska Wesleyan University, 1892; A. M., University of Nebraska, 1896; Ph. D., University of Chicago, 1904; Fellowships at University of Nebraska and University of Chicago; Professor of Physics at University of Washington, Seattle, 1897 to 1902.
Sigma Xi.
Fellow of the American Association for the Advancement of Science; Fellow of the American Physical Society.
Research Work on Absolute Color Equation, Velocity of Light and Spectrum Analysis; Optical Determination of Organic Compounds; Absorption of Gases by Charcoal.
Residence, 5402 Drexel Avenue.

CHARLES WILBUR LEIGH
Associate Professor of Mechanics.
Birthplace, Peoria, Illinois.
B. S., University of Illinois, 1897.
Phi Gamma Delta; Tau Beta Pi.
Co-author of a text-book on Trigonometry.
Residence, 7320 Lafayette Avenue.

DAVID PENN MORETON
Associate Professor of Electrical Engineering.
Birthplace, Moscow, Ohio.
B. S., Armour Institute of Technology, 1906; E. E., 1910.
Tau Beta Pi.
Associate Member of American Institute of Electrical Engineers.
Author of "Practical Applied Electricity," "Drake's Telephone Handbook," "Electrical Measurements and Meter Testing," "Electrical Equipment of the Motor Car," etc.
Residence, 3913 Michigan Avenue.



BENJAMIN BALL FREUD

Associate Professor of Organic Chemistry.

Birthplace, Chicago, Illinois.

B. S., University of Chicago, 1904; Ch. E., Armour Institute of Technology.

Phi Beta Kappa; Sigma Xi.

Member of American Chemical Society; American Electro-Chemical Society; American Institute of Mining Engineers; Associate Member of American Physical Society.

Physico-Organic Research on "Oxidation."

Residence, 3273 Altgeld Street.

CHARLES AUSTIN TIBBALS

Associate Professor of Analytical Chemistry.

Birthplace, New York, N. Y.

A. B., University of Wisconsin, 1904; A. M., 1906; Ph. D., 1908.

Phi Gamma Delta; Phi Lambda Upsilon; Sigma Xi.

American Chemical Society and American Association for the Advancement of Science.

Original Research, "A Study of Tellurides."

Residence, 511 Hawthorn Lane, Winnetka, Illinois.

CLYDE BARNES COOPER

Associate Professor of English.

Birthplace, Prairie City, Illinois.

A. M., University of Iowa; Ph. D., University of Chicago.

Residence, 1126 East 62nd Street.

OLIVER CHARLES CLIFFORD

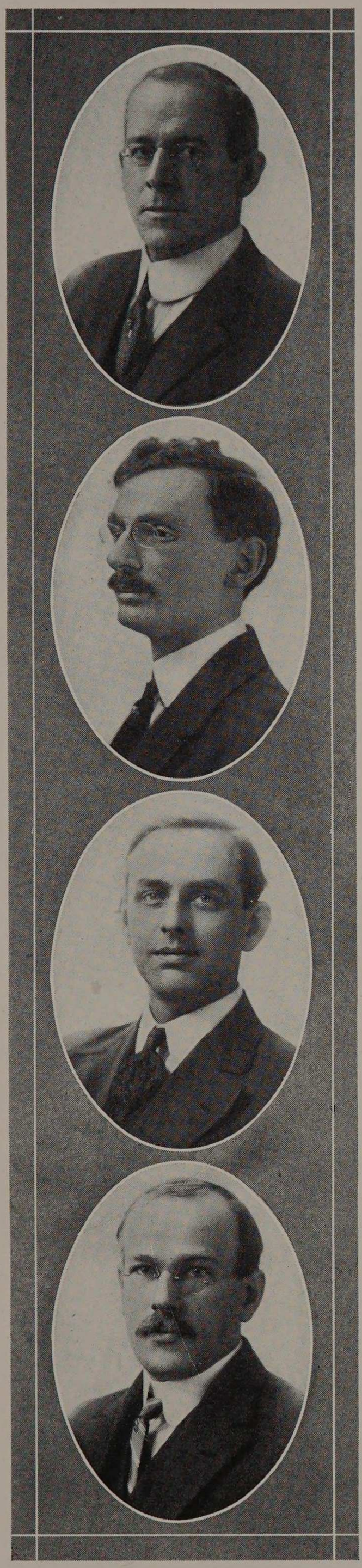
Associate Professor of Electrical Engineering.

Birthplace, Wadsworth, Ohio.

A. B., Oberlin College, 1893; Ph. D., University of Chicago, 1907.

Sigma Chi.

Research Work on "Susceptibility of Copper and Tin Alloys" and "Study of Heusler Alloys."



CLAUDE IRWIN PALMER

Associate Professor of Mathematics.

Birthplace, Michigan.

A. B., University of Michigan, 1903.

Member of the American Association for the Advancement of Science; American Mathematical Society; Mathematical Association of America.

Author of "Arithmetic with Applications," "Geometry with Applications," "Algebra with Application," "Trigonometry and Logarithms," Co-author of Trigonometry, Plane and Solid Geometry, and Analytic Geometry.

Residence, 6440 Greenwood Avenue.

HENRY LEOPOLD NACHMAN

Associate Professor of Thermodynamics.

Birthplace, Sommerfeld, Germany.

B. S., Armour Institute of Technology, 1902; M. E., 1905.

Tau Beta Pi; Beta Phi.

Residence, 6049 Eberhart Avenue.

DANIEL ROESCH

Associate Professor of Gas Engineering.

Birthplace, Aurora, Illinois.

B.S., Armour Institute of Technology, 1904; M.E., 1908.

Tau Beta Pi; Beta Phi.

Member of American Society for Testing Materials; Society of Automotive Engineers, Inc.

Chairman Publication Committee, S. A. E.

Residence, 6230 St. Lawrence Avenue.

HERBERT JULIUS ARMSTRONG

Associate Professor of Railway Engineering.

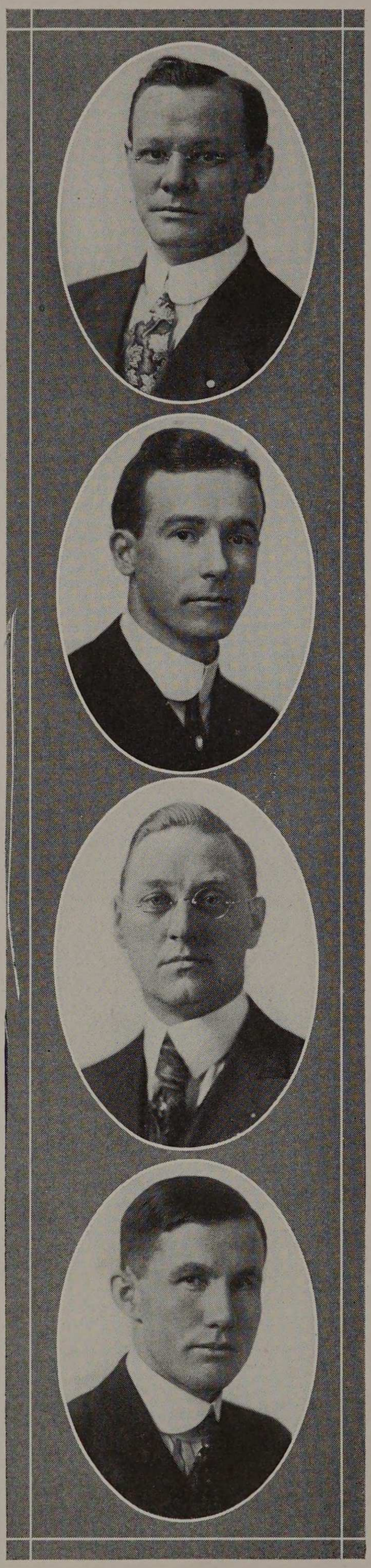
Birthplace, Sunderland, Mass.

B. S., Massachusetts Agricultural College, 1897.

Phi Sigma Kappa.

Member of American Railway Engineering Association; Member of Western Society of Engineers.

Residence, 11353 South Irving Avenue, Morgan Park, Chicago.



EDWIN STEPHEN LIBBY

Associate Professor of Experimental Engineering.

Birthplace, Portland, Maine.

B.S., Armour Institute of Technology, 1902; M.E., 1907.

Tau Beta Pi.

Member of American Society of Mechanical Engineers.

Residence, 11028 Esmond Street.

JAMES CLINTON PEEBLES.

Associate Professor of Experimental Engineering.

Birthplace, Dreghorn, Scotland.

B.S., Armour Institute of Technology, 1904; E.E., 1908; M.M.E., Cornell University, 1908.

Gamma Alpha; Sigma Xi; Tau Beta Pi; Sigma Kappa Delta.

Member American Society of Mechanical Engineers.

Residence, 9601 South Seeley Avenue.

JOHN CORNELIUS PENN

Associate Professor in Hydraulic Engineering.

Birthplace, Wetering, Netherlands.

B. S., Armour Institute of Technology, 1905; C. E., 1910.

Tau Beta Pi; Omega Lambda.

Member Western Society of Engineers; Society for the Promotion of Engineering Education.

Residence, 49 West 109th Street.

PHILLIP C. HUNTLEY

Associate Professor in Experimental Engineering.

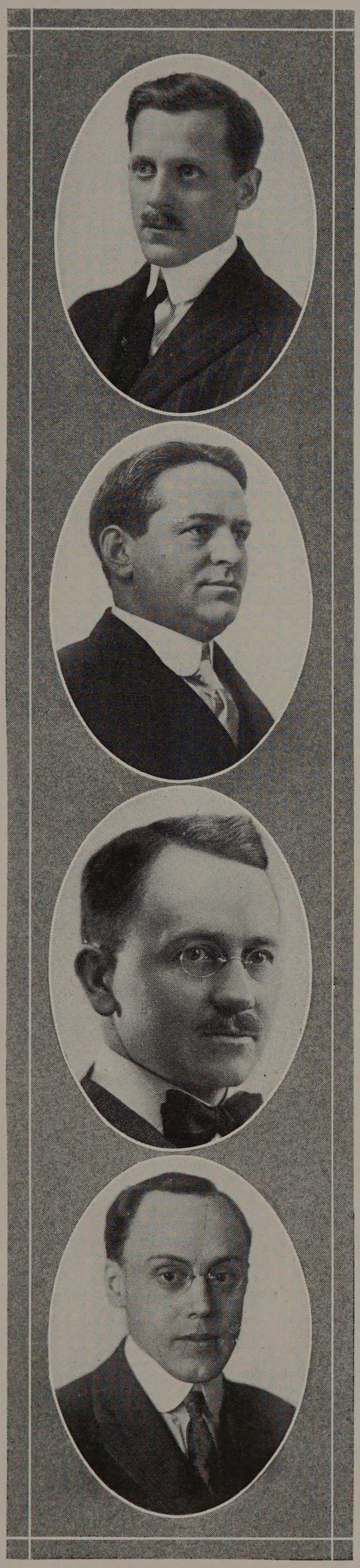
Birthplace, Camden, Arkansas.

B.S., Arkansas University, 1909.

Sigma Chi; Tau Beta Pi.

Member American Society for Testing Materials; Member American Steel Treater's Society.

Residence, 4222 Grand Boulevard.



EARL H. REED, JR.

Associate Professor of Architectural Design.

Birthplace, Norwood Park, Illinois.

B.S., Massachusetts Institute of Technology, 1907; Student Gaston Redon, 1909-1913; Ecole des Beaux Arts, Paris, France.

Delta Kappa Epsilon; Scarab, Illinois Chapter; American Institute of Architects.

Residence, 4758 Lake Park Avenue.

EUGENE EDWARD GILL

Associate Professor of General Chemistry.

Birthplace, Boring, Maryland.

Ph. B., Dickinson College, 1897; Ph. D., John Hopkins University, 1909.

Phi Beta Kappa.

Member of American Chemical Society.

Research Work on the "Determination of Osmotic Pressure of Cane Sugar Solution."

Residence, 5739 Maryland Avenue.

JOHN FREDERICK MANGOLD

Associate Professor of Mechanics.

Birthplace, Waupeton, Iowa.

B. S., Cornell College, 1907; B. E., Iowa State University, 1911; C. E., 1916.

American Society of Civil Engineers.

Residence, 1426 E. 63rd Place.

WILLIAM CHARLES KRATHWOHL

Associate Professor of Mathematics.

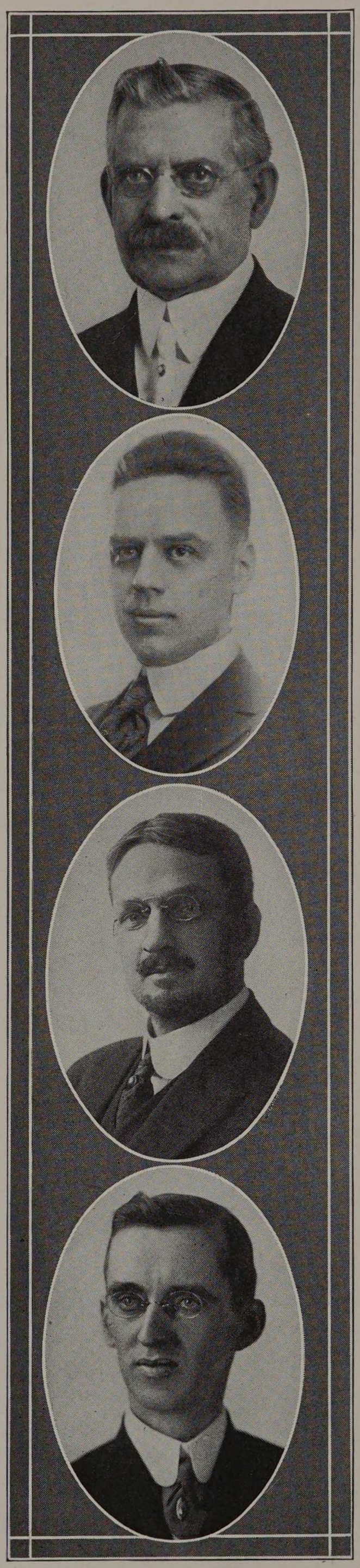
Birthplace, Buffalo, New York.

A. B., Harvard College, 1907; A. M., Columbia, 1910; Ph. D., Chicago University, 1913.

Member of the American Mathematical Society; Mathematical Association of America; Co-author of Analytic Geometry.

Research Work on Modular Invariants.

Residence, 6107 Wodlawn Avenue.



JOHN SIMPSON REID, Sr.

Assistant Professor of Mechanical Drawing and Elemenaary Machine Drawing.

Birthplace, Kilmarnock, Ayrshire, Scotland.

Irving College, British Government Science and Art Schools, Glasgow, Scotland.

Member of American Society of Mechanical Engineers.

Author of "Mechanical Drawing, Elementary and Advanced," "Drawing and Designing," "Investigations into Drafting Room Conventions in the United States, 1909," "Mechanical Drawing Simplified," "Mechanical Drawing, 1919."

Residence, 6224 Kimbark Avenue.

WILLIAM H. LAUTZ, Jr.

Assistant Professor in Architecture.

Birthplace, Chicago, Illinois.

B. S., Armour Institute of Technology, 1913.

Tau Beta Pi; Sigma Kappa Delta; Scarab.

Residence, 7925 S. Green Street.

ALBERT H. KREHBIEL

Instructor in Freehand Drawing, and Water Color.

Birthplace, Iowa.

Bethel College; Studied at Art Institute and in Paris.

Member of various Art Societies.

Residence, Park Ridge, Illinois.

CHARLES R. SWINEFORD

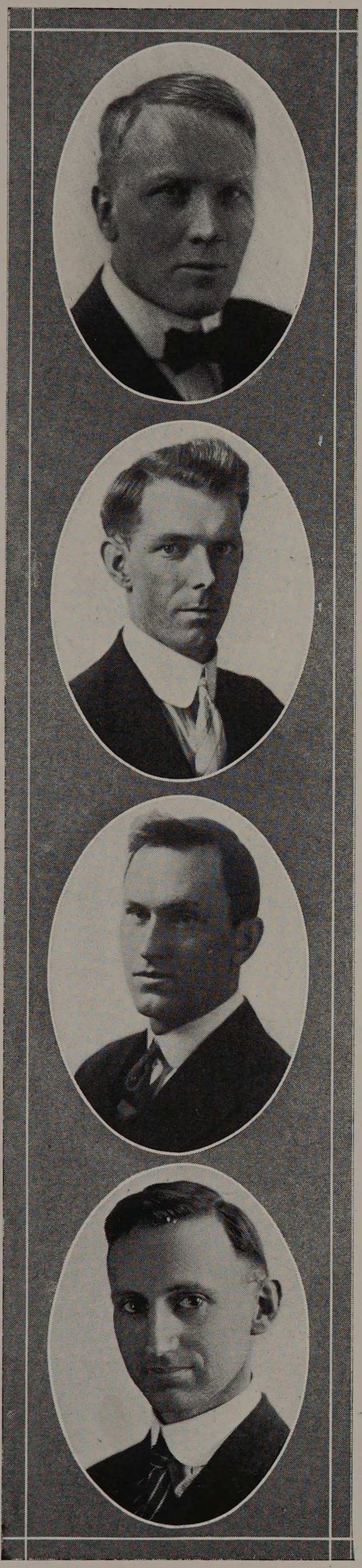
Instructor in Kinematic and Machine Design.

Birthplace, Can Wert, Ohio.

B. S., University of Michigan, 1904-1908.

Instructor at University of Michigan, 1907.

Residence, 6037 Kenwood Avenue.



August C. Wilmanns

Assistant Professor of Agricultural Construction.

Birthplace, Chicago, Illinois.

University of Illinois, 1892.

Illinois Society of Architects.

Residence, 2506 Orchard Street.

Harold Romaine Phalen

Assistant Professor of Mathematics.

Birthplace, Acton, Massachusetts.

B. S., Tufts College.

Sigma Tau Alpha.

Member Mathematical Association of America; Society for Promotion of Engineering Education.

Residence, 6438 Greenwood Avenue.

Charles A. Nash

Assistant Professor of Electrical Engineering.

Birthplace, Elizabeth, Illinois.

B. S., Electrical Engineering, University of Illinois, 1909.

Sigma Xi.

Member of American Institution of Electrical Engineers.

Residence, 4715 North Spaulding Avenue.

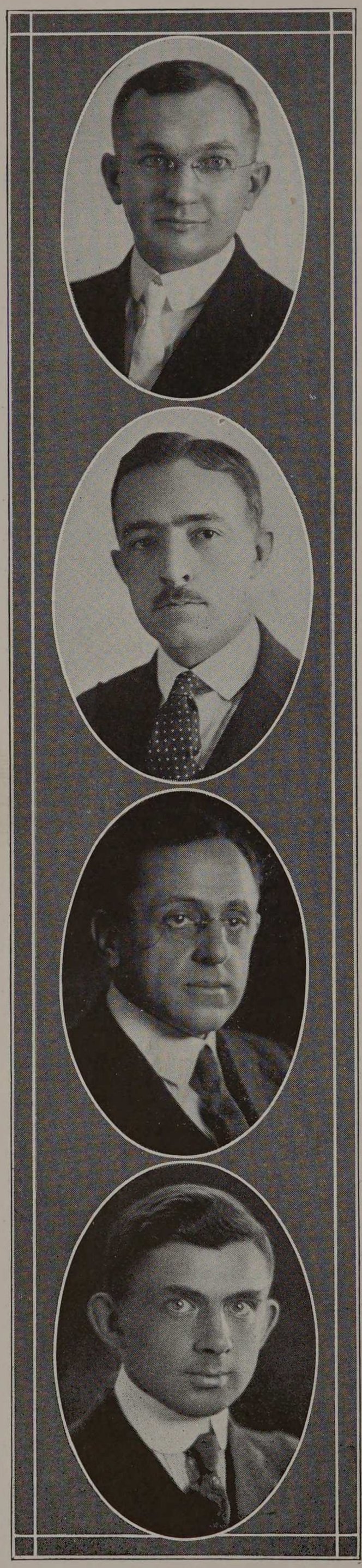
Walter A. Reinert

Assistant Professor of Civil Engineering.

Birthplace, Milwaukee, Wis.

B. S., Civil Engineering, University of Wisconsin.

Residence, 5405 Eggleston Avenue.



WILSON LEE MISER

Associate Professor of Mathematics.

Birthplace, Pea Ridge, Arkansas.

A. B., University of Arkansas, 1908; A. M., University of Yale, 1911; Ph. D., University of Chicago, 1913.

Sigma Xi.

Member of American Mathematical Society; Mathematical Association of America; American Association of Advancement of Science.

Residence, 7207 Eberhart Avenue.

OTTO LOUIS ROBINSON

Assistant Professor of Fire Protection Engineering.

Birthplace, New Albany, Indiana.

B.S., Purdue University, 1916.

Achacia.

Residence, 1645 East 67th Street.

ARTHUR HOWE CARPENTER

Assistant Professor of Metallurgy.

Birthplace, Georgetown, Colorado.

Ohio University; Northwestern University; A.M., Ohio University.

Member American Institute of Mining and Metallurgical Engineers.

Delta Tau Delta; S. A. R.

Contributor to Mining and Metallurgical Publications.

Residence, 7002 Merril Avenue.

ROE LOOMIS STEVENS

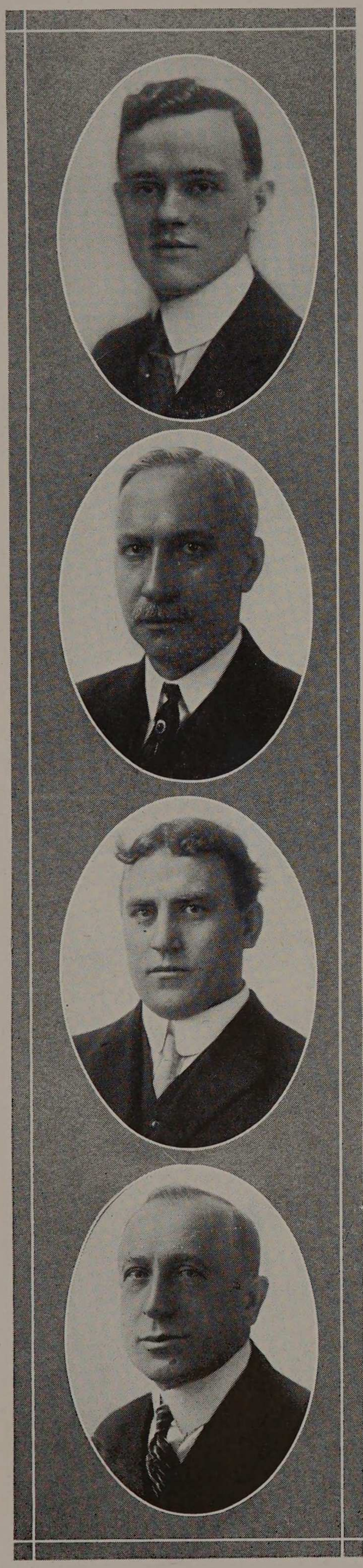
Assistant Professor of Civil Engineering.

Birthplace, Vermontville, Michigan.

B. S., Armour Institute of Technology, 1908.

American Society of Civil Engineers.

Residence, 2318 Hartrey Avenue, Evanston, Ill.



CLINTON EVERETT STRYKER
Assistant Professor of Electrical Engineering.
Birthplace, Chicago, Ill.
B. S., Armour Institute of Technology, 1917.
Omega Lambda; Eta Kappa Nu.
Residence, 448 Glencoe Avenue, Highland Park, Ill.

EDWARD DIEHL AGLE
Superintendent of Shops and Instructor in Machine Tool Work.
Birthplace, Greencastle, Pa.
Residence, 4228 Oakenwald Avenue.

NELS PETER PETERSON
Instructor in Woodworking.
Birthplace, Hoganas, Sweden.
Residence, 1534 North Leavitt Street.

CHARLES HENRY FORNHOF
Instructor in Machine Tool Work.
Birthplace, Chicago, Illinois.
Residence, 1255 Thorndale Avenue.

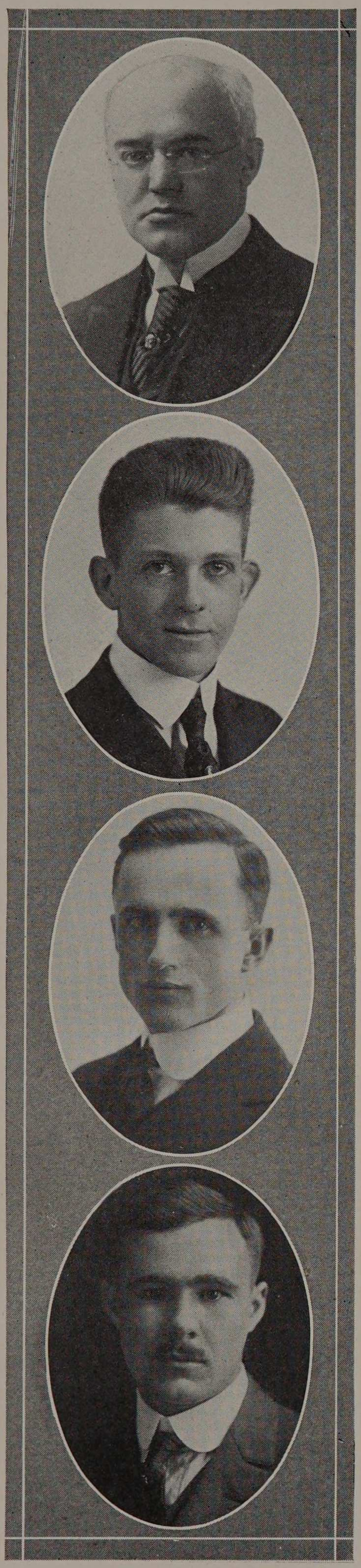


CHARLES L. LARSEN
Instructor in Founding.
Birthplace, Chicago, Illinois.
Residence, 1101 North Richmond Street.

JOHN J. SCHOMMER
Instructor in Industrial Chemistry.
Birthplace, Chicago, Illinois.
B. S., University of Chicago, 1909; B. S. in Chemical Engineering, Armour Institute of Technology, 1912; Ch. E., Armour Institute of Technology, 1920.
Phi Kappa Sigma; Owl and Serpent; University Marshal.
Member of American Chemical Society; American Association for the Advancement of Science; American Society for Testing Materials.
One Year of Research Work in Bacteriology, Yeast and Moulds, 1910;
Residence, 564 Roscoe Street.

JOSEPH PATRICK KENNEDY
Instructor in Forging.
Birthplace, Chicago, Illinois.
Residence, 5621 South Loomis Street.

EDITH HARLEY FORD
Associate Librarian.
Birthplace, St. Paul, Minn.
Ph. B., University of Chicago; B. L. S., University of Illinois Library School.
Member of American Library Association; Member of Illinois Library Association; Member of Chicago Library Club.
Residence, 848 Dakin Street.



EMIL ROBERT ZETTLER

Instructor in Architectural Sculpture.
Birthplace, Karlsruhe, Germany.
The Art Institute of Chicago; National Academy of Fine Arts, Berlin; Julian Academy, Paris.
Honors; Honorable Mention; American Artists Exhibition, Art Institute, 1913; Medal; Chicago Society of Artists, 1915; Bronze Medal; Panama-Pacific Exposition, 1915, Gold Medal; Potter Palmer Prize; A. I. of C., 1916, Medal; Mr. and Mrs. Frank G. Logan, A. I. of C., 1917.
Represented; Art Collection of the City of Chicago, "French Boy."
Art Institute of Chicago, the Mr. and Mrs. Frank G. Logan Medal.
Sculptor Member of the Art Commission of the City of Chicago.
Residence, 4 East Ohio Street.

LYNN EUGENE DAVIS

Instructor of Experimental Engineering.
Birthplace, Milwaukee, Wisconsin.
B. S., Armour Institute of Technology, 1919.
American Society of Mechanical Engineers.
Residence, 3634 Michigan Avenue.

STANTON EDWIN WINSTON

Instructor of Elementary Machine Drawing and Descriptive Geometry.
Birthplace, St. Johns, Mich.
Colorado Schools of Mines; A.B., University of Denver, 1913.
Residence, 6556 Ellis Avenue.

W. FRANK MCCAUGHEY, JR.

Instructor in Architectural Design.
Birthplace, Lynchburg, Virginia.
B. S., Carnegie Institute of Technology, 1916.
Instructor of Architectural Design, University of Illinois, 1916-20.



WILL WHITE COLVERT

Instructor in Physics.

Birthplace, Alexandria, Tenn.

A. B., Cumberland University, 1917;
A. M., Cumberland University, 1919.

Member of the American Association for the Advancement of Science.

Residence, 5908 Indiana Avenue.

NATHAN LESSER

Instructor Descriptive Geometry and Machine Design.

Birthplace, Omaha, Nebraska.

B. S., University of California.

Member Western Society of Engineers.

Residence, 4403 LaCrosse Avenue.

WALTER J. BENTLEY

Instructor in General Chemistry.

Birthplace, Chicago, Illinois.

B.S., Armour Institute of Technology, 1920.

Phi Lambda Upsilon.

Member of American Chemical Society.

Residence, 1349 Winnemac Avenue.

HAROLD S. WHITE

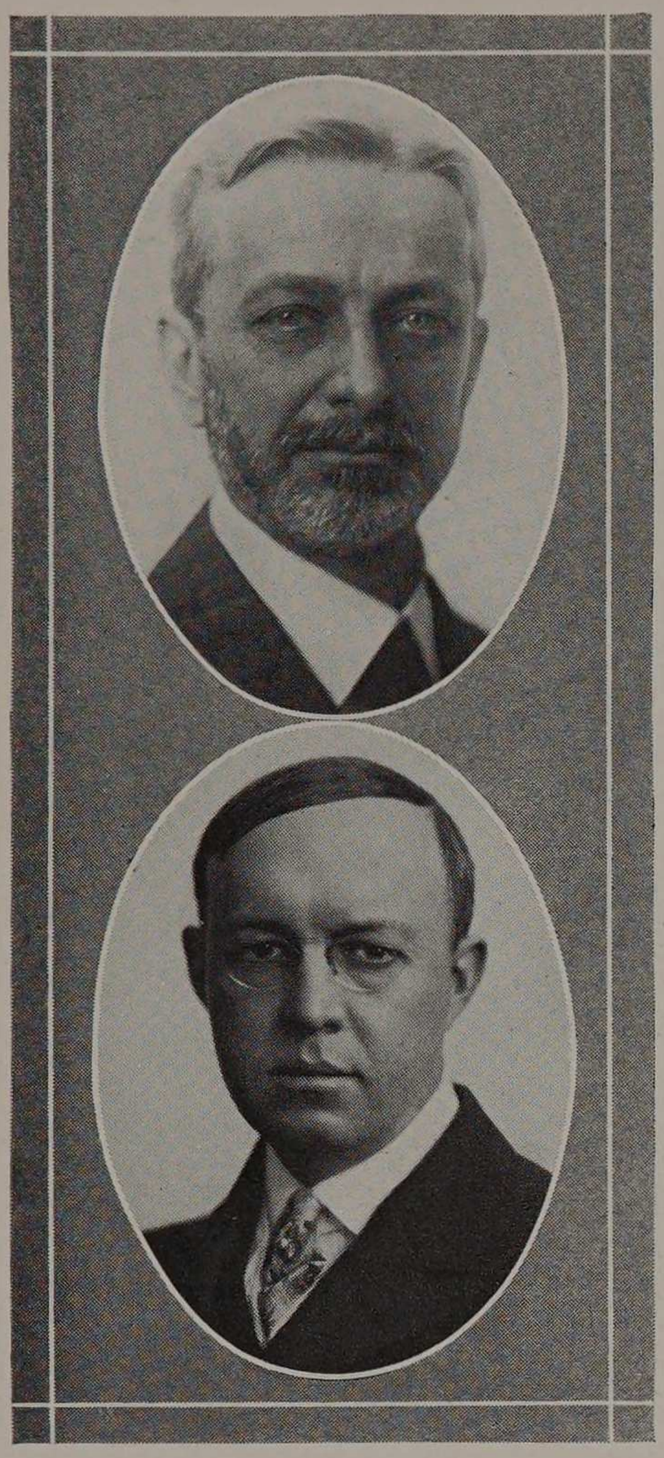
Instructor in Gas Engineering.

Birthplace, Denver, Colorado.

B. S. in M. E., Armour Institute of Technology, 1917.

Sigma Chi; Tau Beta Pi.

Residence, 427 Oakwood Boulevard.

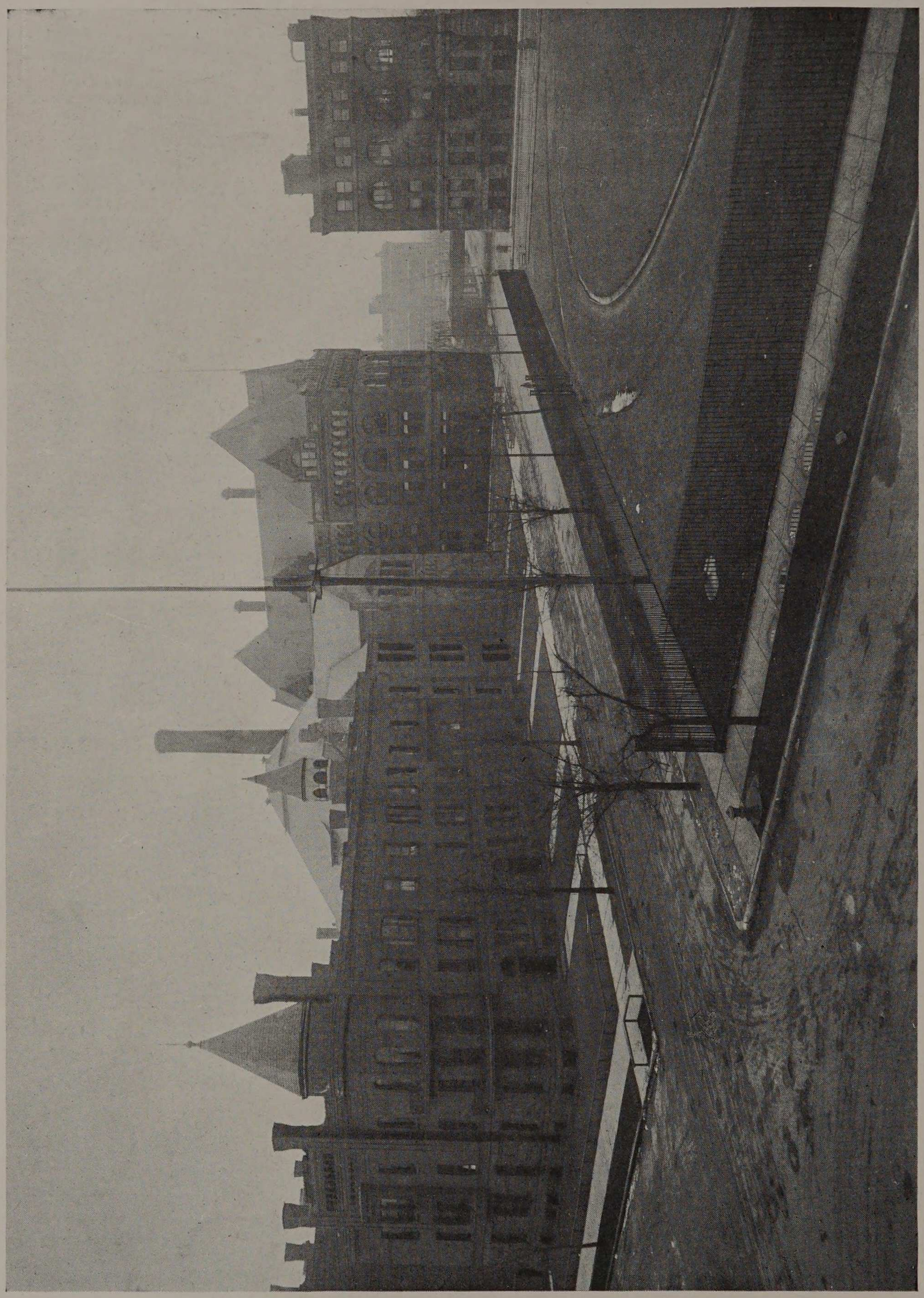


FRANK HALL CHILDS
Lecturer on Business Law.
Birthplace, Findlay, Ohio.
Columbia Law University, Union College of Law, Kent Law School; LL.B., Admitted to the Bar, 1884.
Member of the American Bar Association; Illinois State Bar Association; The Chicago Bar Association.
Residence, 2241 Calumet Avenue.

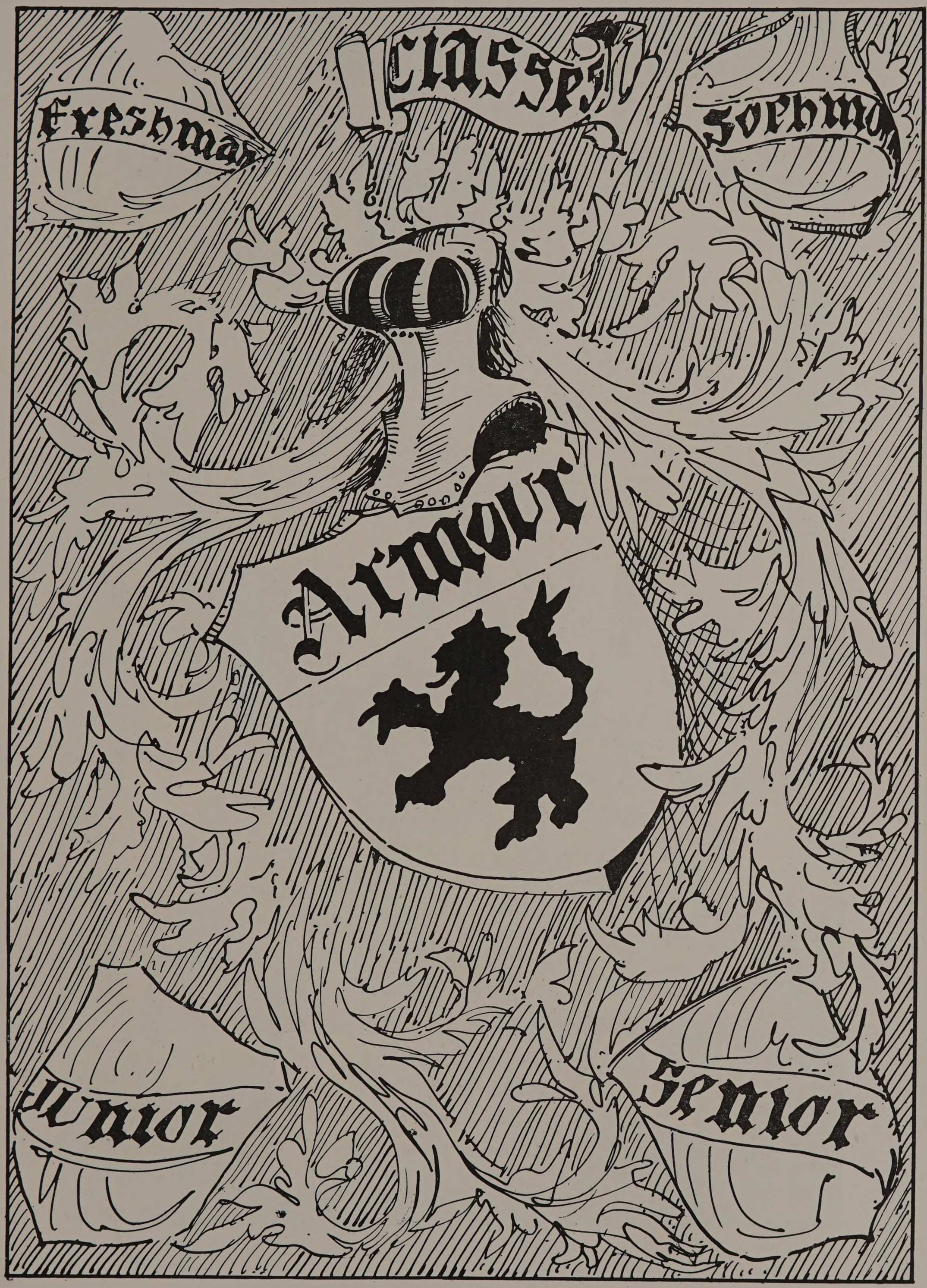
THOMAS EDDY TALLMADGE
Lecturer on History of Architecture.
Birthplace, Washington, D. C.
B.S., Massachusetts Institute of Technology, 1898.
Phi Beta Epsilon.
Member of Illinois Chapter of American Institute of Architects.
Winner of Traveling Scholarship, Chicago Architectural Club, 1904.
Residence, University Club, Evanston, Illinois.

WALLACE BRUCE AMSBARY.
Lecturer on 'Masterpieces of English Literature."

ELMER A. CLAAR, A. B., LL. B.
Instructor in English.



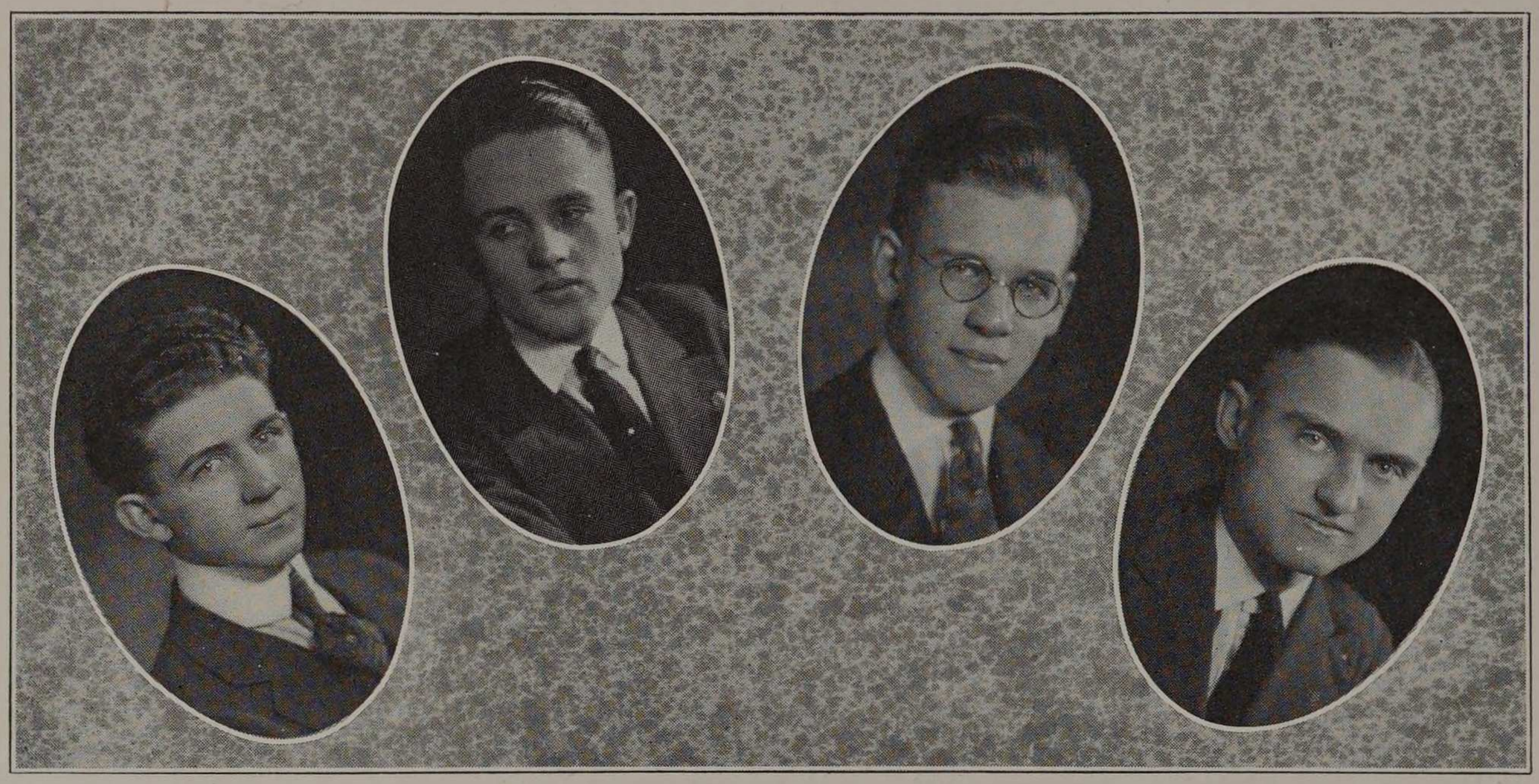
THE CAMPUS


Classes
Freshman
Sophmore
Junior
Senior


"THIS SIDE OF PARADISE"
HOWEVER, HAVING GONE THRU COLLEGE DOES NOT NECESSARILY MEAN THAT COLLEGE HAS GONE THRU YOU
J. DEMUTH



SEQUINS



HAVLICK CHASE SANGER BRUECKNER

Officers of the Senior Class

D. S. CHASE ..... President
J. P. SANGER ..... Vice-President
M. O. BRUECKNER ..... Secretary
S. N. HAVLICK ..... Treasurer
D. K. MURAMOTO ..... Sergeant-at-Arms
S. H. BARCE ..... Cycle Representative
S. N. HAVLICK ..... Athletic Representative

Senior Class Committees

Social Committee

W. K. LYON—Chairman

E. F. WINTER
F. E. HAYDEN
G. C. KUMBERA
L. S. MARANZ

Picture Committee

B. E. WOHLGEMUTH—Chairman

G. E. PETERSON
W. K. LYON
I. J. LOEBL
R. SINGER

Cap and Gown Committee

J. P. SANGER—Chairman

S. H. WEBSTER
G. C. KUMBERA
D. L. ROSENDAL
R. MALWITZ

Ring and Pin Committee

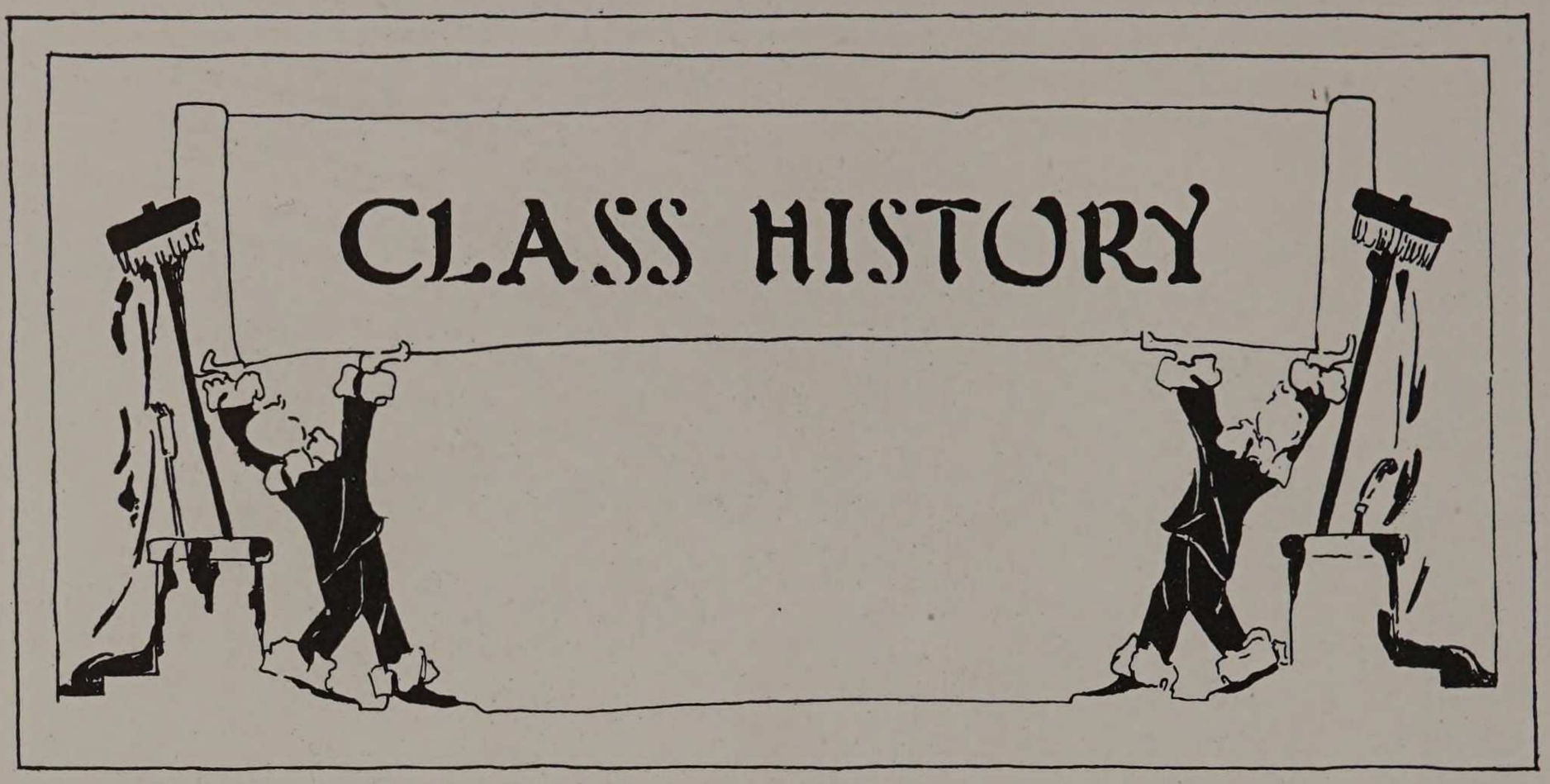
E. F. WINTER—Chairman

W. A. HEITNER
M. O. BRUECKNER

Program Committee

C. T. WALTERS—Chairman

F. E. HAYDEN
S. N. HAVLICK



HISTORY OF THE CLASS OF 1921

It seems but yesterday when we first learned to enter the Institute with hats in hand, awed by the fact that we were entering college where boys were transformed into men in a period of four years. That hot morning seemed uncomfortable then but we have since learned that it was a part of the warm reception given to all Freshmen upon entering Armour.

We were not long in becoming acquainted with all the men in the class, particularly so after attending the Freshman Handshake, where Doctor Gunsaulus gave us a talk on Armour spirit and where the respected upper classmen admitted we were a fine crowd but nevertheless Freshmen who deserved nothing more than abuse.

With the spirit of the class at its best, we organized as the class of 1921, with Bell as our president. A dance at the Hyde Park Hotel in the Spring, proved the class was there, as did our baseball team during the same year.

You will recall that the war was becoming a serious affair at the close of the year and upon entering school in the fall of 1918, we were given the privilege of enlisting in the S. A. T. C. Between childish Sergeants, Calculus and Physics, we were forced to alter our ideas of college and men. In spite of the handicaps placed on the class, elections were held and Michels was elected president and during the year he convinced us that he was a capable president as well as he was rightfully entitled to wear the three stripes which the army gave him. The dance in the Black Cat Room of the Edgewater Beach Hotel was the usual '21 style. Baseball flourished even more successfully than in our freshman year, and we upheld the dignity of the class more than ever.

The third year was our most important one at the Institute. The war being over, S. A. T. C. forgotten, and with the return of many men from former classes after service with the Government during the war, the class

was organized again, stronger than any time during its history. The following officers were elected:

E. F. Winter.....President
T. C. Sedgewick.....Vice-President
J. P. Sanger.....Secretary
F. E. Hayden.....Treasurer
G. W. Dowse.....Sergeant at Arms
R. Van Valzah.....1st Marshall
G. W. Peterson.....2nd Marshall, Chairman Soc. Comm.
E. M. Nudelman.....Athletic Rep.

Junior week was a decided success. The play, "Lucky Seventh," was written by Eeverett Quinn an old Armour man, and through his coaching it went across in fine style. The Banquet at the Aviation Club of Chicago and the Prom in the Florentine Room of the Congress Hotel were both a success as well as Circus day with the Mustache contest, field events and parade.

We had charge of the Cycle and published a book that was a credit to the class.

Athletics flourished and we had several "A" men on our teams.

This year brought us back with a determination of making it the best one ever. Officers were elected and the first dance was held at the Sherman House and it proved a success with Lyons at the wheel.

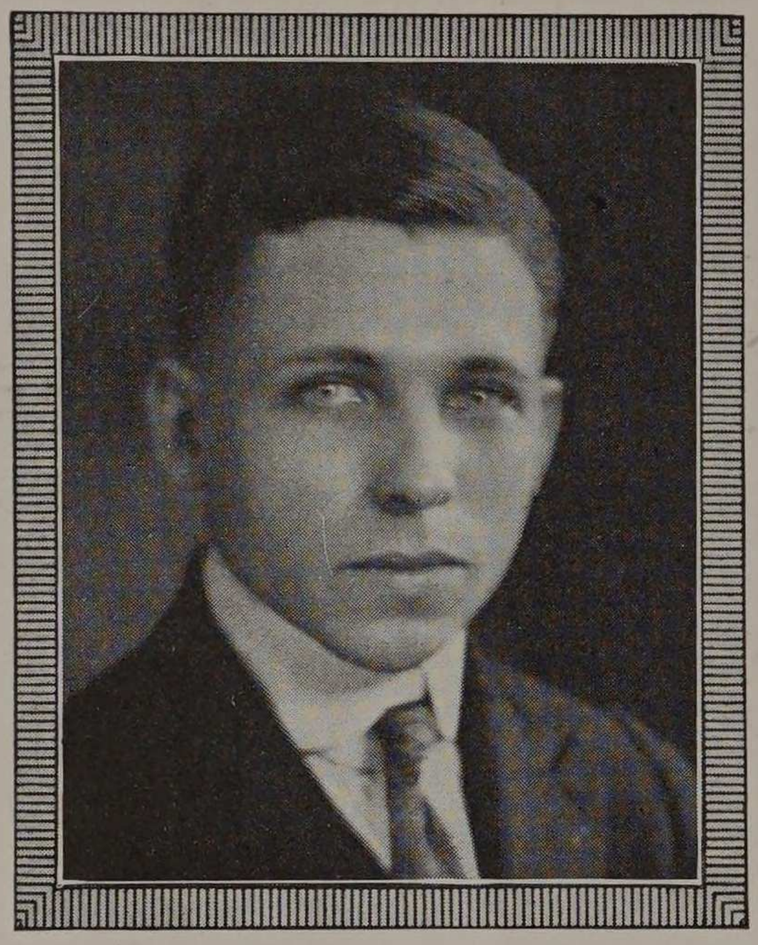
In a short time, graduation will reveal itself to us. We are on the home stretch, at the place where Freshman go out of their way to speak to us, and have therefore resolved to do our share as Alumni to reflect credit upon our Alma Mater.

We wish to thank the President, Deans and Faculty for their efforts in helping us attain the goal we set four years ago. May they think of the class of 1921 with as high esteem as we as individuals think of them.



THE SKIN HE LOVES to TOUCH
(Apologies to Woodbury)

B. S. IN M. E.



STANLEY H. BARCE

Born May 22, 1899, Chicago, Ill.
Fenger High School.
"Efficiency and Capacity Tests of a Harrington Chain Grate Stoker."
T. B. II., A. S. M. E.

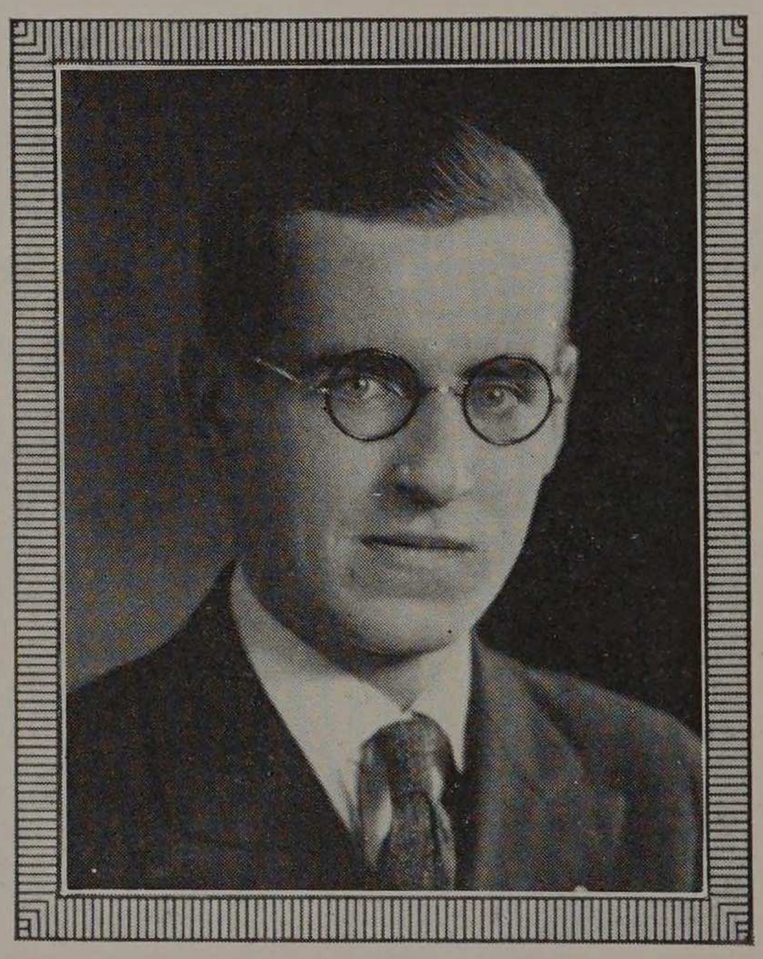
Barce is a man who speaks but few words, but one may well reckon with those which he does use. His straightforward, clean cut manner has won the respect and friendship of all who know him. A keen sense of analysis, a ready wit, and a forceful personality assure to make this man a true engineer.

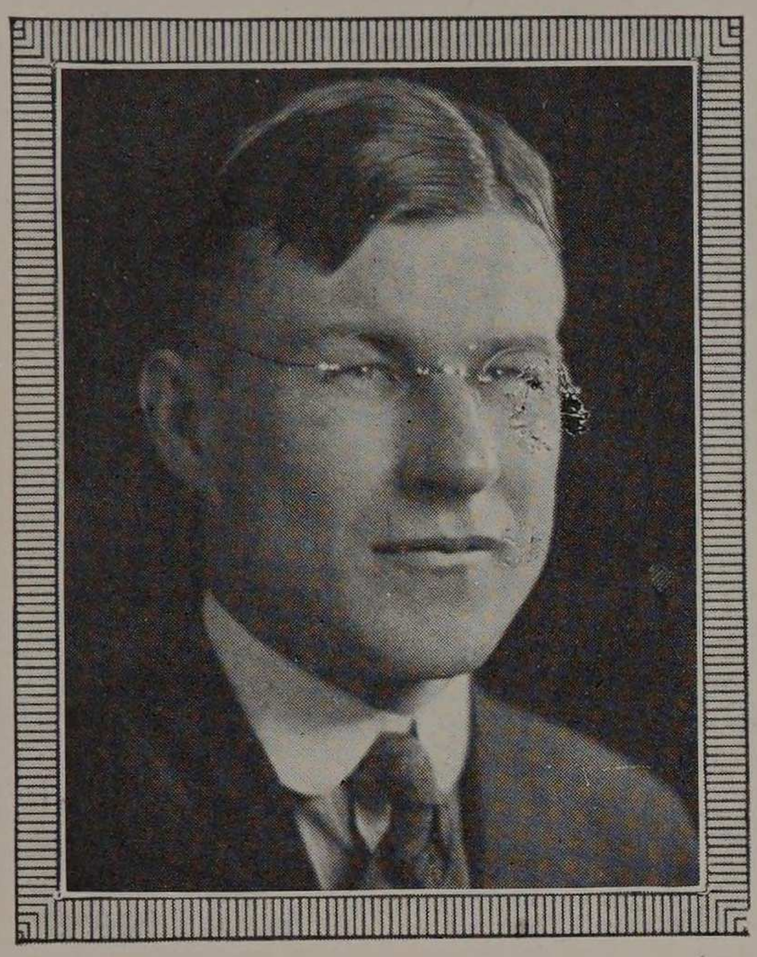
HARLAN W. BIRD

Born May 24, 1898, Chicago, Ill.
Nicholas Senn High School.
"Design of an Automatically Controlled Fuel Vaporizer Using Exhaust Gas."
A. S. M. E.

"Birdie" is our gasoline engine expert. He knows automobiles from shock absorber to "hot spot," and when he is driving his big Studebaker, he judges clearances by the fraction of an inch. Next to autos, his favorite hobby is Michigan Boulevard on a Saturday afternoon.

Harlan is a good worker, too, and this quality combined with his striking originality and disregard of precedent will stand him in good stead later.





JOHN HENRY CLOUSE

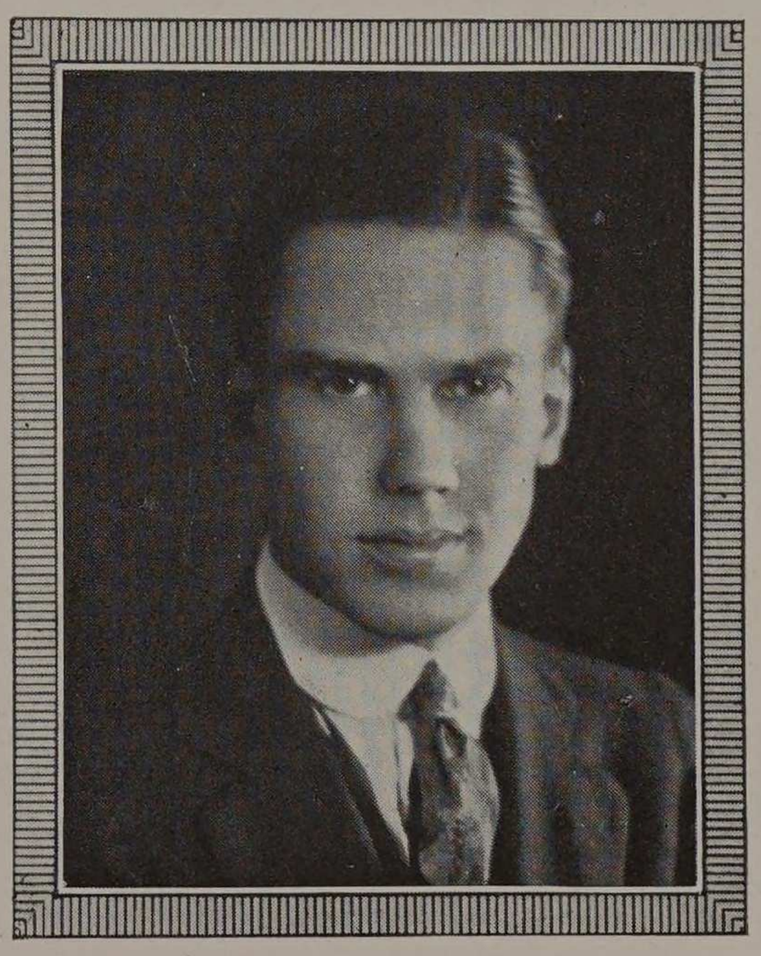
Born April 22, 1888, Junction City, Ohio.
Junction City High School.
"A Proposed Design of Steam Laboratory for the Greater Armour Institute of Technology."
A.S.M.E.

Clouse is an old hand at mechanical engineering, having had some valuable practical experience. Then, too, he was once a professor (doesn't he look it). Finally he decided to go to school some more, with the result that we have enjoyed the addition of his quiet, patient, persevering personality.

CHARLES BUSHNELL DOOLITTLE

Born January 22, 1900, Chicago, Ill.
Hyde Park High School.
"The Performance of a Harrington Forced Draft Chain Grate Stoker."
Σ. K. Δ.; A. S. M. E.

"Doo" has failed entirely to live up to Prof. Palmer's favorite interpretation of his surname. Quiet except to those who know him best, with ever ready good nature and a smile or joke for those around him, he has won himself a place in the hearts and thoughts of those with whom he comes in daily contact.





FRANK CHARLES DUENNES

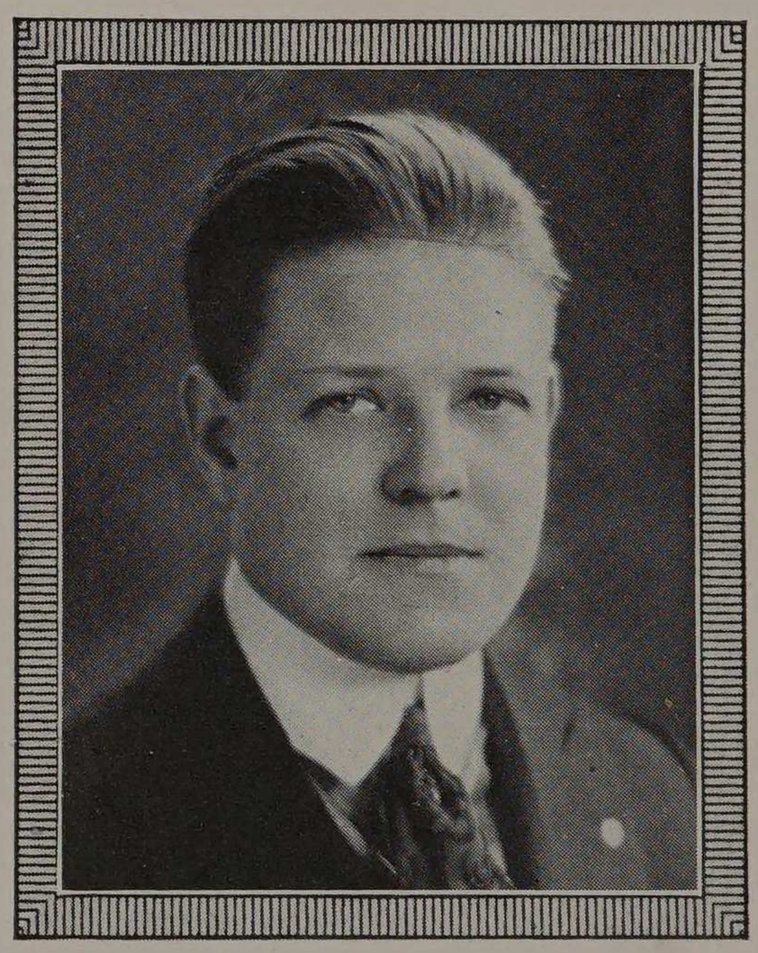
Born May 10, 1898, Chicago, Ill.
Oak Park and River Forest Township High Schools.
"A Proposed Design of the Steam Laboratory for the Greater Armour Institute of Technology."
T. B. Π.; A. S. M. E.; Glee Club.

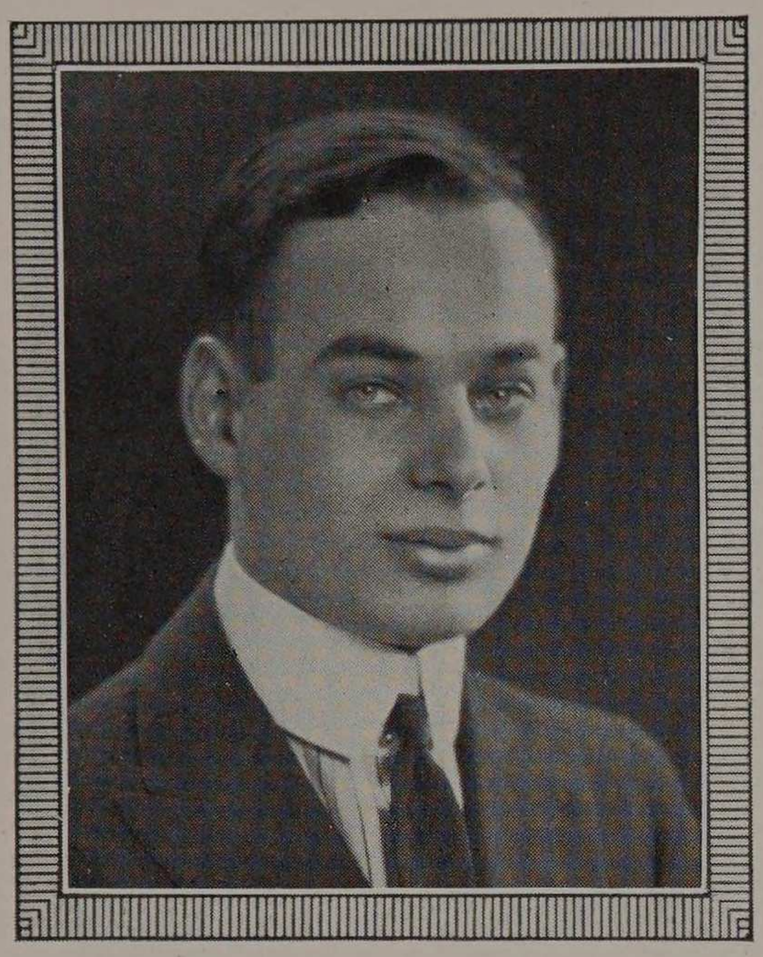
Frank is one of those quiet steady fellows whom you can always count on to do the right thing at the right time. He has made an excellent record and a host of friends while at Armour, and we know that whatever he does when he leaves college he will do well.

ARTHUR NEWBY GAIL

Born October 2, 1896.
Kenosha High School, Kenosha, Wis.
"The Representation of Automobile Engine Characteristics by Surfaces."
Σ. K. Δ.; A. S. M. E.

Art hails from Kenosha, but we refuse to hold that against him. In fact after meeting the attractive young lady that he has brought to several of our school affairs from there, we are inclined to envy him. He is a conscientious worker and while he makes little fuss about it, he is always there with the results. We have all learned to know him as a true friend and he has never failed to help us out whereever he could.





MORTON G. GROSS.

Born September 25, 1899; Chicago, Ill.
Wendell Phillips High School.

"Thermostatic Temperature Control for Gas Engine Jacket Water."

A. S. M. E.; S. A. E.

The Senior "Mechs" were not without their "infant prodigy"; for young "Mort" filled the bill. In the classroom he always sought the "why" and "wherefore" which showed his deep interest in his work.

SPENSER NEWTON HAVLICK

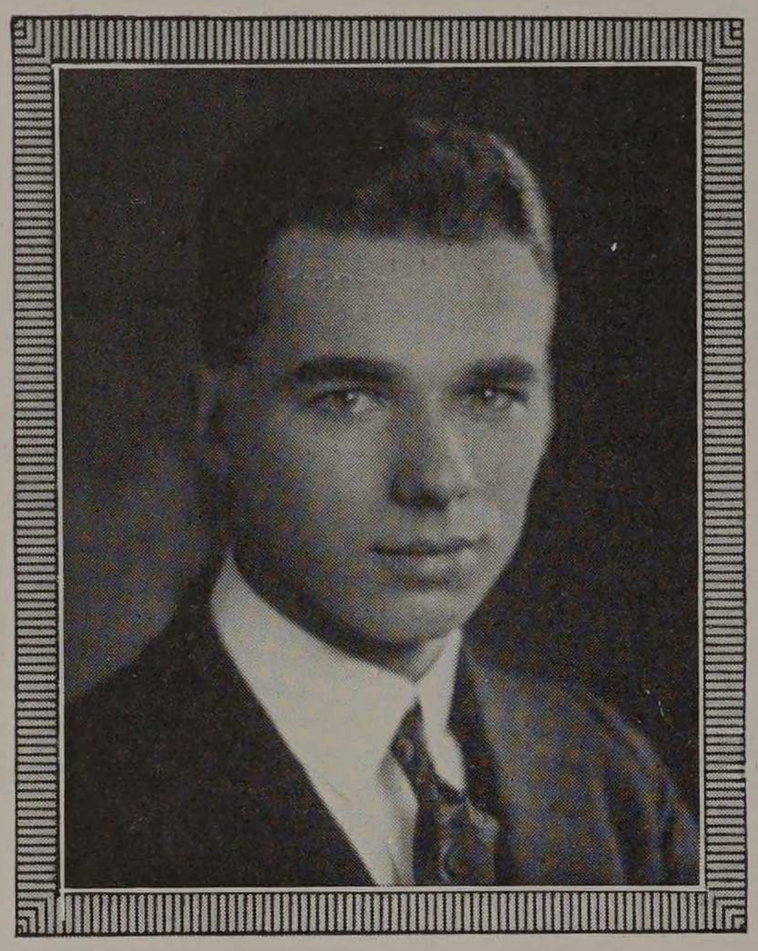
Born Feb. 8, 1897, Denver, Colorado.
North Denver High School.

"The Relative Cost of Operating Steam and Electric Locomotives for Switching on the St. Paul R. R. Industry Tracks."

T. B. Π.; Σ. K. Δ.; Sphinx; Y. M. C. A., 1916-21; Executive Secretary, 1918-19; Recording Secretary, 1919-20; A. S. M. E., Honor "A" Society; Secretary, 1920-21; Varsity Basketball, 1919-20-21, Captain, '21; Interclass Basketball, 1917-19-20-21; Interclass Baseball, 1917-19-20; Athletic Representative, '21; Class Treasurer, 1920-21; "Armour Engineer" Managing Editor, '21.

A glance at the above long list of "Spense's" achievements will show one that he has been one of the mainstays of his class. "Spense" has that rare combination of personal qualities which assure his success in everything he undertakes. His abilities as a student and as an athlete are of the highest order. His unfailing good nature, his willingness to serve, and his merry laugh, have made for him a world of friends. If he carries his college success into his worldly affairs, nothing will be beyond his reach.





WM. A. HEITNER

Born July 5, 1897, Chicago, Ill.
Tilden Technical High School.

"A Proposed Design of a Hydraulic Laboratory for the Greater A. I. T."

T. B. II., A. S. M. E. (Secretary, '21), Y. M. C. A., Asst. Class Treasurer, '21, Junior Play, Pin and Ring Committee, Cycle Staff, '20.

"Bill" is a regular fellow and has established himself as a favorite among his classmates and is a friend worth winning. He is the "Mark Twain" of the class and keeps it in good humor with his ready smile and jovial disposition. He is a true Armourite, as shown by his scholastic standing and his support of Armour activities.

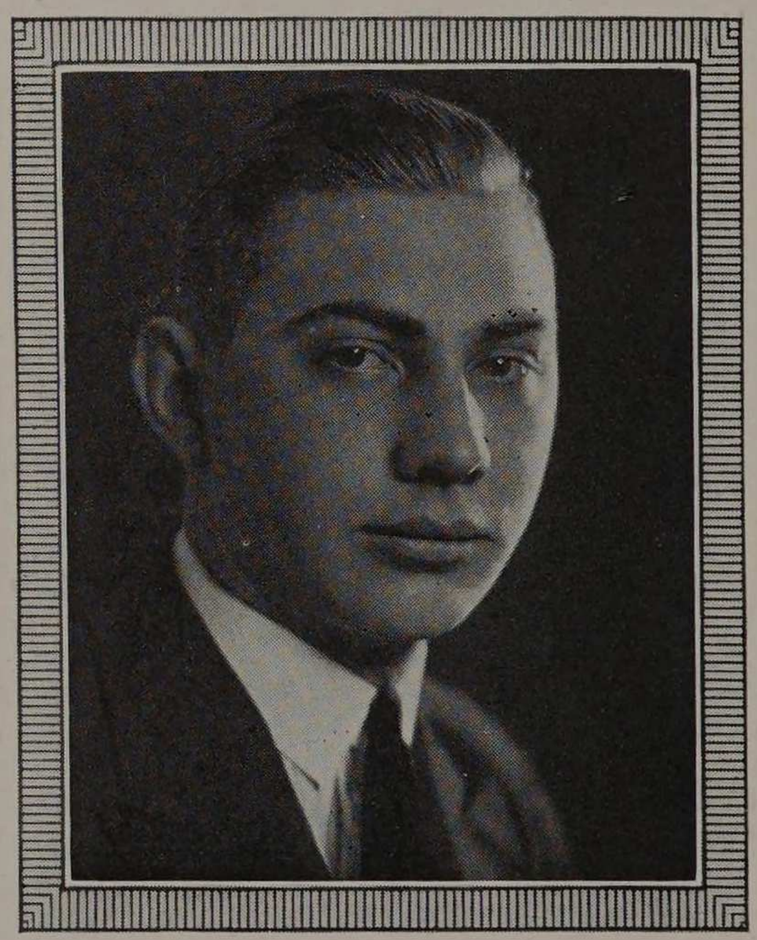
ALFRED C. HOVEN.

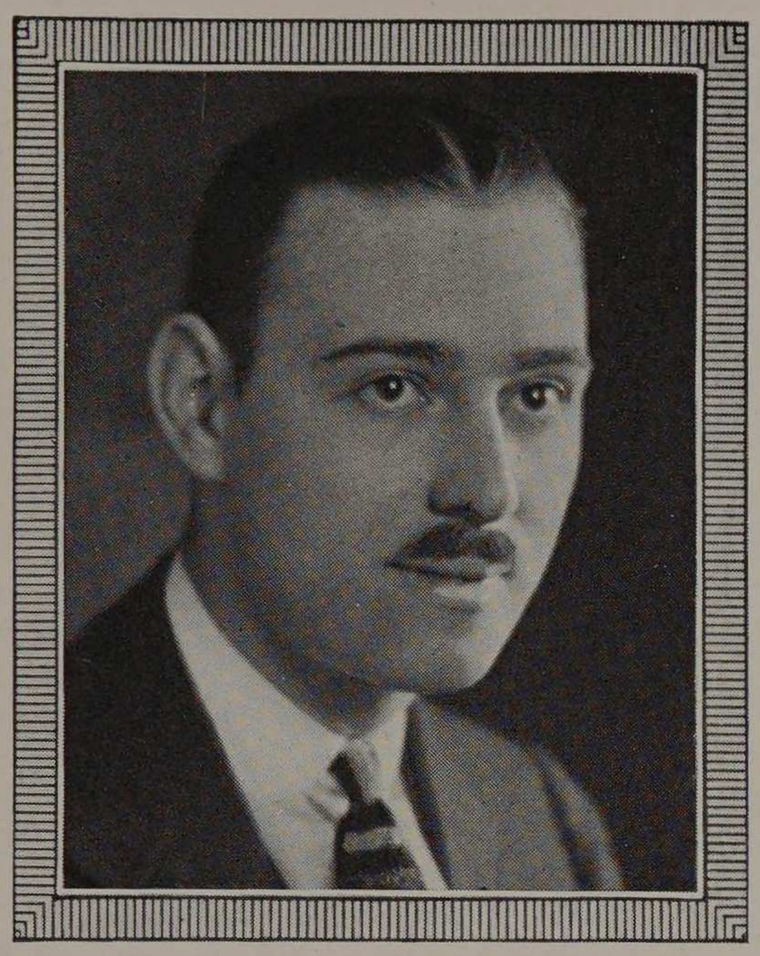
Born October 6, 1898; Chicago, Ill.
Englewood High School.

"Design of a Refrigeration Plant for the Greater A. I. T."

Σ. K. Δ.; A. S. M. E.

"Al" came back from service with the U. S. Coast Guard and made as many new friends among the present Senior class as he must have had in the one that graduated while he was away. In spite of constant exposure to the refrigeration department he has made many warm acquaintances that will last for years.





LEO S. MARANZ

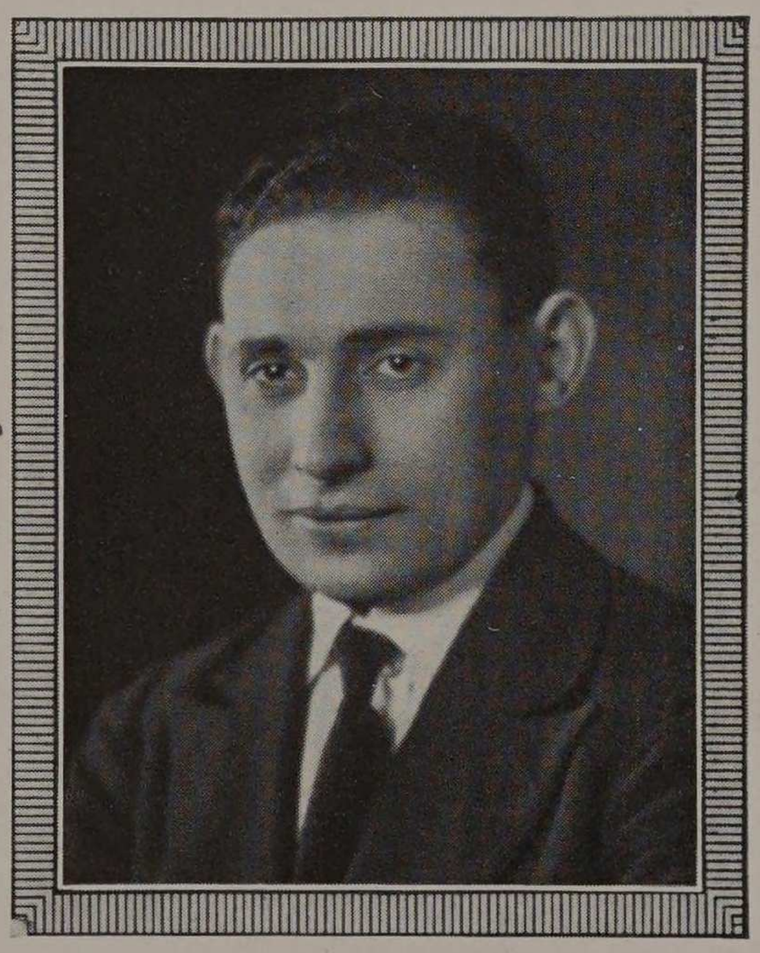
Born March 9, 1899, Chicago, Ill.
Crane Technical High School.
"Design, Construction and Operation of an Automobile Tire Shock Absorption Machine."
The Ohr; Sphinx; A. S. M. E.; Y. M. C. A.; Editor-in-Chief of the Cycle, 1920; Senior Social Committee, 1921; Class Basketball, 1919; Junior Play, 1920.

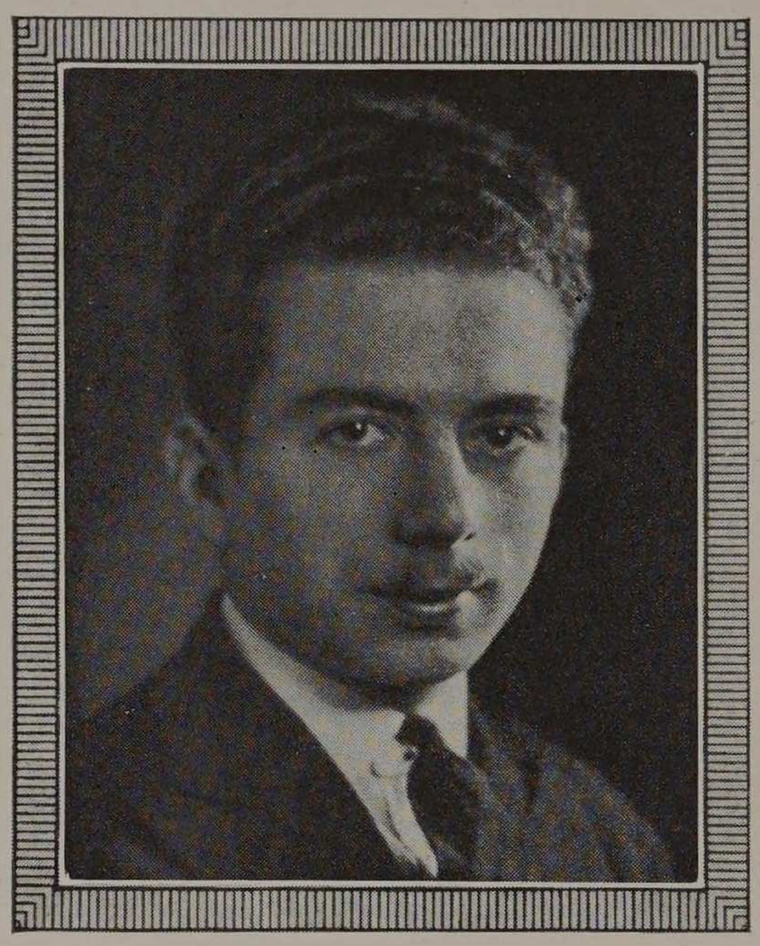
Leo, erstwhile Editor of the Cycle, is the type of student that never fails to reach the last rung in the ladder of success. His college career is marked by four years of hard work. Leo's outstanding qualities are evidenced by his willingness to assist and support in every way possible the activities of the Institute.

JULIUS M. NAIMAN

Born April 24, 1894, Russia.
Lake View High School, Central Y. M. C. A.
Mechanical and Electrical Engineering.
Design of Hyperbolic Elbow Flow Meter.
Design of Electrical Furnace Pyrometer.
A. S. M. E., A. I. E. E.

"Prof" Naiman is our authority on mathematics, electricity, flow meters and power plant control. Naiman is the first student who has completely finished both the M. E. and E. E. courses in three years. In addition, he is the inventor of our "Jazz Orn," of a steam flow meter, a pyrometer, an electrical boiler room control apparatus and a whole slough of other items. His success is assured.





LOUIS B. NEWMAN

Born April 5, 1900, New York, N. Y.

Crane Technical High School.

"Design, Construction and Operation of an Automobile Tire Shock Absorption Machine."

The Ohr; A. S. M. E.; Y. M. C. A.; Managing Editor of Cycle, 1920; Class Basketball, 1919; Junior Play, 1920.

Lou's jovial nature is the reason for his host of friends at the Institute. He has well earned the appellation of "good student." Newman played in the interclass basketball tournament, and occupied the important position as managing editor of the Cycle. He has been an interesting figure in College circles. Newman is known as the "other half" of Maranz.

WLADISLAW S. PAWLOWSKI

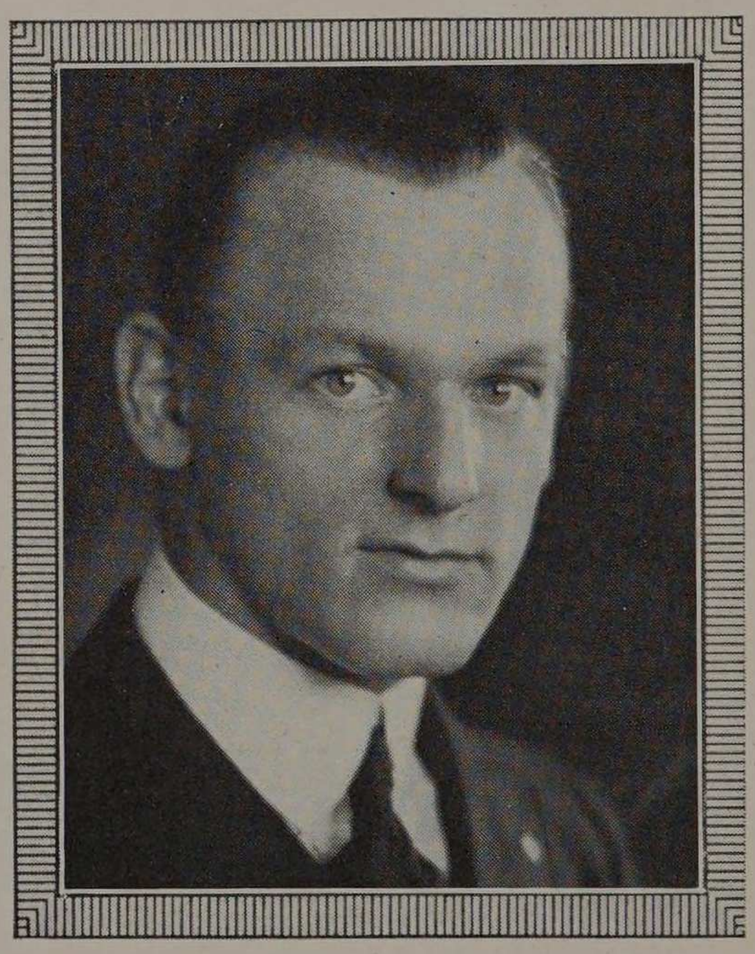
Born May 13, 1894, Chicago, Ill.

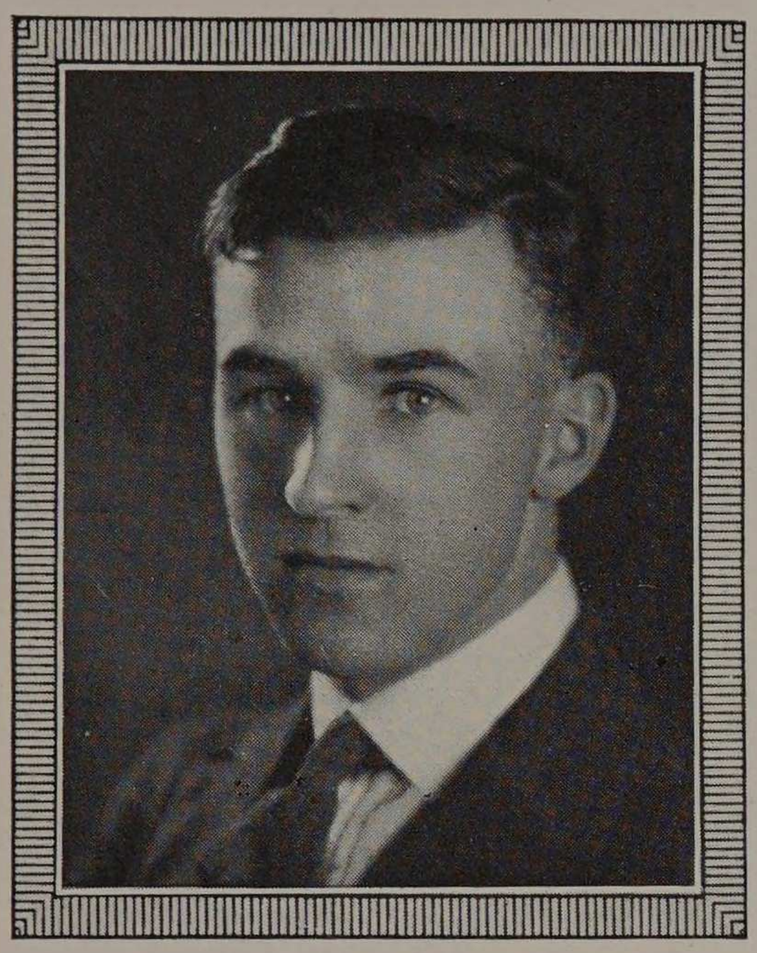
Tuley High School.

"Automatic Spark Control for Gasoline Engines."

A. S. M. E.

"Walt" is one of those fellows whose experience in the World War, and four years' Army Service has made him one of the more serious minded fellows of the class. He is a cool minded fellow and generally says what he thinks. "Walt" like a good Ex-Service man is always on deck when there's anything doing.





JOHN J. PLOCAR

Born Sept. 21, 1900, Chicago, Ill.

Carter H. Harrison High School.

"A Proposed Design of the New Hydraulic Laboratory for the Greater A. I. T."

A. S. M. E.; Varsity Baseball, 1920-21.

Johnny, the jovial, big-hearted, and somewhat boisterous athlete, is one of the most active of the Senior Mechs. If there is action anywhere on the campus or in the classrooms, one may be sure to find him present.

Johnny has the other than athletic proclivities too. Being "vurra" handsome and of stalwart build, he is most popular with the fairer sex. This ability to mix, combined with his perseverance and clear head are sure to advance him later.

FRANK D. QUINLAN

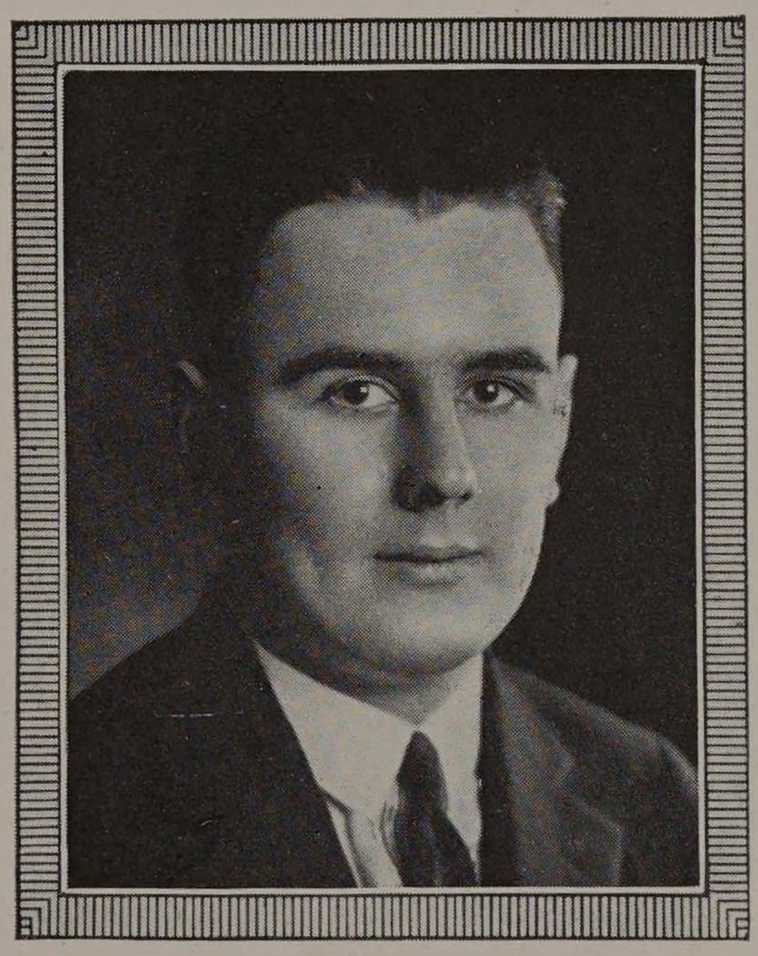
Born April 3, 1899, Chicago, Ill.

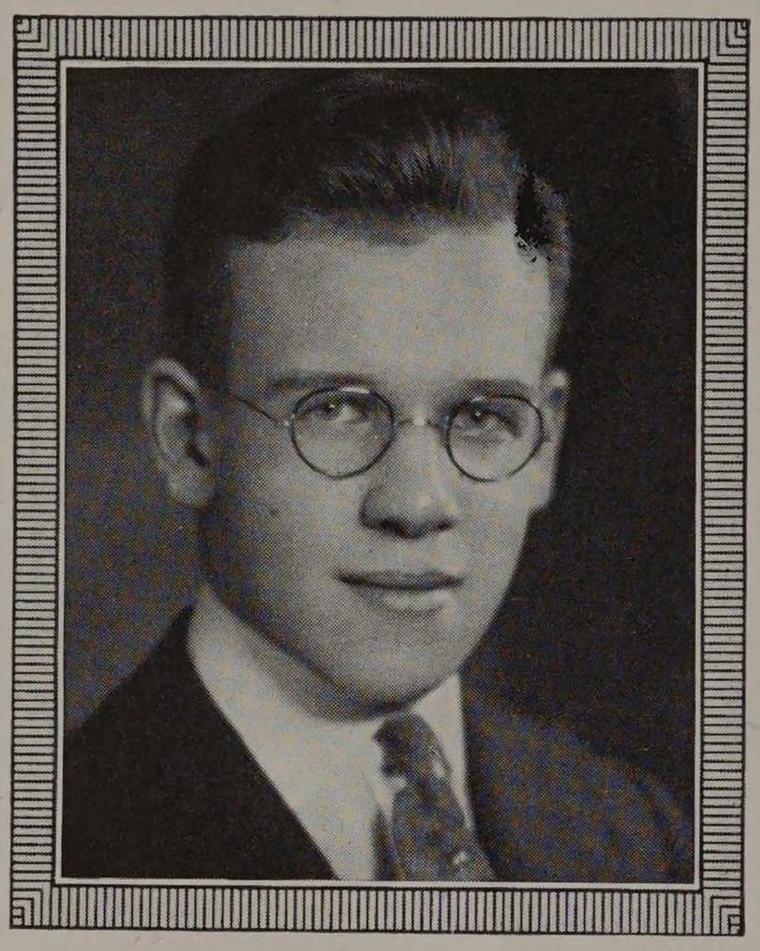
Crane Technical High School.

"Performance of a Chain Grate Harrington Stoker."

Ω. Λ.; A. S. M. E.

"Quin" is one of the best liked fellows in the class. Everyone in school knows him as he is in on everything that goes on around here. There certainly is no doubt about Quin's grit and determination. He has not only carried his school work well, but he has also held down eight hours of work every night during his four years here. It has kept him on the go to do it, but he has accomplished what he went after and has managed to find a lot of fun on the way. Quin has been too busy to have any hobbies, but he has developed a determination that will take him a long way.





JOHN POMEROY SANGER

Born April 4, 1900, Evansville, Ind.

Nicholas Senn High School, Chicago.

"The Relative Cost of Operating Steam and Electric Locomotives for Switching Purposes on the St. Paul R. R. Industry Tracks."

T. B. II.; A. S. M. E.; Sphinx; Glee Club, 1919-20; Cycle Representative, 1917-18; Secretary Sophomore and Junior Classes 1918-20; Vice-President Senior Class, 1920-21; Vice-President A. S. M. E., 1920-21; Cheer Leader Class of 1921; Local Editor 1920 "Cycle"; Editor-in-Chief "Armour Engineer," 1920-21.

John has always been among the most active men in his class. Apparently he has no special hobby, other than to succeed in all his undertakings, for his name appears in connection with practically all school activities. As a student he has always been at the top of the list, and we doubt if the Glee Club could have gotten along without him.

His winsome personality, which makes friends for him wherever he goes, and his success as an executive, as shown by his work in connection with the "Engineer," should make for him a niche in the Hall of Fame.

ALBERT JOHN STEINER

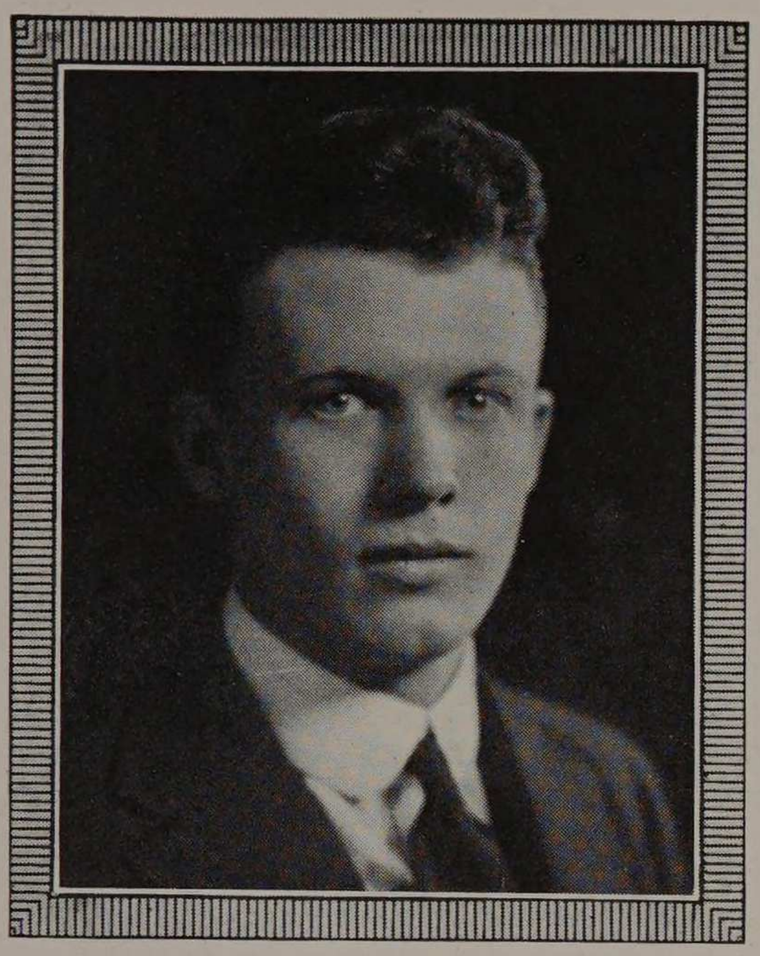
Born June 27, 1905, Hungary.

"Thermostatic Water Jacket Control of a Gas Engine."

Ohr, A. S. M. E.

Al's pleasing personality and readiness to be of service, has won for him many friends—in the true sense of the word. His industry has been proven, since, in addition to his school work, he superintends the electrical effects of Chicago's leading theatre. His ability to make minutes count, will assure his success in his chosen profession.





ROBERT W. VAN VALZAH

Born August 29, 1898, Durand, Ill.

Englewood High School.

"A Proposed Design of the Refrigeration Laboratory for the Greater A. I. T."

T. B. Π.; Σ. K. Δ.

A. S. M. E.; Jass Band; Treas. A. S. M. E.; 1st Marshall Junior Class; Interclass Baseball, '18; Interclass Basketball, '20, '21.

"Van" is the human counterpart of the turtle who ran the race with the hare. He may be a bit slow, but he always gets there.

He is one of those fellows who tackle their work in an earnest not-to-be-denied manner, and who play just as hard when it is time to play. Deliberate, steadfast, yet always ready for a frolic, "Van" is one man we are counting on to succeed.

CHARLES TAYLOR WALTER

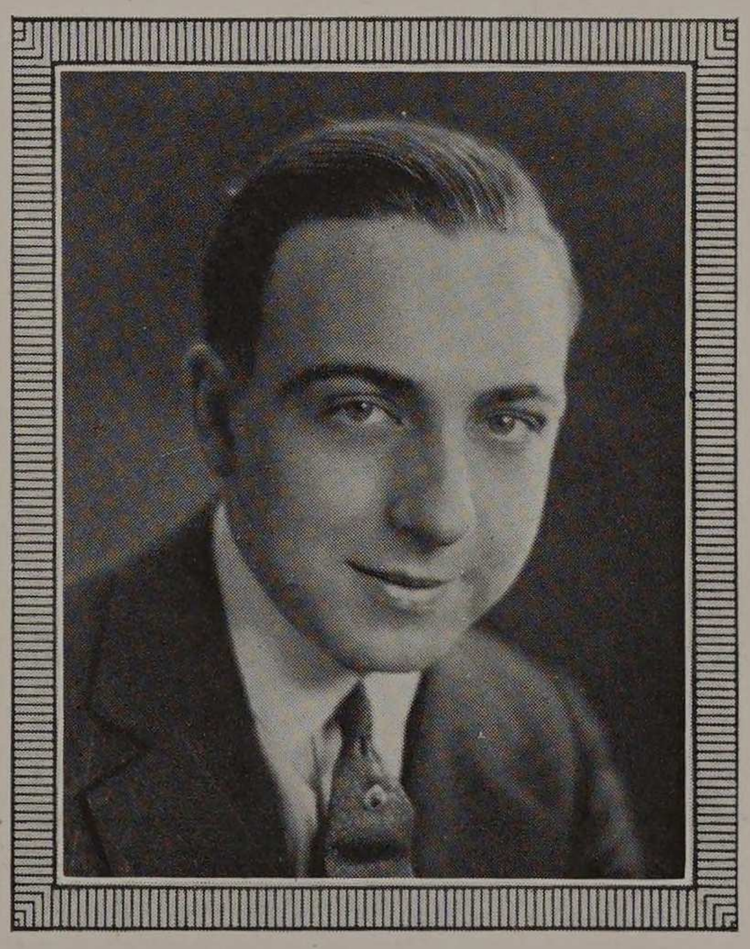
Born January 4, 1899, Omaha, Neb.

University High School, Chicago.

"The Design of the Air Testing Laboratory for the Greater Armour Institute of Technology."

Δ. T. Δ.; T. B. Π; Sphinx; Social Committee, 1917; Chairman Program Committee, 1921; Business Manager, 1920, "Cycle"; President A. S. M. E., 1920-21.

"Chick" works when he works and plays when he plays and can be relied upon to do equally well in both. He is a natural leader and one of our most active mechanicals, being interested in and a faithful supporter of all activities, ever ready with a good suggestion and a helping hand. His wide personal friendship, due to his pleasing personality and scholastic record is indicative of his standing at Armour.





SHELDON HAYWARD WEBSTER

Born October 16, 1892, Sioux Falls, S. D.

Washington High School, Sioux Falls, S. D.

"Test of a No. 300 DeLaval Oil Purifier and Clarifier."

Ω. Λ.; T. B. Π.; A. S. M. E.; Junior Play; Cap and Gown Committee.

"Webbie" is easily the most conscientious of the Senior Mechanicals. The only "pony" he knows of is the kind they raise on the Shetland Islands. Yet "Webbie" is far, far away from being a "grind." His pleasant smile, his willingness to assist, and his many activities have made him one of the best liked men of "'21." We know that his determination and his honesty will "Carry on."

BRUNO EDWARD WOLGEMUTH

Born Oct. 1, 1896, Chicago, Ill.

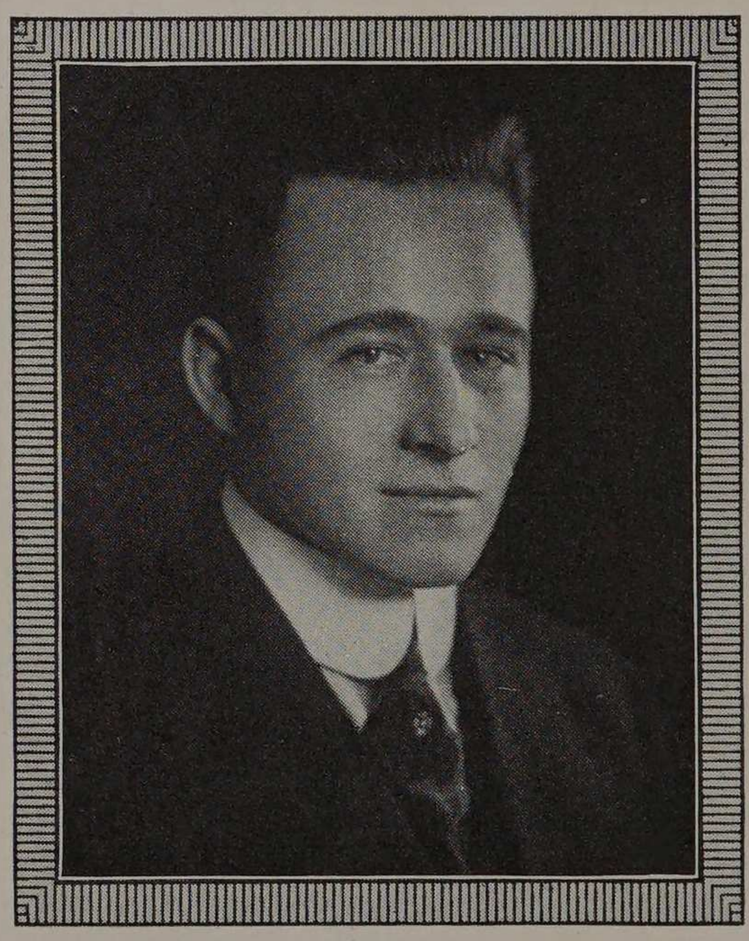
Tilden High School.

"Efficiency and capacity tests of a Harrington Chain Grate Stoker."

T. B. Π.; A. S. M. E.

Bruno is one of the older and more experienced men in the class. He entered Armour in 1915 but two years in the Great War as a lieutenant in the air service have delayed his graduation. He has seen service of another kind, too, for some four years ago he entered into a life partnership with the present Mrs. Wolgemuth.

One cannot say enough for this man, tho. Practical, aggressive, frank and of unfailing good humor, he has never been seen without his welcome smile. Even the trials and troubles of Theodore, his infant son, have failed to dishearten him. We're predicting a sunny future for this optimist.





ARTHUR W. ZEMKE

Born June 16, 1897, Chicago, Ill.

Tilden High School.

"The Flow of Heat Through Pipe Coverings."

A. S. M. E.

After being out of school for one year, Art has honored us by coming back to graduate with our class. He is our expert in "Heating Transmission Through Pipe Coverings." Although he did not mingle very much, his pleasing disposition has made him a host of friends.

B. S. IN E. E.

THOMAS LOUIS ALBEE

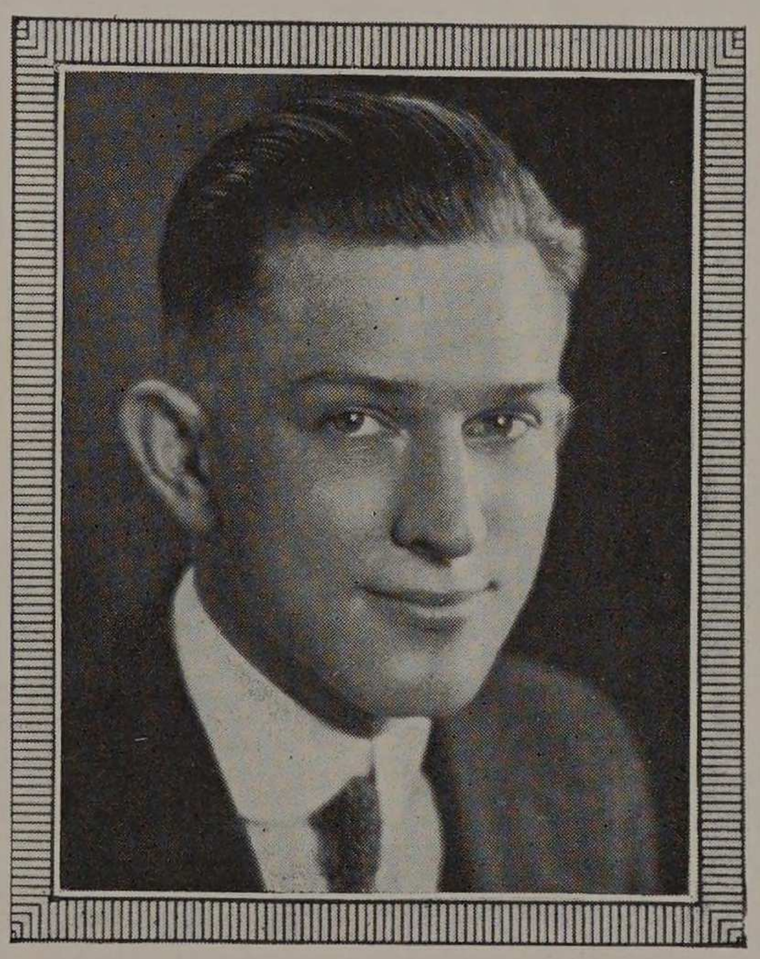
Born March 10, 1901, Bellaire, Mich.

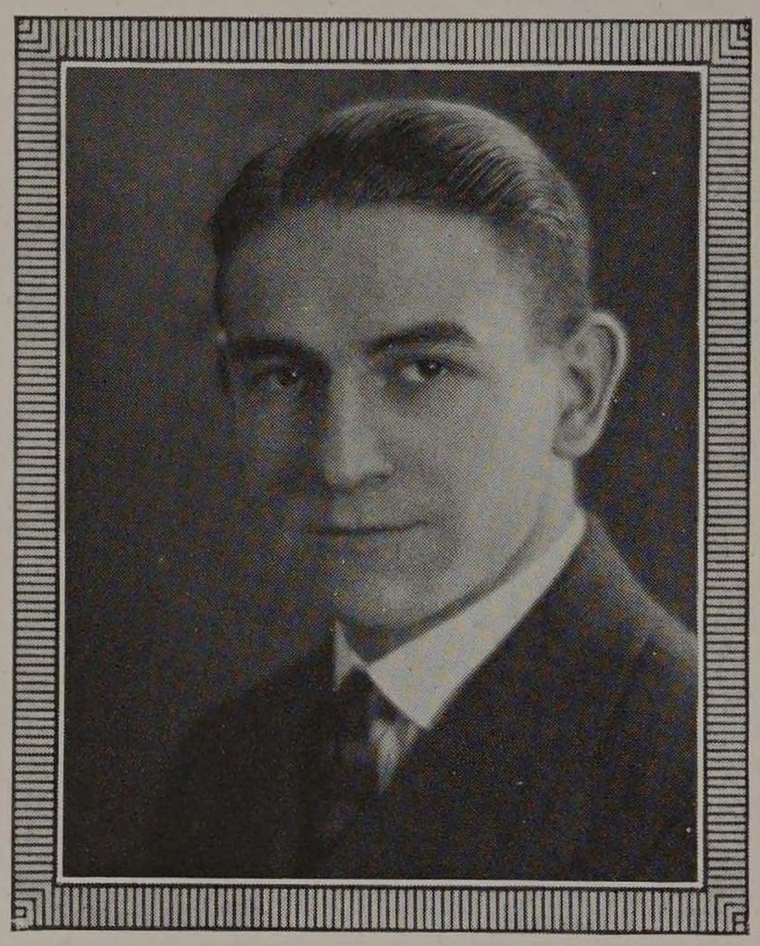
Oak Park High School, Oak Park, Ill.

"The Relative Cost of Operating Steam and Electric Locomotives for Switching purposes on the St. Paul R. R. Industry Tracks.''

B. Φ.; T. B. Π.; H. K. N.; Treas. H. K. N., 1921.

"Louie" is half the corporation of "Malwitz and Albee" which has been running for about a year and bids fair to run for quite a few years more. Besides being the leader of the Electricals as far as scholarship goes, "Louie" was treasurer of several organizations. The fact that he comes from Oak Park is the only thing we have against him. During the S. A. T. C. "Louie" was one of the few boys out of uniform because he was not old enough to be in one. We have no doubt but what he has a successful career before him.





FREDERICK BERNT ANDREW ANDERSON
Born March 21, 1899, Chicago, Ill.
Nicholas Senn High School.
"Industrial Lighting Survey of the City of Chicago."
Ω. Λ.; H. K. N.; A. I. E. E.; Glee Club, '21; Junior Play; Interclass Basketball, 1918-19-21 (Captain, '19); Varsity Baseball, 1921; Interclass Baseball, 1918-19 (Captain, '19); Class Athletic Representative, 1919.

"Andy" aside from being known as the class comedian is active in everything going on at the Institute. The way he took his part as "leading lady" in the class play will be long remembered. Those days held strenuous times for "Andy." If one can remember four years back they recall that he was a quiet unassuming chap, deeply engrossed in his studies and class athletics. Oh! how he has changed. He is now interested in anything of a social nature as well. His favorite greeting is, "Have you heard this one"?

LOUIS SIMON BLOOM
Born November 1, 1896, Russian Poland.
Tuley, 1915. Lewis Institute, 1917.
"Direct Reading Slip Meter for Induction Motors."
P. Δ. P.; A. I. E. E.; Radio Association.

If you ever want to know anything about electricity, ask Bloom, because if there is anybody who is an electrical shark, it's Bloom. He sometimes has Professor Freeman guessing when he starts to propound some new discovery or theory in electricity. Give him a chance and he will have Einstein guessing pretty soon.





CLARENCE ALBERT GRABENDIKE

Born April 15, 1898, Whitewater, Wis.
Whitewater High School.

"Over-all Economy Test on 2,000 K. W. Allis Chalmers, Turbo-Generator Unit at Armour & Company's Power Plant.''

B. Φ.; A. I. E. E.

Dicky is another little fellow full of ambition and pep. When not studying for classes he is either repairing automobiles or selling insurance. His pep and personality is sure to get success for him in whatever field he enters.

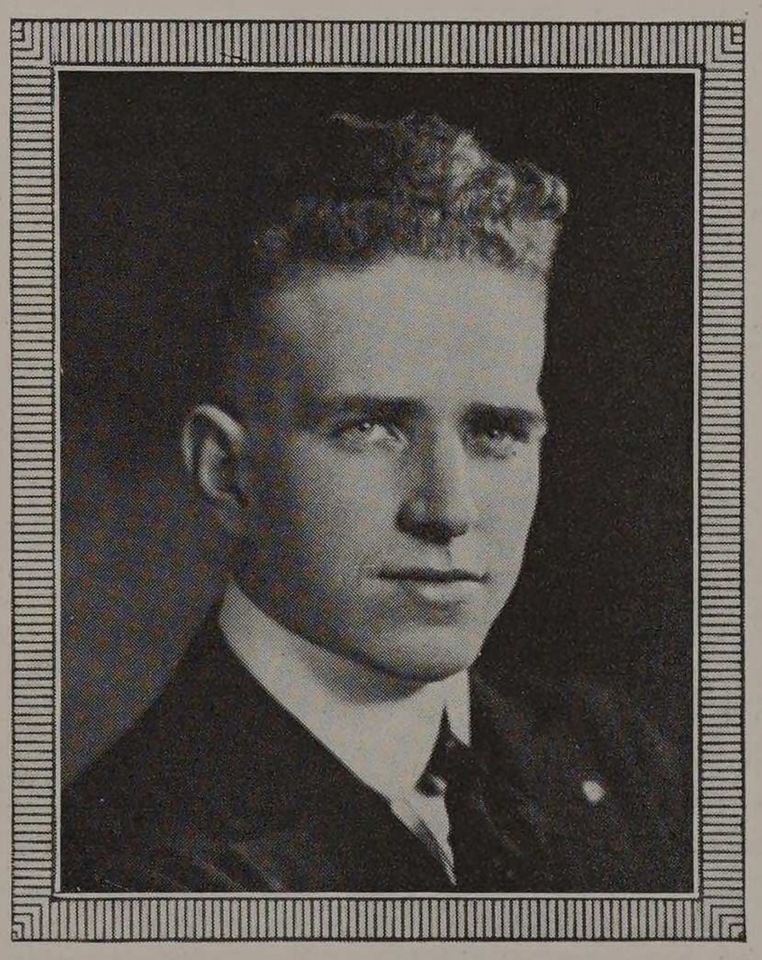
RICHARD JOSEPH GRANT

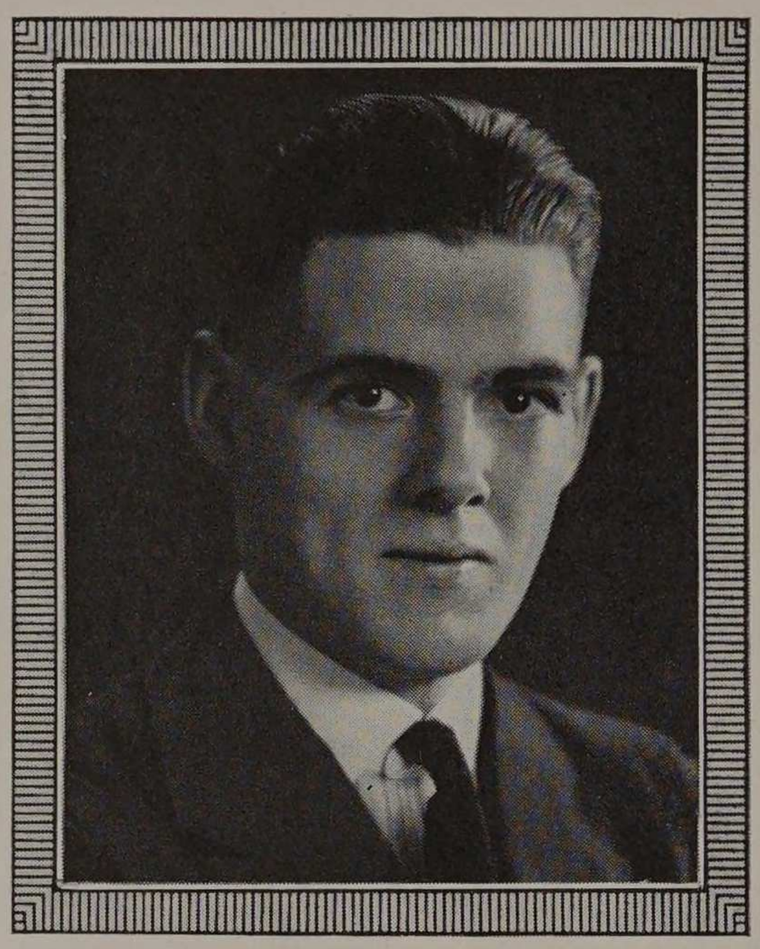
Born August 26, 1898, Chicago, Ill.
St. Ignatius Academy.

"Cost Estimate of 25,000 K. W. Power Plant."

H. K. N.; B. Φ.; A. I. E. E.; Secretary of Armour Radio Association, 1920; Junior Basketball Team, 1919-20.

Dick, as he is ordinarily known among his friends, is the boy who knows all about radio and nothing about chemistry. Aside from being one of the best liked fellows in school, he is always known to help out a friend any time he could. Nobody could help but like Dick, who was always there with his merry smile and his pleasing personality. His chief hobby is picking an argument with O'Rourke which he is always willing to do. His favorite saying is, "Fondebush." If you wish to know what it means, you will have to ask him, as he is the only one who knows.





MILTON JACOB GRILL

Born March 17, 1899. Chicago, Ill.
Carl Schurz High School.
"Design and Construction of a Magnetic Absorption Dynamometer."
H. K. N.; Φ. K. Σ.; A. I. E. E.; Glee Club.

Milt is another of those quiet unassuming chaps who can always see the practical side of everything. If you want to know anything about "Buicks" just ask Milt. Because of his easy going ways and goodness of heart he has made a lot of friends. He has a new joke to tell you every time he sees you.

FLETCHER EUGENE HAYDEN

Born August 25, 1899, Franklinville, N. Y.
"Industrial Lighting Survey of the City of Chicago, Illinois."
Ω. Λ.; H. K. N.; T. B. Π.; Corresponding Sec., Y. M. C. A.; A. I. E. E.; Class Treas., 1918-19 and 1919-20; Social Committee, 1920-21; Program Committee; Advertising Manager, 1920 "Cycle"; Business Manager, "The Armour Engineer," 1920-21.

"Fletch" is one of the few who after having been discharged from the S. A. T. C., was elected a class officer, and anyone who was ever in the service can imagine what a fine fellow he must have been to attain such a distinction. Aside from being one of the best liked fellows in school, "Fletch" was active in all school affairs, and when it came to the ladies, he was there with bells. His favorite query is, "Have you got that dollar yet?"





HARRY CHARLES KIHLSTROM

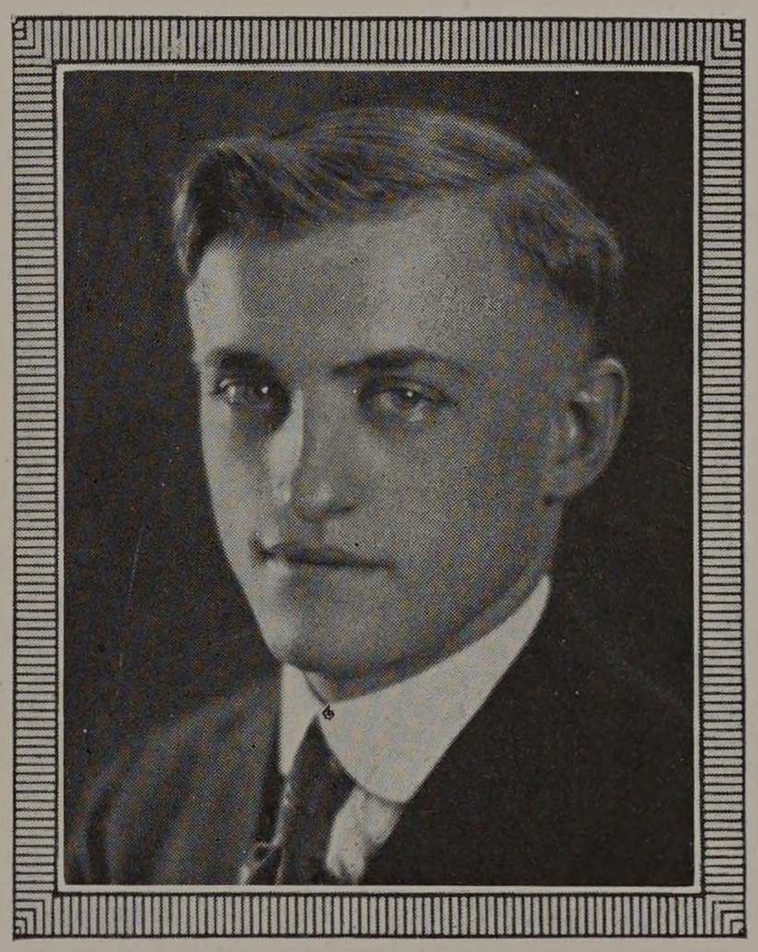
Born September 19, 1898, Chicago Heights, Illinois.
Englewood High School.
Design of a 20,000 K. V. A. Power Plant.
B. Φ.; A. I. E. E.

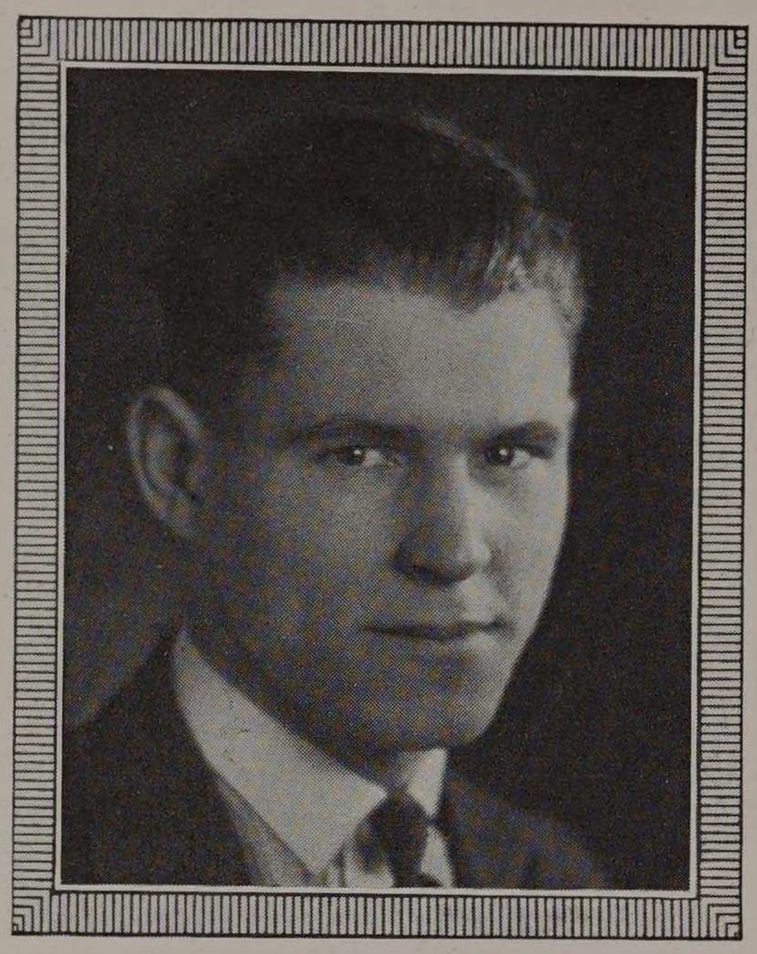
Harry is one of those quiet fellows who says little but does much. He has no special hobby, being active at all social functions. His constant cheerfulness and quiet personality will win for him success and friends in whatever field he enters.

RUDOLPH KNOTEK

Born June 3, 1899, Chicago, Ill.
Harrison Technical High School.
"Automatic Control of Electric Flat Irons."
A. I. E. E.

"Relentless" Rudolph is one of the youngest and smallest men among the electricals but what he lacks in size and years he makes up in pep and energy. He can always be seen jumping around and directing things especially when he and a few more students get together to wrestle one or more of Professor Paul's problems in Hydraulics. His activity alone will carve for him a niche in the electrical hall of fame.





RAY CLIDE MALWITZ

Born August 11, 1897, Cleveland, Wis.
Ogden High School, Ogden, Utah.
"The Relative Cost of Operating Steam and Electric Locomotives for Switching purposes on the St. Paul R. R. Industry Tracks."

B. Φ.; H. K. N.; A. I. E. E.; Junior Marshall; Secretary H. K. N.; Chairman A. I. E. E., 1921; Varsity Baseball, 1916-17.

Ray would have graduated with the class of 1919 if he had not enlisted in the Aviation at the end of his sophomore year. He returned to school after several months' service during which he attained the rank of First Lieutenant. Ray is the type of fellow who easily makes friends which probably has had much to do with his success both in school and in the army. After graduation the firm of Malwitz and Albee are going up in Wisconsin and direct the construction department of the Wisconsin Light and Power Company. We wish them all the success in the world.

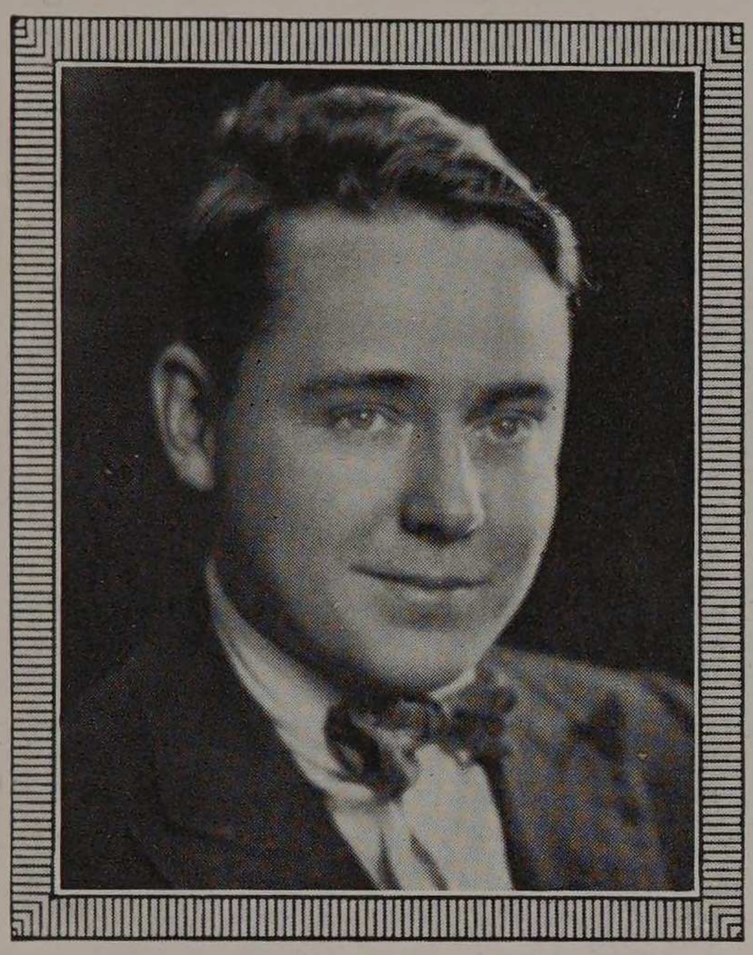
JAMES JOSEPH O'ROURKE

Born November 17, 1898, Chicago, Ill.
St. Cyril High School.
"Design of a 20,000 K. W. Power Plant."

T. B. II.; H. K. N.; A. I. E. E.; Inter-Class Baseball, 1919.

Jim has always been a general good fellow, always ready for a laugh, whether on his neighbor or on himself, always in trim for work or sport. Jim is frank and honest in his dealings but it takes a mighty clever man to catch him on a "gold brick" proposition. Jim is universally well liked and respected and bids high to become an important man in engineering circles of the future.





WILLIAM W. PEARCE

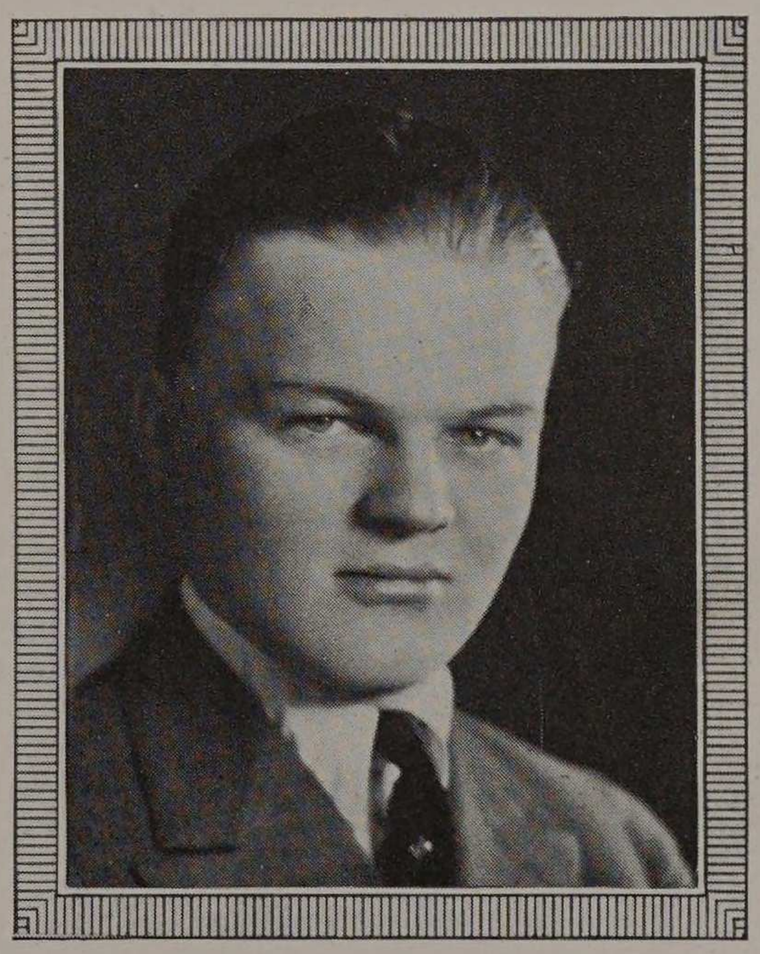
Born February 8, 1899, Waukegan, Ill.
Waukegan Township High School.
"Design and Construction of a Complete Radio Telephone Set."
H. K. N.,President, 1921; A. I. E. E., Treasurer, 1921; Radio Association.

"Bill" is known in Waukegan, as the only man in the town who knows anything about electricity. Besides being consulting engineer for an induction motor company, he is the last resort when the amateur radio enthusiasts of Waukegan find out that their wireless sets wont function. The only thing Bill does not care to do is Machine Drawing. He does everything else from washing windows in the Mess Hall to collecting dues for the A. I. E. E. We can see success written in big letters for Bill for his pleasing personality could not bring him less.

DELMAR LLOYD ROSENDAL

Born March 31, 1900, Chicago, Ill.
Carl Schurz High School.
"Design and Construction of a Radio Telephone Set."
T. B. Π.; H. K. N.; Ω. Λ.; A. I. E. E.; Interclass Basketball, 1918-19-21.

Rosie has that rare ability of combining athletic, social and scholastic activities and has made an enviable record at Armour. He could not easily have done otherwise with his ever ready smile and ability to make friends. His favorite occupation is playing a trombone while sitting on the business end of an induction coil. His favorite expression is, "Say, Guy, look out."





HERBERT F. SCHRIEBER

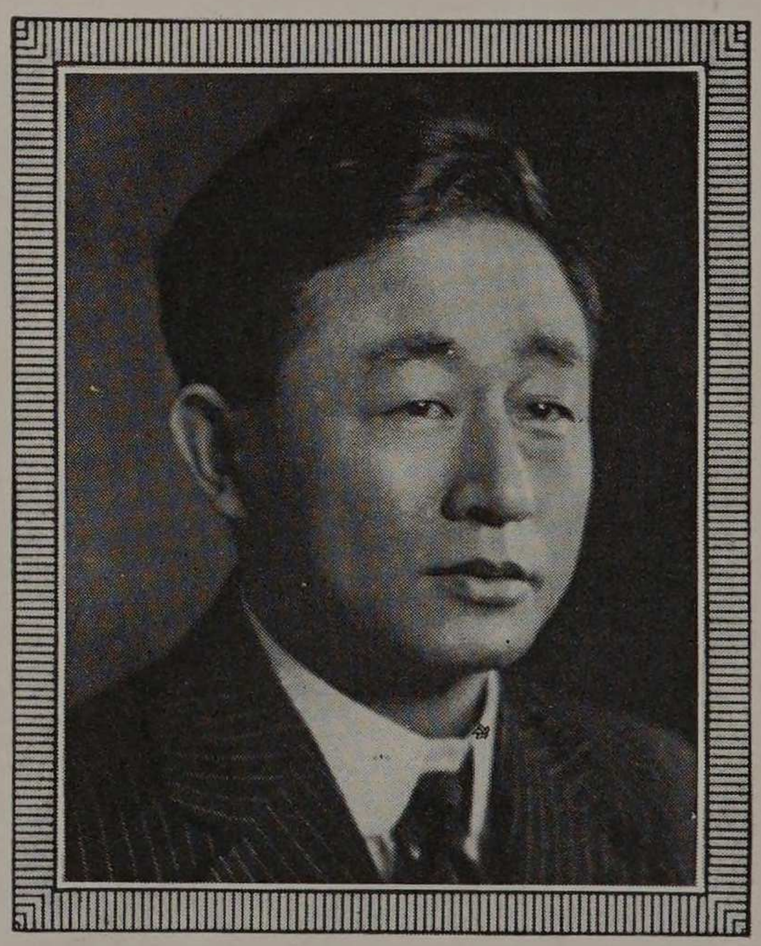
Born April 1, 1895, Elmhurst, Illinois.
Elmhurst High School.
"Design and Construction of a Magnetic Absorption Dynamometer."
H. K. N.; A. I. E. E.

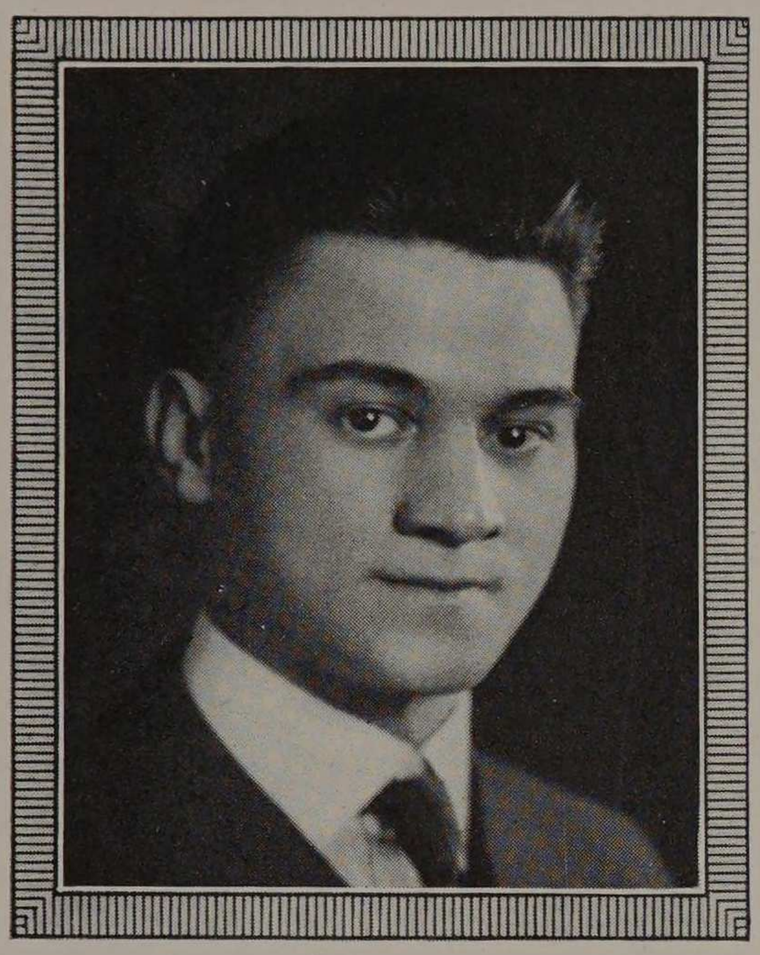
Herbert is one of the few who have courage to travel out to Elmhurst and back every day. He knows by this time every girl who rides the Northwestern between Wheaton and Oak Park. Herbert would have graduated two years ago if he did not take time to help run the A. E. F. for several months.

DAVID K. MURAMOTO

Born July 4, 1888, Yamaguchi, Ken, Japan.
Parks Commercial School, Denver, Colo., and Y. M. C. A. Day School, Chicago.
"Commercial Illumination."

Another one of your Japanese friends who is returning to the land of the rising sun to show the Nipponese how to illuminate their houses after the sun goes down.



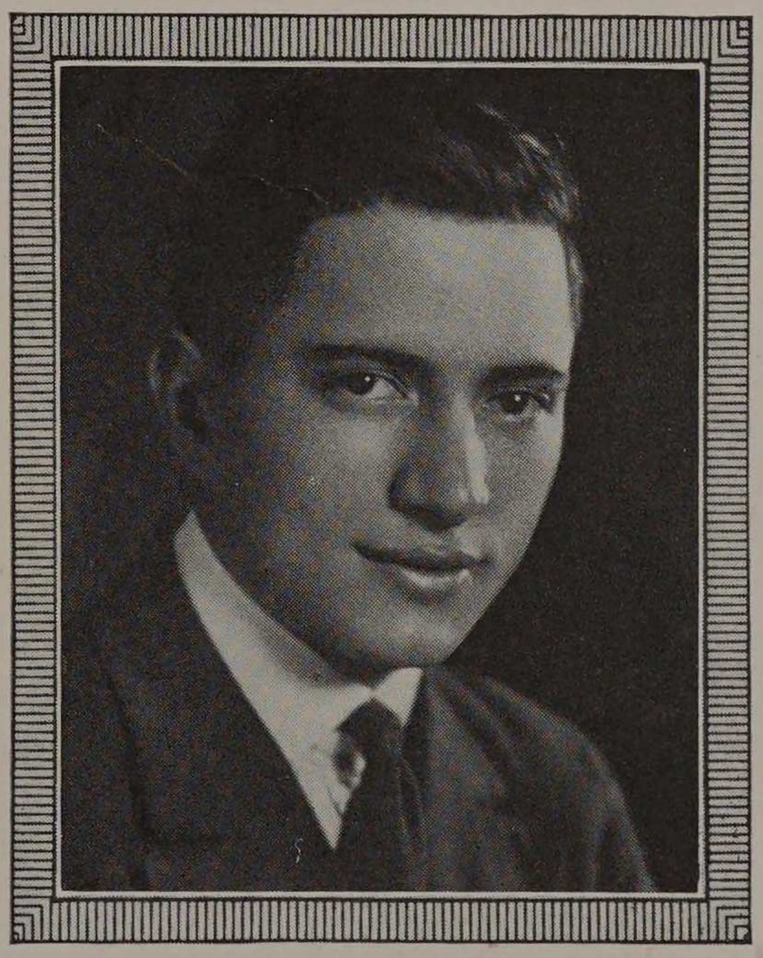


GEORGE JOSEPH ZAHROBSKY

Born January 23, 1897, Chicago, Ill.
Medill High School and Crane Junior College.
Design of a Direct Reading Slip Meter.
A. I. E. E.

Zahrobsky is another one of our Crane men who left Crane to enter the Navy and left the Navy to enter Armour. When not otherwise employed he helps run a butcher shop out on Hoyne Avenue.

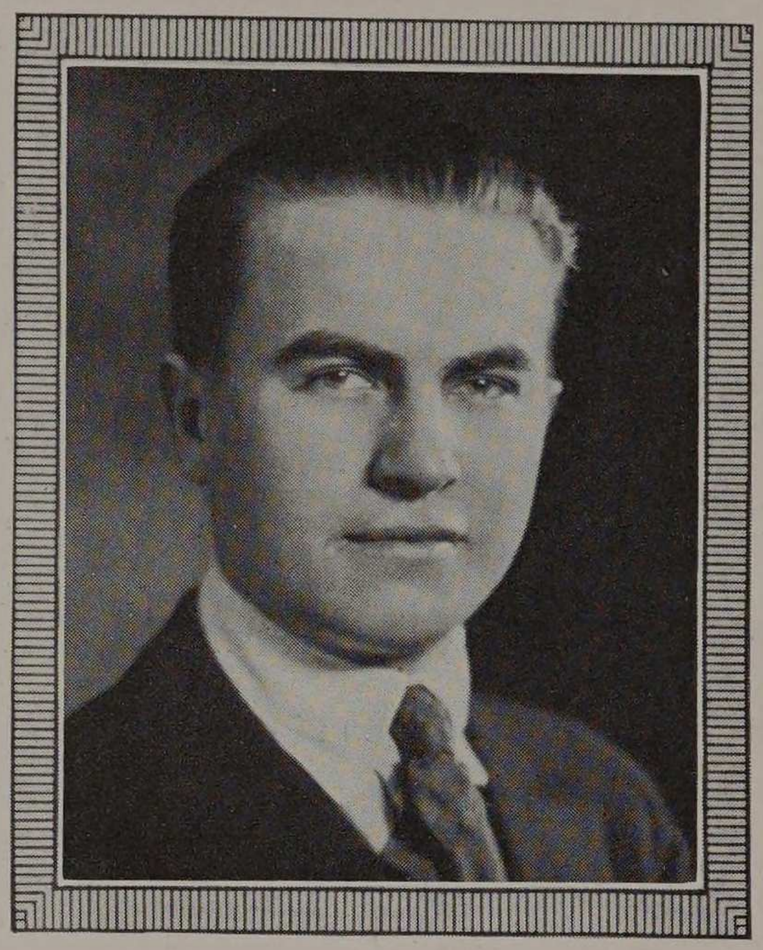
B. S. IN C. E.



ABRAHAM APPELBAUM

Born April 20, 1899, Chicago, Ill.
Crane Technical High School.
"Secondary Stresses in a 112 foot Railroad Truss."
P. Δ. P.; Western Society of Engineers.

Everyone knows him as "Apples," but these came from Crane. He can figure stresses better than any other of the civils and is always on the job. Sometimes he does a little more than his own share of the job.



SIDNEY J. BURKE

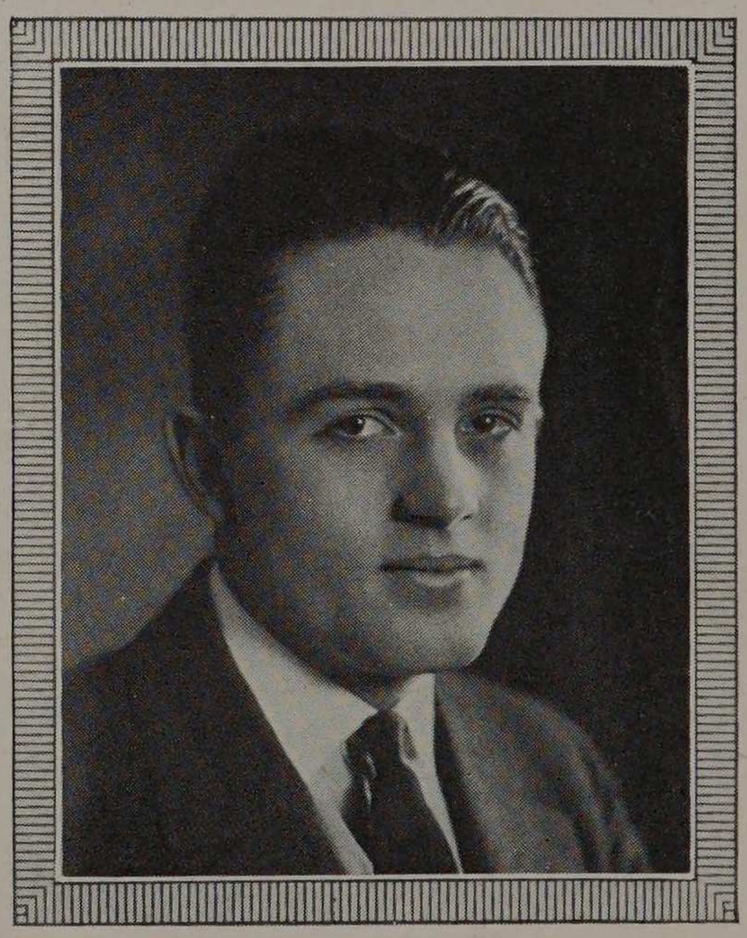
Born February 8, 1898; Chicago, Ill.
St. Phillips High School.
"Design of a Reinforced Concrete Chimney."
W. S. E.; Interclass Baseball, 1919.

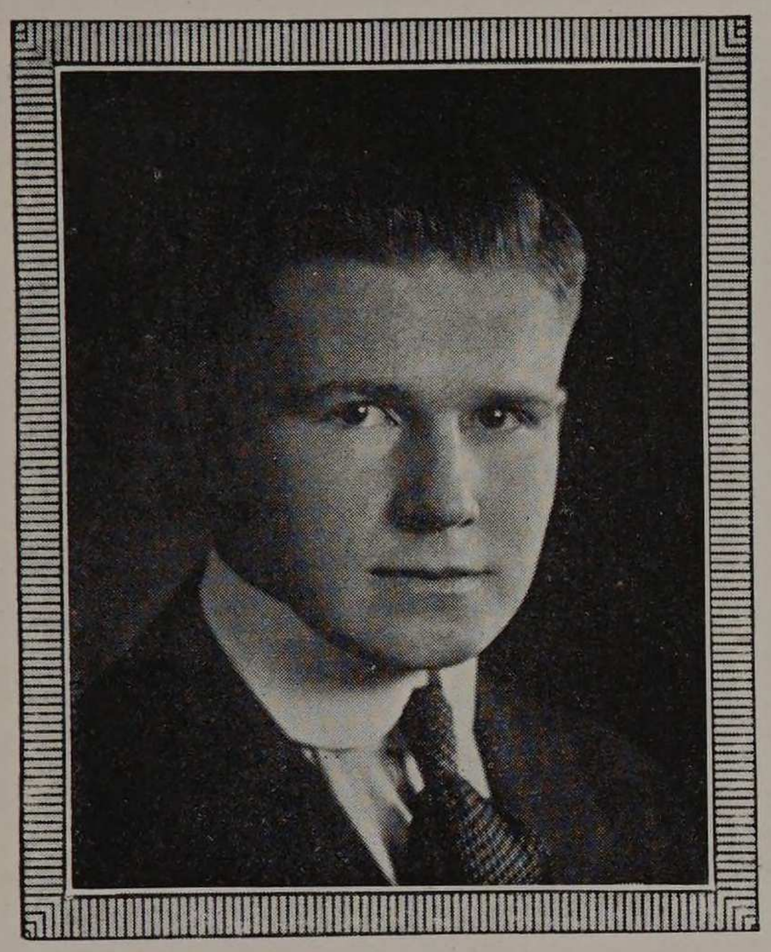
Here is another Civil who spent ninety-five per cent of his time in the Armour Mission. In his last year at school Burke represented an express man with his large number of books under his arm. We don't know the reason why this state of affairs should have existed, but we have our suspicions.

DERWOOD S. CHASE

Born January 13, 1897.
Washington High School, Sioux Falls, S. D.
"Re-design of Badger Basket Factory including a change from steam to electrical power."
Ω. Λ., T. B. Π. Pres. Senior Class; Class Track Team; Junior Play 1920; Social Committee 1916-17; W. S. E.; A. I. E. E.

Derwood came to Armour seven years ago. Both before and after the war he established for himself an enviable scholastic record. So aside from the fact that he came back with more true Armour spirit he was none the worse off because of his interrupted college course. His spirit and popularity were attested to when the class of twenty-one chose him as their president.





GEORGE C. KUMBERA

Born June 2, 1898, Kewanee Co., Wis.
Algoma High School, Algoma, Wis.

"Design of a Sand and Gravel Washing Plant."

B. Φ.; H. K. N.; W. S. E., A. I. E. E.

George, better known as "Swede," is one of Armour Institute's best known and most efficient "fussers." One of the easiest ways to get a girl for a dance is to ask "Swede." His favorite expression is "Gimme a light." Otherwise he is a real fellow, and if he doesn't make a railroad president in a few years we will have missed our guess.

WILLIAM K. LYON, JR.

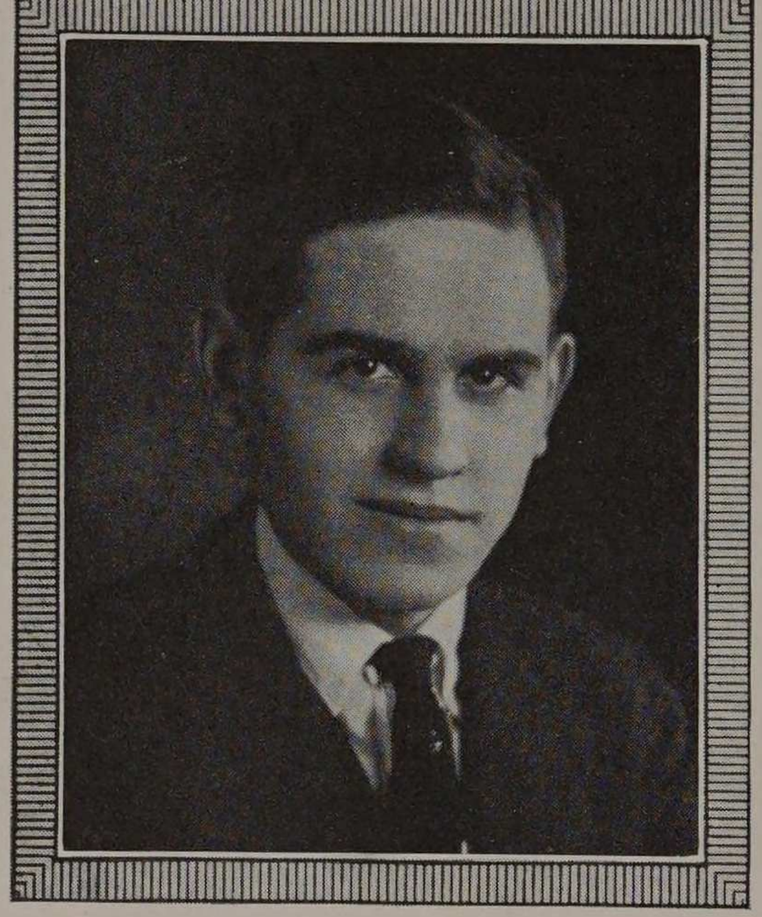
Born June 20, 1900; Chicago, Ill.
Wendell Phillips High School.

"Design and Construction of the Amburson Dam."

Δ. T. Δ.; W. S. E., 1919 and 1920; Secretary W. S. E., 1920; Junior Play, 1920; Chairman Social Committee, '21; Senior Picture Committee, '21; Championship Inter-class Basketball Team, '20; Interclass Baseball, '17, '19, '20; Interclass Basketball, '19, '20, '21.

"Bill" certainly did come down the home stretch at a fast clip. He finished up his work in grand style and still found time to arrange for the Senior Class Dance. He has a pleasing personality hence his many friends. If "Bill" should not succeed as a C. E. (tho we feel he will), he could resort to his friends or run dances.





HERBERT A. MANN

Born June 8, 1899, Chicago, Ill.
Lane Technical High School.

"A History of the Development of the Suspension Bridge Cable."

W. S. E.

Here is a real Armour student and more, he is all that his name implies, a real man through and through. He has always been willing to help his fellow students.

EUGENE M. MATSON

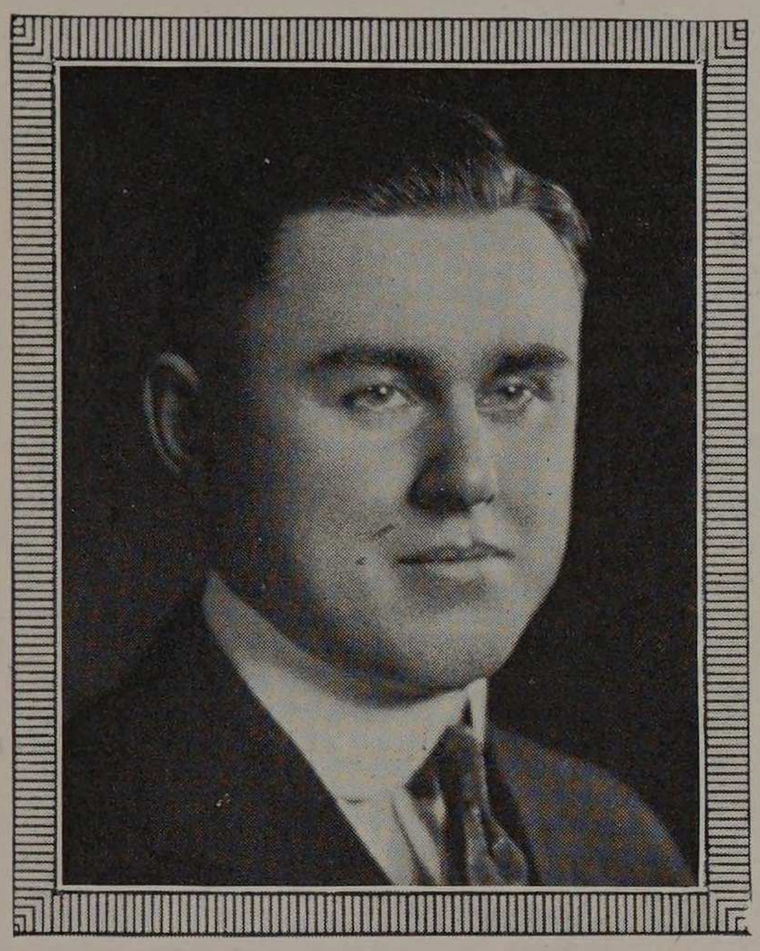
Born October 12, 1896, Chicago, Ill.
Lake View High School.

"Adaptibility of Reinforced Concrete Oil Storage, and Design of a Reinforced Concrete Oil Storage Tank."

Φ. K. Σ.; Class Treasurer, 1916-17.

"Matty" is one of those clean cut men that makes one feel sure that he will accomplish things. In fact he has. His activities in class affairs leave no doubt of his future success. At summer camp we believe he had something to do with a controversy between a worthy senior and a skunk. He is a great traveller; in fact we all have an idea why he goes from Ravenswood to Normal Park every Thursday night. He is also inventor of the expression "Gimme a match."





EDWARD MUNDT

Born May 15, 1897; Lloyd, Mont.
Bhinook High School, Bhinook, Mont.

"Design of a Sand and Gravel Washing Plant."

B. Φ.; W. S. E.

A typical Westerner from Montana is Mundt. He is a man of few words, only believing in speaking when words count. His hobby was Civil Engineering first, last and always. Whenever he was seen walking with his head bent we knew his mind was out in Montana.

GEORGE W. PETERSON.

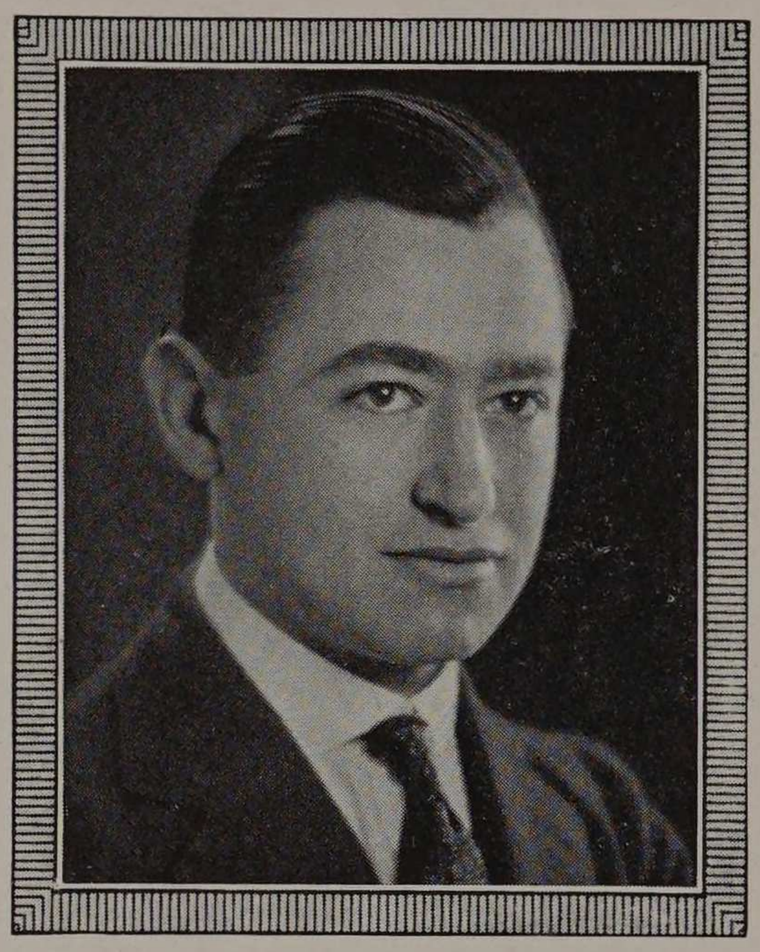
Born June 14, 1899; Omaha, Neb.
Central High School, Omaha, Neb.

"Design of a Reinforced Concrete Dam."

Ω. Λ.; W. S. E., '19, '20, '21; Treasurer W. S. E., '20 and '21; Chairman Y. M. C. A., '18; Social Committee, '18; Chairman Social Committee, '19; General Manager Junior Play, '20; 2nd Marshall Junior Week, '20; Chairman Senior Picture Committee.

Slow and easy going "Pete" was one of the most active students, and politicians of his class. Besides running the Junior play he arranged a few good dances for his class during the Junior year. He founded the "Royal Order of Iron Pants" after discovering a sale on corderoy trousers.





ROY M. SINGER

Born September 14, 1897, Chicago.
Carl Schurz High School.
"The Effect of Quantity of Mixing Water on the Strength of Various Portland Cement Mortars."
B. Φ.; Western Society of Engineers; Y. M. C. A.; Secretary Freshman Class; Junior Play; President W. S. E.; Instructor Summer Camp, 1920; Senior Class Picture Committee.

Roy is a born engineer. He is bound to succeed when he steps out to face the battles of life because while with us he has shown himself to be very conscientious about everything he does. Should you ever want anything done in his line and done right, ask Roy about it.

B. S. IN CH. E.

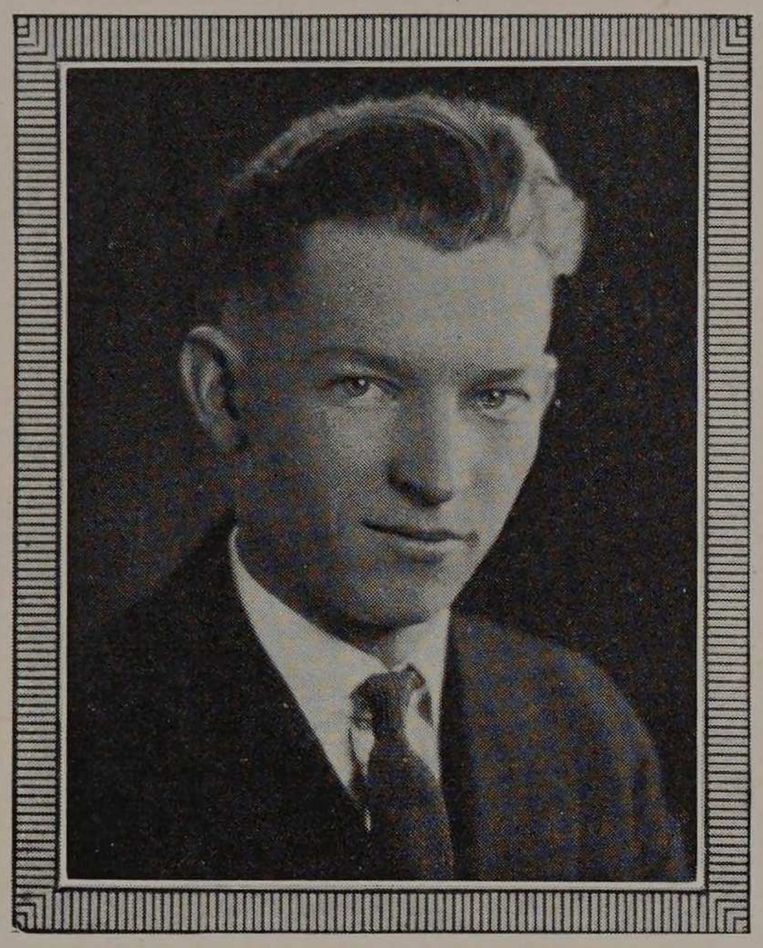
HARRY WILLIAM AHLBECK

Born May 6, 1897, Chicago, Ill.
Evanston Township High School.
"Formation and Properties of Meta-Benzene Disulphonic Acid."
T. B. Π.; Φ. Λ. Υ.; Honor "A" Society; A. Ch. E. S.; American Chemical Society; Varsity Basketball, 1919-20, 1920-21.
Vice-President Honor "A" Society, 1920-21. Treasurer A. Ch. E. S., 1920-21.

Harry was an all-around star among the senior chemicals, being among the first in scholarship as well as one of the mainstays of the basketball team. Whereas some chemicals do two years' work in three, Harry demonstrated how three could be done in two.

His studies were sometimes the least of his worries, especially when a good trouncing in basketball loomed forth. His name nearly always appeared in the writeup as well as the lineup, and there was a reason.





WALTER JOSEPH ANDERSON

Born January 13, 1896, Chicago, Ill.
Lane Technical High School, 1914.
"Heat Transmission in Cooler Coils."
T. B. Π.; Φ. Λ. Υ.; A. Ch. E. S.

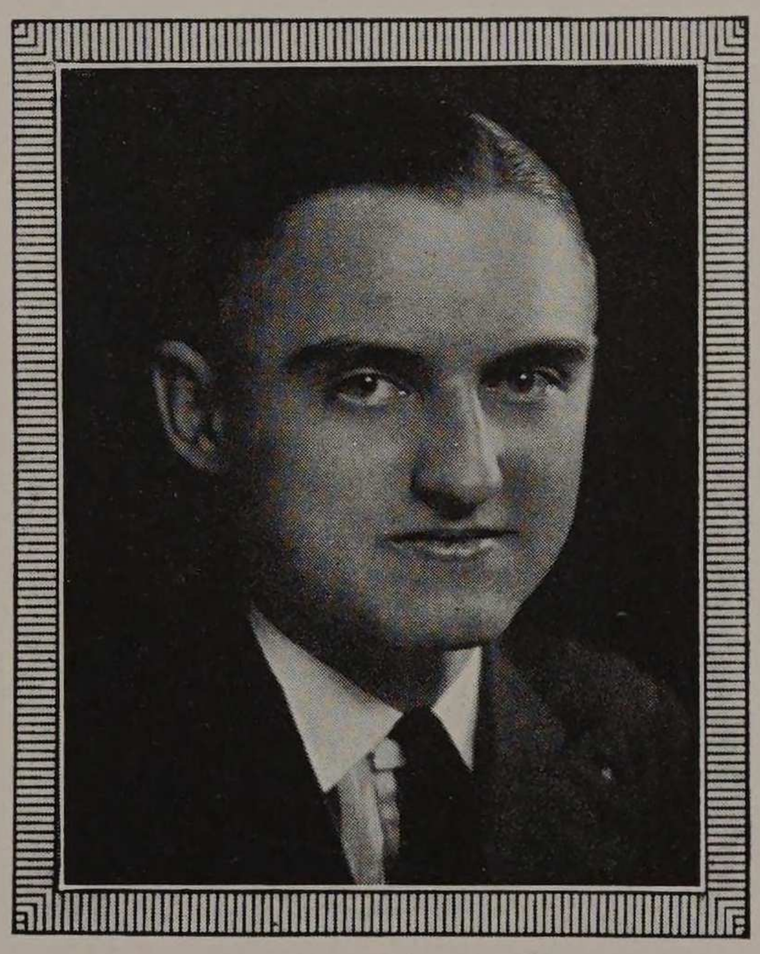
"Andy" came back from the war still full of ambition and finished school in fine form. Probably the service affected him slightly by making it difficult to get up without a bugle call and therefore his ten-thirties were sometimes a drudgerv. After his arrival at school he was always wide awake and doing things, and did not take his sleep as others were wont to do. His long list of friends was only limited by his acquaintances. Wherever Andy was there was plenty of life and never a grouch.

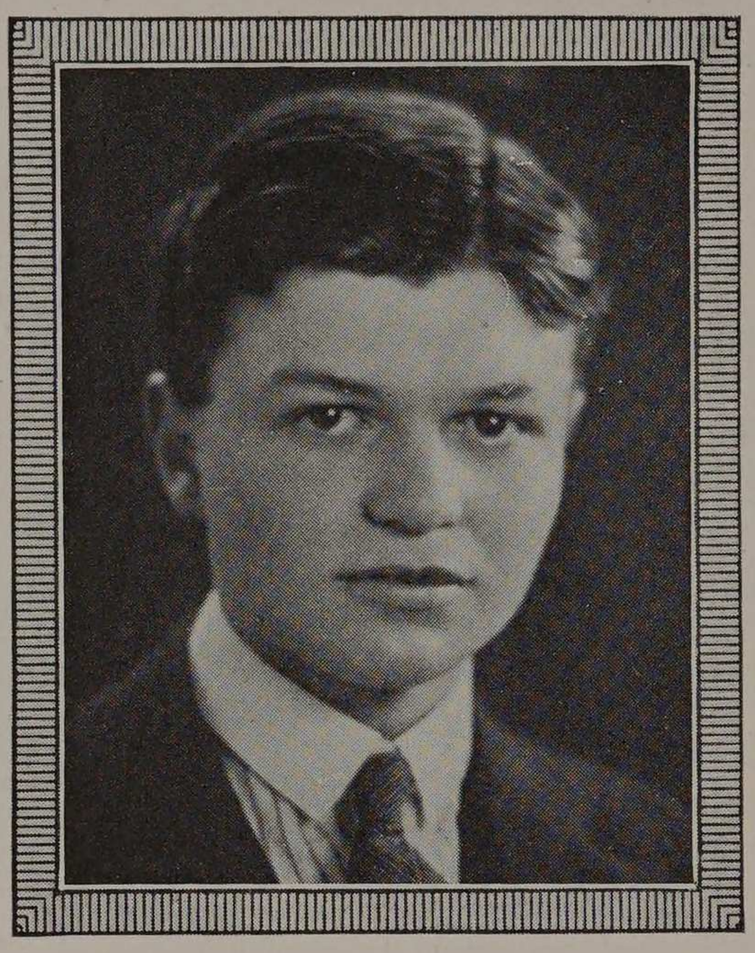
MYNHART OSWALD BRUECKNER

Born October 15, 1898, Fort Wayne, Indiana.
Fort Wayne High School, 1916.
"The Electrostatic Precipitation of Soap in Oils.
Ω. Λ.; T. B. Π.; Φ. Λ. Υ.; A. Ch. E. S.; Social Committee, 1916-17; Class Treasurer, 1917-18; Junior Play, Class Secretary, 1920-21; Senior Ring and Pin Committee.

A good time was never overlooked or an opportunity passed by, when ever he was on deck. His success in this line can be readily attributed to his masterful looks and knockout smile.

We can't, however, overlook his ability in other lines because it is well worth mentioning as can be seen by his activities and accomplishments at school. The chemical laboratory was a favorite place of his but due to outside work he was unable to be there as much as he would have liked. To every one who knows him, he speaks for himself.





GEORGE MARCY DOWSE

Born December 12, 1899, Norwood Park, Illinois.

Carl Schurz High School.

"The Electrostatic Precipitation of Soap in Oils."

Ω. Λ.; A. Ch. E. S.; Junior Play; Interclass Baseball, 1918-1919, 1919-20. Manager Baseball Team, 1920-21. Class Sergeant-at-Arms, 1919-20.

Little "Pewee" was the regular jack-in-the-box among the seniors. The supposedly more learned seniors were always jumping him but he shed them off like a duck does water. Though small in body he was a giant in heart and mind and to those who knew him his good will was predominant. His glad hand and that catching smile, developed probably thru his vamping efforts in the play, were the secrets of his popularity, with the women and men respectively. He shows us clearly that all great men are not six feet tall.

ALFRED RUSSEL EDWARDS

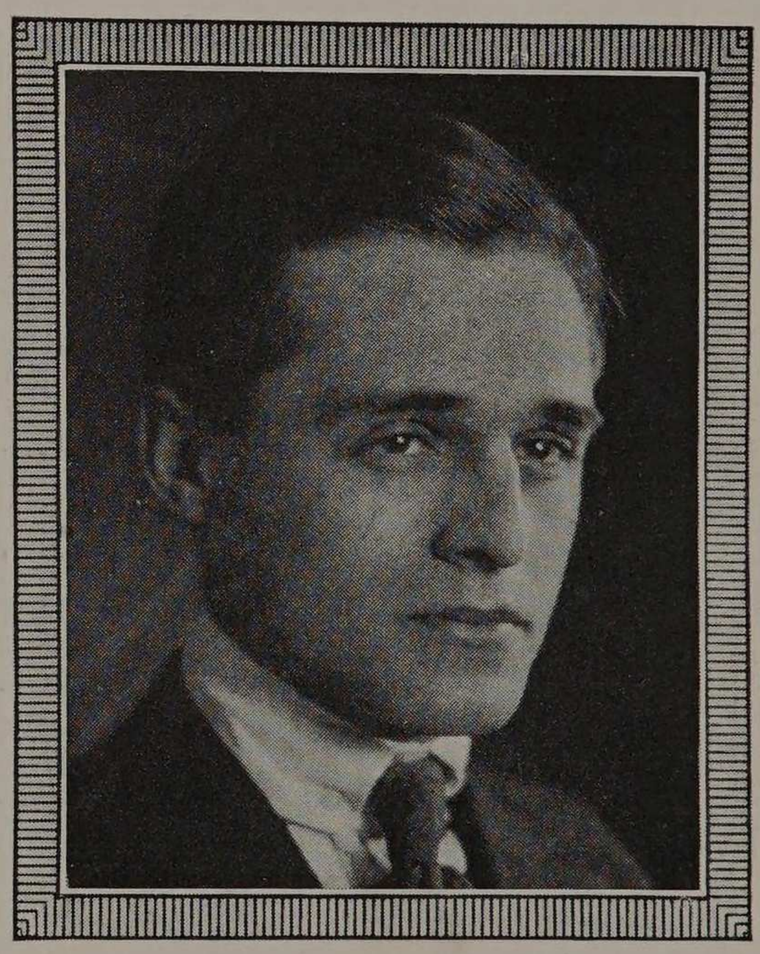
Born September 19, 1897, Chicago, Illinois.

J. Sterling Morton High School, Clyde, Ill.

"Zinc Nitride and Its Alloys."

Σ. K. Δ.; A. Ch. E. S.

Al was the kind of a fellow who was in no one's way but always ready to give his assistance. He had the Chicago "I Will" spirit all the way thru school and that along with his individuality makes him of a most manly character. His accomplishments on the mandolin always furnished a snappy bit of music, especially the kind that is sought for now. His pastime at cards made him a good dealer, especially to himself, but his good nature and wit always kept him out of any difficulties. It is also noteworthy to mention that he never purposely overlooked any fair damsels who perchance passed his way.





LYMAN DIXON JUDSON

Born July 19, 1895, Benzonia, Michigan.

Benzonia High School, 1913. Hillsdale College, '13, '14. Carleton College, '15 and '16.

"Heat Transfer in Cooler Coils."

Σ. K. Δ.; Φ. Λ. Υ.; A. Ch. E. S.

Since it is difficult to discriminate between benzene and Benzonia, we will let Judson do that. We never knew of Benzonia until Judson put it on the map for us but we know now that it's there to stay. "Judio" let things come as they would at the Institute and mastered them all. Like many of the seniors, he was not afflicted with any form of brain fever but his work counted and he let nothing slide. In short, he was a man who could execute and had a mind to contrive.

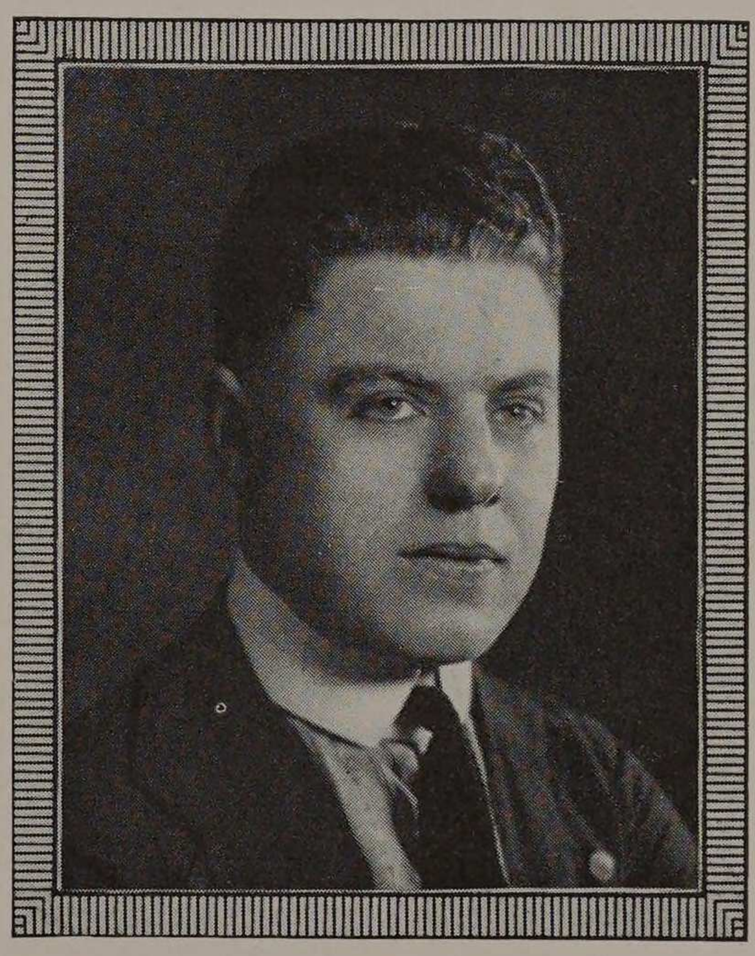
HILTON KAPLON

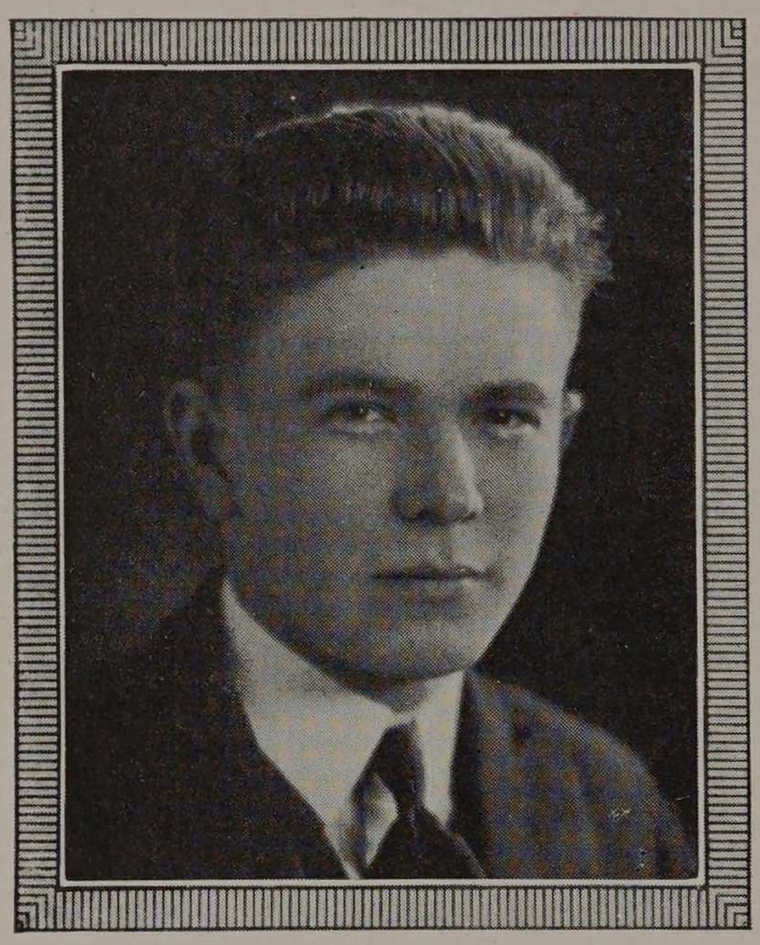
Born December 30, 1896, Chicago, Ill. Crane Technical High School, Crane Junior College.

"The Production of Chromates and Dichromates."

American Chemical Society, A. Ch. E. S.

Kaplon's ability has manifested itself again and again, and along lines of organization, the G. H. G. speaks for itself. Besides being a superb organizer, he is a real worker and believes in taking his vacation after his work rather than before as has sometimes been the case among seniors. There certainly was nothing lacking in "Kap's" nature as he was always in the best of spirits and took a keen interest in his work. He was a faithful standby and a general source of information in the lab. Whatever he does when he leaves the old Alma Mater will always be to its credit.





JOSEPH HALE LITTLE

Born March 30, 1899, Huntington, Ill. Huntington High School.

"The Commercial Preparation of Potassium Permanganate."

A. Ch. E. S. Cycle Staff, 1920. Cheer Leader, 1920.

Little was the B. L. T. of the chemical laboratory with a line or two on any subject on a second's notice. His presumptuous illusions failed sometimes to drop any light on his mathematics although he has starred in the latter for his entire school career. His success is undoubtedly laid in his originality and this will continue to be a big asset. He was one of the halves of the well known Little-Vorsheim combination and we know that should this combination continue outside nothing but success could result as they worked in perfect harmony and produced wonderful results. If we ever saw Little without a smile we would be lost, and that was his nature all the way thru.

AARON PASHKOW

Born January 18, 1896. Russia.

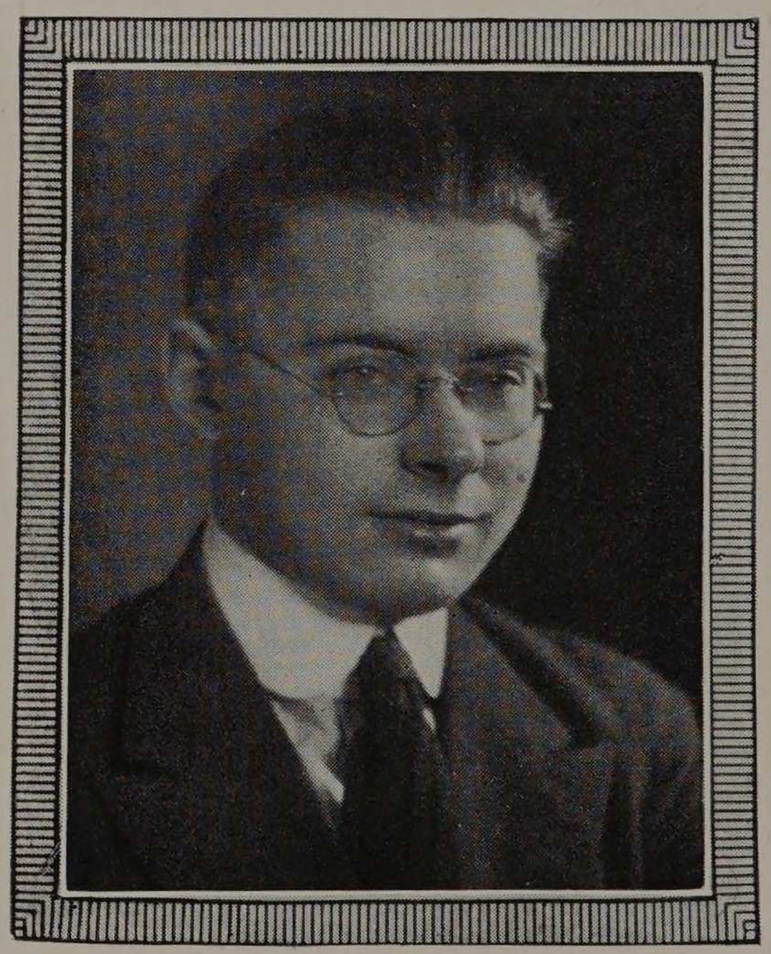
Lane Technical High School, Crane Junior College.

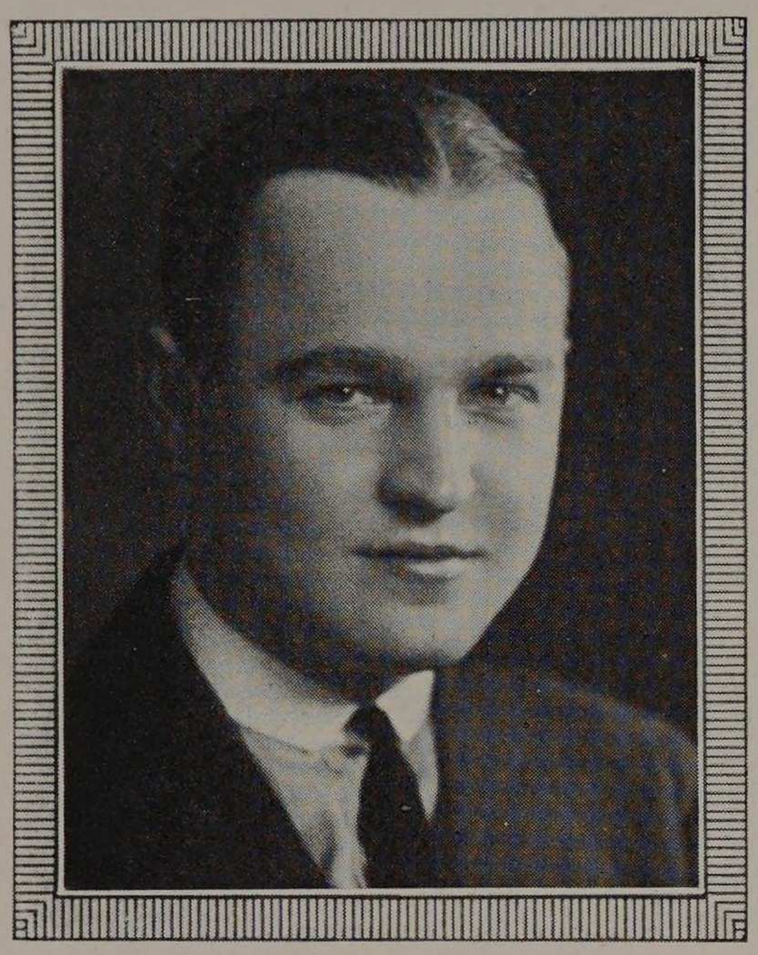
"The Absorption of Carbon Dioxide Under Pressure from Gaseous Mixtures."

A. Ch. E. S.

Here is another chemical student who claims the title of smallest man in the Senior Class.

Pashkow is a very industrious fellow and of the right disposition in order to succeed in any undertaking he may choose to follow.





EMIL WILLIAM PFAFFLIN

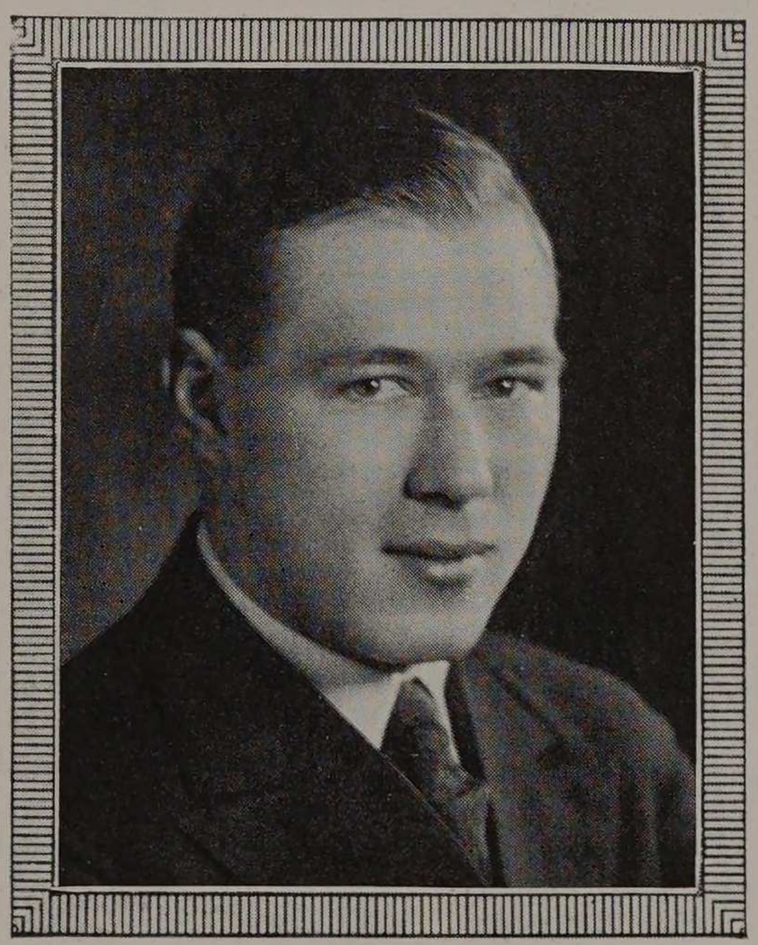
Born October 2, 1899, Chicago, Ill.
Parker High School.
"Reduction of ortho-Nitro-Benzoic Acid to Anthranilic Acid."
Δ. T. Δ.; A. Ch. E. S.; Social Committee, 1917-18; Chairman, 1918-19; Interclass Baksetball, 1917-18, 1919-20; Glee Club, 1917-18, 1918-19, Junior Play, 1920.

"He was a Lion Among the Women"! So say all that meet him, even the women themselves. The thing by which we will remember him most are his dancing and the dances which he arranged for while on the social committee. Did you ever see his parallel on the polished foot boards? All of his activities did not push his studies aside as he was constantly surprising himself as well as others by achievements in scholarship. He is impressive from the start and can't help being successful with the ability he possesses.

WILLIAM JOHN SAVOYE

Born October 31, 1898, Westfield, New Jersey.
Manual Training High School, Brooklyn, N. Y.
"Zinc Nitride and Its Alloys."
Σ. K. Δ.; Φ. Λ. Υ.; A. Ch. E. S.; Secretary A. Ch. E. S., 1920-21.

John comes from the east but he has left all of the high brow style behind him and come to us as the kind of scout we never wish to overlook. He was thoroughly good natured, a first class student and possessed of sound individuality along with a free good will. Above all, Savvy has a real head and knows how to use it for the best results. His clear thinking ability is one of the best assets of an engineer and will surely bring him where many other things wouldn't. The other side of his life at school can best be told of if you ask him about some of the Columbia girls.





RAYMOND K. SCHERGER

Born May 14, 1899, Ithica, New York.
Englewood High School.

"Determination of Benzene in Commercial Gasolene."

B. Φ.; A. Ch. E. S.; Glee Club, 1918-20; President Y. M. C. A., 1919-21.

Scherger was one of those easy going fellows with ne'er a care to weary his overworked brain. He approached very near to an ideal scholar when it was possible to run a boiler test by sitting on a chain smoking a cigarette. Outside of his thesis, his most difficult problem was finding a remedy for study, which no doubt is a dreary thing. Many would that he had found it but all his diligence failed to produce results. He surely was good-natured and well liked by his class mates, and did much to keep the Y. M. C. A. going with increasing success. Whatever he undertook was done with a thoroughness and completeness which resulted in highly commendable work.

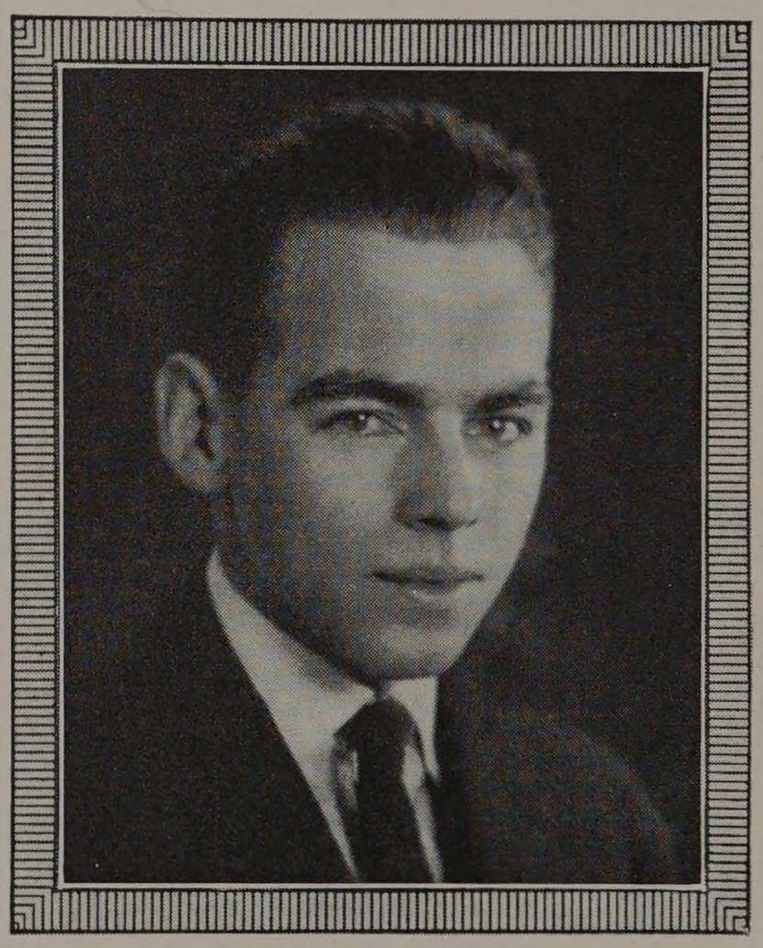
CORNELIUS SIPPEL, JR.

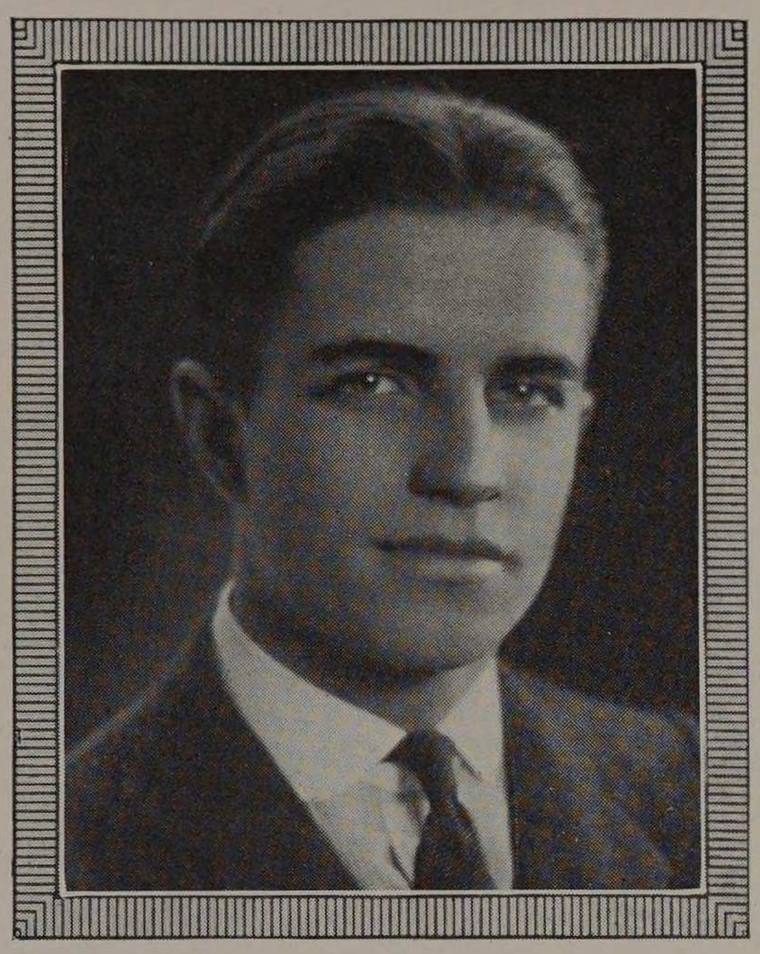
Born October 2, 1900, Chicago, Ill.
Loyola Academy.

"Formation and Properties of meta-Benzene Disulphonic Acid."

Φ. Λ. Υ.; Honor "A" Society; A. Ch. E. S.; Varsity Basketball, 1919-21; Interclass Basketball and Baseball, 1917 to 1920; Social Committee, 1918-20.

With Sippel goes another veteran of both the chem. lab. and the basketball team. He had an ambition for doing things and to be among the first, and his activities easily show his success. His spare time was spent with athletics and because he knew how to make his time count, he succeeded in getting by without a loss. He was the old reliable on the squads to which he belonged and showed his value repeatedly.





GEORGE HENRY VORSHEIM

Born August 16, 1900, Chicago, Ill.
Austin High School.
"Commercial Preparation of Potassium Permanganate."
A. Ch. E. S.; Junior Play, 1920.

Vorsheim, the other survivor of the company, Little-Vorsheim, Inc., is the all around good fellow who hopped to the tune of the bell in the class play. It is rumored that his new system Calculus book is about to go to press, and that all the colleges of Greenland have already made contracts for Campbell's Pork and Beans. His main hobbies are Theology, Calculus, puzzles, and well there's a woman in the case. When we speak of a man of Vorsheim's caliber we have no doubt as to his success as he surely will come out on top.

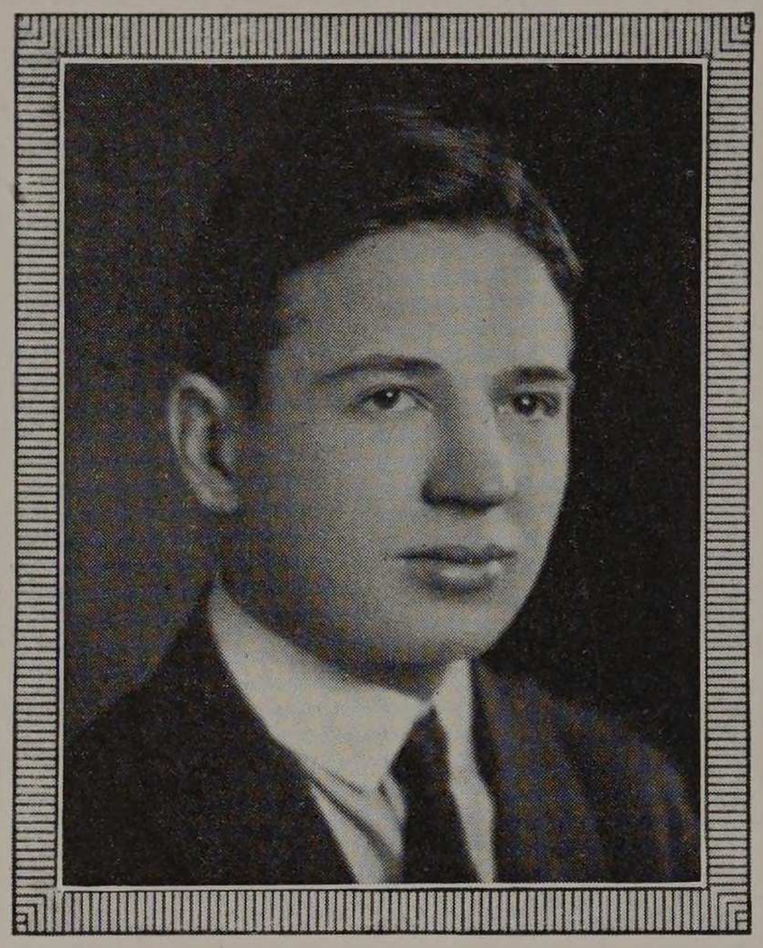
EMIL FRANK WINTER

Born April 6, 1897, Chicago, Ill.
Lane Technical High School.
"The Reduction of ortho-Nitrobenzoic Acid to Anthranilic Acid."
Δ. T. Δ.; T. B. Π.; Φ. Λ. Υ.; President Junior Class; Chairman Ring and Pin Committee, 1921; Social Committee, 1920-21; Interclass Basketball, 1917 to 1921; A. Ch. E. S., President, 1920-21, Vice-President, 1919-20; Junior Play, 1920; Cycle Staff, 1920; Armour Engineer, 1920-21.

"In his greatness lies his popularity," sums up Winter in a few words. He possess a rare ability and composure and is not of the kind who tries to kid himself and think he is getting away with it. All of his actions and words were clean-cut and frank, and he was never at a loss to form and express his opinions. His enthusiasm in class and school activities won a place for him among the leaders of his class, and the admiration of all. We may characterize him by saying he was never boastful but widely resourceful.



B. S. IN A.



FRED M. BALDWIN.

Born October 11, 1900; Correctionville, Iowa.

J. Stehling Morton High School of Clyde, Ill.

"Design of a Great Non-Orthodox Synagogue."

A. A. S.; Y. M. C. A.

Baldwin is in love with his work. Success is reflected from any work that his drawing pencil is applied to. He is but one of the chubby good-natured "archs."

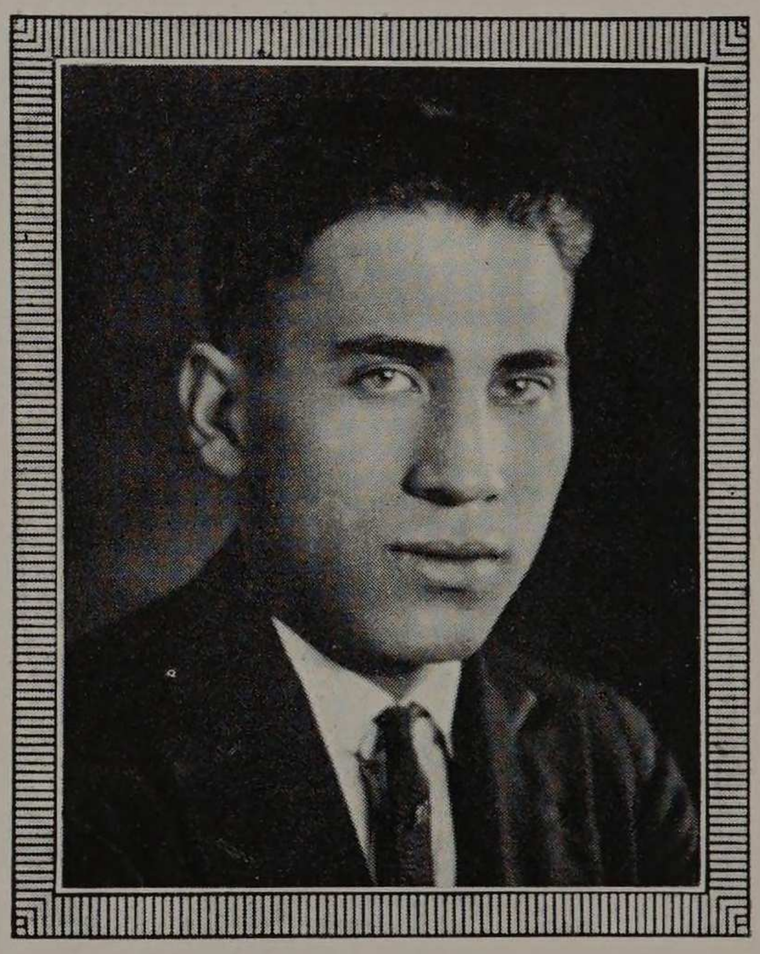
AARON M. BROWDE.

Born January 7, 1900; Chicago, Ill.
Crane Technical High School.

"Municipal Art Museum for a Small City."

P. Δ. P.; A. A. S.

Browde is well liked both by his fellow students and the members of the fair sex. When he chose architecture for his profession he made no mistake; which fact is attested to by his clever drawings. He will undoubtedly succeed.





HELEN L. FASSETT.

Born March 12, 1899; Findlay, Ohio.
Findlay High School.

"Design of a Great Non-Orthodox Synagogue."

Secretary of A. A. S., '20 and '21; Class Secretary of A. A. S.

Behold our only coed. We are sorry to lose her but we realize that what is our loss is somebody else's gain. In leaving we wish to extend to Miss Fassett our heartiest wishes for her great success in all her undertakings.

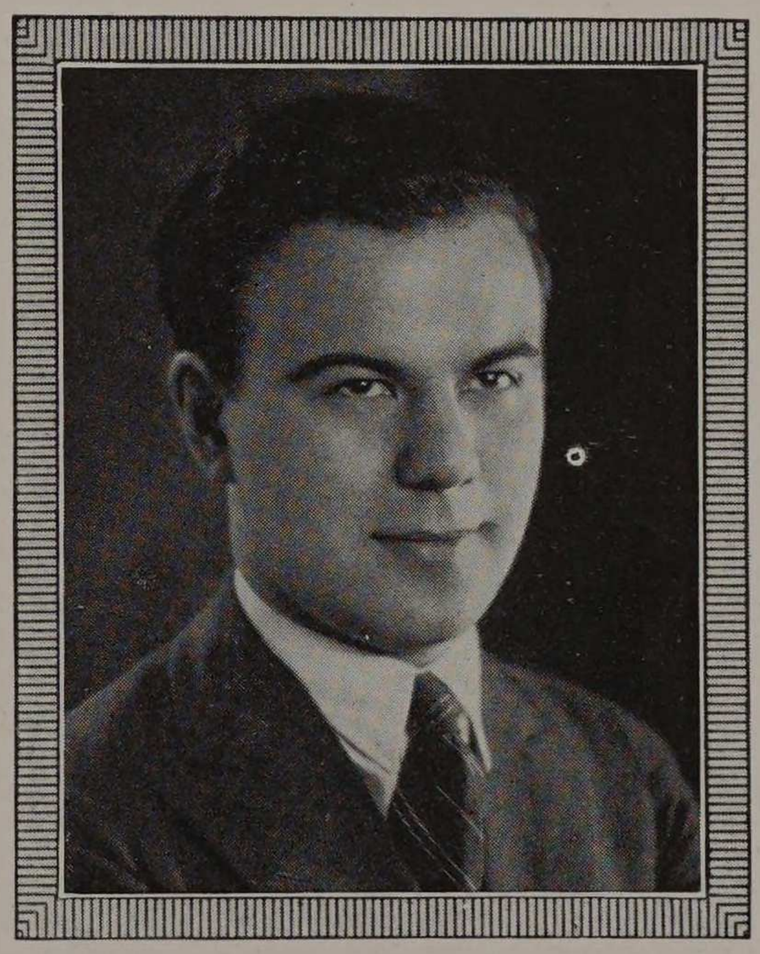
IRVING JERRY LOEBL.

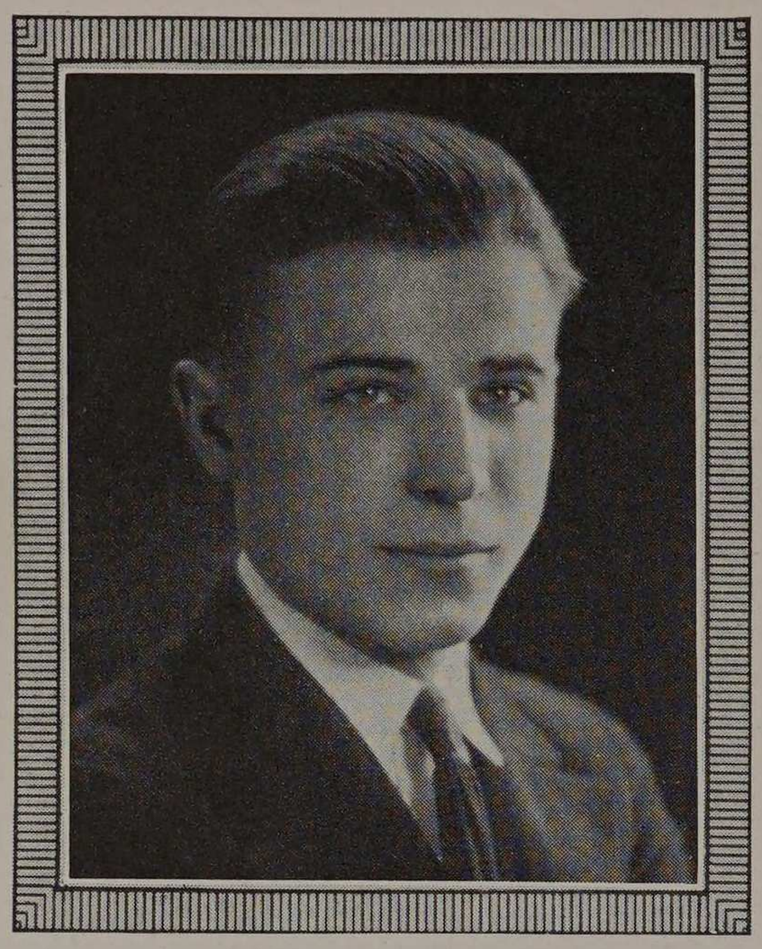
Born September 2, 1899; Chicago, Ill.
Wendell Phillips High School.

"Design of a Great Non-Orthodox Synagogue."

Ohr; Scarab; A. A. S.; Social Committee Freshman Class, '17; Senior Picture Committee.

Jerry is the jester among the Senior "archs." Besides the time he wasted in the Senior drafting room of the Art Institute, he has spent considerable amusing listeners. Rumor has whispered that he is the social lion of the architects, and we fear that after graduation day he may drop architecture.





ROBERT L. MINKUS

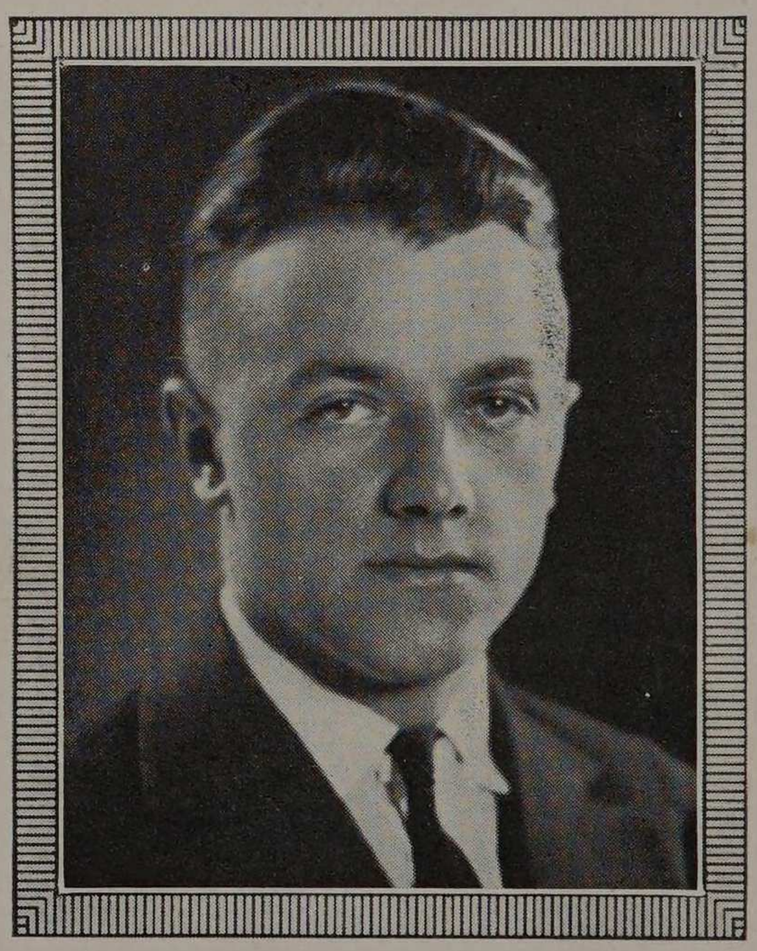
Born July 7, 1900, Russia.
Lane Technical High School.
"Design of a Great Non-Orthodox Synagogue."
P. Δ. P.; A. A. S.

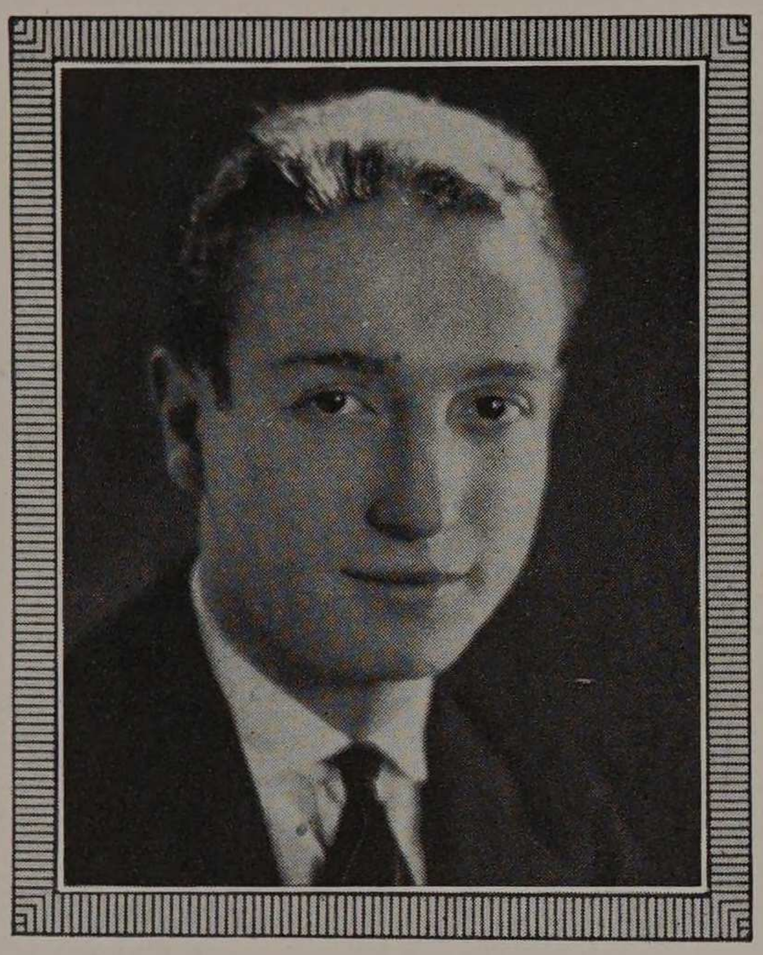
"Bob" is our cartoonist. His unlimited fund of humor and his striking originality may be seen in whatever he touches his pen to. He is a fine fellow as well. Genial, enthusiastic, and persistent, he is sure to win his way in the world.

RUDOLPH JAMES NEDVED

Born October 3, 1895, Czecho-Slovakia.
Crane Technical High School.
"A Great Non-Orthodox Synagogue."
A. A. S., Treasurer A. A. S., 1920-21.

Ned, our Beaux Art man, was able to get through Armour in three years with a good record. Although he calls himself a "confirmed bachelor" he is a heavy commuter on the Northwestern. Her name has the initials E. K. One guess. Yes, that's right.





NORMAN J. SCHLOSSMAN.

Born March 13, 1901; Chicago, Ill.
Hyde Park High School.

"Design of a Great Non-Orthadox Synagogue."

Ohr; Scarab; A. A. S.; Art Editor of Cycle, 1920.

We expect great things of Norman on his thesis. We have hopes of seeing his Synagogue in masonry. Besides architectural design he has a proclivity for humorous sketches. Many of his drawings both serious and comical appear in last year's Cycle of which volume he was Art Editor.

AUGUST J. SCHOENNING.

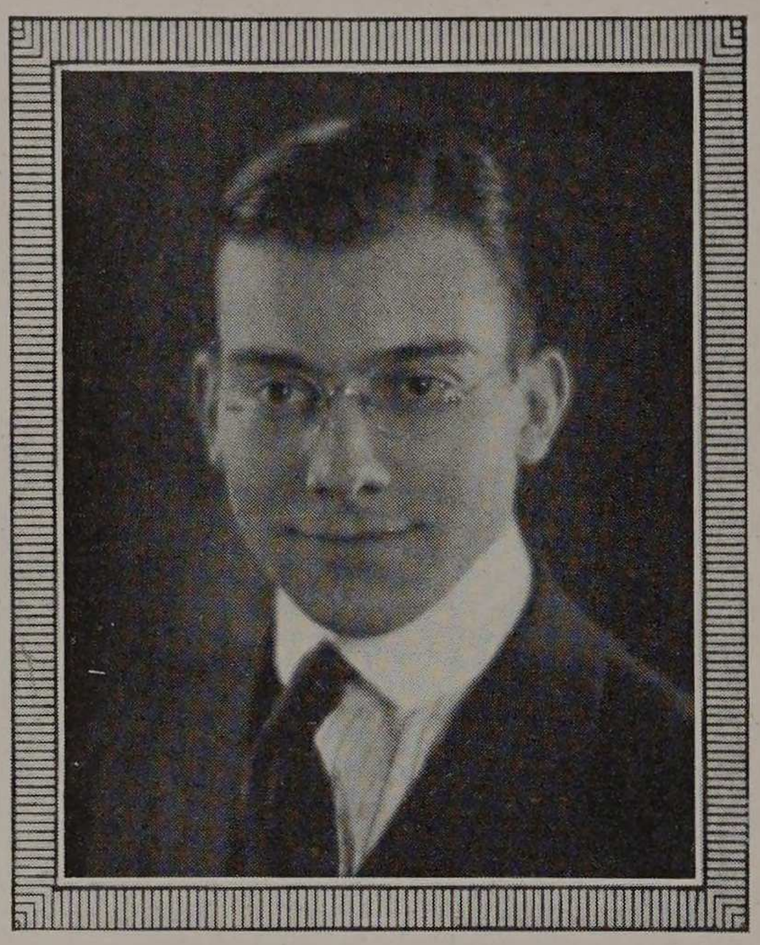
Born January 29, 1898; Racine, Wis.
Racine High School.

"Design of a Great Non-Orthadox Synagogue."

A. A. S.

He's the tallest man in the Senior Class. The most enjoyable of his classes during his four years at Armour were those spent with Prof. Wilcox. We suppose that Wilcox finally passed him because of his impressive stature.





WILLIAM C. SPONHOLZ

Born January 30, 1898.
Lane Technical High School.
"A Great Non-Orthodox Synagogue."
A. A. S.

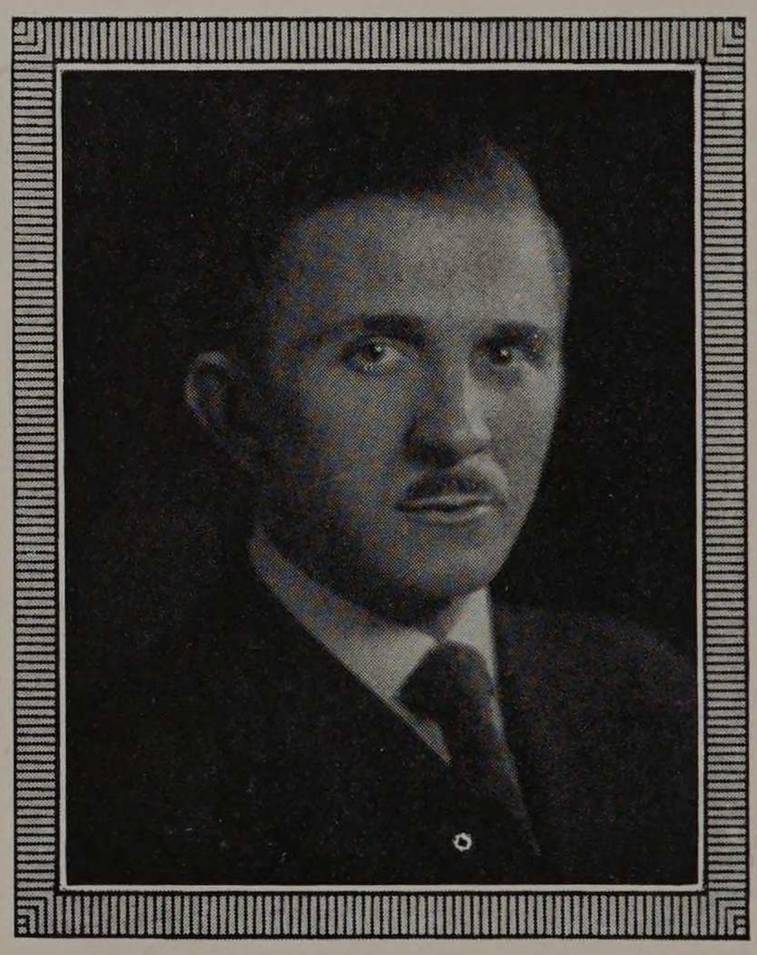
"Bill'' always delivered the punch. He had the "Heidelberg" method of study and loved to misinterpret the profs.' remarks, but judging his work we know that he did not follow out his misinterpretations. We all like "Bill" for his dauntless dislike for all that is sham and show. 'Spon' is a true architect, without any external earmarks of one. On entering the senior drafting room one will always know that 'Bill' is there, by his hearty greeting.

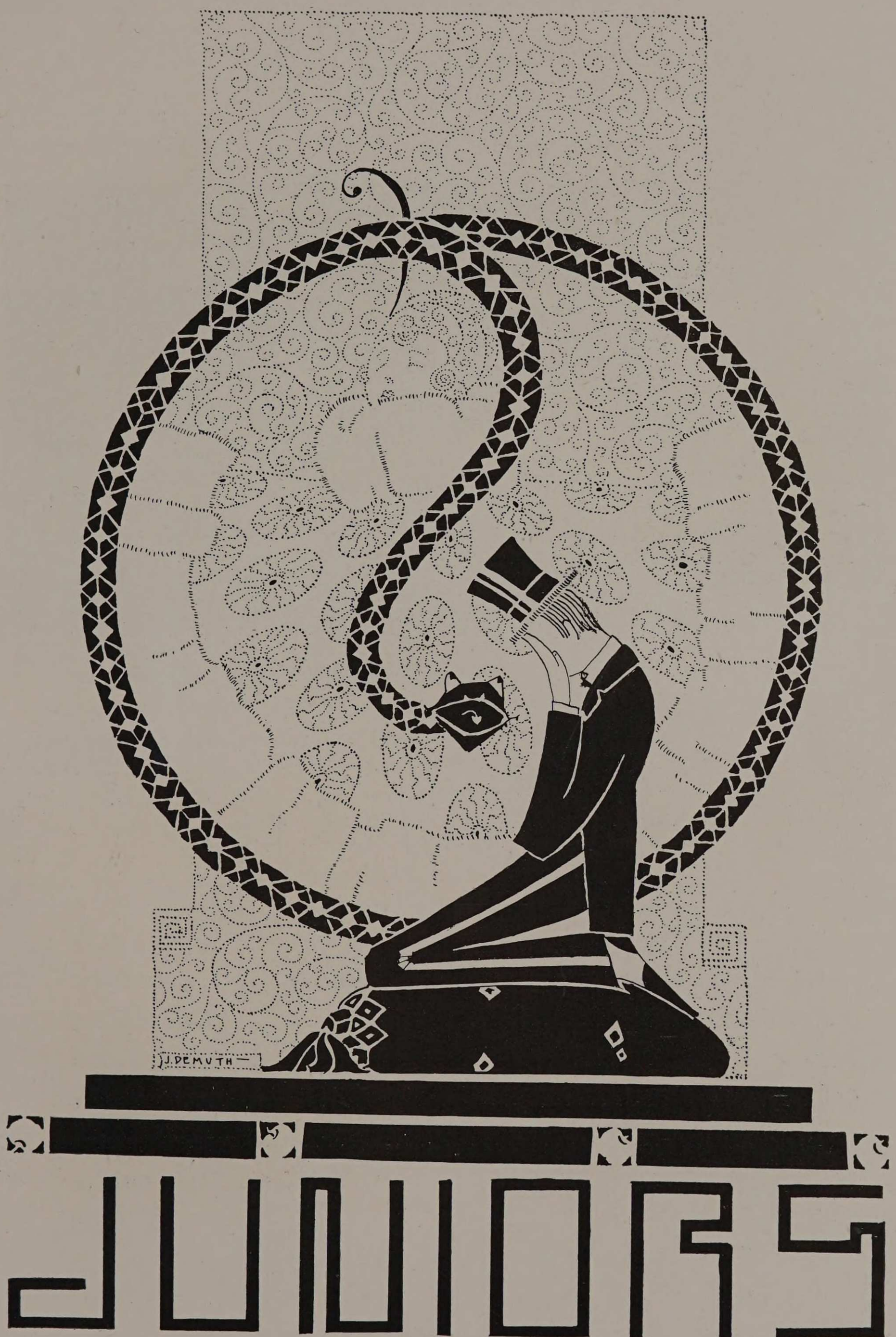
MARYAN F. WINIARSKI

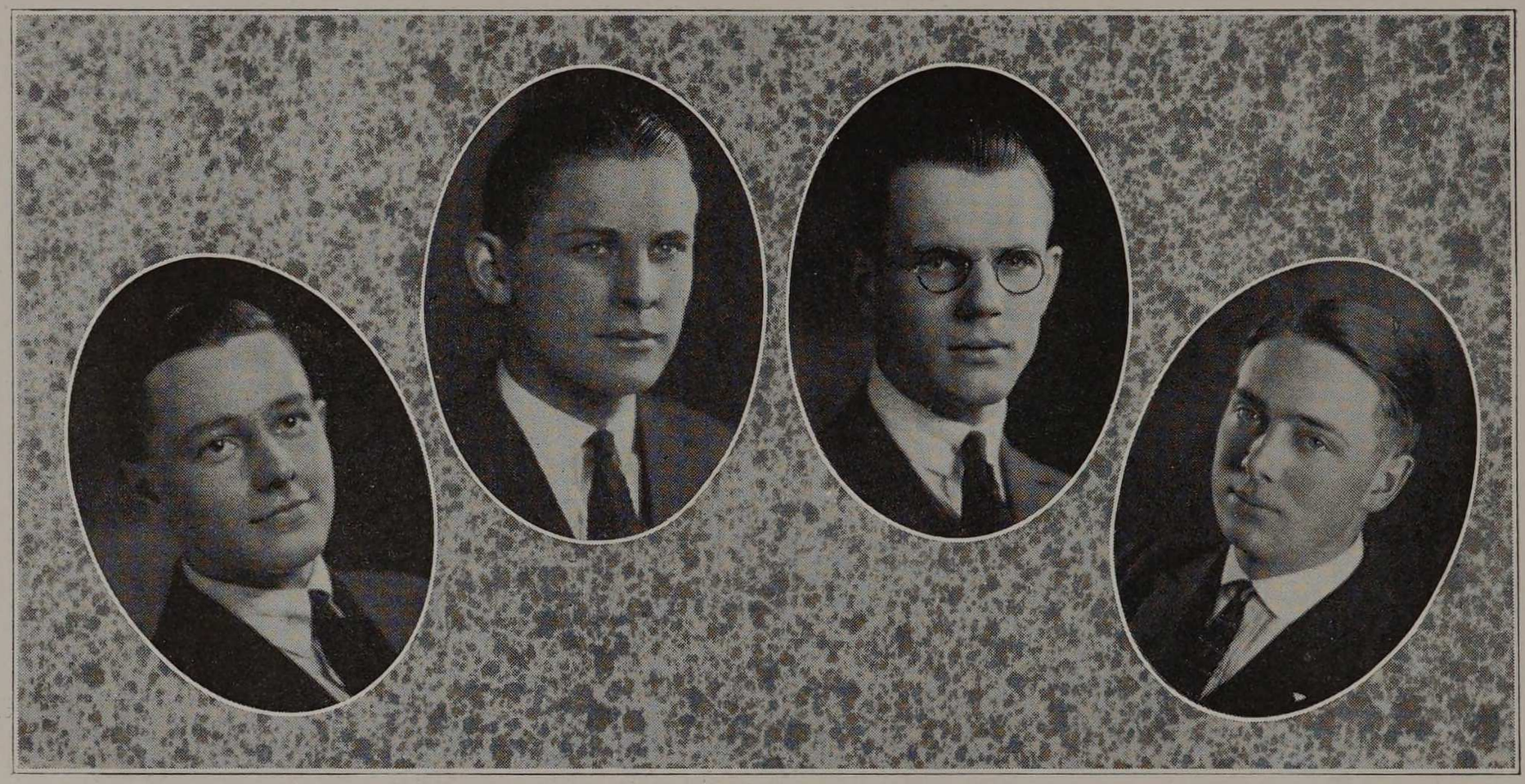
Born Nov. 20, 1894, Krakow, Poland.
Lane Technical High School.
"A Great Non-Orthodox Synagogue."
A. A. S.

"Winnie" is always the quiet, composed person that he appears to be at the first impression. Being a "left over" to use the term, because of his services in the war, 'Winnie' is a bit older than most of his classmates in years as well as experiences. His outstanding characteristic is his unselfish attitude in helping everyone that needs help, whether that person asks for it or not.

You will often see him on Saturday noons (as is his habit), smoking a cigar in front of the Art Institute, which is supposedly a tonic for the afternoon work.




J. DEMUTH
JUNIORS



KELLEY PETERSON WETHERBEE SEABERG

Officers of the Junior Class

H. A. PETERSON.....President
G. D. WETHERBEE.....Vice-President
G. H. KELLEY.....Secretary
E. M. SEABERG.....Treasurer
H. R. WING.....Sergeant-at-Arms
O. KUEHN.....Athletic Representative

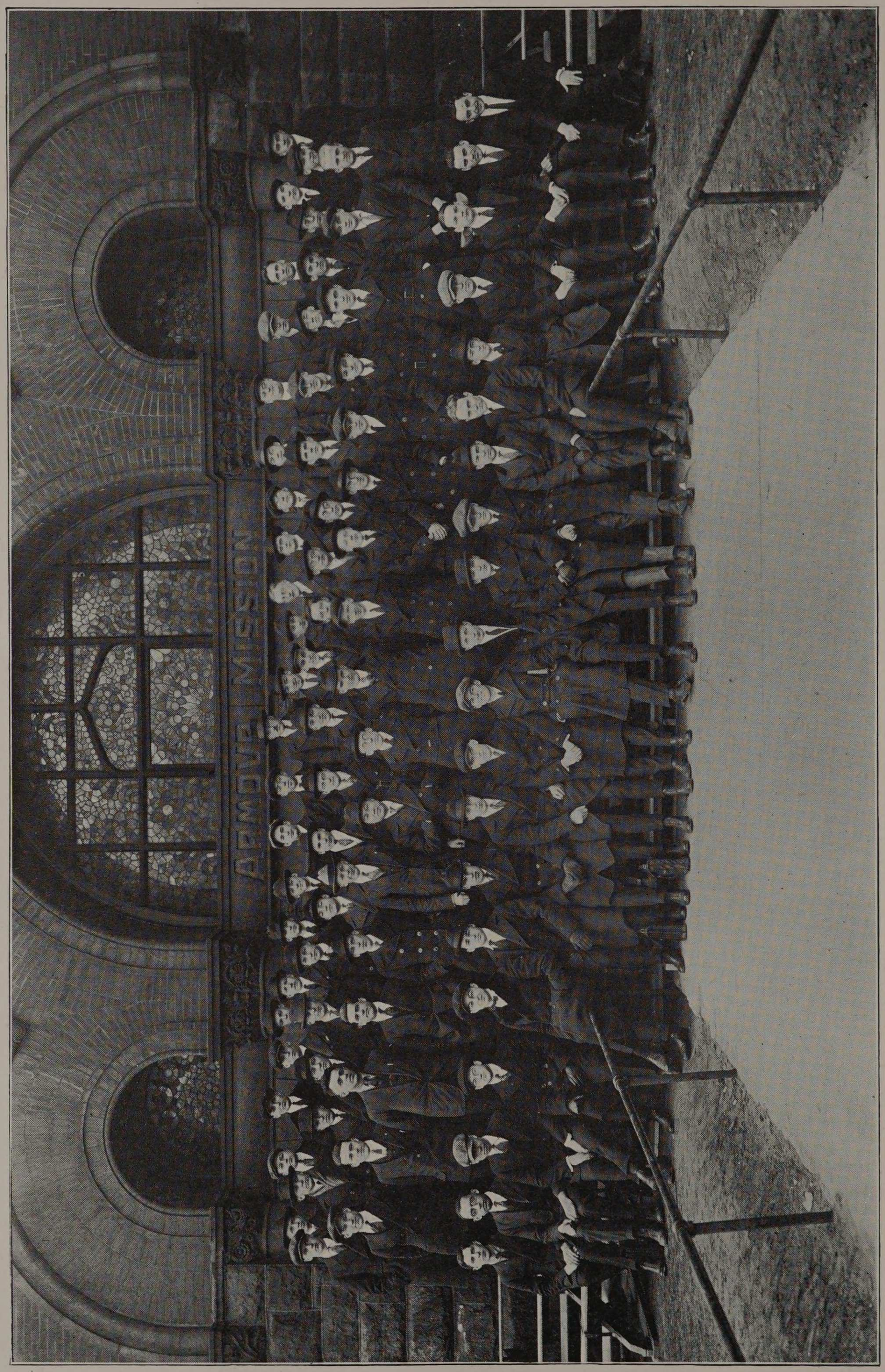
JUNIORS

We have with us today the well known and far famed class of 1922, of the Armour Institute of Technology. Of course every well informed person knows all about the present Junior class, but perchance there are a few poor, suffering representatives of humanity, upon whom cruel fate has forced a miserable existence, without knowledge of the class of 1922,—for the benefit of these last mentioned few hapless individuals, I will attempt to enumerate a few facts concerning this super class.

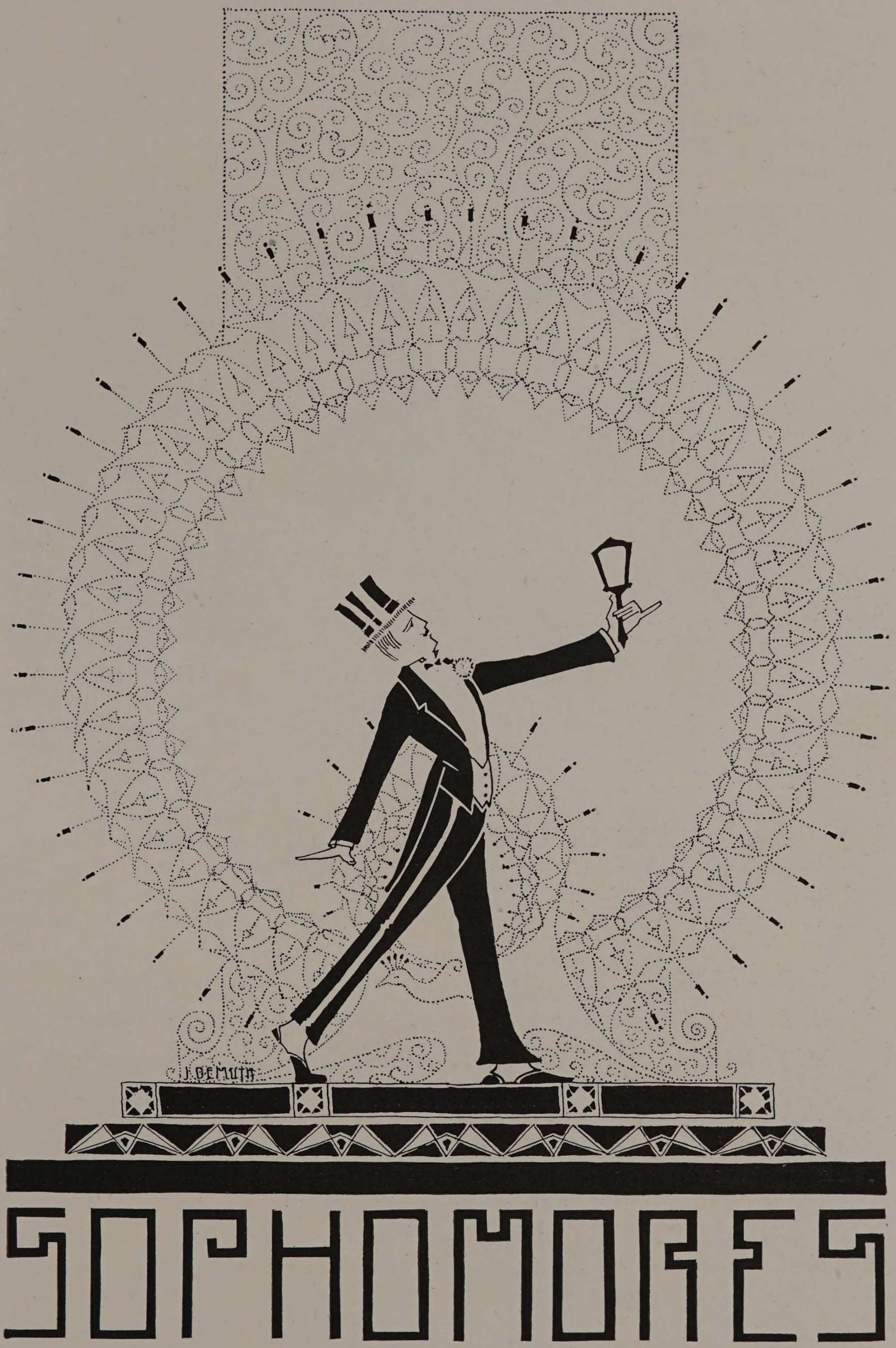
The Junior class as a whole is unlike all of the other classes. The class has not the haughty coldness of the Seniors, the meek greenness of the Freshmen, nor the obnoxious arrogance of the Sophomores. Were it not for the ability of the class of '22, the basket ball and the baseball teams, the Glee Club and the Jazz Band, the Cycle and the Engineer, would all be sad failures. In addition to all this the Juniors are the brains of the Armour Institute. For the first time in twelve years Prof. Paul did not give any Valentines in Junior Mechanics; and at the end of the year, at least fifteen members of this honored class will have finished Freshman Drawing. The class also contains such famous personages as: Terence McSwinney McCaffrey and Clarence Herbst, the well known Mechanics sharks; Leon Trotzky Nowakowski and Eli Slobod, the eminent Philosophers, Orators, Moralists, and Literary Critics; Ike Blum, the pride of the Math. department, and last but not least, Max Marine, the joy of the Chem. Department, who handed a red hot flask to his partner, Rosenzweig, "because it was too hot to hold". This is a very small list of the celebrities of our class, as it was forced, after electing,

H. A. Peterson.....President
G. D. Wetherbee.....Vice-President
G. H. Kelley.....Secretary
E. M. Seaberg.....Treasurer

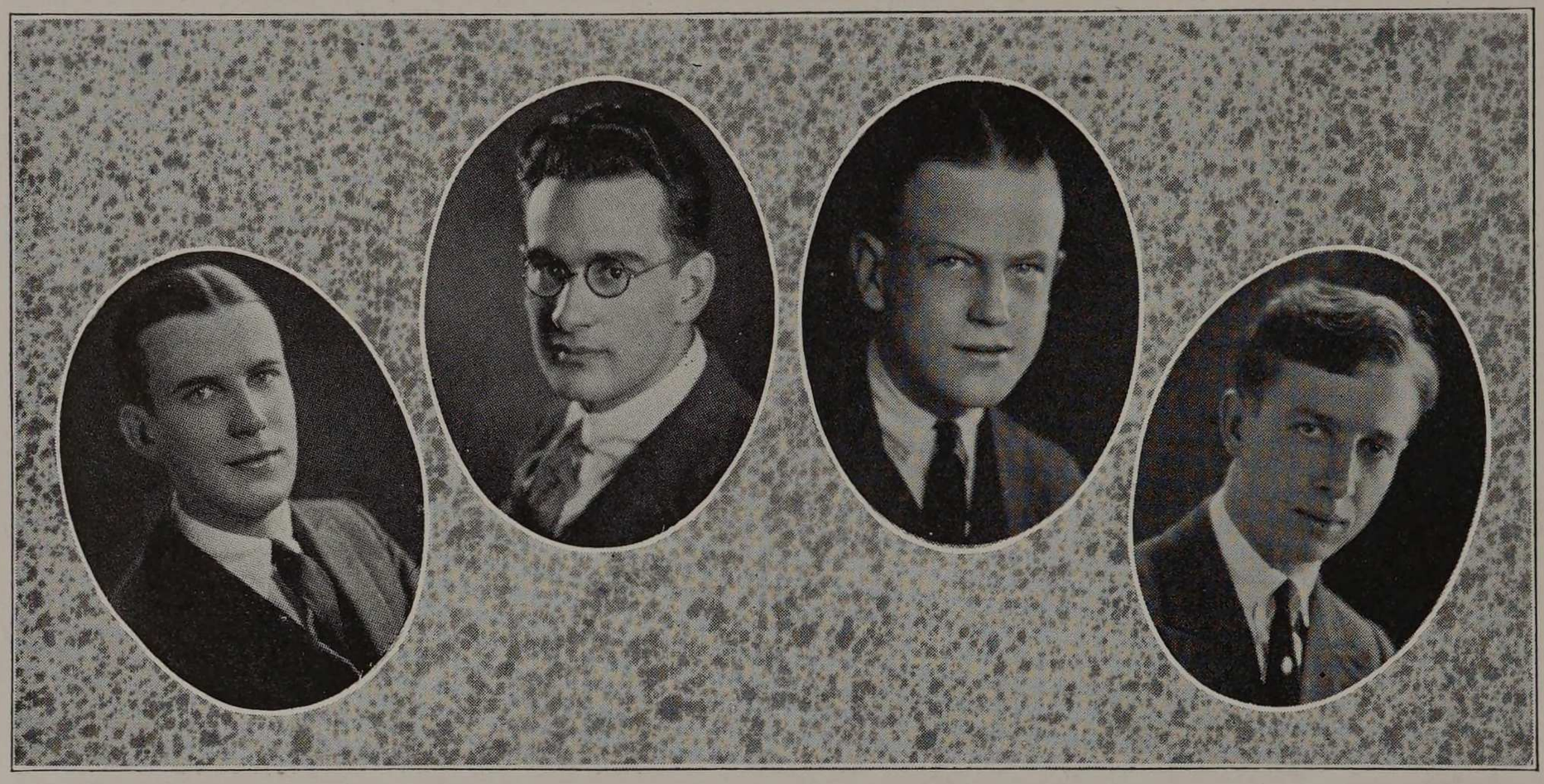
to appoint a Cycle Staff and about a dozen committees before the talent of the class could be anywhere near occupied with class duties. As was said before, the above list is small and the information meager, but those who wish to know more concerning these, or data concerning other members of the class, will find reliable and complete information in "Whose Who in America". Lack of space compels me to close now, although it would be but a child's task to write volumes on the merits of this class. I feel, however, that before I close, I must confess that this otherwise perfect class has one fault; its excessive modesty.



JUNIOR CLASS



SOPHOMORES



NUTT PAYSON STANTIAL HAUTH

Officers of the Sophomore Class

E. B. PAYSON.....President
G. B. STANTIAL.....Vice-President
M. C. NUTT.....Secretary
C. W. HAUTH.....Treasurer
H. W. MUNDAY.....Cycle Representative
G. N. SCHUMACHER.....Athletic Representative

SOPHOMORE CLASS HISTORY

Two years ago, the members of the class of Twenty-Three went to the mark, ready to start out in the long and trying endurance race for knowledge and the key to the higher things in life. Although somewhat inexperienced in running so important a race, and little knowing the obstacles which lay in our paths, we set out primed with ambition, and determined to do our very best.

In the course of the first lap—our Freshman year—we managed to let the other runners in the race know of our entrance, and succeeded in stirring up quite a bit of smoke along various lines. First came the Freshman Hand-shake, at which we became acquainted with one another as well as with the upper classmen.

In athletics the usual Twenty-Three pep prevailed, and our indoor base-ball team captured the pennant by defeating the upper classmen, thereby receiving the Black and Gold numerals for the first time. In basket ball and baseball more material was uncovered and we were proud to have one of our classmates on both of the varsity teams.

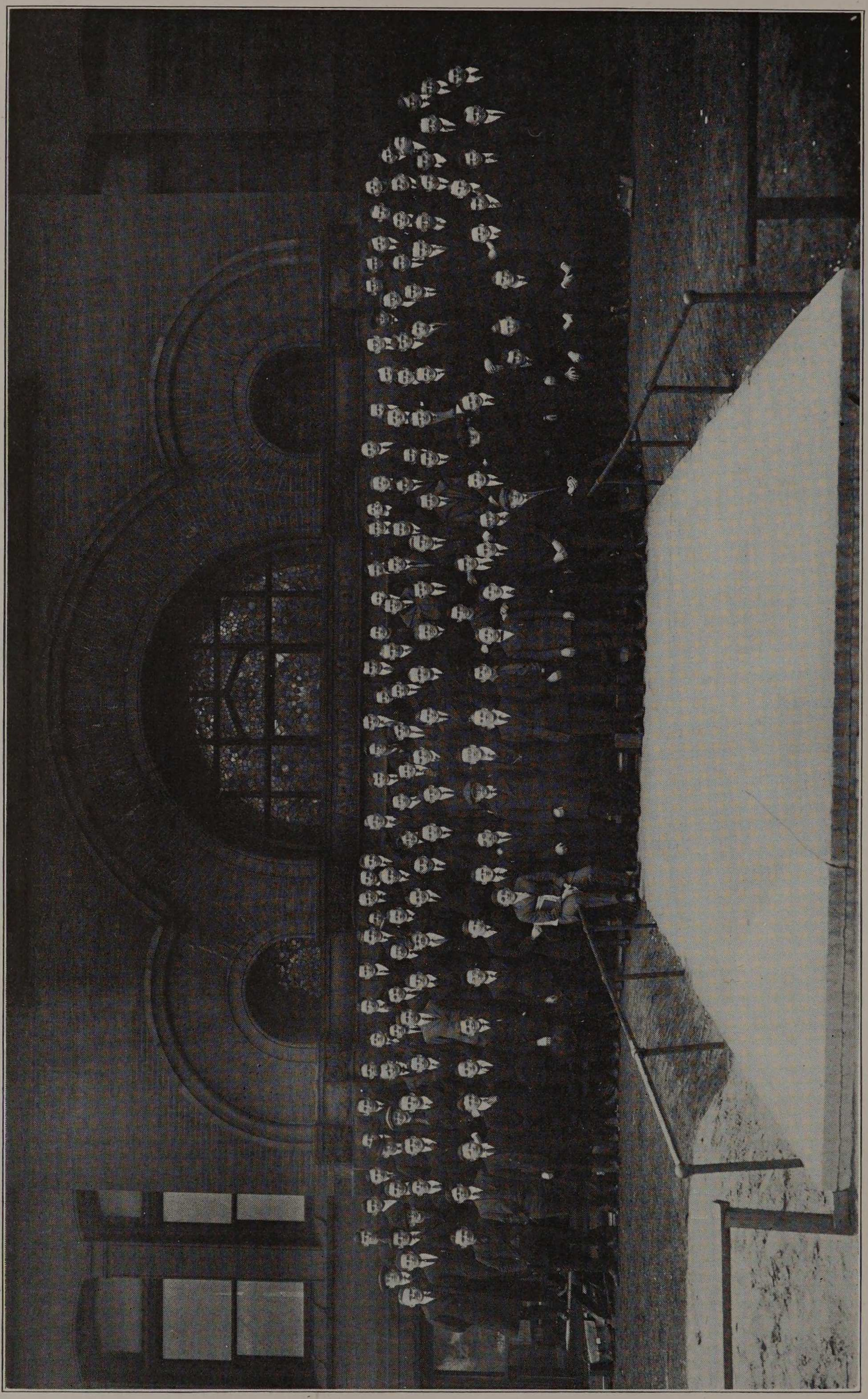
After running for a year, we felt much more confident when we set out on the second lap of the race, having become more accustomed to the course along which we were traveling, and better acquainted with our fellow runners. In September of 1920, things again started out with a bang, and we were the proud wearers once more of the numerals, this time as the result of a triple tie in the inter-class basket ball tournament. When the Varsity squad came out shortly afterward, there were some six or seven Sophomores among them, three of whom received the much coveted "A." And when it came to the election of the Captain of the 1921 team, a Twenty-Three man was honored with the position.

The next important mark along our path was the Sophomore dance, which was held in the Red Room at the La Salle Hotel on the 18th of February. Knowing just what sort of dance we had given when we were Freshmen, everyone was right there when the night of the 18th came, and it was hailed to be one of the best dances ever given at Armour.

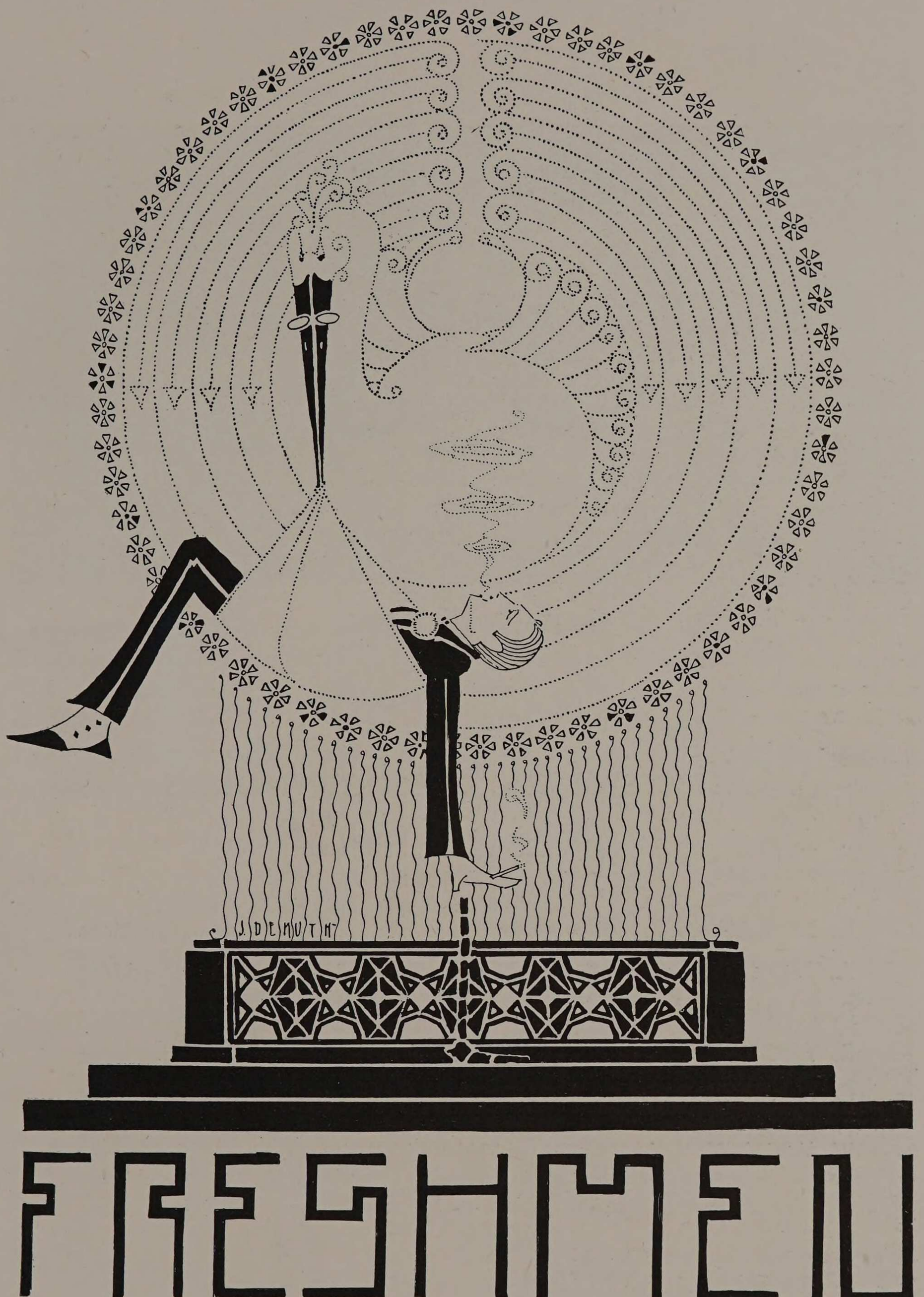
When the call came for baseball candidates we were again on deck and many of our young Ty Cobbs and Tris Speakers heeded the call, four or five of them landing permanent berths on the Varsity squad.

Due to the untiring efforts of some of our classmates, both last year and this, track work was again started at the Institute and the class of Twenty-Three was well represented at the first call for material. It was found that there was much good track material present in the Institute, and we hope to help turn out a winning team in this sport as we did in both baseball and basket ball.

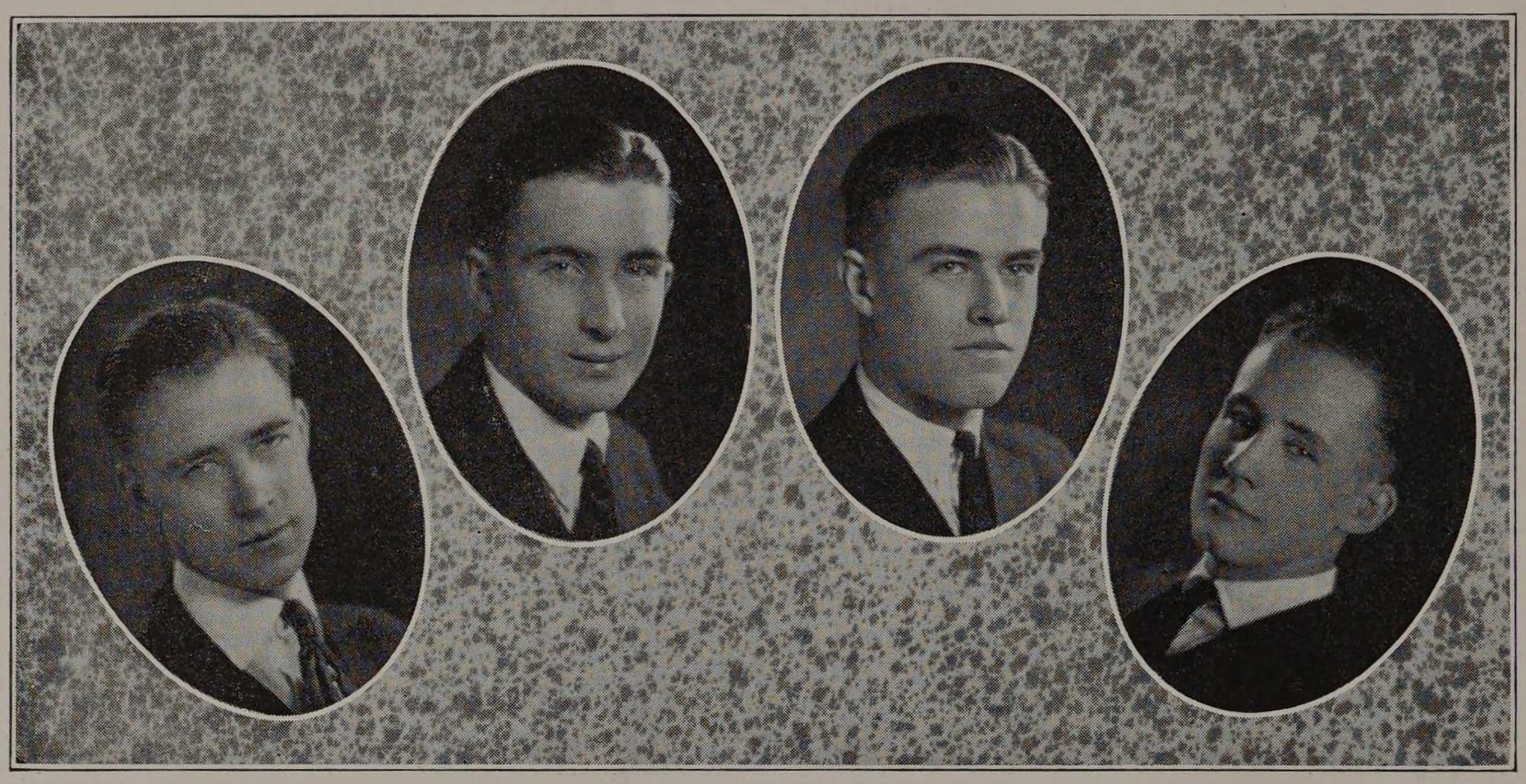
And so, as we finish the second lap of the race, proud of the records which we have thus far made, but ever aware that we are but half through, and that the hardest part of the journey may yet be ahead of us, we stride steadfastly and untiringly onward, so that ere we cross the tape at the finish of the race we will have reflected much credit upon our Alma Mater and upon the Class of Twenty-Three.



SOPHOMORE CLASS



FRESHMEN



THORSN LATTA JOSEPH FARRELL

Officers of the Freshmen Class

L. M. LATTA.....President
A. JOSEPH .....Vice-President
S. FARRELL .....Secretary
S. THORSN .....Treasurer
O. M. SPAID.....Cycle Representative
P. WITASHKIS.....Athletic Representative

THE CLASS OF 1924

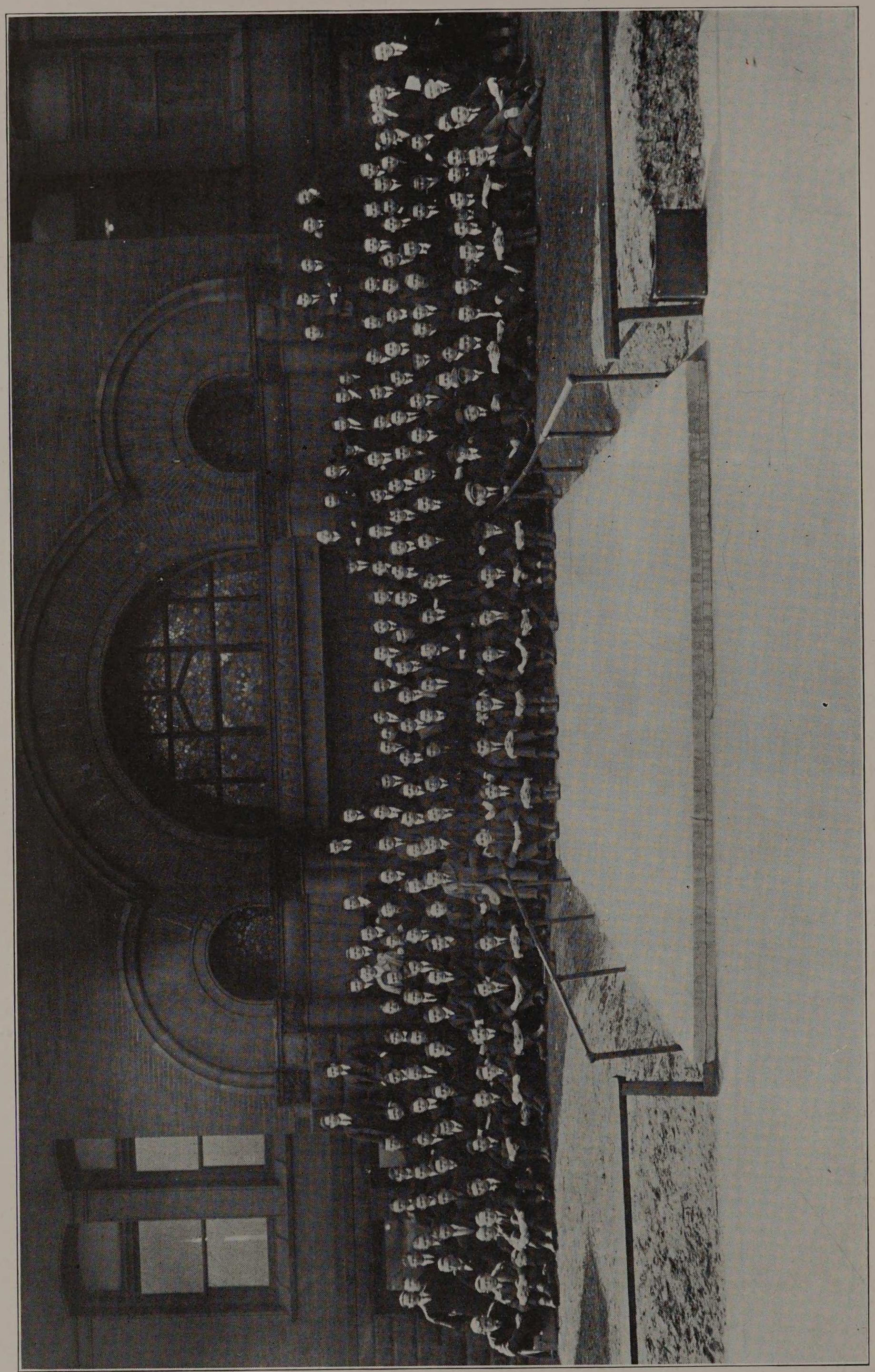
At the first meeting of every freshman class comes one of the most difficult problems that the class has to face. Every Freshman is, to a more or less degree, a stranger to his class-mates, and because of this the question of who shall lead the class is very difficult to decide. It is a common saying that the first man nominated at a freshman election is the one who is elected. The Class of 1924 seems to have been unusually fortunate in the selection of its officers for they have tried their best and to a large extent succeeded in developing a well organized class. The splendid spirit, however, shown by the class as a whole, in attendance at meetings and in support of different activities, has been the greatest factor in determining the success of the Class.

The officers elected were: Earl Anderson, President; Albert Joseph, Vice-president; Stanley Farrell, Secretary; S. Thorsn, Treasurer; Bowman, Chairman of Social Committee; Latta, Cycle Representative; Witashkis, Athletic Representative; and Jensen, Sargeant-at-Arms. At a meeting of the Class on Feb. 14, Earl Anderson resigned as President as he was leaving Armour to accept an appointment to the United States Naval Academy at Annapolis. Latta was elected to the Chair and Spaid was given the post of Cycle Representative.

The Class stood solidly behind their basket-ball team and showed its appreciation by awarding the numerals 1924 to the players. In all branches of sport the Freshman Class has been represented.

The social activities have, as yet, been very few as the Freshman Dance, which was set for April 8, was postponed because of the death of our late President Gunsaulus.

Many words have been spoken and many words have been written lamenting the death of Dr. Gunsaulus, but it is far past the power of human expression to write a fitting eulogy to so great a man. Although the Class of 1924 came into contact with Dr. Gunsaulus for only a short time, it tried to show in a small measure its regard and sympathy by sending a floral tribute to the funeral.



FRESHMAN CLASS

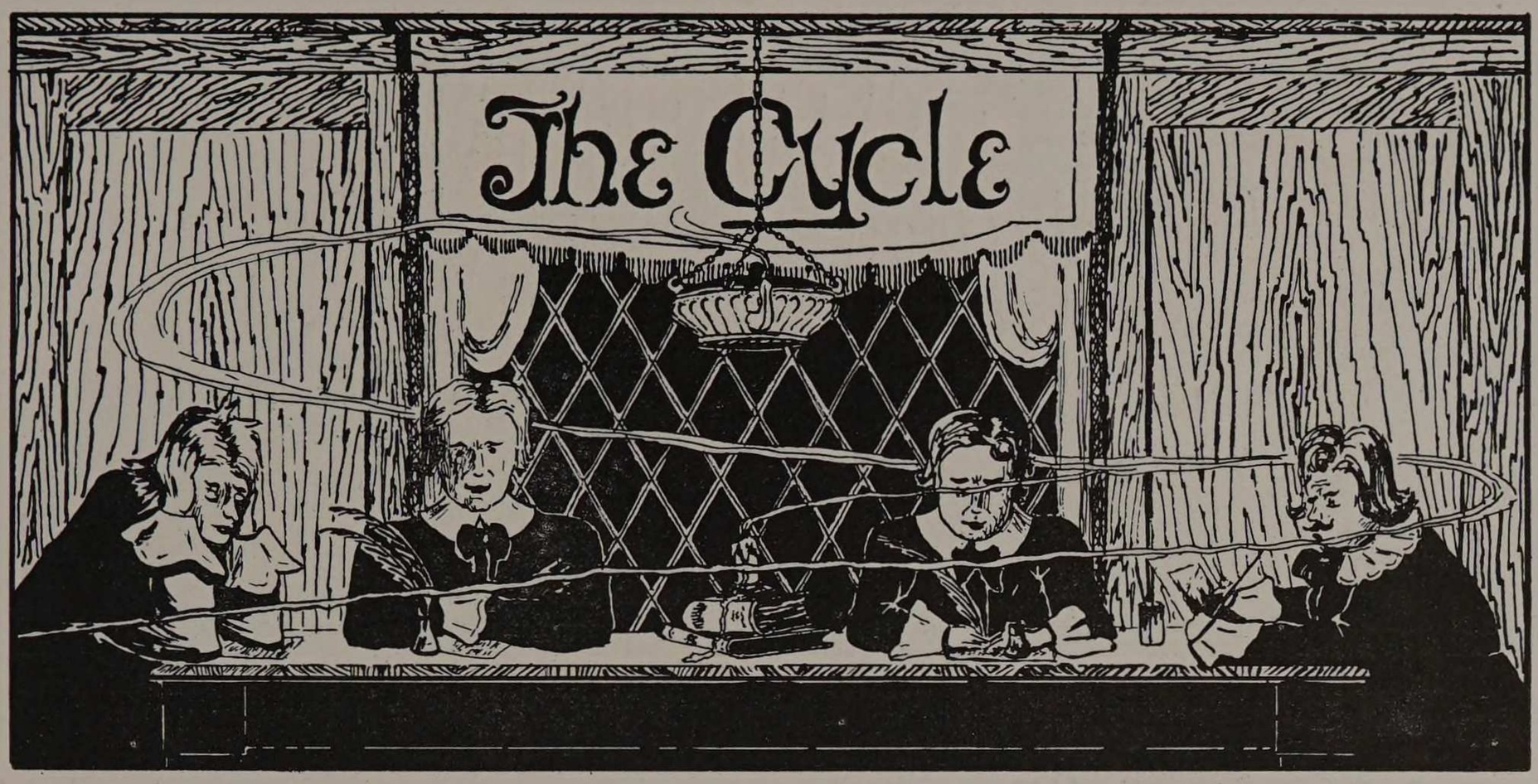


PUBLICATIONS



J. W. McCaffrey
B. Z. Nowakowski

J. Corydon, Jr.
W. E. Kingsley



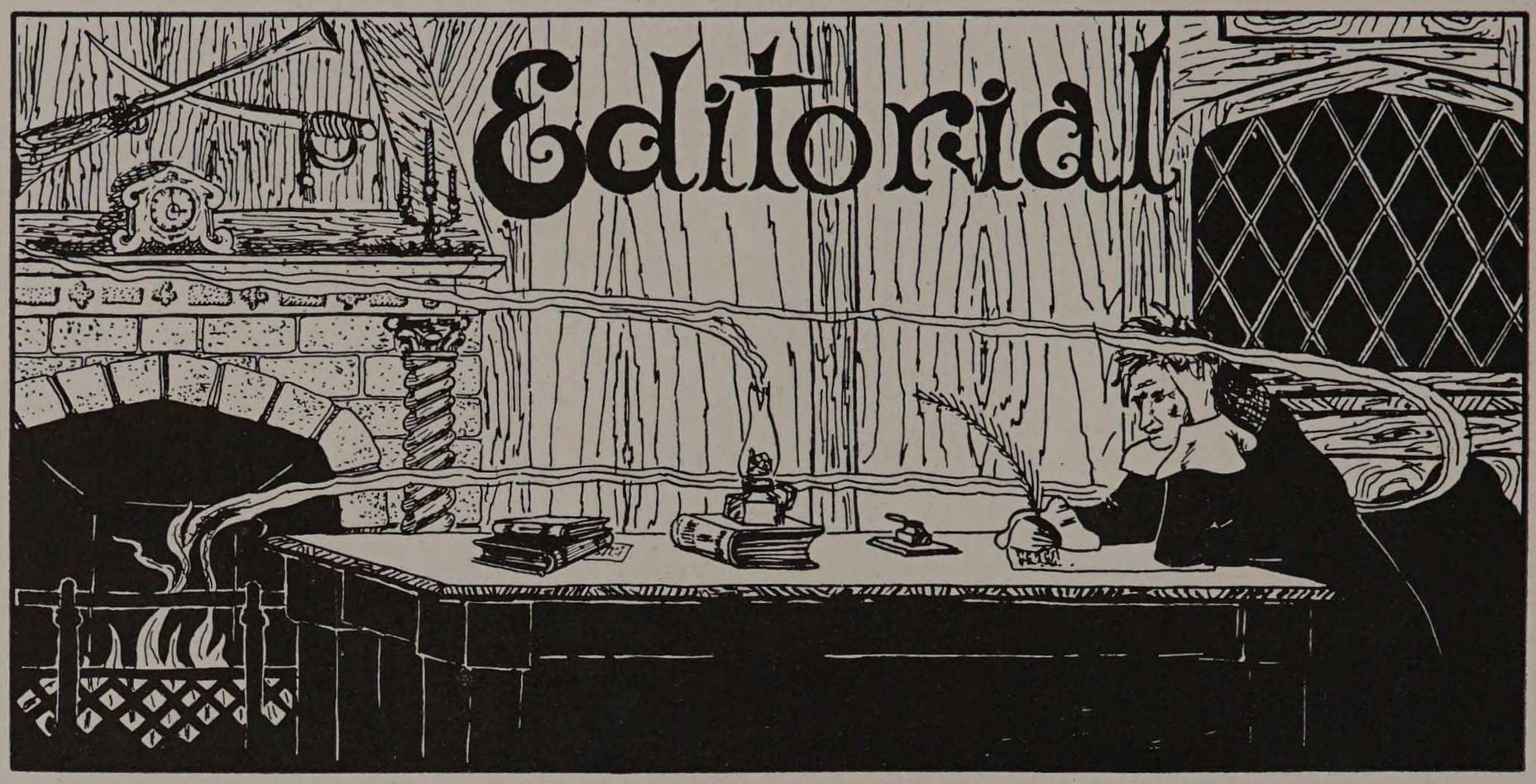
The Staff

J. WARREN McCAFFREY.....Editor-in-Chief
BRUNON Z. NOWAKOWSKI.....Assistant Editor
JEFF CORYDON.....Business Manager
WILLIAM E. KINGSLEY.....Advertising Manager

Departmental Editors

JOHN J. DEMUTH.....Art
WENDELL M. BAKER.....Humor
CLARENCE A. HERBST.....Fraternity
EDWARD A. GOODNOW.....Organizations
EDWARD A. HERSKOVITZ.....Eng. Societies
ALFRED A. DAVIS.....Social
MARVIN R. OLSON.....Athletic

STANLEY H. BARCE.....Senior
H. W. MUNDAY.....Sophomore
O. M. SPAID.....Freshman
} *Class Representatives*



The war is over. Readjustments of domestic conditions have been slowly but surely taking place. School activities and College life have swung back to a pre-war state. And so after the stabilizing effect of the 1920 Cycle the staff of the 1921 Cycle decided that having regained our feet it was our duty to get in step with the world and to continue along the path of progress. We think we have. We accepted last year's edition of the College Annual and with no intent or detracting from it in the least, have injected new ideas into it and in our own way have tried to stay in the vanguard of Progress' march. Of the many new ideas that have been inoculated into volume IX we expect some will be received with much pleasure, while others will arouse severe criticism. We will be gratified to hear the kind expressions of pleasure from our subscribers. Besides we will gladly welcome any constructive criticism of this volume. I say gladly because although the criticism will come too late in order that we might benefit by it, it will be a priceless legacy that we can bequeath to our successors.

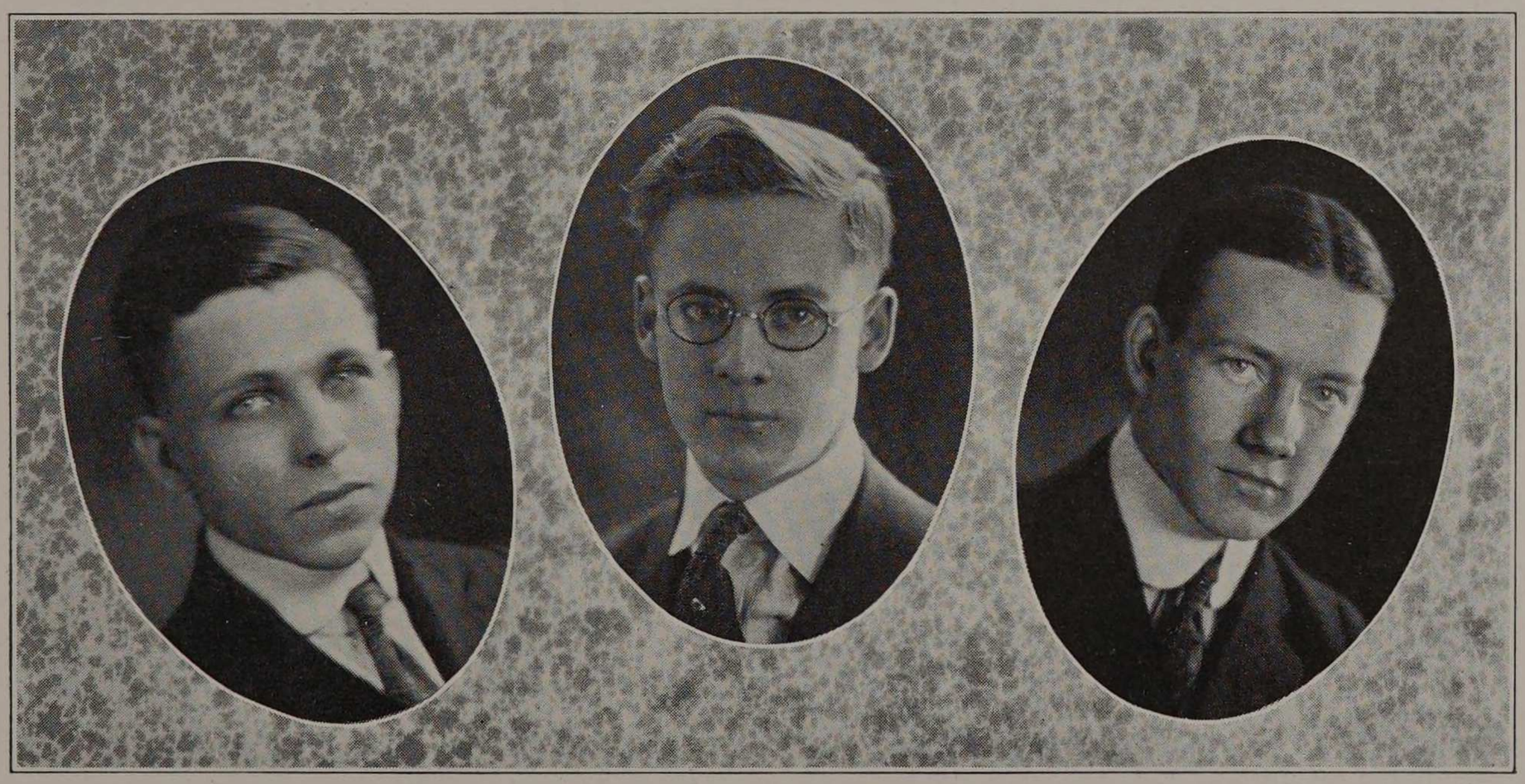
In preparing this volume, quite a few hazards made the sailing rough. The present staff was not elected until the middle of October, 1920, and so lacked the impetus obtained by a timely push-off on the opening day of the semester. The second and by far the more painful upset of our plans occurred when our first president, Dr. Frank Wakely Gunsaulus, passed out of this world. His death was a terrible blow to the Institute and to all with whom he had dealings. And in more ways than one has the influence of his death upon the College's affairs been reflected among these pages. The editors of the Cycle consider it a truly great honor to be in a position to pay tribute to such an eminent man. We have dedicated this volume to his memory and realize full well that in so doing, his death will make this a monumental volume. We are proud to be the authors of a monument to the memory of Doctor Gunsaulus but would much prefer that he had lived.

The last barrier in our path occurred in the home stretch. It was the printers' strike which lasted nearly one week. It is unnecessary to say more about that because the public news organs covered it completely. We are sorry for the late appearance of the book and have tried to atone for the tardiness by improving on the quality of the book. But as you see, the hindrances were beyond our control.

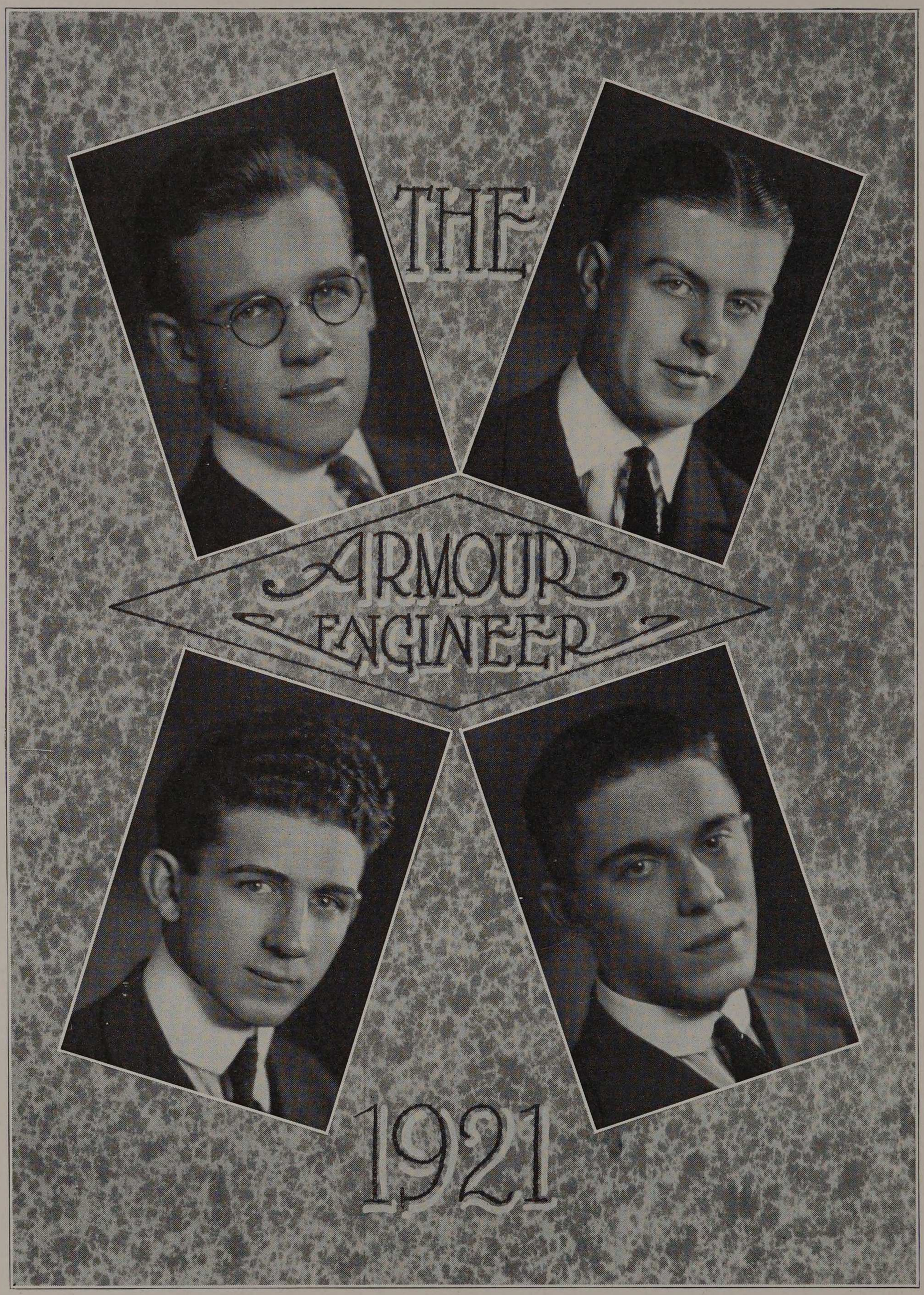
Because a college annual is very often the only tangible means of recalling to the mind of the graduate the days he has spent in college, the Cycle Staff has moulded this book after a fashion that they believed would best enable the graduate to live over again "those good old college days." To bring about this desired result we have left nothing undone. We have endeavored to depict all the different phases of a college student's life here at Armour Institute. The activities of the students are represented by both words and pictures. As a record it covers the events of the school year 1920-1921 completely.

In conclusion I would like to thank all those who helped make this volume what it is. Especially do I want to thank the other members of the staff who were always willing to help and without whose unreserved assistance the book would have been a failure.

CLASS REPRESENTATIVES

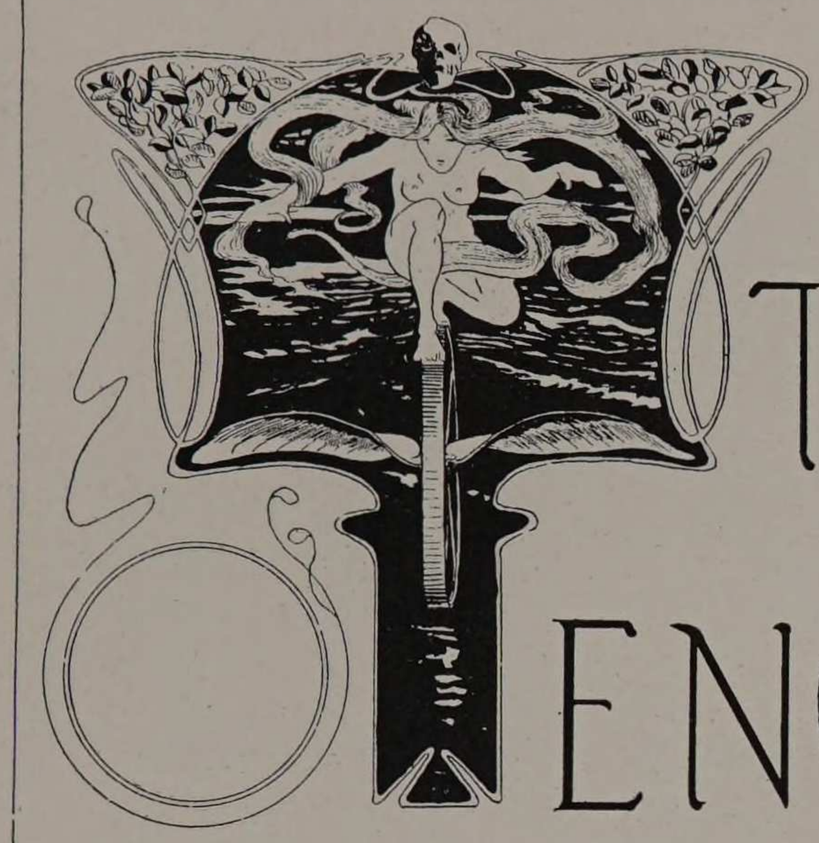


S. H. Barce H. W. Munday O. M. Spaid



J. P. Sanger
S. N. Havlick

F. E. Hayden
E. F. Winter



THE ARMOUR ENGINEER



JOHN P. SANGER.....*Editor-in-Chief*

SPENCER N. HAVLICK.....*Managing Editor*

FLETCHER E. HAYDEN.....*Business Manager*

EMIL F. WINTER.....*Assistant Business Manager*

With the arrival of normal conditions of affairs, the year 1920 sees again the publication of the Armour Engineer. The May, 1921, issue will complete Volume XII. With the success and influence built up by previous issues in mind, the present staff undertook to maintain and uphold the established standards and precedents of the journal, and to take up the work where it was laid down by the previous staff.

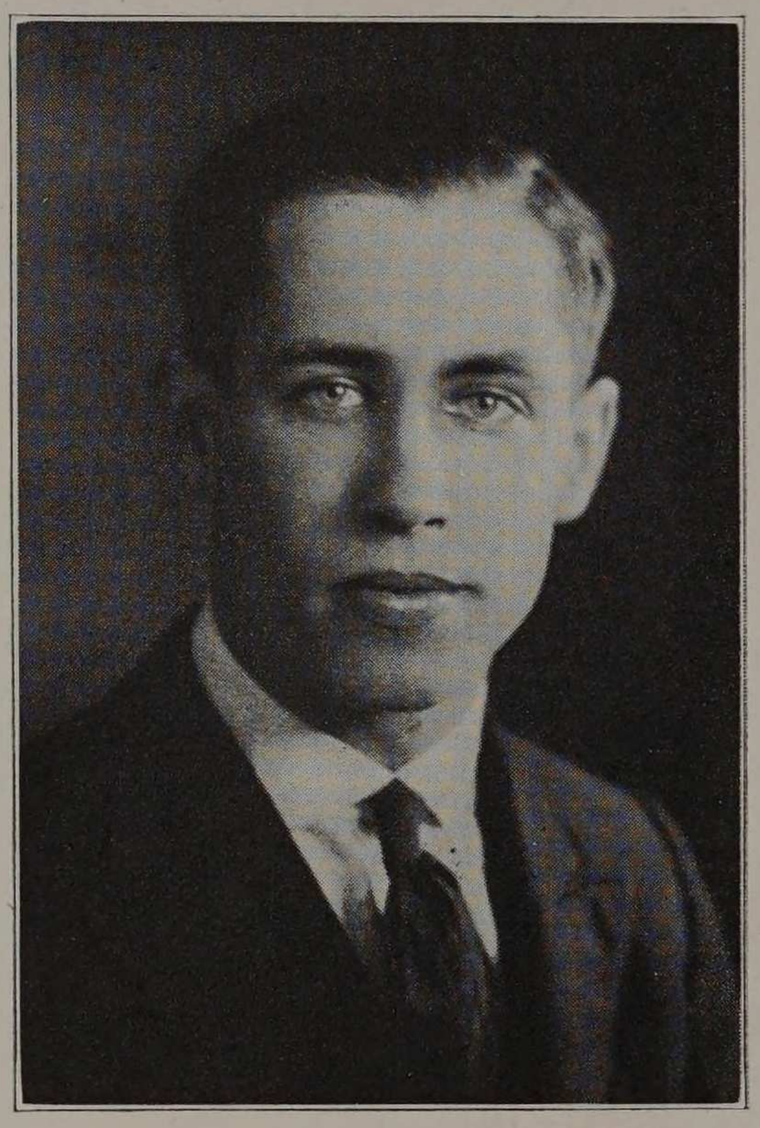
In bringing the Armour Engineer back to its former status among engineering publications, the staff realized the hearty co-operation extended by the Alumni, the faculty, and the students of the Institute. The aim has been to bring the Alumni into closer relationship with the Institute activities and with one another, and at the same time to form concrete ideas for the students of the work successfully engaged in by thte Armour graduates. The Alumni section acts as a news agency among the graduates of the Institute. Here are listed the various activities and pursuits of the Armour Alumni. The College Activities section keeps the readers in touch with the events occuring on the campus and is of a "newsy" nature.

The editors of Vol. XII wish to express their deep appreciation for the many valuable suggestions received from Dean Monin and Dean Raymond; and for the support and contributions tendered by the Alumni, faculty, and students of Armour Institute.



MAIN STAIRWAY


Della Lorraine Vortex
ACHLECICS.



MARVIN R. OLSON

Athletic Editor

ATHLETICS

Athletics at the Armour Institute were re-established on a very favorable basis, that is to say, intercollegiate activities had received the support of the general student body. When national affairs became normal again, the Executive Council, acting with the aid of the Board of Athletic Control, unanimously endorsed a system of athletics which would interest even the most unconcerned individual, which system proved remarkably successful. The system was of such a character that the students who did not actually participate in athletics, were accorded an opportunity of offering suggestions which would promote the work of that department. Home game admission tickets were provided for distribution, and with the kindly aid of a squadron of students, many of them were sold. The holders of these tickets attended each of the home games, thereby standing by and sticking with the basketball and baseball teams.

The intercollegiate basketball tournament was most successfully carried on, although the Institute had severed its conections with the Little Five Conference. The series of tournament games were played on a free lance basis without regard to any ironclad athletic arrangements with other colleges. Our conduct was thus free from the critical observation of any western organizations to which we would have been bound under different circumstances.

An intercollegiate baseball schedule was adopted also this year. Games were arranged with the leading college teams around through the neighboring states. The free lance idea prevailed in this schedule and for the same reasons as it did in the basketball tournament. To date Armour has made a very successful showing and bids fair to finish with a high average.

Two new sports crept into the Armour Athletic circles this year. A wrestling team was formed under the guidance of one of the senior students. Regular practice sessions were held and the training for the team's few matches was quite intensive. The sport probably will be taken up again next year with renewed spirit.

The other sport that was revived by a few enthusiastic students after a few years interruption due to the Great War was track. Track used to be one of the three major sports at Armour. Beyond a doubt it will be returned to its former plane next year because of the uplifting efforts of the members of this year's track squad. Armour only competed in one meet but the enthusiasm and material is present which augurs well for next year's prospects.



OFFICERS

J. J. SCHOMMER.....President
G. S. ALLISON.....Treasurer
C. B. GOODMAN.....Secretary to the Board

EXECUTIVE MEMBERS

H. M. RAYMOND
L. C. MONIN

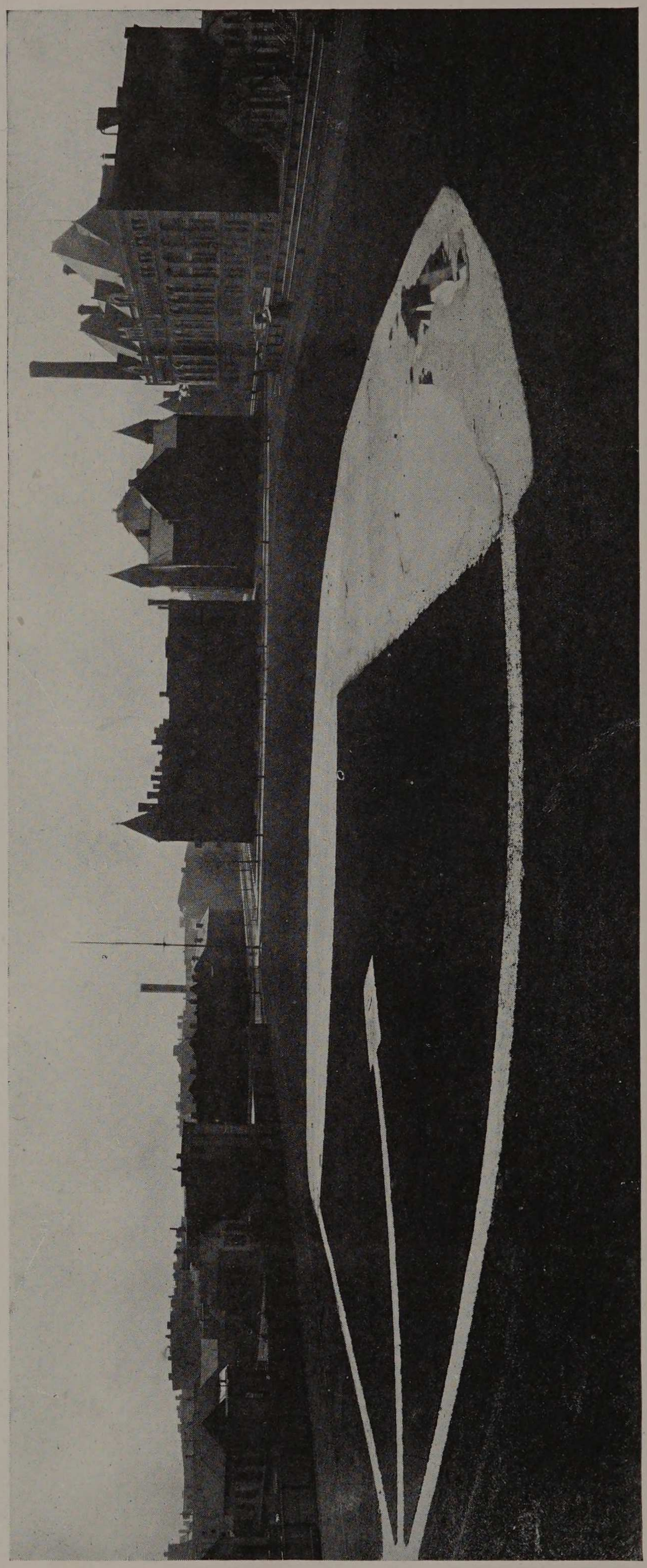
FACULTY MEMBERS

C. W. LEIGH
P. C. HUNTLEY

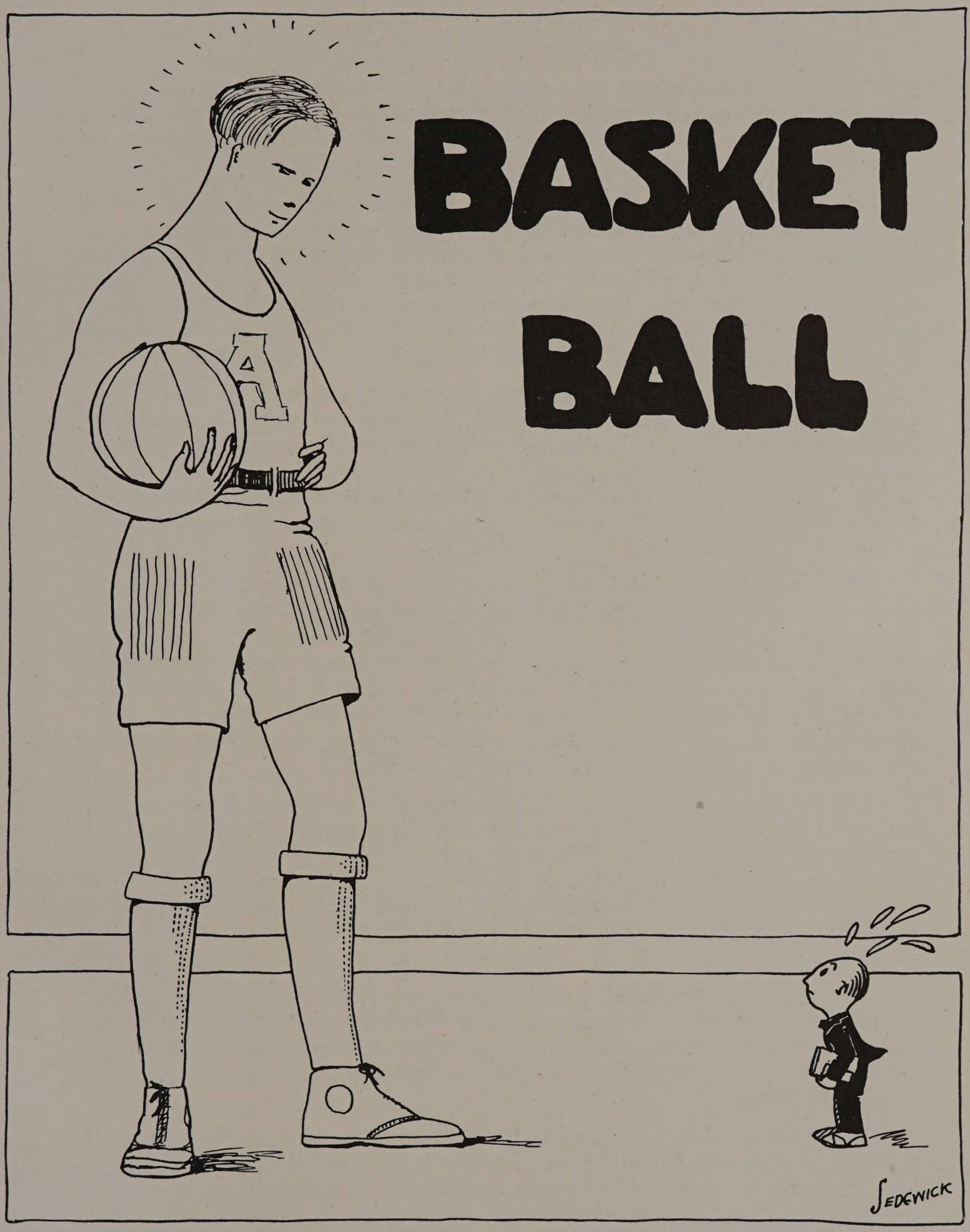
STUDENT REPRESENTATIVES

S. N. HAVLICK.....Senior Class
O. KUEHN.....Junior Class
G. SCHUMACHER.....Sophomore Class
P. WITASHKIS.....Freshman Class





OGDEN FIELD


BASKET
BALL
SEDGWICK

BASKETBALL

The initial game of the season was played with the American College of Physical Education on November 30. The Institute team won this game by a score of 33 to 21. In this game Ahlbeck and Schumacher starred for Armour, the former making six baskets and the latter four.

The Institute players made a trip to Indiana and played Butler College on December 3. The two teams were well matched and alternately held the leading score until the latter part of the second half when Pat Page's team made a series of long field goals. The final score was 32 to 23. The following evening the Institute team met the University of Indiana team on the latter's floor, and was defeated by a score of 16 to 48, by the strongest team in Indiana and probably in the Big Ten Conference.

On December 10 the Institute team met the Hahnemann Medical College team in the Armour gymnasium. This game was a decided victory for Armour in every detail as is shown by the score, which was 34-14. Ahlbeck increased the Tech score considerably by making seven baskets and six free throws. Close guarding by Johnson and Havlick kept the Medics away from their goal and forced them to take long shots at the basket which they failed to make.

The University of Chicago booked a game with Armour on December 15, in Bartlett Gymnasium. The Tech team played a remarkable passing game, and led the Maroons by a 2 to 0 score for several minutes after the starting whistle. Due to a strong Maroon defense the Institute players were unable to get within range of the basket for many shots, and Chicago soon took and held the leading score. The splendid following that the Institute had, which consisted of several hundred students and a fifteen-piece band, illustrated the manner in which the college is backing the team.

On December 17 the Institute team played the Illinois Wesleyan University at the Armour gymnasium and was defeated for the first time this season on their own floor. The victory for Illinois Wesleyan was gained principally by long field goals. Houssler of the Wesleyan team made the greater number of these for the visitors. Illinois Wesleyan is a member of the Little Nineteen Conference and is probably the strongest team in that Association.

Armour Institute played a second game with the University of Chicago on January 3, in which the most accurate "basket shooters" of the Maroon team were held to a few baskets. Due to the strong guarding and to the Tech players' ability to find the basket the final score was 15 to 34 in favor of the Maroons.

When the Chicago College of Osteopathy came to Armour they found the team in good condition, well able to find the basket and skilled in passing the ball. Schumacher made eight baskets and Havlick added eight more points to the score. Ahlbeck, Rutishauser, Sippel, Johnson, Payson and Fischer showed their ability to break through the defense of the Osteopaths.

Close contests were had with old rivals such as Augustana College, Lake Forest College, and Valparaiso University. The Armour team had dropped a game to the former in their gym, but evened up matters later in the season. The Rock Islanders made rapid strides in a game on the Armour floor, February 25, but were soon checked after the first half, tying the score, 31 to 31, with only 3 minutes to play. Witashkis, on the Tech team, subsequently rolled in a pretty basket and upset the even tally. The game was a treat to the spectators who were in the air most of the time during the close play.

Lake Forest College was outclassed in each of its two games with Armour. The Institute team made a final invasion of lower Illinois when it played two close games with Wesleyan and Millikin Universities on their floors. Millikin's braggadocio spirit was dampened when Armour defeated its team in the former college's gym. The Tech players brought home the "bacon" still steaming hot, and chuckled at their easy victory over the Little Nineteen leader which had just defeated the Universities of Illinois and Iowa in nip and tuck contests. The Armour team had a lead of 10 to 2 in the first half of the game.

Armour students should remember that an athletic team is as strong as its supporters. Good cheers destroy jeers. An enthusiastic crowd of student supporters can carry a team over the brink to victory. We are indeed proud of our student fans who did their part in this hardest of all basketball seasons.

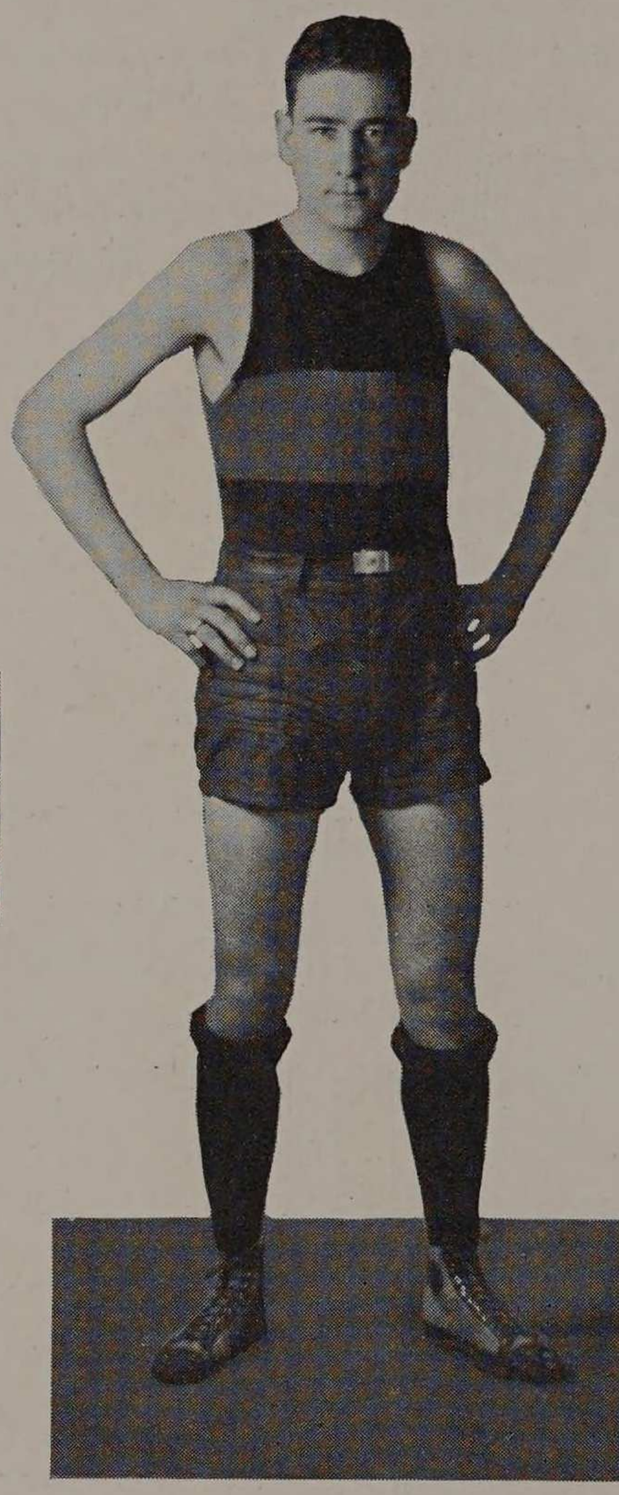
BASKETBALL SCHEDULE.

American College of Physical Education—at Armour	Nov. 30
Butler College—Indianapolis, Ind	Dec. 3
Indiana Universiy—Bloomington, Ind.	Dec. 4
Hahnemann Medical College—at Armour	Dec. 10
Illinois Wesleyan University—at Armour	Dec. 17
Chicago College of Osteopathy—at Armour	Jan. 7
Notre Dame University—at Armour	Jan. 12
Chicago Technical College—at Armour	Jan. 14
Valparaiso University—Valparaiso, Ind.	Jan. 17
Lake Forest College—Lake Forest, Ill.	Jan. 19
Augustana College—Rock Island, Ill.	Jan. 27
American College of Physical Education—Chicago, Ill.	Feb. 1
Lake Forest College—at Armour	Feb. 8
Notre Dame University—South Bend, Ind.	Feb. 11
Elmhurst College—at Armour	Feb. 16
Illinois Wesleyan University—Bloomington, Ill.	Feb. 21
James Millikin University—Decatur, Ill.	Feb. 22
Augustana College—at Armour	Feb. 25

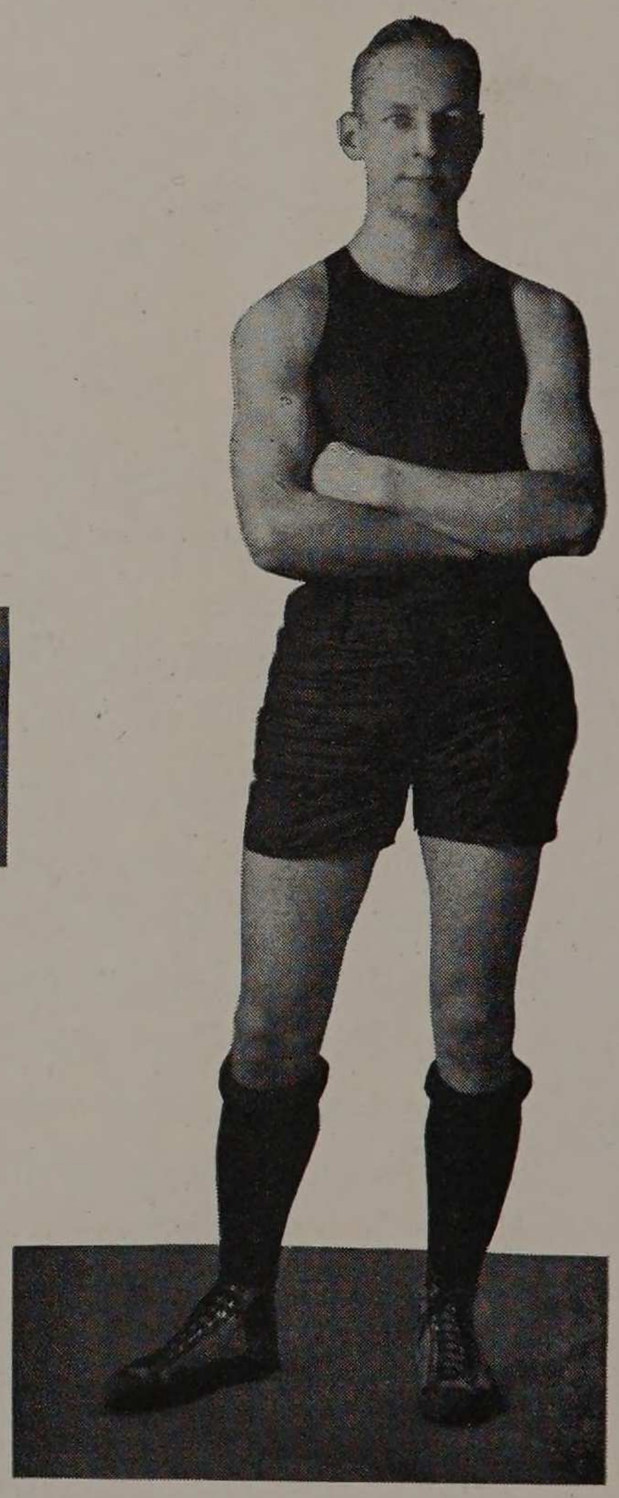
ARMOUR TECH
VARSITY
BASKETBALL
'20 - '21



S. N. Havlick



G. N. Schumacher



H. W. Ahlbeck

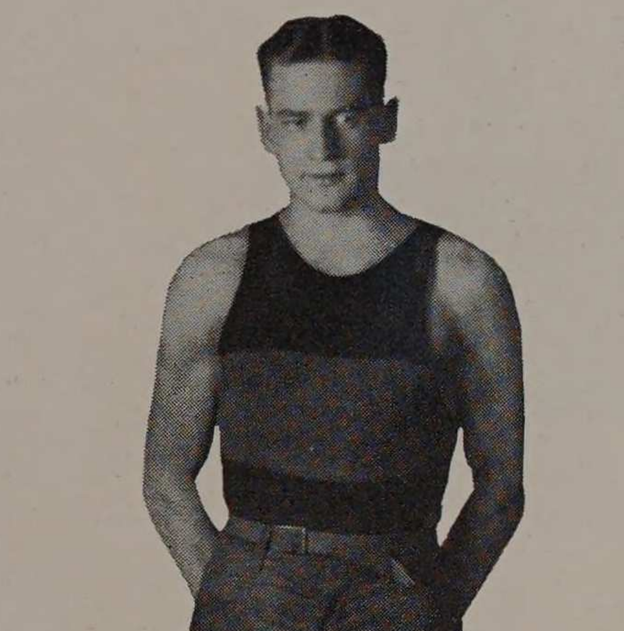
ARMOUR TECH VARSITY BASKETBALL '20 - '21



C. Sippel



O. Kuehn



D. Rutishauser



P. WITASHKIS



E. A. JOHNSON

WINNERS of the "A"

HAVLICK, Capt., - - - - - *Guard*
SIPPEL, - - - - - - - *Center*
AHLBECK, - - - - - - - *Forward*
KUEHN, - - - - - - - *Forward*
SCHUMACHER, - - - - - *Forward*
RUTISHAUSER, - - - - - - *Center*
JOHNSON, - - - - - - - *Guard*
WITASHKIS, - - - - - - - *Guard*

This year's basketball team consisted of the following players:

S. Havlick (Capt.) .....Guard	P. Witashkis .....Forward
H. Ahlbeck .....Forward	E. Johnson .....Guard
G. Schumacher .....Forward	E. Payson .....Guard
C. Sippel .....Center	A. Zalewski .....Guard
D. Rutishauser .....Center	A. Fischer .....Guard
O. Kuehn .....Forward	S. Farrell .....Forward

Captain Havlick fitted into his position as guard perfectly. Under his able direction the team was led through a successful season. Captain Havlick and his team maintained the spirit of clean sportsmanship and fair play for which Armour is well known. He was truly impregnable, and never faltered when the strain of a hard game began to tax his strength and nerves. Too much praise cannot be accorded this stellar player—a leader of men, both off and on the basketball court.

Schumacher, playing forward, needs to be commended for his brilliant floor work. "Shoe" had his eye on the ring, and simply sank basket after basket from the early part of the season to the last half of the final game of the season. His long shooting was as sure as the simple shots under the basket. A great percentage of his tries for the goal materialized, and he laid the ball on the rim dozens of times.

Witashkis, playing guard, was marked for his sensational dribbling. "Wittie" played a fine fast game at all times. His method of slipping through an opponent's fingers, so to speak, is only one of the many tricks "Wittie" had stored away in his little bag. We are glad to learn that this lightning-like player will return to school next year and again offer to the the basketball team his services.

The qualities of form and fitness are essential in the making of a player. Rutishauser, playing center, could boast of both these essentials. This tall, agile player gained the tip-off in most instances. His team-mates met immediately after the last game of the season, and elected him to the Captaincy of next year's team. We are in accordance with all that will make "Rudie's" administration a success.

It was at first thought that Ahlbeck had deserted the basketball circle. As a result, a sharp search was made for other guard timber. But Harry subsequently returned to the fold, putting forth his same good old efforts—standing by and sticking with the team. His playing ability may be classified as of high grade. The basket fans may have wondered at Ahlbeck's absence from the game during the season's windup. Harry had pulled out of a fracas with an injured arm, and was advised to retire.

Kuehn, a guard and forward rolled into one, joined the ranks after half of the games had already been played. Otto's playing was well known by those who saw him in action last year.

Sippel, playing center, was a chip of the old block. "Corney" played a good game throughout the season.

Johnson, a budding star, became an integral part of the Armour quintet. His fast and careful movements in a close game, and his ability to snap the ball from the backboard, set him out in the limelight.

Farrell joined the ranks late in the season. During his brief association with the squad, be became a valuable utility man.

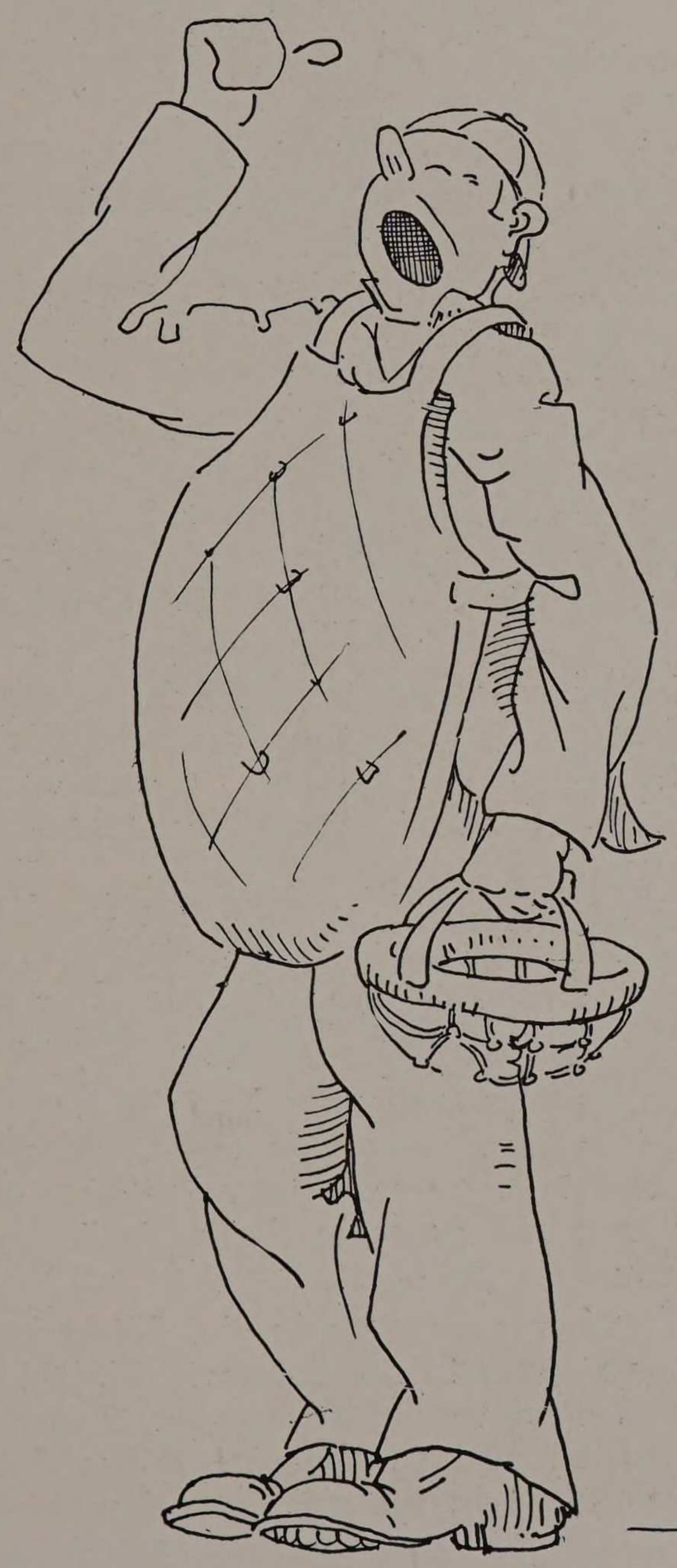
Fischer, also a product of last year's squad, played well his part in this year's tournament. The team was well supported by this old timer.

Payson, a very active center or guard, showed up well in the contests in which he figured. We hope that Payson will be on the squad next season.



GOODMAN SIPPEL PAYSON RUTISHAUSER FISHER
JOHNSON AHLBECK HAVLICK SCHUMACHER KUEHN
FARRELL WITASHKIS

BASEBALL



T. MINKUS

BASEBALL

A heavy schedule marked the opening of the baseball season of 1919-1920, at the Armour Institute of Technology. The baseball team began their season's training with no easy competition ahead of them. The infield as well as the green in Ogden Field were mercilessly pounded out of shape by heavy rainstorms. The institute players practiced in the gym, where they were relegated for several months.

The Armour nine welcomed the first appearance of real baseball weather by donning their grays and hitting the pill around in true outdoor fashion. An artificial diamond was built in the outfield and used until the regular one permitted invasion.

The institute's hurling staff comprised Bready, Gilbertson, Desmond, and Van Dyke, all of whom pitched airtight ball throughout the season. These players were able to put enough of "something" on the ball to smoke out even the most skillful batters that faced them.

We had a pair of steady catchers in Grueb and Liu, the former having earned the appellation of "pinch hitter." Malpede occupied first base, while Rowe played second, and Schumacher third. Sevic was at short, and had a whiz of a whip. The outfielders were an integral part of the team, and muffed very few flies that came their way. That part of the game was well handled by Zingheim, Mooney, Erickson, and Plocar.

The Tech players started out the season with a double-header, playing Hillsdale College in the morning, and Lake Forest in the afternoon of April 16, 1920. After losing the morning game to Hillsdale of Michigan, 11 to 6, Armour Institute slammed the pill hard and defeated Lake Forest, 10 to 7, in the afternoon encounter. Bready and Zingheim each soaked home runs in the morning.

The institute players invaded Indiana on April 19, where a hot contest was had with Valparaiso University. Strangely enough, this was a hoodoo day for the Hoosier team, as well as for Armour. A section of the bleachers fell, toppling many rooters to the ground. A number were slightly hurt. To top the climax, Valparaiso defeated Armour, 11 to 2.

On April 24, Armour Institute poled sixteen healthy swats for a 10 to 5 victory over Augustana College of Rock Island. Bready and Grueb each connected for two doubles and a single and Mooney poled a homer and a single.

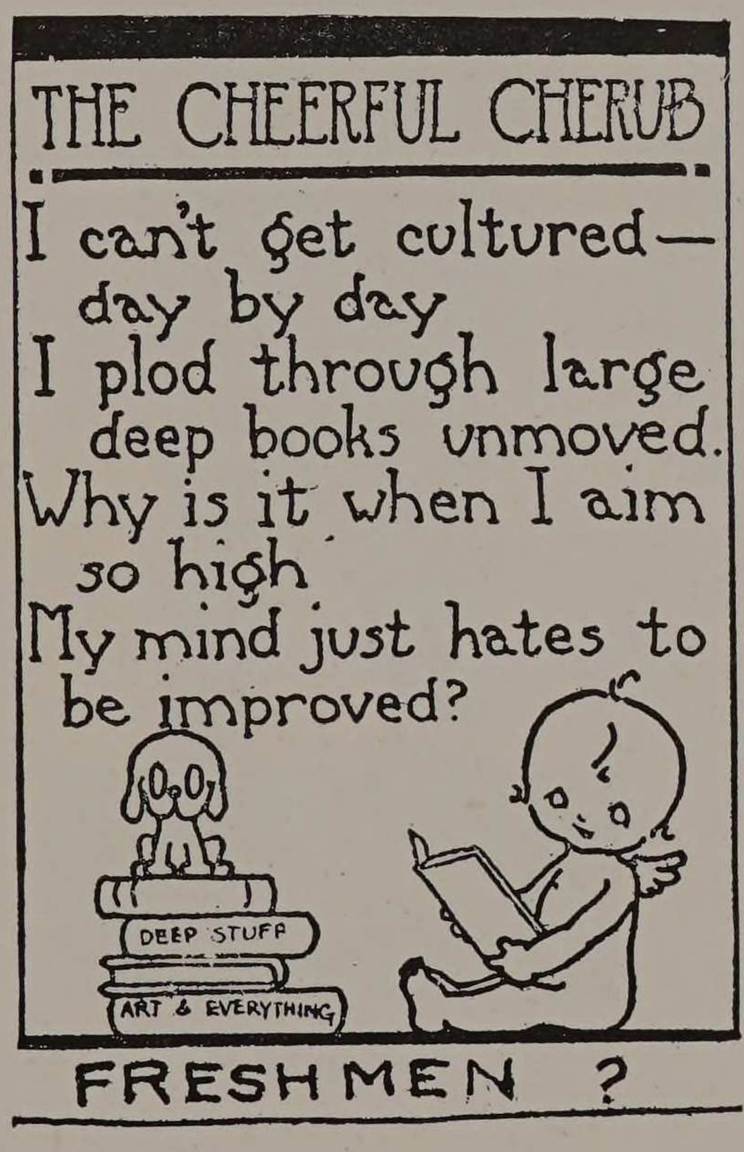
An old rival dropped a game to Armour, when the latter defeated Valparaiso University, 7 to 0, in Ogden Field on April 27. Airtight pitching by Bready, who allowed only two hits, gave Armour Institute an easy victory over the visitors. Armour won the game in the sixth inning when Grueb hit a home run with two mates on the bases.

Armour conquered its former adversary in the Little Five Conference when Lake Forest lost a close game to the former. Finishing in sparkling style, the Tech players carried off a ten inning victory, 9 to 8, on the loser's diamond. After the nines battled through alternate rallies, Lake Forest tied it, 8 to 8, by a three run onslaught in the eighth, and was on the verge of winning in the ninth when Mooney's peg from deep left cut off a run at the plate. In Armour's half of the tenth Grueb tripled and scored on a sacrifice.

The team sojourned to Michigan to play the Michigan Aggies on May 3. The hosts beat the institute players, 13 to 5. Errors accounted for eight runs.

When the Tech team played Knox College on its diamond on May 8, the latter won, 6 to 5. Armour took the lead in the first inning, but lost it in the sixth, when Knox drove Desmond from the box.

The last game on the schedule was the closest played. Beloit College beat Armour Institute, 2 to 0, on a muddy field that prevented fast baseball. It was a pitcher's battle from inning to inning.



ARMOUR TECH VARSITY



WM. N. ERICKSON



I. J. BREADY



G. N. SCHUMACHER

BASEBALL 1920

ARMOUR TECH
VARSITY



A. C. GRUEB



A. S. LIU



W. F. DESMOND

BASEBALL
1920

ARMOUR TECH
VARSITY
BASEBALL
1920



T. J. ROWE



D. J. MALPEDE



WM. SEVIC



F. J. MOONEY



WM. ZINGHEIM

WINNERS OF THE "A"

ERICKSON, Capt. ..... Field
BREADY ..... Pitcher
LIU ..... Catcher
MALPEDE ..... First Base
ROWE ..... Second Base
SEVIC ..... Short Stop
DESMOND ..... Third Base
ZINGHEIM ..... Field
MOONEY ..... Field
SCHUMACHER ..... Utility

PERSONALS

"Cap." Erickson was a complete athlete. Unlike most athletes, he always retained his composure. He stood the gaff of a game with unflinching spirit, and carried on with the interests of his team at heart. He deported himself at all times as a captain should.

When speaking of athletes who have made good, we are cognizant of the admirable record that had been made by Ira during his four years at the Institute. Ira was known for his athletic abilities in every direction. He was a versatile baseball player. Bready's record in baseball will remain for time immemorial.

The team had a good number of "Bills." Among the players of that name was Zingheim. He could be seen out in the field snapping off every fly, and picking up the most ragged grounders. As a basball man, Bill proved himself a worthy part of the team.

Plocar played in the field. He gave to the team his best efforts.

"Hank" did part of the season's pitching. His most outstanding characteristic was a speedy way of hurling the ball in the easiest manner with a long trail of "smoke" behind it. Van Dyke's assistance during the whole season cannot be measured.

Every team must have a Jester, and he was found in the person of our jovial player Mooney. Frank drove away the gloom in a close game, and knew how to drive the ball away, too. He was known for his habitual home runs.

A first sacker must necessarily be a first grade player, and Dan was so constituted. His remarkable way of holding on to the ball regardless of his position at the base, was an important accomplishment. We will always remember Dan Malpede for his broad smile under all circumstances.

Good baseball players are made in all sizes and qualities, and when the Manager of the Institute's team went on a shopping tour for baseball men, he stumbled over this athlete. "Gerry" Schumacher has the qualities sought for in every baseball player, and so far as his size is concerned, they say, that "good things come in small packages."

Gilbertson was on the pitching staff. His good work in that branch of baseball will be remembered always.

A tiny fellow with a whale of a whip, from deep short. That is the fitting sobriquet for "Billy" Sevic, who played his part well.

All the way from Japan came a miniature fellow who sought to take advantage of the educational opportunities offered by the United States of America. And when he had reached his Senior year in the Institute, "Chuck-a-luck" offered to train for a place on the baseball team. He was chosen to fill the position of Catcher on the first string team, and played a very good game. When a foul tip mashed his finger, Liu was compelled to quit playing, but he had earned his emblem for his loyal work with the Tech nine.

It seems that miniature baseball men are the doers of big things in every branch of sport. "Tommy" Rowe well earned his college emblem and put forth his best efforts from the beginning of the season to the end, despite the handicap of being switched from one position to another.

Another one of those Bills who play on important part in college life. Desmond's ability as a pitcher was his strongest argument in the most difficult games.



Nudelman, Mgr. Erickson Zingheim Volz, Coach Grueb Van Dyke Goodman
Mooney Malpede Desmond Bready Schumacher Gilbertson
Sevic Liu Rowe

THIS YEAR'S PROSPECTS

In response to a call for baseball candidates, a host of new material appeared for training. The institute baseball team for the season 1921 will be piloted by J. Leo Walsh, who played third sack with the Bloomington Champions, and is now under contract to appear in the Three I League, commencing June first. Coach Walsh believes that a strong aggregation may be formed out of the material at hand.

The first day's practice attracted over 40 candidates and, up to the present time, that number has been only moderately lessened. Coach Walsh is pointing out to the aspirants the necessity for a thorough knowledge of "inside baseball." A player who understands "inside baseball" is an asset to his team. Besides knowing how to play baseball mechanically, an athlete must apply psychology to every mechanical move. It does not require ability to play the game a certain way—according to settled rules—failing to use judgment and discretion when the occasion warrants their use. A baseball player should be more than a mere manikin that acts and works only when its spring is wound.

The institute is badly in need of a pitching staff. The nucleus around which a pitching staff may be formed presents itself in the persons of Desmond, Van Dyke, and Gilbertson, of last year's team. Schumacher, Rowe, and Plocar also furnish good building material for this season's nine.

The baseball team will be headed by their Captain, William Zingheim, who played in the outfield last year. On account of illness, Captain Zingheim was compelled to leave school in the early fall. He has now returned to the fold, and will guide the ventures of this season's ball team.

A strong schedule has been arranged, including competition with such teams as Northwestern University, University of Chicago, DePauw University, and others. The program for 1921 is as follows:

BASEBALL SCHEDULE FOR 1921.

Saturday, April 2, at Armour—ELMHURST COLLEGE.
Monday, April 4, at Beloit—BELOIT COLLEGE.
Saturday, April 9, at Evanston—NORTHWESTERN UNIVERSITY.
Tuesday, April 12, at Stagg Field—UNIVERSITY OF CHICAGO.
Friday, April 15, at Armour—AUGUSTANA COLLEGE.
Tuesday, April 19, at Armour—CONCORDIA TEACHERS COLLEGE.
Wednesday, April 27, at Peoria—BRADLEY POLYTECHNIC INSTITUTE.
Saturday, April 30, at Armour—LAKE FOREST COLLEGE.
Tuesday, May 3, at Armour—BELOIT COLLEGE.
Friday, May 6, at Armour—BRADLEY POLYTECHNIC INSTITUTE.
Saturday, May 7, at Rock Island—AUGUSTANA COLLEGE.
Wednesday, May 11, at Elmhurst—ELMHURST COLLEGE.
Monday, May 16, at Lake Forest—LAKE FOREST COLLEGE.
Friday, May 20, at Armour—VALPARAISO UNIVERSITY.
Saturday, May 21, at Oak Park—CONCORDIA TEACHERS COLLEGE.
Monday, May 23, at Valparaiso—VALPARAISO UNIVERSITY.
Tuesday, May 24, at Greencastle—DE PAUW UNIVERSITY.

FRESHMAN ATHLETICS

The Class of '24 first made itself prominent by the excellent basket-ball team which it entered into the inter-class contests. Any class might well be proud of the record which this team made. Throughout the schedule they lost only one game, and at the finish they were tied for the championship of the Institute. Lack of time prevented the playing of any more games to decide the championship.

The fine playing of the team in the first game, against the Seniors, convinced the school that the Class of '24 was a serious contestant for the championship. The game was a hard earned victory for the Freshmen, although they took the lead early in the game and held it until the final whistle. The score was seventeen to sixteen. The second contest was lost to the Juniors by the close score of seventeen to fifteen. It was this one slip that cost the Freshman the title of champions. In the third and last game, against the Sophomores, the Frosh won; the tally being twenty-three to twenty-one. A longer schedule would have been preferred had time permitted, but that being impracticable, they had to be contented with the indecisive results.

By far the best player on the team was Captain Witashkis, who later won recognition by his brilliant playing on the Varsity team. "Phil" acted as right forward, being assisted by Mollering and Farrell, who alternated as left forwards. These two could always be depended upon in a tight play. Thorsen played center and as he invariably outjumped his opponent he proved to be a valuable man. Gardner and Ciha, by their excellent guarding, were quite effective in preventing their opposing forwards from scoring. A great deal of credit is due to the substitutes Olsen, Ruddimann, Brinkman and Mark, as it was their eagerness to enter the game at any time that carried the team over many rough spots. The class showed its appreciation of the work of the team by awarding numerals to all the players.

The Freshman class had two men on the Varsity basket-ball team; Witashkis and Farrell. The fine work of Witashkis won him a letter and a sweater, besides the applause and praise of the entire school. Farrell joined the team rather late in the season and so was unable to display his ability to any great extent.

At the first call for the baseball team, about fifteen Freshmen responded, among whom are several who have already won baseball honors elsewhere. It is expected that the Freshmen will have a fair representation on the Varsity nine this year.

WRESTLING

A trained wrestler was discovered among the seniors of the institute when H. M. Schiffman offered to teach the sport. Tuesdays and Thursdays were chosen as practice periods for the wrestling class.

The mat men of the institute were as follows:

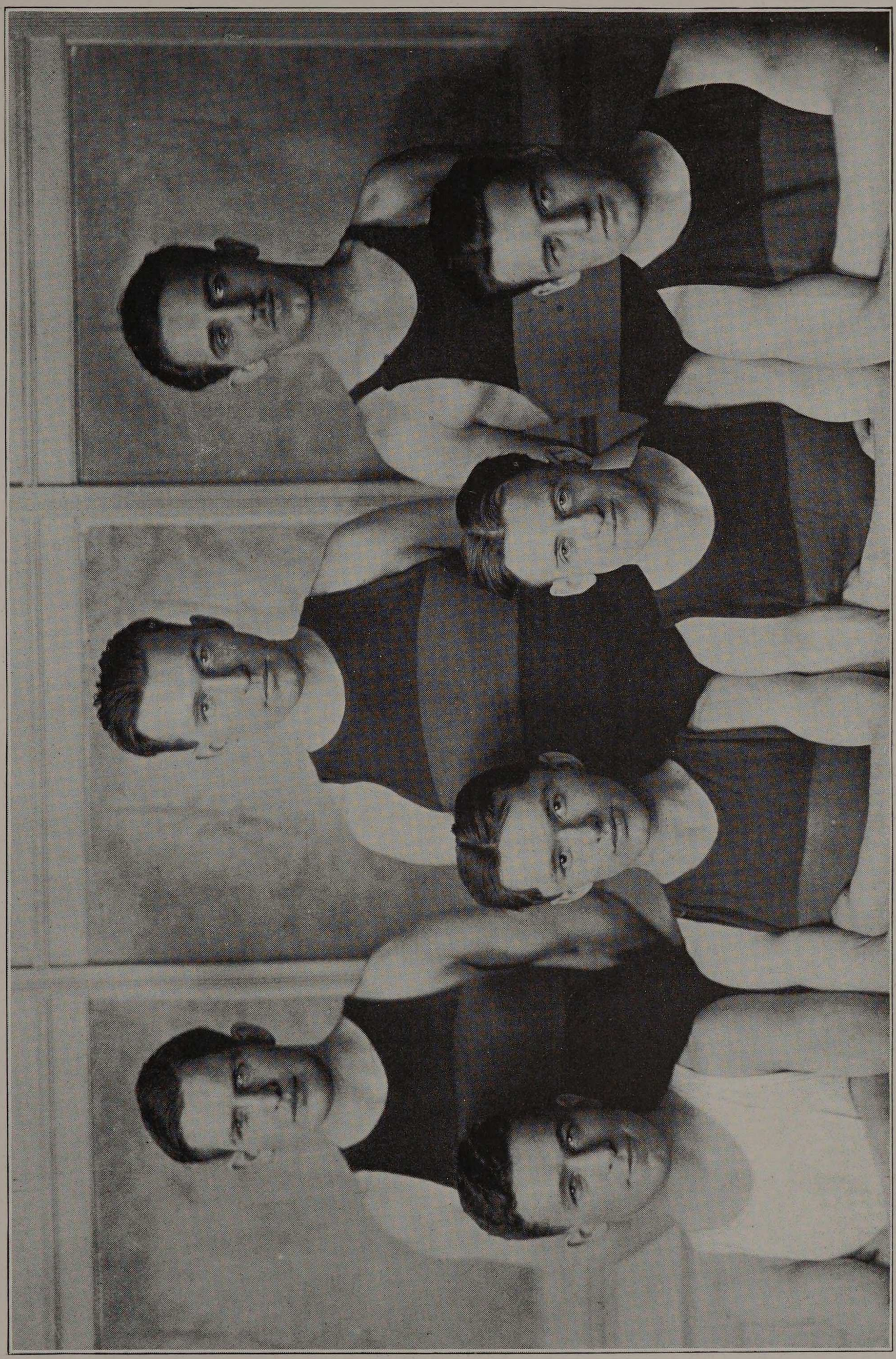
T. R. Farrington
J. Stangle
D. C. Colby
E. B. Wehmhoff
R. J. Pask
H. R. Nissley

The one big wrestling meet in which our team made an excellent showing was held March 25, 1921. American College of Physical Education furnished the opposition and had the advantage of meeting our grapplers on their home floor. The result was an honorable defeat for the Tech grapplers, two matches to three.

Schiffman who was the prime-mover of the sport at Armour was coach of the Institute's squad. Wrestling at 145 pounds he won his match in two straight falls using for the first fall a half nelson and bar arm. He won this fall in three minutes and forty seconds. He gained his second fall in four minutes and thirty seconds with an arm and head lock.

Stangle was the other victorious Armour wrestler. Wrestling at 125 pounds he proved the master of his opponent Baer. He obtained his first decision with a crotch hold in one minute and ten seconds. After a brief intermission he won his second fall with a chancery and arm lock in three minutes and thirty seconds.

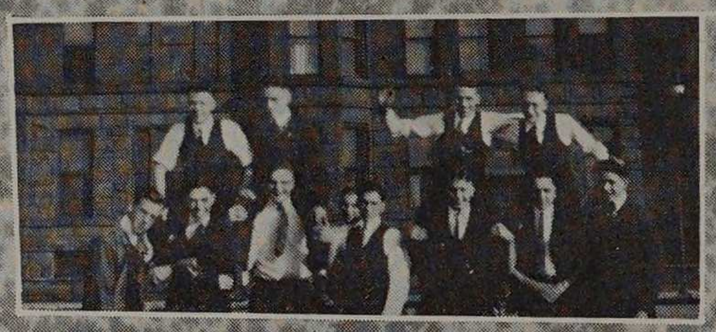
The American College of Physical Education won the other three bouts. Some of the losers on the Tech team came very close to upsetting things. They would have done so had they been drilled in more dual meets. The experience from this match and probably more to come will be invaluable to the men who will return to school next year and keep alive the interest in this manly sport. Wrestling is constantly and deservedly increasing in popularity and bids fair, with the available material on hand at Armour, to become one of our school's leading sports.









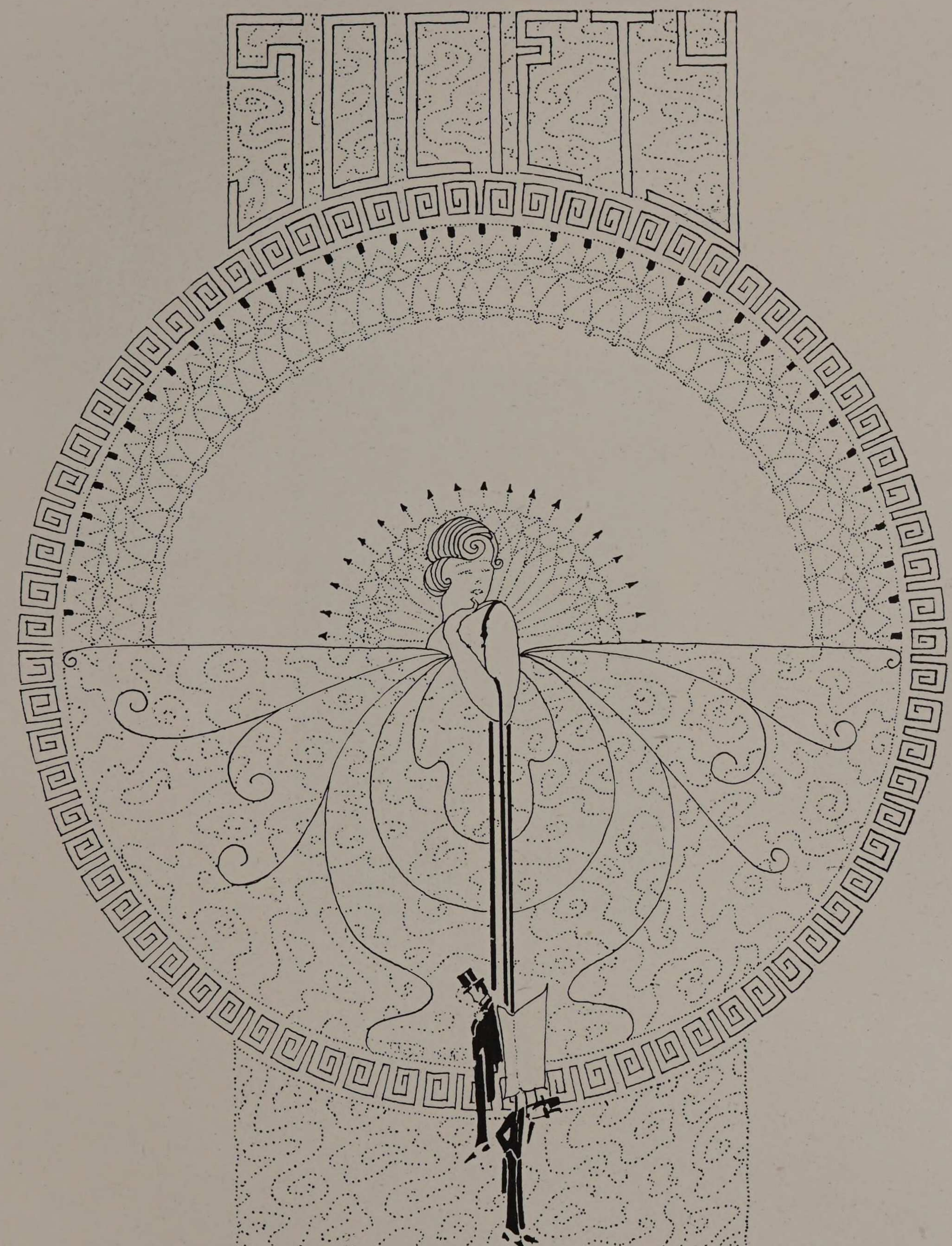


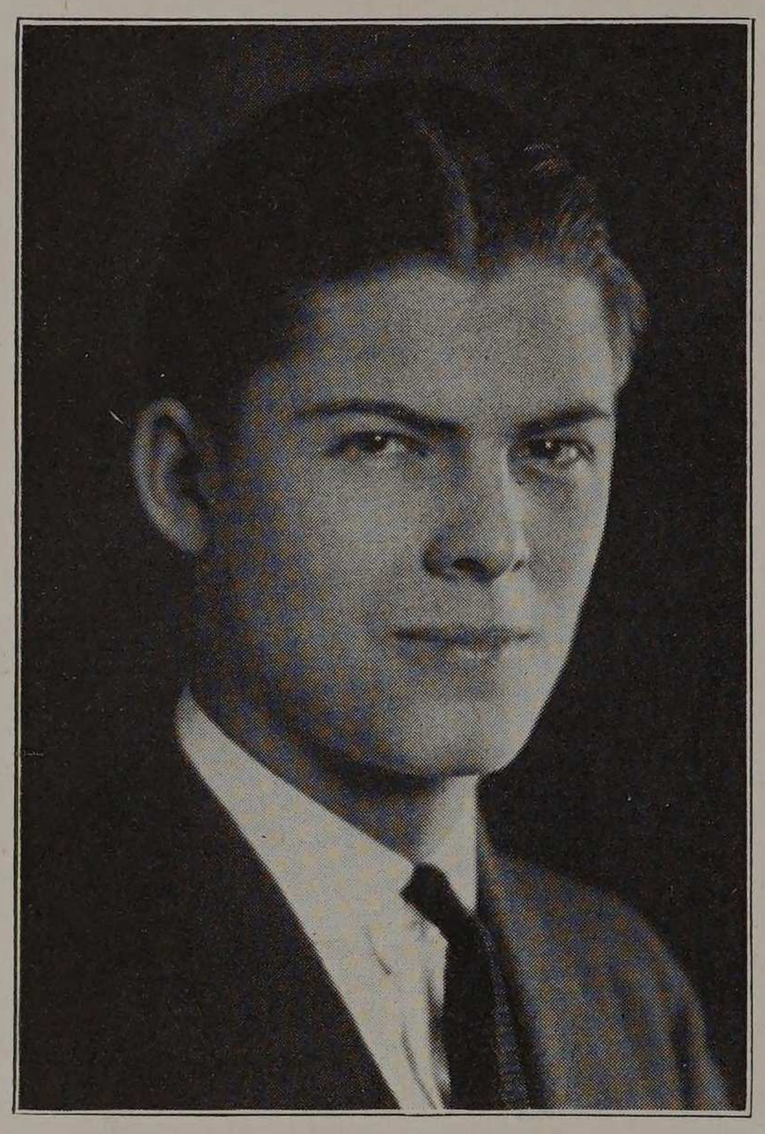






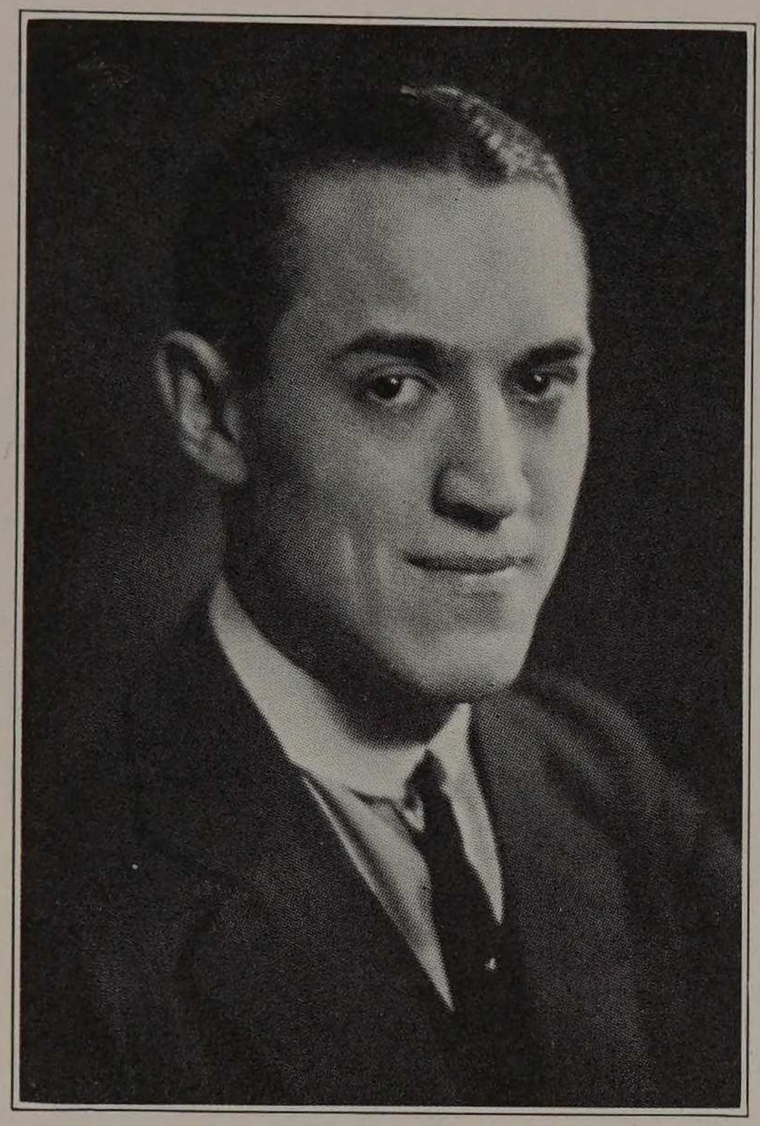



J. DE MUTH



ALFRED A. DAVIS

Social Editor



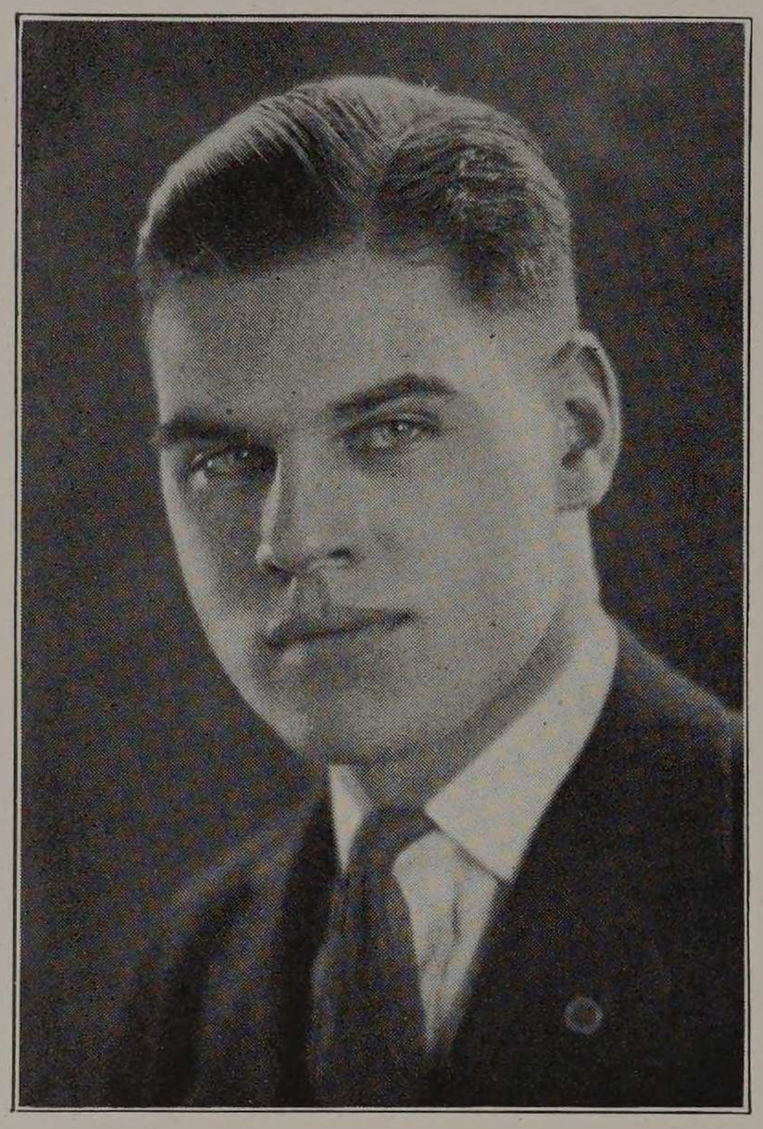
W. K. Lyon

SOCIAL COMMITTEE
of the
SENIOR CLASS

W. K. LYON, Chairman
F. E. HAYDEN
G. B. KUMBERA
L. S. MARANZ
E. F. WINTER

SENIOR DANCE

They fooled us alright. We thought they had passed peacefully away, but they weren't pushing dandelions out of the ground and they proved it by throwing the first grand backscratching contest of the year on November 19, at the Sherman. It had been so long since we had a class dance that the rush started at about 9 sharp. Oh for the life of a social chairman! We all did envy Bill that night. Like the dickens we did. We only stopped long enough to look about on the floor for a brooch that had been lost by one of our visitors and as this was found in a few minutes after the loss had been announced, we proceeded to keep the musicians working for their sheckels. They say "time flies". It didn't that night. That would have been insulting the speed with which the evening passed. And the worst part of it was we had to stop at 12. But then one can't have a "hooper-do" of a time forever so we piled out and it was some bunch. If you can judge the goodness of a dance by the number attending it, then this dance was the best yet. William K. Jr. and his associates were to be held responsible for this Armour dance and we don't think they are exactly ashamed at the results which their efforts produced. We are not.



R. R. Maguire

SOCIAL COMMITTEE

of the

JUNIOR CLASS

R. R. MAGUIRE, Chairman
A. A. DAVIS
E. C. EIERDAM
C. A. HERBST
F. G. HOCHRIEM

JUNIOR DANCE

The Juniors followed suite and gave their first dance on December 10 at the La Salle. We had the Louis XVI room and it sure was some dance. The floor was marble, the girls pretty, and the music—well you had to be dead from the ears up and the eyes down if you couldn't dance with all these. It was a knockout, as was agreed unanimously. To show how good the dance really was, the occupants of the hotel were gathered almost into the room watching these modern disciples in Greece, as they pushed a wicked hoof around the landscape. We danced as much as possible during the early part of the evening as we thought we were going out at 12, but Bob decided we should stay till 1 and we did. Bob had run some dances for us before, during our Freshman year, but practice makes perfect and the experience was visible in the arrangements and running of this dance.

The seniors had a good one but Armour had to label this one O. V. B. It was another typical Armour dance and the alumni, who were there, can back us up in the above statement. We owe the success of this dance to the chairman, in particular, and to the other Armour men who are always on deck to push an Armour function.



R. O. Bradley

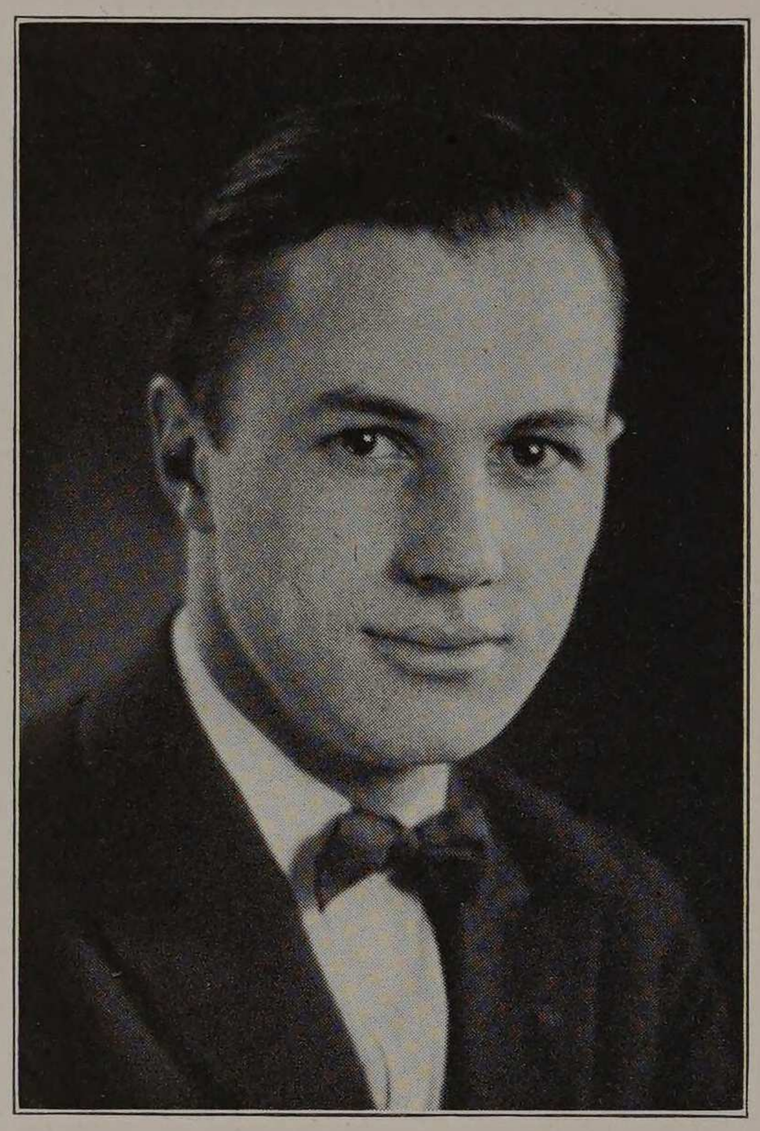
SOCIAL COMMITTEE
of the
SOPHOMORE CLASS

R. O. BRADLEY, Chairman
W. B. BLAUFUSS
L. E. GRUBE
F .W. HILLIKER
H. T. POLLAN

SOPHOMORE DANCE

We had just about given up all hopes of ever having another Armour dance when the Sophs thought they would give the boys a treat. It had been more than two months since we'd had a dance so every one was rarin' to go when the date and the place for the hop was decided upon.

Bob Bradley was the plugger for this dance and through the efforts of his associates and himself he managed to give one of the best Armour dances of the year. As a fitting scene for such a display of Armour spirit and backing, Bob selected the Red Room at the La Salle Hotel and the date as February 18. I don't know where Bob got the music but we all did agree that when it came to producing real dance music that bunch sure was good. As an added attraction the fun lasted until one, and the crowd was as thick then as it had been at 9:30. It surely did make a big hit and the Sophs showed the Armour bunch that they could give as good a dance as any class had yet produced.



R. J. Bowman

SOCIAL COMMITTEE
of the
FRESHMAN CLASS

R. J. BOWMAN, Chairman
W. J. BRINKMANN
C. G. MILLER
W. G. STEELE

The dance that was to have been given April 1921, at the La Salle Hotel in the Red Room, was indefinitely postponed, because of the death of Doctor F. W. Gunsaulus. All student activities were postponed and the school was in a state of mourning for three weeks out of repsect for his memory.

Judging from the preparations that were made for this dance it would have been a corker. Next year, however, the class will have a chance to show its metal.

FIRST INTER-HONORARY FRATERNITY DANCE

GIVEN AT

CHICAGO MOTOR CLUB

JANUARY 14, 1921

COMMITTEE IN CHARGE

Fletcher E. Hayden, H. K. N.

Emil F. Winter, Φ Λ Υ.

D. S. Chase, T. B. Π.

"Let's give a dance," quoth a wearer of the "Bent" one fine day last December. "You know all work and no play———"

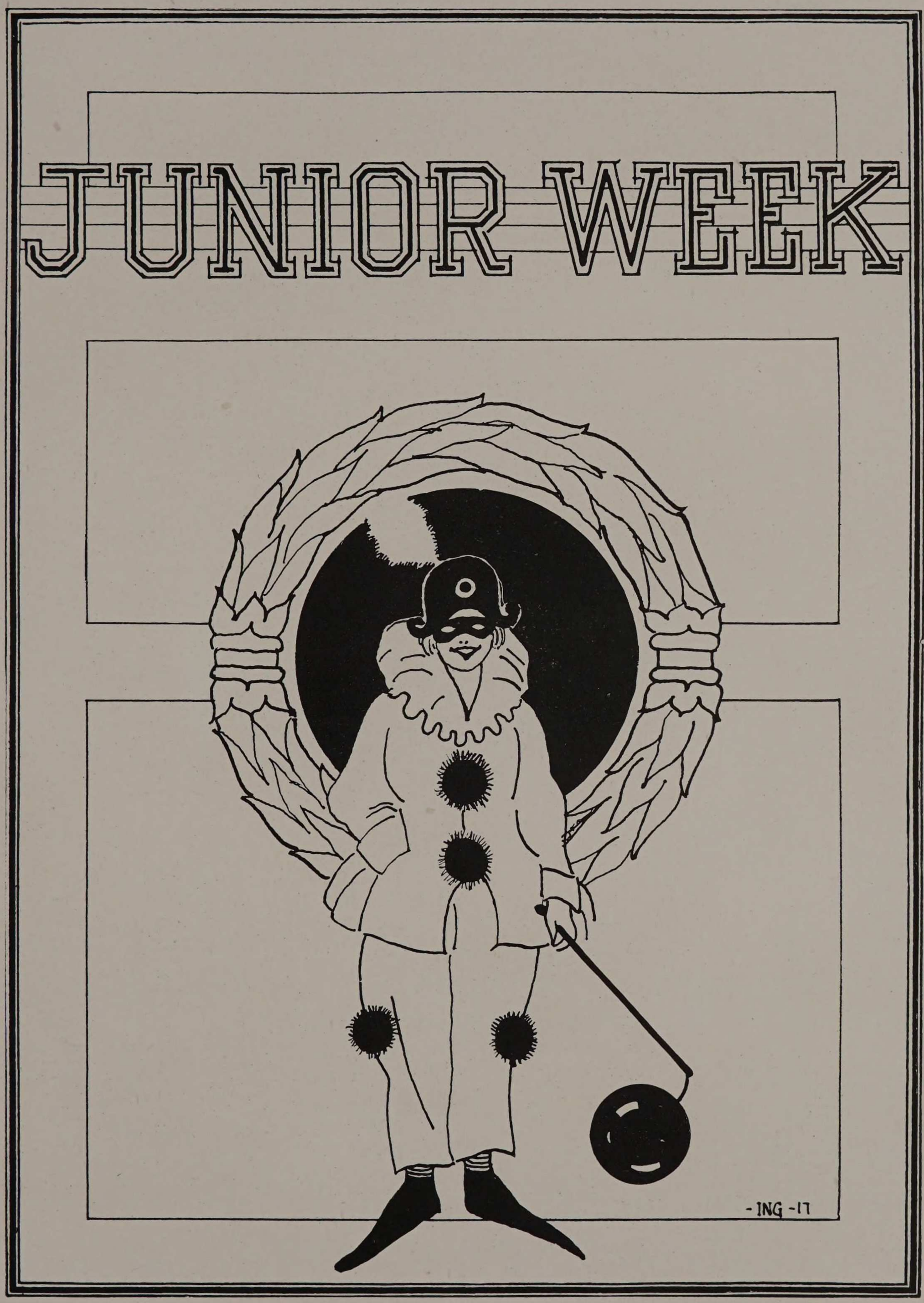
Directly opposite, on the third floor of Chapin Hall, a like germ had settled. Modest brothers in ohm sifting, purveyors of lean amperes, must needs "Bridge" the gullies left by the strenuous mental efforts of 1920. Eureka! A dance with soothing music, a music radically different from that produced by water-cooled "slip sticks." When "Bent" and "Bridge" currents, flowing in the same conductor, chanced to hear rumors of similar effervescence among those nomad youths, the ranking Chemicals of the Institute, it was agreed that Armour should soon witness the first inter-honorary engineering fraternity dance in its history.

The outcome of this combined civil-mechanical-electro-chemical generation and standardization of ideas was a high caliber dance at the Chicago Motor Club on January 14, 1921, by and for the memmbers of Armour's national honorary engineering fraternities, Tau Beta Pi, Eta Kappa Nu, and Phi Lambda Upsilon.

Thirty couples tripped the light fantastic as the "Armour Special" orchestra of five pieces uncovered surprises which would put the Chicago Symphony to shame.

Thus honor men greeted honor men (and accompanying ladies) under a new social sun, and a precedent has been established which will be enthusiastically followed from year to year.

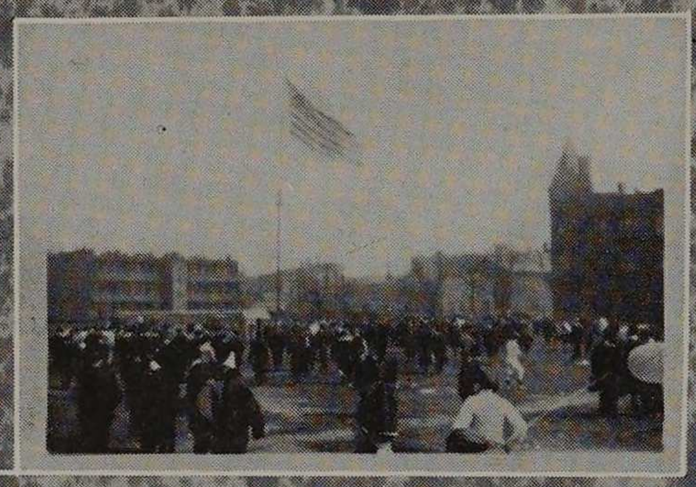

PHYSICS
CHEMISTRY
MECHANICS
CALCULUS


JUNIOR WEEK
-ING -17

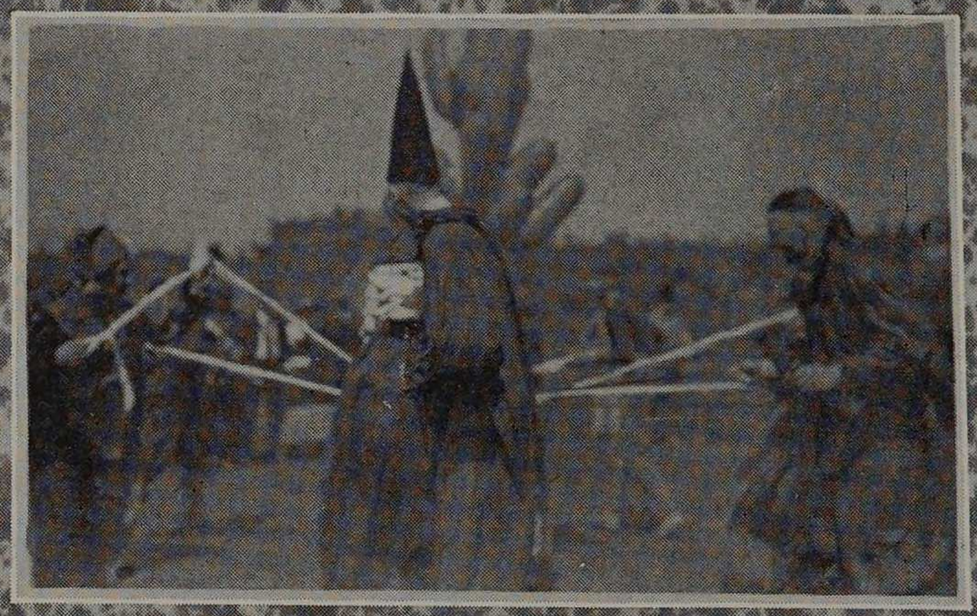










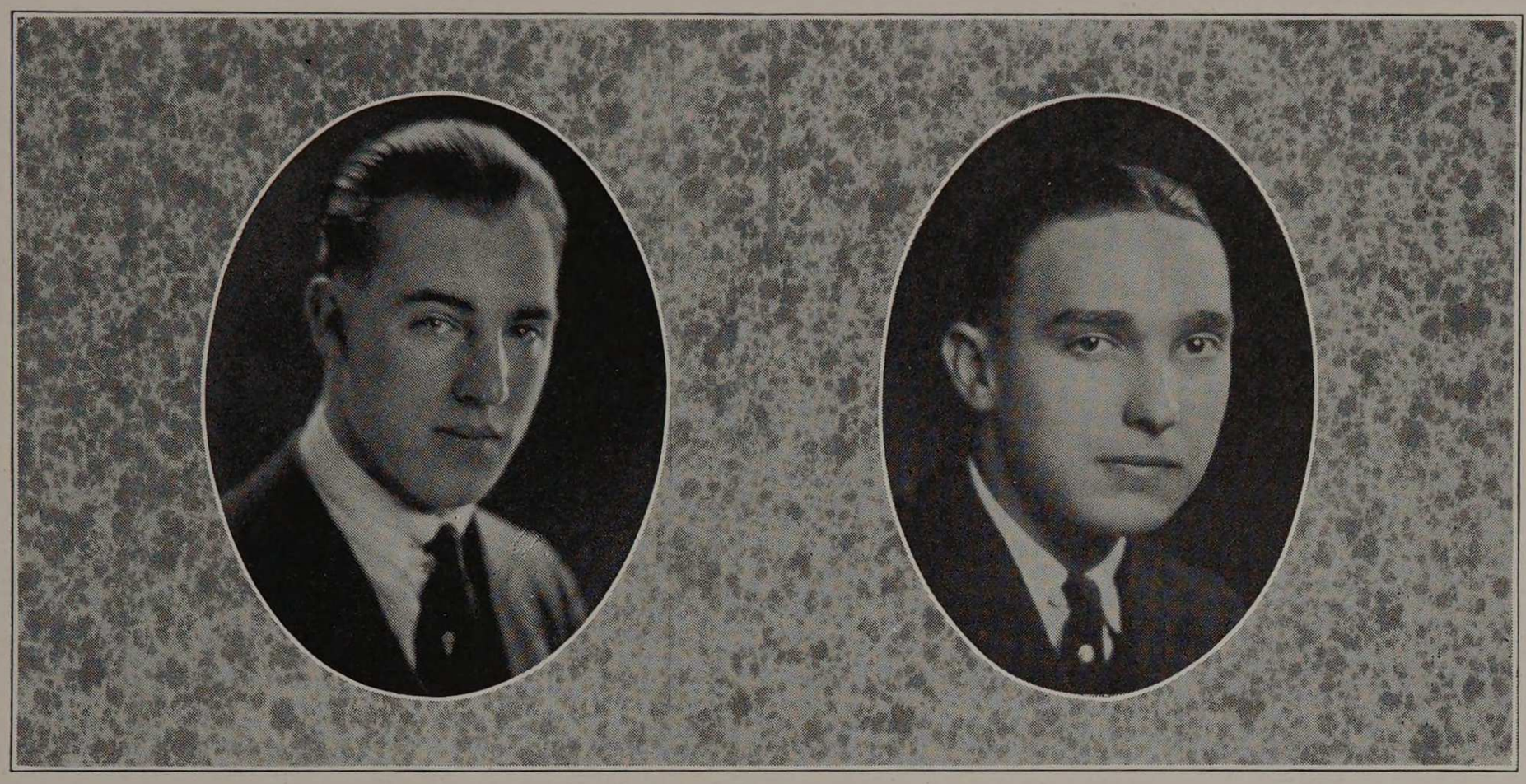












JUNIOR WEEK PROGRAM.

Wednesday, May 4—Circus Day.
Thursday, May 5— Junior Banquet.
Friday, May 6th—Junior Prom.

CIRCUS DAY.

This year Circus Day was eagerly looked forward to and with much anticipation. Well, our greatest hopes were realized. All records were broken. True, the Cycle did not show up but there was a reason. However, there were countless other things to compensate. There was the big top, the greased pig, pop corn, peanuts and hot dogs, too. Oh yes; many a disgrunted student eeked out his revenge on any of the profs he so desired, and in his own sweet way. Funny, but the profs laughed too. Let me explain, if you were not there. You see, a rack of dolls was put up within throwing range and each doll bore the name of a professor. Then you had three trials for a dime to knock the professor down. Some sport.

Many of the time worn stunts were repeated, but they had improved with age and proved funnier than ever. Some idea of the day's events can be gleaned from the following program:

1. Freshman-Sophomore Sack Rush.
2. An Athletic Pentathlon.
3. Inter-Fraternity Pageant.
4. Inter-Fraternity Relay.
5. Winner of Mustache Contest Awarded Prize.
6. Catching of Greased Pig.
7. Inter-Collegiate Baseball Game.
8. Peanuts, Popcorn and Red-Hots.
9. Many Interesting Side Shows.
10. Scores of Individual Ham-Actors.

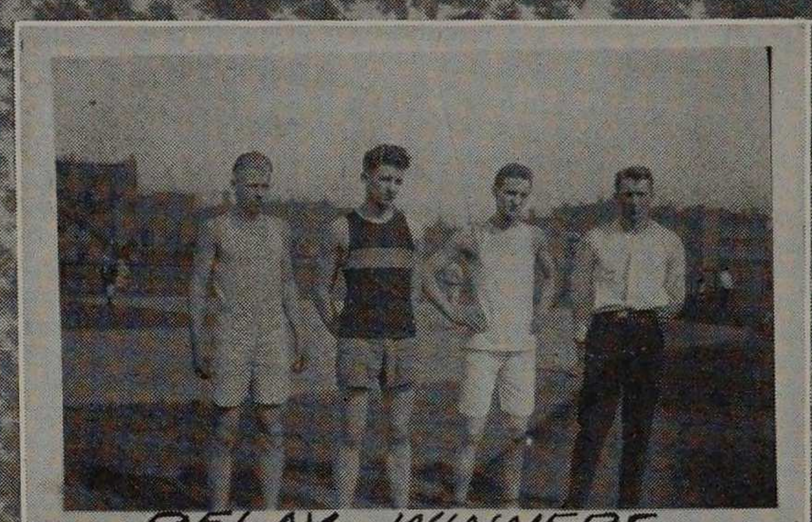
The track and field events were in the form of a modified pentathlon in charge of H. E. Hagen. Contestants had to compete in all events, which were five in number and included:

100 yard dash.
Shot put.
220 yard low hurdles.
Running broad jump.
880 yard run.

The winners of the pentathlon were awarded handsome prizes.

IT WAS NOT NEW YEARS EITHER





RELAY WINNERS

LOOKING FOR CIRCUS GEORGE





DELTS=FAIRIES



THE NEW A.I.T. DAY AT HIS BEST

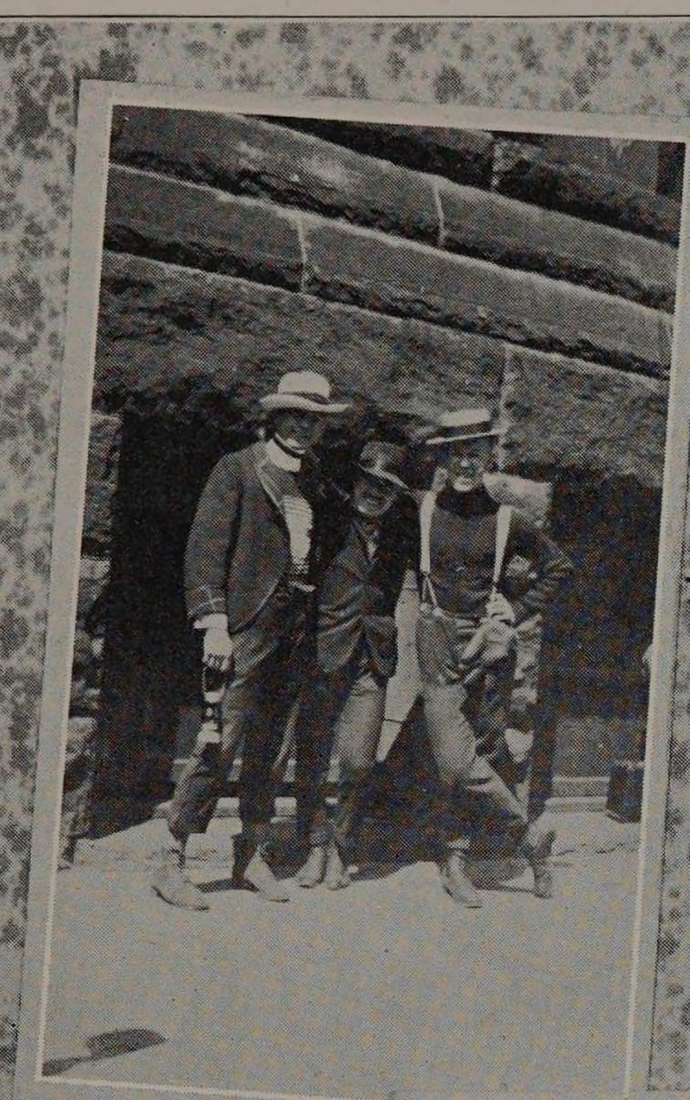
LOST



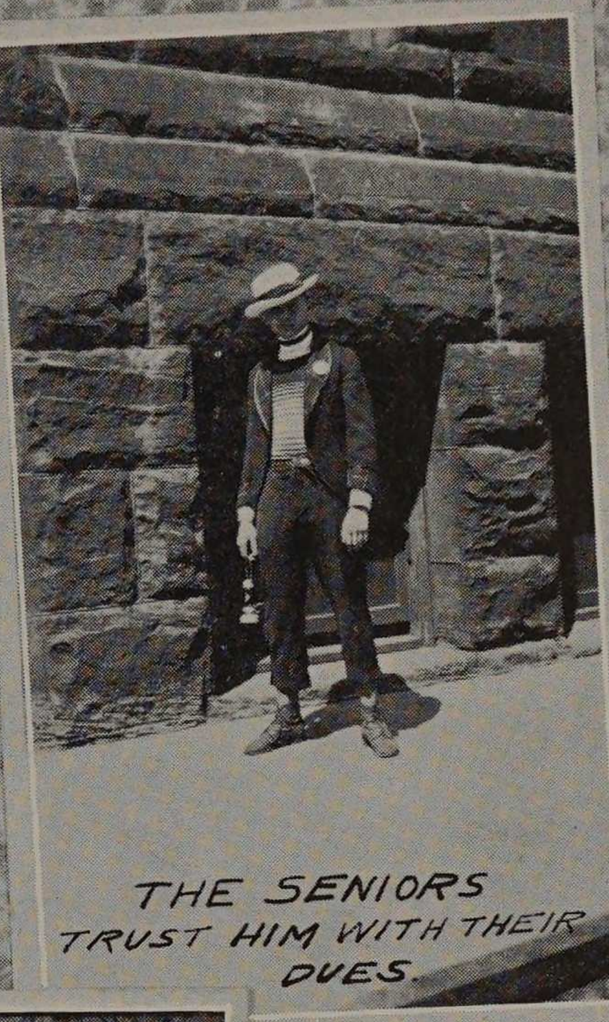
MISSING FROM THE CHEM. LAB



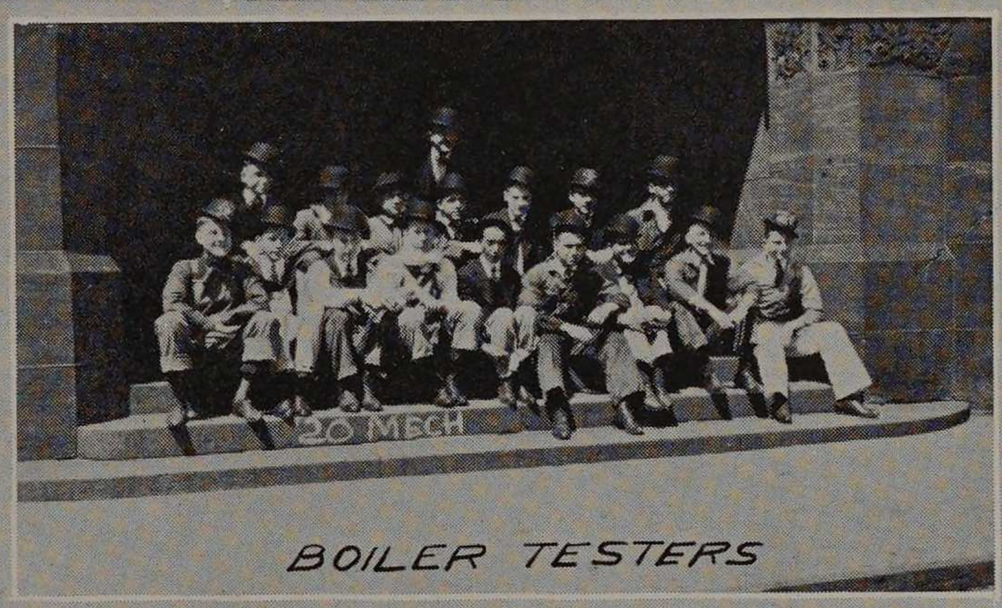
WANTED A CLASP



33RD AND DE TRACKS



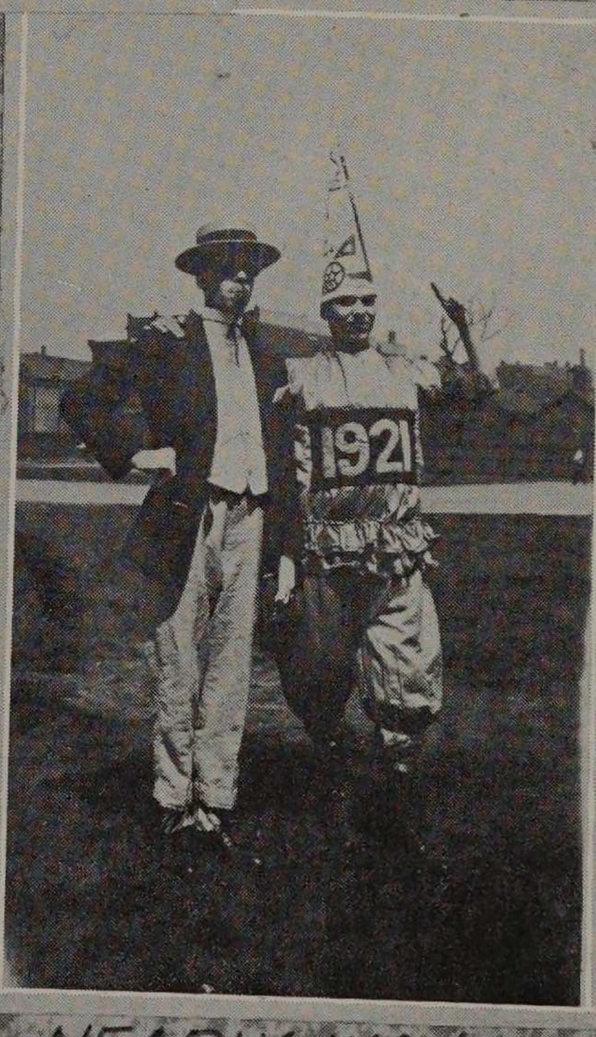
THE SENIORS TRUST HIM WITH THEIR DUES.



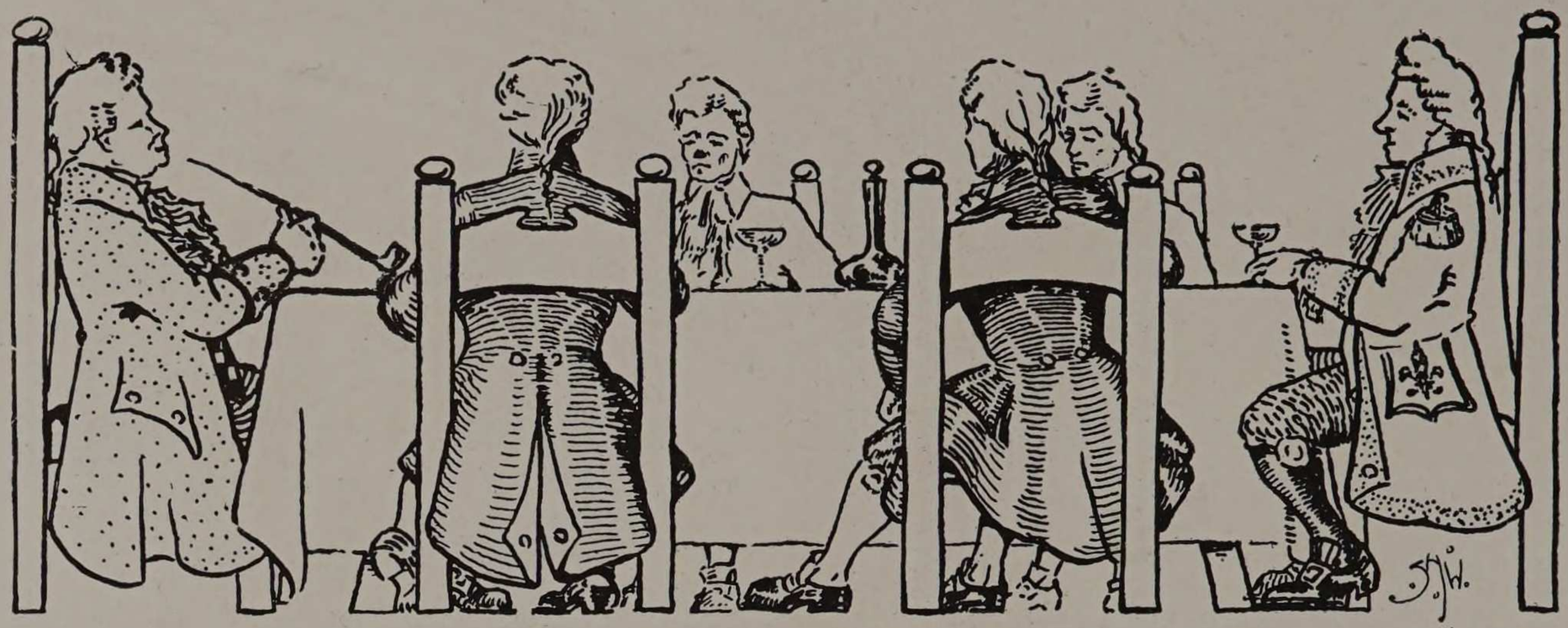
BOILER TESTERS



DAD'S SOUP + FISH



NEARLY WON THE PRIZE



BANQUETS

JUNIOR BANQUET

CLASS OF 1922.

The one big get-together party given exclusively for the Juniors and a few of their guests was held at the Aviation Club on March 5, 1921. It was our first class banquet and gave promise of many yearly cheerful reunions in the years to come. The cuisine was wonderful, a full course affair, consisting of good food and plenty of it.

As guests, the class had invited members of the faculty and alumni. Among the alumni with us for the evening was "Shorty" Maguire who always adds to such occasions with his stories. He gave a very learned talk on nothing in general for which we were very thankful. Like Maguire, the other speakers called upon were aware that the Aviation Club's rooms were not classrooms and we were not subjected to any of those long sleep-producing after dinner talks. Needless to say that excellent entertainment was derived from the speeches and what followed them. The Jazz band and a representation of the Glee Club were on hand to help over the rough and dry spots with some Caruso and Beethoven.

The merry makers took advantage of every minute and would have failed to crowd more real good wholesome fun into six months than they had that memorable night. Indeed most of us are looking forward to the first reunion and only hope that there will be reunions of the class of 1922 every year.



The

Junior Prom

Held

May 6th, 1921

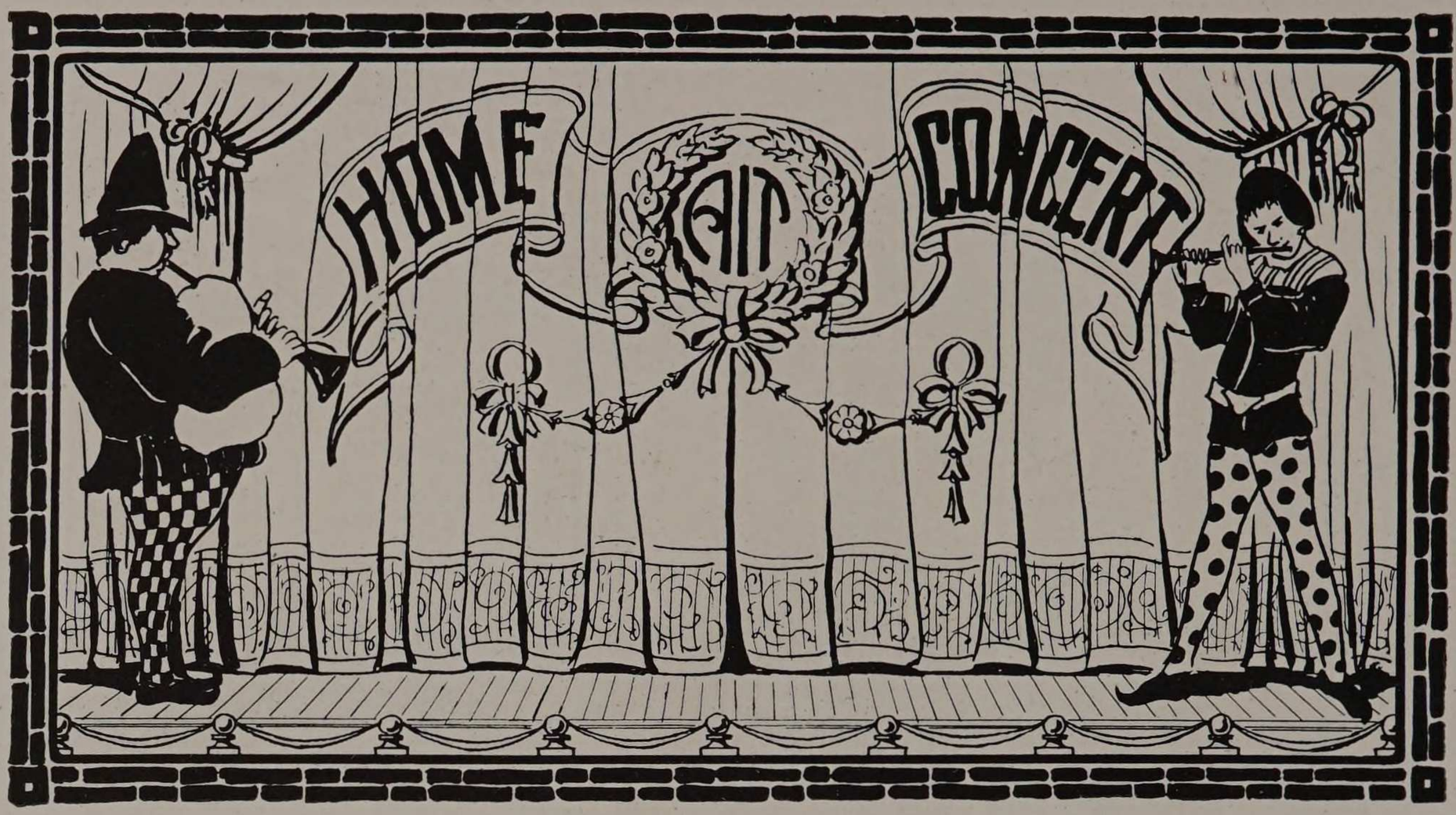
At the

BLACKSTONE HOTEL

in the

Crystal Ballroom

This was THE dance of THE year. Maguire thought he'd make this the prom of proms and he surely did and then some. As a starter Bob announced that the dance was to be held at the Blackstone and as a second persuader, it was to be from 9 till 1, and with a double orchestra all the way. So you can just about imagine what this really meant. It proved to be Armour's biggest and best of the year and of many years. The crowd just about got inside the promised land, and if there had been many more we would have moved the floor out into Grant Park, the orchestra along with it. We all waited patiently for this night and our patience was rewarded beyond expectations when we started to jig at this hop. The whole crew was there from A to Z. This year the date of this annual event was May the 6th, and if the weather were made to order it couldn't have been better, so all in all, mostly all in about one, we had a time we shall always remember.



Twentieth Annual Home Concert

ARMOUR INSTITUTE OF TECHNOLOGY GLEE AND MANDOLIN CLUBS.

"The climax of the myriad successes of the Combined Clubs"—read the posters in announcing the big all-school event of the year—the Twentieth Annual Home Concert of the Glee and Mandolin Clubs—and the posters were right. Postponed from March 24th, the concert was held Wednesday night, April 27th, at the Aryan Grotto Temple, a considerably larger theater than the Clubs have ever before filled. The expressions of complete satisfaction and delight heard on every hand that evening attest the complete success of the concert and give proof of the excellent work not only of the director, Doctor Daniel C. Protheroe, but also of the leaders of the Glee Club and Orchestra, Messrs. Kirkhuff and T. Sedgwick, and of the managers of the combined Clubs, Messrs. Geisler and Grill.

The Glee Club led the program with the "Winter Song" and the Orchestra completed the enchantment with "Rose" and "June," followed closely by the Glee Club with "Mammy's Li'l Pigeon," and a catchy version of the old standby, "Old Black Joe." Mr. Thompson, assisted by Miss Krumhaar (THE lady in THE concert, if you please), then gave the audience a treat with his solos. Then Mr. K. Sedgwick delivered one of his noted banjo selections, with the Orchestra nearly turning the affair into a dance, so appealing was their rendition of "Mammy" which followed. Messrs. H. W. Herbst and B. Z. Nowakowski, assisted by Mr. J. W. McCaffrey at the piano, demonstrated really wonderful violin music, and time alone prevented their satisfying the demands of the audience for encores.

We have not space adequate for any but a very brief description of this wonderful occasion and we can only here mention the xylophone solo and other solo and chorus "hits" of both Clubs.

Only too soon for everyone was the program concluded—the boys would have stayed till the "wee small hours" to satisfy the encore requests as evidenced by the applause BUT—Calc came on Thursday as usual and our heroes must hie themselves to rest in preparation for some of the unpleasantness that they had dispelled from the minds of all of us.

—"The climax of the myriad successes of the Combined Clubs" is *right.*





FRESHMAN-HANDSHAKE

We Freshmen had been at Armour almost two weeks and were beginning to wonder if Armour really had any spirit when the "great event" occurred. It was posted on the bulletin boards and noised about the halls that the Freshman Handshake was to be on Friday night, September 24th, at the Hyde Park Y. M. C. A. We all wondered what the handshake was and most of us had visions of some wild hazing stunt.

When the meeting started at eight o'clock, it began to look as if the auditorium of the "Y" would not hold the crowd. "Spense" Havelick was chairman of the meeting and won the approval of all by his clever manner of handling the program. The Jazz Band, led by Rudolph Lowe, gave a prelude of some popular songs. Dr. Gunsaulus started the fireworks with a short speech of advice to the new students. Of course all of us were interested in the athletic side of student life and were much interested in the talk of James Bready, who was last year's basket-ball captain. "Bob'" Bradley showed his usual pep when he proceeded to teach the Armour yells to us, and before he had finished we were able to give "Yea, Armour" with vim. After this John Sanger told of the character and purpose of the "The Armour Engineer" and asked for our support. He was followed by Chase who explained the requirements for eligibility to the honorary fraternity, Tau Beta Pi. The audience called for Tom Michels to sing and he obligingly did so. After several encores he was permitted to sit down and the program continued. The "Cycle" was the subject of Warren McCaffrey's talk, and Mr. Hollister of the Central Y. M. C. A. explained the relation between the central and student departments of the Y. M. C. A. Some of the members of the Glee Club entertained the audience with school songs, and then the real handshake began. The Freshies filed around and shook hands with every one they met. Some Freshies insulted the upper classmen by shaking hands with each other, each one thinking the other was a Junior or a Senior.

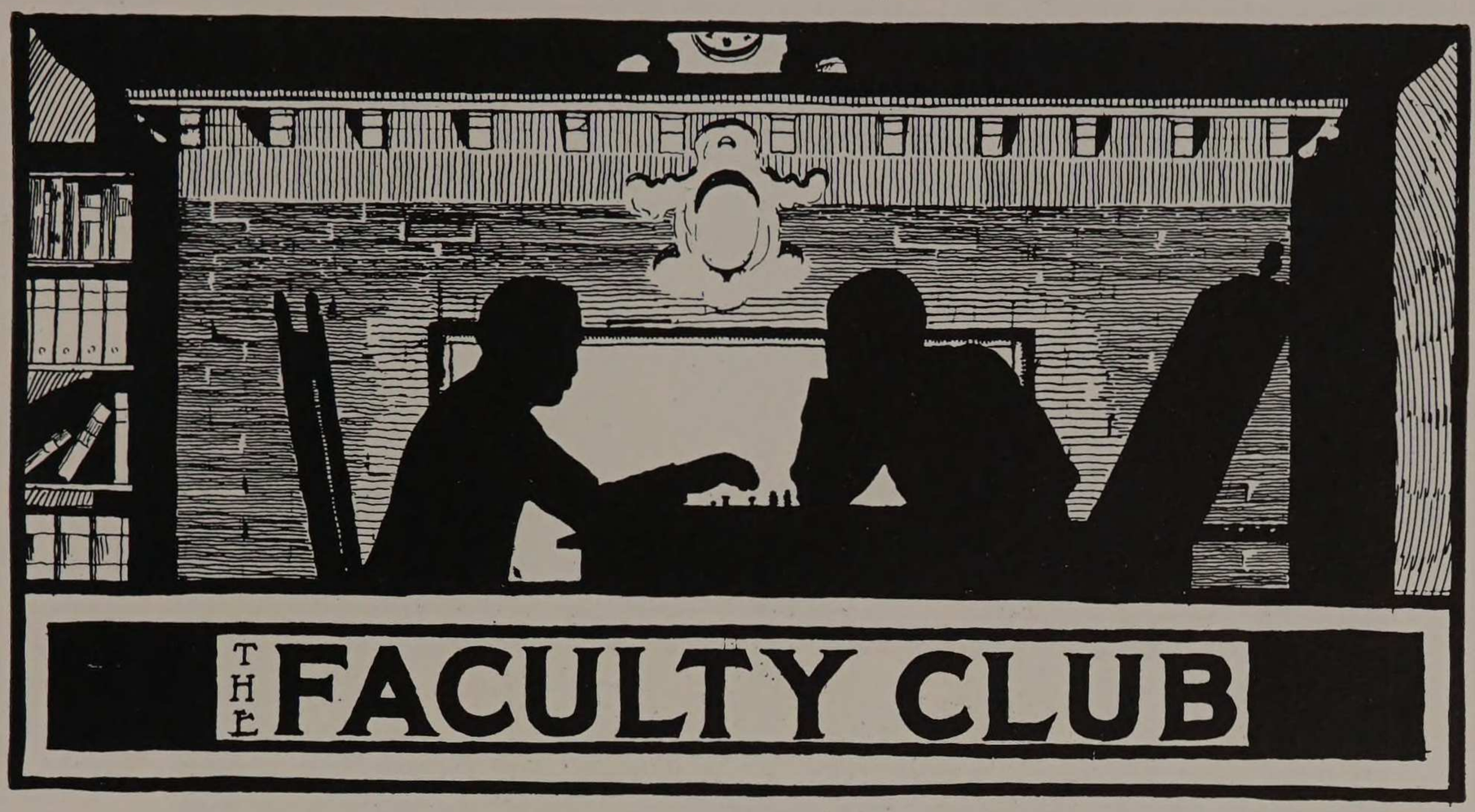
Later, everyone went to the Gym to see the basket-ball game between the Juniors and the Sophomores. The Sophomores came out victorious after a hard fight. After a number of swimming events in the pool, refreshments of doughnuts and coffee were served in the "Y" cafeteria.

Many a Freshman felt, after that night, that there was a closer relationship between old Armour and himself. Even if he did not remember the name of a single student he had met, he could not help but feel the kindly spirit with which he was greeted as a student of the Armour Institute of Technology.


ORGANIZATIONS



EDWARD A. GOODNOW
Organization's Editor



OFFICERS

Mr. F. U. Smith.....Honorary President
C. A. Tibbals.....President
J. C. Penn.....1st Vice-President
E. S. Libby.....2nd Vice-President
N. P. Peterson.....Secretary
H. R. Phalen.....Treasurer

LOAN FUND COMMITTEE

Mr. George S. Allison — Dean H. M. Raymond
Dean L. C. Monin — Prof. G. F. Gebhardt
Prof. E. H. Freeman

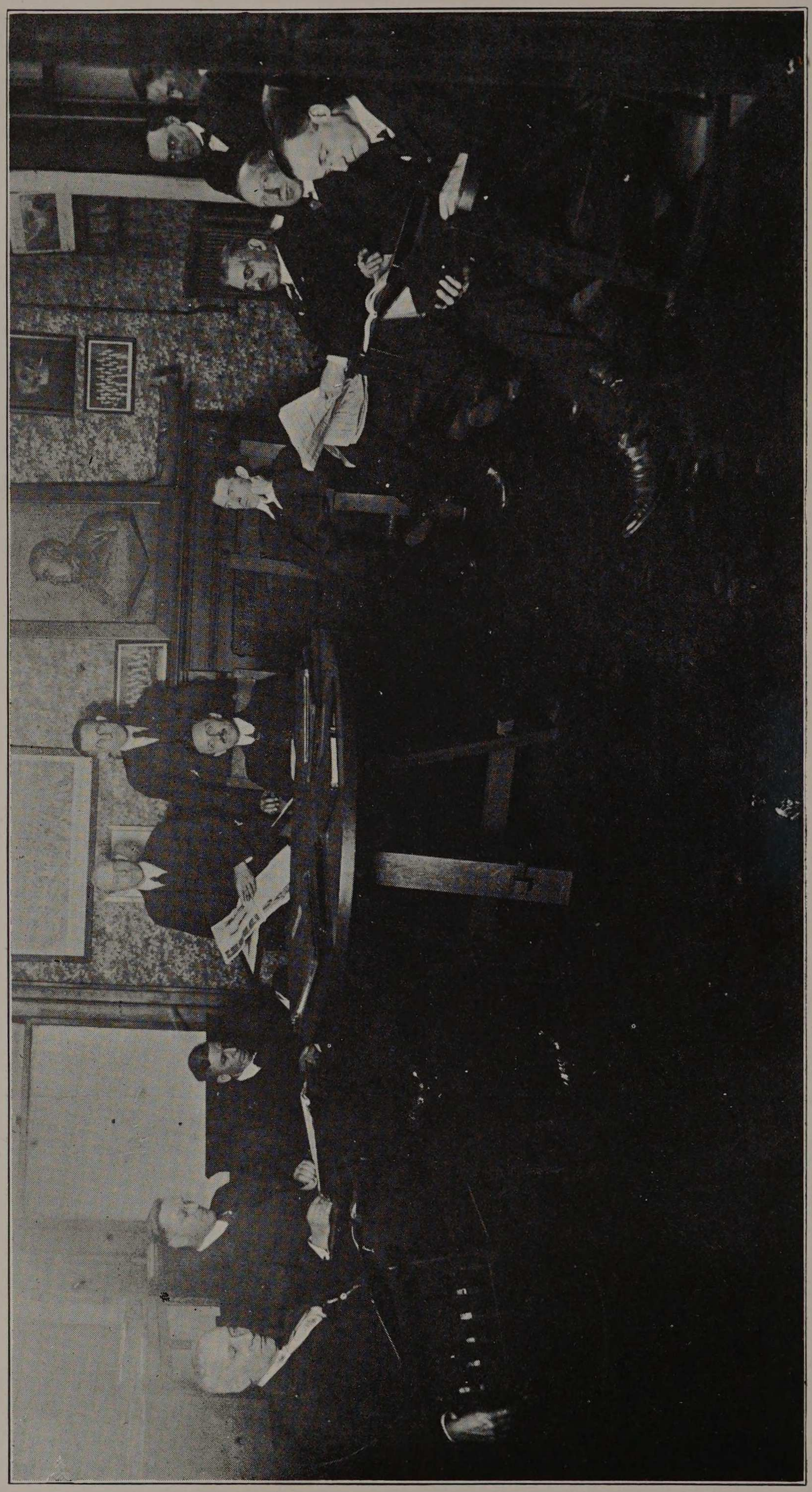
HONORARY MEMBERS

J. Ogden Armour — F. U. Smith — James Little

This organization is not very well known, as far as the student body is concerned, but it is very important in the general and social welfare of our faculty. It is here, during the noon hour, that our professors obtain the rest and relaxation which they need so much after a hard morning in the classroom.

In the lounging room are discussed all the momentous problems of the day. It is said that here the National and American League championships are settled long before the deciding games are played. One can well imagine the titanic upheaval which is caused by a discussion between several of our sedate instructors upon such timely subjects as prohibition or the League of Nations.

The loan fund, which is held in trust by the club is a great aid to those students who at times may be in need of some ready money for a short time but who have not the business references to obtain it elsewhere. The Faculty Club is a means of bringing the instructors together; it provides a place where they may read and play at their leisure, and is also an aid in promoting team work and clean play among the students of the Institute.



FACULTY CLUB ROOM



A sketch of the Glee and Mandolin Clubs cannot be given without an expression of the feeling of great loss the Clubs suffered in the passing of their staunchest supporter and most loyal critic, the late President of our Alma Mater, Doctor Gunsaulus. Since music was his great stimulus, here was an organization in which he took special pride and interest. There is a unanimity of feeling that the biggest tribute the Clubs can pay to the memory of Doctor Gunsaulus is the successful completion of the work he all along so unreservedly sponsored. The Clubs will continue therefore and their revelation of really wonderful work is but their measure of tribute to their big friend, Doctor Gunsaulus.

The Glee and Mandolin Clubs have for the past year again been favored with the personal supervision of Doctor Daniel C. Protheroe whose name immediately calls to mind the best mens' musical clubs of the whole west. His excellent direction together with an exceptionally large amount of talent in the school has this year resulted in an organization that is even eclipsing the successes of the clubs of previous years, during which period they were often favorably compared with clubs of eastern schools that possessed much older traditions.

An even fifty men survived the rigorous elimination try-outs for the Glee Club, and subsequent eliminations have brought that number down to forty of the best singers the school has ever known. Mr. Kirkhuff achieved the pleasure of leading this imposing array.

The Orchestra which is officially still named the Mandolin Club due to the survival of the old appellation, is an excellently balanced organization of seven men, and its accomplishments reflect great credit on Mr. T. Sedgwick for his untiring efforts in the office of Leader.

The honors of Manager of both Clubs fell to Mr. Geisler, and with Mr. Grill as Assistant Manager, the business end of the organization has proven a wonderfully big success. At their suggestion we are here remarking that the undivided support given the managership at every turn by every member is the one big factor that has been most conducive to the very excellent showing the Clubs have made this year.

Though an eight hour program in college is not especially helpful to outside activities, the Clubs are making a name for themselves even far outside the confines of our own big city. Sh-h-h!—(a secret)—don't be the least bit surprised to read the formal announcement of the departure of a picked representation of the Clubs for a long jaunt of entertainment this year or, at the latest, by the first part of next year.

Space will not here permit of our elaborating on all the engagements which the Clubs have had this year, so it must suffice to say that the season was opened with an appearance at the Saron Lutheran Church, and if there are no big upheavals to cause a sudden change in plans, the season will be closed by a farewell concert of both Clubs as they depart for considerable travel.

THE GLEE CLUB.

DANIEL PROTHEROE. D. M. Director
E. WALTER GEISLER, Manager
MILTON J. GRILL, Assistant Manager
CECIL M. KIRKHUFF, Leader and Pianist
RUDOLPH WERNER, Jr., Librarian

FIRST TENOR:

Thompson, J. B.	Budahl, A. T.	Veggeberg, F. T.
Wetherbee, G. D.	Crane, G. D.	Friedman, H. C.

SECOND TENOR:

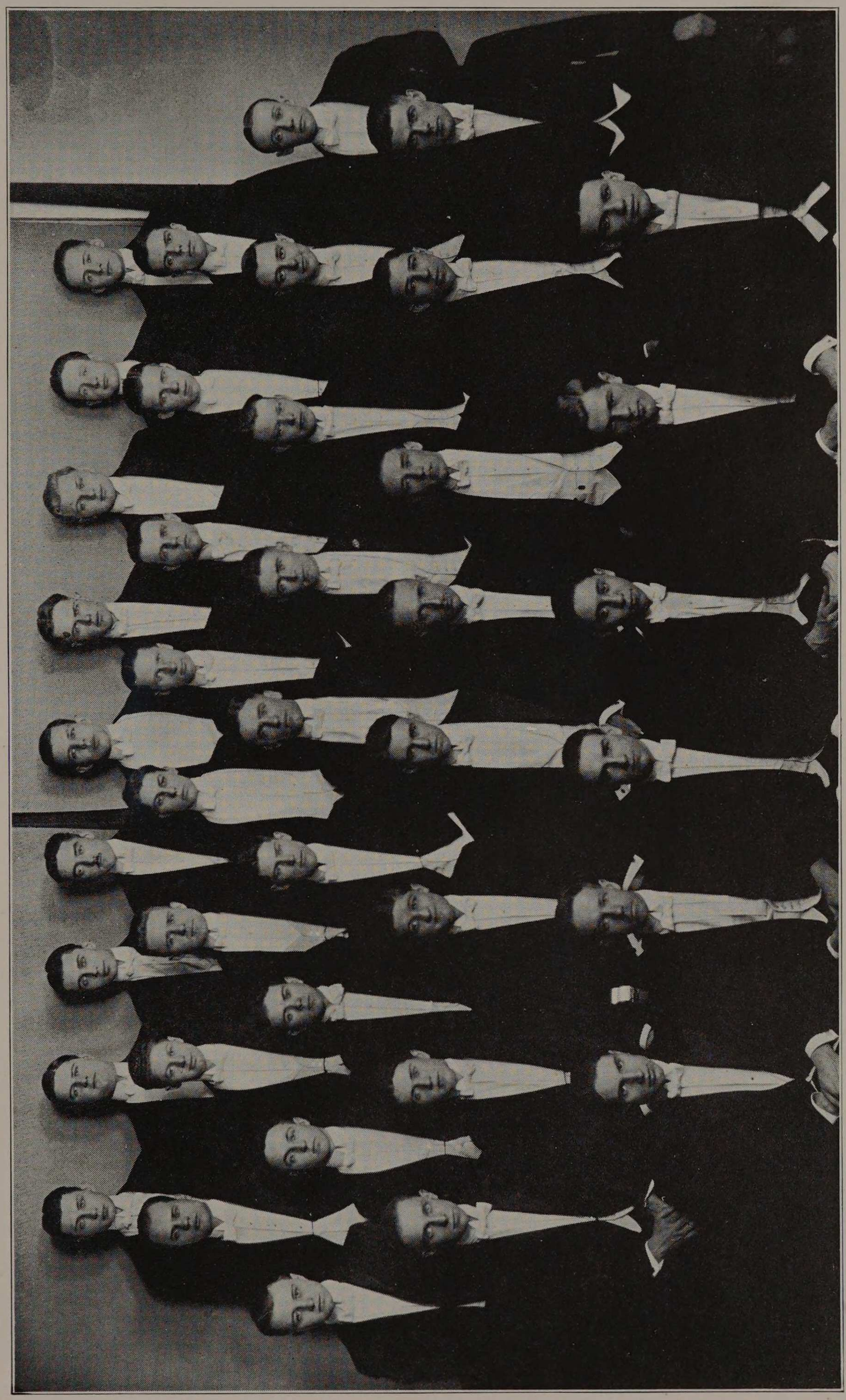
Kelly, G. H.	Corydon, J., Jr.	Herbst, C. A.
McCaffrey, J. W.	Anderson, F. A.	Johnson, J. G.
Werner, R., Jr.	Alexander, I.	Scoville, D. B.
	Simpson, M. B.	

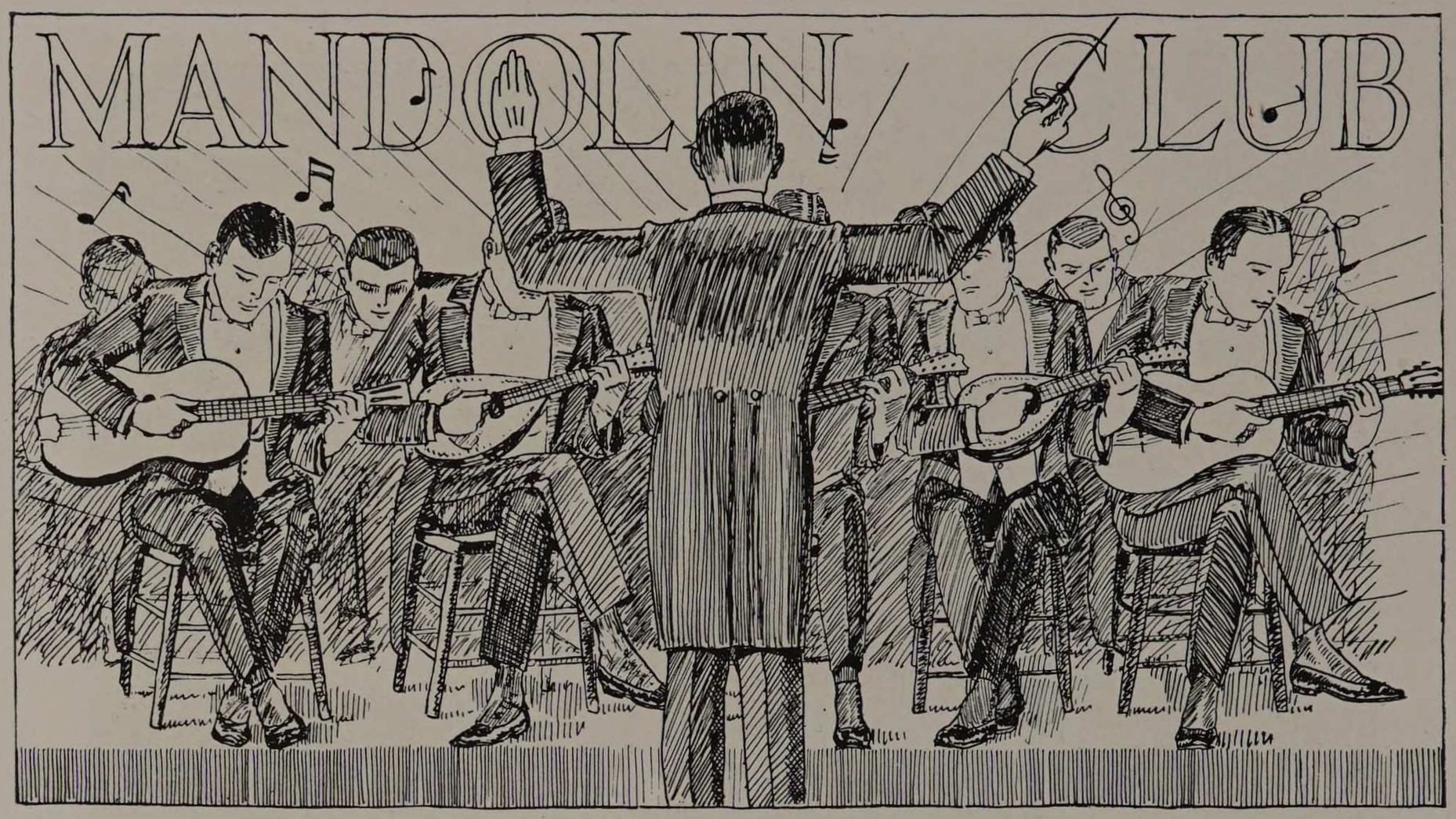
FIRST BASS:

Brooke, H. L.	Erlandson, N. H.	Matson, R. O.
Goodnow, E. A.	Farrel, F. B.	Mills, P. R.
Polzin, E. A.	Grill, M. J.	Miller, F. B.
Douglas, W.	Johnson, M. S.	Roberts, W. P.
Duennes, F.	Mark, E. E.	

SECOND BASS:

Boss, J. B.	James, C. B.	Kirkhuff, C. M.
Dhus, E. F.	Miles, R. O.	Tener, E. S.
Geisler, E. W.	Nowakowski, B. Z.	Verplank, A. J.
	Walters, F. V.	





THE ORCHESTRA.

(Still named the Mandolin Club.)

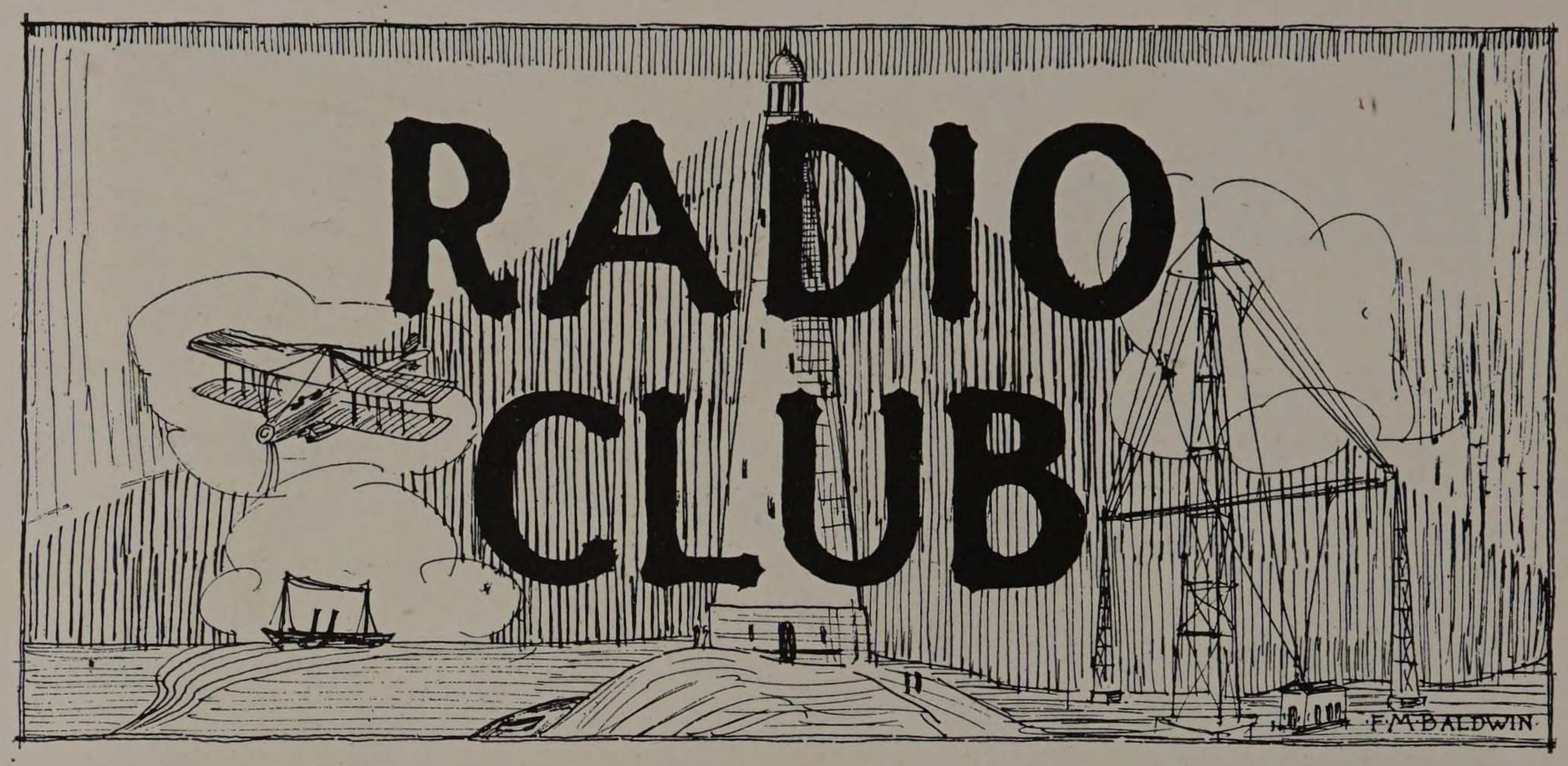
T. C. SEDGWICK, Leader

Sedgwick, T. C.—Violin
Sedgwick, K. G.—Banjo
Van Valzah, R. W.—Drums
Lowe, R. P.—Saxophone
Brinkmann, W.—Saxophone
Herskovitz, E.—Piano
Walters, F. P.—Xylophone



SEDGWICK GEISLER KIRKHUFF





ARMOUR RADIO ASSOCIATION

The first meeting of the A. R. A. was held on Wednesday, September 29, 1920. Sixteen radio enthusiasts responded to the "Q. S. T." for members, and elected the following officers for the ensuing year:

E. A. Goodnow.....President
G. H. Kelley.....Vice-President
H. I. Hultgren.....Chief Operator
R. S. Kenrick.....Secretary

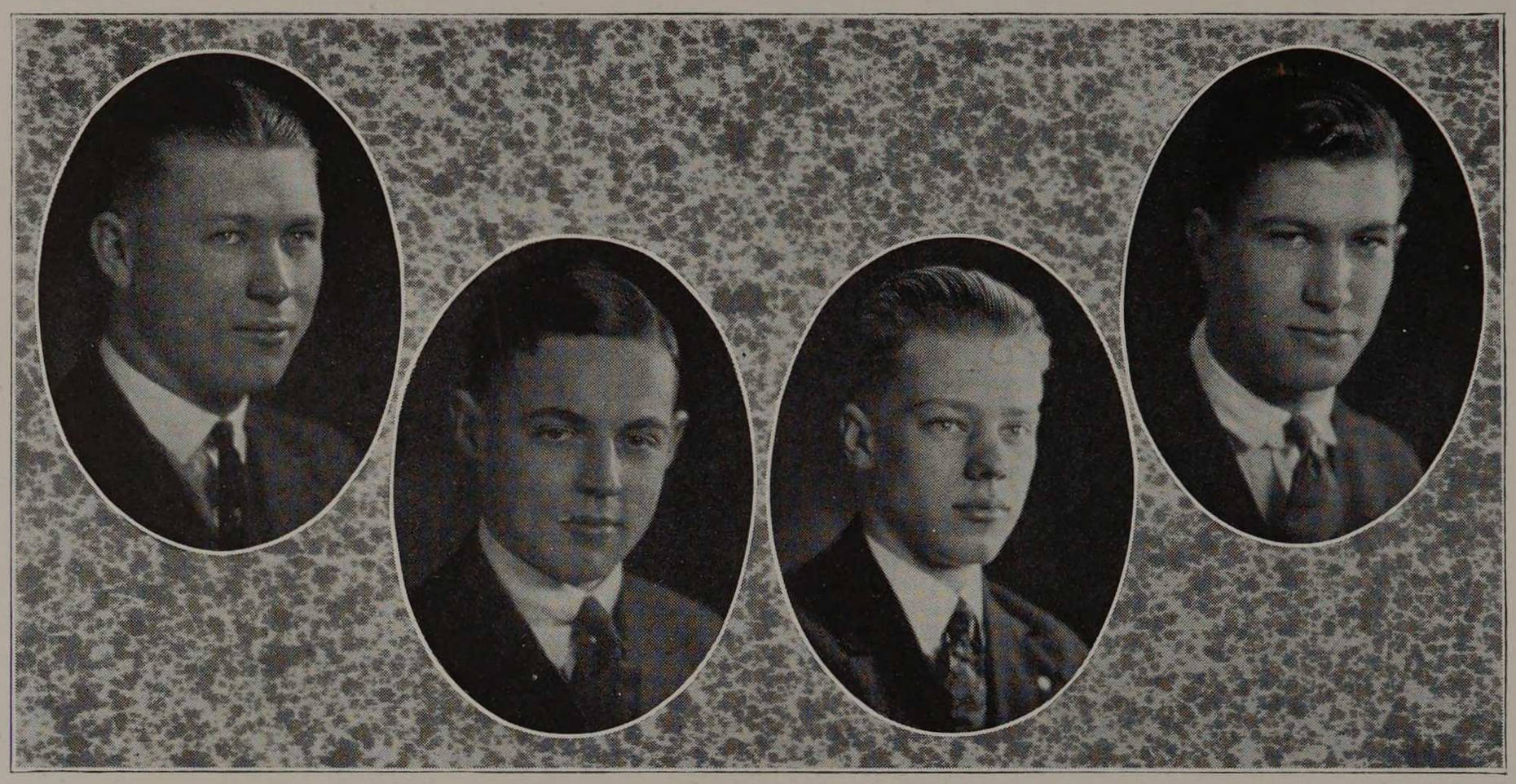
The purpose of the association is the stimulation of interest in all radio matters and other subjects relating thereto, not only among station operators, but also among all others who may be interested. A number of the members have had commercial or Navy operating experience, and prove a great help to the less experienced members. The members of the A. R. A., together with the class in Radio Communication, have carried on some very interesting experiments on Undamped Wave or C. W. Transmission with both buzzer and voice modulation. The spark transmitter, which was installed last year in the Radio Station in Chapin Hall, was dismantled and a C. W. Transmitter, using vacuum tubes as a source of power, was installed.

The receiving apparatus has been reconstructed in accordance with the latest developments in radio communication, and signals have been copied with ease from several of the large Transatlantic stations. A special Federal experimental station license has been obtained through the efforts of Professor Wilcox. This provides for the operation of a transmitter, either Spark or C. W., over a range of wave-lengths between 200 and 600 Meters. The official call letters of the station, as provided in the license, are 9YL. Actual communication has been carried on over a distance of thirty miles, using a single vacuum tube in the transmitting outfit. With the new apparatus which is soon to be installed, it is hoped distances of several hundred miles can be covered.

A great deal has been done, but much more can be accomplished in the vast field of Radio. Undoubtedly there are, among the members, many who, along this line, will help the Armour Radio Association to make a name for Armour Institute.



Mueser Herskovitz Walters Albee Sanborn
Love Bloom Fisher Marx McCaffrey Mehrhof
Pearce Kelley Goodnow Kenrick Hultgren



GILBERTSON BAKER HAGEN OVEREND

Y. M. C. A.

W. M. Baker .....President
G. A. Gilbertson .....Vice-President
L. P. Overend .....Recording Secretary
H. E. Hagen .....Executive Secretary

BOARD OF MANAGERS.

Faculty Members.

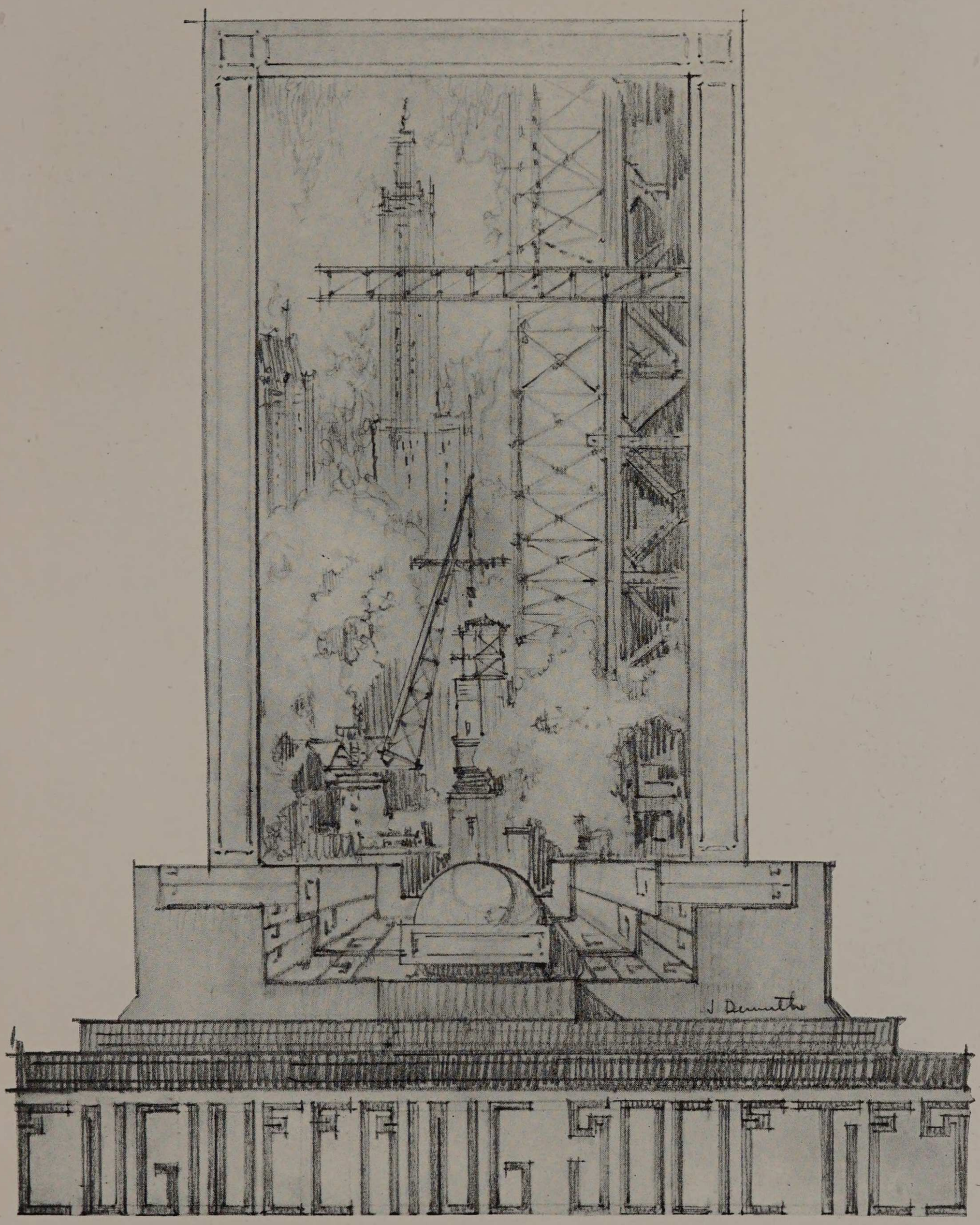
Prof. Scherger .....Chairman
Prof. Perry .....Treasurer

Prof. Wilcox Mr. Allison Prof. Wells
Prof. Tibbals Prof. Colvert

The Armour Institute Y. M. C. A. is one of the departments of the Illinois Y. M. C. A. The Association occupies rooms on the third floor of Chapin Hall, 3321 Federal Street. One of the rooms contains a billiard table, which may be used by the members, and the other room is furnished for studying and reading purposes.

The department is governed by a Board of Managers, composed of seven faculty and two student members. The student members of the Board of Managers are the President and the Executive Secretary.

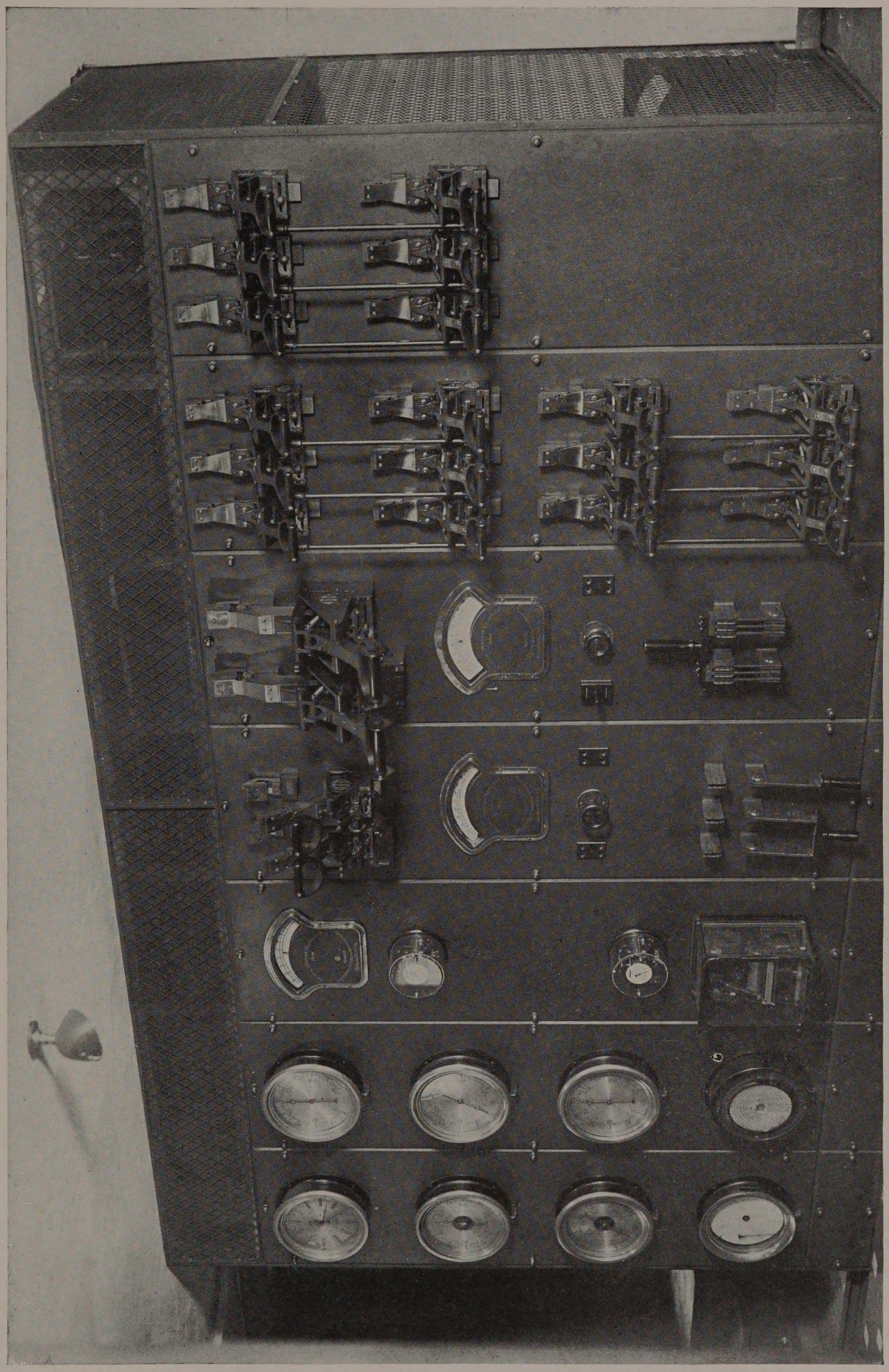
The object of the Y. M. C. A. is to provide a place of recreation and study, and to raise the standard of morals of the student body. Any student may join, as the Association is not denominational. A student membership in this department entitles the holder to the house privileges at any Y. M. C. A. It also gives the students reduced rates when joining any of the city departments.


J Demuth
ENGINEERING SOCIETIES

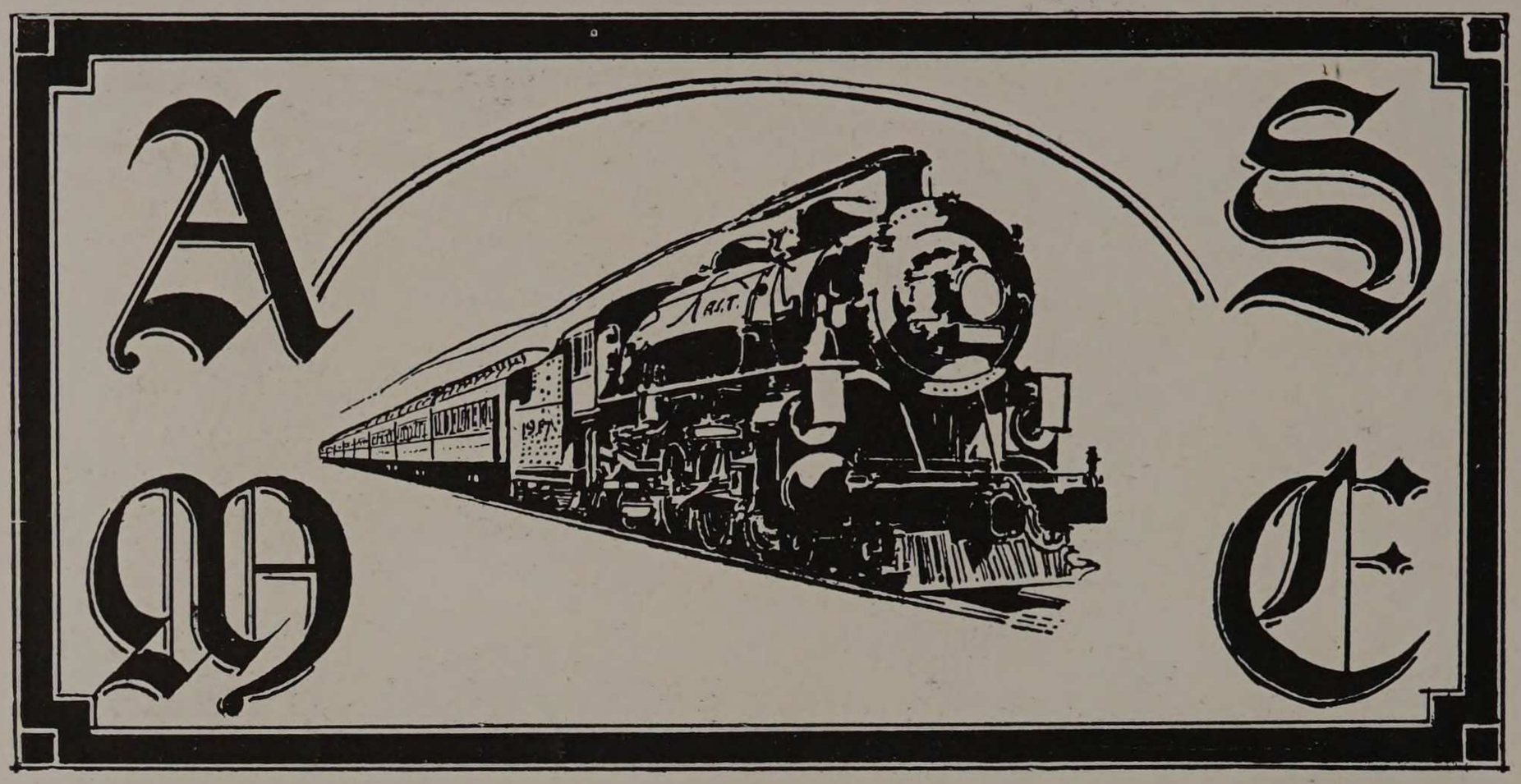


EDWARD A. HERSKOVITZ

Editor of Engineering Societies



POWER PLANT SWITCHBOARD



ARMOUR INSTITUTE OF TECHNOLOGY BRANCH OF THE AMERICAN INSTITUTE OF MECHANICAL ENGINEERS.

Prof. G. F. Gebhardt.....Honorary Chairman
Charles T. Walter.....President
John P. Sanger.....Vice-President
Robert Van Valzah.....Treasurer
Wm. A. Heitner.....Secretary

The A. S. M. E. has had a very successful year, which was primarily due to the adoption of a "Meeting Schedule" and the rigid adherence thereto. Meetings were held regularly every other Wednesday and were well attended.

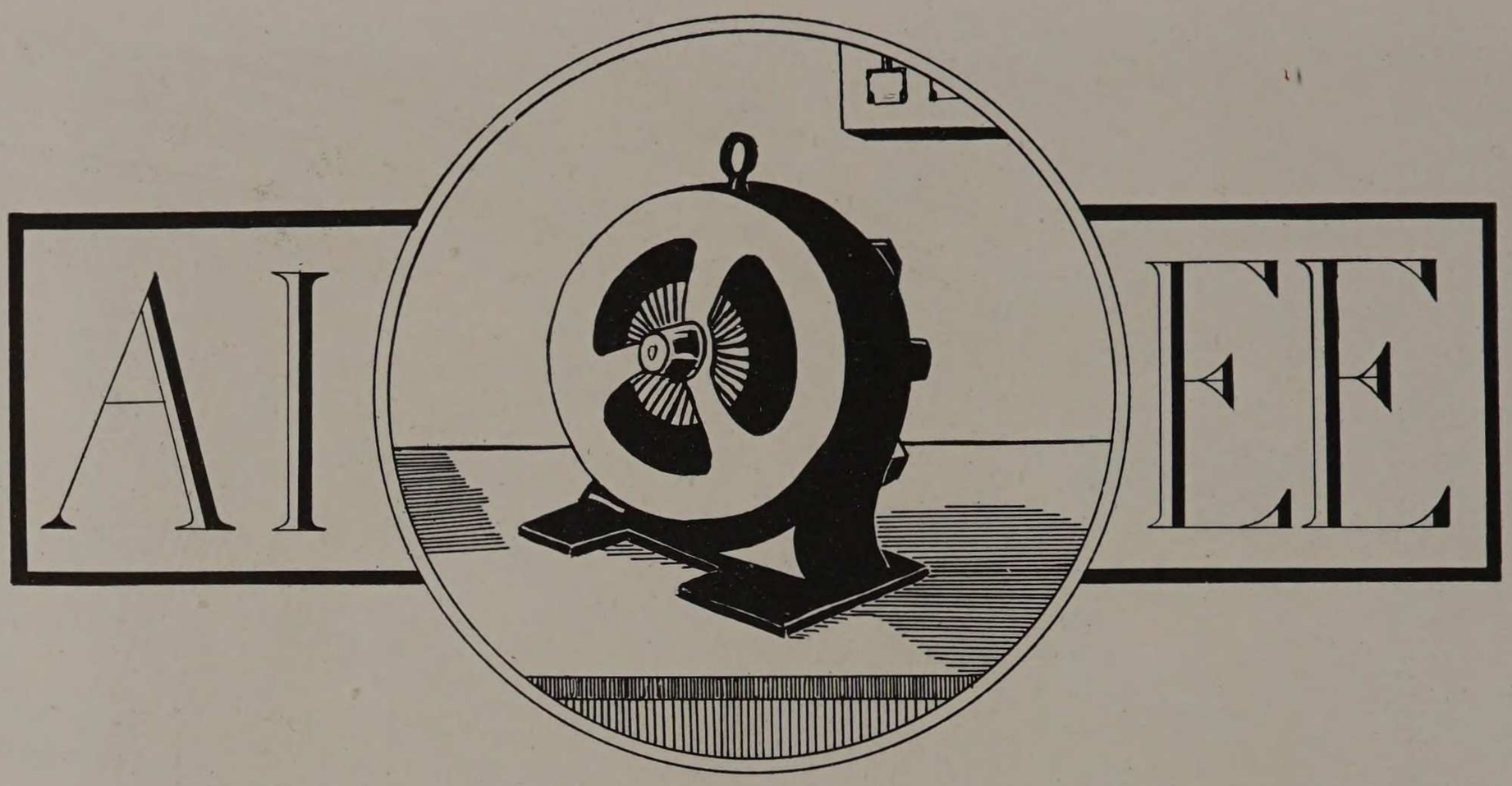
The opening meeting of the year was held on October 8, 1920. Prof. Gebhardt gave the opening address in which he outlined the object of the society, which is to enable men to talk before an audience, using good English, and to overcome any self-consciousness. He also brought to our attention the importance of engineers entering into public life more, in order that each one might gain for himself that recognition which is due him, but which, to the present date, he has been too modest to demand.

The society held two general meetings to which all Mechanical Engineering Students were invited. The first of these was held in the Mission Building on January 12, 1921. The program consisted of an educational motion picture film on "Clark Motor Truck Axles." The second was the Annual Smoker given in the rooms of the Armour Y. M. C. A. on February 25, 1921. Prof. Gebhardt, the speaker of the evening, again outlined the object of the society for the benefit of the Freshmen, and emphasized the value of extemporaneous speech. Several other professors were called upon to say a few words, and their ready response showed that the "True Armour Spirit" is still prevalent among the faculty.

The society wishes to extend its thanks to the faculty for its generous aid in making this a successful year.



Hoven, Rupprecht, Webster, Plocar, Havlick, Bursik, Rutishauser, Wittenmeier, Bissell
Rumley, Pawlowski, Bradbury, Trowbridge, Wetherbee, George, Doolittle, Kuehn
Smith, Barce, Walker, Duennes, Sugarman, Steiner, Newman, Maranz, Zemke
Bird, Hagen, Van Valzah, Walters, Sanger, Heitner, Jennings, Erickson, Olson
Lipski, Eisenstein, Sedgwick, Corydon, Clouse, Broad, Wohlgemuth



ARMOUR INSTITUTE OF TECHNOLOGY BRANCH OF THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.

R. C. Malwitz.....Chairman
T. L. Albee.....Secretary
W. W. Pearce.....Treasurer

During the past school year the plan recommended by Professor Snow of having the student members themselves speak at each meeting was adopted and found highly successful. The short addresses given under this plan were found to be of more value to the A. I. E. E. members than a few longer addresses by graduate members, as the local branch meetings were made places for the students to train themselves in speaking, besides being places for the transfer of technical knowledge.

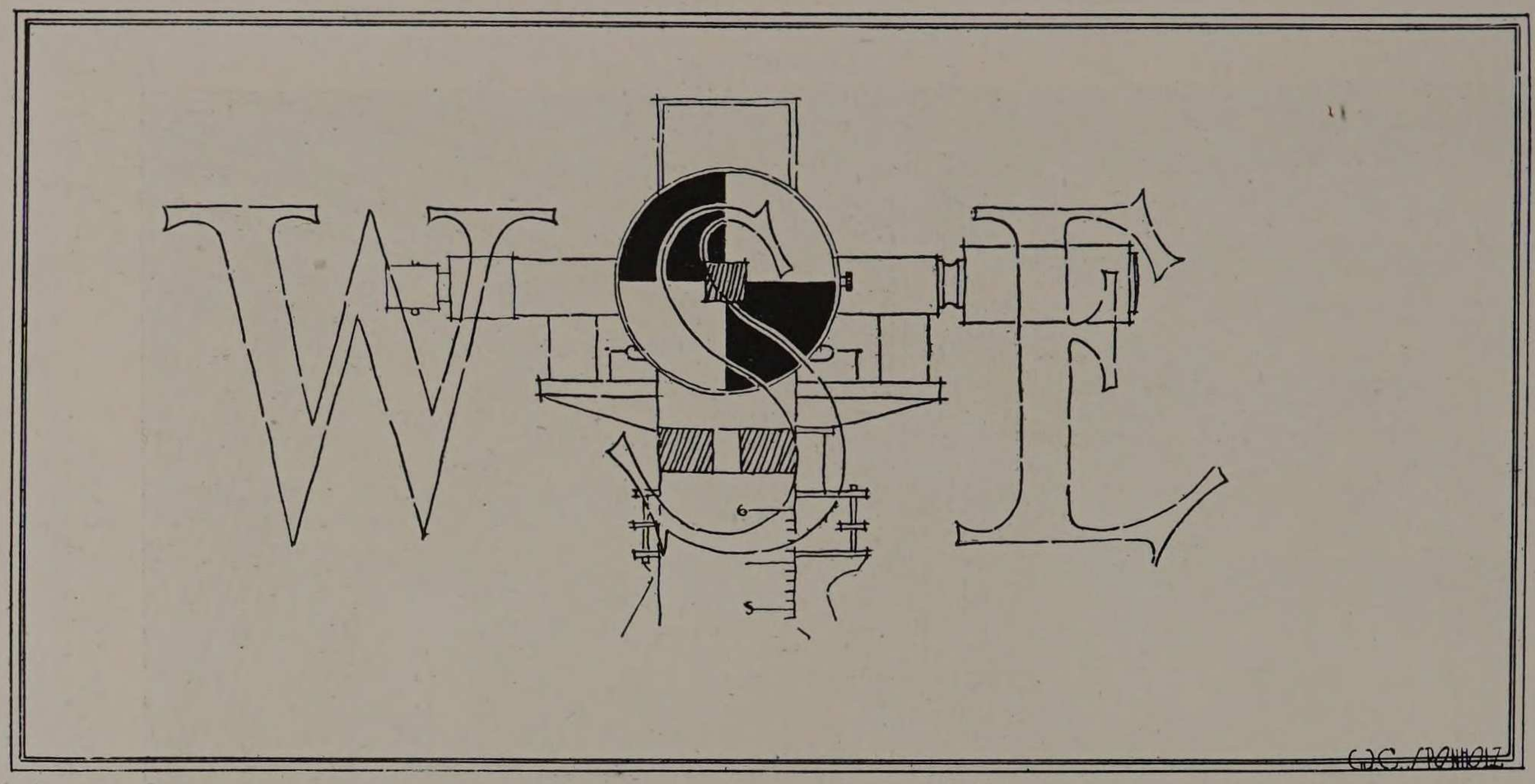
At the meetings of the society which have been held every two weeks, every member willingly took part as a speaker and helped by his snap and ginger to make this the successful year that it was. The topics chosen as subjects of discussion by the various members were chosen either from their own practical experience or from knowledge gained by study, and related to a great many branches of electrical engineering.

At the meeting of December 13, 1920, an exception was made to the rule of having only student members speak, and an Armour graduate of 1918, Leslie Weiss, addressed the society, his subject being, "The Outlook for the 1921 Graduates."

The principal speaker at the A. I. E. E. smoker which was given on February 26, 1921, in the Mission Building, was our own Professor Freeman. He attempted to kindle in the members a true appreciation of what was expected of them after the completion of their school courses and their entrance into the practical world. Basing his talk upon the compiled results obtained from over 5,000 engineers, he discussed the qualities desired in young engineers. In the order of their importance the various qualities were: Character, Judgment, Efficiency, Understanding of Men, Knowledge, and Technique of Practice. The value of the ideas conveyed to the members in this speech cannot be overestimated and they wish to take this opportunity of expressing their thanks to him.



Mueser, Kramer, Albee, Ewin, Reiman, Goodnow, Walters, Miles, Schreiber, Hultgren, Obler
Kihlstrom, Klenze, Pearce, Kumbera, Kelley, Grill, O'Rourke, Piety, Ryckert, Anderson, Mehrhof
Erlandson, Hayden, Douglas, Snow, Rosendal, Freeman, Wing, Marx
Kenrick, Knotek, Bloom, Herskovitz, Love, Grube, Zahrobsky



The Armour Branch of the Western Society of Engineers

R. M. Singer.....President
G. C. Kumbera.....Vice-President
A. Applebaum.....Secretary
G. W. Peterson.....Treasurer

The object of this association is the advancement of the science of engineering, and the best interests of the profession. Meetings for reading and discussion of appropriate papers, and matters of engineering interest, combined with professional and social intercourse, insure the attainment of this object.

Professor Phillips at the first meeting of the year, reminded the students of the goal of the society, and the duties of the individual members. Professor Penn also addressed this meeting, and discussed with his characteristic vigor, the Institute's Library. "The Aesthetics of Bridge Design" was the subject of Professor M. B. Wells' illustrated lecture at the Mission Building on October 27. Professor Wells is well known as a member of the Civil Engineering Department, and is to be congratulated for his more interesting talk.

Among the speakers at subsequent meetings were: Dean Monin, who spoke in his usual interesting manner on some of his vocation adventures, and Mr. Langdon Pearce, who as Chief Engineer for the Sanitary District of Chicago, was fully capable of discussing "The Modern Methods of Sewage Disposal."

A number of interesting and instructive inspection visits were made during the past year, among which were trips to the following:

The Michigan Avenue Bridge,
Franklin-Orleans Street Bridge,
A Fifteen Foot Interlocking Sewer,
City Bridges, Breakwaters, and Cribs,
Lockport and Joliet Power Plants,
Controlling Works of the Sanitary District at Lockport.

The past year has seen this organization expand and become an important cog in the department of Civil Engineering, and the members look hopefully toward the future for the continuation and enlargement of their past success.



Carr Douglas Reiman Van Dyke Mayo Hyde Boss Mundt
Johnson Campbell Burkey Hess Kumbera Grammas Watt Lochow Holmes
Singer Seaberg Vaaler Eierdam Petersen Petersen Chase Lyon Burke



THE ARMOUR CHEMICAL ENGINEERING SOCIETY.

Emil F. Winter.....President
Warren McCaffrey .....Vice-President
Walter Savoye .....Secretary
Harry Ahlbeck .....Treasurer

The A. Ch. E. S. was organized shortly after the Chemical Engineering Department was established for the purpose of bringing the students in chemical engineering into closer contact with one another, and to assist them in their pursuance of that branch of study by lectures from the members of the alumni, faculty, and professional men engaged in chemical engineering work. Added to this was the desire to have members address the society at frequent intervals and thus to acquire the confidence and facility of speech so valuable in professional life, as well as the technical knowledge also available.

The A. Ch. E. S. held its first meeting and annual election on September 29, 1920. It was decided to hold meetings on Tuesdays at 4 P. M. about three weeks apart, and to have outside speakers, preferably alumni, deliver lectures on various subjects of interest to the members.

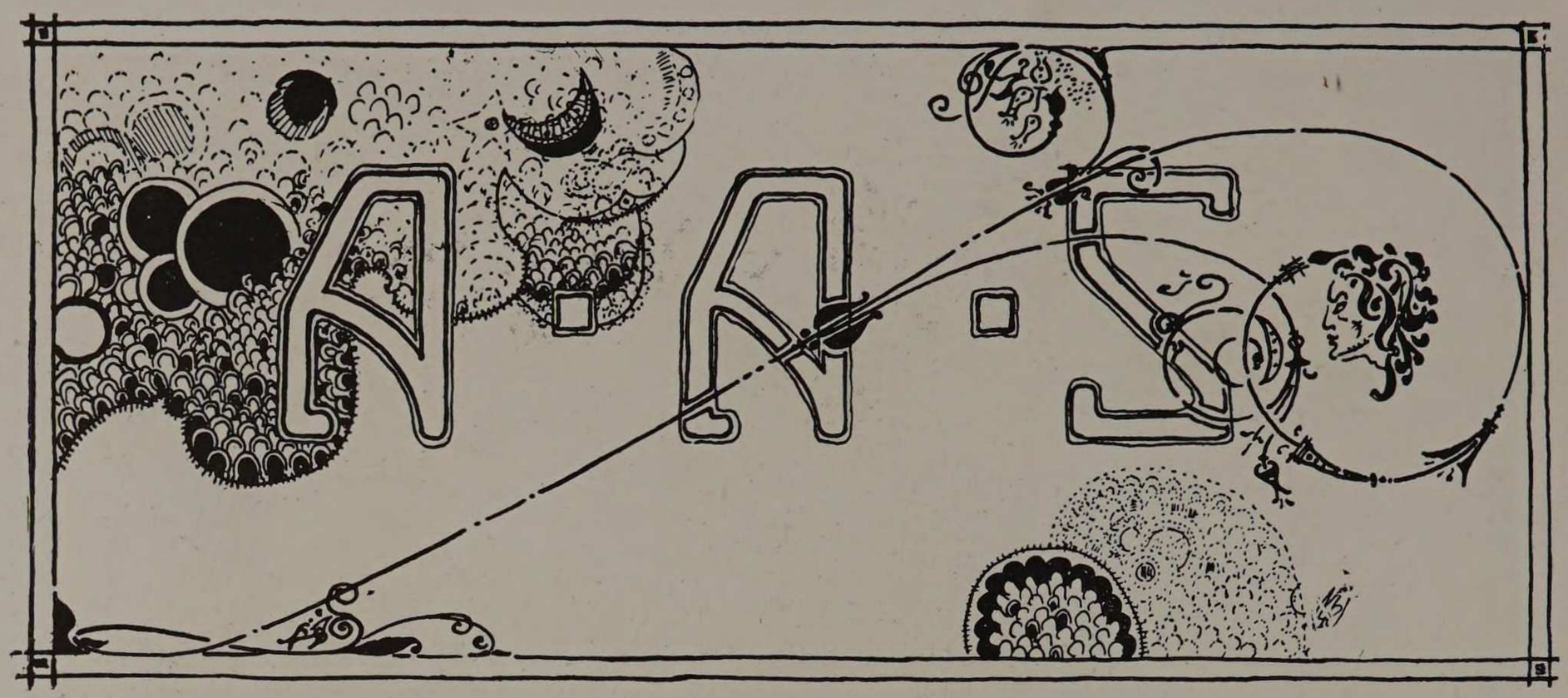
We were unfortunate in not being able to attend meetings in sufficient numbers to warrant having men well known in the Chemical Profession address us. One of our best lectures was delivered by Mr. H. Sieck, '14, on "Cocoanut Oil Refining." Mr. Sieck is Assistant General Manager of the American Cocoanut Oil Refining Co.

At a meeting held on February 25, it was decided to change the time and type of meetings. Two smokers, one to be held on April 12, and another at a later date, and a banquet, to be held in the latter part of May, were decided upon. At these smokers, which are to be held in the evening in the Y. M. C. A. rooms, we hope to have present all of the faculty and alumni of the Chemical Engineering Department.

The prestige which the Chemical Engineering Department is enjoying nationally is perhaps best illustrated by the fact that the school has been granted a chapter of Phi Lambda Upsilon, a national honorary chemical fraternity.



Savoye, Gilbertson, Scherger, Herbst, Sippel, Herbst, Baker, Edwards, Tibbals.
Crane, Bentley, Ahlbeck, Judson, Winter, Gray, Dhus, Little, Brueckner.
Erlandson, Gerstein, Silverberg, Bernstein, Nutt, Marine, Anderson, Vorsheim, McCaffrey.
Davis, Kaplon, Spielman, Dowse, Schiffman, Pashkow, Rosenzweig, Slobod.



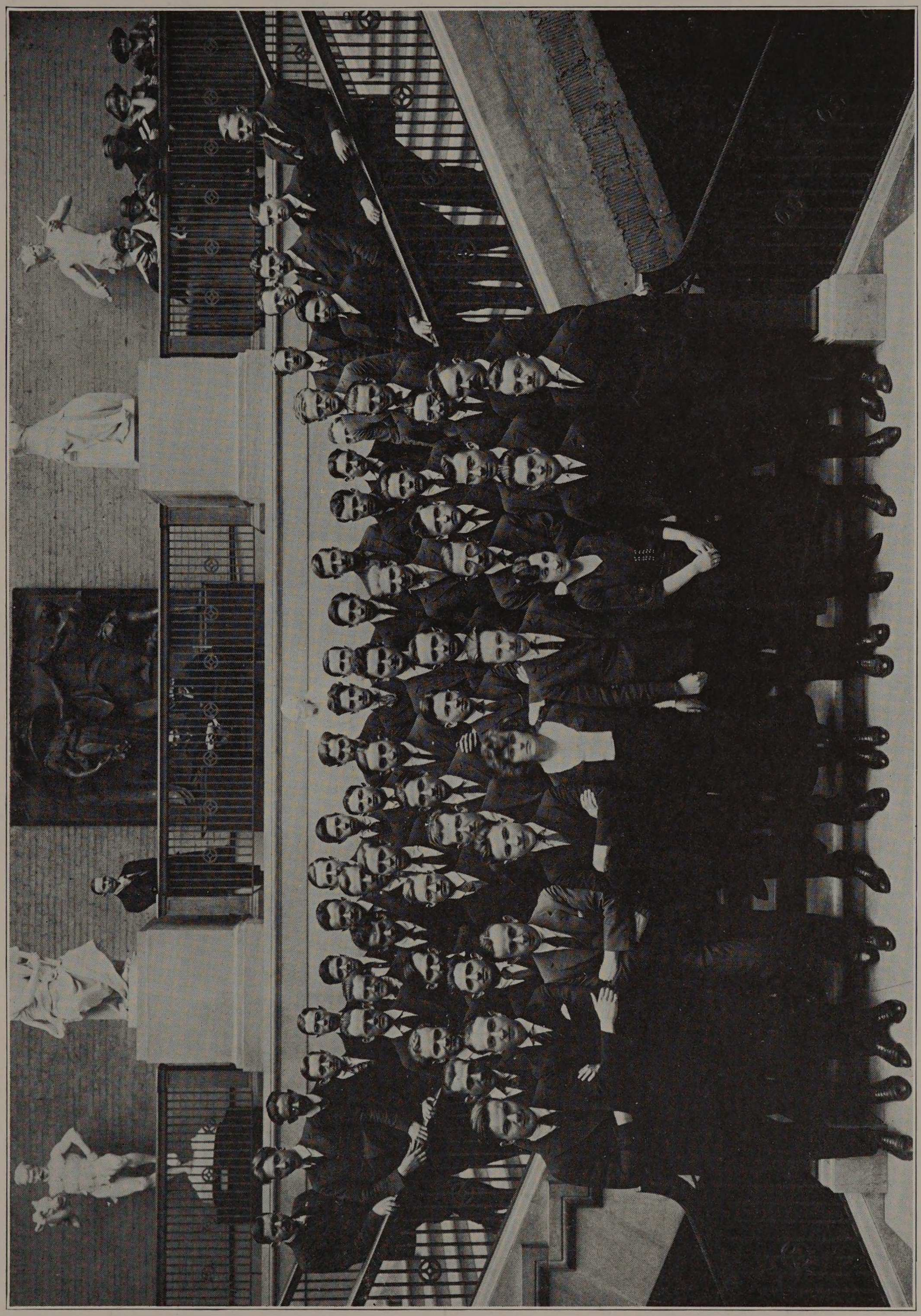
THE ARMOUR ARCHITECTURAL SOCIETY

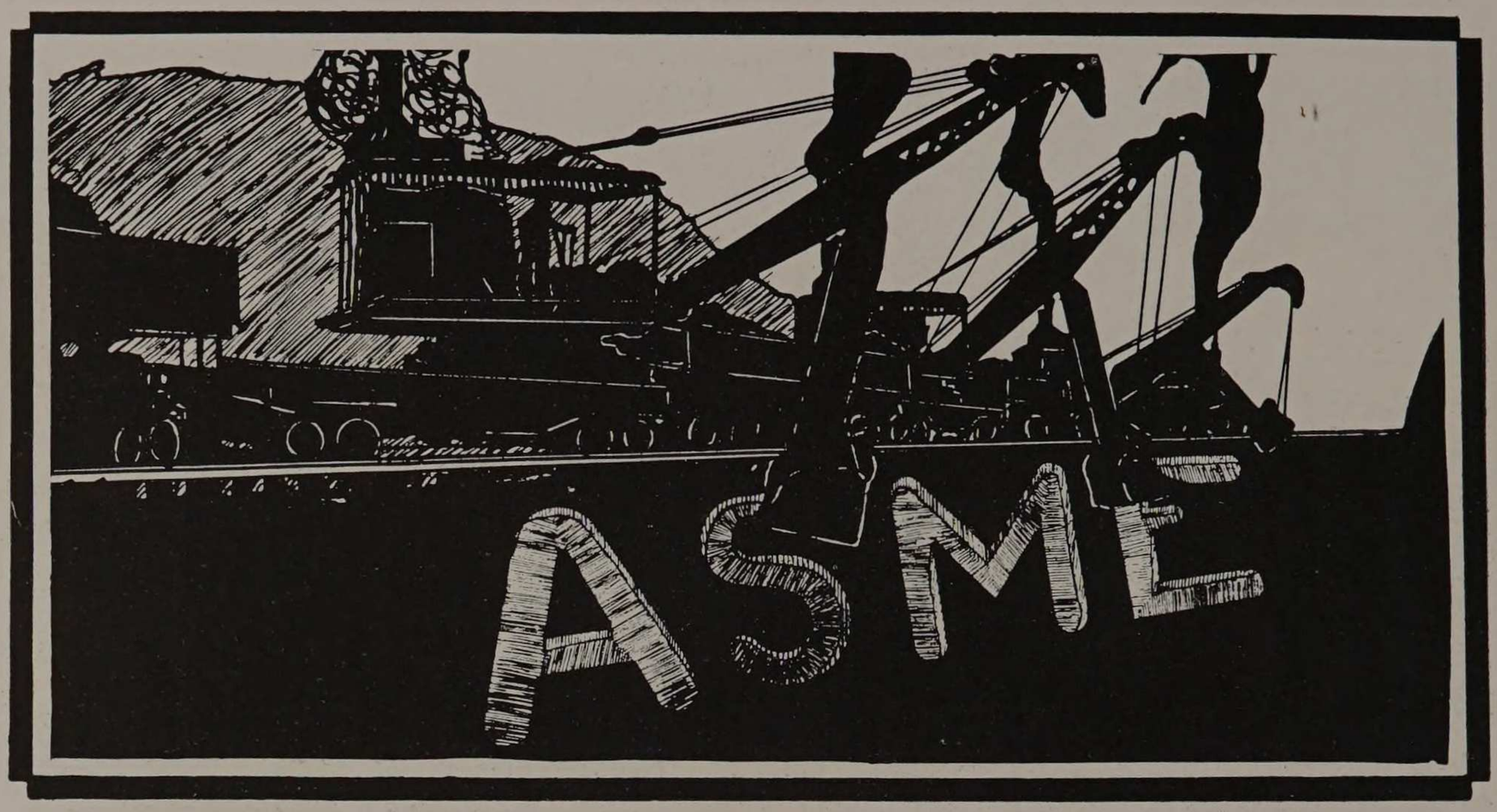
Theodorus M. Hofmeester.....Massier
Helen L. Fasset.....Secretary
Edmund J. Ryan.....Treasurer

The class of 1921 had a rather unfortunate college career because its four years extended through the war and reconstruction period. The society which probably felt most keenly the restrictions of the relentless "Mars" was the Armour Architectural Society. This year, however, they have gone back to their pre-war activities and pre-war pep.

On Monday, November 15, 1920, the society held its annual initiation and banquet in the club rooms of the Art Institute. In terms of a very old and much quoted phrase it may be said, "an enjoyable time was had by all," including the initiates. No casualties were reported and the Freshmen were able to be seated at the banquet table. The speaker of the evening was Andre' N. Rebori, the noted Chicago architect. Mr. Rebori gave a very interesting talk, touched often with his genial humor and pleasant satire. He was followed in order by Mr. Campbell, Mr. Kriehbiel, and Mr. McCaughey, who each spoke a few words of sound advice to the initiates.

The Architects are justly proud of their showing in the recent New York competition, where Massier Hofmeester won a second medal and four other members of the senior class took mentions. Mr. Conner has also materially contributed to the good showing of the organization by winning his third medal on the Paris Prize Sketch.





THE FRESHMAN-SOPHOMORE A. S. M. E.

Philip D. Sang ..... President
George Ruddiman ..... Vice-President
Leo L. Reihmer ..... Secretary

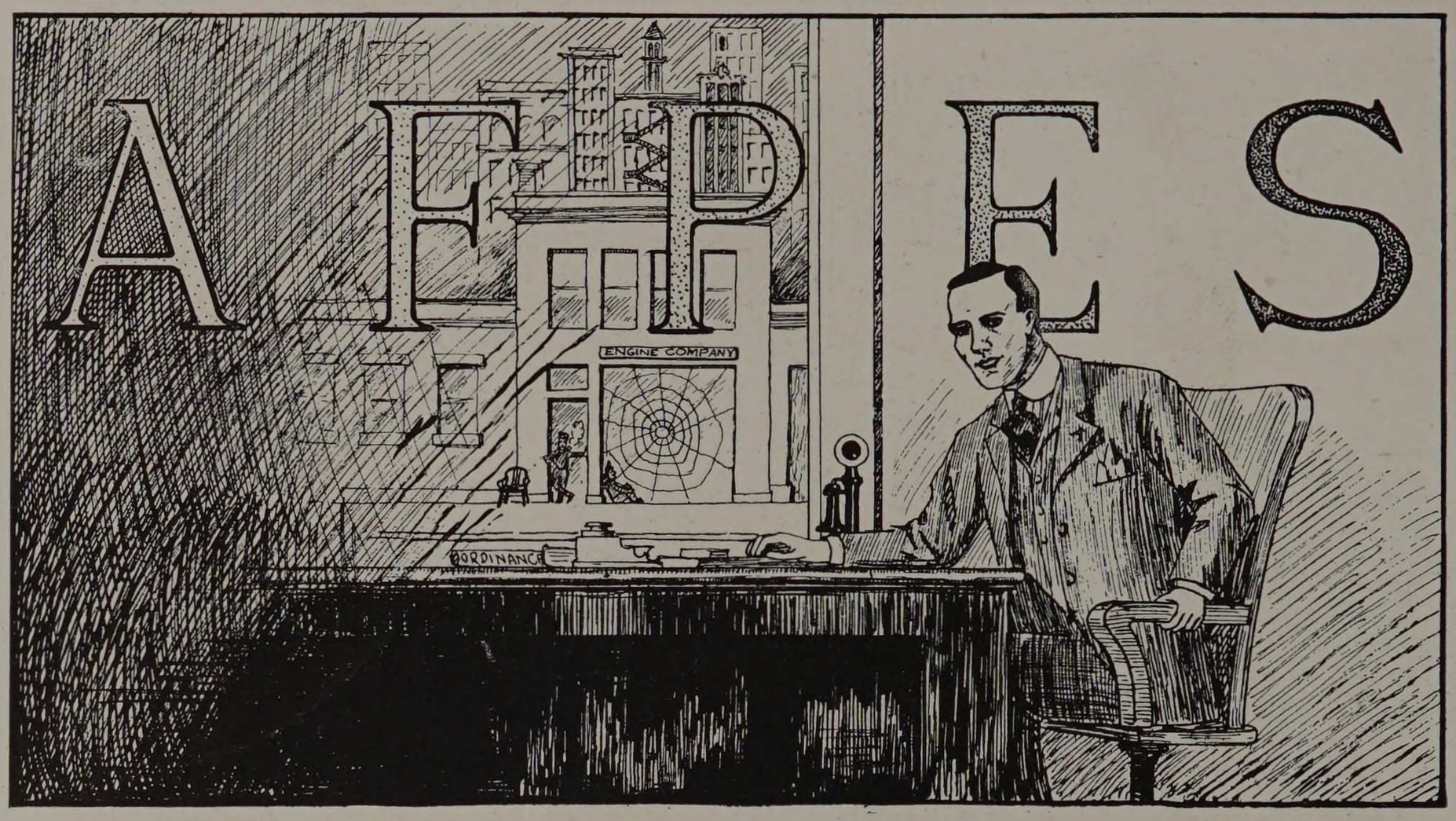
The Freshman-Sophomore A. S. M. E. was organized for the prime purpose of enabling Freshmen and Sophomores to gain practice in public speaking, both on technical and general subjects and it is successfully accomplishing this object. The meetings throughout the year have been well attended and there never was a lack of speakers. In fact, there was always an overabundance of men willing to talk, and they were glad when their opportunity came to address the society.

The organization was inoculated with even more than its usual high order of enthusiasm when they had the pleasure of hearing an address by Professor H. L. Nachman, of the Mechanical Engineering Department. Professor Nachman has taken an interest in this society and at the time of this writing the organization is planning an inspection trip under his guidance. This will be the first trip of its kind under the auspices of the organization and it promises to be a very instructive one.

The attitude of the members during the past year has been one worthy of mention, and all indications seem to prophesy that the Freshman-Sophomore A. S. M. E. will continue to grow in importance as a meeting place of Freshmen and Sophomore mechanical engineering students.



Ruddiman, Miller, Fabry, Druebeck, Uhlir, Dhus.
Johnstone, Miller, Schweitzer, Scoville, Rife.
Eidenberg, Eisen, Sang, Werner, Flavin, Pollman.
Eickelberg, Neiland, Rheimer, Wardell.



Armour Fire Protection Engineering Society

W. E. Kingsley ..... President
W. W. Oake ..... Vice-President
J. W. Roddick ..... Secretary
E. W. Geisler ..... Treasurer
R. R. Maguire ..... Chairman of Social Committee

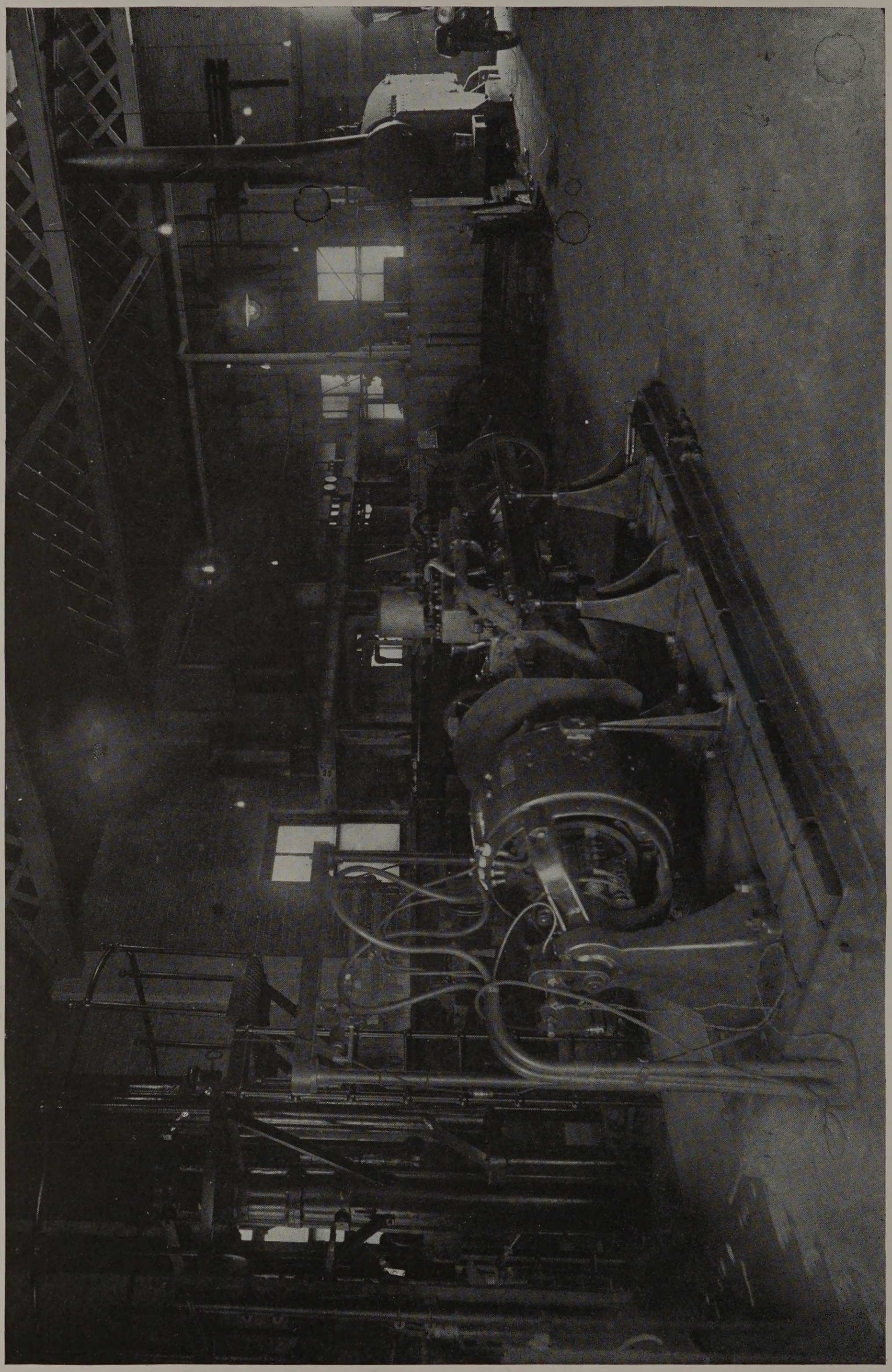
The Fire Protection Engineering Society was reorganized on November 15, 1920, after having been dormant since the period of the war. President Kingsley delivered a very unique opening address, setting forth the object and aims of the society, after which plans for the future were discussed. It was decided that the old constitution of the society would not meet the present needs and a committee was appointed to revise it.

The members were then entertained by Professor Finnegan, head of the department of Fire Protection Engineering, who gave a very interesting and helpful talk on the need of technical men in the insurance field.

Due to the lack of a faculty leader because of the sudden and severe illness of Professor Finnegan, the society has not been very active in the past year; however, the ice has been broken, and it is with genuine anticipation that its members look forward to a year of activity and future enlargement and expansion.



Top row—Thoelecke, Spaid, Eppich, Latta, Sanborn, Reagan. Second row—Harsha, Belt, Lovald, Brownson, Trimble, Waterman. Third row—Cole, Miessler, Freeman, Joseph, Pierce.



REFRIGERATION LABORATORY


J DEMUTH

WHAT'S THE USE

Oh, what's the use of fussing
And kicking up a row;
The past is dead and buried,
And all we have is now.

Oh, what's the use of courting
The shadows and the rain;
Our present golden moments
Will never come again.

Oh, what's the use of grieving
O'er what life might have been;
Let's get a hustle on us,
Go in the fight—and win.

And this our daily motto:
To do some gracious deed;—
The kindly word, the loving act
To some poor soul in need.

There is but one ambition
That's noble, just and true;
It is, to do to others as
You would they'd do to you.

Each happy habit stronger grows;
We're creatures of our thought
And in the last account, we'll get
Exactly what we've sought.

The sun is shining o'er us,
God's blessings all are ours,
If we but winnow out the weeds
And pluck the perfumed flowers.

THE STARS AND STRIPES

Then came a great shout about the flag.

"Let me tell you who I am.

"The work that we do is the making of the real flag.

"I am not the flag, not at all. I am but its shadow.

"I am whatever you make me, nothing more.

"I am your belief in yourself, your dream of what a people may become.

"I live a changing life, a life of moods and passions, of heartbreaks and tired muscles.

"Sometimes I am strong with pride, when men do an honest work, fitting the rails together truly.

"Sometimes I droop, for then purpose has gone from me and cynically I play the coward.

"Sometimes I am loud, garish and full of that ego that blasts judgment.

"But always I am all that you hope to be and have the courage to try for.

"I am song and fear, struggle and panic, and ennobling hope.

"I am the day's work of the weakest man and the largest dream of the most daring."

"I am the Constitution and the courts, statutes and statute-makers, soldier and dreadnought, drayman and street-sweep, cook, counselor and clerk.

"I am the battle of yesterday and the mistake of tomorrow.

"I am the mystery of the men who do without knowing why.

"I am the clutch of an idea and the reasoned purpose of resolution.

"I am no more than what you believe me to be and I am all that you believe I can be.

"I am what you make me, nothing more.

"I swing before your eyes as a bright gleam of color, a symbol of yourself, the pictured suggestion of that big thing which makes this nation. My stars and my stripes are your dreams and your labors. They are bright with cheer, brilliant with courage, firm with faith because you have made them so out of your hearts, for you are the makers of the flag, and it is well that you glory in the making."

THE RIGHT KIND OF A GIRL.

Let a girl be ever so graceful in the dance; let her be ever so elegant of walk across the drawing-room, ever so bright in conversation, she must possess some other qualities to convince the great average run of young men that she can be the manager of his home, the pilot that steers his ship of state. Frugality, womanly instincts of love for home, an eye to the best interest of her husband and the careful training of her children—these are the traits which make the good wife of today, and which young men look for in the girls they meet. Men may sometimes give the impression that they do not care for common sense in their sweethearts, but there is nothing they so unfailingly demand of their wives.

A MESSAGE FOR US ALL FROM ABRAHAM LINCOLN

"Let every American, every lover of liberty, every well wisher to his posterity, swear by the blood of the Revolution never to violate in the least particular the laws of the country, and never to tolerate their violation by others. As the patriots of '76 did to support the Constitution and Laws let every American pledge his life, his property and sacred honor. Let every man remember that to violate the law is to trample on the blood of his father, and to tear the charter of his own and his children's liberty.

"Let reverence for the Laws be breathed by every American mother to the lisping babe that prattles on her lap; let it be taught in the schools, in seminaries, and in colleges; let it be written in primers, spelling books and almanacs; let it be preached from the pulpit, proclaimed in the legislative halls and enforced in the courts of justice.

"In short, let it become the political religion of the nation; and let the old and the young, the rich and the poor, the grave and the gay, of all sexes and tongues and colors and conditions, sacrifice unceasingly upon its altars."

THE SENTIMENTS OF THE STUDENT BODY OF THE ARMOUR INSTITUTE OF TECHNOLOGY.

Gone from our midst
  Is one who was strong;
In character uplifting,
  With words, deeds, and song.

"Moral engineers,"
  He was wont to say,
Are the engineers most needed to-day.
  That was his theme,
And that was his work,
  And that is the end,
That we dare not shirk.

Underneath his thin earthly veneer,
  Stood out his soul imaculate and clear;
Ready to serve and to do his best,
  For Him that is highest where his soul is at rest.

So back to your books,
  And back to your quiz,
And make your life's work,
  Come tangent to his.

—*A Sophomore.*

IT'S ALL IN THE STATE OF MIND

If you think you are beaten, you are,
If you think that you dare not, you don't,
If you'd like to win, but you think you can't
It's almost a "cinch" you won't.
If you think you'll lose, you've lost,
For out in the world you find
Success begins with a fellow's will—
It's all in the state of mind.

Full many a race is lost
Ere even a step is run,
And many a coward fails
Ere even his work's begun.
Think big, and your deeds will grow,
Think small, and you'll fall behind,
Think that you can, and you will.
It's all in the state of mind.

If you think you're outclassed, you are;
You've got to think high to rise,
You've got to be sure of yourself before
You can ever win a prize.
Life's battles don't always go
To the stronger or faster man,
But soon or late the man who wins
Is the fellow who thinks he can.

—*From The Sabean.*

THE TAX ON SPORTING GOODS IS UNJUST

An agitation was begun some time ago which has now reached National proportions urging the repeal of the 10% war tax on sporting goods, and practically every National Amateur Organization has gotten behind the movement and hundreds of thousands of individuals, also.

Peter P. Carney and Hugh Fullerton, two of the best known sports writers in the United States, have written quite a number of articles showing the unsoundness of the tax, how it prevents the play of the youth of America, and its future effect on the Nation. These writers now ask that every student of every institution become interested in this movment and urge for the repeal of the tax.

Everything you purchase to be used for any sport playing, whether it be a snow shoe, a tennis racquet, a golf ball, or a hunting jacket is taxed 10% before it leaves the manufacturing plant. The consumer pays this tax and some times more. You will note the unjustness of this tax when you note that automobiles, diamonds, etc., are only taxed 5%. We know automobiles and diamonds are luxuries but very few things in the line of sporting goods that boys use are luxuries.

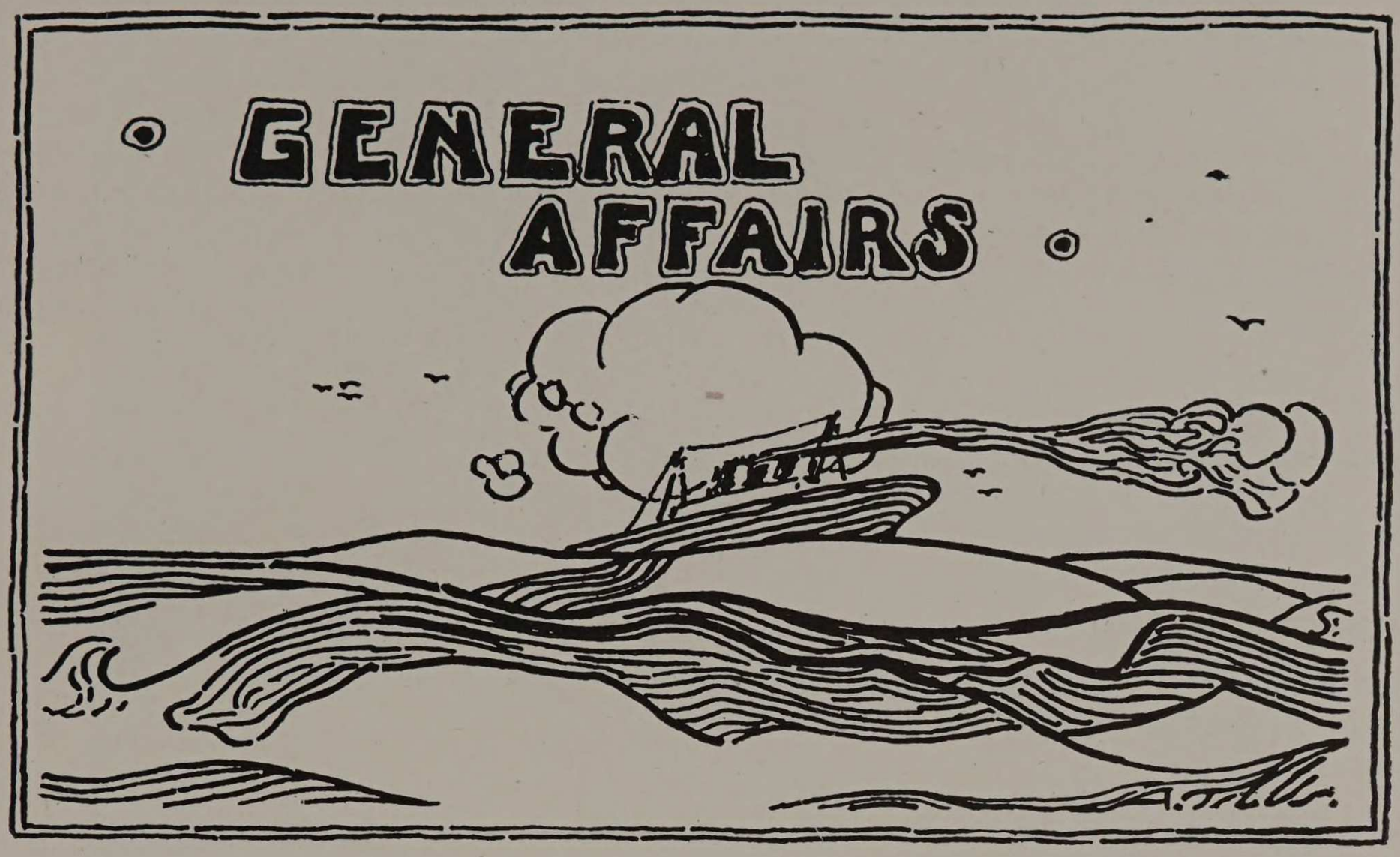
The Government itself does not believe that sporting goods are luxuries, because during the war the soldiers got their sporting equipment first. They were necessities then. They are necessities now. They were taxed 3% during the war, That was all right. We know that the Government needs money and sportsmen are willing to pay taxes, but few of us believe that Uncle Sam should tax the kids to play. That is just what this tax amounts to.

Statistics of past years show that 70 per cent of the sporting goods manufactured were sold to boys and girls under the age of 18. Last year the figures were 73 per cent. This year sporting goods are a drug on the market. The boy isn't playing. He can't afford to.

It is up to every one of us to make a fight for the boy, for the future generation, because we are interested in the welfare of the nation even though the lawmakers cannot see the big idea. We believe that Congress thought it was soaking the professional ball player when it put on this tax. If they did they failed for the professional baseball leagues do not use more than one per cent of the sporting goods made and the ball players do not pay for any of this.

We ask you in behalf of the kids of the United States that you write your Congressman and Senator urging the immediate repeal of this tax. You can tell him in your own way just why the tax should be repealed. Write your letters today. Get your friends to write. If you are a member of an organization get the club to adopt resolutions on the tax and send them to Washington.

The Amateur Athletic Union, the United States Lawn Tennis Association, the Golf Association, the American Trapshooting Association, and many other organizations are very much interested in this campaign from the standpoint of the youth of America and it would be fine if you would cast your lot with theirs.



THE VISIT OF THE SENIOR CLASS TO THE PLANT OF ARMOUR AND COMPANY AT THE UNION STOCK YARDS, CHICAGO, ILLINOIS.

On Thursday, February 17th, 1921, at the invitation of Mr. P. D. Armour, the entire Senior Class of the Institute and about twenty professors inspected the plant of Armour and Company at the Union Stock Yards. The men assembled in the Armour and Company gymnasium at 8:45 in the morning and were divided into groups according to their various courses. Each group was guided by an expert, in its particular branch of engineering. The Mechanical students were led by men from the Master Mechanic's office, the Chemical students by men from the Chemical Department, etc.

The entire body was taken as a unit through the killing, butchering, and curing departments of the plant. Here they saw the cattle, sheep, and swine killed, strung up by their rear legs to a carriage which moved slowly along an overhead track, and passed before a series of men each of whom performed some definite work upon the body. The efficiency obtained by the minute division of labor is great. This was attested to by the neatness and accuracy with which the various cuts were made, and by the fact that within 72 hours from the time the animals entered the killing pen, the meat was cured, packed, and on the shipping platform.

After the trip through this part of the plant, the men separated into the groups previously assigned and visited those parts of the plant which were of particular interest to them. The Mechanical students were shown through the power plant and the cold storage warehouse; the Chemical students saw the laboratories and the oleomargarine plant; and the Electrical students saw the lighting system and the generators. This part of the trip proved the most valuable, interesting, and instructive of all.

About 12:00 o'clock the men reassembled in the gymnasium, and after having their picture taken, went up to the lunch room in the main building There a most excellent luncheon was served them as the guests of Mr. Armour.

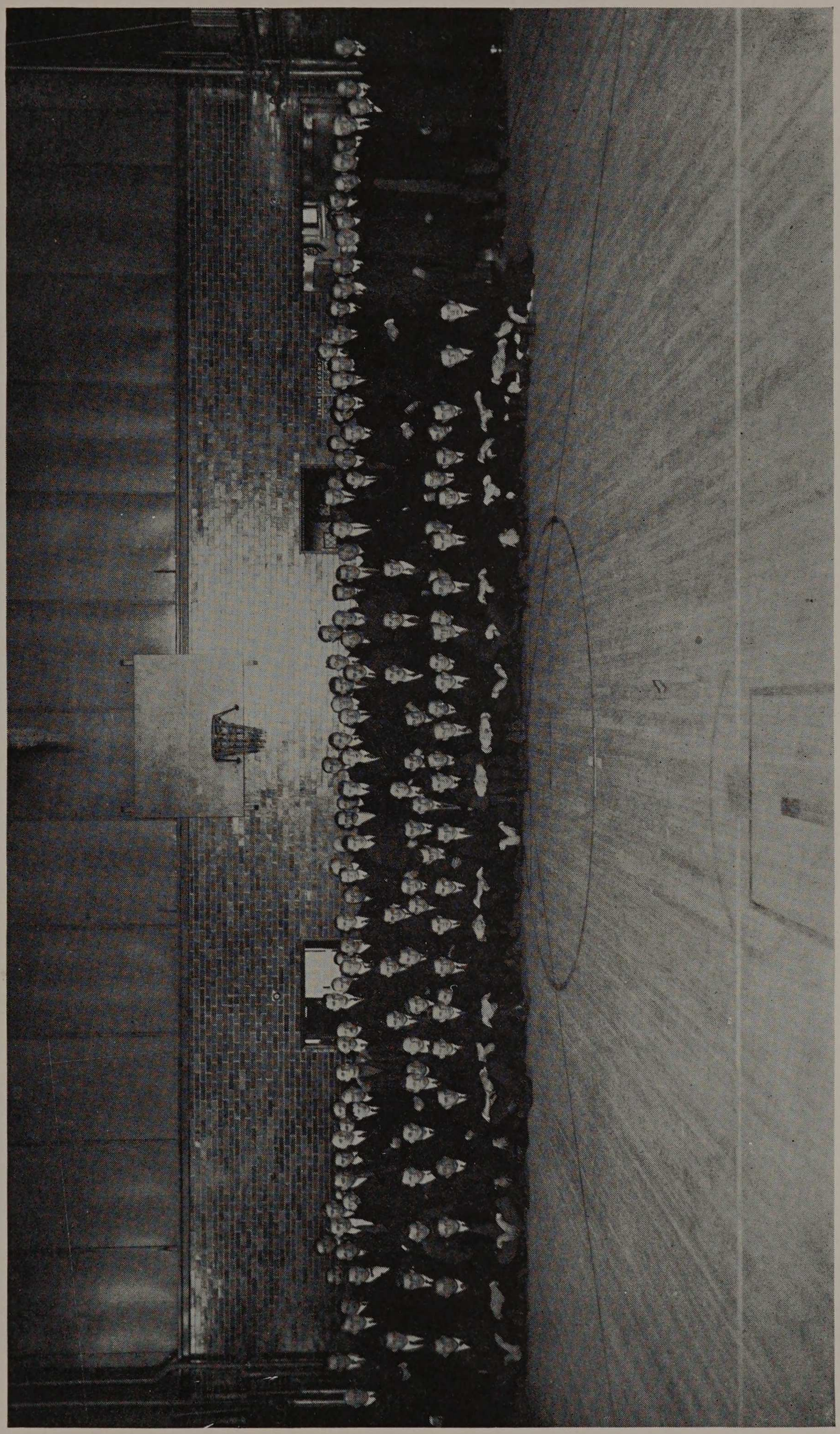
After the meal, Mr. P. D. Armour, who acted as toastmaster, gave a short talk on the relation between Armour and Company and the Armour Institute of Technology. He then called upon Mr. Walter C. White, Vice-President of the White Motors Company of Cleveland, Ohio, who responded with a short talk on the future of the motor truck industry. Mr. Guy Noble of the Department of Agricultural Research and Economics of Armour and Company, and Mr. Wilson P. Evans of the Department of Motive Power, spoke on the work of their respective branches. Mr. Armour then called upon President Gunsaulus of the Institute, who concluded the meeting with a few of his usual well chosen remarks.

This visit was an event of unsual importance. It marks what seems to be the beginning of a new era in the relations between Armour and Company and the Armour Institute of Technology. Mr. Armour suggested that this visit of the Senior class to the plant in the stockyards be made an annual occurrence, and President Gunsaulus proposed as a date for it, some day between Lincoln's and Washington's birthdays.

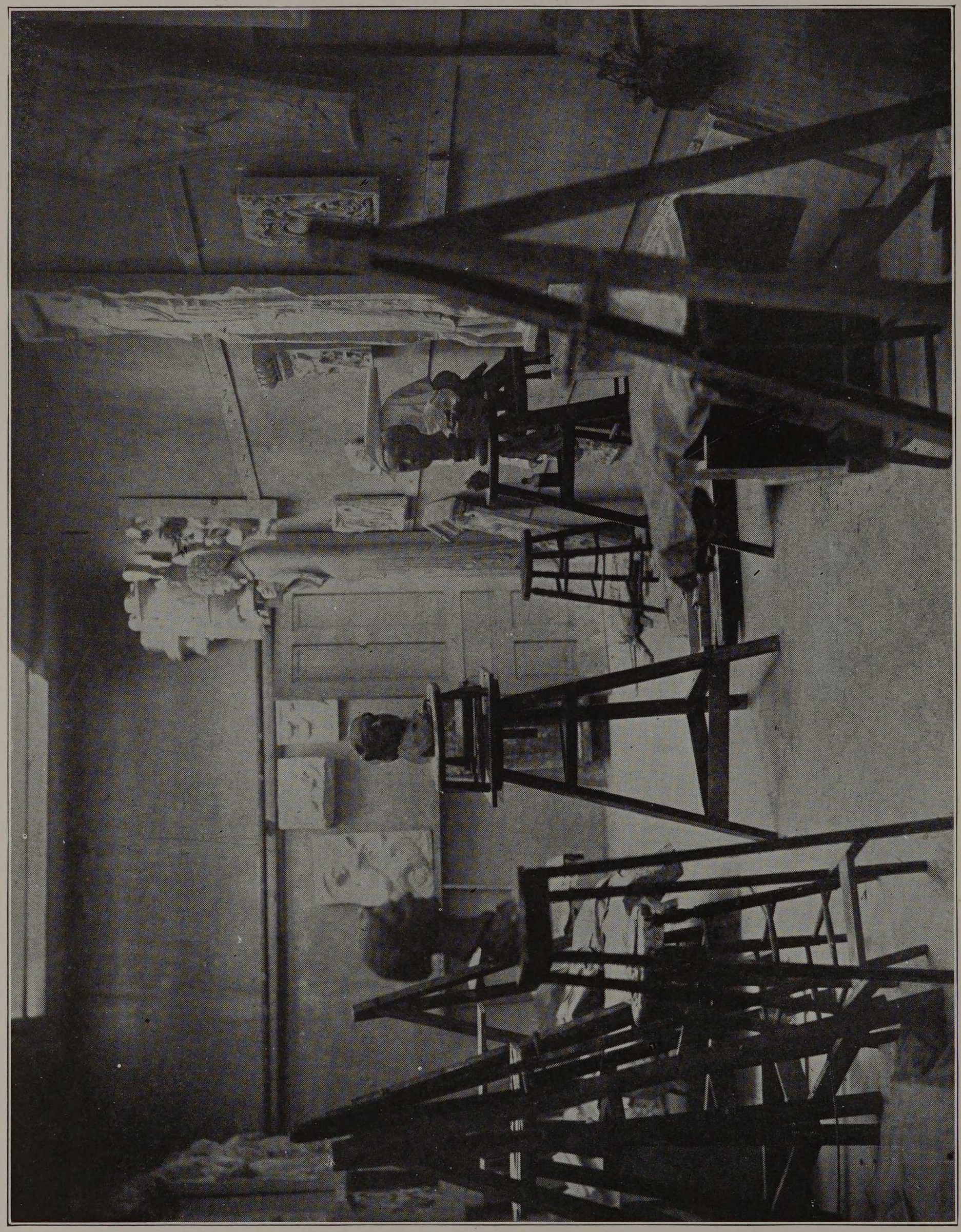
To the members of the Senior Class of 1921, this visit will be a lasting and pleasant memory.







SEIOR CLASS IN ARMOUR & CO. GYMNASIUM



SCULPTURE ROOM—ART INSTITUTE



SUMMER CAMP

ARMOUR SUMMER CAMP, 1920, TROUT LAKE, WIS.

It was with light hearts that, on the morning of June 5, after a stiff night of poker, our young engineers stepped off the train at Minocqua. Our first step was to look over that Wisconsin metropolis. This was done in fifteen minutes, the most interesting part being an old cannon, placed conspicuously near the station. The arrival of Charlie's "Toonerville Trolley" necessitated our leaving this frontier burg for parts unknown. It did not take us long to realize that an A. I. T. graduate was not the builder of this railroad. We had no time to contemplate however, for the rolling of the train had a lethargic effect upon us. We were awakened by Charlie's cry of "State House." Here, carrying our instruments and suit cases, we alighted. Our dreams were realized as we viewed our surroundings. Trees were all about us. We could imagine animals roaming about. But these were left for the time being as a square meal was uppermost in our minds. Since no welcome committee or "jitney" awaited us, we were left to find our camp alone. This we did with little difficulty, where we lost no time in getting to our tents and rooms and arranging them to our own satisfaction. This was followed by a meal which left us in the best of spirits. The afternoon was spent in getting used to our surroundings.

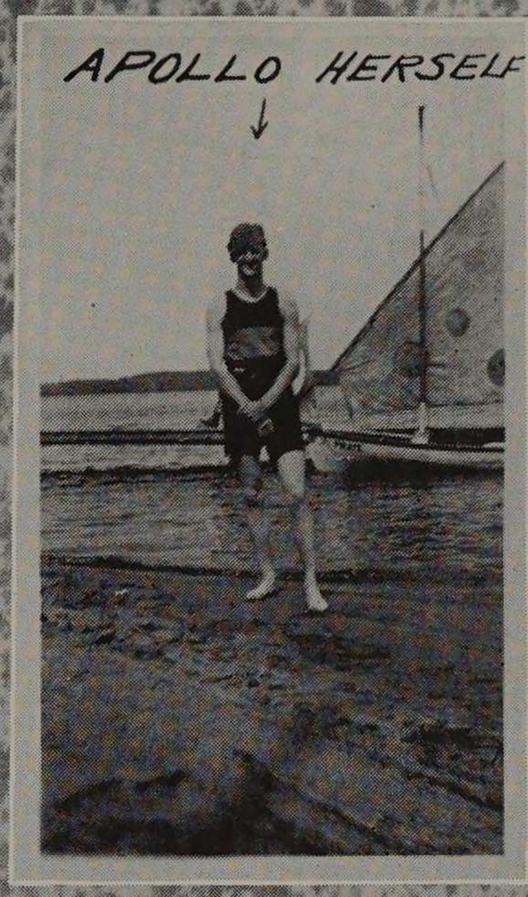
The next day being Sunday, we were left to our own pleasures. Since the nearest church was 15 miles away, we resorted to games such as 500 and checkers. Hikes were made to Trout Lake Station and Boulder Junction. The latter consisted of a hotel soft-drink bar-room, a few stores and five houses. It was rumored that the town was infested with lumber-jack desperadoes whose pet aversion was the city chap. However, the rumor was groundless for not a single lumber-jack was sighted.

We received our first lesson in surveying on Monday. This consisted in the use of the tape. The succeeding days were spent in traversing, leveling, topographic surveying with rod, stadia and plane table, railroad location, cross-sectioning, triangulation, sounding, measuring the flow of streams, and sighting on the sun for azimuth. A few nights were spent in sighting upon Polaris. Under the able guidance of Profs. Phillips and Armstrong and Mr. Singer, we had little difficulty in becoming proficient surveyors. All was not work however, though at times it was difficult to find a suitable place where we could lie down and not be molested by the sun and flies.

An evening class in "500" was readily organized. Those expert in the game were found to be able instructors. Evening hikes were made to near-by lakes and various summer resorts. Of the latter the Rocky Reef Resort was the most popular. Here, under the guidance of the K. M.'s some of the boys learned to play that most interesting game called "Ouiji," in which O. G. Smith and Bob Mayo became most proficient. Our enjoyment here was short-lived since the proprietor, for some unknown reason, took a violent dislike to the Armour boys. Enjoyment was then made by hauling various students from their beds and tossing them gently, but firmly, into the waters of Trout Lake. This was soon done away with since the howling of the mob disturbed the slumber of our esteemed cook, Mrs. MacDonald.



WAITING FOR CHOW

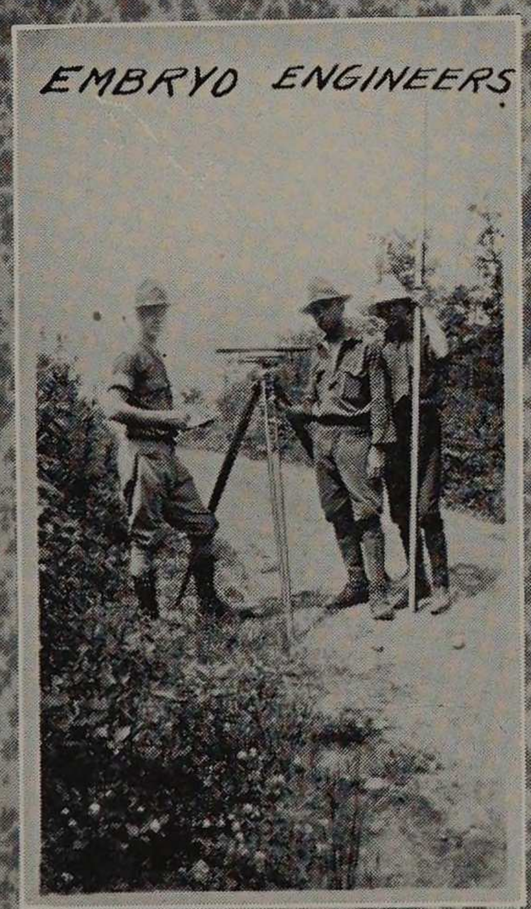




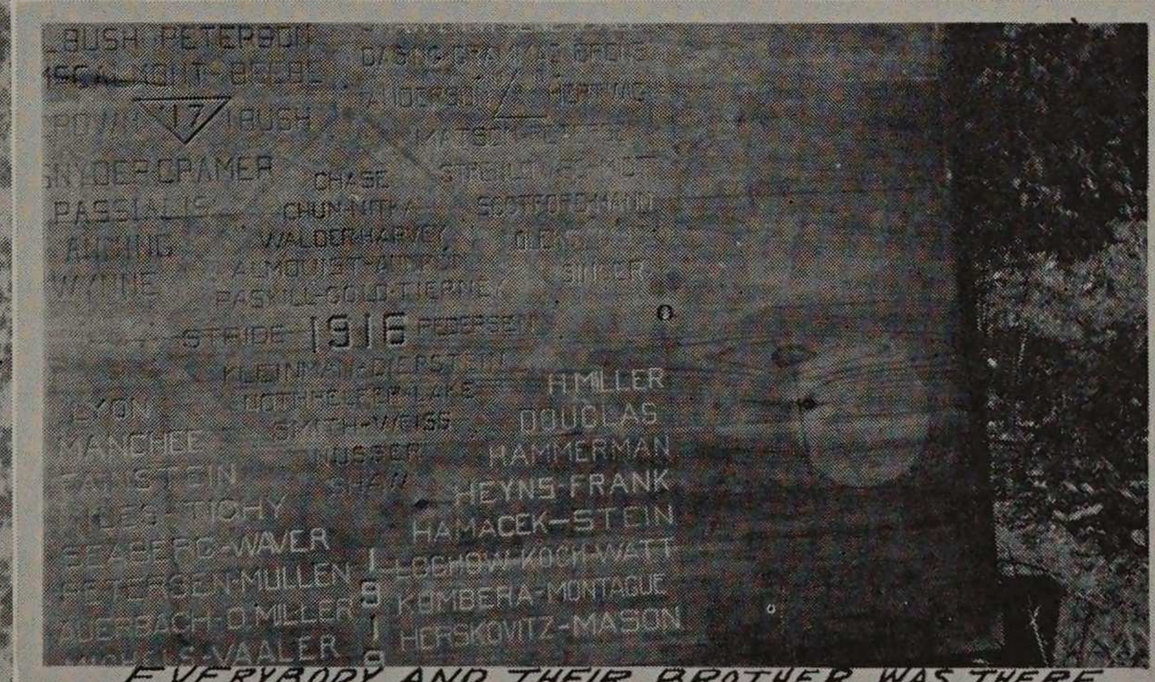
CALC OR TRIG, HENRY?



THE MOTELY THRONG



EMBRYO ENGINEERS



EVERYBODY AND THEIR BROTHER WAS THERE

Our Saturday afternoons and Sundays were spent in wood-chopping, hiking, rowing, and swimming. Frequent visits were made to Minocqua where the small town life could be enjoyed. This town was visited by the students in a body on Independence Day. The patriotic celebration which was held was headed by a parade of Indians and ex-service men. In the latter group, Camp Armour was well represented. The parade was followed by various races, an Indian dance, and a baseball game. In the evening a public dance was held, at which, Camp Armour was again well represented.

Upon another Saturday, a game of baseball was played by Camp Armour and Camp Sprague. In this game the Armour nine proved victorious, the score being 8 to 5.

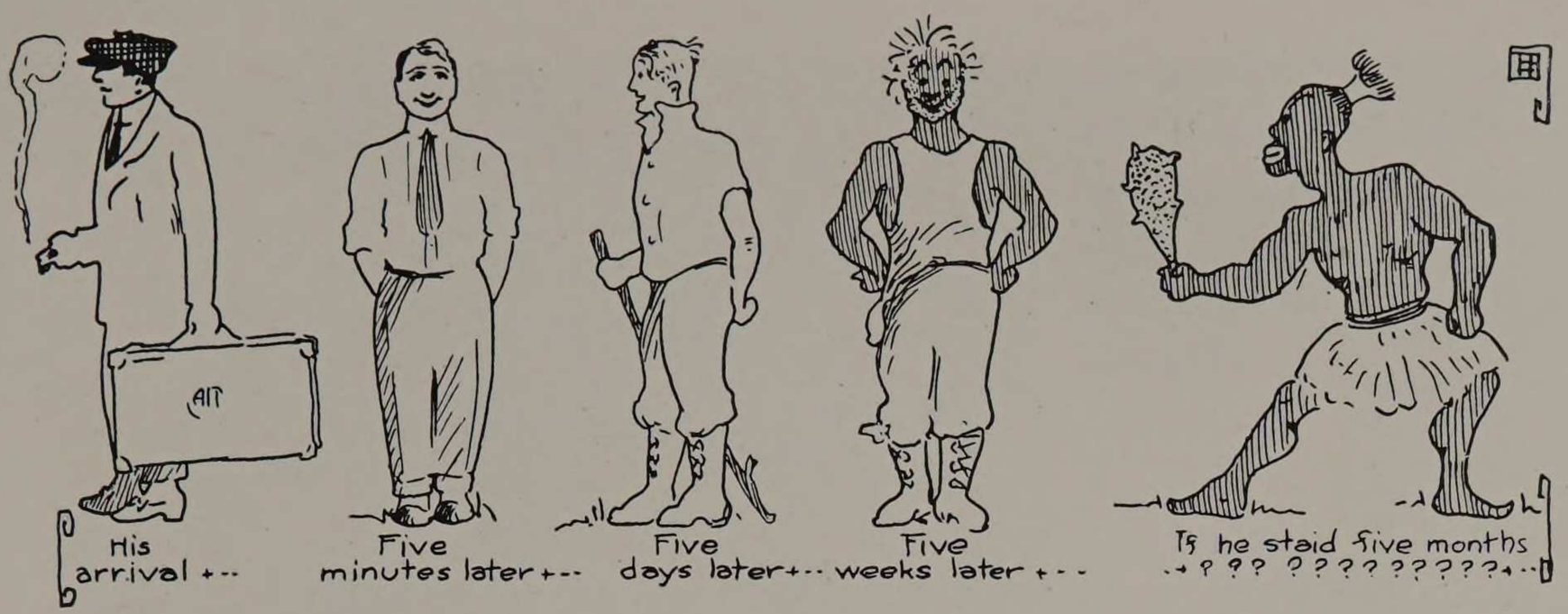
The monotony of camp life was at times broken by severe storms. During one of these storms, one tent was blown down, two others ripped by the wind, and general havoc was raised. This however, was not disastrous and the camp went on as usual on the following day.

Monotony was broken also, by the arrival of letters and packages from "Chi." We would advise all future campers to cultivate the acquaintance of a few good cake and candy makers before leaving home.

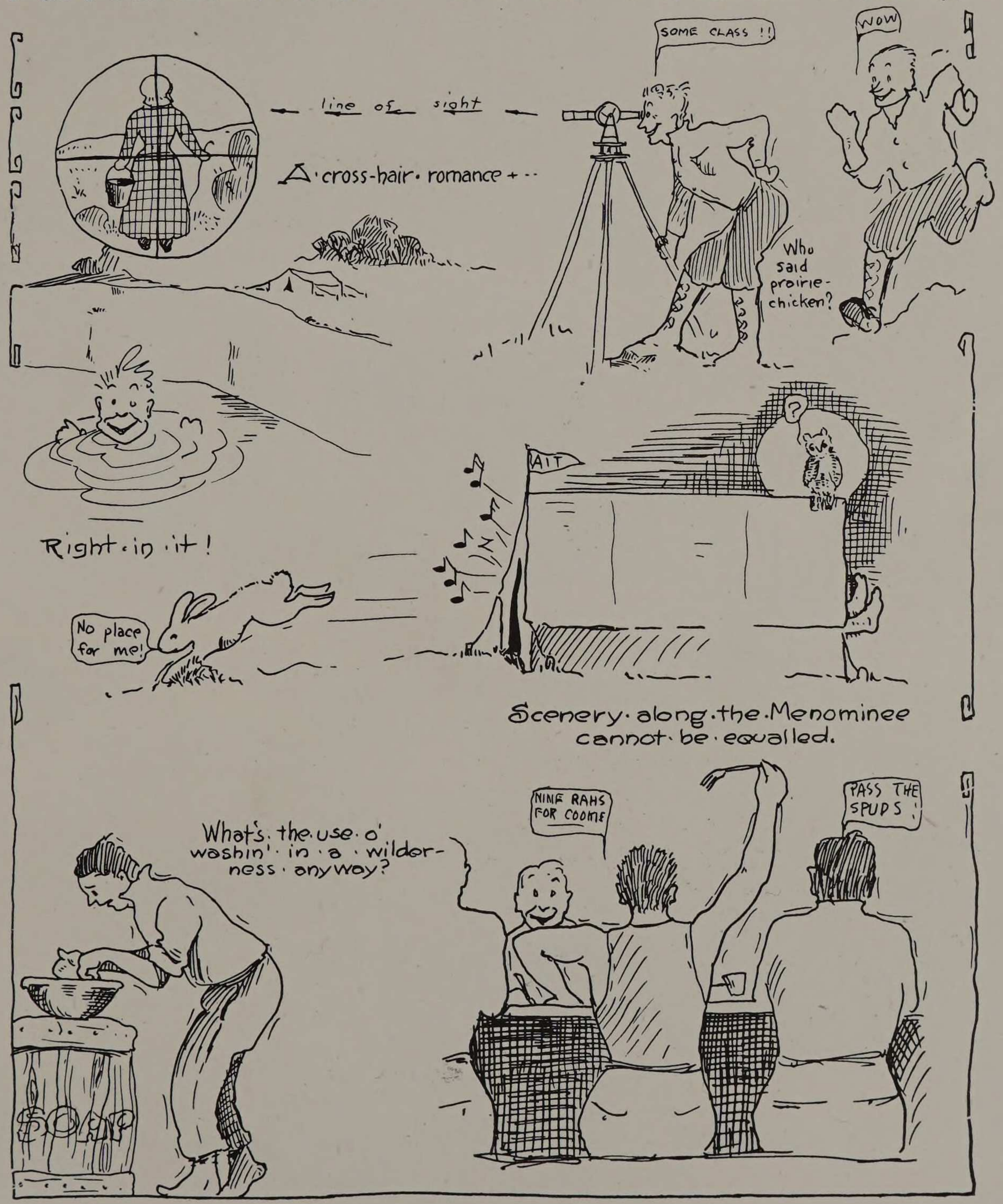
It was with much regret that, on July 16th, we packed our trunks, took down the tents and took our last swim in Trout Lake. We were now ready for our trip back to the big city. We had done our work under the conditions which we would have to face as engineers. It was but an introduction to our life's work. Upon this introduction our career is, in a way based, for, to be successful in the initiation leaves more than hope for success in the future.

The following were the members of the Armour Summer Camp of 1920:

Appelbaum
Barrett
Burke
Carr
Cunningham
Davis
Frink
Fisher
Goedhart
Hess
Hayden
Holmes
Hyde
Holtquist
Johnson, H. W.
Kauders
Krebs
Levin
Lemm
Mayo
Lowden
Nelle
Neimann
Rotberg
Smith
Van Dyke
Walk
Walker
White



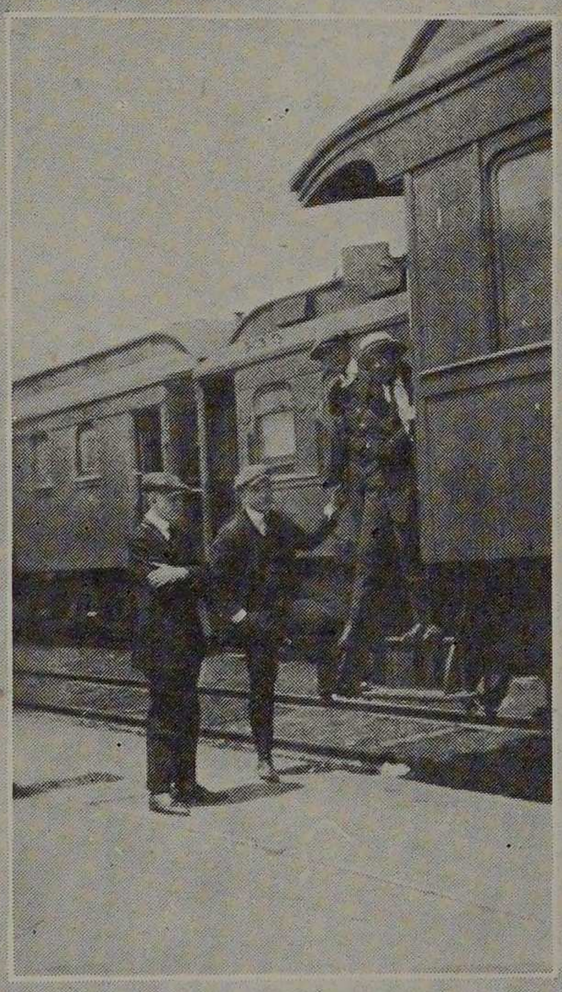
KONCERNING · OUR · KAMP · KIDS



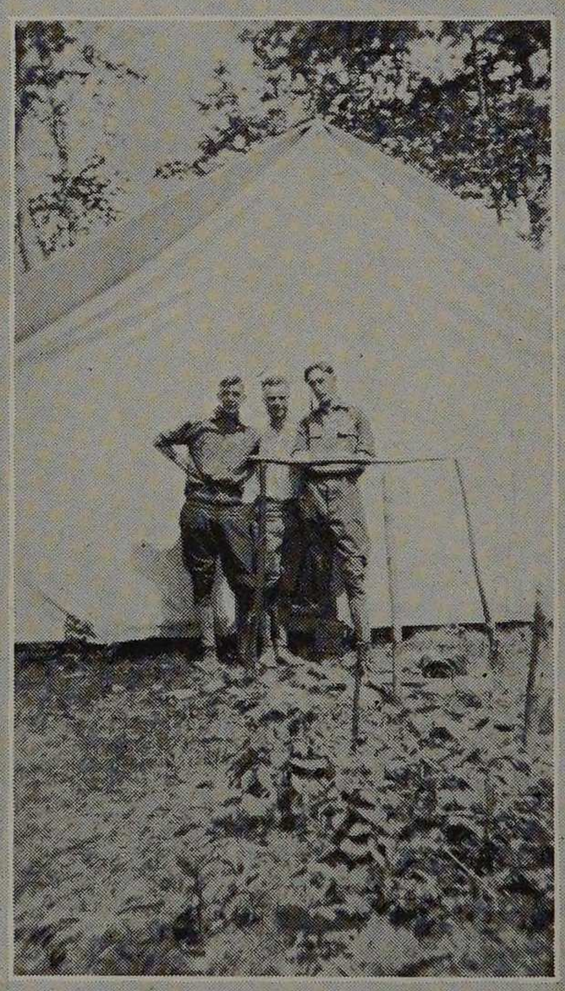













ALUMNI



The Armour Alumni Association

Officers

W. D. Mathews.....*President*
Herbert Sieck.....*Vice-President*
L. E. Davies.....*Corresponding Secretary*
W. Oberfelder.....*Recording Secretary*
E. A. Freeman.....*Treasurer*

Board of Managers

W. J. Baer
B. S. Carr
J. C. Penn
R. Harris
Sidney James
F. C. Dierking
C. A. Knuepfer
R. M. Henderson
G. N. Siebenaler

The Spring meeting of the Armour Alumni Association was held on May 22nd, 1920, at the City Club, and a large number of alumni were present. The officers for the year 1920-21 were elected.

Dr. Frank W. Gunsaulus was the first speaker of the evening, delivering a very interesting talk on the new Institute. Other speakers were Dean Raymond, Dean Monin, Mr. R. M. Henderson, and Prof. Wilcox.

The Alumni dance was held in the Red Room of the LaSalle Hotel, Friday evening, February 4th, 1921. Everyone had a very enjoyable time, as the orchestra was excellent and the floor never was in better condition.

The Alumni Association is a live organization, but some of the former graduates do not seem to realize the benefits to be gained by keeping in touch with the rest of the alumni. The Association wishes to hear from all the alumni, especially concerning their activities since leaving their Alma Mater.


J. DE MVTH—
FRATERNITIES



CLARENCE A. HERBST

Editor of Fraternity Section

PHI KAPPA SIGMA

Alpha Epsilon Chapter

Chartered June 1898



FACULTY

John Joseph Schommer

University of Chicago '10

SENIORS

Milton Jacob Grill
Theodore Colburn Sedgwick
Eugene Mathias Matson

JUNIORS

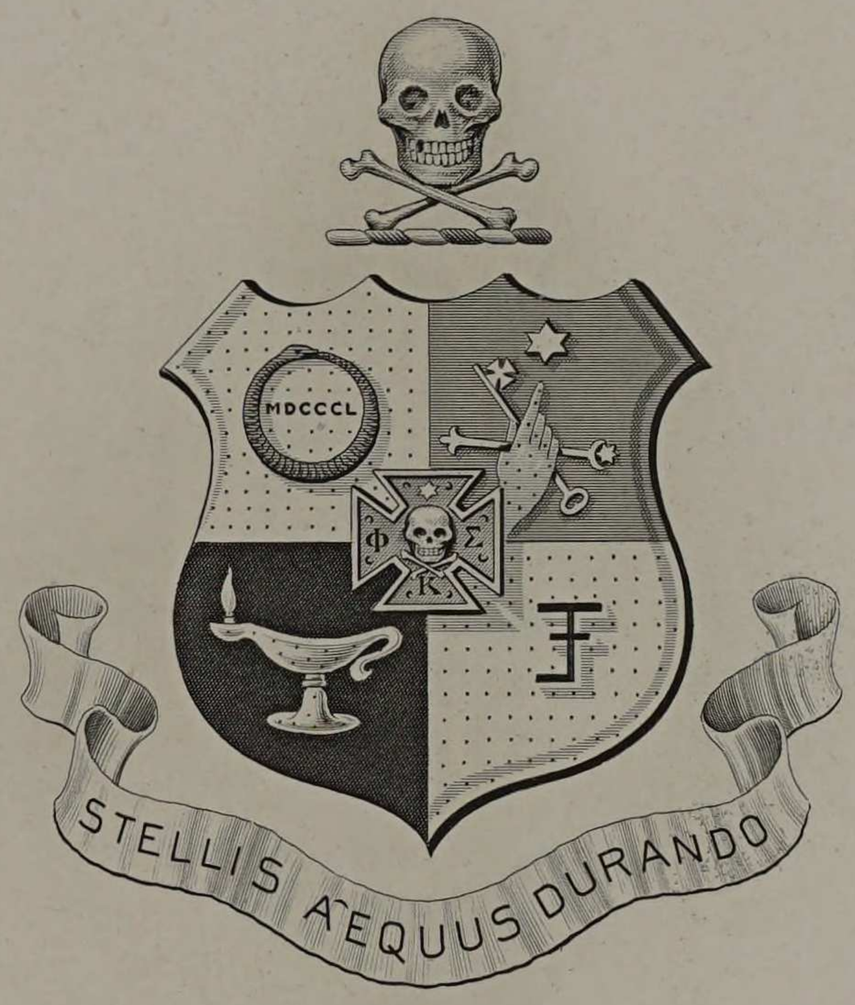
Nels Harold Erlandson
William John Tarrant
Edward Walter Geisler
William Cole Zingheim

SOPHOMORES

Eugene Sanford Hurst
Edwin Albert Polzin
Roy Paul Jensen
William Proctor Roberts
Linus Palmer Overend
Kenneth Gilmore Sedgwick
Fred Emerson Sloan
George Robert Read

FRESHMEN

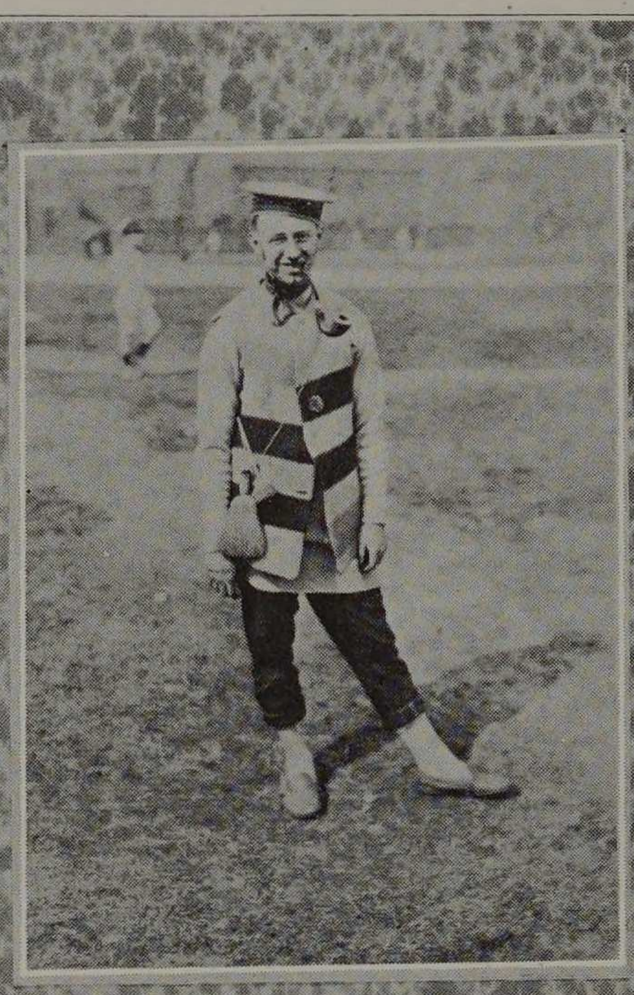
Joseph Nelson Glover
Carl Gustave Miller
Eugene Emery Mark
William Edmund Schweitzer
David Boardman Scoville



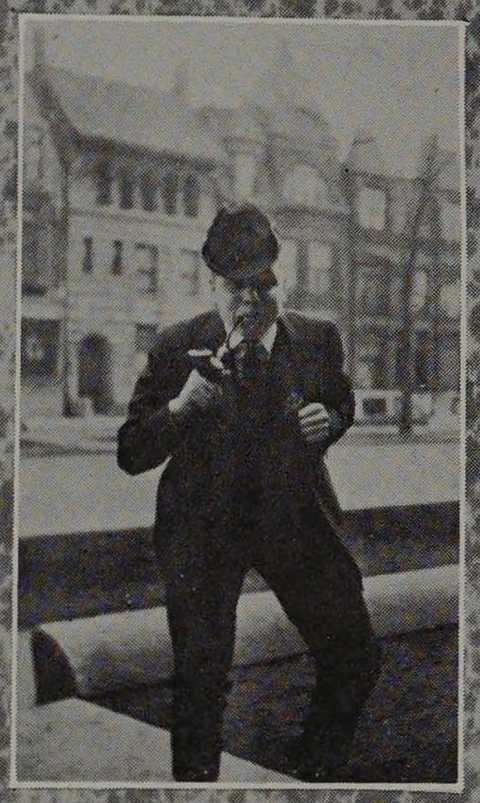
Dreka, Phila.
Design Patent applied for



Miller, Schweitzer, Glover, Jensen, Scoville, Overend, Mark.
Sloan, Erlandson, Read, Tarrant, Hurst, Grill, Roberts.
Sedgwick, Zingheim, Matson, Geisler, Polzin, Sedgwick.

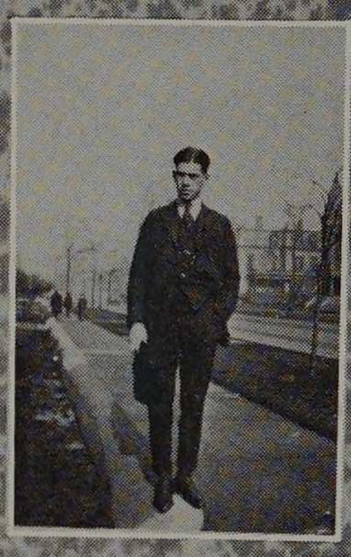








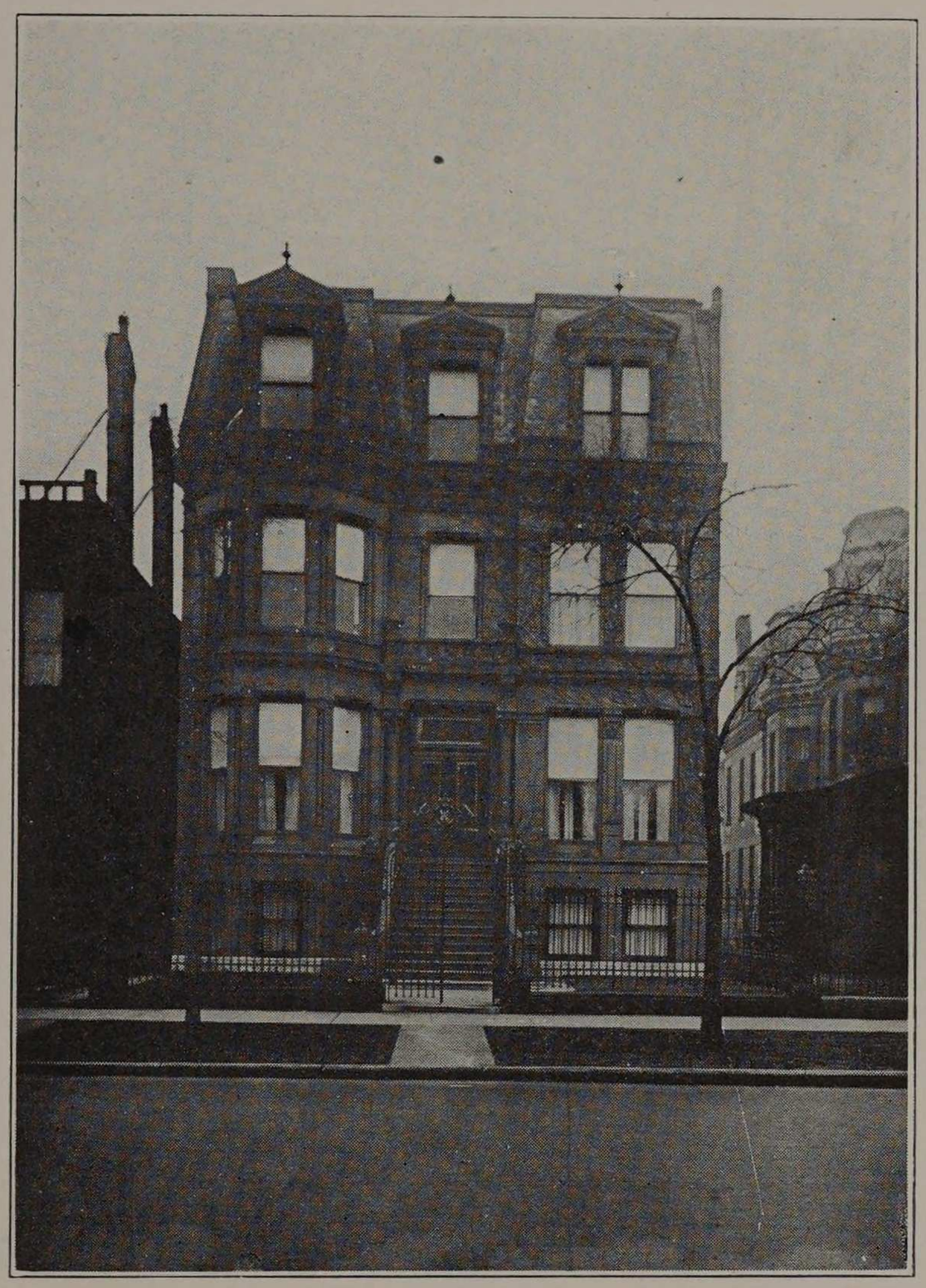








Two Hundred



DELTA TAU DELTA

Gamma Beta Chapter

Chartered May, 1901

Sixty-two Active Chapters

FACULTY

Arthur Howe Carpenter
Ohio University, 1894

Seniors

William Kimball Lyon
Emil William Pfafflin
Charles Taylor Walter
Emil Frank Winter
Harold Louis Woods

Juniors

Woodbridge Bissell
Gilbert Venable Bradbury
Alfred Alvertus Davis
Wallace Taylor Gray
Robert Reginald Maguire
Thomas James Rowe
Norman Joseph Schutz
Edwin George Walker
Richard Frederick Campbell

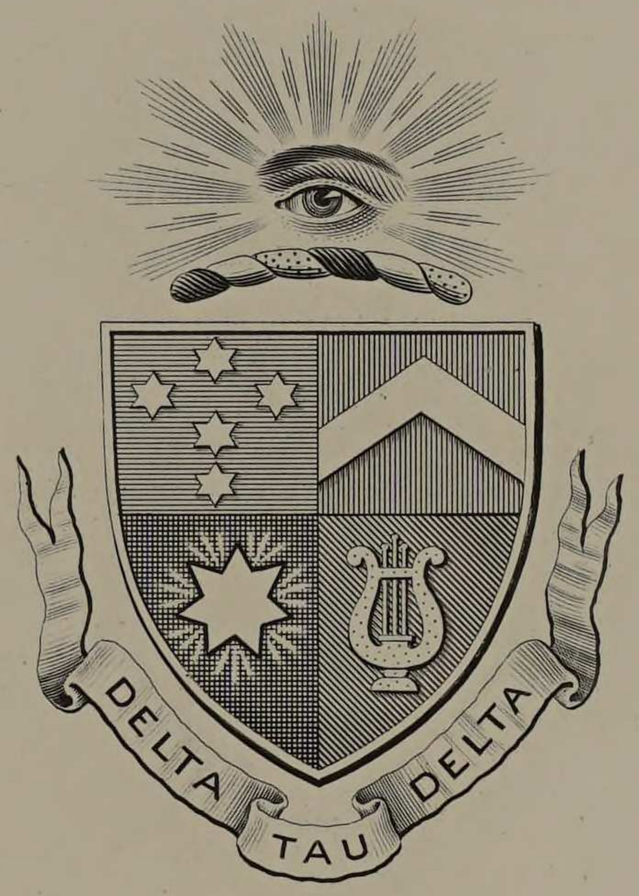
Sophomores

Robert Owen Bradley
Gordon Stewart Carr
Frank Edward Catlin Jr.
Ora Leonard Cox
John Henry Ford
Harlan Ralph Harwood
Frederick William Hilliker
George Christancy Kinsman
Wilson Wellington Kline
Merle Caro Nutt
Donald Ernest Rutishauser
George Brownlee Stantial
Morse Marshall Wells

Freshmen

Max McMurray Bayard
William John Brinkman
Edgar Austin Lynch
William George Uhlir

The Cycle



Copyrighted by
Frank F. Rogers
1908

Dreka, Phila.



Nutt, Maguire, Wells, Pfafflin, Woods, Kline, Winter.
Rutishauser, Stantial, Lyon, Uhlir, Campbell, Walter, Gray Bayrd.
Harwood, Davis, Catlin, Kinsman, Bradley, Bissel, Bradbury.
Shutz, Lynch, Ford, Hilliker, Brinkmann, Carr.

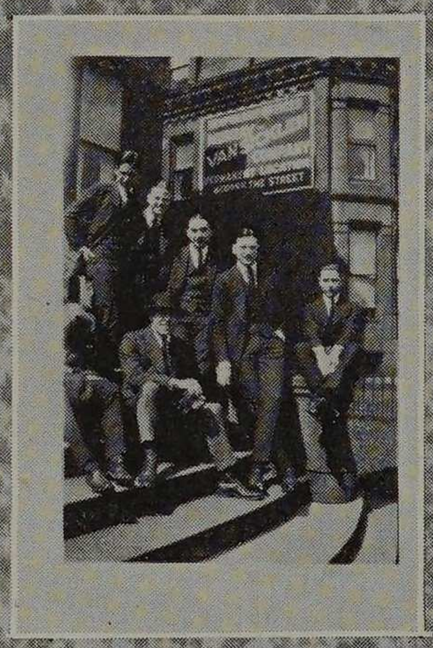








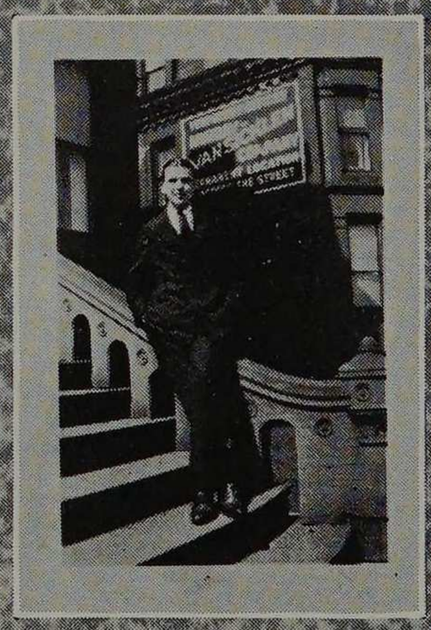


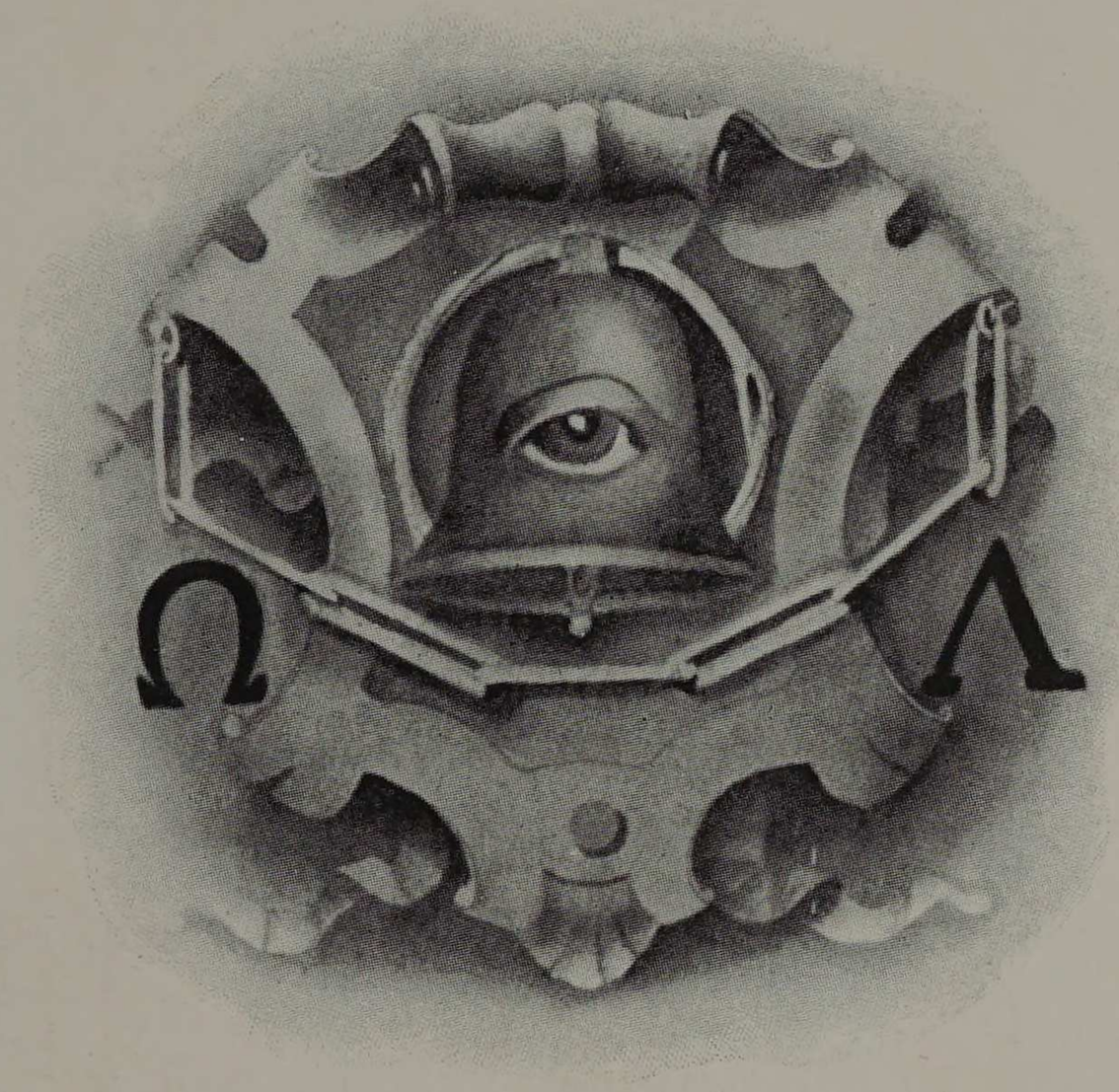












OMEGA LAMBDA

Organized Oct. 1908

FACULTY

Robert V. Perry
Armour '97

John C. Penn
Armour '05

Seniors

F. A. Anderson
M. O. Brueckner
D. S. Chase
G. M. Dowse
P. Grammas
F. E. Hayden
G. W. Peterson
F. D. Quinlan
D. L. Rosendal
S. H. Webster

Juniors

W. L. Dalrymple
J. J. Demuth
E. C. Eierdam
J. B. Thompson
L. M. Holmes
W. E. Kingsley
G. W. Lochow
J. L. Walsh
A. R. Mehrhof
H. A. Peterson
J. W. Roddick
W. F. Yerkes

Sophomores

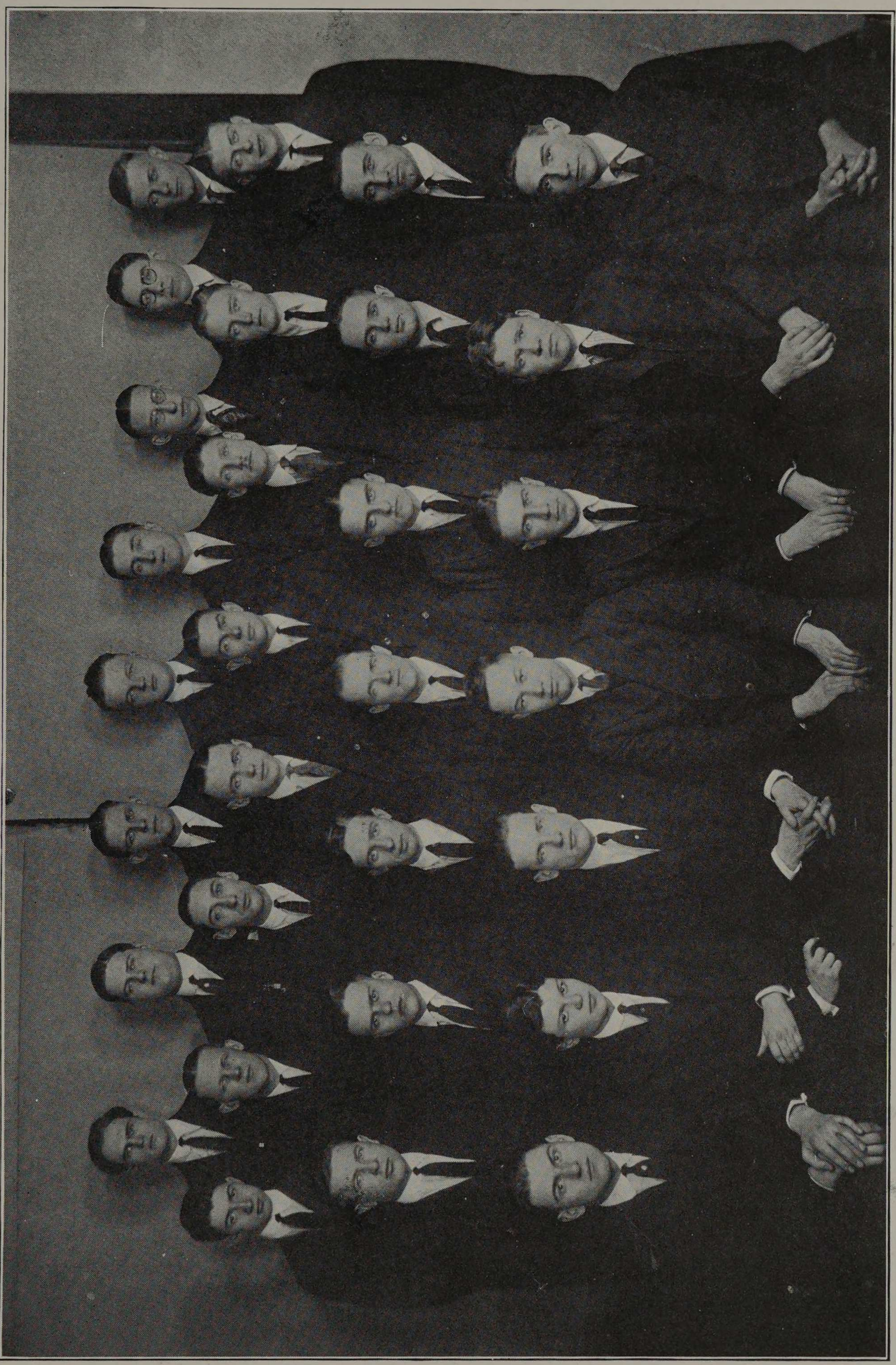
W. B. Blaufuss
K. E. Brueckner
R. D. Fisher
C. W. Hauth
C. F. Pope, Jr.
M. H. Price
E. Sisson
R. A. Temple
J. C. Stoker

Freshmen

T. E. Belt
E. A. Klein
L. M. Latta
E. A. Lohmen
L. C. Thoelecke

Pledges

C. S. Cole
K. E. Eppich
G. W. Lovald

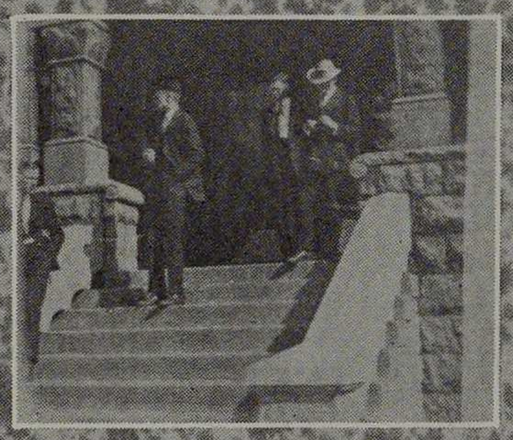


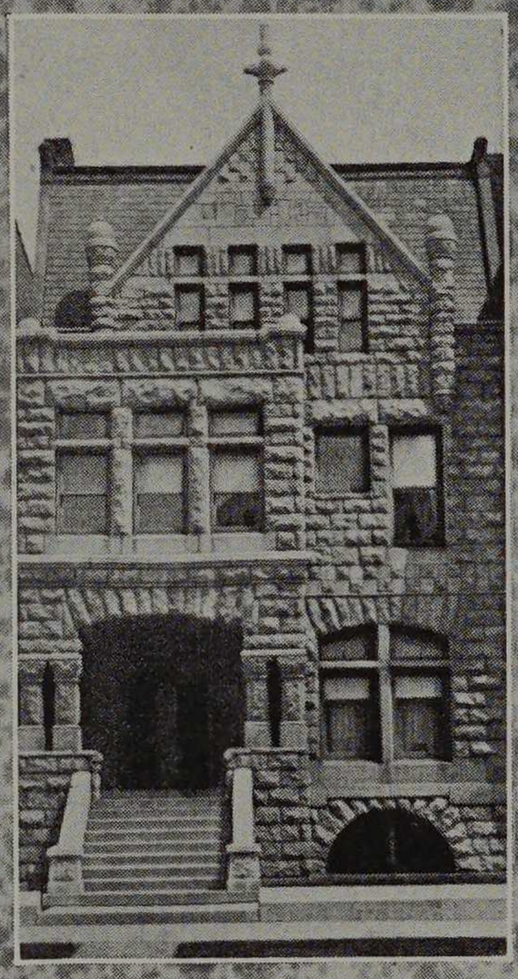
Eppich, Thompson, Peterson, Rosendal, Latta, Brueckner, Webster, Kingsley.
Temple, Peterson, Blaufuss, Sisson, Thoelecke, Eierdam, Lohmen, Hayden.
Lovald, Roddick, Hauth, Fisher, Chase, Holmes.
Kline, Dowse, Cole, Price, Lochow, Belt Anderson.


Ω Λ
OMEGA·LAMBDA







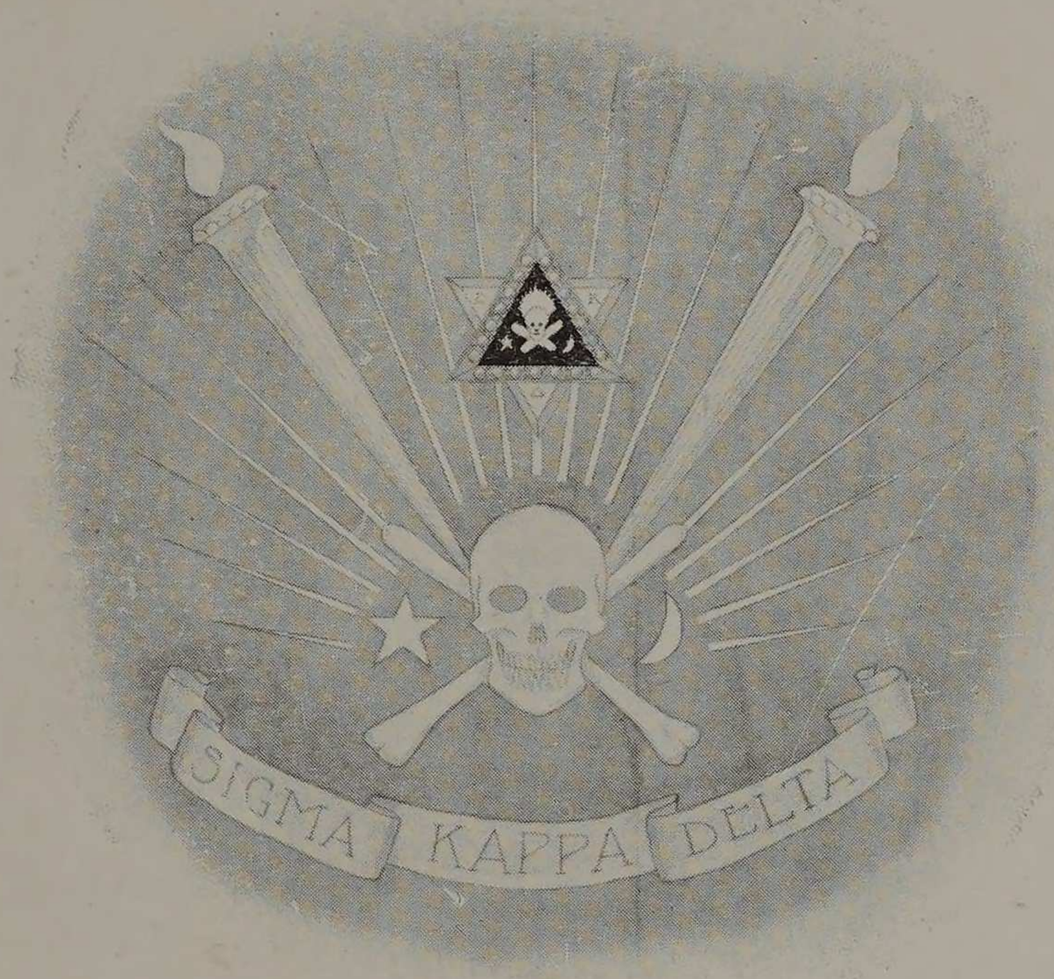











SIGMA KAPPA DELTA

SIGMA KAPPA DELTA

Alpha Chapter

Organized September, 1912



FACULTY

James C. Peebles
Armour '04

William H. Lautz
Armour '13

Seniors

C. B. Doolittle
W. B. Douglas
A. R. Edwards
A. N. Gail
S. N. Havlick
A. C. Hoven
L. T. Judson
T. Michels
L. H. Rosbach
W. J. Savoye
R. W. VanValzah

Juniors

J. Corydon Jr
E. F. Dhus
H. E. Hagen
C. A. Herbst
H. W. Herbst
F. H. Hochriem
D. S. Jennings
E. B. Mason
R. O. Miles
E. M. Seaberg
W. S. Trowbridge
J. C. E. Vaaler
J. H. Watt
G. D. Wetherbee
S. D. Welshon

Sophomores

J. W. Falconer
C. M. Kirckhuff
L. G. Miller
L. L. Reihmer
E. C. Reimann
M. Koch
R. L. Wheeler
H. M. Swenson
F. Manske

Freshmen

M. L. Brown
W. A. Marks
G. P. Ruddiman
O. M. Spaid
E. R. Sanborn
H. L. Trimble

Pledges

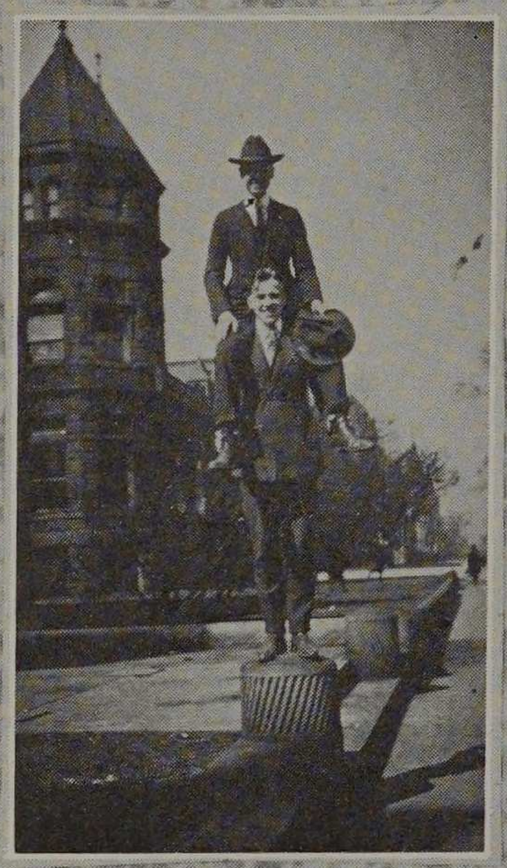
H. L. Brooks
P. C. Neiland
H. F. Page



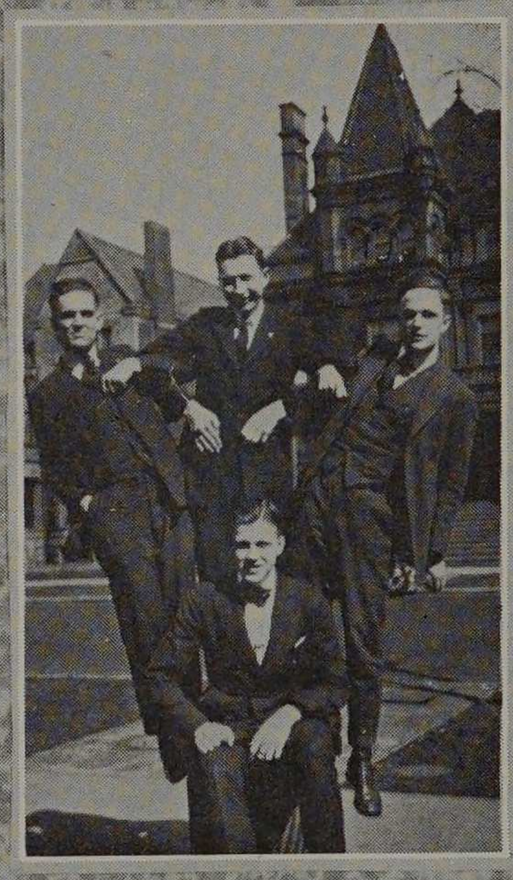
Hoven, Brown, Reiman, Herbst, Wetherbee, Spaid, Welshen.
Judson, Hochriem, Ruddiman, Manske, Dhus, Doolittle, Trimble, Kirchuff.
Savoye, Seaberg, Vaaler, Hagen, Rosback, Marx, Miller, Douglas.
Edwards, Havlick, Van Valzah, Gail, Miles, Jennings, Rheimer, Sanborn.
Corydon, Watt, Trowbridge, Neiland, Brookes.







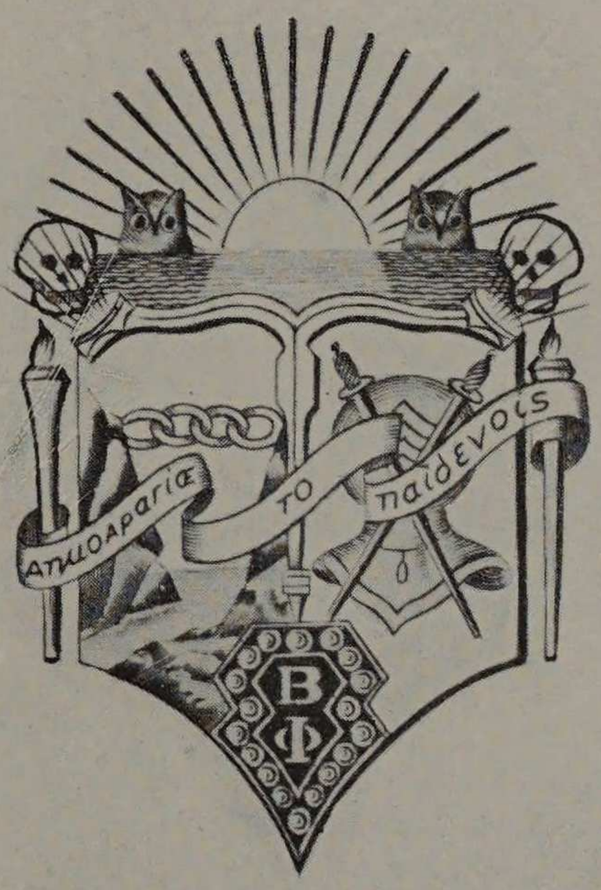











ΑΠΛΟΑΡΑΡΙΑΣ
ΤΟ
ΠΑΙΔΕΥΟΙΣ
Β
Φ

BETA PHI

Gamma Chapter

Chartered March, 1913

FACULTY

H. L. Nachman
Armour '03

Daniel Roesch
Armour '04

Seniors

T. L. Albee
C. A. Grabendike
R. J. Grant
H. C. Kihlstrom
R. O. Klenze
G. C. Kumbera
R. C. Malwitz
E. Mundt
R. K. Scherger
R. M. Singer

Juniors

E. R. Ewin
H. E. Heyns
V. Hamacek
J. B. Juraska
M. R. Olsen
L. C. Scottford
R. E. R. Broad
O. Kuehn
P. Orton
H. Weston

Sophomores

E. J. Biever
V. E. Condee
V. L. Cooley
J. Citta
H. T. Daniels
O. K. Eitel
C. G. James
G. A. Morgan
H. Niksch
G. Schumacher
A. J. Verplank

Freshmen

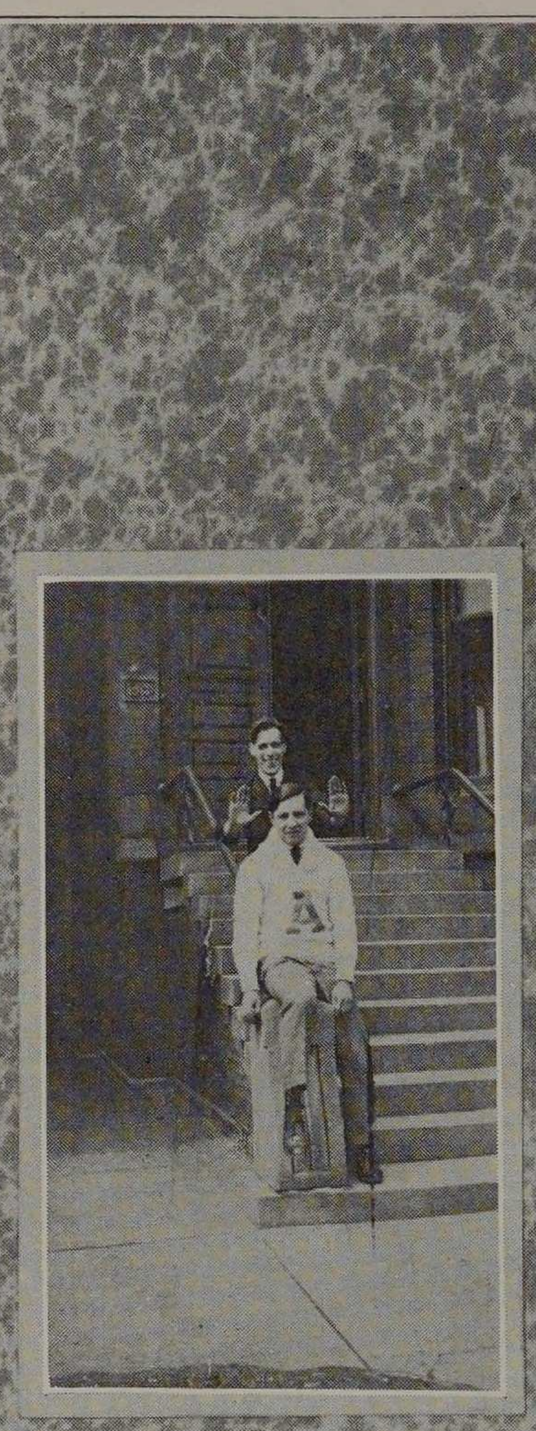
F. A. Granholm
A. W. Jensen
R. J. Wood
F. E. Jarvis
N. B. Olson

Pledges

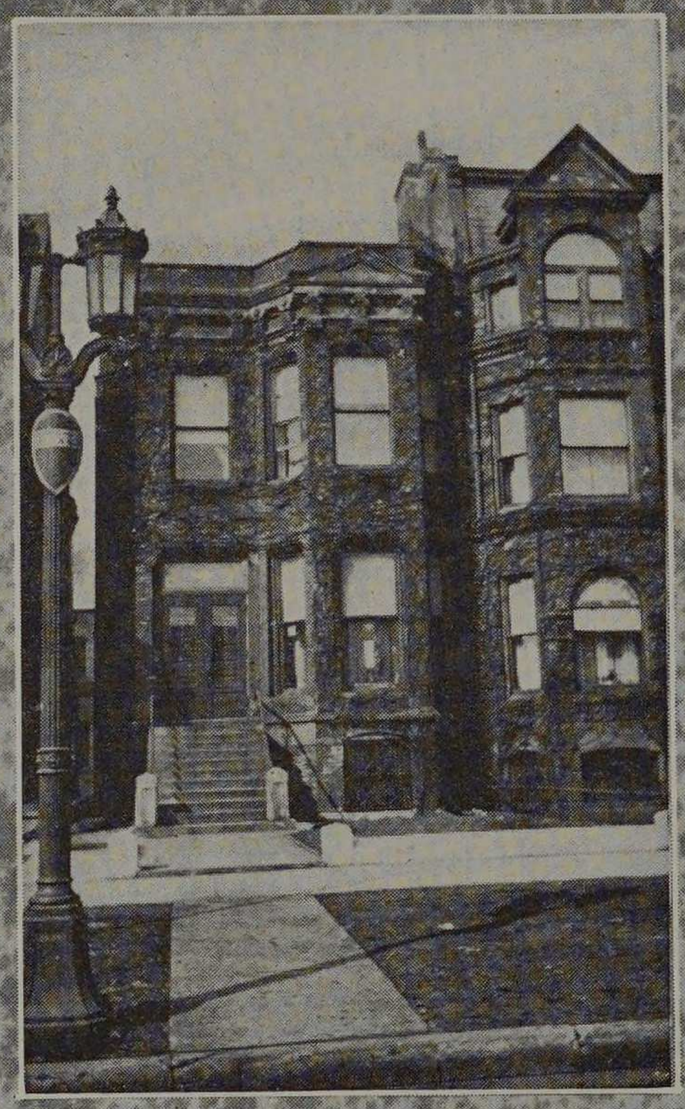
J. R. Brady
O. E. Heartstedt
M. Scherger
C. A. Shade



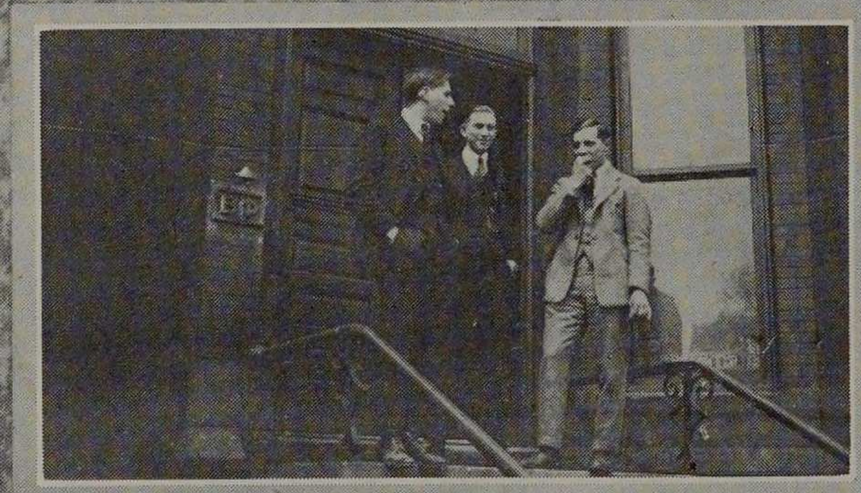
Eitel, Albee, Ewin, Niksch, Verplank, Jensen, Grant, Mundt, James.
Orton, Klenze, Granholm, Weston, Morgan, Schumacher, Grabendike, Woods.
Biever, Singer, Kumbera, Hamacek, Kuehn, Malwitz, Olsen.
Kihlstrom, Brady, Jarvis, Citta, Heartstedt, Broad.

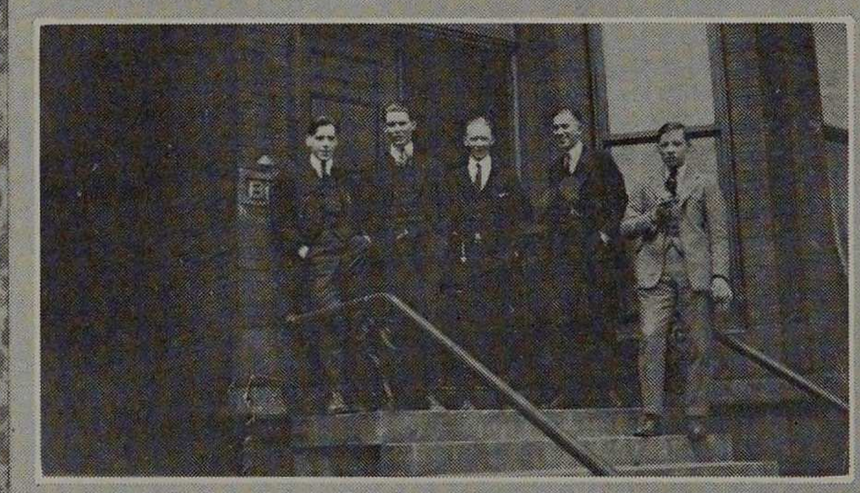


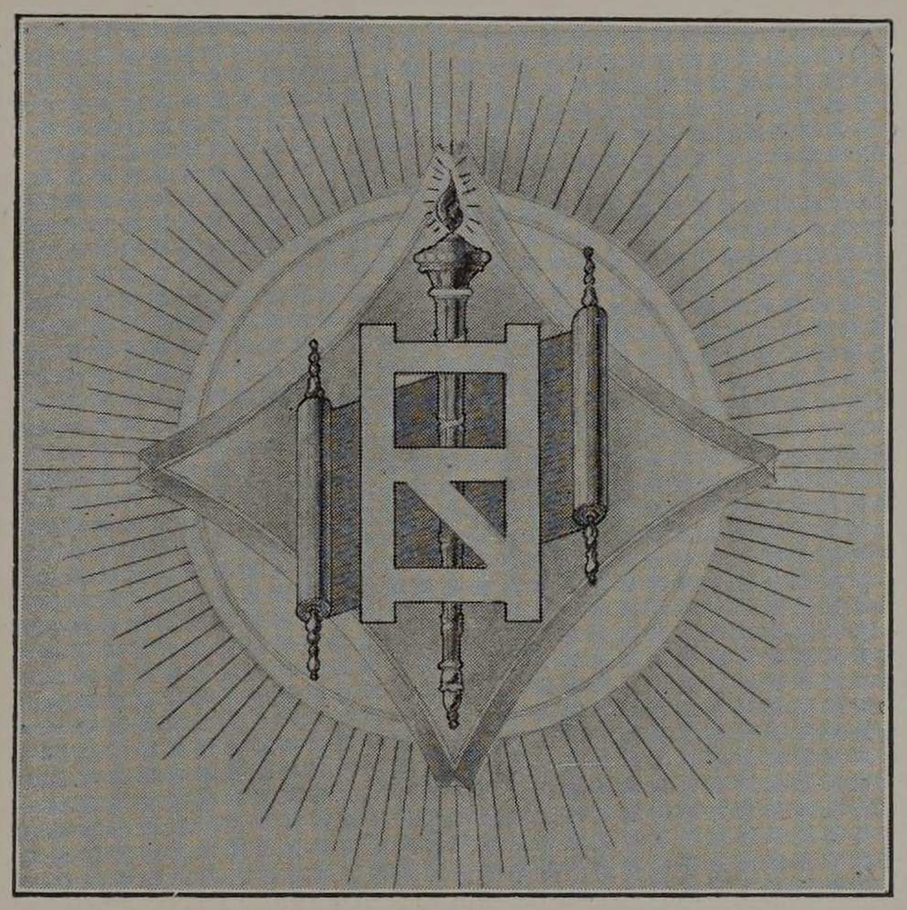












THE OHR

Organized November 1914



SENIORS

Irving J. Loebl
Leo S. Maranz
Norman J. Schlossman
Albert J. Steiner
Louis B. Newman

SOPHOMORES

Jerome Goldstein
C. Paul Pelta
H. Thomas Pollan
Philip D. Sang
Carl Unger
Simon Rotberg

FRESHMEN

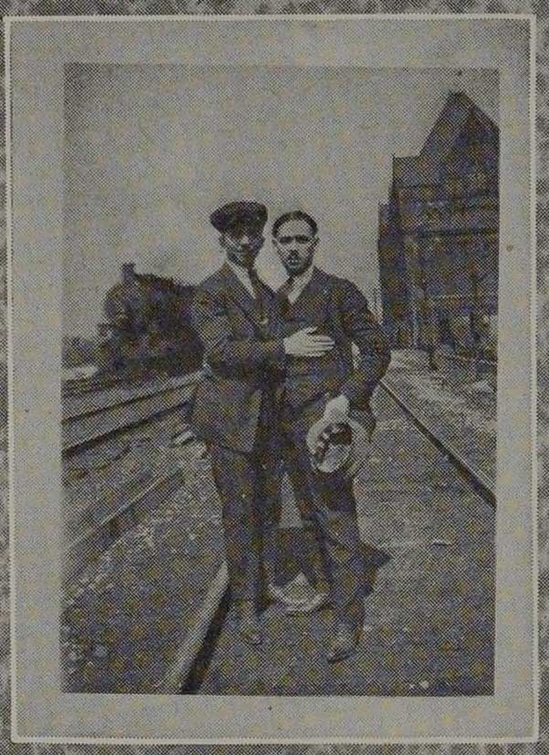
Isadore Alexander
Maurice Drubeck
Henry Eidenberg
Harry M. Eisen
Alexander Newman
Henry Popkin
Kalman Steiner
Paul Tilds

Pledges

Philip Witashkis '24



Pollan, Steiner, Tilds, Drubeck, Schlossman, Popkin, Loebel.
Eisen, Alexander, Newman, Pelta, Eidenberg, Goldstein.
Newman, Sang, Maranz, Rotberg, Witashkis, Steiner.









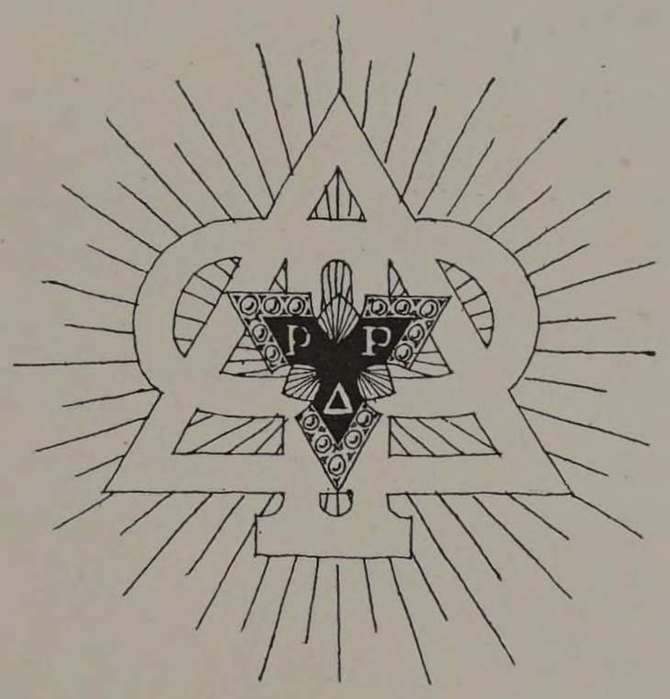











P P
Δ

RHO DELTA RHO

Organized February, 1920



SENIORS

Abraham Appelbaum
Aaron Browde
Robert L. Minkus

JUNIORS

Jacob Bernstein
Samuel Eisenstein
Hyman Gerstein
Samuel Isaacson
Emanuel Skolnick
Morris C. Sugarman

SOPHOMORES

Samuel Delevitt
Sigmund Fabry
David Goldberg

PLEDGES

Edward Walk '23
Julius L. Dorskey '24
Louis M. Rosnick '24
William Goodman '24



Goodman, Isaacson, Sugarman, Bernstein, Minkus.
Bloom, Browde, Applebaum, Gerstein, Walk, Delevitt.
Dorskey, Eisenstein, Fabry, Skolnick, Goldberg.



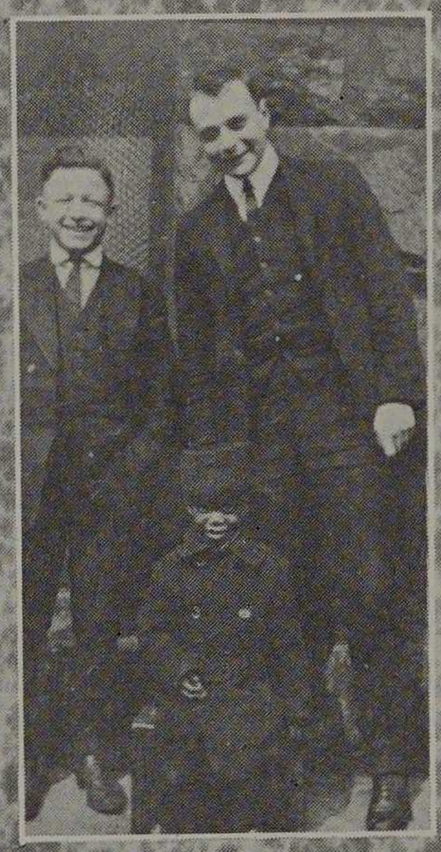




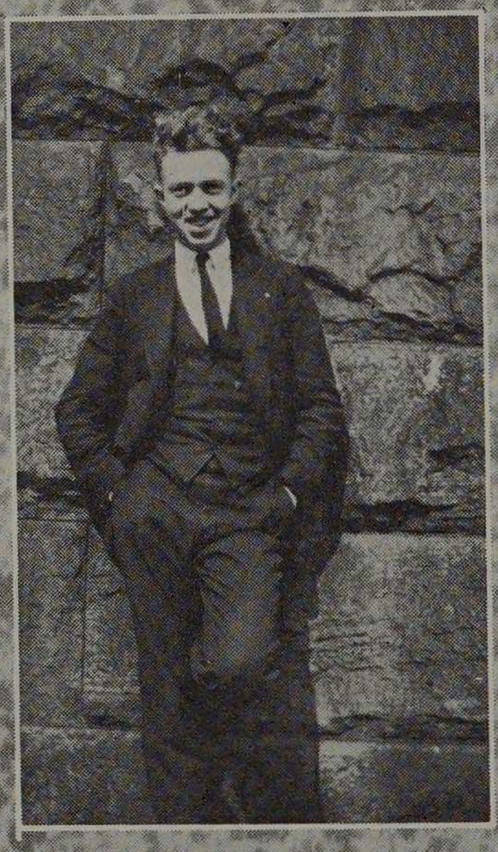


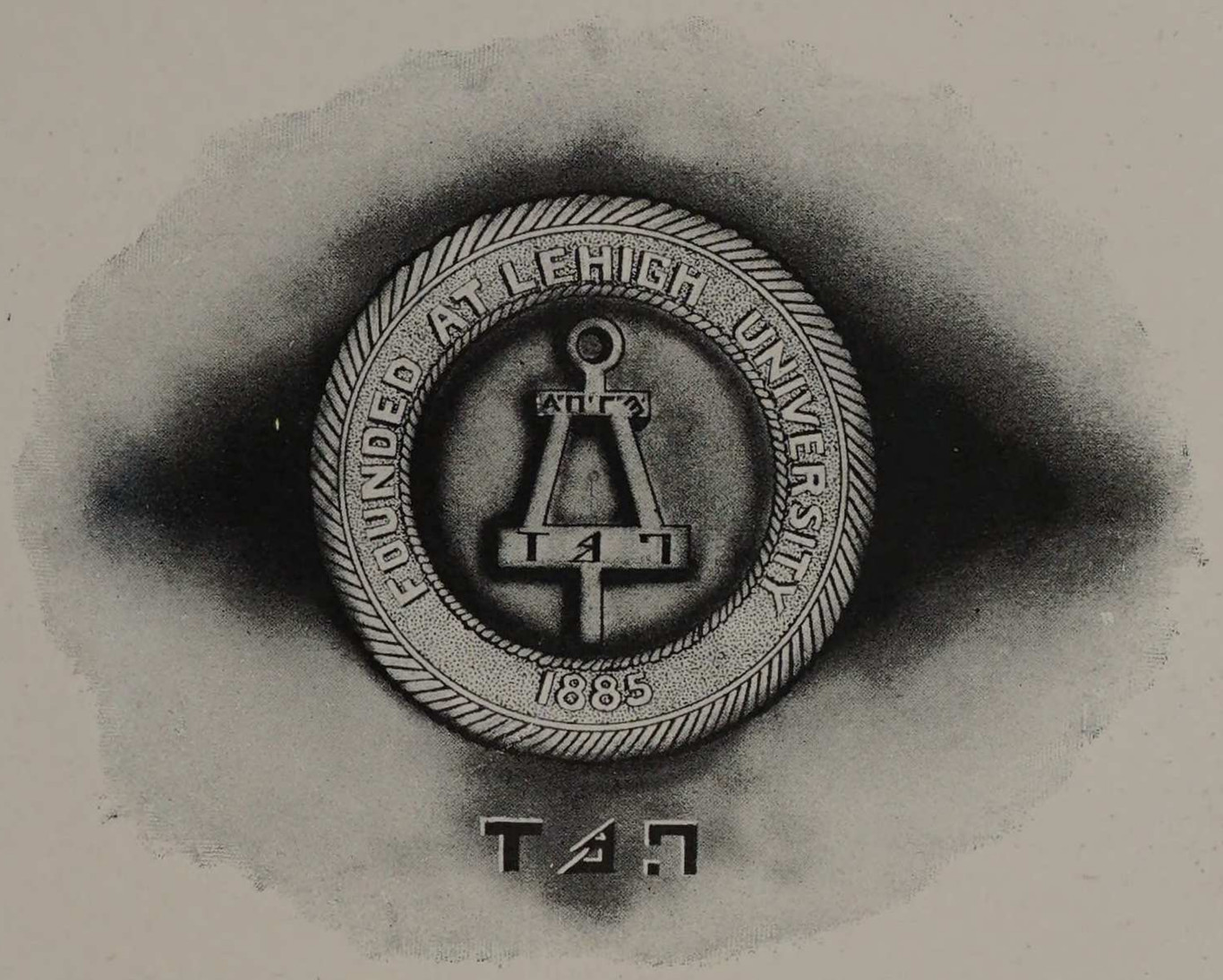











FOUNDED AT LEHIGH UNIVERSITY
1885

TAU BETA PI

National Honorary Engineering
Beta Chapter of Illinois
Chartered April 1906



Thirty Two Active Chapters

Faculty Members

E. H. Freeman, Armour '02
P. C. Huntley, Arkansas '10
W .H. Lautz, Armour '13
C. W. Leigh, Illinois '87
E. S. Libby, Armour '02
D. P. Moreton, Armour '06
H. L. Nachman, Armour '02
J. C. Peebles, Armour '04
J. C. Penn, Armour '05
R. V. Perry, Armour '97
Daniel Roesch, Armour '04
M. B. Wells, Purdue, '94
H. S. White, Armour '17

Honorary Members

H. M. RAYMOND, Dean of the Engineering Studies.
A. E. PHILLIPS, Professor of Civil Engineering.
G. F. GEBHARDT, Professor of Mechanical Engineering.
H. M. McCORMACK, Professor of Chemical Engineering.
C. E. PAUL, Professor of Mechanics.

Seniors

Harry W. Ahlbeck
Thomas L. Albee
Walter J. Anderson
Stanley H. Barce
Derwood S. Chase
Frank Duennes
Spencer N. Havlick
Fletcher E. Hayden
William A. Heitner
James J. O'Rourke
Delmar L. Rosendal
Robert W. Van Valzah
John P. Sanger
Charles T. Walter
Sheldon H. Webster
Emil F. Winter
Bruno E. Wohlgemuth

Juniors

Willard E. Erickson
Edward A. Goodnow
Henry W. Herbst
George H. Kelley
Ralph S. Kenrick
Parker J. Montague
Paul A. Rehnquist
Edgar M. Seaberg
George D. Wetherbee



Walter, Hayden, Penn, Webster, Winter, Sanger, Van Valzah.
O'Rourke, Albee, Rosendal, Anderson, Wohlgemuth.
Duennes, Heitner, Barce, Brueckner, Havlick.

IN SUPPORT OF ATHLETICS

Come on ye folks to Armour's game;
  Let's lift its banner high.
Let's put above all else its name,
  Above its battle cry,
And spread broadcast its laureled fame,
  To live, and never die.

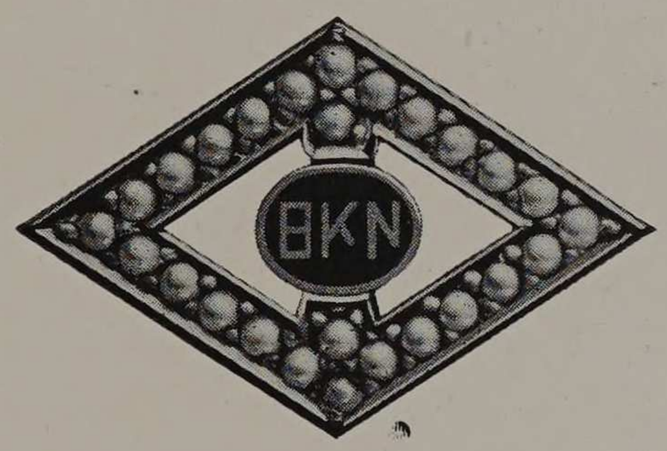
Yells never fail to cheer the boys,
  To lead them in the fight,
And swell the halls with thunderous noise
  To show the Armour might,
And give Athletics fighting poise
  With muscles tense and tight.

Commanded by an able coach
  Her teams cannot be beat;
When foreign schools do but approach
  They sense their sure defeat,
And leave accepting with reproach
  The usual Armour treat.

Let nothing stop your full support
  Of her athletic men;
Be at the games, show you're a sport,
  Drop both your book and pen.
Come out and cheer for 'tis import
  They do their deeds again.

E're you go home be sure you've looked
  To see if on the board
Another game with us is booked;
  Another victory stored;
And then you know the goose is cooked
  For schools who think they have us hooked,
For Armour is the lard.

With your support we'll always win,
  In any scrape be't thick or thin,
So to the games come from now on
  And do not shirk when called upon.


BKN

ETA KAPPA NU

Honorary Electrical

Delta Chapter

Chartered 1909

Thirteen Active Chapters

HONORARY MEMBERS

Ernest H. Freeman

J. E. Snow

FACULTY MEMBER

C. E. Stryker

SENIORS

F. A. Anderson
W. A. Douglas
N. H. Erlandson
E. R. Ewin
R. J. Grant
M. J. Grill
F. E. Hayden
G. C. Kumbera
R. C. Malwitz
J. J. O'Rourke
W. W. Pearce
D. L. Rosendal
H. F, Schreiber

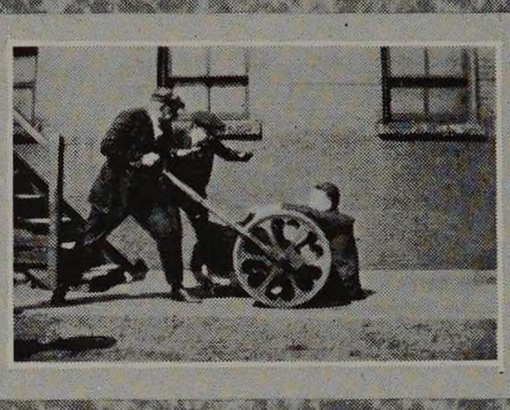
JUNIORS

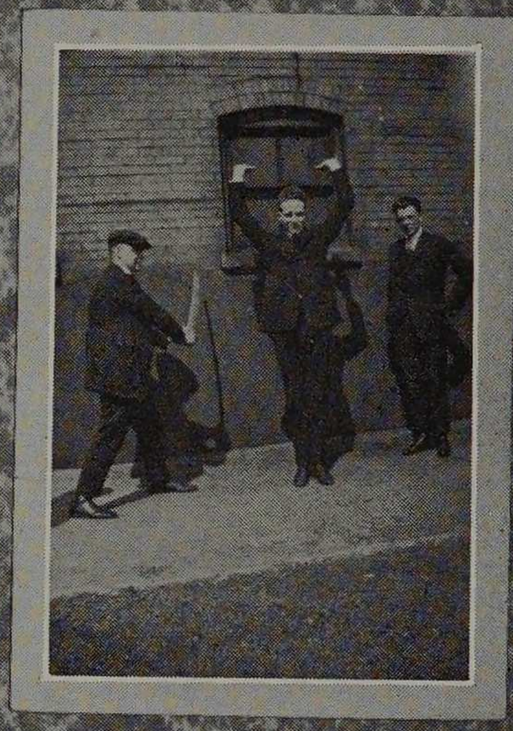
R. P. Burns
E. A. Goodnow
F. H. Hochriem
E. B. Mueser
G. H. Kelley
R. S. Kenrick
R. O. Miles
H. R. Wing

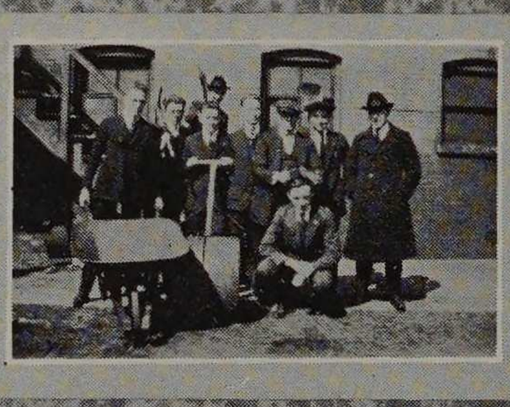


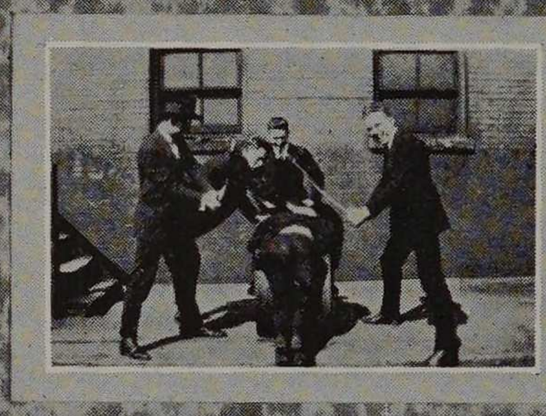
Burns, Albee, Ewin, Malwitz, Schreiber.
Pearce, Kumbera, Kelley, Grill, O'Rourke, Anderson.
Erlandson, Hayden, Douglas, Snow, Rosendal, Freeman, Wing.

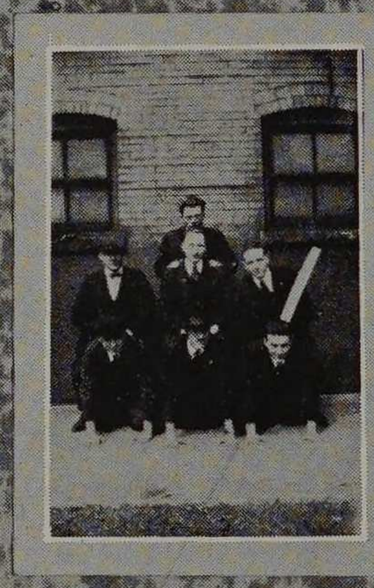






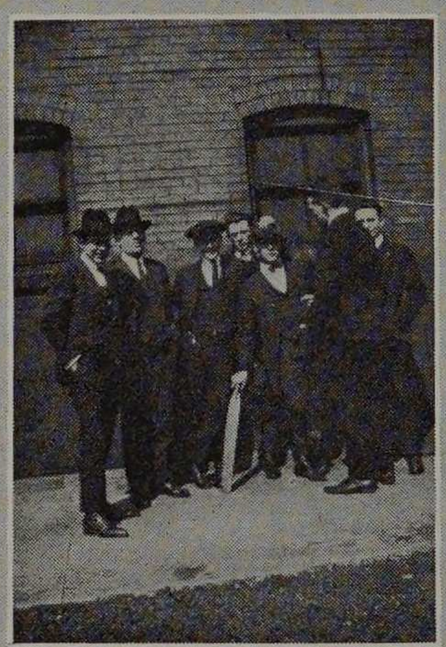














Two Hundred Thirty-two


SCARAB

SCARAB

Honorary Architectural
Chartered 1915



Four Active Chapters

Honorary Member

Louis H. Sullivan

Faculty Members

Earl H. Reed, Jr.
William H. Lautz, Jr.
William F. McCaughey

Seniors

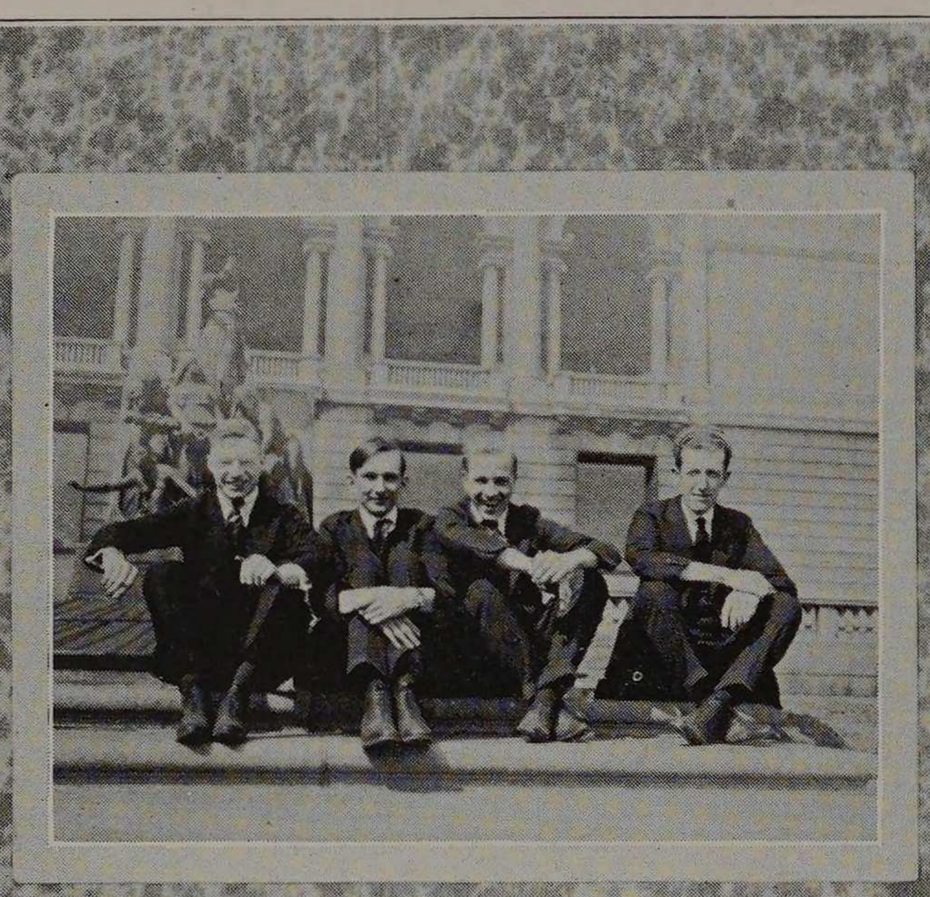
George D. Connor
I. Jerry Loebl
Norman J. Schlossman
Theo. M. Hofmeester

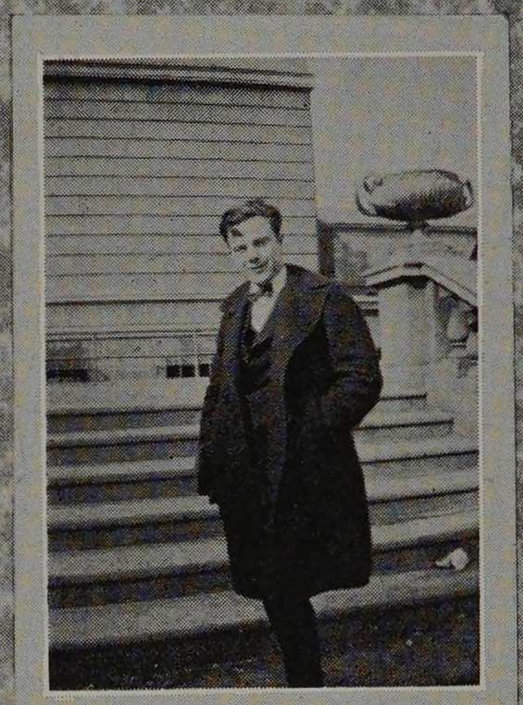
Juniors

Frank W. Cauley
W. L. Dalrymple
John J. Demuth
Wallace F. Yerkes

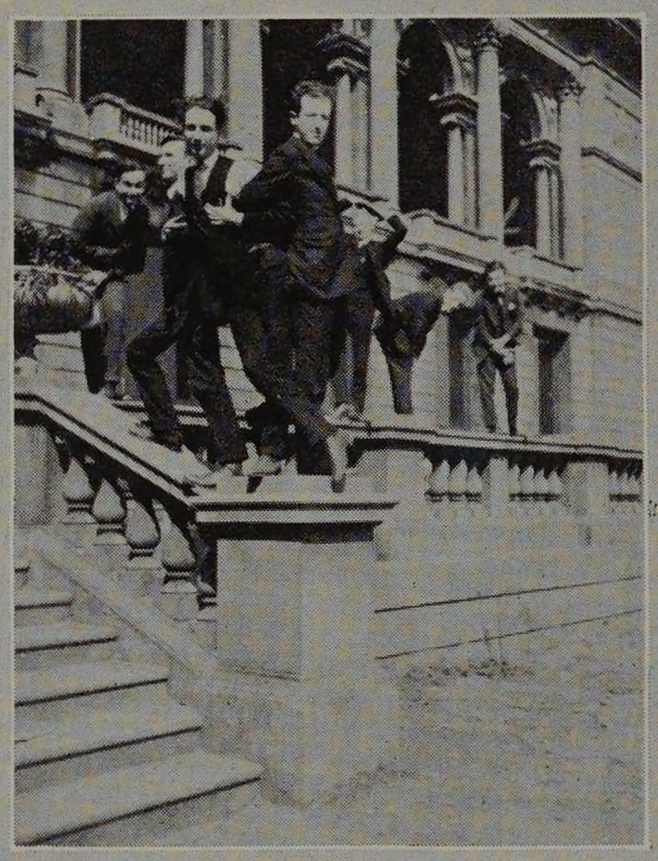


Schlossman, Cauley, Lautz, Demuth, Loebl.
Yerkes, Dalrymple, Connor, Hofmeester.













PHI LAMBDA UPSILON

By authority of the Executive Council, there was installed in May 1920, at the Armour Institute of Technology, a chapter of the national honorary fraternity of Phi Lambda Upsilon.

Phi Lambda Upsilon was founded at the University of Illinois, as a local honor society within the chemical department. While the honorary idea was paramount from the first, the original chapter combined with this certain social phases, and included in its organization some of the attributes of the Greek Letter Societies whose aims are preliminarily social; such as grips, pass words, secret mottos. After a number of years of flourishing existence at Illinois, during which it had achieved a well established position, expansion into a society of national scope was initiated with the establishment of the Beta Chapter at the University of Wisconsin (1906.) At Wisconsin the chapter was at first mainly graduate. This first step toward national development was followed by rather rapid extension, chapters being installed successively at Columbia, Michigan, University of Washington, Minnesota, Ohio State, Iowa State, Stanford, University of Denver, California, Pennsylvania State, Purdue, University of Pittsburgh and Armour.

Accompanying numerical growth were changes in details of organization. Great latitude in organization and government is permitted individual chapters by the national body, the old time "mystery stuff" has been almost abandoned, and the society as a whole stands in the field of chemistry as does the Sigma Xi in the broad field of Science, for the encouragement of high standards of scholarship and for the recognition of those students of chemistry who attain high academic standing through their combined ablity and effort.

There are now four classes of membership in Phi Lambda Upsilon, namely; Active, alumni, associate and honorary.

Hororary members, to quote the constitution of the society "shall be men of national reputation." Quoting further from the same source, "associate members shall be men of recognized ability in their respective branches of chemistry, and connected with an institution of learning in a capacity other than that of student, either graduate or undergraduate." Active membership consists of graduate and undergraduate students duly elected and may include associate members. The constitution of the society provides that membership be confined to men ,

It is hoped and believed that the newly organized chapter will maintain the excellent traditions of the society as a whole and that it may be a factor for good in our chemical department.

PHI LAMBDA UPSILON

Honorary Chemical

Omicron Chapter

Chartered May 1920



Fourteen Active Chapters

Faculty Members

Harry McCormack
Walter J. Bentley
Charles A. Tibbals

Seniors

H. W. Ahlbeck
W. J. Anderson
M. O. Brueckner
L. D. Judson
W. J. Savoye
C. Sippel Jr
E. F. Winter

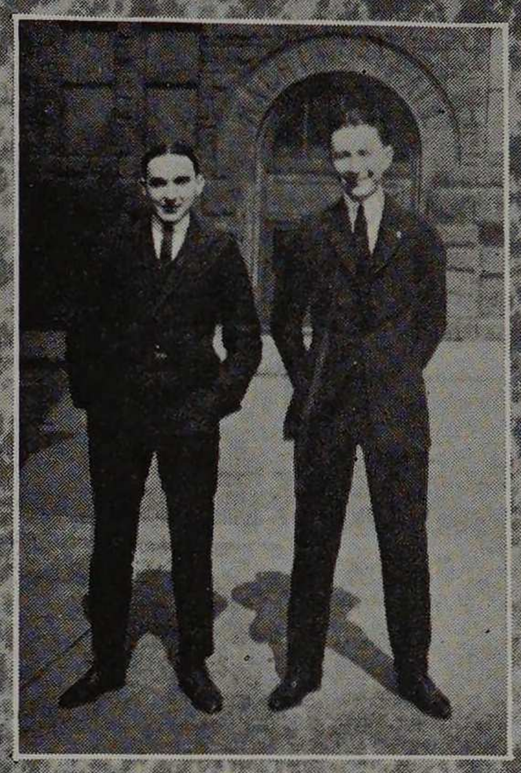
Juniors

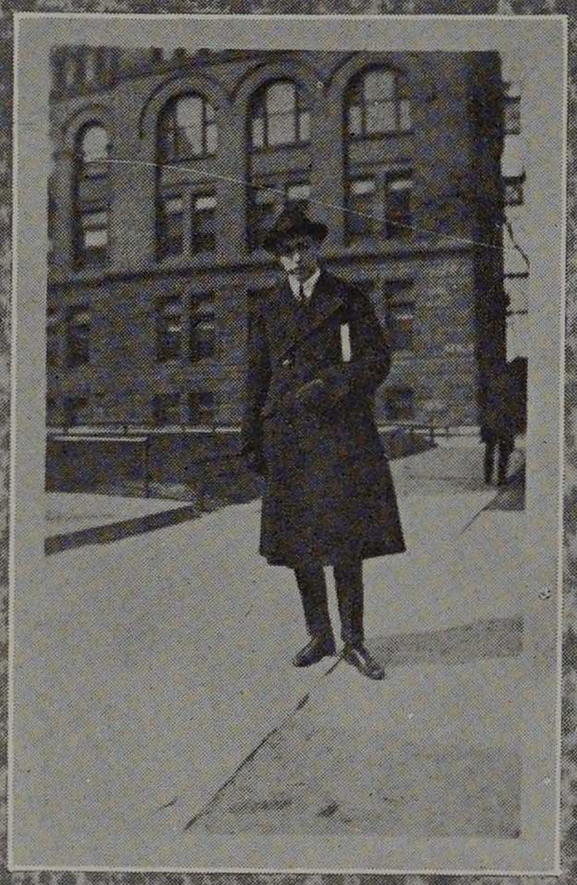
W. M. Baker
G. A. Gilbertson
W. T. Gray
H. W. Herbst
J. W. McCaffrey



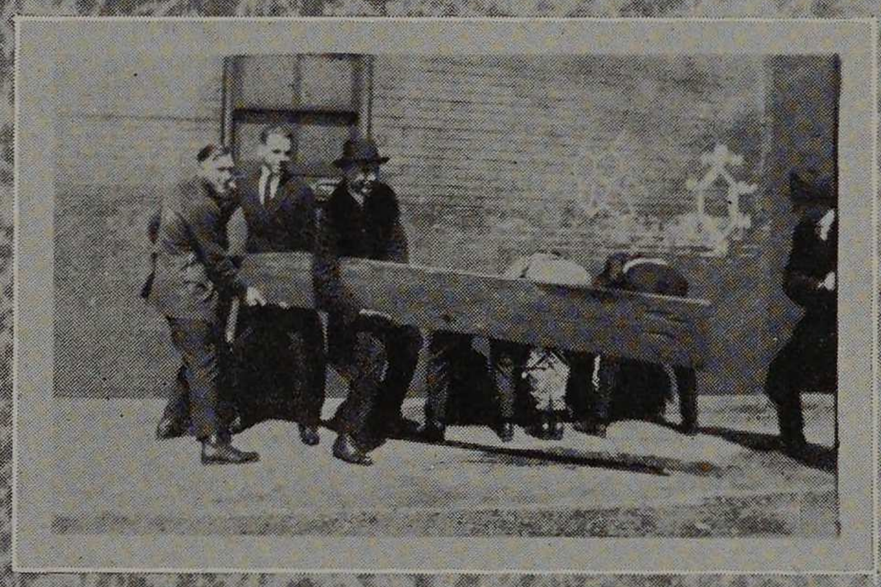
Gilbertson, Winter, Sippel, Baker, Tibbals
Brueckner, Gray, Anderson, Bentley
Savoye, Herbst, Ahlbeck, Judson

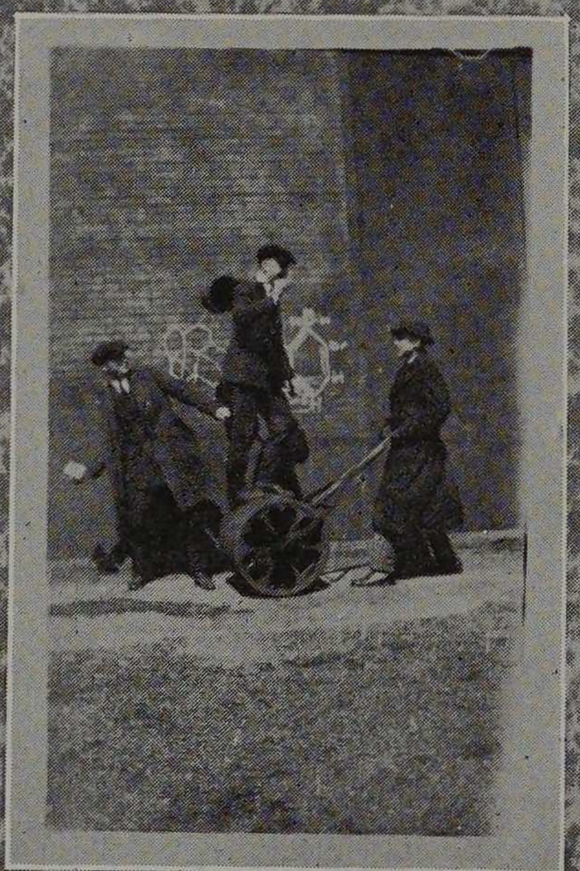




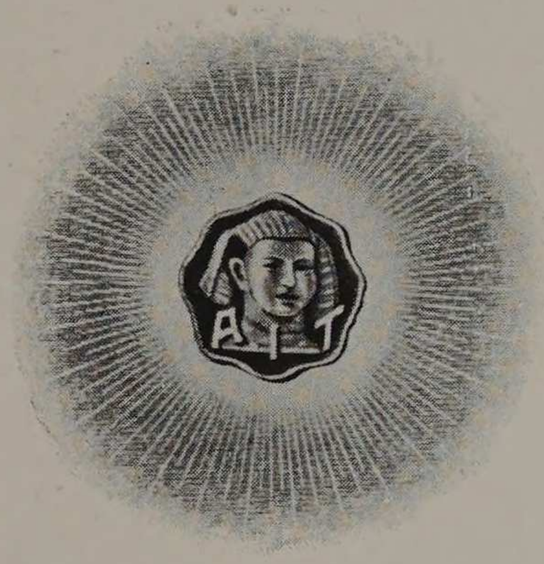











A T



OFFICERS

J. WARREN McCAFFREY.....President
JEFF CORYDON, Jr.....Secretary
WILLIAM E. KINGSLEY.....Treasurer

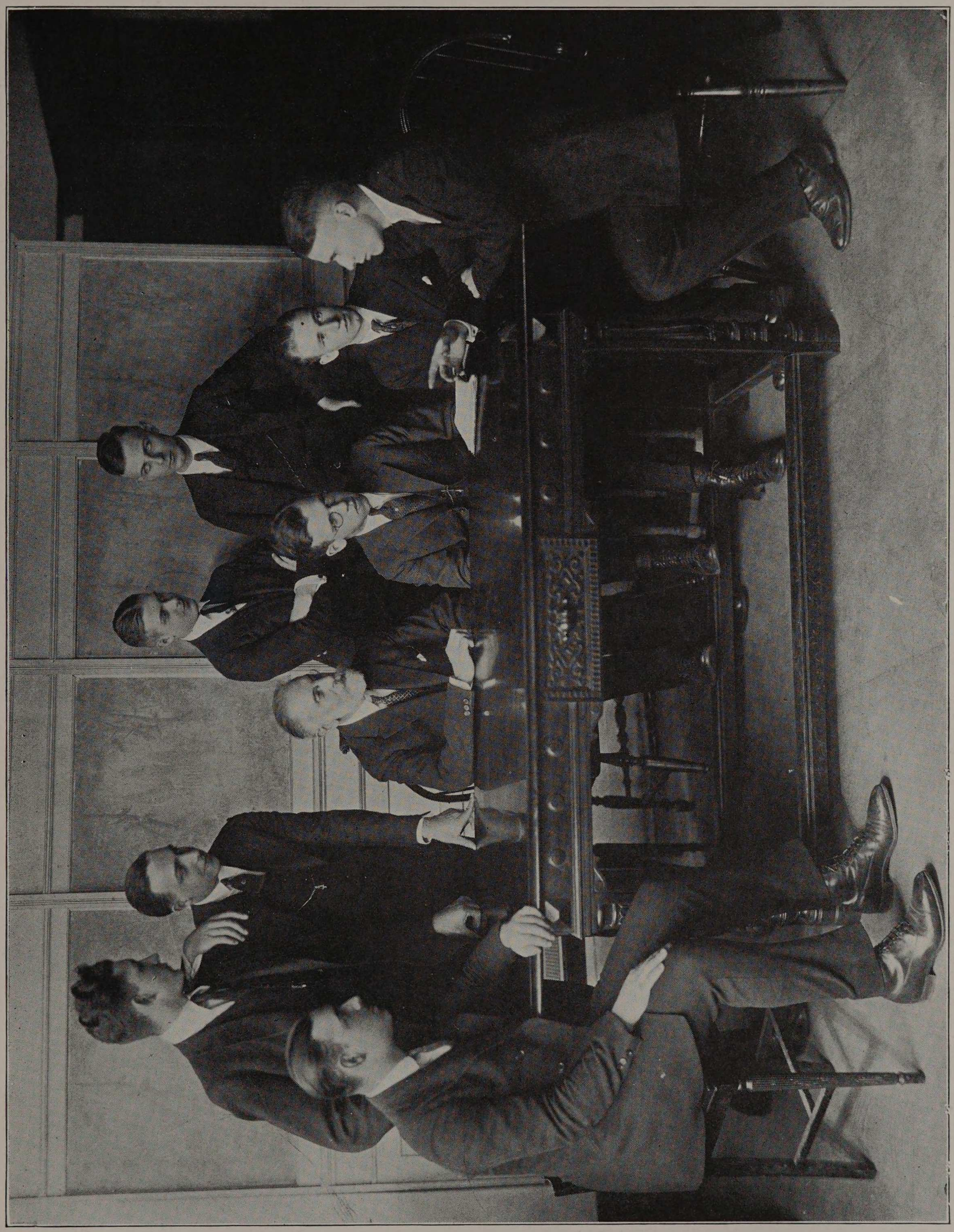
FACULTY MEMBER

Louis C. Monin

MEMBERS IN COLLEGE

L. S. Maranz
C. T. Walter
F. E. Hayden
J. P. Sanger
S. N. Havlick
E. F. Winter

J. W. McCaffrey
J. Corydon, Jr.
W. E. Kingsley



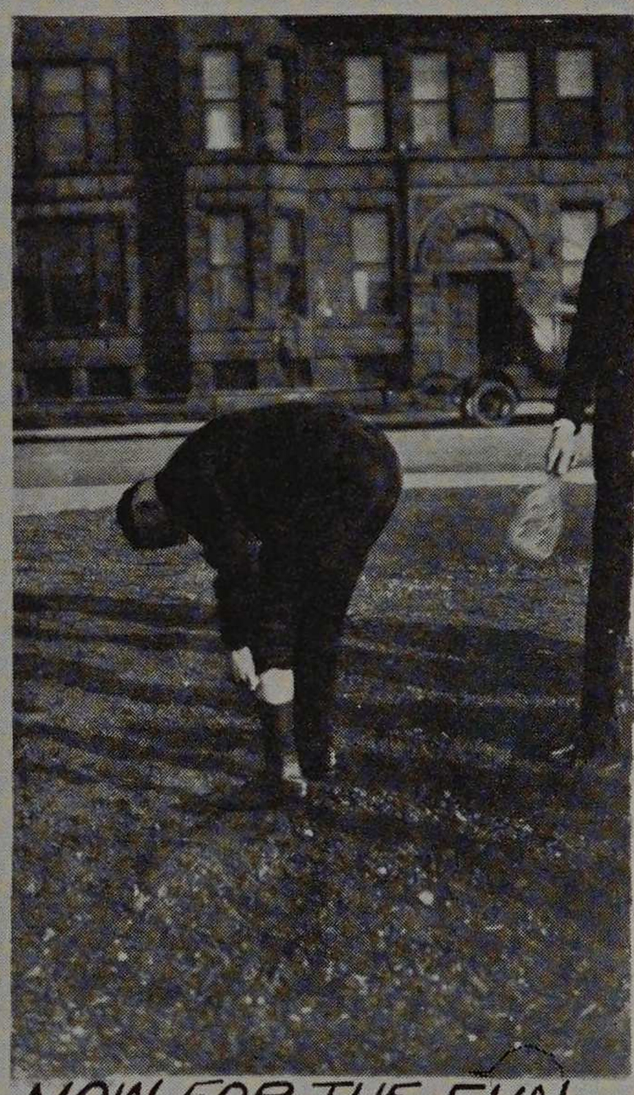


SOME SPATULA

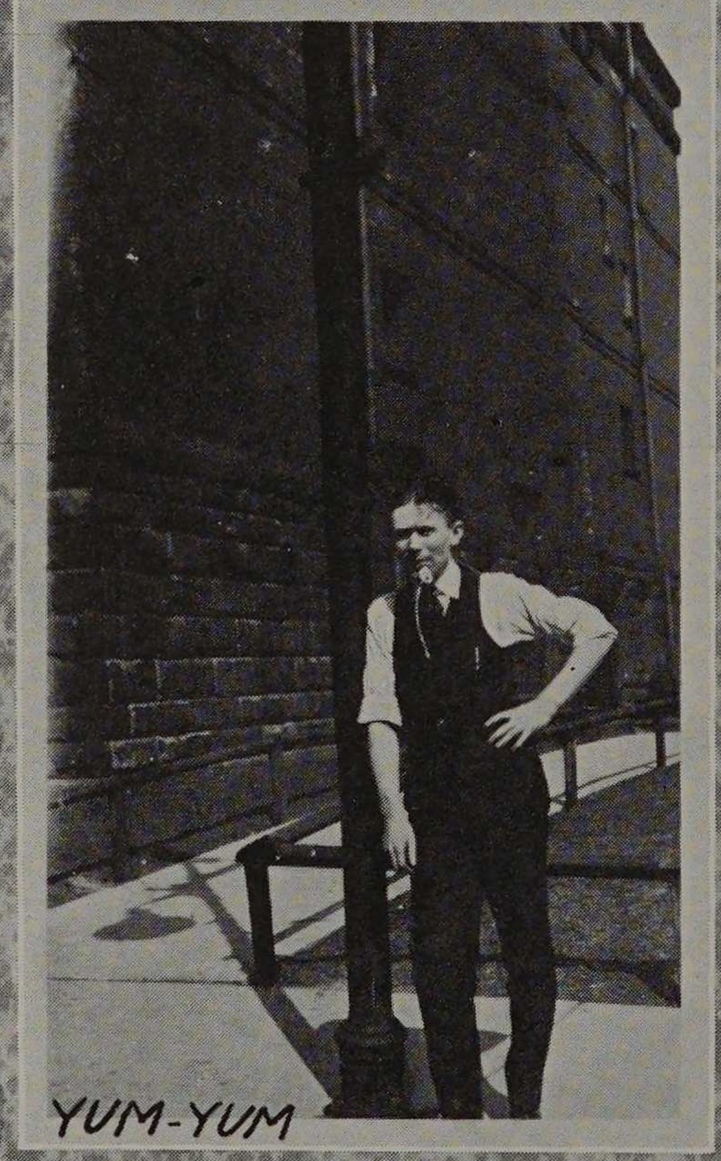


NON-UNION LABOR

OH FOR THE LIFE OF A PLEDGE



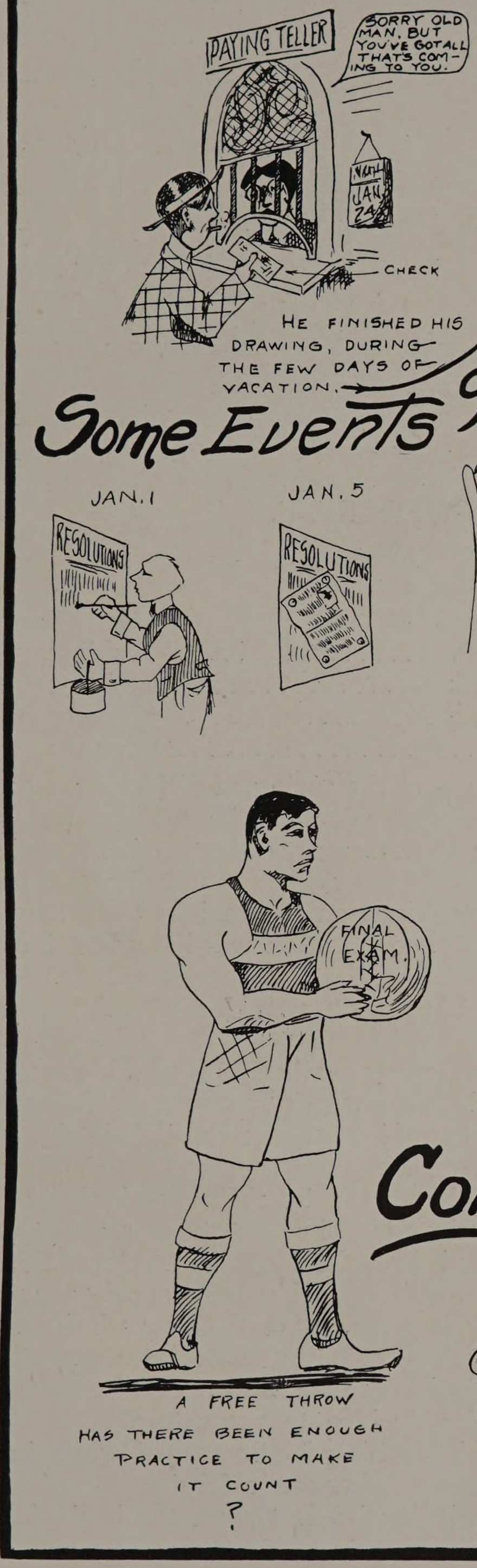
NOW FOR THE FUN



YUM-YUM



DURING THE INTERMISSION


PAYING TELLER
SORRY OLD MAN, BUT YOU'VE GOTALL THAT'S COMING TO YOU.
CHECK
HE FINISHED HIS DRAWING, DURING THE FEW DAYS OF VACATION.
AND THEN WROTE THE FOLKS BACK HOME OF HIS PROGRESS.
DEAR DAD: got thru everything easily, Tuition is due again. Lovingly, Willie.
Some Events of the past Month
JAN. 1
JAN. 5
RESOLUTIONS
RESOLUTIONS
FEELING THE NEED OF A LITTLE EXCERCISE HE SPENT THREE DAYS IN SUCCESSION IN THE GYM.
ABOUT FRIDAY MAIL TIME MORNING JAN. 24.
FINAL EXAM.
A FREE THROW
HAS THERE BEEN ENOUGH PRACTICE TO MAKE IT COUNT ?!
Coming!
A.I.T.
2nd Semester



THE HONOR "A" SOCIETY.

Honorary Member
John J. Schommer

Officers

O. Kuehn.....President
H. W. Ahlbeck.....Vice-President
G. N. Schumacher.....Treasurer
S. N. Havlick.....Secretary

The honor "A" Society was organized in the spring of 1914 by the active athletes. The fundamental idea of the formation of the Society was that of bettering and promoting athletics in the Armour Insitute of Technology. The Society has proved very beneficial in securing material for the teams and has stimulated competition for the positions on the various teams.

The following sections taken from the constitution will illustrate the purpose of the Society:

Article 2. Sect. 1. To serve as a working unit for all "A" men in discussion of athletic questions.

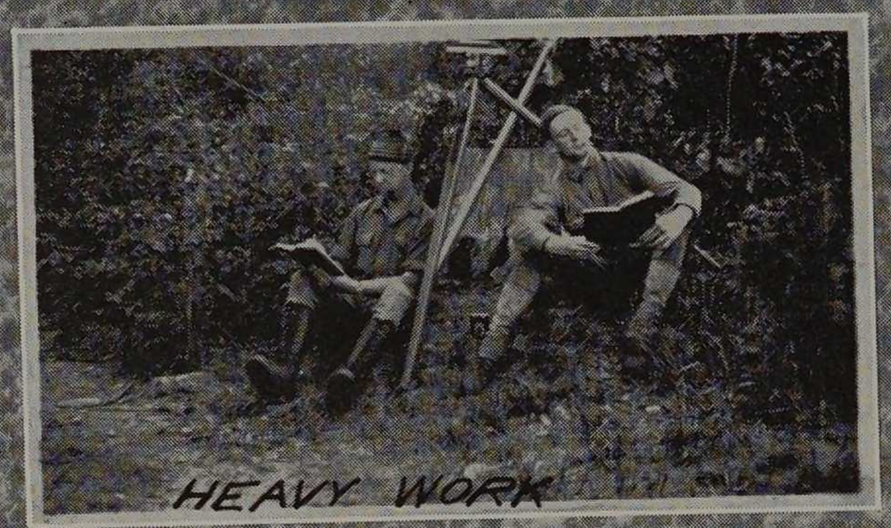
Sect. 2, To procure and preserve all records of athletic teams.

Article 3. Sect. 1. Any student in the Armour Institute of Technology who has won a letter in any of the three major sports; Basketball,, Baseball or Track is eligible to membership.

The existence of the Society was threatened by the war, during which period all athletic activities were discontinued. The Society was maintained, however, by two members who graduated with the Class of '20, ,namely, Ira J. Bready and William Erickson. The membership has been steadily increasing since the war and today the Society is more active than ever before.

This year the idea was formulated of sending complimentary annual athletic tickets and schedules to all Alumni "A" men, and the plans were carried out with great success. It was also decided to present each "A" man with a certificate of membership, containing his athletic record while in the Armour Institute of Technology. Plans are being made for the annual athletic banquet, to be held in May, which will be the first since the beginning of the war.





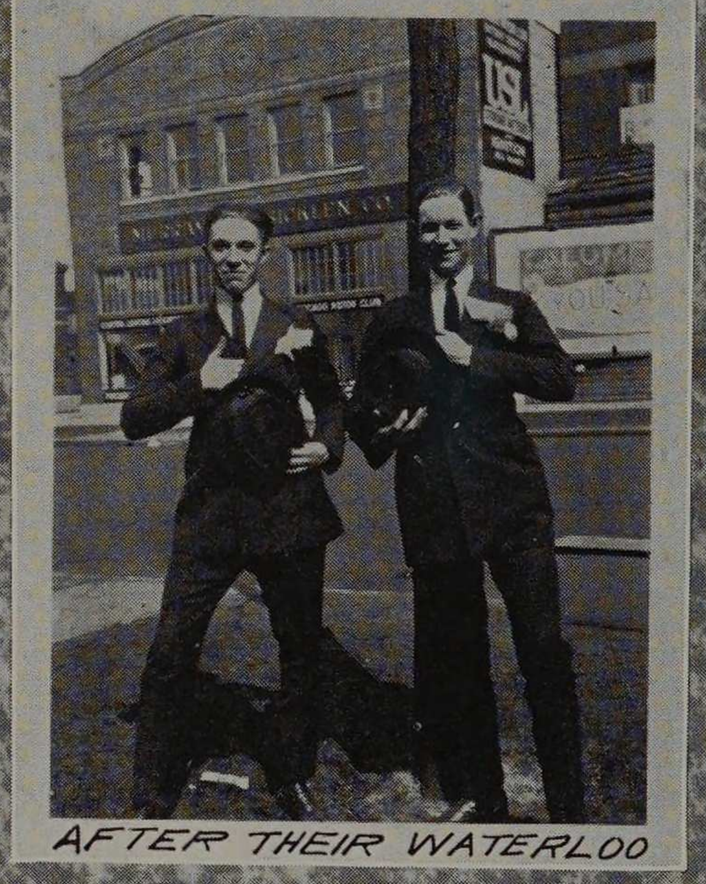
HEAVY WORK



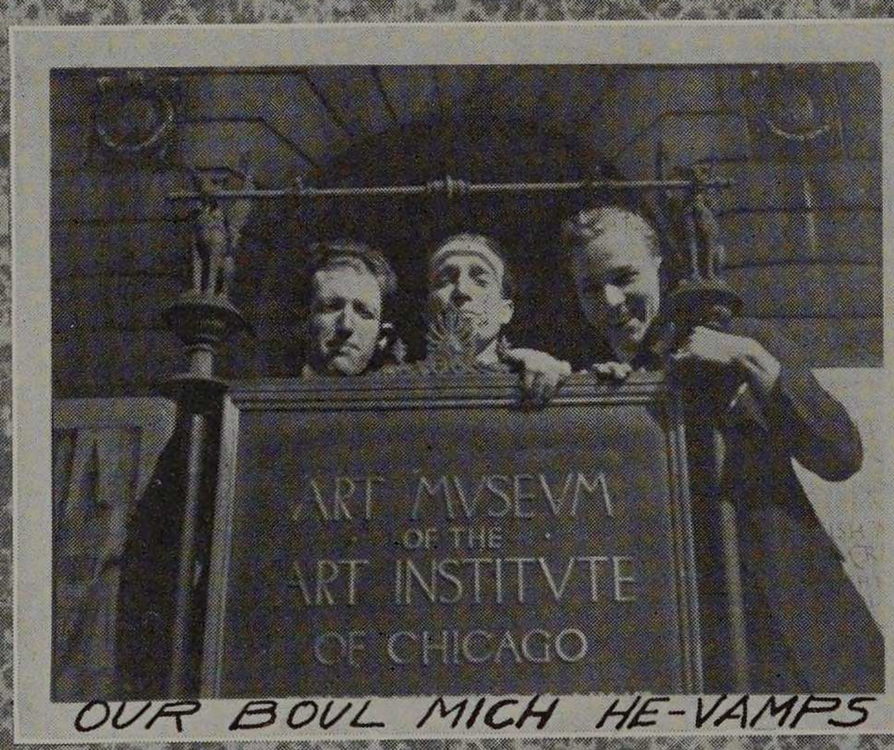
WHAT ABOUT THE 13TH AMENDMENT?



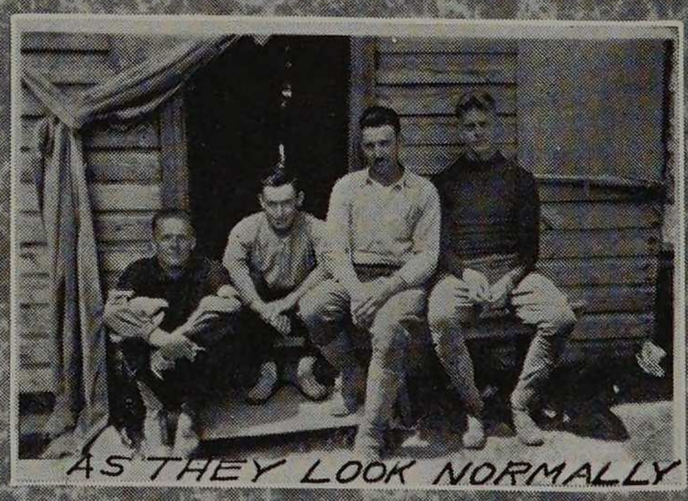
HE'S NOT SO SLOW



AFTER THEIR WATERLOO



OUR BOUL MICH HE-VAMPS



AS THEY LOOK NORMALLY


HUMOR



WENDELL M. BAKER

Humor Editor

THE NUT CRACKER.

The Nut Cracker is dedicated to all those members of the student body, and of the faculty, who will be peeved at finding that they have received honorable mention in this section. May they swear in peace.

Perhaps you think these jokes are poor,
And should be on the shelf;
But any bloke can criticize—
Turn in a few yourself.

Prof. S.: "Where were you Tuesday, Mr. Corydon?"

Jeff: "I had a tootache and had to go to the dentist."

Prof. S.: "That's too bad; has it stopped now?"

Jeff: "I don't know."

Prof. S.: "You don't know? How's that?"

Jeff: "The dentist kept the tooth."

PLACARDS AT OUR LUNCH FOUNDRY.

Don't make fun of the coffee. You may be old and weak yourself someday.

Be careful of the sugar, use only one spoon, and stir like H—l. We don't mind the noise.

Don't kick if the doughnuts have large holes. It takes more dough to go around a large hole.

Gil.: "Another flask gone! -*?!!*."

Noah: "The language that you used on that flask was awful."

Gil.: "Well, you seem to worry more than the flask did."

Mac.: "I hear that Ed Goodnow is sick."

Gil.: "Yeh, he was getting along all right though until complications set in."

Mac.: "Did he have a relapse?"

Gil.: "Naw, he was caught kissing the nurse."

AT THE GREASY SPOON.

Waitress: "Oh dear, I dropped that egg on the floor. What shall I do?"

Bake.: "Try cackling."

DEFINITIONS.

Discretion is something which comes to a man when he is too old to benefit by it.

Flattery is the act of someone else telling us the nice things which we have always thought about ourselves.

Repartee is an insult with its Sunday clothes on.

They say that a co-ed is known by the dates she keeps.

OVERHEARD AT THE DANCE

Fair dancer: "You should change your style of dancing a little."

Gray: "In what way?"

Fair dancer: "You might step on my left foot occasionally."

You can lead a student to lecture, but you can't make him think.

It has also been said that an angry man is like a full kettle—the more he boils, the more he slops over.

Winter (going up in the elevator): "I wonder what would happen if the gears would strip?"

Breuckner: "I suppose the motor would be shocked."

MY MISTAKE.

Prof. McC.: "What is the purpose of evaporation, Mr. Spielman?"

Spielman (who has been talking to Slobod): "Did you call my name, Professor?"

Prof. McC.: "Oh, pardon me for interrupting you, Spielman."

JOLIET SCHOOL OF APPLIED SCIENCE

announces

New Courses, Beginning September 1921, in:

Home Brew Engineering
Advanced Safe Cracking
The Theory of Yeggmanship
The Elements of Forgery

The following new additions to the faculty will be made in order to properly present these subjects:

PHINEAS XANTHIPPE MCGLUKE.

Professor of Home Brew Engineering.
Birthplace, Back of the Yards, Chicago, Ill.
R. S. V. P., John's Hops University, 1477; Ph. D., Chicago Tech., 1807.
Author of: "Cumberland Pete, or, Forty-Three Revenue Officers Bit the Dust"; "The Diary of a Raisin."

"NIGHTMARE JAKE" O'FLANNIGAN.

Professor of Safe Cracking.
Birthplace, Cascade, Iowa.
C. O. D., Sing Sing University, 1907; F. O. B., 1917.
Author of: "The Uses of Nitroglycerine"; "The Acetylene Torch in Practice."
Member of the "Affiliated Association of Safeblowers."

DIOGENES LIGHTFINGER.

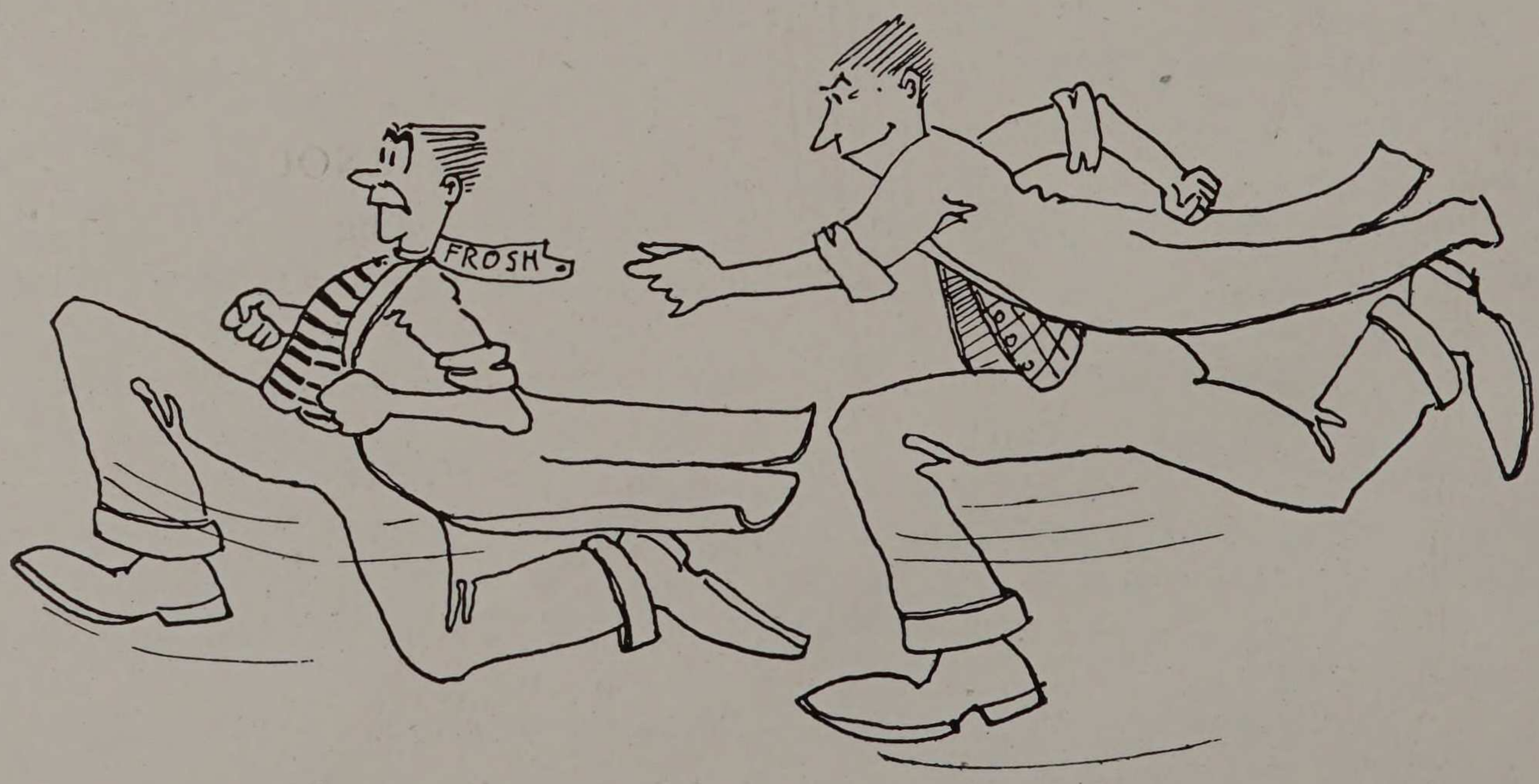
Professor of Yeggmanship.
Birthplace, Death Valley, S. D.
P. D. Q., Joliet College, 1897.
Author of: "The Theory and Practice of Brass Knuckles"; "The Utility of the Blackjack."

REGINALD OSWALD SCRIBLER.

Professor of Forgery.
Birthplace, Zanzibar.
B. V. D., Leavenworth Tech., 1904; R. I. T., Palmer Method Institute, 1908.
Author of: "The Pen is Mightier Than the Sword."

GILBERT HENRY.

Gilbert Henry was a plumber, and oh how he could plumb.
He worked three weeks this season, and hence saved quite a sum.
His high-brow daughter Milli, and his sporty son Ab,
Said Dad you'd better loosen up, its time a car we've had.
You can never lead society, if behind on feet you lag.
So Dad who wished to be a leader in true 400 style,
Bought a compound Maxwell, guaranteed steen thousand miles.
It had shock absorbing spark plugs, and a compensating reacter,
Giving 90 miles to the gallon, which was quite some power-factor.
The meter was equipped with a shunt and series winding,
In order to impede the ohms when bent on hill climbing.
The valves were of the latest type, the Fleming rectifier,
They worked in one direction only. Brother! you should hear the back-fire.
The pistons were laminated and, of course, that helped to coulomb.
You could run all day on second, honest I aint foolin.
The cylinders had synchronizers to keep them all in step.
And an audien bulb in the carbureter added considerable pep.
The ignition had hysterisis, eddy-currents and flux,
Turning the engine over sounded like a flock of ducks.
The rear axle had a drop of 40 millivolts, you could run over a hair-pin and never get a jolt.
The wheel-base was shorted by the low resistance of the springs,
But that didn't phase the honker, which was equipped with collector-rings.
The transmission was selective, with a double Peltier effect,
Regenerating an e. m. f. to keep the car in check.
There were alternating headlights, with two-stage amplifiers,
Giving 40 candle-power or perhaps a little higher.
And a grounded wind-shield to damp out all the draughts,
Gilbert Henry had some boat, it was built to stand the gaff.



Sophomore: "How many subjects are you carrying?"

Freshman: "I'm carrying one and dragging three."

—*Penn State Froth.*

Prof. P.: "What is a Pitot tube, Mr. Oake?"

Oake: "Any curved tube."

Prof. P.: "I suppose a piece of gas pipe or anything like that could be used?"

Oake: "Yes."

Prof. P.: "Well, I suppose you could use a Saxophone in a pinch then?"

Gilbertson (to Prof.): "I don't see that?"

Herbst: "Shut up. He's overthrowing the Einstein theory."

Prof. C.: "Green plants are the only plants that are capable of producing coal."

Hagen: "Are there any plants that are not green plants?"

Rheimer: "Sure, power plants."

BRADLEY, GRAY & CO., Inc.
Instructions in
The Proper Etiquette at Pink Teas.

Roddick: "I don't get that argument at all. I can't see how the sun is supported in space."

Oake: "It's supported by its beams, you poor nut."

It has been said that some students dodge enough work to keep a dozen other students busy.

Never strike a man when he is down; he may get up and lick the tar out of you.

—*Character.*

Hultgren: "I just saw Corydon fall on the ice. I wonder if he was hurt?"

Goodnow: "No. He had his spring suit on."



Davis (When the steam pipes are knocking in the class room): "Well, it's one good thing, we can't sleep anyhow."

Prof. N.: "Has anyone the correct time?"

Gilbertson: "Five after."

Voice from the rear: "Why didn't you tell him quarter after, you big stiff?"

FAIR ENOUGH.

Prof. C. (writing final questions): "I'm getting writer's cramp."

Herbst: "I'll write them for you if you let me out of the ones I write."

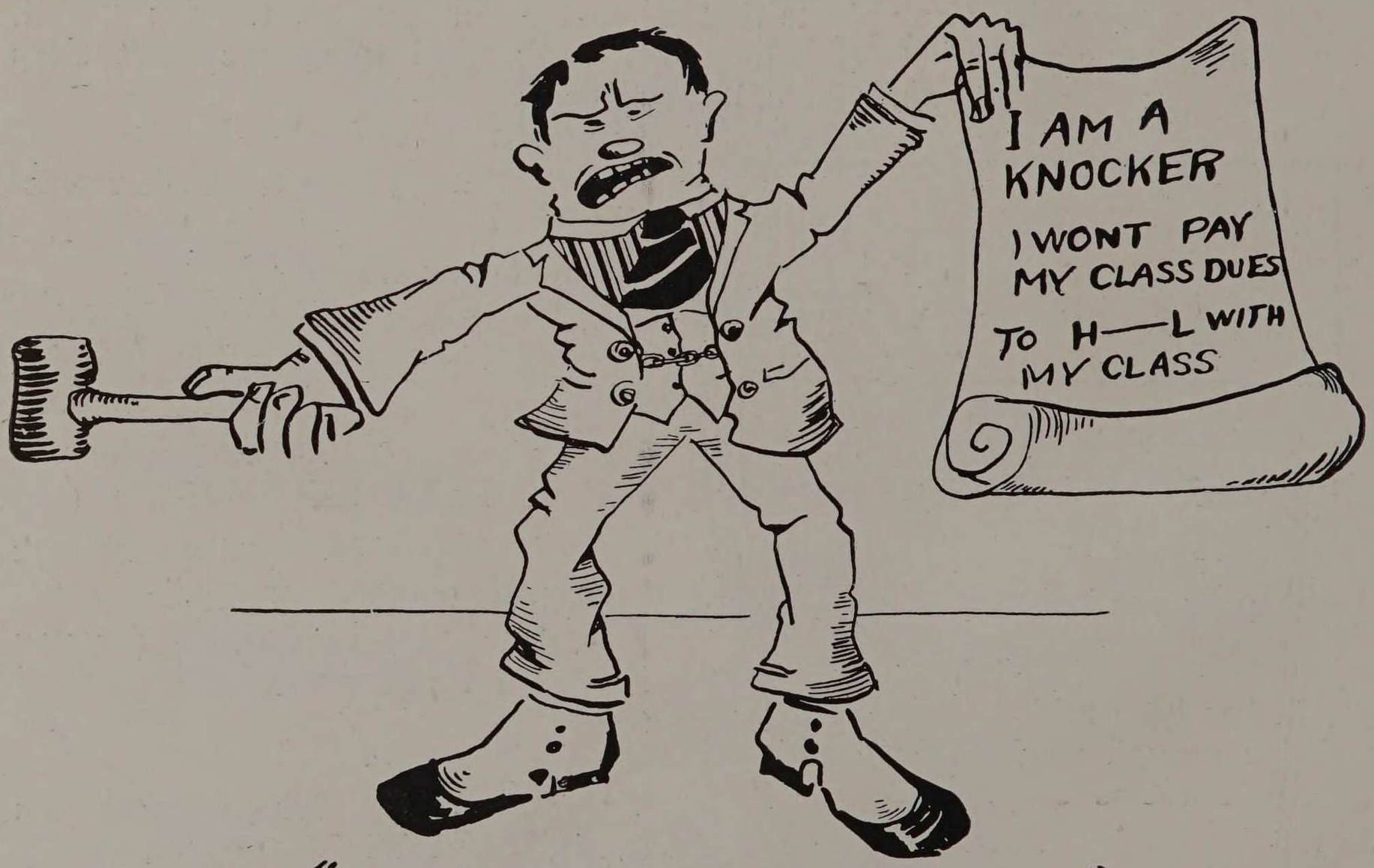
Nowakowski: "The formula you use is, P = Wah."

Prof. P.: "Well, what does that mean?"

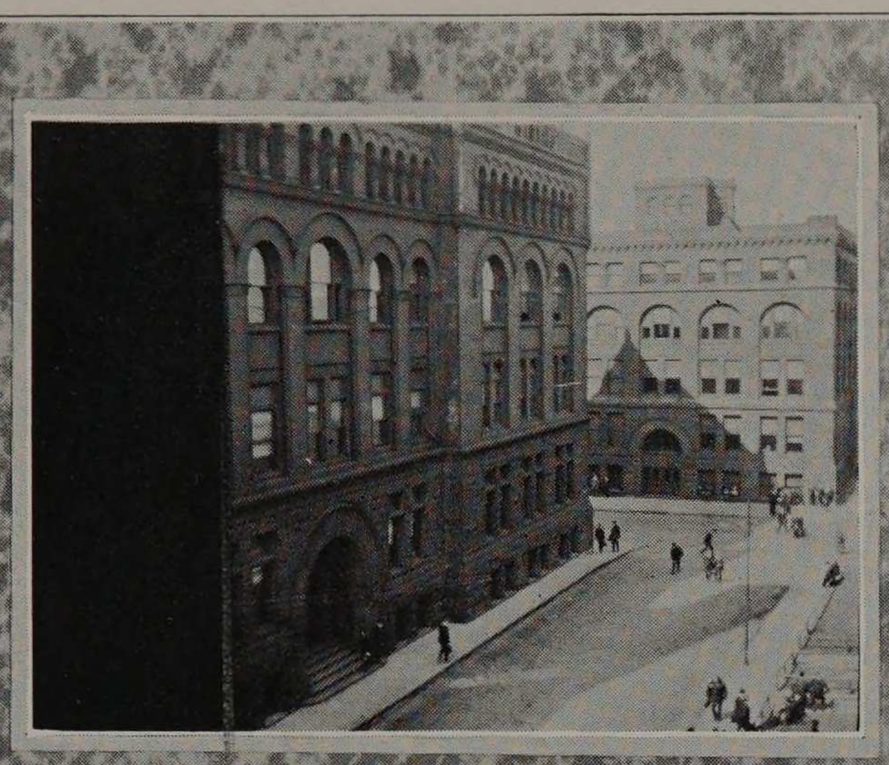
Noah.: "Well, W is the weight of water per pound."

THE ELECTRICAL WOMAN

When she talks too long.....Interrupter
If her way of thinking is not yours.....Converter
If she wants to be an angel.....Transformer
When she is sulky and will not speak.....Exciter
If she gets too excited.....Controller
If she proves your fears are wrong.....Compensator
If she goes up in the air.....Condenser
If she wants chocolates.....Feeder
If she sings false.....Tuner
If she is in the country.....Telegrapher
If she is a poor cook.....Discharger
If she eats too much.....Reducer
If she is wrong.....Rectifier
If she gossips too much.....Regulator
If she fumes and sputters.....Insulator
If she becomes upset.....Reverser



THE "TECH GOAT-GRABBER".
THERE ARE ONLY A FEW.



FROM AN AEROPLANE?

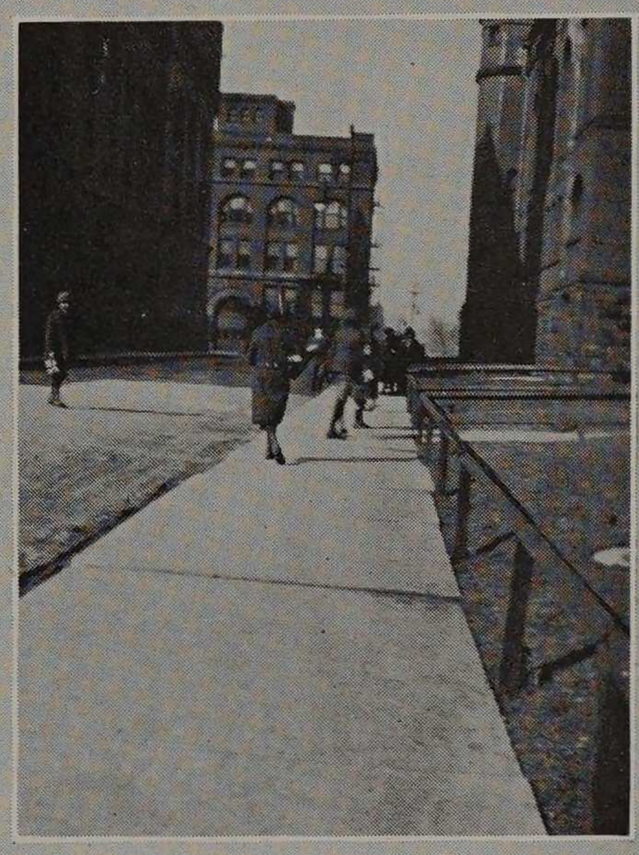


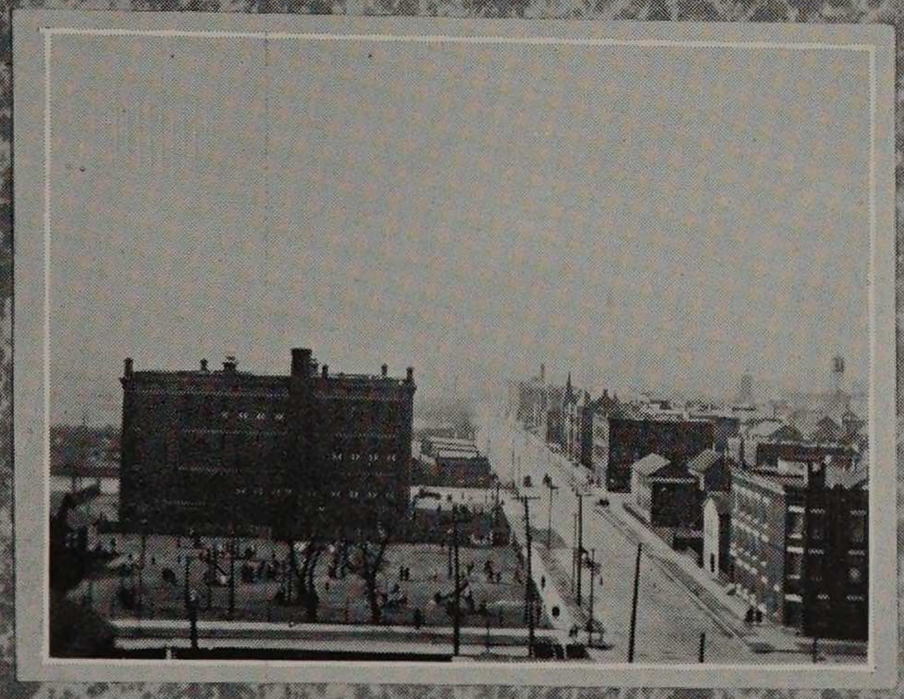
OUR MASCOT



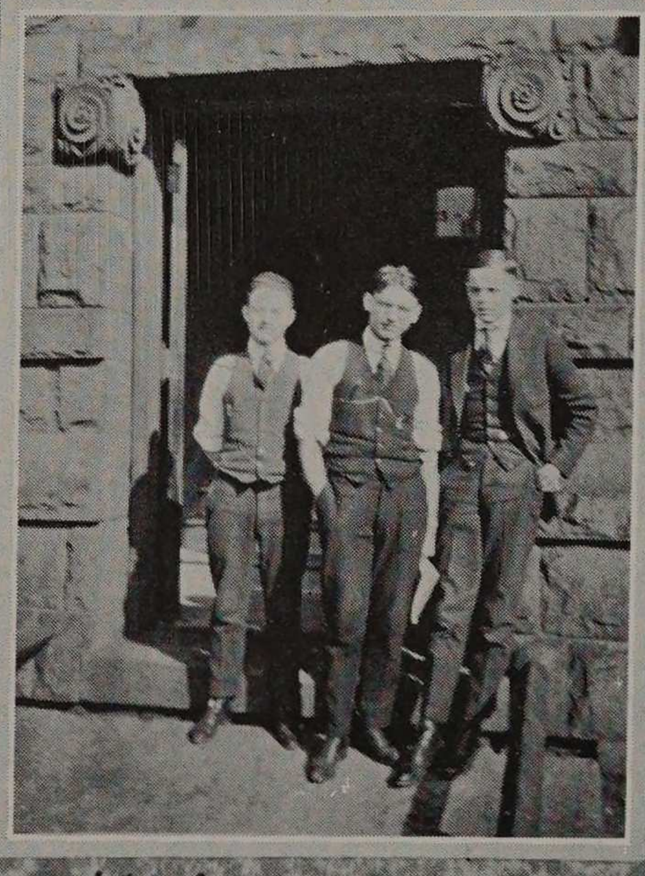
FRESHIES

A TYPICAL CAMPUS SCENE





FROM THE BUG LAB.



JOY OF THE CHEM. D

(ADVERTISEMENTS)

I AM THE STRONGEST MAN IN THE WORLD.

I will make you the strongest man in the world!

Everyone of my pupils is the strongest man in the world!

You cannot be successful unless you are the strongest man in the world!

If you do not believe that I will make you the strongest man in the world, enclose $5.00 with the coupon below and I will send you my book entitled, "How to Become the Strongest Man in the World."

If you still are not satisfied that you are the strongest man in the world, send me another $5.00, and I will again mail you my book, "How to Become the Strongest Man in the World."

If after this you still are not convinced, send me $10.00, and I will mail you a diploma, proving, and certifying that you are the strongest man in the world.

DO NOT WAIT! MAIL THE COUPON TODAY. BE THE STRONGEST MAN IN THE WORLD INSIDE OF THREE WEEKS.

Read some of these letters from my pupils:



DR. CHARLIE

"Acme" of Physical Perfection.

Tear on Dotted Line.

My Dear Dr. Charlie:

Please send me your book, "How to Become the Strongest Man in the World." I have enclosed $5.00 in pennies so that if you should loose part of them, you will still have the majority of them left.

Frank Shay,
Armour Institute.

My Dear Dr. Charlie:

Please! Please, make me the strongest man in the world. I never realized, until I was married, that I needed to be the strongest man in the world. Please hurry, Dr. Charlie, and make me the strongest man in the world before my wife finds out that I have kept $5.00 of my pay from her.

Robt. Burns,
Armour Institute.

Dr. Charlie,
33rd and Federal St.,
Chicago, Ill.

Enclosed please find $..... for ..... copies of your book, "How to Become the Strongest Man in the World," at $5.00 per Copy.

Name .....

Address .....

AN ELECTRICITY QUIZ AS ANSWERED BY THE JUNIOR CHEMICALS.

1. What is electricity?
A. A course of study otherwise known as electrical measurements.
2. What is a current?
A. A fruit which resembles blue berries in shape.
3. Define hysteresis.
A. Hysteresis is the condition a girl gets in when she loses her platinum bar pin at a dance.
4. What is a commutator?
A. A person who lives in Oak Park.
5. What is a battery?
A. A battery is the pitcher and the catcher on a baseball team.
6. What is a brush?
A. A brush is a small object used in the process of combing the hair.
7. What is an armature?
A. A non-professional ball player.
8. What is a polyphase winding?
A. The way a fellow comes home after "Ten Nights in a Bar Room."
9. What is a floating battery?
A. One whose specific gravity is less than one.
10. What is an induction motor?
A. A motor which can be induced to work properly.
11. What is the difference between a motor and a generator?
A. A motor uses direct current, while a generator uses alternating current.
12. What is a Henry?
A. Henry is a slang name for a flivver.
13. What is the unit of electrical work?
A. The farad.
14. What is the relation between the volt, ampere, and the ohm?
A. The ohm is the amount of potential necessary to send an inductance of one coulomb across a reluctance of one watt. An ampere is the resistance offered when one plug is taken out of an induction coil. A volt is the number of atoms of electricity flowing past a point in one hour.
15. What is a photometer?
A. A photometer is a camera.

CAN YOU IMAGINE—

Any prof. admitting that an assignment is too hard, or too long?

Any student admitting that an assignment was easy?

Any prof. who does not claim that his subject is the most important thing on earth?

Any Junior or Senior who never got less than A in any subject?

Any student who doesn't approve of vacations, and thinks that school hours are too short?

Any student who has not tried to get away with the old excuse about doing his work and then forgetting to bring it?

God must love flunkers——, he made so many of them.

—*Exchange.*

THE QUESTION EDITOR.

Questions Answered On All Subjects.

Those wishing a confidential reply should enclose a stamped, self addressed envelope.

Dear Ed.—How long should I work on my Physics every night?

G. C. K.

Well, George, the idea is not to study, but to sit next to some one who has.

Dear Ed.—Could you tell me if strychnine is effective in stopping heart ailments? Noah.

Yes, if taken in sufficient quantities.

Dear Ed.—I am thinking of getting married. What kind of a woman would you suggest that I choose for my wife? E. W. P.

You had better choose the first one that is willing, but if you have any choice, one on the order of Venus would be safe, as she would have no arms and could not throw the furniture at you.

Jeff.—No, Jeff, Aristotle was not the king of Ireland.

Dear Ed.—I am in very bad with the Shifters. What can I do to mend my error? Spence.

Nothing at all, Spence, your doom is sealed.

Schommer—I can't think of any way to keep peace in the lab with a bunch like Mac, Baker, Herbst, Davis, Holecek and Gil.

Dear Ed.—Is not basketball the most strenuous of all games?

Otto K.

I should say not; physics lab is.

Des.—No Bill, neither Chance nor Evers went to Armour. Charlie is Armour's best as far as athletic prowess and physical perfection goes.



THEY ARE NOT BLOODHOUNDS

THE DEATH OF SIMON LE GREE.

"Fireman! Save my cheeild," she cried,
As the waiter brought the soup.
Out on the stern and rock bound coast,
The walrus looped the loop.
But father could not go that night,
As grandma had the croup.

It was midnight on the ocean,
Not a street car was in sight.
The sun was shining brightly,
And it rained all day that night.

It was on a summer night in winter,
The rain was snowing fast.
A barefoot boy with shoes on,
Was sitting on the grass.

It was evening, and the rising sun,
Was setting in the west.
And the little fishes in the trees,
Were huddling in their nest.

The rain was pouring down,
The moon was shining bright,
And everything that you could see,
Was hidden out of sight.

While the organ peeled potatoes,
Lard was rendered by the choir.
While the sexton rung the dish rag,
Some one set the church on fire.

"Holy smoke!" the preacher shouted,
In the rain he lost his hair.
Now his head resembles Heaven,
For there is no parting there.

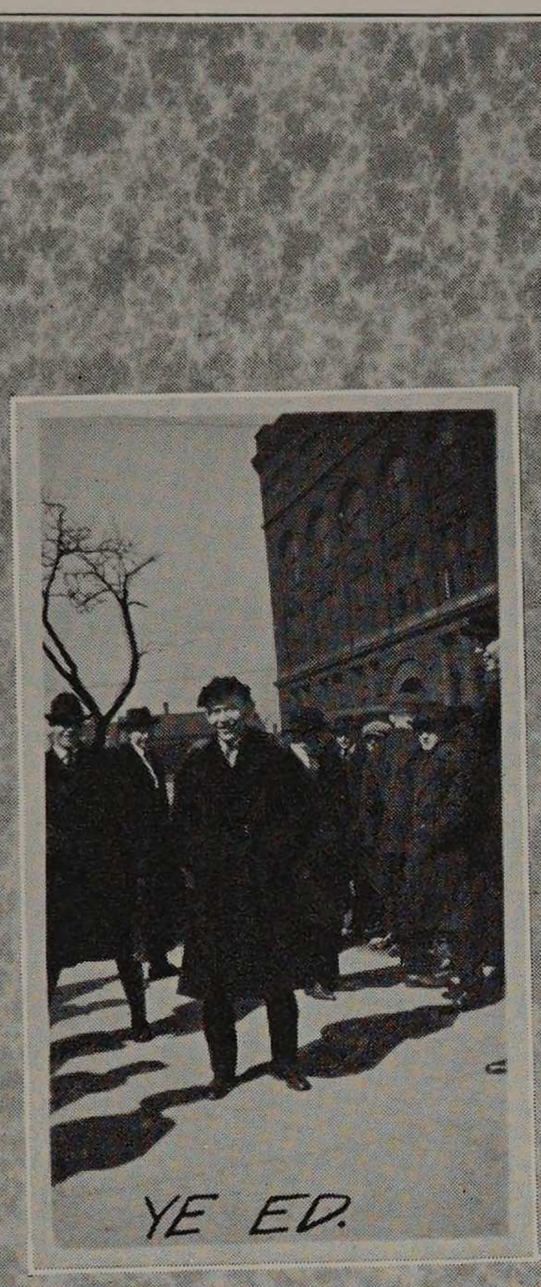
THE HYDROXY—HYDROXIDE PRECIPITATION OF TIN FROM GELATIN.

The only evidence we have of the presence of tin in gelatin lies in the name itself. The first part of the name probably comes from the Greek word gelan which means "to laugh". The latter part, which is tin itself leads us to conclude that gelatin is tin which makes us laugh which is in certain aspects an appropriate name. With this conclusive evidence of its presence in gelatin it remains to derive a procedure for its precipitation by the hydroxy-hydroxide method.

Since tin is a compound composed of the elements nitrogen and sulphur, which is readily seen from the formula S-n, it is evident that we must obtain the nitrogen and sulphur which are present in the gelatin in forms, such that they will readily combine. In the process of hydrolysis of gelatin we find that amino-acids are formed, of which the amino-acetic is formed in the largest amounts. The amino-acetic acid on treatment with nitrous acid gives the reaction characteristic of all primary amines, which in this case liberates nitrogen with the formation of methyl alcohol. The free nitrogen is then heated in a vacuum with the element argon resulting in the formation of the solid nitrogen argide which has the formula Na, better known as sodium. The sodium is very active and with the addition of water, sodium hydroxide is formed.

Turning to the methyl alcohol we first convert it into ethane by the Grignyard reaction and then burn it to elementary carbon. The elementary carbon so formed is very inactive and it is first dissolved in water. The solution of carbon is slowly brought to a point of supersaturation before the carbon is reprecipitated. The precipitation is brought about by the addition of several diamonds which are thrown into the solution. This is in compliance with the fact that solids separate out very rapidly from a supersaturated solution if at least one crystal is present. The carbon in this form is exceedingly active and combines readily with the sulphur, which is present in the gelatin, with the formation of Cs at a temperature of about —272.9° C. The Cs is then brought in contact with pure Ca with the result that the carbon precipitates. This precipitation is brought about by the Wurtz reaction on the passing of an electric current between two carbon electrodes. With the depostion of the carbon we have in the solution a substance with the formula As or arsenic. The arsenic is treated with the alpha hydroxy-hydroxide of platinum and a compound of the formula H-O-H-O-As is formed. This compound assumes the valence of hydrogen as two but at the present time very few doubt its existence.

This hydroxide of arsenic is brought together with the sodium hydroxide and AsNa results with the loss of water and oxygen. When this is heated in a bomb at a temperature of about 1000° C. with very dilute denatured alcohol the molecule of argon A_2, is dissolved out with precipitation of Sn or Tin.



YE ED.



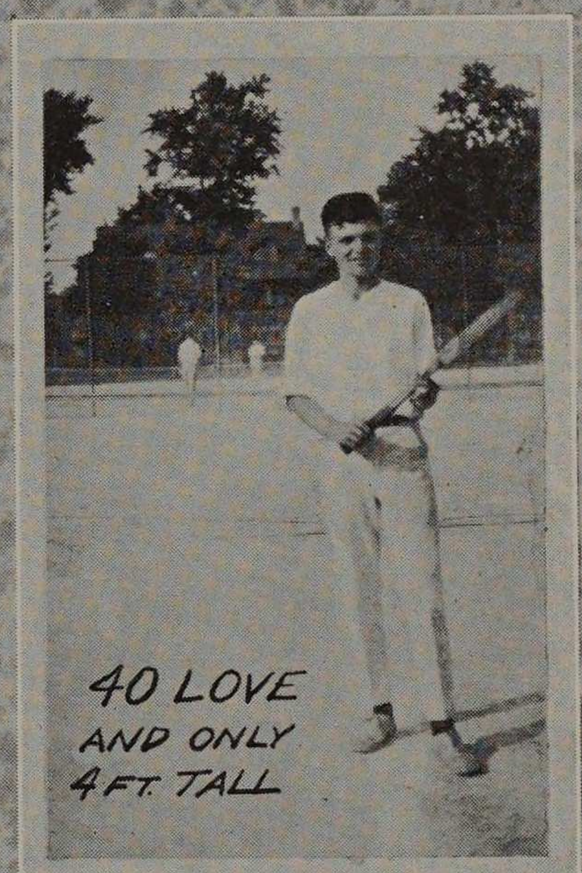
WHAT DO YOU SEE MAC?



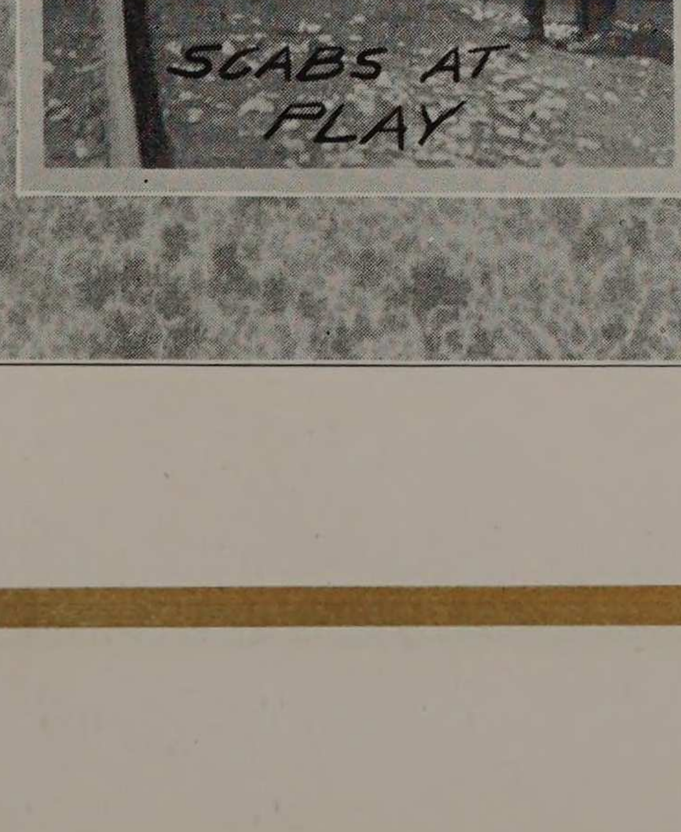
LIFE'S BIG JOKES



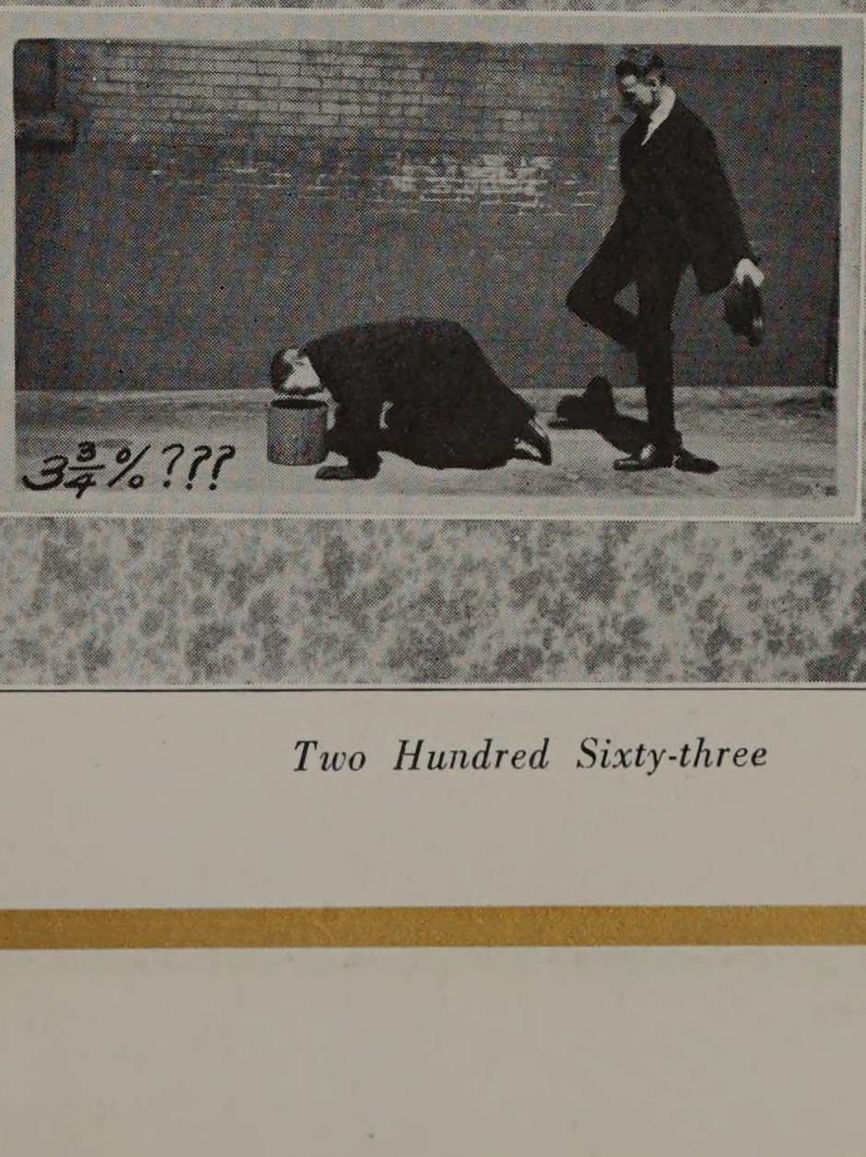
OH! GIRLS!



40 LOVE
AND ONLY
4 FT. TALL



SCABS AT
PLAY



$3\frac{3}{4}\%$???

FRATS

A frat is an organization of which each member admits that he is the best fellow on earth, and that his frat brothers are the next best fellows on earth. All outside of his frat are absolutely nil. The word frat comes from the English "fraternity" which is simply the American term with a few useless letters added on. The English word in turn comes from the Latin; but almost all frats are Greek letter frats, so that all this business sounds good, but doesn't mean anything. A frat is composed of active, and charter members, and a few hapless individuals called pledges. A charter member is the best fellow on earth, although he is the only one who would admit it, so that he started a frat of his own. An active member is a student who has joined a fraternity, and so far has been lucky enough not to be kicked out of school. A pledge is a poor bloke who is privileged to do all the dirty work for the actives until such a time as they deem him one of the best fellows on earth, at which time they will do their best to maim him for life, and failing in this, will make him an active. The process of maiming is called initiation.

Now there are eleven frats, and so called frats, at Armour. In case any of the readers be tempted to join any of these outfits, they will do well to read the dope published below.

PHI KAPPA SIGMA

The Phi Kaps owe their existence to John Schommer, the faculty member. John's influence with the alderman of the second ward keeps the chapter together, as he has them freed from all of their sentences. This keeps the chapter together, as they would be sent to different prisons, and the chapter thus split up. To join the Phi Kaps you must be able to prove that you have accomplished a crime of the magnitude of arson, or murder. The murder of a top sergeant will not count, however, as there were two or three in this outfit who have not been murdered as yet. The Phi Kaps have two rules which are very poor. They are:

1. Members are not allowed to commit murder within the chapter.
2. Members must return all goods which they are caught purloining from brother members.

These are bad points, of course, but the many goods points overbalance these.

This frat contains such notables as: String Bean Zingheim, the noble baseball captain; Sgt. Geisler of S. A. T. C. fame, who attains double distinction by piloting the Glee Club to financial ruin, and by wearing a misplaced eyebrow on his upper lip.

DELTA TAU DELTA

The Delts used to be the social lions at Armour, but since Al Davis drank out of his finger bowl at a banquet, the chapter has rapidly declined. The Delts have pink teas every Tuesday and Thursday afternoon at 4 bells. Here you may meet all of the members except Reggie Maguire and Gus Wells, who are not allowed to attend, the former because he persists in spitting tobacco juice on the wall paper, and the latter because he giggles when Woods sings his soprano solo. One may also find Bradley, Gray, and Stantial dancing on a dime apiece at the Armour dances. A Delt pledge used to make a good living selling the empty bottles at one cent a piece, but since prohibition, the members have taken to drinking vanilla extract and Green River. The bottles of the former are valueless, and the latter is usually

gotten at the drug store, so that the bottle business is no more. The Delts have the distinction of possessing the biggest Nutt in school. The Delts also have such notables as: Woods and Rowe, the Mutt and Jeff of A. I. T.; Pfafflin, who admits that Apollo was ugly and misshapen compared with him; and Bradley, who, although he would rather study than go to a dance, curbs his desires, and does otherwise.

OMEGA LAMBDA

It is a very bad plan to join the Omega Lambda fraternity just now, all because of one member. This member is Marcey Dowse, who utilizes his enormous bulk and brute strength to chastise and maim his fellow members. Dowse seems to become enraged at very small matters; it is said that he threw the grand piano at Peterson, and hurled little John Thompson through a window, just because these two called him Dowse, instead of Mr. Dowse, as he deemed a Senior should be called. Dowse also hit Bill Kingsley over the head with a chair for spilling his water at the table. Of course Bill's head was not hurt, but both of his ankles were sprained, so that he was out of school for over a week. These are not the only ones whom Dowse has manhandled, as every night or so he cripples three or four of his frat brothers. However there are a few such notables as: Thompson, the Mellin's food boy; Webster, the amateur minister; Peterson, the honored Junior class president; Kingsley, the hard working F. P.; and Brueckner, who got 72 vegetable bouquets at last year's Junior play. Any one who is thinking of joining this outfit had better wait until next year, when Dowse will have graduated, and life will once more be free from the danger of personal injury, for all of the members .

SIGMA KAPPA DELTA

The Sigma Kappa Delta is certainly an awful frat to belong to. In the first place the members are not allowed out alone after dark. In the second place, they must have a chaperon when they visit a young lady. These are protective measures—not for the members, but for others. The members are not allowed out alone after dark because the Deans dislike the idea of the students earning their living with a black jack. Chaperons are required because most of the S. K. D.'s forget that they are visiting, and return home with the young lady's jewelry and usually the family silver. Often they are not suspected, but when they are there is sometimes trouble, as some of the people want their valuables returned. Consequently this frat has its official chaperons. The official chaperons used to be Doolittle and Savoye Herbst and Herbst, and Corydon and Hagen. However Savoye resigned his position because Kirkhuff would not let him carry home a library table which he had won from Doolittle in a crap game. Savoye and Doolittle were chaperoning Kirkhuff at a young ladies' residence near 65th street and Normal avenue. Kirkhuff based his refusal on the fact that the chaperons were not tending to duty, but were gambling. Savoye replied that Kirkhuff had gotten them into the game, and then gone into the other room with the young lady. However after this hearing Savoye resigned, and Doolittle was canned. The Herbst brothers were also canned, as they always got into fights over who was to pay the carfare home, and many times broke furniture and windows in their arguments. Some people considered this an annoyance, so that the Herbsts were given the gate by request. There are now only Corydon and Hagen as chaperons, as none were appointed to take the place of the others. Consequently only one S. K. D. can go out each night, which is certainly a terrible condition.

There are a few notables in this outfit: Jeff Corydon, who did his best to run this year's Cycle into debt; Jimmy Watt, who discovered that molecules divided by electrons gives the number of amperes in a volt; Seaberg, who makes away with the Junior class dues; and the Herbst brothers, Mike and Ike, who are sometimes friends, even though brothers.

BETA PHI

Beta Phi consists of a bunch of loafers who spend their time as freshmen in shooting baskets up in Charlie's emporium instead of copying the details of nuts and bolts from the fellow next to them in Prof. Reid's sanctum, as they should have done. They were the same way with all of their subjects, always flunking everything but gym at least once.

Beta Phi has a house, but a very few of the members have ever been in it, as they all spend all of their time over at the Chicago College of Physical Education, where most of them are known well enough to sponge two or three meals a day. All of the rest at least keep the living room chairs in place, each one with the assistance of a fair student of the C. C. P. E., who also assists in keeping her Beta Phi friend in the chair. If you are not willing to flunk all of your subjects, and spend all of your time at the C. C. P. E., you had better steer clear of this outfit. The notables in this gang are mostly athletes, Mexican and otherwise.

RHO DELTA RHO

This bunch consists of a gang of misfits who always come into all of the basketball games before the ticket collector gets there. However, the fame of this outfit is due to its initiations, which are terrible ordeals lasting eleven days. During this time those being initiated are not allowed to eat, sleep, or rest. After the eleven days are over, the victims run a race to Oak Park and back, the winner being rewarded with the privilege to sleep for half an hour on the horizontal bar in the gym, after which he may break his fast with a copper plated linoleum pancake. Anyone who thinks that they can go through with the initiation is privileged to join. There is nothing to this frat but the pin and the initiation, so that anyone is safe in joining.

THE OHR

The Ohr is a half baked frat, which means that the deans think that it is not a frat, while the members think that it is. It is a pretty good idea to join the Ohr, as almost all of the members own hock shops where you can pick up some good things cheap, if you are a member. Most of this outfit admit that they are intellectual, but they have kept it such a secret that nobody else knows it. The worst thing about the Ohr is that the pledges are not allowed to talk to their girls. The notables in this bunch are: Newman and Maranz, who made last year's Cycle what it was; and Carl Unger, who blows a wicked sax.

TAU BETA PI

Tau Beta Pi is an honorary frat, which means that all of the members have gotten marks of A, or lower, during their career at Armour. The chapter consists of a long string of intellectual profs, and a few students, who admit that they are the cream of the school as far as brains go. The only requirements for admission are that you have a pair of tortoise shell-rimmed glasses in order to look intellectual, and that you are able to work all of the problems on page 869 in Campbell's Calculus, which would prove that you were intellectual.

PHI LAMBDA UPSILON

This chapter of Phi Lambda Upsilon was started last year by a bunch of Chemicals who admitted that they had the world by the throat, and started an honorary frat to prove it. The members of this frat are the social elite of the school, as they have access to the alcohol supply in the chem lab storeroom. It would be a wise move for everyone either to join this frat, or to cultivate the friendship of one of the members. The members of Phi Lambda Upsilon must be able to produce all of the bad odors in the Chemical dictionary, and to dissolve a suit of clothes at a moment's notice.

ETA KAPPA NU.

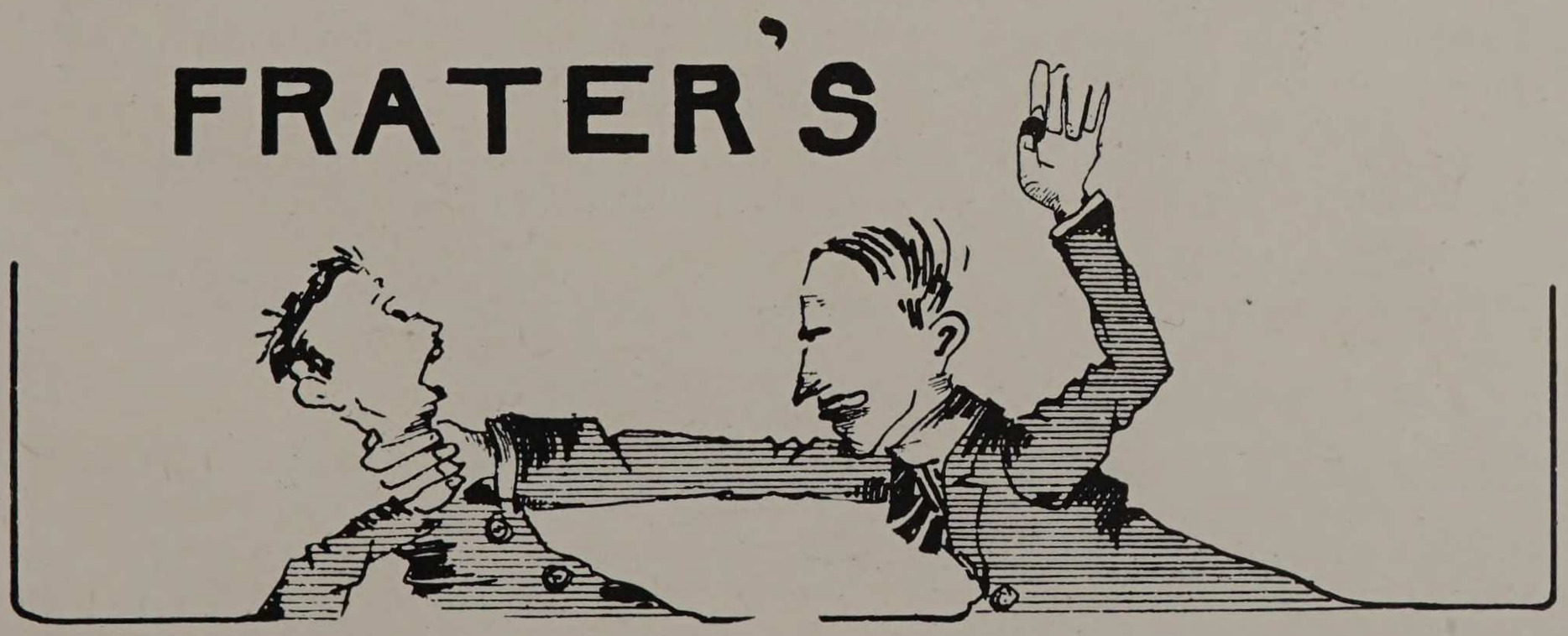
Eta Kappa Nu is open to all students in the Electrical course who stand in the lower one-tenth of their class. The members must also have flunked calculus at least twice. Eta Kappa Nu consists of a gang of freaks who roam around the Institute with crystal detectors, looking in all the corners for stray volts and amperes.

This frat has only three faculty members, as Profs. Freeman, Snow, and Stryker were the only members of the faculty reckless enough to tie up to such an outfit.

SCARAB.

The Scarab is an honorary Architectural frat open to all of the Architects who know all of the vaudeville acts which have appeared in Chicago for the past year. The members must all be enemies of the engineering students, and must also be at outs with the engineering profs.

With this data every student should be able to pick the frat best suited to him.



CAN YOU PASS ALL OF YOUR FINAL EXAMINATIONS?

If not, let me tutor you. I will make you pass. All of my pupils pass. Most of the pupils who do pass are my pupils. I will tutor you in the following subjects:

Physics	History	Economics
Kinematics	Chemistry	Psychology
English	Electricity	Elementary Machine Drawing
Mathematics	Mechanics	
Hydromechanics	Thermodynamics	

If you can pass examinations in all these subjects, you do not need my help but—

Can You Answer These Questions Given in Last Year's Final Exam in Botany?

1. If it takes a Persian elephant, 408 years old, 17 years, 3 months, 26 days, 9 hours, and 20 minutes to translate the bible in Sanskrit, how long would it take an Arabian camel, 22 years old, with a hair lip, and a 31 inch tail, to cross the Rocky mountains on roller skates in rainy weather?

2. Give a complete proof of Einstein's theory.

3. If it takes a colony of ants 743 years to build a mountain out of sand, what is the coefficient of rigidity of the Rush Street bridge?

4. Using the laws of Boyle and Charles, calculate the date of the next total eclipse of the moon.

5. If it takes four railroad hands on a hand car 7 hours and 16 minutes to get to work, what is the total number of spherical calories given off by the evaporation of 1 quart of radium sulphate?

6. If the Gulf of Mexico is 2.732 miles deep 46 miles due south of Galveston, what is the velocity of the Beta rays given off by actinium at 8° centigrade?

7. What would be the centrifugal force exerted by a bushel of electrons on the end of a piece of transatlantic cable, 2.34753 meters long, with a mean velocity of 762 electrical degrees per second?

8. What is the I^2R drop across the terminals of a shunt wound, 120 K. W. motor, containing limburger cheese laminations?

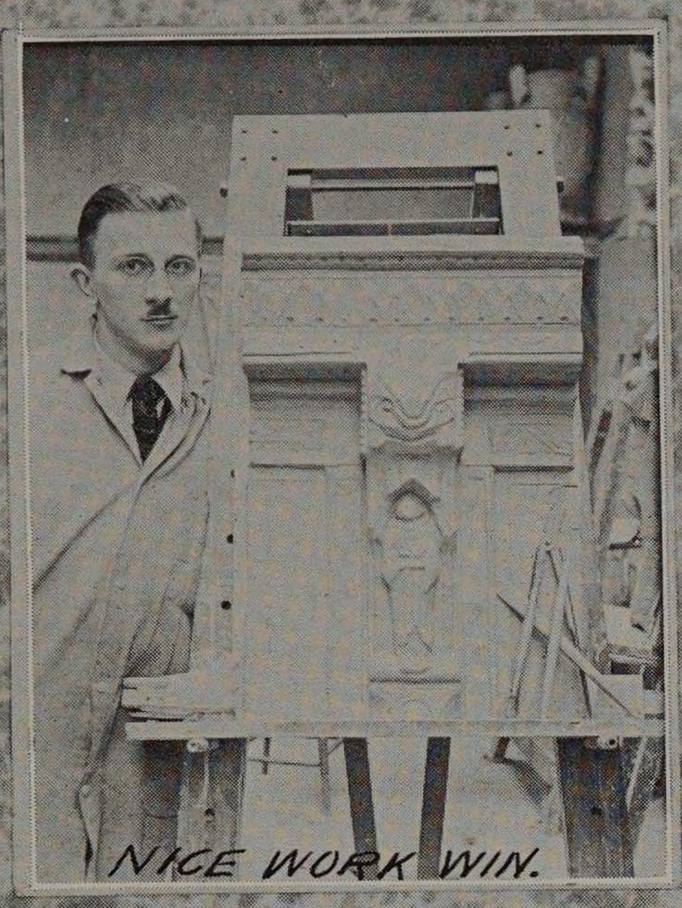
If you cannot answer all of these questions, you probably cannot answer the questions given in any of your final examinations. Be safe, and let me tutor you. Then you are sure to pass.

SEE ME TODAY! TO DELAY IS TO FLUNK!

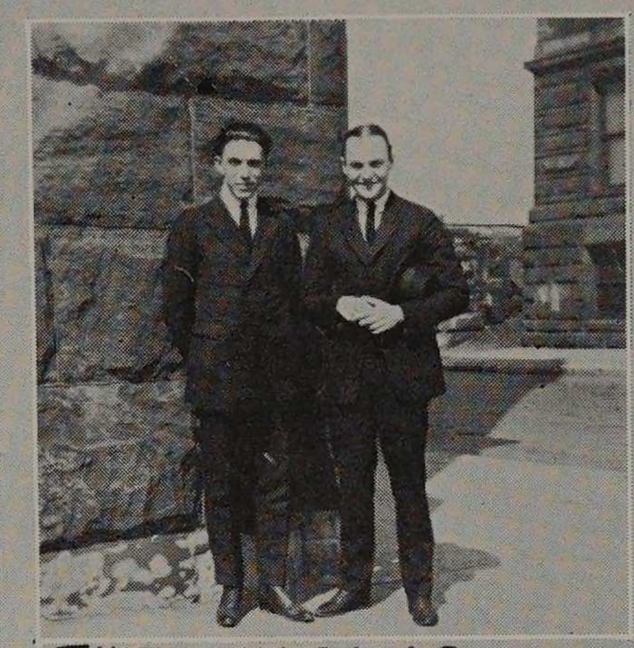
DR. BARNEY WOODS, B. S., M. S., Ph. D.

Room 906, ninth floor, Armour Institute of Tech. Chicago, Ill.

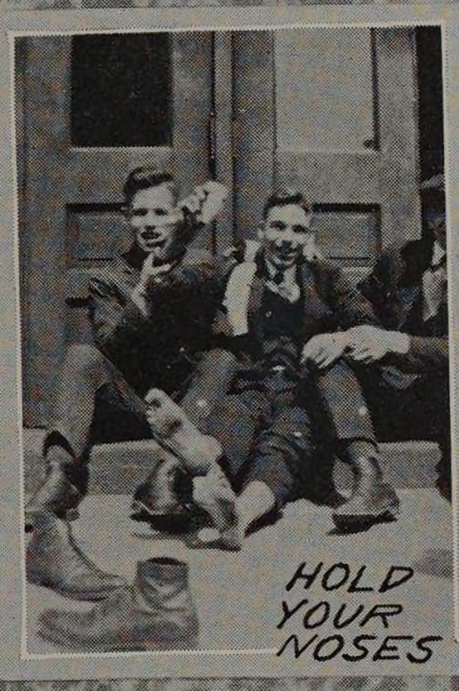
Telephone—(See telephone book)



NICE WORK WIN.



THIS WAY GIRLS



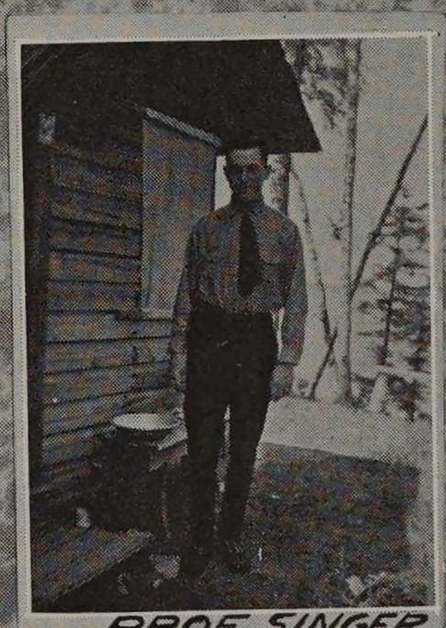
HOLD YOUR NOSES



HAVN'T GROWN UP



THEY SURE NEED LIGHT



PROF. SINGER



A FEW OF THE NUTS



AT THEIR PROFESSION

STALLING

GRAPE NUTS! THERE'S A REASON.

Spence took her rowing on the lake,
She said she'd go no more;
I asked her why. She said to me,
"He only hugged the shore."

Kingsley had a big Tom cat,
It warbled like Caruso.
Dutch Roddick swung a baseball bat,
Now Thomas doesn't do so.

Old King Cole is a sad old soul,
His pipe is taboo, and so is his bowl.
His fiddlers have struck for a raise
in pay,
Shorter fiddles, and a three hour day.

C_2H_5OH.

Whatever else may happen
Now that our country's dry,
The sailor still will have his port,
The farmer have his rye;
The cotton still will have its gin,
The seacoast still its bar,
And each of us will have a bier,
No matter where we are.

Few women attend foreign universities. In Italy one student out of seven is a woman; in Germany the ratio is one out of nine and in France one out of ten. In Armour Institute one out of 650.

Mac: "Have you ever done any public speaking, Bill?"

Kingsley: "Well, once I proposed to a girl over the telephone in Cascade."



Prof.: "I think I am safe in saying that there isn't a man in this class who has ever done anything to save our forests."

Gil.: "Well, I've shot woodpeckers."

DR. B. Z. NOWAKOWSKI, B. A., M. A., LL. D., Ph. D., N. U. T.

Private instruction in
PHILOSOPHY and CLASSIC LITERATURE

Office, 8th floor, Armour Institute.

Noah: "I've worked on this play for over two years, and I want your honest opinion about it."

Gray: "All work and no play, old dear."

Kelley: "Do you like codfish balls?"

Kenrick: "I don't know, I never attended one."

Noah: "Do you like girls with blue eyes?"

Little: "No, I like girls with green backs."



Prof. C.: "How would the electric lines, where the rails are welded together, take care of the expansion in these rails?"

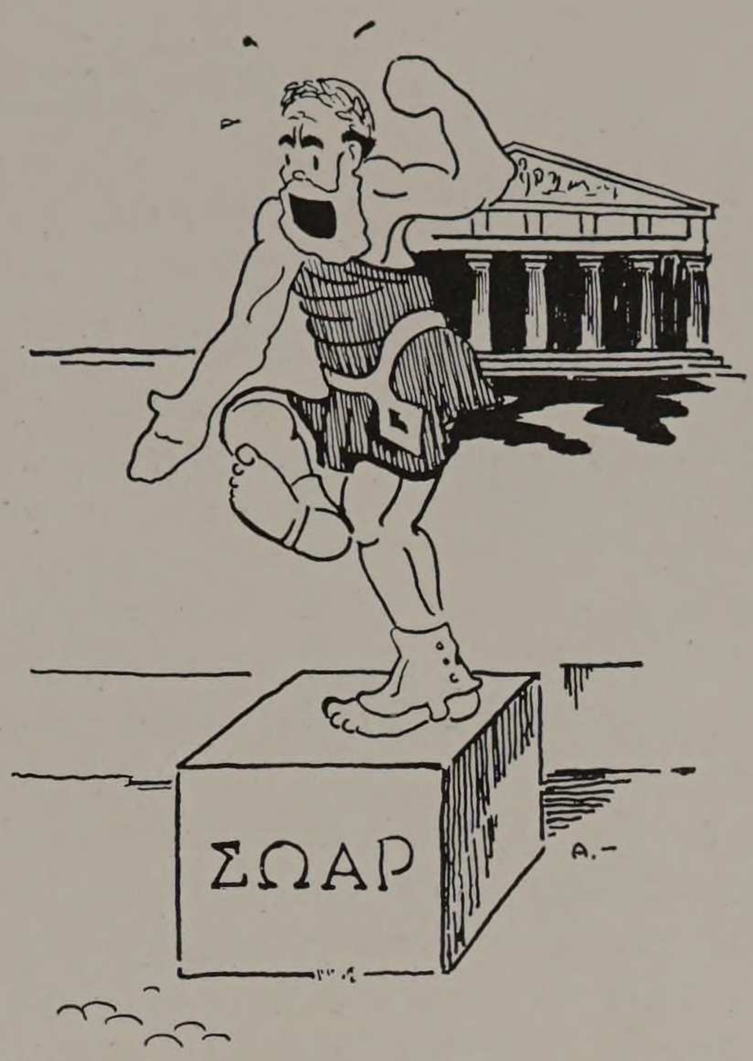
Voice from the rear: "Have a vacant lot at the end of the line."

We all agree that this is a practical suggestion.

Prof. C.: "Mr. Herbst, how would you correct the sentence, 'That's a peach of an auto you've got there?'"

Herbst: "I would change it to read, 'That's a nifty boat you're dragging around with you.'"

Herbst explains that his correction is based on the fact that 'peach' is archaic slang.



Prof. M. says, "Zeno said that all Greeks were liars. But Zeno (not the chewing gum magnate) was a Greek." What can you deduce from these statements? If you get the correct answer without outside information the Institute will confer the honorary degree of R. S. V. P. upon you at the next commencement.

Prof. C.: "How do you explain the phenomenon of super-cooling of liquids?"

Herbst: "Well, the solution is cooling so fast that it can't stop itself before it goes below the freezing point, and then it goes back and freezes."

We move that Herbst be made a full professor in the department of Natural Phenomena.

Prof. W. (demonstrating a proposition): "Well now, here's where the joke comes in."

Door opens and Bose walks in.

THE ARMOUR JUNIORUM

EXTRA EDITION MAY 3, 1921 PRICE 5/8 CENT

Junior Circus

It may be of interest to the students of Armour Institute and the world at large to know that the dandy little class of 1921 is completing plans for one of the greatest philanthropic undertakings which has ever before been attempted. This is none other than the erection of a magnificent home for the students of Armour Institute who have been rendered aged and decrepit by the untiring efforts of our bitter enemies, the profs. This home is to be situated five miles due east of Chicago, on a site donated by Uncle Sam, and will be built at an approximate cost of $14,000,000,003.62.

In order to meet the enormous expense of this enterprise, a circus will be held at Ogden Field on one of the latter days of Junior week. The greatest aggregation of talent ever gathered in Christendom has been induced to perform (on credit) at this occasion. This collection of artists had at previous times performed before all the crowned heads of Europe, the bone-heads of Colona, Michigan, and the deadheads of the Pere Marquette Rail-road. The program as far as Manager Lowe has been able to prognosticate, will be as follows:—subject to police interference:

The first spasm will be a dazzling, aerial, tightrope act by our scrappy little short stop, Tommy Rowe. He will attempt to balance himself on his left ear while smoking a cigarette and at the same time work out a problem in Calculus assigned by "Doc" Campbell.

The next number will be a song and dance by the celebrated human Siamese twins, Emil Pfafflin and E. F. Winter. They will give a demonstration of how the tango should not be done, illustrating the intricacies of the subway glide, the loop the loop, and the broken hip.

To add variation to the program, the Russian nobleman, Ignatz Mammes will dive from a platform 300 feet in the air, into a sausage, without breaking the skin, showing what wonderful results can be accomplished when a man uses his head.

For a musical number, we are pleased to announce that we have engaged I. Yamamoto from the land of the Sun. In this act alone he uses $50,000 worth of clothing, and a diamond rated at ninety horsepower.

The audience will now be aroused from their slumbers to gaze upon an act which has been put upon the program in the interest of science. It will demonstrate Prof. Wilcox's theory that the impact stresses set up in a ball of concrete when it strikes the ground from a 30 foot fall are insufficient to rupture the concrete. Jimmy Watt will leap from the roof of the "Beanery," make forty revolutions and a pirouette in mid air, and land on his head.

As a fitting finale and an eloquent tribute to the purpose of the undertaking, math professors Campbell, Miser, Phalen and Palmer will be led out in chains and thrown into a cage of hungry lions, borrowed from Lincoln Park for the occasion. By special request of Prof. Swineford's descriptive geometry class, he also will be numbered among the victims.

The advance sale of the tickets already numbers 40,000, which would seem to indicate that the affair will be a stupendous success. Let us all write in this common cause for the relief and succor of our afflicted brothers. Amen.

Charlie: "What would be the first thing that you would do if I gave you $10?

Kuehn: "Count it."

Rupprecht: "That analysis adds up to more than 100%."

Prof. C. (After adding up column): "No, that's correct."

Rupprecht: "Why, the B. T. U. alone is way more than 100."

Prof. P.: "Where is the crest of the weir?"

Gerstein: "The crest is the bottom edge of that three sided rectangle."

THE SPENDTHRIFT.

C. A. H.: "Gimme a dime, Hointz."

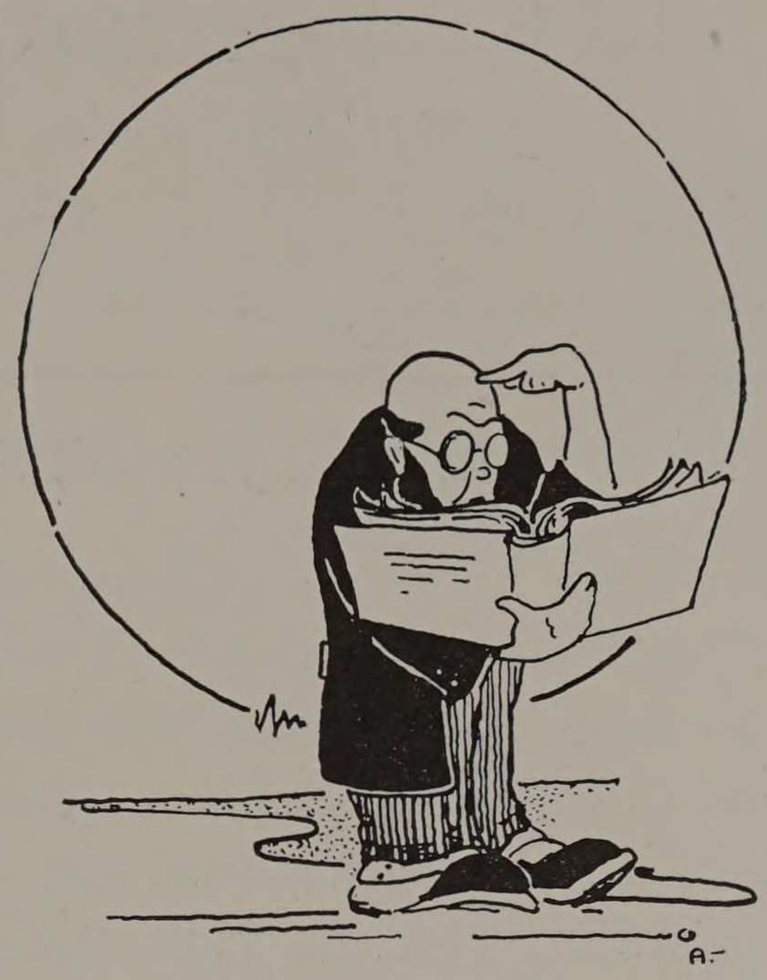
H. W. H.: "Give you a dime? How do you get that way? Didn't I give you a dime last Tuesday?"



AT THE A. S. M. E. SMOKER.

Prof. P. (Watching Doolittle play billiards): "Doolittle, did you learn to play billiards that way during Junior Drawing?"

Doolittle: "Sure. Don't you think that I learned something in that course?"



Disraeli was much troubled by literary aspirants sending him their books to read. The formula which he adopted in acknowledging the receipt of these books was:

"Dear Sir (or Madam):

I am much obliged for your book, which I shall lose no time in reading."

Some of the profs at Armour seem to have the same idea regarding exams, themes, etc., but none of them have sent out notes as yet.

It is said that a lively new pupil at a seminary asked the preceptress for permission to go out driving with a gentleman, one day.

"You know the regulations of the institution?" asked the preceptress. "Is he your father?"

"No."

"Is he your brother?"

"No."

"Are you engaged to him?"

"No, but I expect to be before I get back."

The preceptress is still unconscious.

PROFESSOR FRANK J. BURSIK

Expert Instruction In Three Cushion and Balkline.

BILLIARDS

Instructions in Y rooms daily. Reasonable rates.

READ HOW THE JUNIOR PROM AFFECTED ONE PATRON.

DEAR BILL:

Ahhhhh! and a couple of more ahs. This was the bee's knees, etc. You couldn't guess where this one was staged. Where? Why what the ————! I should say not. Corner of Seventh and Michigan, otherwise recognized as the Blackstone, oui, oui. And did she like it? I'm not sayin' a word lad. This was THE dance of THE year, and it made me so reckless that I nearly gave away the new Wrigley Building, before I realized that I had already donated the Drake Hotel, Masonic Temple, and a few more of my suddenly acquired possessions to the founding of a Home for Starving Fleas and Feeble Microbes, if you know what I mean.

As Noah Webster didn't say, "A polished floor, a knockout orchestra, and thou." All that you had to bring was the "thou," the rest was there.

Robert Reginald Maguire, otherwise known as "Lightning," "Speed," and "T. N. T.," was the goat. I say the goat because to run this dance with all its this and thats one had to be the goat from start to finish. Therefore be it resolved that Robert Reginald Maguire, a student of the Armour Institute of Technology, be dubbed Knight of the Taffy Covered Ingersol, and be presented with the cast iron earmuffs, "as a token of our esteem." Oh, gosh! I just remembered. I still owe somebody nearly five smackers because of this hop. In spring a young man's fancy turns to ————. Oh, anyway, to make a short story long, it all happened on the 6th of May. Had a double orchestra, and stayed till one. I mean the dance y'understand. Well it's almost time I were turning in so I'm afraid I will have to close for the time being. With love to all,

Sincerely,

AL.

P. S. Hope you are all well and will expect to hear from you soon.

CORYDON, WETHERBEE, LOWE & CO., Ltd.

DITCHING ENGINEERS

Cuts Arranged On Short Notice.


Say
ON THE FARM?
Fellows
How
and
where
did
you
spend
the summer
THIS IS A PIANO
OR DID YOU STUDY MUSIC?
WHAT IS IT?
WAS SHE THERE?
DID YOU ATTEND EVENING SCHOOL?
STUDY ASTRONOMY?
DID YOU TRAVEL?
ARE YOU BACK ON THE JOB?
YIP

PAROXYSMS SPASMS CONVULSIONS

GLOOMY REFLECTIONS.

Did you ever stop to think as the hearse rolls by,
That sooner or later both you and I
Will travel along in the selfsame hack,
With never a worry about coming back?

They'll lift you out and they'll lower you down,
The men with shovels will stand all around;
They'll throw in some dirt and they'll throw in some rocks,
And it will fall with a thump on your old pine box.

The worms crawl out and the worms crawl in,
They'll crawl all over your mouth and chin;
They'll call in their friends and their friends' friends, too,
And you'll look like the devil when they get through.

WHAT IS IT?
HOW DO YOU KNOW IT?
WHAT OF IT?

Any old fish
can
swim
down
stream
But—
stream.
up
swim
to
It takes a *live one*

Herbst: "I don't understand that proof in the book."

Prof. M.: "Well now, everyone watch the board carefully and I'll run through it for you."

Gil.: I don't think Prof. Paul should have given me a zero in that exam."

Bake: "I don't either, but he doesn't give any lower marks than that."

COPIED RIGHT.

The other day my girl
Showed me a picture of
An Arrow Collar man
Kissing
A Harrison Fisher girl.
And down in the corner
It said "COPYRIGHT."
While
I may not be an
Arrow Collar man
I can take a hint.

LIQUOR JOKES—The only kind that have spirit in them.

MORE HOME HINTS.

To Stop Cooking Odors—Apply coat of rubber to stove.

To Remove Grass Stains From White Dress—Wear a green dress hereafter.

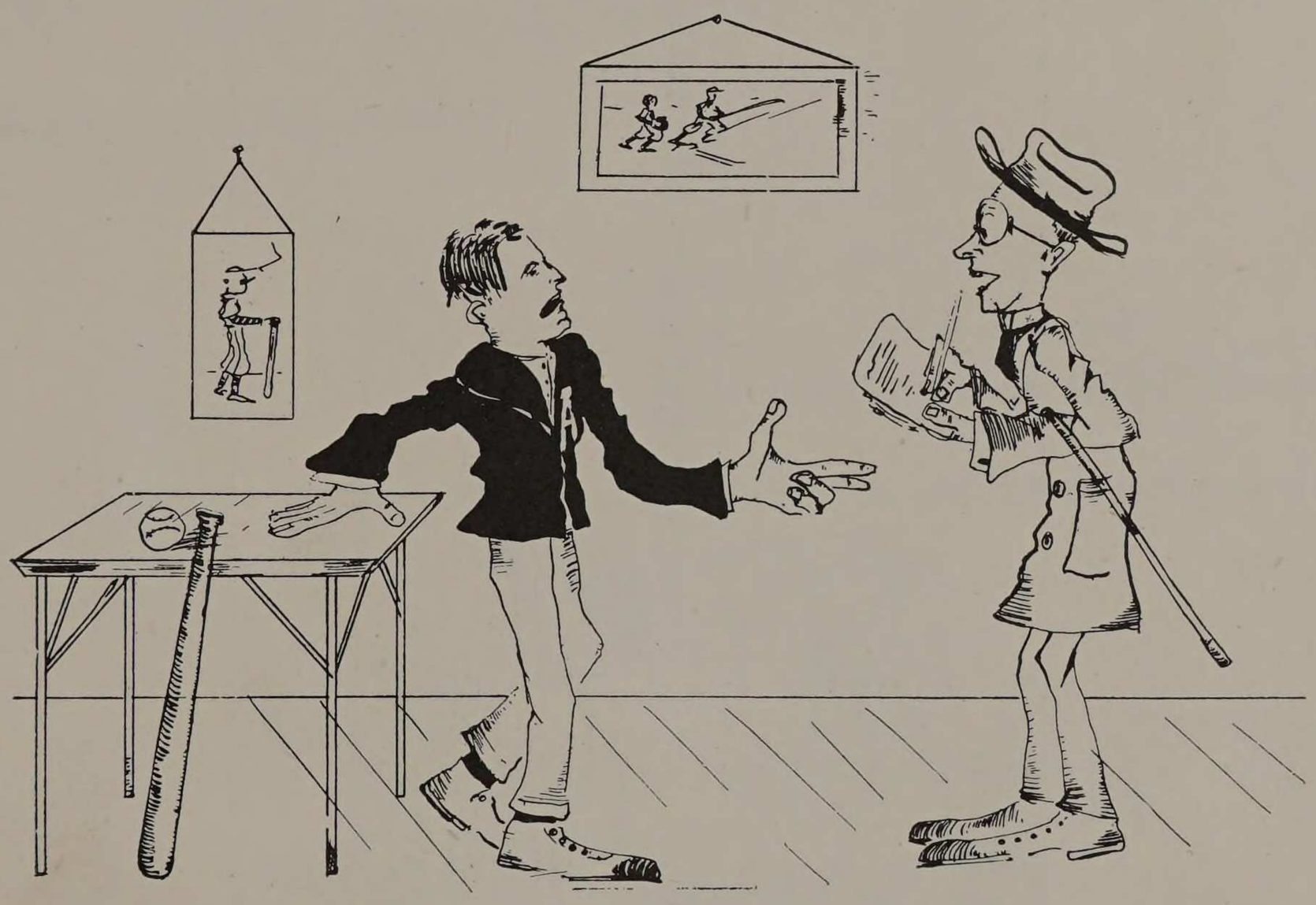
A DITTY ENTITLED:

The only rings I ever gave her were the rings beneath her eyes.

Here's to the happiest days of my life,
Spent in the arms of another man's wife—*My Mother.*

GOLLY!

There was a young maiden named Polly,
Who tried to catch up with a trolley.
Her skirt was too tight,
And not being light,
She sat down rather hard on her folly.



There's many a good thing lost by not asking for it—think it over.

It takes guts to start up a musical string factory.

FIRE PROTEC STUFF.

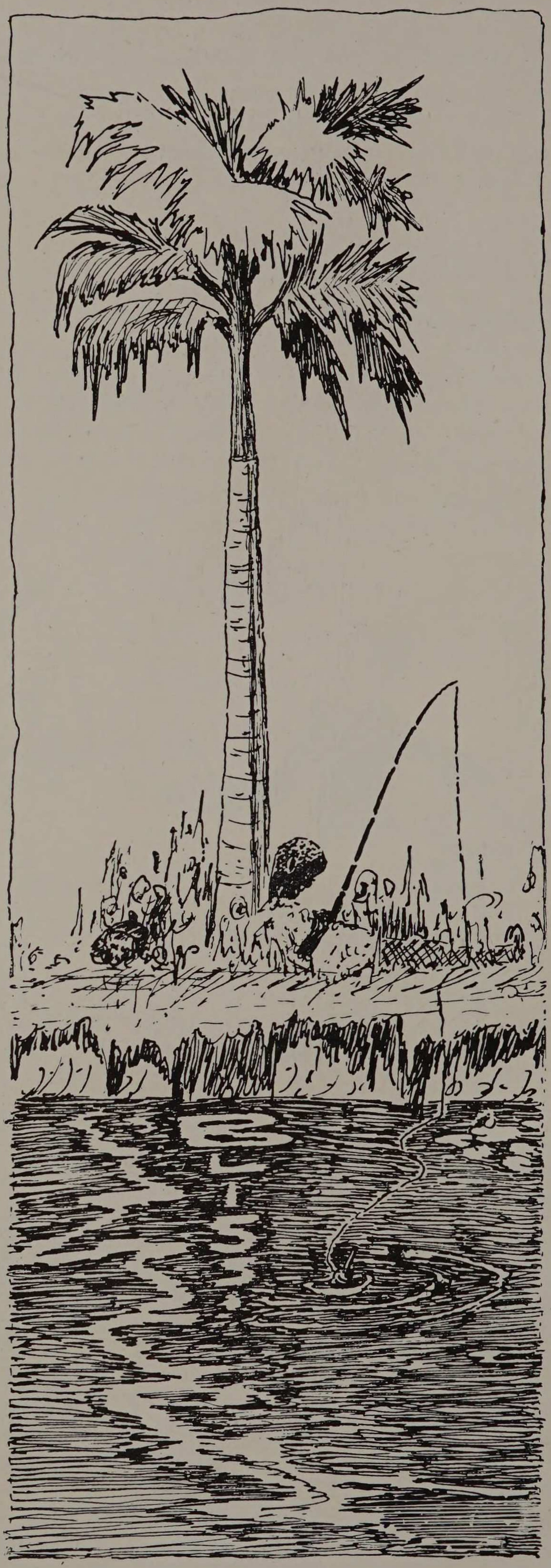
Prof. F.: "Late again, Geisler."
Geisler: "So am I."

Jokes, essays, and sermons should be like a woman's dress—short enough to keep up the interest but long enough to cover the subject. In other words, brevity is the soul of wit and the sole charm of a maiden's skirt.

Little says that a woman's first kiss might be laid to curiosity, and the second to misplaced confidence, but all the rest are just pure carelessness.

Prof. F.: "Mr. Bradley, name three articles containing starch."

Bradley: "Two cuffs and a collar."



Armour
Institute of Technology
Chicago

The College of Engineering Offers Courses in

Mechanical Engineering
Electrical Engineering
Civil Engineering
Chemical Engineering
Fire Protection Engineering
Architecture, and Industrial Arts

These courses are each four years in length and lead to the degree of Bachelor of Science

SUMMER SESSION

June 7 to August 5

First semester begins September 12, 1921

Completely Equipped Shops and Laboratories

The Institute Bulletins will be sent on application

Edward Longstreth Medal of Merit Awarded Republic Flow Meters Co.



THE FRANKLIN INSTITUTE
OF THE STATE OF PENNSYLVANIA, FOR THE PROMOTION OF THE MECHANIC ARTS,

Acting through its Committee on Science and the Arts,

has awarded

EDWARD LONGSTRETH MEDAL OF MERIT

TO

Jacob M. Spitzglass

For his invention of the Republic Flow Meter

In accordance with the Committee's Report, Numbered 2744 and dated January 5, 1921.

The Franklin Institute was founded in 1824, not only as an appropriate memorial to the name of Franklin, but as a means of con-t nuing for all time a work, which throughout his long life, he perhaps regarded as his best; namely, the discovery of physical and natural laws and their application to increase the well-being and comfort of mankind.

In the month of May, 1890, Edward Longstreth, Esq., of Philadelphia, retired member of the Baldwin Locomotive Works, founded the Edward Longstreth Medal of Merit for the encouragement of invention, and the recognition of meritorious work in science and the industrial arts.

The Republic Flow Meters Company takes this means of announcing to its many friends the award of the Edward Longstreth Medal of Merit to Mr. Jacob M. Spitzglass, the inventor of the Republic Flow Meter and a member of this organization.

This recognition comes to a man whose untiring efforts have been devoted to perfecting a scientifically correct method of fluid measurement.



REPUBLIC
FLOW METERS
COMPANY

2240 DIVERSEY BLVD.

CHICAGO



THIS ANNUAL

with many others was

Printed in the House

of Severinghaus

BECAUSE:

¶ We print hundreds of similar publications, all bearing the marks of careful, distinctive workmanship.

¶ The composition is uniform in design---the ads are planned, not merely set.

¶ The pictures are clean---clearly produced---and even in color.

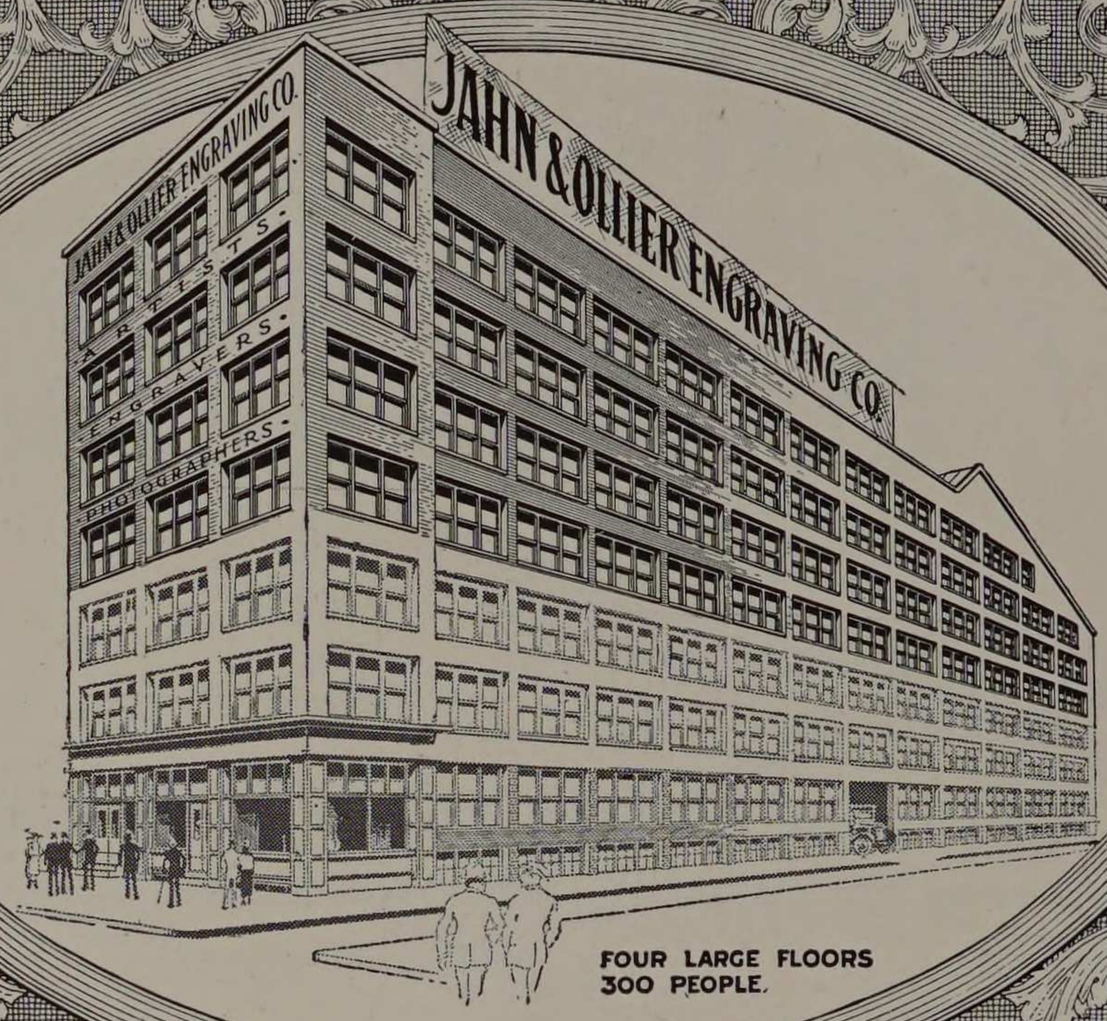
Colleges --- Manufacturers --- Merchants and Societies --- wanting High-grade Publications, Books or Catalogs in ENGLISH or GERMAN should consult our service department.

Severinghaus Printing Co.

Seeley 78 2141-61 Ogden Avenue

ESTABLISHED 1875 : : : : CHICAGO, ILL.

ALLIED PRINTING TRADES UNION LABEL COUNCIL CHICAGO 500



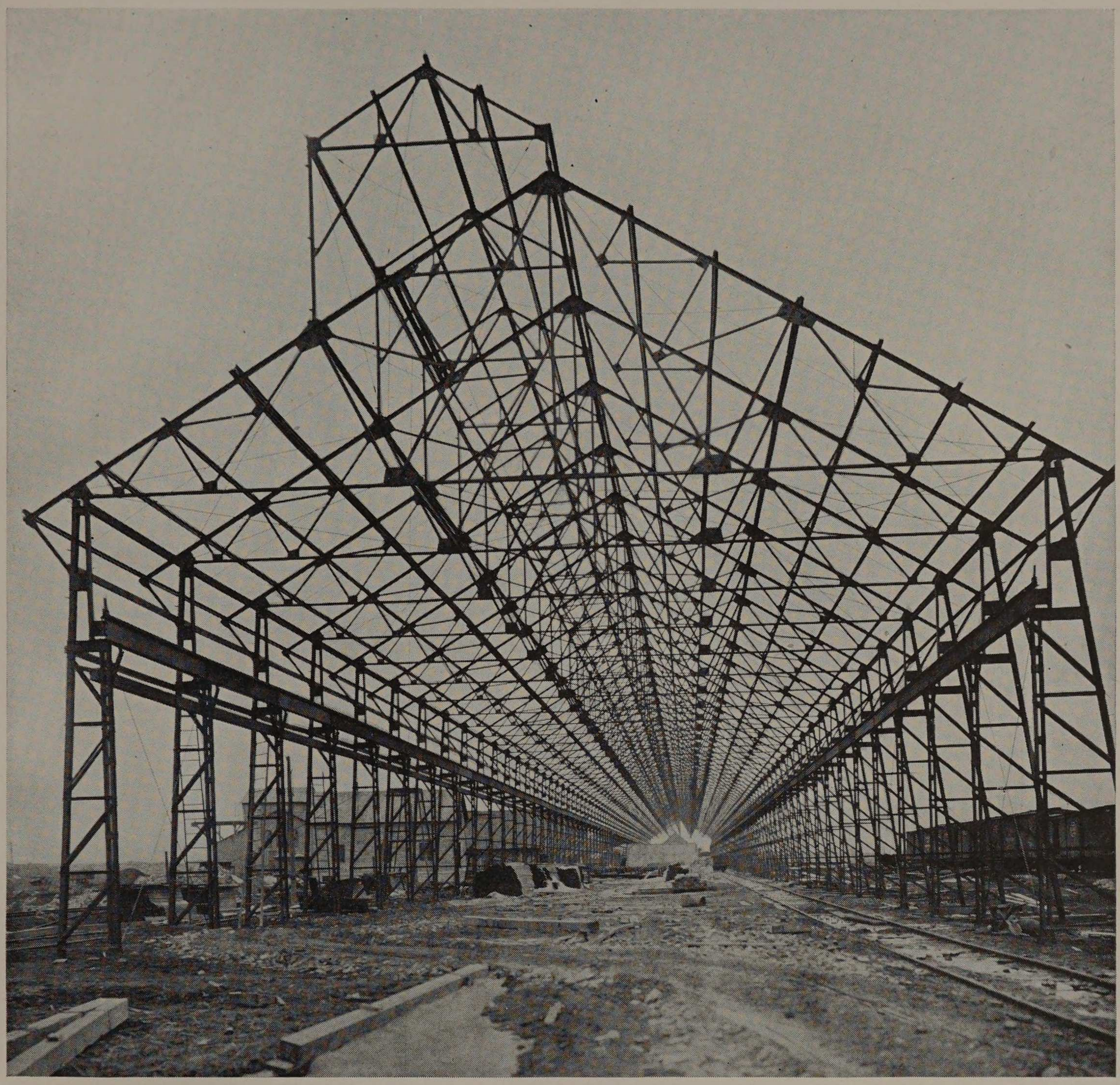
QUALITY ENGRAVINGS

and prompt delivery have built for us one of the largest engraving and art establishments in the country. Courtesy, co-operation and personal interest in our customers are additional inducements we offer in return for your business.

JAHN & OLLIER ENGRAVING CO.

554 WEST ADAMS STREET, CHICAGO, ILLINOIS

Sales offices in many principal cities



PAUL WILLIS, Pres. and Treas. A. J. T. BENNETT, Sec'y. and Eng.

KENWOOD BRIDGE CO.

Engineers and Builders

of

Structural Steel Work

1414-15-16 First National Bank Bldg., Chicago, Ill.

Works: Grand Crossing, Ill.

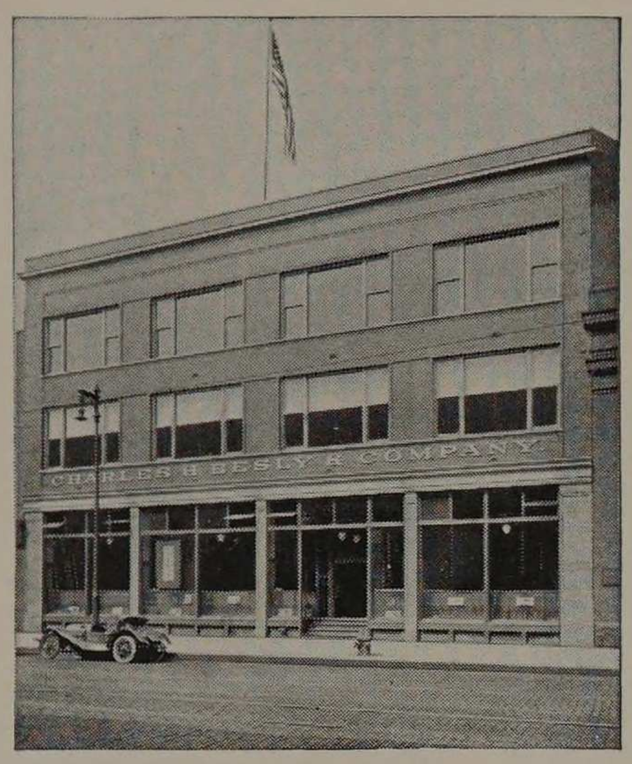
Chambers'
Photographic Studio

Official Photographer
For the 1921 Senior Class

Special Attention Given to Armour
Institute Students and Families

The Chambers Studio

Mentor Bldg. 39 S. State Street



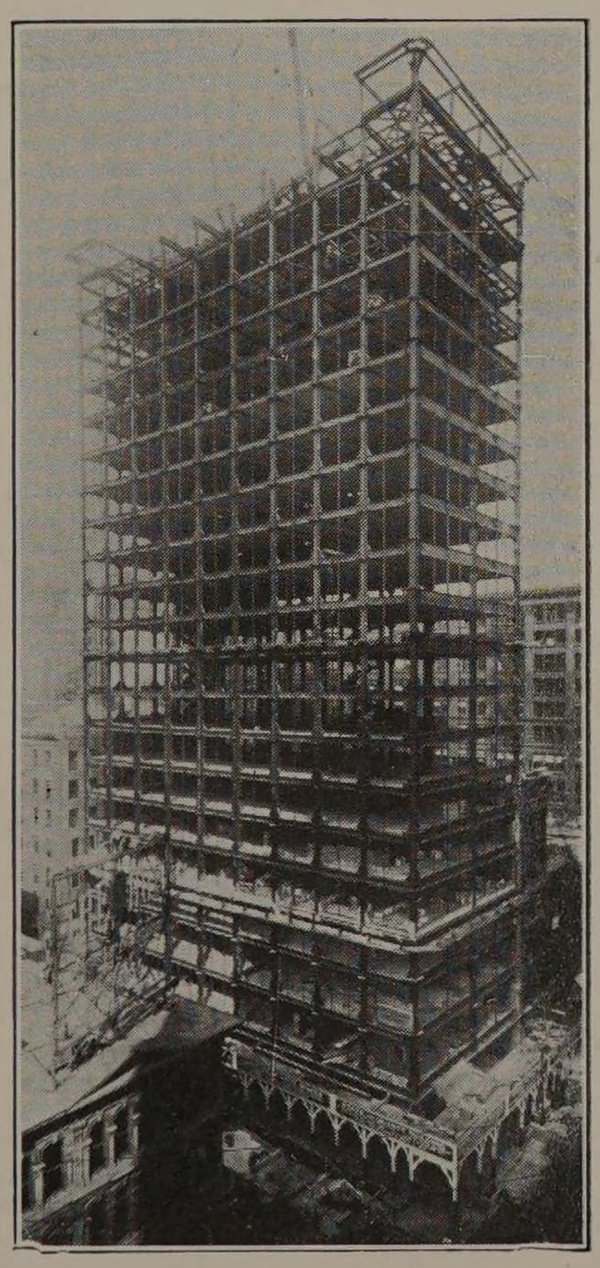
buy from
BESLY
CHICAGO

Our Number Nineteen Catalog
of
Machinist's, Mill and
Railroad Supplies
Brass, Copper and Bronze
In Sheets, Rods, Wire and Tubes

Is used for reference in the
Leading Engineering Colleges
and Institutes

COPY ON REQUEST

CHARLES H. BESLY & COMPANY
118-124 North Clinton Street. Chicago, U. S. A.



Hansell-Elcock
Company

FOUNDRY

Structural Steel
Ornamental Iron Work
Fire Escapes
Steel Doors, Stairs
Gray Iron Castings

OFFICE AND WORKS
Archer and Normal Avenues
23rd Pl., Canal and 24th Sts.
CHICAGO

MOLLOY

"Custom Built"

COLLEGE ANNUAL

COVERS

"College Annual Covers that truly represent the character of the books on which they are used." The covers of the 1921 Cycle are Molloy products.

THE

DAVID J. MOLLOY

COMPANY

633 Plymouth Court, Chicago

We Furnished the

ARMOUR GLEE and MANDOLIN CLUBS



"Big Gun" Brand

T. G. Schaffner

Opposite Field's

130 North State Street

ELITE

LAUNDRY

219 EAST 35th ST.

Near Indiana Avenue

Our greatest desire is to please you. Your suggestions and criticisms are appreciated.

SOX DARNED

BUTTONS REPLACED

15% Discount on Cash and Carry

DE LUXE

ICE CREAM PARLOR and CANDY SHOP

A. Trad and E. Bouzide, Props.

106 EAST 35th STREET

Near Michigan Avenue

Phones—Douglas 6285; Auto. 71-415

Spies Bros.

Manufacturing Jewelers

27 East Monroe St., Chicago

[6th floor]

Class Pins and Rings

Fraternity Jewelry

Makers of the Armour Class Pin



Complete Service
in the design and construction of

STEAM POWER STATIONS

HYDRO-ELECTRIC
DEVELOPMENTS

TRANSMISSION SYSTEMS

—

RAILROAD SHOPS

LOCOMOTIVE TERMINALS

PASSENGER TERMINALS

ELECTRIFICATION

—

INDUSTRIAL PLANTS
OF EVERY CHARACTER

DWIGHT P. ROBINSON & COMPANY
INCORPORATED
ENGINEERS AND CONSTRUCTORS
WITH WHICH IS CONSOLIDATED
WESTINGHOUSE, CHURCH, KERR & CO., INC.
125 EAST 46TH STREET
NEW YORK

CHICAGO YOUNGSTOWN DALLAS LOS ANGELES MONTREAL

Stieber's Pharmacy

Home of Armour Institute Boys

3256 Indiana Avenue

Phone Douglas 2

Patronize Our

Advertisers

They Are Your Friends